

**YE22**  
**EUROPE**

2022 / 2023



# CUTTING TOOLS



**HOLEMAKING**



**THREADING**



**MILLING**



**TOOLING SYSTEM**

# BOREN

# HOLEMAKING TOOLS

i-ONE DRILLS, CARBIDE INSERTS & HOLDERS

i-DREAM DRILLS, CARBIDE INSERTS & HOLDERS

SOLID CARBIDE DREAM DRILLS - PRO (with & without Coolant Holes)

SOLID CARBIDE DREAM DRILLS - GENERAL (with & without Coolant Holes)

SOLID CARBIDE DREAM DRILLS - HIGH FEED (with Coolant Holes)

SOLID CARBIDE DREAM DRILLS - FLAT BOTTOM (with & without Coolant Holes)

SOLID CARBIDE DREAM DRILLS - INOX (with Coolant Holes)

SOLID CARBIDE DREAM DRILLS - ALU (with Coolant Holes)

SOLID CARBIDE DREAM DRILLS - MQL TYPE (with Coolant Holes)

SOLID CARBIDE DREAM DRILLS for HIGH HARDENED STEELS (without Coolant Holes)

GENERAL SOLID CARBIDE DRILLS (JOBBER & STUB LENGTH)

HSS-PM MULTI-1 DRILLS

HSSCo8 & HSS-E HPD STRAIGHT SHANK DRILLS

HSS & HSS-E GOLD-P DRILLS

SUPER HSS SUPER-GP DRILLS

HSS, HSS-E & HSSCo8 STRAIGHT SHANK DRILLS

HSS & HSS-E MORSE TAPER SHANK DRILLS

SOLID CARBIDE & HSSCo8 NC-SPOTTING DRILLS

SOLID CARBIDE, HSS & HSS-E CENTER DRILLS

SPADE DRILLS, INSERTS & HOLDERS

CARBIDE, HSS & HSS-E REAMERS

HSS & HSSCo8 COUNTERSINKS

HSS-E COUNTERBORES

TECHNICAL DATA



# CONTENTS

# Contents / HOLEMAKING TOOLS

## CARBIDE EXCHANGEABLE DRILLS

## SOLID CARBIDE DRILLS

## HSS DRILLS

## CARBIDE & HSS DRILLS

## CARBIDE & HSS INSERT DRILLS

## REAMERS

## COUNTERSINKS

## COUNTERBORES

## TECHNICAL DATA

### i-ONE DRILLS, CARBIDE INSERTS & HOLDERS

High Performance Exchangeable for General Steels and Cast Iron

i-ONE  
DRILLS

### i-DREAM DRILLS, CARBIDE INSERTS & HOLDERS

For General Steels and Stainless Steels

i-DREAM  
DRILLS

### SOLID CARBIDE DREAM DRILLS - PRO (with & without Coolant Holes)

For General Purpose (HRc30 to HRc50) / Extremely High hardness and Heat resistance due to YG-1 special Z-Coating echnology

DREAM  
DRILLS  
-PRO

### SOLID CARBIDE DREAM DRILLS - GENERAL (with & without Coolant Holes)

For General Purpose (HRc30 to HRc50)

DREAM  
DRILLS  
-GENERAL

### SOLID CARBIDE DREAM DRILLS - HIGH FEED (with Coolant holes)

1.5 to 2 Times Faster Feeding Speed than 2-Flute Drill for Carbon Steels, Alloy Steels(up to HRc35) and Cast Iron

DREAM  
DRILLS  
-HIGH FEED

### SOLID CARBIDE DREAM DRILLS - FLAT BOTTOM (with & without Coolant Holes)

For Holes on Various Angled Surfaces

DREAM  
DRILLS  
-FLAT BOTTOM

### SOLID CARBIDE DREAM DRILLS - INOX (with Coolant Holes)

For Tough Materials like Stainless Steels

DREAM  
DRILLS  
-INOX

### SOLID CARBIDE DREAM DRILLS - ALU (with Coolant Holes)

For Aluminum and Aluminum Alloys

DREAM  
DRILLS  
-ALU

### SOLID CARBIDE DREAM DRILLS - MQL TYPE (with Coolant Holes)

Minimum Quantity Lubrication Drilling Deep Holes (10×D ~ 40×D)

DREAM  
DRILLS  
-MQL

### SOLID CARBIDE DREAM DRILLS for HIGH HARDENED STEELS (without Coolant Holes)

For High Hardened Steels (HRc50 to HRc70)

DREAM DRILLS  
for HIGH  
HARDENED  
STEELS

### GENERAL SOLID CARBIDE DRILLS (JOBBER & STUB LENGTH)

For General Purpose, DIN338 & DIN6539

GENERAL  
CARBIDE  
DRILLS

### HSS-PM MULTI-1 DRILLS

Premium HSS-PM Drills For Wide Range of Applications Particularly Stainless Steels and Titanium

MULTI-1  
DRILLS

### HSSCo8 & HSS-E HPD STRAIGHT SHANK DRILLS

High Precision Drilling for General Steels & Stainless Steels

HPD  
DRILLS

### HSS & HSS-E GOLD-P DRILLS

Same Performance as Full TiN-coated Drills

GOLD-P  
DRILLS

### SUPER HSS SUPER-GP DRILLS

All Applications Regardless of Machining Conditions; Good or Poor

SUPER-GP  
DRILLS

### HSS, HSS-E & HSSCo8 STRAIGHT SHANK DRILLS

For General Purpose (Soft & Tough Materials)

STRAIGHT  
SHANK  
DRILLS

### HSS & HSS-E MORSE TAPER SHANK DRILLS

Morse Taper Shank Drills for Wide Applications

TAPER SHANK  
DRILLS

### SOLID CARBIDE & HSSCo8 NC-SPOTTING DRILLS

For Centering and Chamfering of Holes

NC-  
SPOTTING  
DRILLS

### SOLID CARBIDE, HSS & HSS-E CENTER DRILLS

For General Purpose

CENTER  
DRILLS

### SPADE DRILLS, INSERTS & HOLDERS

For General Machines and Drilling Large Diameters / Longer Tool Life and High Productivity

SPADE  
DRILLS

### CARBIDE, HSS & HSS-E REAMERS

Carbide NC Machine Reamers / HSS Hand Reamers / HSS-E Chucking Reamers

REAMERS

### HSS & HSSCo8 COUNTERSINKS

For Deburring, Chamfering and Countersinking

COUNTER  
SINKS

### HSS-E COUNTERBORES

For Machining Screw Head Seats

COUNTER  
BORES

### TECHNICAL DATA

TECHNICAL  
DATA

# SELECTION GUIDE



## HOLEMAKING TOOLS

SERIES  
SIZE MIN  
SIZE MAX  
PAGE

i-ONE DRILLS INSERTS					
Y101H	Y121H	Y141H	Y161H	Y181H	Y201H
10.00	12.00	14.00	16.00	18.00	20.00
11.91	13.90	15.90	17.90	19.90	21.90
<b>A24</b>	<b>A25</b>	<b>A26</b>	<b>A27</b>	<b>A28</b>	<b>A29</b>

SURFACE TREATMENT

H-Coating



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎: Excellent ○: Good

ISO	VDI 3323	Material Description	HB	Hrc	Y101H	Y121H	Y141H	Y161H	Y181H	Y201H	
P	1	Non-alloy steel	125		◎	◎	◎	◎	◎	◎	
	2		190	13	◎	◎	◎	◎	◎	◎	
	3		250	25	◎	◎	◎	◎	◎	◎	
	4		270	28	◎	◎	◎	◎	◎	◎	
	5		300	32	◎	◎	◎	◎	◎	◎	
	6	180	Low alloy steel	10		◎	◎	◎	◎	◎	
	7	275		29	◎	◎	◎	◎	◎	◎	
	8	300		32	◎	◎	◎	◎	◎	◎	
	9	350		38	◎	◎	◎	◎	◎	◎	
	10	200		High alloyed steel, and tool steel	15		◎	◎	◎	◎	◎
	11	325			35	◎	◎	◎	◎	◎	◎
M	12	Stainless steel	200	15							
	13		240	23							
K	14		180	10							
	15	Grey cast iron	180	10	◎	◎	◎	◎	◎	◎	
	16		260	26	◎	◎	◎	◎	◎	◎	
	17	Nodular cast iron	160	3	◎	◎	◎	◎	◎	◎	
18	250		25	◎	◎	◎	◎	◎	◎		
19	130			◎	◎	◎	◎	◎	◎		
N	20	Malleable cast iron	230	21	◎	◎	◎	◎	◎	◎	
	21	Aluminum-wrought alloy	60								
22	100										
S	23	Aluminum-cast, alloyed	75								
	24		90								
	25		130								
	26		110								
H	27	Copper and Copper Alloys (Bronze / Brass)	90								
	28		100								
	29	Non Metallic Materials									
	30										
	31		Heat Resistant Super Alloys	200	15						
32	280	30									
33	250	25									
34	350	38									
35	320	34									
H	36	Titanium Alloys	400 Rm								
	37		1050 Rm								
	38	Hardened steel	550	55							
	39		630	60							
40	Chilled Cast Iron		400	42							
41	Hardened Cast Iron	550	55								

i-ONE DRILLS INSERTS						i-ONE DRILLS HOLDERS		
Y221H	Y241H	Y261H	Y281H	Y301H	Y321H	ZD*3	ZD*5	ZD*8
22.00	24.00	26.00	28.00	30.00	32.00			
23.90	25.90	27.78	29.77	31.75	33.73			
<b>A30</b>	<b>A31</b>	<b>A32</b>		<b>A33</b>				

H-Coating



ISO	VDI 3323	Material Description	HB	Hrc	Y221H	Y241H	Y261H	Y281H	Y301H	Y321H	ZD*3	ZD*5	ZD*8	
P	1	Non-alloy steel	125		◎	◎	◎	◎	◎	◎				
	2		190	13	◎	◎	◎	◎	◎	◎				
	3		250	25	◎	◎	◎	◎	◎	◎				
	4		270	28	◎	◎	◎	◎	◎	◎				
	5		300	32	◎	◎	◎	◎	◎	◎				
	6	180	Low alloy steel	10		◎	◎	◎	◎	◎				
	7	275		29	◎	◎	◎	◎	◎	◎				
	8	300		32	◎	◎	◎	◎	◎	◎				
	9	350		38	◎	◎	◎	◎	◎	◎				
	10	200		High alloyed steel, and tool steel	15		◎	◎	◎	◎	◎			
	11	325			35	◎	◎	◎	◎	◎	◎			
M	12	Stainless steel	200	15										
	13		240	23										
K	14		180	10										
	15	Grey cast iron	180	10	◎	◎	◎	◎	◎	◎				
	16		260	26	◎	◎	◎	◎	◎	◎				
	17	Nodular cast iron	160	3	◎	◎	◎	◎	◎	◎				
18	250		25	◎	◎	◎	◎	◎	◎					
19	130			◎	◎	◎	◎	◎	◎					
N	20	Malleable cast iron	230	21	◎	◎	◎	◎	◎	◎				
	21	Aluminum-wrought alloy	60											
22	100													
S	23	Aluminum-cast, alloyed	75											
	24		90											
	25		130											
	26		110											
H	27	Copper and Copper Alloys (Bronze / Brass)	90											
	28		100											
	29	Non Metallic Materials												
	30													
	31		Heat Resistant Super Alloys	200	15									
32	280	30												
33	250	25												
34	350	38												
35	320	34												
H	36	Titanium Alloys	400 Rm											
	37		1050 Rm											
	38	Hardened steel	550	55										
	39		630	60										
40	Chilled Cast Iron		400	42										
41	Hardened Cast Iron	550	55											

**SELECTION GUIDE**

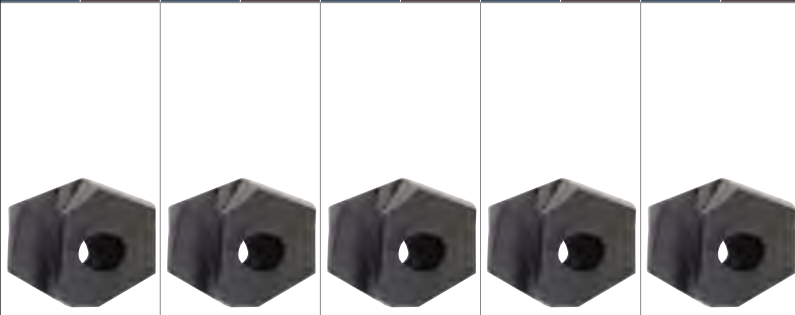


HOLEMAKING TOOLS

Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎: Excellent ○: Good

		i-DREAM DRILLS INSERTS									
SERIES		YA1A	YA2C	YB1A	YB2C	YC1A	YC2C	YD1A	YD2C	YE1A	YE2C
TYPE		A		B		C		D		E	
SIZE MIN		12.00		14.00		16.00		18.00		20.00	
SIZE MAX		13.89		15.87		17.86		19.84		21.83	
PAGE		A44		A45		A46		A47		A48	
SURFACE TREATMENT		TiAIN	TiCN	TiAIN	TiCN	TiAIN	TiCN	TiAIN	TiCN	TiAIN	TiCN



ISO	VDI 3323	Material Description	HB	HRc	YA1A	YA2C	YB1A	YB2C	YC1A	YC2C	YD1A	YD2C	YE1A	YE2C		
P	1	Non-alloy steel	125	13	◎	○	◎	○	◎	○	◎	○	◎	○		
	2		190	13	◎	○	◎	○	◎	○	◎	○	◎	○		
	3		250	25	◎	○	◎	○	◎	○	◎	○	◎	○		
	4		270	28	◎	○	◎	○	◎	○	◎	○	◎	○		
	5		300	32	◎	○	◎	○	◎	○	◎	○	◎	○		
	6	180	Low alloy steel	10	10	◎	○	◎	○	◎	○	◎	○	◎	○	
	7	275		29	◎	○	◎	○	◎	○	◎	○	◎	○		
	8	300		32	◎	○	◎	○	◎	○	◎	○	◎	○		
	9	350		38	◎	○	◎	○	◎	○	◎	○	◎	○		
	10	200		High alloyed steel, and tool steel	15	15	◎	○	◎	○	◎	○	◎	○	◎	○
	11	325			35	◎	○	◎	○	◎	○	◎	○	◎	○	
M	12	Stainless steel	200	15	○	◎	○	◎	○	◎	○	◎	○	◎	○	
	13		240	23	○	◎	○	◎	○	◎	○	◎	○	◎	○	
	14		180	10	○	◎	○	◎	○	◎	○	◎	○	◎	○	
K	15	Grey cast iron	180	10	◎	○	◎	○	◎	○	◎	○	◎	○		
	16		260	26	◎	○	◎	○	◎	○	◎	○	◎	○		
	17	Nodular cast iron	160	3	◎	○	◎	○	◎	○	◎	○	◎	○		
	18		250	25	◎	○	◎	○	◎	○	◎	○	◎	○		
	19	Malleable cast iron	130	13	◎	○	◎	○	◎	○	◎	○	◎	○		
	20		230	21	◎	○	◎	○	◎	○	◎	○	◎	○		
N	21	Aluminum-wrought alloy	60		○	○	○	○	○	○	○	○	○	○		
	22		100		○	○	○	○	○	○	○	○	○	○		
	23		75		○	○	○	○	○	○	○	○	○	○		
	24	Aluminum-cast, alloyed	90		○	○	○	○	○	○	○	○	○	○		
	25		130		○	○	○	○	○	○	○	○	○	○		
	26		110		○	○	○	○	○	○	○	○	○	○		
	27	Copper and Copper Alloys (Bronze / Brass)	90		○	○	○	○	○	○	○	○	○	○		
	28		100		○	○	○	○	○	○	○	○	○	○		
	29															
	30	Non Metallic Materials														
S	31	Heat Resistant Super Alloys	200	15												
	32		280	30												
	33		250	25												
	34		350	38												
	35		320	34												
	36	Titanium Alloys	400 Rm													
	37		1050 Rm													
H	38	Hardened steel	550	55												
	39		630	60												
	40	Chilled Cast Iron	400	42												
	41	Hardened Cast Iron	550	55												

i-DREAM DRILLS INSERTS										i-DREAM DRILLS HOLDERS		
YF1A	YF2C	YG1A	YG2C	YH1A	YH2C	YI1A	YI2C	YJ1A	YJ2C	ZH*3	ZH*5	ZH*7
F		G		H		I		J				
22.00		24.00		26.00		28.00		30.00				
23.81		25.80		27.78		29.77		31.75				
A49		A50		A51		A52		A53				
TiAIN	TiCN	TiAIN	TiCN	TiAIN	TiCN	TiAIN	TiCN	TiAIN	TiCN	3XD	5XD	7XD



◎	○	◎	○	◎	○	◎	○	◎	○				1
◎	○	◎	○	◎	○	◎	○	◎	○				2
◎	○	◎	○	◎	○	◎	○	◎	○				3
◎	○	◎	○	◎	○	◎	○	◎	○				4
◎	○	◎	○	◎	○	◎	○	◎	○				5
◎	○	◎	○	◎	○	◎	○	◎	○				6
◎	○	◎	○	◎	○	◎	○	◎	○				7
◎	○	◎	○	◎	○	◎	○	◎	○				8
◎	○	◎	○	◎	○	◎	○	◎	○				9
◎	○	◎	○	◎	○	◎	○	◎	○				10
◎	○	◎	○	◎	○	◎	○	◎	○				11
	◎		◎		◎		◎		◎				12
	◎		◎		◎		◎		◎				13
	◎		◎		◎		◎		◎				14
◎		◎		◎		◎		◎					15
◎		◎		◎		◎		◎					16
◎		◎		◎		◎		◎					17
◎		◎		◎		◎		◎					18
◎		◎		◎		◎		◎					19
◎		◎		◎		◎		◎					20
	○		○		○		○		○				21
	○		○		○		○		○				22
	○		○		○		○		○				23
	○		○		○		○		○				24
	○		○		○		○		○				25
	○		○		○		○		○				26
	○		○		○		○		○				27
	○		○		○		○		○				28
	○		○		○		○		○				29
	○		○		○		○		○				30
													31
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													38
													39
													40
													41

### SELECTION GUIDE



HOLEMAKING TOOLS

SERIES  
SIZE MIN  
SIZE MAX  
PAGE

SPADE DRILLS INSERTS						
1~8	Y,Z,0,1~4	Y,Z,0,1,2	Y,Z,0,1,2	Y,Z,0,1~3	Y,Z,0,1~3	
Ø17.86(#1)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	
Ø114.3(#8)	Ø65.09(#4)	Ø35(#2)	Ø35(#2)	Ø47.63(#3)	Ø47.63(#3)	
A286	A292	A297	A300	A303	A307	

SURFACE TREATMENT

TiN / TiCN / TiAIN



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search  
◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	HB	HRc	1~8	Y,Z,0,1~4	Y,Z,0,1,2	Y,Z,0,1,2	Y,Z,0,1~3	Y,Z,0,1~3	
<b>P</b>	1	Non-alloy steel	125		○	◎	◎			○	◎
	2		190	13	○	◎	◎			○	◎
	3		250	25	○	◎	◎			○	◎
	4		270	28	○	◎	◎			○	◎
	5		300	32							
	6	Low alloy steel	180	10	○	◎	◎			○	◎
	7		275	29	○	◎	◎			○	◎
	8		300	32		○	◎			○	◎
	9		350	38		○	◎			○	◎
	10		High alloyed steel, and tool steel	200	15		○	◎			○
	11	325		35		○	◎			○	◎
<b>M</b>	12	Stainless steel	200	15	◎	○			◎	○	
	13		240	23	◎	○			◎	○	
	14		180	10	◎	○			◎	○	
<b>K</b>	15	Grey cast iron	180	10	◎	○	○		◎	○	
	16		260	26	○	◎	◎	◎	○	○	
	17	Nodular cast iron	160	3	◎	○	○		◎	○	
	18		250	25	○	◎	◎	◎	○	○	
	19		130		◎	○	○		◎	○	
20	Malleable cast iron	230	21	○	◎	◎	◎	○	○		
<b>N</b>	21	Aluminum-wrought alloy	60		◎	○	○		◎	○	
	22		100		◎	○	○		◎	○	
	23	Aluminum-cast, alloyed	75								
	24		90								
	25		130								
	26	Copper and Copper Alloys (Bronze / Brass)	110								
	27		90		◎	○	○		◎	○	
	28		100								
	29										
	30	Non Metallic Materials									
<b>S</b>	31	Heat Resistant Super Alloys	200	15		◎	◎		◎	○	
	32		280	30		○	◎		◎	○	
	33		250	25		○	◎		◎	○	
	34		350	38		○	◎		◎	○	
	35		320	34		○	◎		◎	○	
	36	Titanium Alloys	400 Rm								
	37		1050 Rm								
<b>H</b>	38	Hardened steel	550	55		○	◎		○	◎	
	39		630	60							
	40	Chilled Cast Iron	400	42							
	41		550	55							

### SPADE DRILLS INSERTS

1~3	Y,Z,0,1~3	Y,Z,0,1,2	Y,Z,0,1,2	Y,Z,0,1~3	Y,Z,0,1~3	Y,Z,0,1,2
Ø17.86(#1)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)
Ø47.63(#3)	Ø47.63(#3)	Ø35(#2)	Ø35(#2)	Ø47.63(#3)	Ø47.63(#3)	Ø35(#2)
A312	A315	A319	A322	A325	A329	A361

TiN / TiCN / TiAIN

TiN / Hardslick / TiAl



○	◎	◎		○	◎	◎	1
○	◎	◎		○	◎	◎	2
○	◎	◎		○	◎	◎	3
○	◎	◎		○	◎	◎	4
○	◎	◎		○	◎	◎	5
○	◎	◎		○	◎	◎	6
○	◎	◎		○	◎	◎	7
○	◎	◎		○	◎	◎	8
○	◎	◎		○	◎	◎	9
○	◎	◎		○	◎	◎	10
○	◎	◎		○	◎	◎	11
◎	○			◎	○	○	12
◎	○			◎	○	○	13
◎	○			◎	○	○	14
◎	○	○		◎	○	○	15
○	◎	◎	◎	○	○	◎	16
◎	○	○	◎	○	○	○	17
○	◎	◎	◎	○	○	◎	18
◎	○	○	◎	○	○	○	19
○	◎	◎	◎	○	○	◎	20
◎	○	○		◎	○	○	21
◎	○	○		◎	○	○	22
							23
							24
							25
							26
◎	○	○		◎	○	○	27
							28
							29
							30
	◎	◎		◎	○	◎	31
	○	◎		◎	○	○	32
	○	◎		◎	○	○	33
	○	◎		◎	○	○	34
	○	◎		◎	○	○	35
							36
							37
	○	◎		○	◎	○	38
							39
							40
							41



SELECTION GUIDE



HOLEMAKING TOOLS

SERIES

DRILLING DEPTH

LENGTH

SIZE MIN

SIZE MAX

PAGE

SURFACE TREATMENT

DREAM DRILLS PRO

DREAM DRILLS GENERAL

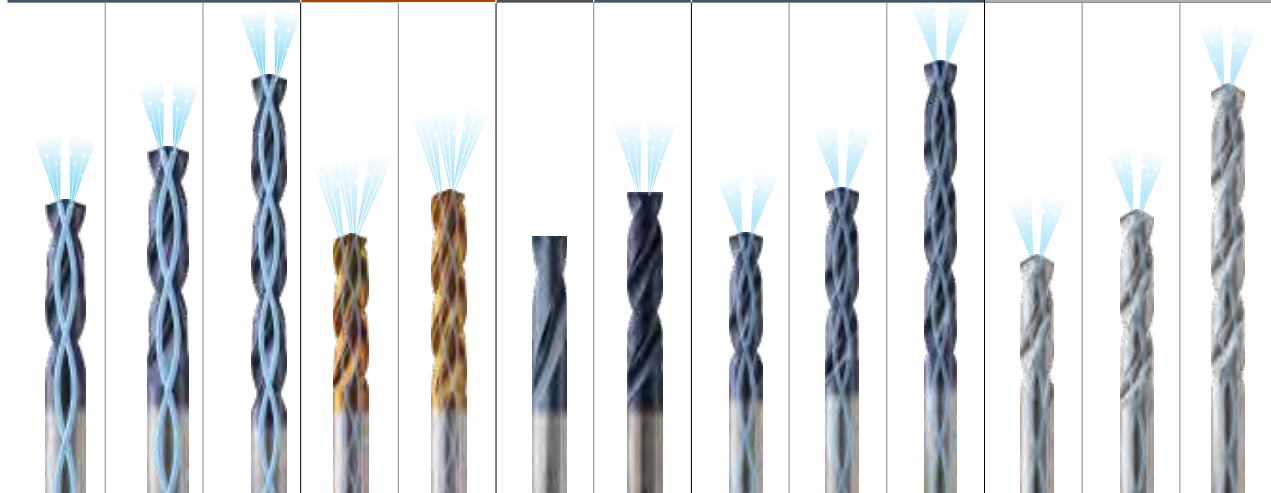
SERIES	DGN523	DGN526	DGN506	DGN508	DH404	DH423 DH443	DH424 DH444
DRILLING DEPTH	3XD	5XD	3XD	5XD	3XD	3XD	5XD
LENGTH	SHORT	LONG	SHORT	LONG	STUB	SHORT	LONG
SIZE MIN	D3.0	D1.0	D3.0	D1.0	D3.0	D3.0	D1.0
SIZE MAX	D20.0	D20.0	D20.0	D20.0	D20.0	D20.0	D20.0
PAGE	A62	A65	A68	A71	A80	A82	A85
SURFACE TREATMENT	Z-Coating				TiAlN		

Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	HB	HRc								
P	1	Non-alloy steel	125									
	2		190	13	◎	◎	◎	◎	◎	◎	◎	
	3		250	25	◎	◎	◎	◎	◎	◎	◎	
	4		270	28	◎	◎	◎	◎	◎	◎	◎	
	5	300	32	○	○	○	○	○	○	○		
	6	180	Low alloy steel	10	◎	◎	◎	◎	◎	◎	◎	
	7	275		29	◎	◎	◎	◎	◎	◎	◎	
	8	300		32	○	○	○	○	○	○	○	
	9	350		38	○	○	○	○	○	○	○	
	10	200		High alloyed steel, and tool steel	15	◎	◎	◎	◎	◎	◎	◎
	11	325	35		○	○	○	○	○	○	○	
M	12	Stainless steel	200	15	○	○	○	○	○	○	○	
	13		240	23	○	○	○	○	○	○	○	
	14		180	10								
K	15	Grey cast iron	180	10	◎	◎	◎	◎	◎	◎	◎	
	16		260	26	○	○	○	○	○	○	○	
	17	Nodular cast iron	160	3	◎	◎	◎	◎	◎	◎	◎	
	18		250	25	○	○	○	○	○	○	○	
	19		130		◎	◎	◎	◎	◎	◎	◎	
20	Malleable cast iron	230	21	○	○	○	○	○	○	○		
N	21	Aluminum-wrought alloy	60									
	22		100									
	23	Aluminum-cast, alloyed	75									
	24		90									
	25		130									
	26		110									
	27		90									
	28		100									
	29											
	30											
S	31	Heat Resistant Super Alloys	200	15								
	32		280	30								
	33		250	25								
	34		350	38								
	35		320	34								
	36		400 Rm									
H	37	Titanium Alloys	1050 Rm									
	38		Hardened steel	550	55	○	○	○	○	○	○	○
	39			630	60							
	40			400	42							
	41			550	55							

DREAM DRILLS GENERAL			DREAM DRILLS HIGH FEED		DREAM DRILLS FLAT BOTTOM		DREAM DRILLS -INOX			DREAM DRILLS -ALU		
DH406 DH446	DH408 DH448	DH421	DGR493	DGR495	DPP447	DH450	DH451	DH452	DH453	D5432	D5433	D5434
3XD	5XD	8XD	3XD	5XD	2XD	5XD	3XD	5XD	8XD	3XD	5XD	8XD
SHORT	LONG	EXTRA LONG	SHORT	LONG	SHORT	LONG	SHORT	LONG	EXTRA LONG	SHORT	LONG	EXTRA LONG
D3.0	D1.0	D3.0	D5.0	D5.0	D3.0	D3.0	D3.0	D1.0	D3.0	D3.0	D3.0	D3.0
D20.0	D20.0	D14.0	D20.0	D20.0	D20.0	D20.0	D20.0	D20.0	D14.0	D20.0	D20.0	D14.0
A88	A91	A94	A101	A103	A110	A112	A119	A122	A125	A131	A134	A137
TiAlN			H-Coating		X-Coating	TiAlN	TiAlN			Bright		



◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				1
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				2
◎	◎	◎	◎	◎	◎	◎	◎	○	○				3
◎	◎	◎	◎	◎	◎	◎	◎						4
○	○	○	○	○	○	○	○						5
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				6
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎				7
○	○	○	○	○	○	○	○						8
○	○	○	○	○	○	○	○						9
◎	◎	◎	◎	◎									10
○	○	○	○	○									11
○	○	○			○	○	◎	◎	◎				12
○	○	○					◎	◎	◎				13
◎	◎	◎	◎	◎	◎	◎							15
○	○	○	○	○	○	○							16
◎	◎	◎	◎	◎									17
○	○	○	○	○									18
◎	◎	◎	◎	◎									19
○	○	○	○	○									20
							○	○	◎	◎	◎	◎	21
							○	○	◎	◎	◎	◎	22
									○	○	○	◎	23
									○	○	○	◎	24
													25
													26
													27
													28
													29
													30
													31
													32
													33
													34
													35
													36
										○	○	○	37
○	○	○											38
													39
													40
													41

CARBIDE

# SELECTION GUIDE



## HOLEMAKING TOOLS

**SERIES**

**DRILLING DEPTH/STANDARD**

**LENGTH**

**SIZE MIN**

**SIZE MAX**

**PAGE**

**SURFACE TREATMENT**

DREAM DRILLS - MQL TYPE								DREAM DRILLS for HIGH HARDENED STEELS
DH510	DH515	DH520	DHM10	DHM15	DHM20	DHM25	DHM30	DH500
10XD	15XD	20XD	10XD	15XD	20XD	25XD	30XD	3XD
EXTRA LONG								SHORT
D3.0	D3.0	D3.0	D3.0	D3.0	D3.0	D3.0	D3.0	D2.6
D14.0	D12.0	D12.0	D14.0	D12.0	D12.0	D10.0	D8.0	D14.0
<b>A144</b>	<b>A145</b>		<b>A146</b>		<b>A147</b>			<b>A151</b>
TiAlN			TiAlN		TiAlN			TiAlN

ISO	VDI 3323	Material Description	HB	HRc	DH510	DH515	DH520	DHM10	DHM15	DHM20	DHM25	DHM30	DH500	
P	1	Non-alloy steel	125		⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
	2		190	13	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
	3		250	25	○	○	○	○	○	○	○	○	○	
	4		270	28										
	5		300	32										
	6	180	Low alloy steel	10		⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
	7	275		29	○	○	○	○	○	○	○	○	○	
	8	300		32	○	○	○	○	○	○	○	○	○	
	9	350		38										
	10	200		15										
	11	325	35											
M	12	Stainless steel	200	15										
	13		240	23										
14	180	10												
K	15	Grey cast iron	180	10	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
	16		260	26	○	○	○	○	○	○	○	○	○	
	17		160	3	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	
	18		250	25	○	○	○	○	○	○	○	○	○	
19	Malleable cast iron	130		⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙		
		230	21	○	○	○	○	○	○	○	○	○		
N	21	Aluminum-wrought alloy	60											
	22		100											
	23	Aluminum-cast, alloyed	75											
	24		90											
	25		130											
	26	Copper and Copper Alloys (Bronze / Brass)	110											
	27		90											
28	100													
29	Non Metallic Materials													
30														
S	31	Heat Resistant Super Alloys	200	15										
	32		280	30										
	33		250	25										
	34		350	38										
	35		320	34										
36	Titanium Alloys	400 Rm												
		1050 Rm												
H	38	Hardened steel	550	55									⊙	
	39		630	60									⊙	
	40		Chilled Cast Iron	400	42									
41	Hardened Cast Iron	550	55											

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CARBIDE

HSS

GENERAL CARBIDE DRILLS		MULTI-1		HPD STRAIGHT SHANK DRILLS				GOLD-P DRILLS				SUPER-GP DRILLS
D5405	D5407	CDRA03	CDRA04	D4541	D4542	DJ543	DJ544	D1GP125	D1GP165	DLGP195	DLGP506	DSH105
DIN539	DIN338	-		-		-		DIN338	DIN338	DIN338	DIN338	DIN338
STUB	JOBBER	STUB	JOBBER	STUB	JOBBER	STUB	JOBBER	JOBBER	JOBBER	JOBBER	JOBBER	JOBBER
D1.0	D1.0	D1.0	D2.0	D2.0	D2.0	D2.0	D2.0	D1.0	D1.6	D1.0	D2.0	D2.0
D13.0	D13.0	D13.0	D13.0	D13.0	D32.0	D13.0	D20.0	D13.0	D13.0	D13.0	D13.0	D13.0
<b>A155</b>	<b>A157</b>	<b>A163</b>	<b>A166</b>	<b>A173</b>	<b>A177</b>	<b>A183</b>	<b>A186</b>	<b>A194</b>	<b>A197</b>	<b>A200</b>	<b>A203</b>	<b>A211</b>
Bright	TiAlN		TiN				TiN				Steam Tempered	
	HSS-PM		HSSCo8		HSS-E							
⊙	⊙	⊙	⊙	⊙	⊙	○	○	⊙	⊙	⊙	⊙	⊙
○	○	○	○	○	○	○	○	○	○	○	○	○
						⊙	⊙	⊙	⊙	⊙		○
						○	○	○	○	○		○
						⊙	⊙	○	○	○		○
						⊙	⊙	○	○	○		○

YG-1 CO., LTD.

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A13

TECHNICAL DATA

# SELECTION GUIDE



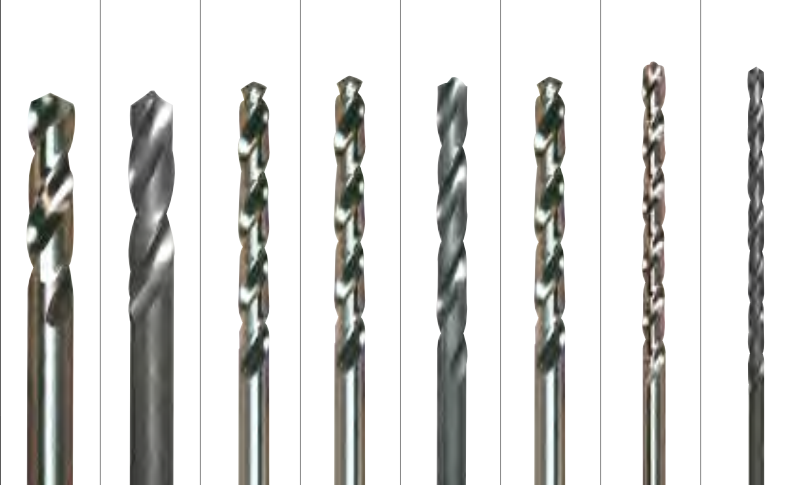
## HOLEMAKING TOOLS

SERIES  
STANDARD  
LENGTH  
SIZE MIN  
SIZE MAX  
PAGE

STRAIGHT SHANK DRILLS							
D2107	D1107	D2105	DL105	D1105	D1125	D2104	D1121
DIN1897	DIN1897	DIN338	DIN338	DIN338	DIN338	DIN340	DIN1869/1
STUB	STUB	JOBBER	JOBBER	JOBBER	JOBBER	LONG	EXTRA LONG
D1.0	D1.0	D1.0	D1.0	D0.3	D2.0	D2.0	D2.0
D31.0	D13.0	D20.0	D20.0	D20.0	D20.0	D12.0	D13.0
A220	A224	A227	A230	A233	A238	A241	A243

SURFACE TREATMENT

Gold Coloring	Steam Tempered	Gold Coloring	Steam Tempered	Bright	Gold Coloring	Steam Tempered
---------------	----------------	---------------	----------------	--------	---------------	----------------



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	HB	HRc
P	1	Non-alloy steel	125	
	2		190	13
	3		250	25
	4		270	28
	5		300	32
	6	180	10	
	7	Low alloy steel	275	29
	8		300	32
	9		350	38
	10	High alloyed steel, and tool steel	200	15
	11		325	35
M	12	Stainless steel	200	15
	13		240	23
	14		180	10
K	15	Grey cast iron	180	10
	16		260	26
	17	Nodular cast iron	160	3
	18		250	25
	19		130	
20	Malleable cast iron	230	21	
N	21	Aluminum-wrought alloy	60	
	22		100	
	23	Aluminum-cast, alloyed	75	
	24		90	
	25		130	
	26	Copper and Copper Alloys (Bronze / Brass)	110	
	27		90	
	28	100		
	29	Non Metallic Materials		
	30			
S	31	Heat Resistant Super Alloys	200	15
	32		280	30
	33		250	25
	34		350	38
	35		320	34
	36	Titanium Alloys	400 Rm	
37	1050 Rm			
H	38	Hardened steel	550	55
	39		630	60
	40	Chilled Cast Iron	400	42
	41	Hardened Cast Iron	550	55

# STRAIGHT SHANK DRILLS

DL109	D1100	D1106	DH100 DL510	DH100 DL508	DH100 DL509	DH100 DL505	DH100 DL504	DH100 DT600	DH100 DT692	DH100 DT693
DIN338	DIN338	DIN338	DIN1897	DIN338	DIN340	DIN338	DIN340	DIN1869/1	DIN1869/2	DIN1869/3
D1.5	D1.5	D1.5	D2.0	D2.0	D2.0	D2.0	D2.0	D2.0	D3.0	D4.0
D13.0	D13.0	D13.0	D20.0	D16.0	D12.0	D13.0	D13.0	D10.5	D10.2	D10.0
A244	A245	A247	A249	A251	A253	A255	A257	A258		

Bright

Steam Tempered

TiAIN





**SELECTION GUIDE**



**HOLEMAKING TOOLS**

SERIES  
STANDARD  
LENGTH  
SIZE MIN  
SIZE MAX  
PAGE

STRAIGHT SHANK DRILLS		MORSE TAPER SHANK DRILLS				
DH100 DL608	DH50 DL507	DL205	D1205	D1206	D1209	D1210
DIN341	-	DIN345	DIN345	DIN341	DIN1870/1	DIN1870/2
LONG	EXTRA LONG	JOBBER	JOBBER	LONG	EXTRA LONG	EXTRA LONG
D13.0	D2.0	D13.0	D5.0	D13.0	D13.0	D13.0
D30.0	D13.0	D30.0	D60.0	D30.0	D50.0	D50.0
<b>A259</b>	<b>A260</b>	<b>A270</b>	<b>A271</b>	<b>A274</b>	<b>A275</b>	<b>A276</b>

SURFACE TREATMENT

Bright Bright Steam Tempered



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search  
 ◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	HB	HRc	DL205	D1205	D1206	D1209	D1210		
P	1	Non-alloy steel	125		◎	○	◎	◎	◎	◎	
	2		190	13	◎	◎	◎	◎	◎	◎	
	3		250	25	◎	◎	◎	◎	◎	◎	
	4		270	28	○	○	○	○	○	○	
	5		300	32							
	6	180	Low alloy steel	10	◎	◎	◎	◎	◎	◎	
	7	275		29	○	○	○	○	○	○	
	8	300		32	○	○	○	○	○	○	
	9	350		38							
	10	200		High alloyed steel, and tool steel	15	○	○	○	○	○	○
	11	325	35								
M	12	Stainless steel	200	15		◎	◎	◎	◎	◎	
	13		240	23	○	○	○	○	○	○	
K	14	Grey cast iron	180	10	○	○	○	○	○	○	
	15		260	26	○	○	○	○	○	○	
	16		160	3	○	○	○	○	○	○	
	17		250	25	○	○	○	○	○	○	
	18		130	Malleable cast iron	21	○	○	○	○	○	○
19	230	21	○		○	○	○	○	○		
N	20	Aluminum-wrought alloy	60			◎	◎	◎	◎	◎	
	21		100		◎	◎	◎	◎	◎	◎	
	22		75		○	○	○	○	○	○	
	23		90								
	24		130								
	25		110	Copper and Copper Alloys (Bronze / Brass)	90						
	26		90								
	27		100								
	28			Non Metallic Materials			○	○	○	○	○
	29										
S	30	Heat Resistant Super Alloys									
	31		200	15							
	32		280	30							
	33		250	25							
	34		350	38							
	35		320	34							
	36		400 Rm	Titanium Alloys			○	○	○	○	○
37	1050 Rm										
H	38	Hardened steel	550	55							
	39		630	60							
	40		400	42							
	41		550	55							

**SELECTION GUIDE**



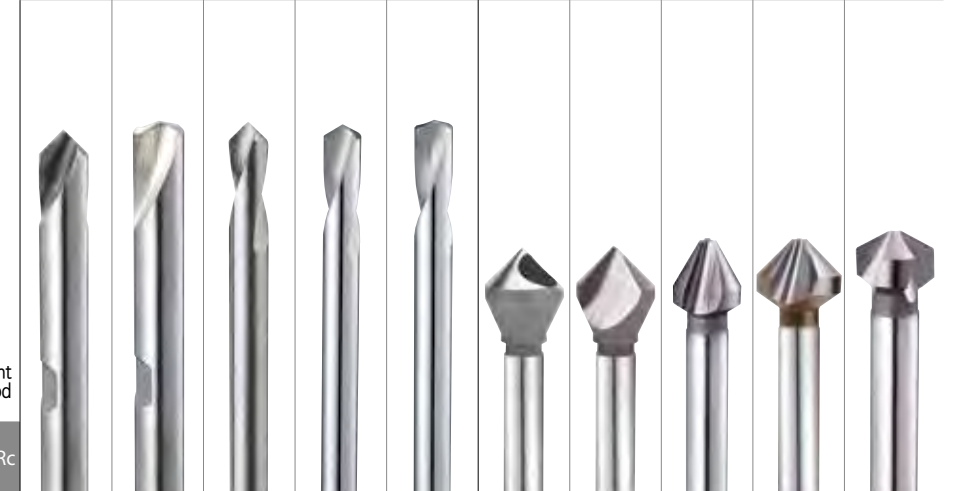
**HOLEMAKING TOOLS**

SERIES  
STANDARD  
LENGTH  
SIZE MIN  
SIZE MAX  
PAGE

NC-SPOTTING DRILLS					COUNTERSINKS				
D5306 D5307	D5320	D2306 D2321	D2307 D2322	D2320 D2323	C1109 C3109	C1119 C3119	C1136 C3136	C1139 C3139	C1132 C3132
-	-	-	-	-	-	-	DIN3334C	DIN335C	-
90° / 120°	142°	90°	120°	142°	90°	90°	60°	90°	120°
D6.0	D3.0	D3.0	D3.0/D6.0	D3.0/D6.0	D10.0	D10.0	D6.3	D4.3	D8.0
D20.0	D20.0	D20.0	D20.0/D12.0	D20.0/D12.0	D50.0	D50.0	D25.0	D31.0	D25.0
<b>A281</b>	<b>A282</b>	<b>A283</b>	<b>A284</b>	<b>A285</b>	<b>A410</b>	<b>A411</b>	<b>A412</b>	<b>A413</b>	<b>A414</b>

SURFACE TREATMENT

Bright Bright



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 ◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	HB	HRc	D5306 D5307	D5320	D2306 D2321	D2307 D2322	D2320 D2323	C1109 C3109	C1119 C3119	C1136 C3136	C1139 C3139	C1132 C3132		
P	1	Non-alloy steel	125		◎	◎	◎	◎	◎	○	○	◎	◎	◎		
	2		190	13	◎	◎	◎	◎	◎	○	○	◎	◎	◎		
	3		250	25	◎	◎	◎	◎	◎	○	○	◎	◎	◎		
	4		270	28						○	○	◎	◎	◎		
	5		300	32						○	○	◎	◎	◎		
	6	180	Low alloy steel	10	◎	◎	◎	◎	◎							
	7	275		29	○	○	○	○	○							
	8	300		32												
	9	350		38												
	10	200		High alloyed steel, and tool steel	15											
	11	325	35													
M	12	Stainless steel	200	15	○	○	○	○	○	○	○	○	○	○		
	13		240	23						○	○	○	○	○		
K	14	Grey cast iron	180	10						○	○	○	○	○		
	15		260	26	◎	◎	◎	◎	◎	○	○	◎	◎	◎		
	16		160	3	○	○	○	○	○	○	○	○	○	○	○	
	17		250	25	○	○	○	○	○	○	○	○	○	○	○	
	18		130	Malleable cast iron	21	○	○	○	○	○	○	○	○	○	○	○
19	230	21	○		○	○	○	○	○	○	○	○	○	○		
N	20	Aluminum-wrought alloy	60		○	○	○	○	○	○	○	◎	◎	◎		
	21		100		○	○	○	○	○	○	○	◎	◎	◎		
	22		75		○	○	○	○	○	○	○	○	○	○	○	
	23		90							○	○	○	○	○	○	
	24		130							○	○	○	○	○	○	
	25		110	Copper and Copper Alloys (Bronze / Brass)	90						○	○	○	○	○	
	26		90								○	○	○	○	○	
	27		100								○	○	○	○	○	
	28			Non Metallic Materials							○	○	○	○	○	
	29															
S	30	Heat Resistant Super Alloys														
	31		200	15												
	32		280	30												
	33		250	25												
	34		350	38												
	35		320	34												
	36		400 Rm	Titanium Alloys			○	○								
37	1050 Rm															
H	38	Hardened steel	550	55												
	39		630	60												
	40		400	42												
	41		550	55												

SELECTION GUIDE



HOLEMAKING TOOLS

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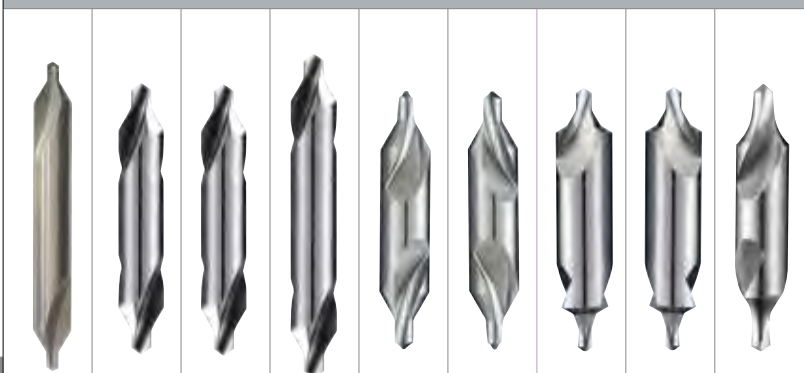
◎: Excellent ○: Good

CENTER DRILLS

Table with columns for SERIES (D5303, DV303, DV333, DV334, D1303, D1343, D1313, D1353, D1363), HOLETYPE, FLUTE / FORM TYPE (FORM A, FORM B), SIZE Min/Max, and PAGE (A290-A295).

SURFACE TREATMENT

Bright



Material compatibility table with columns: ISO, VDI 3323, Material Description, HB, HRc, and a grid of suitability symbols (◎/○) for each drill series (P, M, K, N, S, H).

CENTER DRILLS

REAMERS

Table with columns for CENTER DRILLS (D1373, DV383) and REAMERS (K4101, K4111, K1143, K1153, K2101, K2111, K2121, K2102, K2112, K21B1), including form types and page numbers.

Bright

Bright



Material compatibility table for reamers with columns: ISO, VDI 3323, Material Description, HB, HRc, and a grid of suitability symbols (◎/○) for each reamer series (K, N, S, H).

**SELECTION GUIDE**



**HOLEMAKING TOOLS**

**COUNTERBORES**

SERIES

**EL950**

TYPE

MEDIUM

FINE

BEOFRE  
THREADING

PILOT DIA.

3.4~14.0

3.2~13.0

2.5~10.2

CUTTER DIA.

6.0~20.0

PAGE

**A419**

SURFACE TREATMENT

**Bright**



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for material search

◎ : Excellent ○ : Good

ISO	VDI 3323	Material Description	HB	HRc		
P	1	Non-alloy steel	125		◎	
	2		190	13	◎	
	3		250	25	◎	
	4		270	28	◎	
	5		300	32	◎	
	6	Low alloy steel	180	10	◎	
	7		275	29	◎	
	8		300	32	◎	
	9		350	38	○	
	10		High alloyed steel, and tool steel	200	15	◎
	11	325		35	○	
M	12	Stainless steel	200	15		
	13		240	23		
	14		180	10		
K	15	Grey cast iron	180	10		
	16		260	26		
	17	Nodular cast iron	160	3		
	18		250	25		
	19		130			
20	Malleable cast iron	230	21			
N	21	Aluminum-wrought alloy	60		○	
	22		100		○	
	23	Aluminum-cast, alloyed	75		○	
	24		90		○	
	25		130			
	26		Copper and Copper Alloys	110		
	27			90		
	28		Non Metallic Materials	100		
	29					
	30					
S	31	Heat Resistant Super Alloys	200	15		
	32		280	30		
	33		250	25		
	34		350	38		
	35		320	34		
	36	Titanium Alloys	400 Rm			
	37		1050 Rm			
H	38	Hardened steel	550	55		
	39		630	60		
	40	Chilled Cast Iron	400	42		
	41	Hardened Cast Iron	550	55		



Leading Through Innovation



# CARBIDE INSERTS & HOLDERS

# *i* - ONE DRILLS

## i-One Drills

- High Performance Exchangeable for General Steels and Cast Iron
- Leistungsstarke, austauschbare Bohrwerkzeuge für allgemeine Stähle und Gusseisen



SELECTION GUIDE



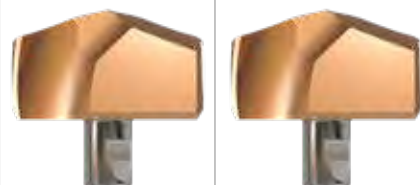
SERIES	Y101H	Y121H	Y141H	Y161H
SIZE MIN	10.00	12.00	14.00	16.00
SIZE MAX	11.91	13.90	15.90	17.90
PAGE	A24	A25	A26	A27

SURFACE TREATMENT H-Coating

# CARBIDE INSERTS & HOLDERS

## i-ONE DRILLS

High Performance Exchangeable for General Steels and Cast Iron



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A34

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	Y101H	Y121H	Y141H	Y161H	
<b>P</b>	1	Non-alloy steel	About 0.15% C Annealed	125	13	◎	◎	◎	◎	
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎	
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎	
	4		About 0.75% C Annealed	270	28	◎	◎	◎	◎	
	5		About 0.75% C Quenched & Tempered	300	32	◎	◎	◎	◎	
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎	
	7		Quenched & Tempered	275	29	◎	◎	◎	◎	
	8		Quenched & Tempered	300	32	◎	◎	◎	◎	
	9		Quenched & Tempered	350	38	◎	◎	◎	◎	
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	◎	◎	◎
	11			Quenched & Tempered	325	35	◎	◎	◎	◎
<b>M</b>	12	Stainless steel	Ferritic / Martensitic Annealed	200	15					
	13		Martensitic Quenched & Tempered	240	23					
	14	Austenitic10	180	10						
<b>K</b>	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎	◎	
	16		Pearlitic (Martensitic)	260	26	◎	◎	◎	◎	
	17	Nodular cast iron	Ferritic	160	3	◎	◎	◎	◎	
	18		Pearlitic	250	25	◎	◎	◎	◎	
	19		Ferritic	130	21	◎	◎	◎	◎	
20	Malleable cast iron	Pearlitic	230	21	◎	◎	◎	◎		
<b>N</b>	21	Aluminum-wrought alloy	Not Curable	60						
	22		Curable Hardened	100						
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75						
	24		≤ 12% Si, Curable Hardened	90						
	25		> 12% Si, Not Curable	130						
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110						
	27		CuZn, CuSnZn (Brass)	90						
	28	CuSn, lead-free copper and electrolytic copper	100							
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	30		Rubber, Wood, etc.							
<b>S</b>	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15					
	32		Cured	280	30					
	33		Annealed	250	25					
	34		Ni or Co Based Cured	350	38					
	35		Cast	320	34					
	36	Titanium Alloys	Pure Titanium	400 Rm						
	37		Alpha + Beta Alloys Hardened	1050 Rm						
<b>H</b>	38	Hardened steel	Hardened	550	55					
	39		Hardened	630	60					
	40	Chilled Cast Iron	Cast	400	42					
	41	Hardened Cast Iron	Hardened	550	55					

Y181H	Y201H	Y221H	Y241H	Y261H	Y281H	Y301H	Y321H	ZD*3	ZD*5	ZD*8
18.00	20.00	22.00	24.00	26.00	28.00	30.00	32.00	3XD	5XD	8XD
19.90	21.90	23.90	25.90	27.78	29.77	31.75	33.73			
A28	A29	A30	A31	A32	A33					

H-Coating



◎	◎	◎	◎	◎	◎	◎	◎				1
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## i-ONE DRILL INSERTS & HOLDERS

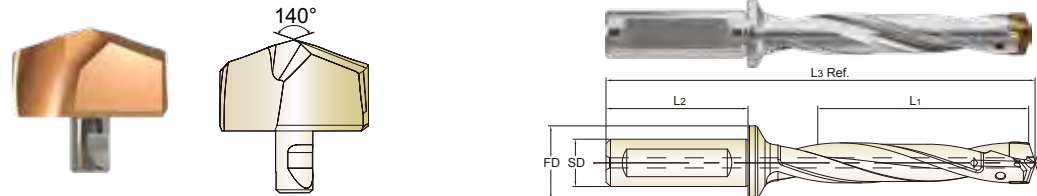
- 🇧🇪 i-ONE DRILL EINSÄTZE UND HALTER
- 🇫🇷 PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
- 🇮🇹 INSERTI & PORTAINSERTI i-ONE DRILL

- Applications  
 ▶ For carbon steels, alloy steels and cast iron.  
 ▶ Holder length: 3xD, 5xD, 8xD

- Vorteile  
 ▶ Secure and quick clamping system.  
 ▶ High performance with cost efficiency.  
 ▶ Multi-layered coating delivers outstanding productivity and reliability.

- Anwendungen  
 ▶ Für Kohlenstoffstähle, legierte Stähle und Gusseisen.  
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CARBIDE
ISO 9766
h7
140°
H Coating
p.A34

Flat Shank Page Plain Shank Page  
 INDEXABLE DRILL HOLDER D245-246  
 ER COLLET CHUCK D73-115

Unit : mm

Series Range (mm)	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth		Overall Length L3 Ref.	Screw No.
		h7							L1	L3 Ref.		
		dec.	frac.	mm								
<b>S10</b> Ø10.00 to Ø11.99	Y101H1000	0.3937	-	10.00	<b>ZD10003016</b>	16	48	23	3D	31.5	103.0	TX1011P5
	Y101H1010	0.3976	-	10.10					5D	52.5		
	Y101H1020	0.4016	-	10.20					8D	84.0		
	Y101H1030	0.4055	-	10.30	<b>ZD10005016</b>	16	48	23	3D	33.0	104.0	
	Y101H1032	0.4063	13/32	10.32					5D	55.0		
	Y101H1040	0.4094	-	10.40					8D	88.0		
	Y101H1050	0.4134	-	10.50	<b>ZD10503016</b>	16	48	23	3D	34.5	105.0	
	Y101H1060	0.4173	-	10.60					5D	57.5		
	Y101H1070	0.4213	-	10.70					8D	92.0		
	Y101H1072	0.4219	27/64	10.72	<b>ZD10505016</b>	16	48	23	3D	36.0	106.0	
	Y101H1080	0.4252	-	10.80					5D	60.0		
	Y101H1090	0.4291	-	10.90					8D	96.0		
	Y101H1100	0.4331	-	11.00	<b>ZD11003016</b>	16	48	23	3D	36.0	106.0	
	Y101H1110	0.4370	-	11.10					5D	60.0		
	Y101H1111	0.4375	7/16	11.11					8D	96.0		
	Y101H1120	0.4409	-	11.20	<b>ZD11008016</b>	16	48	23	3D	42.0	113.8	
	Y101H1130	0.4449	-	11.30					5D	70.0		
	Y101H1140	0.4488	-	11.40					8D	108.0		
Y101H1150	0.4528	-	11.50	<b>ZD11503016</b>	16	48	23	3D	42.0	113.8		
Y101H1151	0.4531	29/64	11.51					5D	70.0			
Y101H1160	0.4567	-	11.60					8D	112.0			
Y101H1170	0.4606	-	11.70	<b>ZD11505016</b>	16	48	23	3D	42.0	113.8		
Y101H1180	0.4646	-	11.80					5D	70.0			
Y101H1190	0.4685	-	11.90					8D	112.0			
Y101H1191	0.4688	15/32	11.91	<b>ZD11508016</b>	16	48	23	3D	42.0	113.8		

▶ Other diameters of insert and shank types of holder are available upon request.

ISO	P										M						K				
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N							S						H							
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34		55	60	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

## i-ONE DRILL INSERTS & HOLDERS

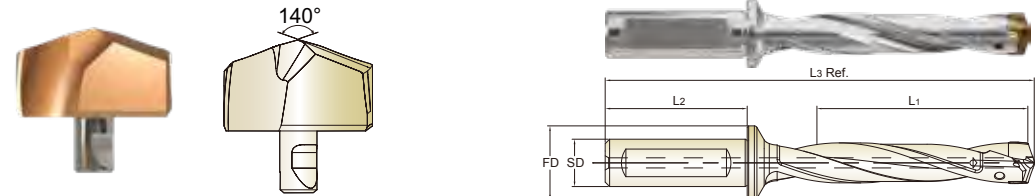
- 🇧🇪 i-ONE DRILL EINSÄTZE UND HALTER
- 🇫🇷 PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
- 🇮🇹 INSERTI & PORTAINSERTI i-ONE DRILL

- Applications  
 ▶ For carbon steels, alloy steels and cast iron.  
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CARBIDE
ISO 9766
h7
140°
H Coating
p.A34

Flat Shank Page Plain Shank Page  
 INDEXABLE DRILL HOLDER D245-246  
 ER COLLET CHUCK D73-115

Unit : mm

Series Range (mm)	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth		Overall Length L3 Ref.	Screw No.
		h7							L1	L3 Ref.		
		dec.	frac.	mm								
<b>S12</b> Ø12.00 to Ø13.99	Y121H1200	0.4724	-	12.00	<b>ZD12003016</b>	16	48	23	3D	37.5	109.8	TX1213P5
	Y121H1210	0.4764	-	12.10					5D	62.5		
	Y121H1220	0.4803	-	12.20					8D	100.0		
	Y121H1230	0.4844	31/64	12.30					<b>ZD12005016</b>	16		
	Y121H1240	0.4882	-	12.40	5D	65.0						
	Y121H1250	0.4921	-	12.50	8D	104.0						
	Y121H1260	0.4961	-	12.60	<b>ZD12503016</b>	16	48	23			3D	
	Y121H1270	0.5000	1/2	12.70					5D	67.5		
	Y121H1280	0.5039	-	12.80					8D	108.0		
	Y121H1290	0.5079	-	12.90					<b>ZD12505016</b>	16	48	
	Y121H1300	0.5118	-	13.00	5D	70.0						
	Y121H1310	0.5156	33/64	13.10	8D	112.0						
	Y121H1320	0.5197	-	13.20	<b>ZD13003016</b>	16	48	23				
	Y121H1330	0.5236	-	13.30					5D	70.0		
	Y121H1340	0.5276	-	13.40					8D	108.0		
	Y121H1350	0.5315	-	13.50					<b>ZD13005016</b>	16	48	
	Y121H1360	0.5354	-	13.60	5D	70.0						
	Y121H1370	0.5394	-	13.70	8D	108.0						
	Y121H1380	0.5433	-	13.80	<b>ZD13008016</b>	16	48	23				
	Y121H1390	0.5472	-	13.90					5D	70.0		
	Y121H1389	0.5469	35/64	13.89					8D	112.0		
	Y121H1390	0.5472	-	13.90					<b>ZD13503016</b>	16	48	

▶ Other diameters of insert and shank types of holder are available upon request.

ISO	P										M						K				
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N							S						H							
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34		55	60	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎			◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

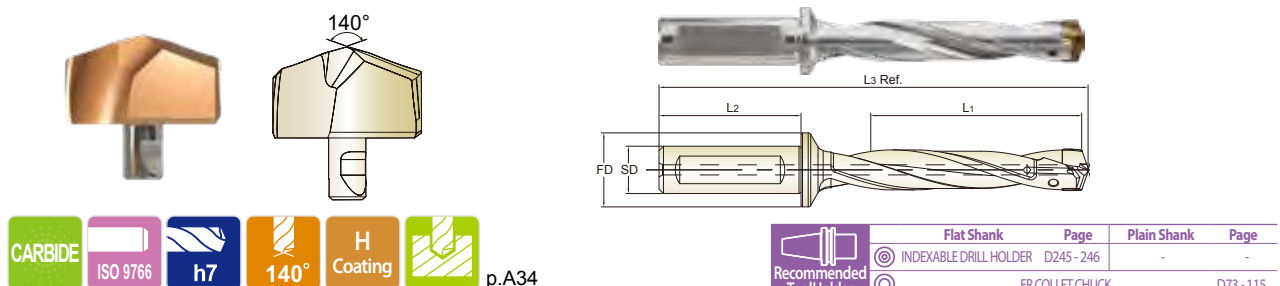


Y141H SERIES

i-ONE DRILL INSERTS & HOLDERS

- i-ONE DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
INSERTI & PORTAINSERTI i-ONE DRILL

- Applications
For carbon steels, alloy steels and cast iron.
Holder length: 3xD, 5xD, 8xD
- Benefits
Secure and quick clamping system.
High performance with cost efficiency.
Multi-layered coating delivers outstanding productivity and reliability.



Unit : mm. Includes icons for CARBIDE, ISO 9766, h7, 140°, Coating, and p.A34.

Table listing Series Range, Insert EDP No., Insert O.D., Holder EDP No., Shank Dia., Shank Length, Flange Dia., Drilling Depth, Overall Length, and Screw No. for Y141H series.

Other diameters of insert and shank types of holder are available upon request.

Material compatibility table with columns for ISO, Material Description, and material types (P, M, K, N, S, H).

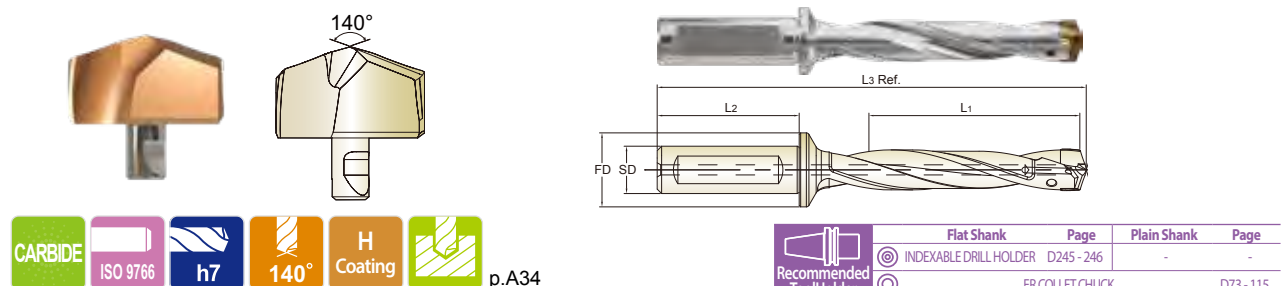


Y161H SERIES

i-ONE DRILL INSERTS & HOLDERS

- i-ONE DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
INSERTI & PORTAINSERTI i-ONE DRILL

- Applications
For carbon steels, alloy steels and cast iron.
Holder length: 3xD, 5xD, 8xD
- Benefits
Secure and quick clamping system.
High performance with cost efficiency.
Multi-layered coating delivers outstanding productivity and reliability.



Unit : mm. Includes icons for CARBIDE, ISO 9766, h7, 140°, Coating, and p.A34.

Table listing Series Range, Insert EDP No., Insert O.D., Holder EDP No., Shank Dia., Shank Length, Flange Dia., Drilling Depth, Overall Length, and Screw No. for Y161H series.

Other diameters of insert and shank types of holder are available upon request.

Material compatibility table with columns for ISO, Material Description, and material types (P, M, K, N, S, H).



**i-ONE DRILL INSERTS & HOLDERS**

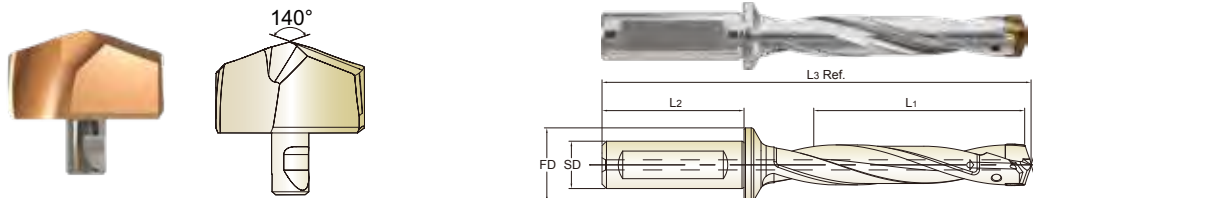
- i-ONE DRILL EINSÄTZE UND HALTER
- PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
- INSERTI & PORTAINSERTI i-ONE DRILL

**- Applications**  
 ▶ For carbon steels, alloy steels and cast iron.  
 ▶ Holder length: 3xD, 5xD, 8xD

**- Benefits**  
 ▶ Secure and quick clamping system.  
 ▶ High performance with cost efficiency.  
 ▶ Multi-layered coating delivers outstanding productivity and reliability.

**- Anwendungen**  
 ▶ Für Kohlenstoffstähle, legierte Stähle und Gusseisen.  
 ▶ Halterlänge: 3xD, 5xD, 8xD

**- Vorteile**  
 ▶ Sicheres und schnelles Spannsystem.  
 ▶ Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.  
 ▶ Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.



CARBIDE ISO 9766 h7 140° Coating p.A34

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245-246	-	-
ER COLLET CHUCK		D73-115	

Unit : mm

Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.	
		dec.	frac.	mm					L1	L3 Ref.			
<b>S18</b>	Y181H1800	0.7087	-	18.00	<b>ZD18003025</b>	25	56	32	3D	57.0	141.3	TX1819P9	
	Y181H1810	0.7126	-	18.10									
	Y181H1820	0.7165	-	18.20									
	Y181H1826	0.7188	23/32	18.26									
	Y181H1830	0.7205	-	18.30									
	Y181H1840	0.7244	-	18.40									
	Y181H1850	0.7283	-	18.50									
	Y181H1860	0.7323	-	18.60									
	Y181H1865	0.7344	47/64	18.65									
	Y181H1870	0.7362	-	18.70									
	Y181H1880	0.7402	-	18.80									
	Y181H1890	0.7441	-	18.90									
	Ø18.00 to Ø19.99	Y181H1900	0.7480	-	19.00	<b>ZD19003025</b>	25	56	32	3D	60.0	145.3	TX1920P9
	Y181H1905	0.7500	3/4	19.05									
	Y181H1910	0.7520	-	19.10									
	Y181H1920	0.7559	-	19.20									
	Y181H1927	0.7587	-	19.27									
	Y181H1930	0.7598	-	19.30									
	Y181H1940	0.7638	-	19.40									
	Y181H1945	0.7656	49/64	19.45									
Y181H1950	0.7677	-	19.50										
Y181H1960	0.7717	-	19.60										
Y181H1970	0.7756	-	19.70										
Y181H1980	0.7795	-	19.80										
Y181H1984	0.7813	25/32	19.84										
Y181H1990	0.7835	-	19.90	<b>ZD19008025</b>	25	56	32	8D	160.0	242.8			

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron		Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

**i-ONE DRILL INSERTS & HOLDERS**

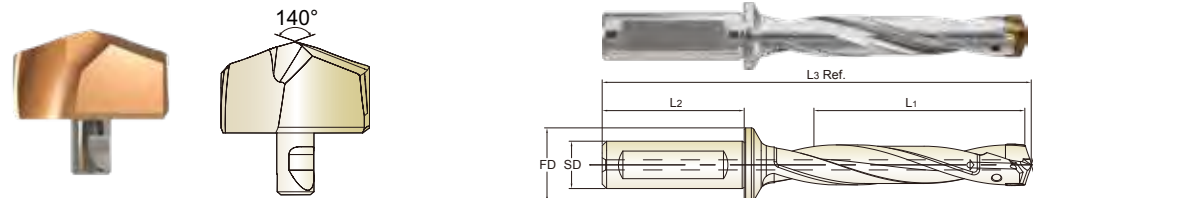
- i-ONE DRILL EINSÄTZE UND HALTER
- PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
- INSERTI & PORTAINSERTI i-ONE DRILL

**- Applications**  
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 ▶ Holder length: 3xD, 5xD, 8xD

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 ▶ Für Kohlenstoffstähle, legierte Stähle und Gusseisen.  
 ▶ Halterlänge: 3xD, 5xD, 8xD

**- Vorteile**  
 ▶ Sicheres und schnelles Spannsystem.  
 ▶ Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.  
 ▶ Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.



CARBIDE ISO 9766 h7 140° Coating p.A34

Recommended ToolHolder

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245-246	-	-
ER COLLET CHUCK		D73-115	

Unit : mm

Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.	
		dec.	frac.	mm					L1	L3 Ref.			
<b>S20</b>	Y201H2000	0.7874	-	20.00	<b>ZD20003025</b>	25	56	32	3D	63.0	147.5	TX2021P9	
	Y201H2010	0.7913	-	20.10									
	Y201H2020	0.7953	-	20.20									
	Y201H2024	0.7969	51/64	20.24									
	Y201H2030	0.7992	-	20.30									
	Y201H2040	0.8031	-	20.40									
	Y201H2050	0.8071	-	20.50									
	Y201H2060	0.8110	-	20.60									
	Y201H2064	0.8125	13/16	20.64									
	Y201H2070	0.8150	-	20.70									
	Y201H2080	0.8189	-	20.80									
	Y201H2090	0.8228	-	20.90									
	Ø20.00 to Ø21.99	Y201H2100	0.8268	-	21.00	<b>ZD21003025</b>	25	56	32	3D	66.0	150.5	TX2122P9
	Y201H2103	0.8281	53/64	21.03									
	Y201H2110	0.8307	-	21.10									
	Y201H2120	0.8346	-	21.20									
	Y201H2130	0.8386	-	21.30									
	Y201H2140	0.8425	-	21.40									
	Y201H2143	0.8438	27/32	21.43									
	Y201H2150	0.8465	-	21.50									
Y201H2160	0.8504	-	21.60										
Y201H2170	0.8543	-	21.70										
Y201H2180	0.8583	-	21.80										
Y201H2183	0.8594	55/64	21.83										
Y201H2190	0.8622	-	21.90	<b>ZD21008025</b>	25	56	32	8D	176.0	258.0			

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron		Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

**i-ONE DRILL INSERTS & HOLDERS**

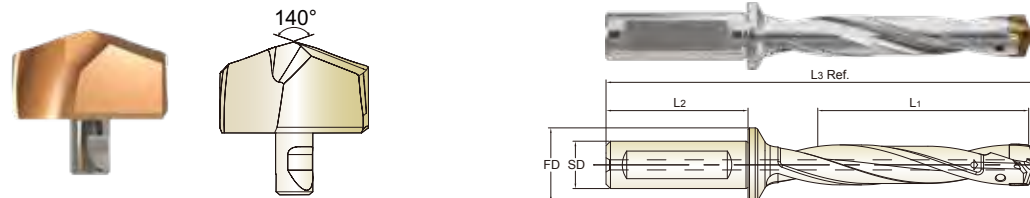
- i-ONE DRILL EINSÄTZE UND HALTER
- PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
- INSERTI & PORTAINSERTI i-ONE DRILL

- Applications  
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- Anwendungen  
 ▶ Für Kohlenstoffstähle, legierte Stähle und Gusseisen.  
 ▶ Halterlänge: 3xD, 5xD, 8xD

- Vorteile  
 ▶ Sicheres und schnelles Spannsystem.  
 ▶ Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.  
 ▶ Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.



Unit : mm

Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
		h7							L1	L3 Ref.		
		dec.	frac.	mm								
<b>S22</b>	<b>Y221H2200</b>	0.8661	-	22.00	<b>ZD22003025</b>	25	56	32	3D	69.0	153.4	TX2223P9
	<b>Y221H2210</b>	0.8701	-	22.10								
	<b>Y221H2220</b>	0.8740	-	22.20								
	<b>Y221H2223</b>	0.8750	7/8	22.23								
	<b>Y221H2230</b>	0.8780	-	22.30								
	<b>Y221H2240</b>	0.8819	-	22.40								
	<b>Y221H2250</b>	0.8858	-	22.50								
	<b>Y221H2260</b>	0.8898	-	22.60								
	<b>Y221H2262</b>	0.8906	57/64	22.62								
	<b>Y221H2270</b>	0.8937	-	22.70								
	<b>Y221H2280</b>	0.8976	-	22.80								
	<b>Y221H2290</b>	0.9016	-	22.90								
	<b>Y221H2300</b>	0.9055	-	23.00	<b>ZD23003025</b>	25	56	32	3D	72.0	157.4	TX2324P9
	<b>Y221H2302</b>	0.9063	29/32	23.02								
	<b>Y221H2310</b>	0.9094	-	23.10								
	<b>Y221H2320</b>	0.9134	-	23.20								
	<b>Y221H2330</b>	0.9173	-	23.30								
	<b>Y221H2340</b>	0.9213	-	23.40								
	<b>Y221H2342</b>	0.9219	59/64	23.42								
	<b>Y221H2350</b>	0.9252	-	23.50								
	<b>Y221H2360</b>	0.9291	-	23.60								
<b>Y221H2370</b>	0.9331	-	23.70									
<b>Y221H2380</b>	0.9370	-	23.80									
<b>Y221H2381</b>	0.9375	15/16	23.81	<b>ZD23008025</b>				8D	192.0	274.9		
<b>Y221H2390</b>	0.9409	-	23.90									

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel	Duplex	Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron									
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

**i-ONE DRILL INSERTS & HOLDERS**

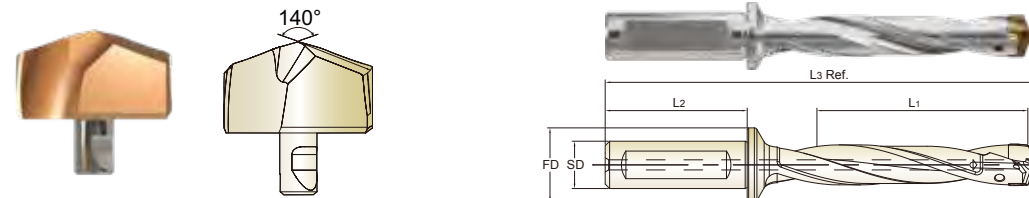
- i-ONE DRILL EINSÄTZE UND HALTER
- PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
- INSERTI & PORTAINSERTI i-ONE DRILL

- Applications  
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 ▶ Holder length: 3xD, 5xD, 8xD

- Benefits  
 ▶ Secure and quick clamping system.  
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 ▶ Für Kohlenstoffstähle, legierte Stähle und Gusseisen.  
 ▶ Halterlänge: 3xD, 5xD, 8xD

- Vorteile  
 ▶ Sicheres und schnelles Spannsystem.  
 ▶ Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.  
 ▶ Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.



Unit : mm

Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
		h7							L1	L3 Ref.		
		dec.	frac.	mm								
<b>S24</b>	<b>Y241H2400</b>	0.9449	-	24.00	<b>ZD24003032</b>	32	60	37	3D	75.0	165.8	TX2425P10
	<b>Y241H2410</b>	0.9488	-	24.10								
	<b>Y241H2420</b>	0.9528	-	24.20								
	<b>Y241H2421</b>	0.9531	61/64	24.21								
	<b>Y241H2430</b>	0.9567	-	24.30								
	<b>Y241H2440</b>	0.9606	-	24.40								
	<b>Y241H2450</b>	0.9646	-	24.50								
	<b>Y241H2460</b>	0.9685	-	24.60								
	<b>Y241H2461</b>	0.9688	31/32	24.61								
	<b>Y241H2470</b>	0.9724	-	24.70								
	<b>Y241H2480</b>	0.9764	-	24.80								
	<b>Y241H2490</b>	0.9803	-	24.90								
	<b>Y241H2500</b>	0.9844	63/64	25.00	<b>ZD25003032</b>	32	60	37	3D	78.0	170.8	TX2526P10
	<b>Y241H2510</b>	0.9882	-	25.10								
	<b>Y241H2520</b>	0.9921	-	25.20								
	<b>Y241H2530</b>	0.9961	-	25.30								
	<b>Y241H2540</b>	1.0000	1	25.40								
	<b>Y241H2550</b>	1.0039	-	25.50								
	<b>Y241H2560</b>	1.0079	-	25.60								
	<b>Y241H2567</b>	1.0106	-	25.67								
	<b>Y241H2570</b>	1.0118	-	25.70								
<b>Y241H2580</b>	1.0156	1-1/64	25.80									
<b>Y241H2590</b>	1.0197	-	25.90									

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel	Duplex	Grey cast iron	Nodular cast iron	Malleable cast iron				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron									
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



Y261H SERIES

Y281H SERIES

### i-ONE DRILL INSERTS & HOLDERS

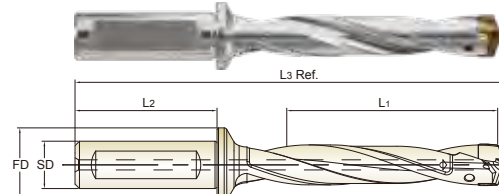
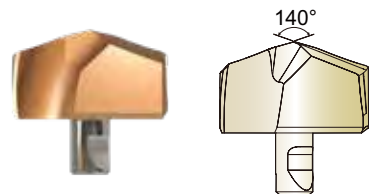
- i-ONE DRILL EINSÄTZE UND HALTER
- PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
- INSERTI & PORTAINSERTI i-ONE DRILL

- Applications  
 ▶ For carbon steels, alloy steels and cast iron.  
 ▶ Holder length: 3xD, 5xD, 8xD

- Benefits  
 ▶ Secure and quick clamping system.  
 ▶ High performance with cost efficiency.  
 ▶ Multi-layered coating delivers outstanding productivity and reliability.

- Anwendungen  
 ▶ Für Kohlenstoffstähle, legierte Stähle und Gusseisen.  
 ▶ Halterlänge: 3xD, 5xD, 8xD

- Vorteile  
 ▶ Sicheres und schnelles Spannsystem.  
 ▶ Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.  
 ▶ Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.



Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
		h7							L1	L3 Ref.		
		dec.	frac.	mm								
S26 Ø26.00 to Ø27.99	Y261H2600	1.0236	-	26.00	ZD26003032	32	60	37	3D	81.0	172.2	TX2627P10
	Y261H2619	1.0313	1-1/32	26.19					5D	135.0	225.2	
	Y261H2650	1.0433	-	26.50					8D	216.0	304.	
	Y261H2659	1.0469	1-3/64	26.59								
	Y261H2699	1.0625	1-1/16	26.99	ZD26008032							
	Y261H2700	1.0630	-	27.00	ZD27003032				3D	84.0	175.2	
	Y261H2738	1.0781	1-5/64	27.38	ZD27005032	32	60	37	5D	140.0	230.2	TX2728P10
	Y261H2750	1.0827	-	27.50	ZD27008032				8D	224.0	312.7	
	Y261H2778	1.0938	1-3/32	27.78								
	S28 Ø28.00 to Ø29.99	Y281H2800	1.1024	-	28.00	ZD28003032				3D	87.0	179.2
Y281H2818		1.1094	1-7/64	28.18	ZD28005032	32	60	37	5D	145.0	236.2	TX2829P10
Y281H2850		1.1220	-	28.50	ZD28008032				8D	232.0	321.7	
Y281H2858		1.1250	1-1/8	28.58								
Y281H2897		1.1406	1-9/64	28.97								
Y281H2900		1.1417	-	29.00	ZD29003032				3D	90.0	183.2	
Y281H2937		1.1563	1-5/32	29.37	ZD29005032	32	60	37	5D	150.0	242.2	TX2930P10
Y281H2950		1.1614	-	29.50	ZD29008032				8D	240.0	330.7	

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S						H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



Y301H SERIES

Y321H SERIES

### i-ONE DRILL INSERTS & HOLDERS

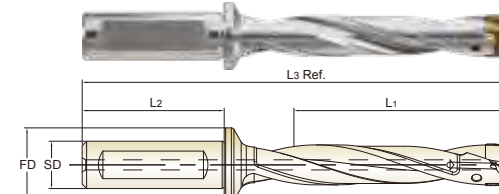
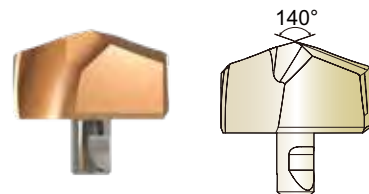
- i-ONE DRILL EINSÄTZE UND HALTER
- PLAQUETTES ET PORTE-PLAQUETTE i-ONE DRILL
- INSERTI & PORTAINSERTI i-ONE DRILL

- Applications  
 ▶ For carbon steels, alloy steels and cast iron.  
 ▶ Holder length: 3xD, 5xD, 8xD

- Benefits  
 ▶ Secure and quick clamping system.  
 ▶ High performance with cost efficiency.  
 ▶ Multi-layered coating delivers outstanding productivity and reliability.

- Anwendungen  
 ▶ Für Kohlenstoffstähle, legierte Stähle und Gusseisen.  
 ▶ Halterlänge: 3xD, 5xD, 8xD

- Vorteile  
 ▶ Sicheres und schnelles Spannsystem.  
 ▶ Hohe Leistungsfähigkeit bei gleichzeitiger Kosteneffizienz.  
 ▶ Mehrschichtige Beschichtung bietet hervorragende Produktivität und Zuverlässigkeit.



Series Range	Insert EDP No.	Insert O.D.			Holder EDP No.	Shank Dia.	Shank Length	Flange Dia.	Drilling Depth		Overall Length	Screw No.
		h7							L1	L3 Ref.		
		dec.	frac.	mm								
S30 Ø30.00 to Ø31.99	Y301H3000	1.1811	-	30.00	ZD30003032	32	60	37	3D	93.0	187.0	TX3031P15
	Y301H3016	1.1875	1-3/16	30.16					5D	155.0	248.0	
	Y301H3050	1.2008	-	30.50					8D	248.0	339.5	
	Y301H3056	1.2031	1-13/64	30.56								
	Y301H3096	1.2188	1-7/32	30.96	ZD30008032							
	Y301H3100	1.2205	-	31.00	ZD31003032				3D	96.0	191.0	
	Y301H3135	1.2344	1-15/64	31.35	ZD31005032	32	60	37	5D	160.0	254.0	TX3132P15
	Y301H3150	1.2402	-	31.50	ZD31008032				8D	256.0	348.5	
	Y301H3175	1.2500	1-1/4	31.75								
	S32 Ø32.00 to Ø33.99	Y321H3200	1.2598	-	32.00	ZD32003032				3D	99.0	197.2
Y321H3215		1.2656	1-17/64	32.15	ZD32005032	32	60	37	5D	165.0	262.2	TX3233P15
Y321H3250		1.2795	-	32.50	ZD32008032				8D	264.0	359.7	
Y321H3254		1.2813	1-9/32	32.54								
Y321H3294		1.2969	1-19/64	32.94								
Y321H3300		1.2992	-	33.00	ZD33003032				3D	102.0	201.2	
Y321H3334		1.3125	1-5/16	33.34	ZD33005032	32	60	37	5D	170.0	268.2	TX3334P15
Y321H3350		1.3189	-	33.50	ZD33008032				8D	272.0	368.7	
Y321H3373		1.3281	1-21/64	33.73								

▶ Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Duplex	Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N					S						H									
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



VC = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

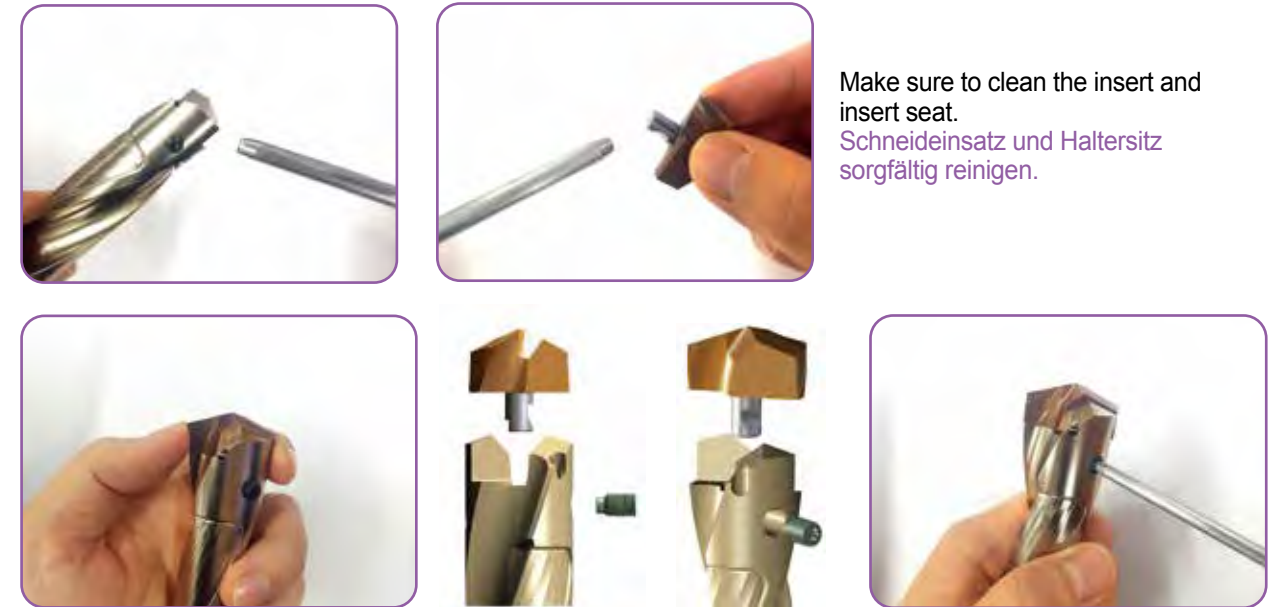
ISO	VDI 3323	Material Description	Vc (m/min)	Feed(mm/rev)					
				Ø10.0-11.99	Ø12.09-14.99	Ø15.00-17.99	Ø18.00-21.99	Ø22.0-26.9	Ø27.0-33.99
P	1	Non-alloy steel	100-126	0.14-0.24	0.18-0.31	0.23-0.39	0.30-0.44	0.37-0.57	0.41-0.61
	2		84-110	0.12-0.21	0.15-0.26	0.23-0.39	0.30-0.44	0.37-0.57	0.41-0.61
	3		63-84	0.11-0.18	0.13-0.22	0.19-0.31	0.24-0.35	0.33-0.51	0.36-0.54
	4		58-74	0.09-0.14	0.11-0.18	0.17-0.28	0.23-0.33	0.28-0.42	0.32-0.47
	5		58-74	0.09-0.14	0.11-0.18	0.17-0.28	0.23-0.33	0.28-0.42	0.32-0.47
	6	Low alloy steel	74-95	0.11-0.18	0.13-0.22	0.19-0.31	0.24-0.35	0.33-0.51	0.37-0.55
	7		63-84	0.11-0.18	0.13-0.22	0.17-0.28	0.24-0.35	0.33-0.51	0.37-0.55
	8		58-74	0.09-0.14	0.11-0.18	0.14-0.23	0.23-0.33	0.28-0.42	0.32-0.47
	9		47-63	0.07-0.11	0.09-0.13	0.14-0.23	0.23-0.33	0.28-0.42	0.32-0.47
	10	High alloyed steel, and tool steel	53-68	0.09-0.14	0.11-0.18	0.14-0.23	0.20-0.29	0.22-0.34	0.26-0.39
	11		42-58	0.09-0.14	0.11-0.18	0.12-0.20	0.23-0.33	0.22-0.34	0.26-0.39
K	15	Grey cast iron	105-131	0.13-0.23	0.17-0.29	0.22-0.41	0.30-0.46	0.40-0.56	0.44-0.61
	16		79-100	0.10-0.18	0.12-0.22	0.18-0.32	0.22-0.33	0.28-0.39	0.32-0.44
	17	Nodular cast iron	100-126	0.11-0.20	0.14-0.24	0.19-0.34	0.23-0.35	0.31-0.44	0.35-0.48
	18		79-100	0.10-0.18	0.12-0.22	0.15-0.29	0.21-0.32	0.28-0.39	0.32-0.44
	19	Malleable cast iron	105-131	0.11-0.20	0.14-0.24	0.19-0.34	0.23-0.35	0.31-0.44	0.35-0.48
20	79-100		0.10-0.15	0.12-0.20	0.15-0.29	0.21-0.32	0.28-0.39	0.32-0.44	

- ▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points. Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
- ▶ Recommend you to reduce the feed rate to 85%, 70% when you use 5xD, 8xD holders.
- ▶ For use of 8xD holder, we recommend to use a pilot drill with equal to or larger than 140° point angle (0.5xD ~ 1.5xD). The use of the centering pre-hole improves hole location, roundness and surface finish.

**Comparison with Split Point Drill, Spade Drill & Dream Drill**



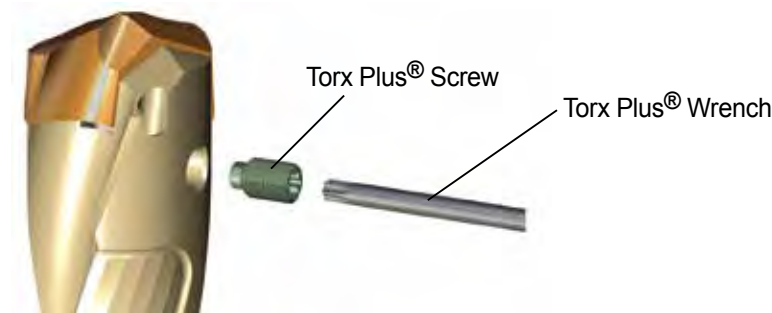
**ASSEMBLY OF i-ONE DRILLS  
MONTAGE DES i-ONE DRILLS**



Make sure to clean the insert and insert seat.  
Schneideinsatz und Haltersitz sorgfältig reinigen.

Slide the drill insert into the slot of the holder and press down the insert to touch the bottom of the slot.  
Schneideinsatz in den Haltersitz einführen und den Schneideinsatz fest auf den Grund des Haltersitzes pressen.

After confirming the insert is pressed down to the bottom of the slot, tighten the screw using anti-seize compound.  
Wenn der Schneideinsatz fest auf den Grund des Haltersitzes gepresst ist, die Schraube fest anziehen und dabei Spezialfett verwenden.



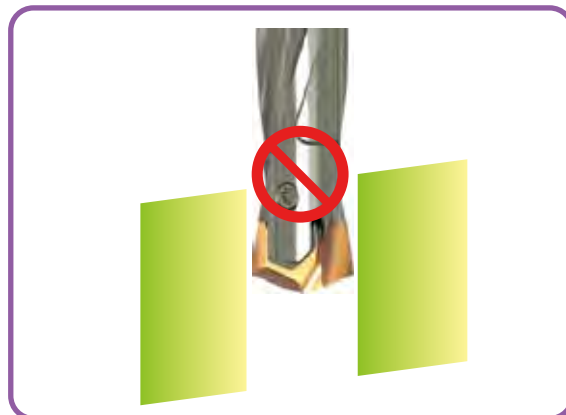
WRENCH TYPE	PRODUCT NO.	SERIES (INSERT SIZE)	TORX PLUS®	TORQUE (N·m)
	TWFP05	S10~S12 (10.00 ~ 13.90)	5 IP	0.6
	TWDP07	S14~S16 (14.00 ~ 17.90)	7 IP	1.0
	TWDP09	S18~S22 (18.00 ~ 23.90)	9 IP	1.5
	TWDP10	S24~S28 (24.00 ~ 29.77)	10 IP	2.2
	TWDP15	S30~S32 (30.00 ~ 33.73)	15 IP	3.2

- Use the Torx Plus wrench  
Benutzen Sie den Winkeldreher oder T - Schlüsse
- ▶ Need to use appropriate wrenches and screws as indicated. Unbedingt die angegebenen Schrauben und Dreher verwenden.
  - ▶ It's important to tighten up the screw properly. Es ist wichtig, die Schraube korrekt und fest anzuziehen.

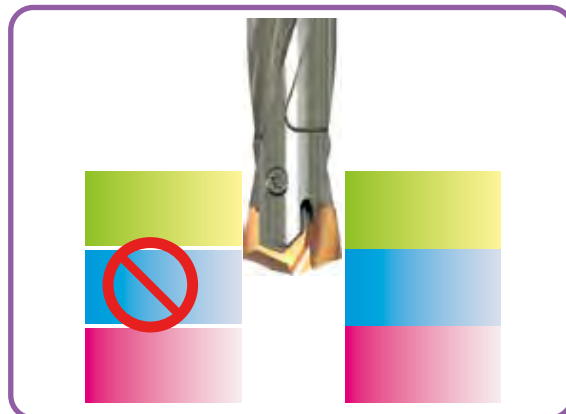
**CAUTION-NOT RECOMMENDABLE APPLICATION  
ACHTUNG - NICHT EMPFOHLENE ANWENDUNG**



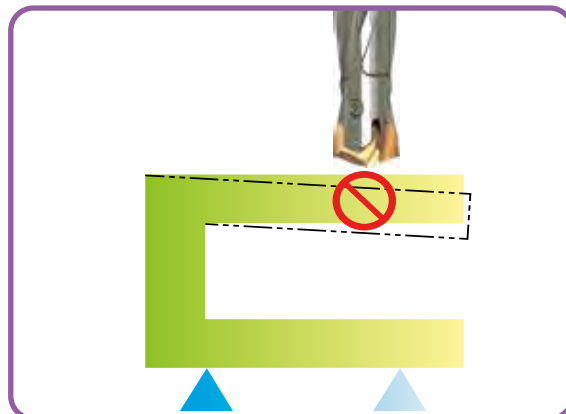
**Intersecting cross hole is bigger than the drill insert's Margin Length.**  
Der Haltersitz ist größer als die Breite des Schneideinsatzes.



**Material with slanting entrance and exit over 7 degrees.**  
(If drilling 7 degrees or under slanting surface, reduce the feed about 30-50%)  
Werkstücke mit schrägem Anschnitt oder Austritt von über 7°. (Zum Bohren von bis zu 7° Schräge den Vorschub um ca. 30-50% reduzieren).

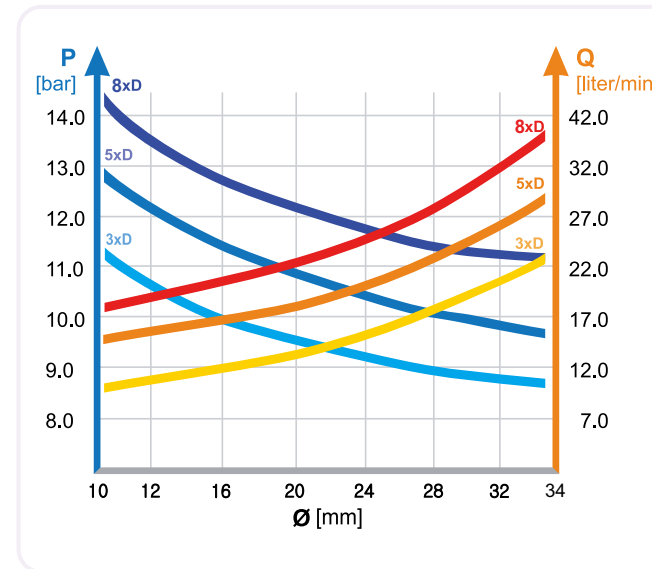


**For drilling stacked plates, minimize the space between the plates.**  
Beim Bohren von Blechpaketen den Abstand der Bleche minimieren.  
**The space between stacked plates can cause insert breakage or poor chip control.**  
Freiraum in Blechpaketen kann den Bruch des Schneideinsatzes oder schlechte Entspannung verursachen.



**The material needs to be fixtured securely before drilling.**  
Das Werkstück muss fest und sicher aufgespannt sein

**RECOMMENDED COOLANT PRESSURE AND FLOW RATE ON VERTICAL DRILLING  
EMPFOHLENE KÜHLMITTELDRUCK UND - MENGE BEIM VERTIKALEN BOHREN**



- Recommended emulsion mix is 6 - 8%.  
Empfohlene Emulsionsmischung 6 - 8%.
- For Drilling into Stainless and High Strength steels, a mix of 10% is recommended.  
Beim Bohren in rostfreie und hochfeste Stähle werden 10% empfohlen.
- For horizontal drilling, 30% reduction on the coolant pressure and flow rate is possible.  
Beim horizontalen Bohren können Kühlmitteldruck und -menge um 30% gemindert werden.
- Dry drilling is possible for 1-2xD drilling. (But not recommended.)  
Trocken Bohren ist möglich bei 1-2xD. (Aber nicht empfohlen.)

**TROUBLE SHOOTING  
PROBLEMLÖSUNGEN**



- 1) Heavy flank wear / Fast flank wear**  
- Reduce cutting speed  
- Increase feed



- 2) Chipping on cutting edge**  
- Reduce feed  
- Check the rigidity of spindle and chuck  
- Rigid clamping of workpiece



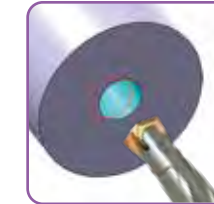
- 3) Build-up on cutting edge**  
- Increase cutting speed  
- Use a coated insert



- 4) Chipping or break down on outer corner**  
- Reduce feed  
- Rigid clamping of workpiece



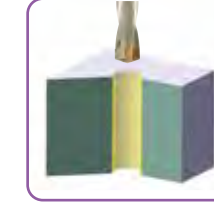
- 5) Wear of land margin**  
- Rigid clamping of workpiece  
- Reduce cutting speed  
- Increase coolant flow



- 6) Unsatisfactory positioning of the hole**  
- Rigid clamping of workpiece  
- Reduce feed during entrance or exit



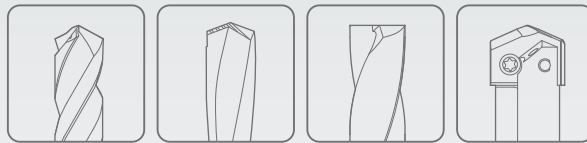
- 7) Scratching on holder**  
- Rigid clamping of workpiece  
- Reduce feed  
- Increase coolant flow



- 8) Unsatisfactory surface finish**  
- Rigid clamping of workpiece  
- Increase coolant flow and pressure



Global Cutting Tool Leader **YG-1**



# HOLEMAKING



Leading Through Innovation



# CARBIDE INSERTS & HOLDERS

# *i* - DREAM DRILLS

i-Dream Drills

- For General Steels and Stainless Steels
- Für allgemeine Stähle und Edelstähle



SELECTION GUIDE

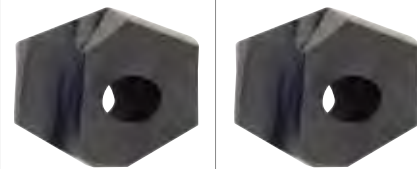


SERIES	YA1A	YA2C	YB1A	YB2C
TYPE	A		B	
SIZE MIN	12.00		14.00	
SIZE MAX	13.89		15.87	
PAGE	A44		A45	
SURFACE TREATMENT	TiAIN	TiCN	TiAIN	TiCN

CARBIDE INSERTS & HOLDERS

*i*-DREAM DRILLS

For General Steels and Stainless Steels



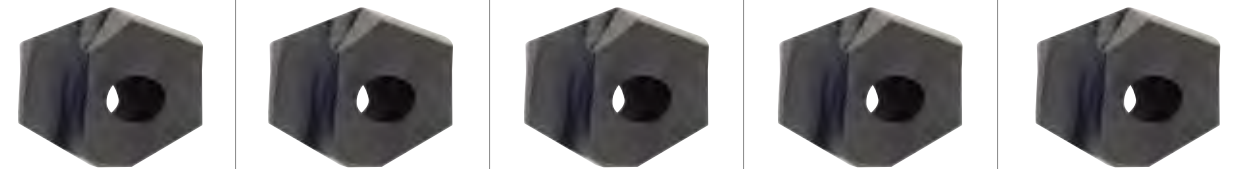
Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A54, 55

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	TiAIN	TiCN	TiAIN	TiCN		
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	○	◎	○		
	2		About 0.45% C Annealed	190	13	◎	○	◎	○		
	3		About 0.45% C Quenched & Tempered	250	25	◎	○	◎	○		
	4		About 0.75% C Annealed	270	28	◎	○	◎	○		
	5		About 0.75% C Quenched & Tempered	300	32	◎	○	◎	○		
	6	Low alloy steel	Annealed	180	10	◎	○	◎	○		
	7		Quenched & Tempered	275	29	◎	○	◎	○		
	8		Quenched & Tempered	300	32	◎	○	◎	○		
	9		Quenched & Tempered	350	38	◎	○	◎	○		
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	○	◎	○	
	11			Quenched & Tempered	325	35	◎	○	◎	○	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15		◎		◎		
	13		Martensitic Quenched & Tempered	240	23		◎		◎		
	14		Austenitic	180	10		◎		◎		
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎		◎			
	16		Pearlitic (Martensitic)	260	26	◎		◎			
	17	Nodular cast iron	Ferritic	160	3	◎		◎			
	18		Pearlitic	250	25	◎		◎			
	19		Ferritic	130		◎		◎			
	20		Malleable cast iron	Pearlitic	230	21	◎		◎		
N	21	Aluminum-wrought alloy	Not Curable	60			○		○		
	22		Curable Hardened	100			○		○		
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75			○		○		
	24		≤ 12% Si, Curable Hardened	90				○		○	
	25		> 12% Si, Not Curable	130				○		○	
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110			○		○	
	27		CuZn, CuSnZn (Brass)		90			○		○	
	28		CuSn, lead-free copper and electrolytic copper		100			○		○	
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic							
	30			Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15						
	32		Cured	280	30						
	33		Annealed	250	25						
	34		Ni or Co Based Cured	350	38						
	35		Cast	320	34						
	36	Titanium Alloys	Pure Titanium	400 Rm							
	37		Alpha + Beta Alloys Hardened	1050 Rm							
H	38	Hardened steel	Hardened	550	55						
	39		Hardened	630	60						
	40		Chilled Cast Iron	Cast	400	42					
	41		Hardened Cast Iron	Hardened	550	55					

YC1A	YC2C	YD1A	YD2C	YE1A	YE2C	YF1A	YF2C	YG1A	YG2C
C		D		E		F		G	
16.00		18.00		20.00		22.00		24.00	
17.86		19.84		21.83		23.81		25.80	
A46		A47		A48		A49		A50	
TiAIN	TiCN	TiAIN	TiCN	TiAIN	TiCN	TiAIN	TiCN	TiAIN	TiCN



◎	○	◎	○	◎	○	◎	○	◎	○	1
◎	○	◎	○	◎	○	◎	○	◎	○	2
◎	○	◎	○	◎	○	◎	○	◎	○	3
◎	○	◎	○	◎	○	◎	○	◎	○	4
◎	○	◎	○	◎	○	◎	○	◎	○	5
◎	○	◎	○	◎	○	◎	○	◎	○	6
◎	○	◎	○	◎	○	◎	○	◎	○	7
◎	○	◎	○	◎	○	◎	○	◎	○	8
◎	○	◎	○	◎	○	◎	○	◎	○	9
◎	○	◎	○	◎	○	◎	○	◎	○	10
◎	○	◎	○	◎	○	◎	○	◎	○	11
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	◎		◎		◎		◎		◎	13
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◎		◎		◎		◎		◎		16
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◎		◎		◎		◎		◎		20
	○		○		○		○		○	21
	○		○		○		○		○	22
	○		○		○		○		○	23
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SELECTION GUIDE



SERIES	YH1A	YH2C
TYPE	H	
SIZE MIN	26.00	
SIZE MAX	27.78	
PAGE	A51	
SURFACE TREATMENT	TiAIN	TiCN

CARBIDE INSERTS & HOLDERS

**i-DREAM DRILLS**

For General Steels and Stainless Steels



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search  
 ◎ : Excellent ○ : Good  
 Recommended cutting conditions : p.A54, 55

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	YH1A	YH2C	
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	○	
	2		About 0.45% C Annealed	190	13	◎	○	
	3		About 0.45% C Quenched & Tempered	250	25	◎	○	
	4		About 0.75% C Annealed	270	28	◎	○	
	5		About 0.75% C Quenched & Tempered	300	32	◎	○	
	6	Low alloy steel	Annealed	180	10	◎	○	
	7		Quenched & Tempered	275	29	◎	○	
	8		Quenched & Tempered	300	32	◎	○	
	9		Quenched & Tempered	350	38	◎	○	
	10		High alloyed steel, and tool steel	Annealed	200	15	◎	○
	11			Quenched & Tempered	325	35	◎	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15		◎	
	13		Martensitic Quenched & Tempered	240	23		◎	
	14	Austenitic	180	10		◎		
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎		
	16		Pearlitic (Martensitic)	260	26	◎		
	17	Nodular cast iron	Ferritic	160	3	◎		
	18		Pearlitic	250	25	◎		
	19		Ferritic	130		◎		
20	Malleable cast iron	Pearlitic	230	21	◎			
N	21	Aluminum-wrought alloy	Not Curable	60			○	
	22		Curable Hardened	100			○	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75			○	
	24		≤ 12% Si, Curable Hardened	90			○	
	25		> 12% Si, Not Curable	130			○	
	26		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90			○
	27	Non Metallic Materials	Cutting Alloys, PB>1%	110			○	
	28		CuSn, lead-free copper and electrolytic copper	100			○	
	29		Duroplastic, Fiber Reinforced Plastic					○
	30	Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15		
	32			Cured	280	30		
	33		Annealed	250	25			
	34		Cured	350	38			
	35	Titanium Alloys	Ni or Co Based	Cast	320	34		
	36			Pure Titanium	400 Rm			
	37			Alpha + Beta Alloys	Hardened	1050 Rm		
H	38	Hardened steel		Hardened	550	55		
	39			Hardened	630	60		
	40			Cast	400	42		
	41			Hardened	550	55		

YI1A	YI2C	YJ1A	YJ2C	ZH*3	ZH*5	ZH*7
I		J				
28.00		30.00				
29.77		31.75				
A52		A53				
TiAIN	TiCN	TiAIN	TiCN	3XD	5XD	7XD



◎	○	◎	○				1
◎	○	◎	○				2
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◎	○	◎	○				9
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◎	○	◎	○				11
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i-DREAM DRILL INSERTS & HOLDERS

- i-DREAM DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE I-DREAM DRILL - USAGE GÉNÉRAL / INOX
INSERTI & PORTAINSERTI i-DREAM DRILL

- Features of i-Dream Drill Inserts-
Merkmale des i-Dream Drill Einsätze

- Secure and accurate seating resulting in accurate repeatability and concentricity.
Der sichere und genaue Sitz der Platte garantiert genaue Wiederholbarkeit beim Einsatz und beim Rundlauf.
i-Dream Drill General / i-Dream Drill allgemeinen
For most steels materials / In den meisten Stahlsorten
i-Dream Drill INOX / i-Dream Drill INOX
For tough, ductile materials and stainless steels
Für zähe, verformbare Werkstoffe und rostfreie Stähle.
Light, sharp cutting edge / Scharfe Schneidkante
Soft cutting action / Weicher Schnitt
Minimize cutting forces / Minimaler Schneidendruck
Reduce built-up edge / Reduzierte Gratbildung

- Features of i-Dream Drill Holders-
Merkmale des i-Dream Drill Halters-

- Special Alloy Steels maintain its hardness and toughness under high temperatures.
Speziell legierter Stahl, der seine Härte und Zähigkeit auch bei hohen Temperaturen behält.
Innovative surface treatment improves wear resistance and reduces corrosion.
Innovative Oberflächenbehandlung, die die Verschleissfestigkeit erhöht und die Korrosion vermindert.
High Performance flute design allows maximum chip evacuation and minimum interference.
Optimierte Nutenform für maximale Spanabfuhr.



Material and coating icons: CARBIDE, ISO 9766, h7, 140°, TiAlN, TiCN, p.A54, 55. Recommended ToolHolder and ER COLLET CHUCK information.

Table with columns: Series Range, Insert EDP No., Insert O.D., Holder EDP No., Shank Dia., Shank Length, Flange Dia., Drilling Depth, Overall Length, Screw No.

Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

Material compatibility chart for YE1A and YE2C series with ISO standards and material descriptions.

i-DREAM DRILL INSERTS & HOLDERS

- i-DREAM DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE I-DREAM DRILL - USAGE GÉNÉRAL / INOX
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Material compatibility chart for YF1A and YF2C series with ISO standards and material descriptions.



i-DREAM DRILL INSERTS & HOLDERS

- i-DREAM DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE I-DREAM DRILL - USAGE GÉNÉRAL / INOX
INSERTI & PORTAINSERTI i-DREAM DRILL

- Features of i-Dream Drill Inserts-
Merkmale des i-Dream Drill Einsätze
Secure and accurate seating resulting in accurate repeatability and concentricity.

- Features of i-Dream Drill Holders-
Merkmale des i-Dream Drill Halters-
Special Alloy Steels maintain its hardness and toughness under high temperatures.



Table with 12 columns: Series Range, Insert EDP No., Insert O.D., Holder EDP No., Shank Dia., Shank Length, Flange Dia., Drilling Depth, Overall Length, Screw No. Includes sub-tables for G and H series.

Other diameters of insert and shank types of holder are available upon request.

Material compatibility table with columns for ISO, Material Description, P (Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron), M, K, S, H.



i-DREAM DRILL INSERTS & HOLDERS

- i-DREAM DRILL EINSÄTZE UND HALTER
PLAQUETTES ET PORTE-PLAQUETTE I-DREAM DRILL - USAGE GÉNÉRAL / INOX
INSERTI & PORTAINSERTI i-DREAM DRILL

- Features of i-Dream Drill Inserts-
Merkmale des i-Dream Drill Einsätze
Secure and accurate seating resulting in accurate repeatability and concentricity.

- Features of i-Dream Drill Holders-
Merkmale des i-Dream Drill Halters-
Special Alloy Steels maintain its hardness and toughness under high temperatures.



Table with 12 columns: Series Range, Insert EDP No., Insert O.D., Holder EDP No., Shank Dia., Shank Length, Flange Dia., Drilling Depth, Overall Length, Screw No. Includes sub-tables for H series.

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Material compatibility table with columns for ISO, Material Description, P (Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron), M, K, S, H.



**i-DREAM DRILL INSERTS & HOLDERS**

- i-DREAM DRILL EINSÄTZE UND HALTER
- PLAQUETTES ET PORTE-PLAQUETTE I-DREAM DRILL - USAGE GÉNÉRAL / INOX
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Merkmale des i-Dream Drill Einsätze**

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Merkmale des i-Dream Drill Halters**

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CARBIDE
ISO 9766
h7
140°
TiAIN
TiCN
p.A54, 55

Recommended ToolHolder
INDEXABLE DRILL HOLDER D245-246
ER COLLET CHUCK D73-115

Series Range (mm)	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth		Overall Length L3 Ref.	Screw No.
	General (TiAIN)	INOX (TiCN)	h7		L1					L3 Ref.			
Ø28.00 to Ø29.99	YI1A2800	YI2C2800	1.1024	-	28.00	ZH28003032	32	60	37	3D	84	178.2	TX2829T25
	YI1A2818	YI2C2818	1.1094	1-7/64	28.18	ZH28005032				5D	140	234.2	
	ZH28007032	7D	196	290.2									
	YI1A2850	YI2C2850	1.1220	-	28.50	ZH28503032	32	60	37	3D	85.5	179.2	
	YI1A2858	YI2C2858	1.1250	1-1/8	28.58	ZH28505032	5D	142.5	236.2				
	ZH28507032	7D	199.5	293.2									
	YI1A2900	YI2C2900	1.1417	-	29.00	ZH29003032	32	60	37	3D	87	182.2	
	YI1A2937	YI2C2937	1.1562	1-5/32	29.37	ZH29005032	5D	145	240.2				
	ZH29007032	7D	203	298.2									
	YI1A2950	YI2C2950	1.1614	-	29.50	ZH29503032	32	60	37	3D	88.5	183.2	
YI1A2977	YI2C2977	1.1719	1-11/64	29.77	ZH29505032	5D	147.5	242.2					
ZH29507032	7D	206.5	301.2										

► Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	42	48	52	58	63	68	73	78	83	88	93	98	103	108	113	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
YI1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
YI2C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
YI1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎											
YI2C	○	○	○	○	○	○	○	○	○	○											

**i-DREAM DRILL INSERTS & HOLDERS**

- i-DREAM DRILL EINSÄTZE UND HALTER
- PLAQUETTES ET PORTE-PLAQUETTE I-DREAM DRILL - USAGE GÉNÉRAL / INOX
- INSERTI & PORTAINSERTI i-DREAM DRILL

**- Features of i-Dream Drill Inserts-  
Merkmale des i-Dream Drill Einsätze**

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Der sichere und genaue Sitz der Platte garantiert genaue Wiederholbarkeit beim Einsatz und beim Rundlauf.
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- Reduce built-up edge / Reduzierte Gratbildung

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Merkmale des i-Dream Drill Halters**

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CARBIDE
ISO 9766
h7
140°
TiAIN
TiCN
p.A54, 55

Recommended ToolHolder
INDEXABLE DRILL HOLDER D245-246
ER COLLET CHUCK D73-115

Series Range (mm)	Insert EDP No.		Insert O.D.			Holder EDP No.	Shank Dia. SD	Shank Length L2	Flange Dia. FD	Drilling Depth		Overall Length L3 Ref.	Screw No.
	General (TiAIN)	INOX (TiCN)	h7		L1					L3 Ref.			
Ø30.00 to Ø31.99	YJ1A3000	YJ2C3000	1.1811	-	30.00	ZH30003032	32	60	37	3D	90	186.0	TX3031T25
	YJ1A3016	YJ2C3016	1.1875	1-3/16	30.16	ZH30005032				5D	150	246.0	
	ZH30007032	7D	210	306.0									
	YJ1A3050	YJ2C3050	1.2008	-	30.50	ZH30503032	32	60	37	3D	91.5	187.0	
	YJ1A3056	YJ2C3056	1.2031	1-13/64	30.56	ZH30505032	5D	152.5	248.0				
	ZH30507032	7D	213.5	309.0									
	YJ1A3100	YJ2C3100	1.2205	-	31.00	ZH31003032	32	60	37	3D	93	188.0	
	YJ1A3150	YJ2C3150	1.2402	-	31.50	ZH31005032	5D	155	250.0				
	ZH31007032	7D	217	312.0									
	YJ1A3175	YJ2C3175	1.2500	1-1/4	31.75	ZH31503032	32	60	37	3D	94.5	191.0	
ZH31505032	5D	157.5	254.0										
ZH31507032	7D	220.5	317.0										

► Other diameters of insert and shank types of holder are available upon request.

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	42	48	52	58	63	68	73	78	83	88	93	98	103	108	113	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
YJ1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	
YJ2C	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
YJ1A	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎											
YJ2C	○	○	○	○	○	○	○	○	○	○											





**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOHLENE SCHNEIDPARAMETER**



**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOHLENE SCHNEIDPARAMETER**

**YA1A, YB1A, YC1A, YD1A, YE1A, YF1A, YG1A, YH1A, YI1A, YJ1A** SERIES

**i-DREAM DRILLS - GENERAL**

VC = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

**YA2C, YB2C, YC2C, YD2C, YE2C, YF2C, YG2C, YH2C, YI2C, YJ2C** SERIES

**i-DREAM DRILLS - INOX**

VC = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc (m/min)	Feed(mm/rev)				
				Ø12.00-14.99	Ø15.00-17.99	Ø18.00-21.99	Ø22.00-26.99	Ø27.00-31.99
<b>P</b>	1	Non-alloy steel	<b>95-120</b>	0.16-0.28	0.21-0.35	0.27-0.40	0.34-0.52	0.37-0.55
	2		<b>80-105</b>	0.14-0.24	0.21-0.35	0.27-0.40	0.34-0.52	0.37-0.55
	3		<b>60-80</b>	0.12-0.20	0.17-0.28	0.22-0.32	0.30-0.46	0.33-0.49
	4		<b>55-70</b>	0.10-0.16	0.15-0.25	0.21-0.30	0.25-0.38	0.29-0.43
	5		<b>55-70</b>	0.10-0.16	0.15-0.25	0.21-0.30	0.25-0.38	0.29-0.43
	6	Low alloy steel	<b>70-90</b>	0.12-0.20	0.17-0.28	0.22-0.32	0.30-0.46	0.34-0.50
	7		<b>60-80</b>	0.12-0.20	0.15-0.25	0.22-0.32	0.30-0.46	0.34-0.50
	8		<b>55-70</b>	0.10-0.16	0.13-0.21	0.21-0.30	0.25-0.38	0.29-0.43
	9		<b>45-60</b>	0.08-0.12	0.13-0.21	0.21-0.30	0.25-0.38	0.29-0.43
	10		<b>50-65</b>	0.10-0.16	0.13-0.21	0.18-0.26	0.20-0.31	0.24-0.35
	11	High alloyed steel, and tool steel	<b>40-55</b>	0.10-0.16	0.11-0.18	0.21-0.30	0.20-0.31	0.24-0.35
<b>K</b>	15	Grey cast iron	<b>100-125</b>	0.15-0.26	0.20-0.37	0.27-0.42	0.36-0.51	0.40-0.55
	16		<b>75-95</b>	0.11-0.20	0.16-0.29	0.20-0.30	0.25-0.35	0.29-0.40
	17	Nodular cast iron	<b>95-120</b>	0.13-0.22	0.17-0.31	0.21-0.32	0.28-0.40	0.32-0.44
	18		<b>75-95</b>	0.11-0.20	0.14-0.26	0.19-0.29	0.25-0.35	0.29-0.40
	19		<b>100-125</b>	0.13-0.22	0.17-0.31	0.21-0.32	0.28-0.40	0.32-0.44
	20	Malleable cast iron	<b>75-95</b>	0.11-0.18	0.14-0.26	0.19-0.29	0.25-0.35	0.29-0.40

- ▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.  
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
- ▶ Recommend you to reduce the feed rate to 85%, 70% when you use 5xD, 7xD holders.
- ▶ For use of 7xD holder, we recommend to use a pilot drill with equal to or larger than 140° point angle (0.5xD - 1.5xD).  
The use of the centering pre-hole improves hole location, roundness and surface finish.

ISO	VDI 3323	Material Description	Vc (m/min)	Feed(mm/rev)				
				Ø12.00-14.99	Ø15.00-17.99	Ø18.00-21.90	Ø22.00-26.99	Ø27.00-31.99
<b>P</b>	1	Non-alloy steel	<b>95-120</b>	0.16-0.28	0.21-0.35	0.27-0.40	0.34-0.52	0.37-0.55
	2		<b>80-105</b>	0.14-0.24	0.21-0.35	0.27-0.40	0.34-0.52	0.37-0.55
	3		<b>60-80</b>	0.12-0.20	0.17-0.28	0.22-0.32	0.30-0.46	0.33-0.49
	4		<b>55-70</b>	0.10-0.16	0.15-0.25	0.21-0.30	0.25-0.38	0.29-0.43
	6		Low alloy steel	<b>70-90</b>	0.12-0.20	0.17-0.28	0.22-0.32	0.30-0.46
	7	<b>60-80</b>		0.12-0.20	0.15-0.25	0.22-0.32	0.30-0.46	0.34-0.50
	10	High alloyed steel, and tool steel	<b>50-65</b>	0.10-0.16	0.13-0.21	0.18-0.26	0.20-0.31	0.24-0.35
<b>M</b>	12	Stainless steel	<b>30-45</b>	0.08-0.14	0.09-0.15	0.10-0.16	0.12-0.20	0.14-0.22
	13		<b>30-45</b>	0.08-0.14	0.09-0.15	0.10-0.16	0.12-0.20	0.14-0.22
	14		<b>45-60</b>	0.10-0.16	0.12-0.18	0.14-0.20	0.15-0.26	0.18-0.28
<b>N</b>	21	Aluminum-wrought alloy	<b>250-330</b>	0.30-0.40	0.35-0.45	0.40-0.50	0.45-0.55	0.50-0.60
	22		<b>200-250</b>	0.30-0.40	0.35-0.45	0.40-0.50	0.45-0.55	0.50-0.60
	23	Aluminum-cast, alloyed	<b>200-250</b>	0.25-0.35	0.30-0.40	0.35-0.45	0.40-0.50	0.45-0.55
	24		<b>150-220</b>	0.25-0.35	0.30-0.40	0.35-0.45	0.40-0.50	0.45-0.55
	25		<b>100-200</b>	0.20-0.30	0.25-0.35	0.30-0.40	0.35-0.45	0.40-0.50
	26		<b>115-145</b>	0.16-0.28	0.23-0.36	0.29-0.36	0.37-0.45	0.41-0.48
	27	Copper and Copper Alloys (Bronze / Brass)	<b>145-185</b>	0.17-0.29	0.24-0.37	0.30-0.38	0.38-0.46	0.42-0.49
	28		<b>95-120</b>	0.06-0.09	0.09-0.13	0.11-0.13	0.15-0.18	0.19-0.22

- ▶ The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points.  
Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.
- ▶ Recommend you to reduce the feed rate to 85%, 70% when you use 5xD, 7xD holders.
- ▶ For use of 7xD holder, we recommend to use a pilot drill with equal to or larger than 140° point angle (0.5xD - 1.5xD).  
The use of the centering pre-hole improves hole location, roundness and surface finish.

**Comparison with Split Point Drill, Spade Drill & Dream Drill**



**ASSEMBLY OF i-DREAM DRILLS  
MONTAGE DES i-DREAM DRILLS**





Make sure to clean the insert and insert seat.  
Schneideinsatz und Haltersitz sorgfältig reinigen.



Slide the drill insert into the slot of the holder and press down the insert to touch the bottom of the slot.  
Schneideinsatz in den Haltersitz einführen und den Schneideinsatz fest auf den Grund des Haltersitzes pressen.



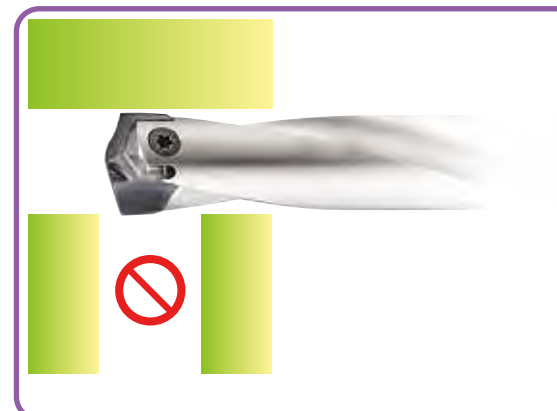
After confirming the insert is pressed down to the bottom of the slot, tighten the screw using anti-seize compound.  
Wenn der Schneideinsatz fest auf den Grund des Haltersitzes gepresst ist, die Schraube fest anziehen und dabei Spezialfett verwenden.

WRENCH TYPE	PRODUCT NO.	T-HANDLE No.	SERIES (SIZE)
 WING TYPE	TWWT08	—	A (Ø12.00-Ø13.99)
			B (Ø14.00-Ø15.99)
			C (Ø16.00-Ø17.99)
 TORX BIT TYPE	TWBT15 TWBT20 TWBT25	TWH600 	D (Ø18.00-Ø19.99)
			E, F, G (Ø20.00-Ø25.99)
			H, I, J (Ø26.00-Ø31.99)

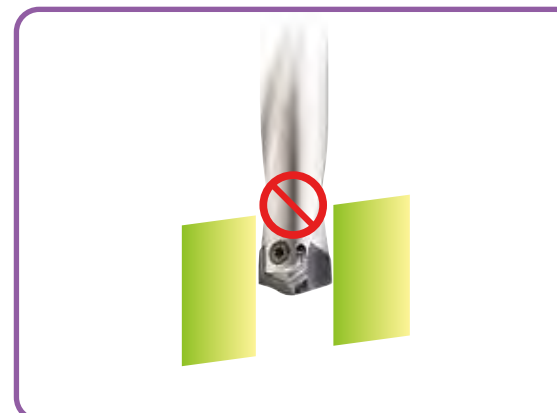
Use the wing type or T-type wrench.  
Benutzen Sie den Winkeldreher oder T - Schlüsse

- ▶ Need to use appropriate wrenches and screws as indicated.  
Unbedingt die angegebenen Schrauben und Dreher verwenden.
- ▶ It's important to tighten up the screw properly.  
Es ist wichtig, die Schraube korrekt und fest anzuziehen.

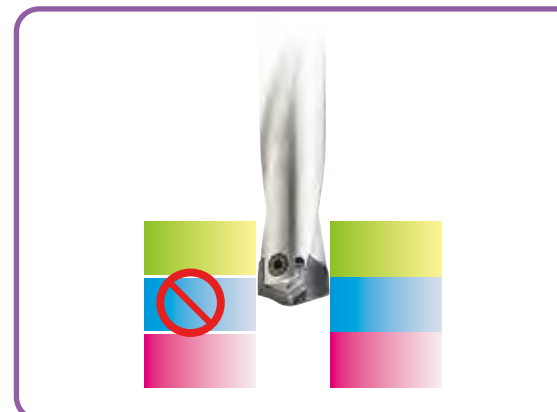
**CAUTION-NOT RECOMMENDABLE APPLICATION  
ACHTUNG - NICHT EMPFOHLENE ANWENDUNG**



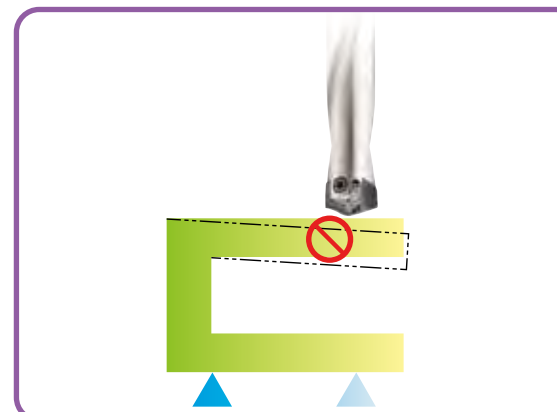
Intersecting cross hole is bigger than the drill insert's Margin Length.  
Der Haltersitz ist größer als die Breite des Schneideinsatzes.



Material with slanting entrance and exit over 7 degrees. (If drilling 7 degrees or under slanting surface, reduce the feed about 30-50%)  
Werkstücke mit schrägem Anschnitt oder Austritt von über 7°. (Zum Bohren von bis zu 7° Schräge den Vorschub um ca. 30-50% reduzieren).

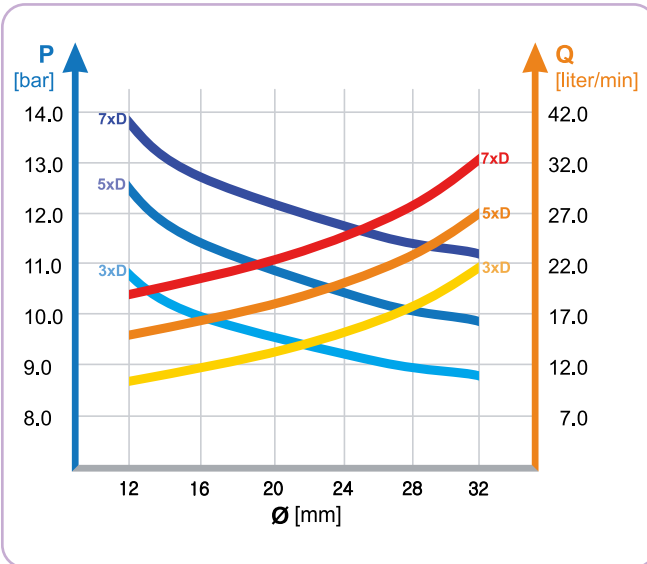


For drilling stacked plates, minimize the space between the plates.  
Beim Bohren von Blechpaketen den Abstand der Bleche minimieren.  
The space between stacked plates can cause insert breakage or poor chip control.  
Freiraum in Blechpaketen kann den Bruch des Schneideinsatzes oder schlechte Entspannung verursachen.



The material needs to be fixtured securely before drilling.  
Das Werkstück muss fest und sicher aufgespannt sein

**RECOMMENDED COOLANT PRESSURE AND FLOW RATE ON VERTICAL DRILLING**  
**EMPFOHLENE KÜHLMITTELDRUCK UND - MENGE BEIM VERTIKALEN BOHREN**



- Recommended emulsion mix is 6 - 8%.  
Empfohlene Emulsionsmischung 6 - 8%.
- For Drilling into Stainless and High Strength steels, a mix of 10% is recommended.  
Beim Bohren in rostfreie und hochfeste Stähle werden 10% empfohlen.
- For horizontal drilling, 30% reduction on the coolant pressure and flow rate is possible.  
Beim horizontalen Bohren können Kühlmitteldruck und -menge um 30% gemindert werden.
- Dry drilling is possible for 1-2xD drilling. (But not recommended.)  
Trocken Bohren ist möglich bei 1-2xD. (Aber nicht empfohlen.)

**TROUBLE SHOOTING**  
**PROBLEMLÖSUNGEN**



- 1) Heavy flank wear / Fast flank wear**
- Reduce cutting speed
  - Increase feed



- 2) Chipping on cutting edge**
- Reduce feed
  - Check the rigidity of spindle and chuck
  - Rigid clamping of workpiece



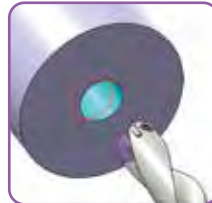
- 3) Build-up on cutting edge**
- Increase cutting speed
  - Use a coated insert



- 4) Chipping or break down on outer corner**
- Reduce feed
  - Rigid clamping of workpiece



- 5) Wear of land margin**
- Rigid clamping of workpiece
  - Reduce cutting speed
  - Increase coolant flow



- 6) Unsatisfactory positioning of the hole**
- Rigid clamping of workpiece
  - Reduce feed during entrance or exit



- 7) Scratching on holder**
- Rigid clamping of workpiece
  - Reduce feed
  - Increase coolant flow



- 8) Unsatisfactory surface finish**
- Rigid clamping of workpiece
  - Increase coolant flow and pressure





Leading Through Innovation

**SOLID CARBIDE**

# **DREAM DRILLS PRO**

**VHM DREAM DRILLS PRO BOHRER**

- For General Purpose (HRc30 to HRc50)
- Extremely High hardness and Heat resistance due to YG-1 special Z-Coating technology
- Für allgemeine Zwecke (HRc30 bis HRc50)
- Extrem hohe Härte und Hitzebeständigkeit durch die spezielle Z-Beschichtungstechnologie von YG-1



SELECTION GUIDE



SERIES	DGN523	DGN526
DRILLING DEPTH	3XD	5XD
LENGTH	SHORT	LONG
SIZE MIN	D3.0	D1.0
SIZE MAX	D20.0	D20.0
PAGE	A62	A65

SURFACE TREATMENT Z-Coating

# SOLID CARBIDE DREAM DRILLS PRO

For General Purpose (HRC30 to HRC50)  
Extremely High hardness and Heat resistance due to  
YG-1 special Z-Coating technology

Please visit  
[globalyg1.com/mat](http://globalyg1.com/mat)  
for material search

◎ : Excellent ○ : Good

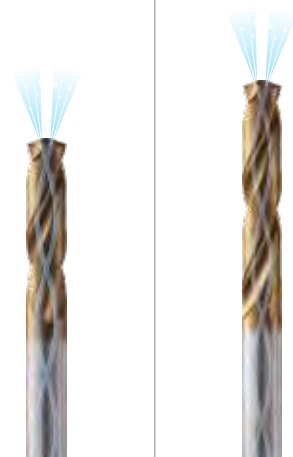
Recommended cutting conditions : p.A74



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC
P	1	Non-alloy steel	About 0.15% C Annealed	125	
	2		About 0.45% C Annealed	190	13
	3		About 0.45% C Quenched & Tempered	250	25
	4		About 0.75% C Annealed	270	28
	5		About 0.75% C Quenched & Tempered	300	32
	6	Low alloy steel	Annealed	180	10
	7		Quenched & Tempered	275	29
	8		Quenched & Tempered	300	32
	9		Quenched & Tempered	350	38
	10		High alloyed steel, and tool steel	Annealed	200
	11	Quenched & Tempered		325	35
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15
	13		Martensitic Quenched & Tempered	240	23
	14		Austenitic	180	10
K	15	Grey cast iron	Pearlitic / ferritic	180	10
	16		Pearlitic (Martensitic)	260	26
	17	Nodular cast iron	Ferritic	160	3
	18		Pearlitic	250	25
	19		Ferritic	130	
20	Malleable cast iron	Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60	
	22		Curable Hardened	100	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	
	24		≤ 12% Si, Curable Hardened	90	
	25		> 12% Si, Not Curable	130	
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110	
	27		CuZn, CuSnZn (Brass)	90	
	28		CuSn, lead-free copper and electrolytic copper	100	
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic	
	30	Rubber, Wood, etc.			
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15
	32		Cured	280	30
	33		Annealed	250	25
	34		Cured	350	38
	35	Cast	320	34	
	36	Titanium Alloys	Pure Titanium	400 Rm	
	37		Alpha + Beta Alloys Hardened	1050 Rm	
H	38	Hardened steel	Hardened	550	55
	39		Hardened	630	60
	40		Cast	400	42
41	Hardened Cast Iron	Hardened	550	55	

SERIES	DGN506	DGN508
DRILLING DEPTH	3XD	5XD
LENGTH	SHORT	LONG
SIZE MIN	D3.0	D1.0
SIZE MAX	D20.0	D20.0
PAGE	A68	A71

SURFACE TREATMENT Z-Coating



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC
P	1	Non-alloy steel	About 0.15% C Annealed	125	
	2		About 0.45% C Annealed	190	13
	3		About 0.45% C Quenched & Tempered	250	25
	4		About 0.75% C Annealed	270	28
	5		About 0.75% C Quenched & Tempered	300	32
	6	Low alloy steel	Annealed	180	10
	7		Quenched & Tempered	275	29
	8		Quenched & Tempered	300	32
	9		Quenched & Tempered	350	38
	10		High alloyed steel, and tool steel	Annealed	200
	11	Quenched & Tempered		325	35
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15
	13		Martensitic Quenched & Tempered	240	23
	14		Austenitic	180	10
K	15	Grey cast iron	Pearlitic / ferritic	180	10
	16		Pearlitic (Martensitic)	260	26
	17	Nodular cast iron	Ferritic	160	3
	18		Pearlitic	250	25
	19		Ferritic	130	
20	Malleable cast iron	Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60	
	22		Curable Hardened	100	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	
	24		≤ 12% Si, Curable Hardened	90	
	25		> 12% Si, Not Curable	130	
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110	
	27		CuZn, CuSnZn (Brass)	90	
	28		CuSn, lead-free copper and electrolytic copper	100	
	29		Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic	
	30	Rubber, Wood, etc.			
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15
	32		Cured	280	30
	33		Annealed	250	25
	34		Cured	350	38
	35	Cast	320	34	
	36	Titanium Alloys	Pure Titanium	400 Rm	
	37		Alpha + Beta Alloys Hardened	1050 Rm	
H	38	Hardened steel	Hardened	550	55
	39		Hardened	630	60
	40		Cast	400	42
41	Hardened Cast Iron	Hardened	550	55	



DGN523 SERIES

CARBIDE, DREAM DRILLS PRO

- VHM DREAM DRILLS PRO BOHRER
FORETS DREAM DRILLS CARBURE MONOBLOC - PRO
MD, DREAM DRILLS PRO

- Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
Wave shape cutting edge to improve chip formation for low cutting force
Helical thinning for low thrust, stable torque and good chip breakage
Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- Bohren für Kohlenstoffstähle, legierte Stähle (HB225-325), vorvergütete Stähle (HRC30-50), Gusseisen
Wellenförmige Schneidkante zur Verbesserung der Spanbildung und für geringe Schnittkräfte
Spiralförmige Ausspitzung für geringe Axialkräfte, niedrige Schnittmomente und verbesserten Spanbruch
Extrem hohe Härte und Hitzebeständigkeit durch die spezielle Z-Beschichtungstechnologie von YG-1

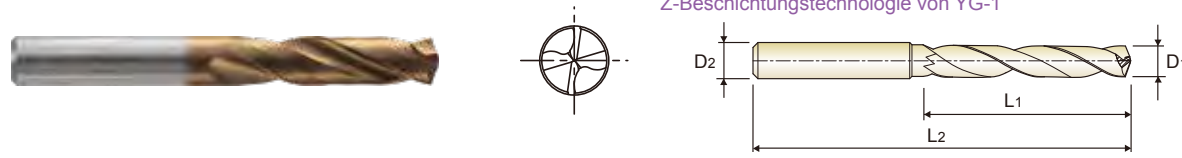


Table with Recommended Tool Holder (SHRINK FIT HOLDER, HYDRAULIC CHUCK, ER COLLET CHUCK) and Page (D47-72, D15-46, D73-115).

Table of drill bit specifications: EDP No., Drill Diameter (D1), Shank Diameter (D2), Flute Length (L1), Overall Length (L2) for DGN523030 to DGN523053.

Table of drill bit specifications: EDP No., Drill Diameter (D1), Shank Diameter (D2), Flute Length (L1), Overall Length (L2) for DGN523054 to DGN523077.

Other shank types are available on your request.

NEXT PAGE

◎ : Excellent ○ : Good

Material selection chart showing ISO descriptions and material groups (P, M, K, N, S, H) with hardness and strength values.



DGN523 SERIES

CARBIDE, DREAM DRILLS PRO

- VHM DREAM DRILLS PRO BOHRER
FORETS DREAM DRILLS CARBURE MONOBLOC - PRO
MD, DREAM DRILLS PRO

- Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
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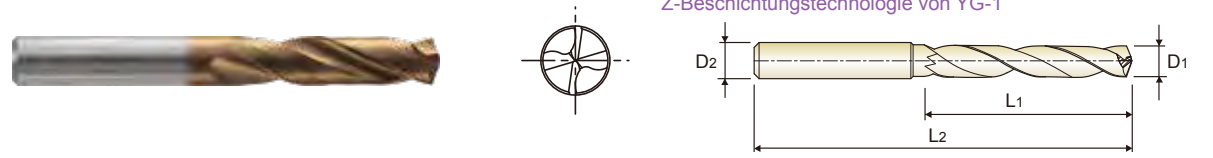


Table with Recommended Tool Holder (SHRINK FIT HOLDER, HYDRAULIC CHUCK, ER COLLET CHUCK) and Page (D47-72, D15-46, D73-115).

Table of drill bit specifications: EDP No., Drill Diameter (D1), Shank Diameter (D2), Flute Length (L1), Overall Length (L2) for DGN523078 to DGN523101.

Table of drill bit specifications: EDP No., Drill Diameter (D1), Shank Diameter (D2), Flute Length (L1), Overall Length (L2) for DGN523102 to DGN523135.

Other shank types are available on your request.

NEXT PAGE

◎ : Excellent ○ : Good

Material selection chart showing ISO descriptions and material groups (P, M, K, N, S, H) with hardness and strength values.



**DGN523** SERIES



**DGN526** SERIES

**CARBIDE, DREAM DRILLS PRO**

**SHORT**

**CARBIDE, DREAM DRILLS PRO**

**LONG**

- VHM DREAM DRILLS PRO BOHRER
- FORETS DREAM DRILLS CARBURE MONOBLOC – PRO
- MD, DREAM DRILLS PRO

**KURZ  
COURTE  
CORTA**

- VHM DREAM DRILLS PRO BOHRER
- FORETS DREAM DRILLS CARBURE MONOBLOC – PRO
- MD, DREAM DRILLS PRO

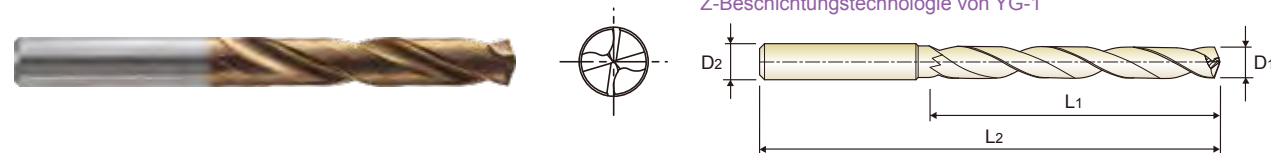
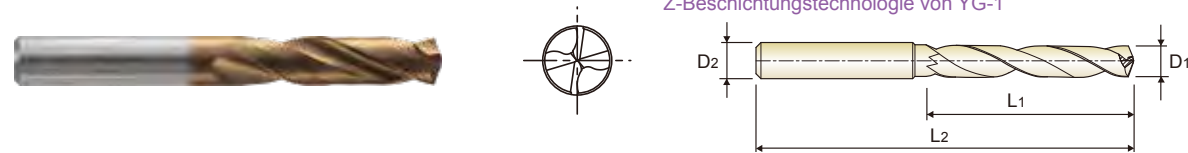
**LANG  
LONGUE  
LUNGA**

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ Bohren für Kohlenstoffstähle, legierte Stähle (HB225-325), vorvergütete Stähle (HRC30-50), Gusseisen
- ▶ Wellenförmige Schneidkante zur Verbesserung der Spanbildung und für geringe Schnittkräfte
- ▶ Spiralförmige Ausspitzung für geringe Axialkräfte, niedrige Schnittmomente und verbesserten Spanbruch
- ▶ Extrem hohe Härte und Hitzebeständigkeit durch die spezielle Z-Beschichtungstechnologie von YG-1

- ▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
- ▶ Wave shape cutting edge to improve chip formation for low cutting force
- ▶ Helical thinning for low thrust, stable torque and good chip breakage
- ▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- ▶ Bohren für Kohlenstoffstähle, legierte Stähle (HB225-325), vorvergütete Stähle (HRC30-50), Gusseisen
- ▶ Wellenförmige Schneidkante zur Verbesserung der Spanbildung und für geringe Schnittkräfte
- ▶ Spiralförmige Ausspitzung für geringe Axialkräfte, niedrige Schnittmomente und verbesserten Spanbruch
- ▶ Extrem hohe Härte und Hitzebeständigkeit durch die spezielle Z-Beschichtungstechnologie von YG-1



DIN 6537
CARBIDE
30°
h6
m7
140°
Z Coating
p.A74
3 × D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

DIN 6537
CARBIDE
30°
h6
m7
140°
Z Coating
p.A74
5 × D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
DGN523138	13.8	14	60	107	DGN523170	17.0	18	73	123
DGN523140	14.0	14	60	107	DGN523175	17.5	18	73	123
DGN523145	14.5	16	65	115	DGN523178	17.8	18	73	123
DGN523148	14.8	16	65	115	DGN523180	18.0	18	73	123
DGN523150	15.0	16	65	115	DGN523185	18.5	20	79	131
DGN523155	15.5	16	65	115	DGN523190	19.0	20	79	131
DGN523158	15.8	16	65	115	DGN523195	19.5	20	79	131
DGN523160	16.0	16	65	115	DGN523198	19.8	20	79	131
DGN523165	16.5	18	73	123	DGN523200	20.0	20	79	131
DGN523168	16.8	18	73	123					

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
DGN526010	1.0	3	8	55	DGN526034	3.4	6	28	66
DGN526011	1.1	3	12	55	DGN526035	3.5	6	28	66
DGN526012	1.2	3	12	55	DGN526036	3.6	6	28	66
DGN526013	1.3	3	12	55	DGN526037	3.7	6	28	66
DGN526014	1.4	3	12	55	DGN526038	3.8	6	36	74
DGN526015	1.5	3	16	55	DGN526039	3.9	6	36	74
DGN526016	1.6	3	16	55	DGN526040	4.0	6	36	74
DGN526017	1.7	3	16	55	DGN526041	4.1	6	36	74
DGN526018	1.8	3	16	55	DGN526042	4.2	6	36	74
DGN526019	1.9	3	16	55	DGN526043	4.3	6	36	74
DGN526020	2.0	4	21	57	DGN526044	4.4	6	36	74
DGN526021	2.1	4	21	57	DGN526045	4.5	6	36	74
DGN526022	2.2	4	21	57	DGN526046	4.6	6	36	74
DGN526023	2.3	4	21	57	DGN526047	4.7	6	36	74
DGN526024	2.4	4	21	57	DGN526048	4.8	6	44	82
DGN526025	2.5	4	21	57	DGN526049	4.9	6	44	82
DGN526026	2.6	4	21	57	DGN526050	5.0	6	44	82
DGN526027	2.7	4	21	57	DGN526051	5.1	6	44	82
DGN526028	2.8	4	21	57	DGN526052	5.2	6	44	82
DGN526029	2.9	4	21	57	DGN526053	5.3	6	44	82
DGN526030	3.0	6	28	66	DGN526054	5.4	6	44	82
DGN526031	3.1	6	28	66	DGN526055	5.5	6	44	82
DGN526032	3.2	6	28	66	DGN526056	5.6	6	44	82
DGN526033	3.3	6	28	66	DGN526057	5.7	6	44	82

▶ Other shank types are available on your request.

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	○	○	◎	◎	○	○	◎	○	○	○	○	◎	○	◎	○	◎	○	

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○			

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	○	○	◎	◎	○	○	◎	○	○	○	○	◎	○	◎	○	◎	○	

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend																		○			





DGN526 SERIES

CARBIDE, DREAM DRILLS PRO

LONG

- VHM DREAM DRILLS PRO BOHRER
FORETS DREAM DRILLS CARBURE MONOBLOC - PRO
MD, DREAM DRILLS PRO

LANG
LONGUE
LUNGA

- Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
Wave shape cutting edge to improve chip formation for low cutting force
Helical thinning for low thrust, stable torque and good chip breakage
Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- Bohren für Kohlenstoffstähle, legierte Stähle (HB225-325), vorvergütete Stähle (HRC30-50), Gusseisen
Wellenförmige Schneidkante zur Verbesserung der Spanbildung und für geringe Schnittkräfte
Spiralförmige Ausspitzung für geringe Axialkräfte, niedrige Schnittmomente und verbesserten Spanbruch
Extrem hohe Härte und Hitzebeständigkeit durch die spezielle Z-Beschichtungstechnologie von YG-1



DIN 6537 CARBIDE 30° h6 m7 140° Coating p.A74 5 x D

Plain Shank Page
SHRINK FIT HOLDER D47-72
HYDRAULIC CHUCK D15-46
ER COLLET CHUCK D73-115

Table with 5 columns: EDP No., Drill Diameter (D1), Shank Diameter (D2), Flute Length (L1), Overall Length (L2). Lists various drill bit models like DGN526058 to DGN526081.

Table with 5 columns: EDP No., Drill Diameter (D1), Shank Diameter (D2), Flute Length (L1), Overall Length (L2). Lists various drill bit models like DGN526082 to DGN526105.

Other shank types are available on your request.

NEXT PAGE

Material compatibility chart showing ISO material descriptions and recommended drill bit types (P, M, K, N, S, H) for various materials.



DGN526 SERIES

CARBIDE, DREAM DRILLS PRO

LONG

- VHM DREAM DRILLS PRO BOHRER
FORETS DREAM DRILLS CARBURE MONOBLOC - PRO
MD, DREAM DRILLS PRO

LANG
LONGUE
LUNGA

- Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
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Spiralförmige Ausspitzung für geringe Axialkräfte, niedrige Schnittmomente und verbesserten Spanbruch
Extrem hohe Härte und Hitzebeständigkeit durch die spezielle Z-Beschichtungstechnologie von YG-1



DIN 6537 CARBIDE 30° h6 m7 140° Coating p.A74 5 x D

Plain Shank Page
SHRINK FIT HOLDER D47-72
HYDRAULIC CHUCK D15-46
ER COLLET CHUCK D73-115

Table with 5 columns: EDP No., Drill Diameter (D1), Shank Diameter (D2), Flute Length (L1), Overall Length (L2). Lists various drill bit models like DGN526106 to DGN526145.

Table with 5 columns: EDP No., Drill Diameter (D1), Shank Diameter (D2), Flute Length (L1), Overall Length (L2). Lists various drill bit models like DGN526148 to DGN526200.

Other shank types are available on your request.

Material compatibility chart showing ISO material descriptions and recommended drill bit types (P, M, K, N, S, H) for various materials.





DGN506 SERIES



DGN506 SERIES

**CARBIDE, DREAM DRILLS PRO WITH COOLANT HOLES** SHORT

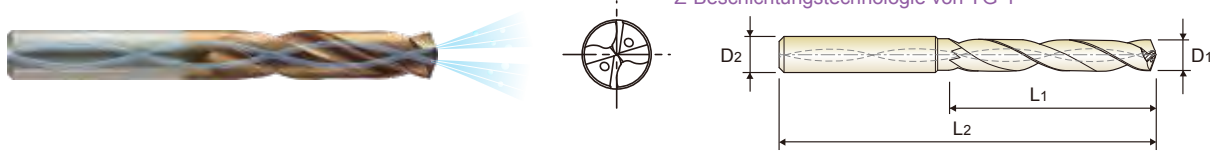
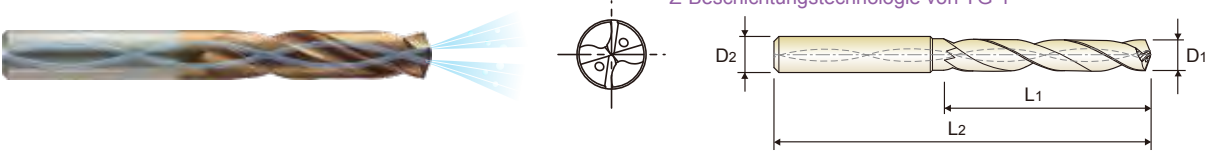
**CARBIDE, DREAM DRILLS PRO WITH COOLANT HOLES** SHORT

- VHM DREAM DRILLS PRO BOHRER MIT INNENKÜHLUNG KURZ
- FORETS DREAM DRILLS CARBURE MONOBLOC – PRO, AVEC ARROSAGE CENTRAL COURTE
- MD, DREAM DRILL PRO CON FORI DI REFRIGERAZIONE CORTA

- VHM DREAM DRILLS PRO BOHRER MIT INNENKÜHLUNG KURZ
- FORETS DREAM DRILLS CARBURE MONOBLOC – PRO, AVEC ARROSAGE CENTRAL COURTE
- MD, DREAM DRILL PRO CON FORI DI REFRIGERAZIONE CORTA

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron</li> <li>▶ Wave shape cutting edge to improve chip formation for low cutting force</li> <li>▶ Helical thinning for low thrust, stable torque and good chip breakage</li> <li>▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology</li> </ul> | <ul style="list-style-type: none"> <li>▶ Bohren für Kohlenstoffstähle, legierte Stähle (HB225-325), vorvergütete Stähle (HRC30-50), Gusseisen</li> <li>▶ Wellenförmige Schneidkante zur Verbesserung der Spanbildung und für geringe Schnittkräfte</li> <li>▶ Spiralförmige Ausspitzung für geringe Axialkräfte, niedrige Schnittmomente und verbesserten Spanbruch</li> <li>▶ Extrem hohe Härte und Hitzebeständigkeit durch die spezielle Z-Beschichtungstechnologie von YG-1</li> </ul> |
|---|--|

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>▶ Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron</li> <li>▶ Wave shape cutting edge to improve chip formation for low cutting force</li> <li>▶ Helical thinning for low thrust, stable torque and good chip breakage</li> <li>▶ Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology</li> </ul> | <ul style="list-style-type: none"> <li>▶ Bohren für Kohlenstoffstähle, legierte Stähle (HB225-325), vorvergütete Stähle (HRC30-50), Gusseisen</li> <li>▶ Wellenförmige Schneidkante zur Verbesserung der Spanbildung und für geringe Schnittkräfte</li> <li>▶ Spiralförmige Ausspitzung für geringe Axialkräfte, niedrige Schnittmomente und verbesserten Spanbruch</li> <li>▶ Extrem hohe Härte und Hitzebeständigkeit durch die spezielle Z-Beschichtungstechnologie von YG-1</li> </ul> |
|---|--|



DIN 6537
CARBIDE
30°
h6
m7
140°
20 bar
Z Coating
p.A75
3 x D
Recommended ToolHolder

◎ SHRINK FIT HOLDER	D47-72
◎ HYDRAULIC CHUCK	D15-46
◎ ER COLLET CHUCK	D73-115

DIN 6537
CARBIDE
30°
h6
m7
140°
20 bar
Z Coating
p.A75
3 x D
Recommended ToolHolder

◎ SHRINK FIT HOLDER	D47-72
◎ HYDRAULIC CHUCK	D15-46
◎ ER COLLET CHUCK	D73-115

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
Z-Coating	D1	D2	L1	L2
DGN506030	3.0	6	20	62
DGN506031	3.1	6	20	62
DGN506032	3.2	6	20	62
DGN506033	3.3	6	20	62
DGN506034	3.4	6	20	62
DGN506035	3.5	6	20	62
DGN506036	3.6	6	20	62
DGN506037	3.7	6	20	62
DGN506038	3.8	6	24	66
DGN506039	3.9	6	24	66
DGN506040	4.0	6	24	66
DGN506041	4.1	6	24	66
DGN506042	4.2	6	24	66
DGN506043	4.3	6	24	66
DGN506044	4.4	6	24	66
DGN506045	4.5	6	24	66
DGN506046	4.6	6	24	66
DGN506047	4.7	6	24	66
DGN506048	4.8	6	28	66
DGN506049	4.9	6	28	66
DGN506050	5.0	6	28	66
DGN506051	5.1	6	28	66
DGN506052	5.2	6	28	66
DGN506053	5.3	6	28	66

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
Z-Coating	D1	D2	L1	L2
DGN506078	7.8	8	41	79
DGN506079	7.9	8	41	79
DGN506080	8.0	8	41	79
DGN506081	8.1	10	47	89
DGN506082	8.2	10	47	89
DGN506083	8.3	10	47	89
DGN506084	8.4	10	47	89
DGN506085	8.5	10	47	89
DGN506086	8.6	10	47	89
DGN506087	8.7	10	47	89
DGN506088	8.8	10	47	89
DGN506089	8.9	10	47	89
DGN506090	9.0	10	47	89
DGN506091	9.1	10	47	89
DGN506092	9.2	10	47	89
DGN506093	9.3	10	47	89
DGN506094	9.4	10	47	89
DGN506095	9.5	10	47	89
DGN506096	9.6	10	47	89
DGN506097	9.7	10	47	89
DGN506098	9.8	10	47	89
DGN506099	9.9	10	47	89
DGN506100	10.0	10	47	89
DGN506101	10.1	12	55	102

▶ Other shank types are available on your request.

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P						M						K							
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	○	◎	◎	◎	○	○	○	○	○	○	○	◎	○	◎	◎	◎	○

◎ : Excellent ○ : Good

ISO Material Description	P						M						K							
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	○	◎	◎	◎	○	○	○	○	○	○	○	◎	○	◎	◎	◎	○

HSS

HSS

# YG DREAM DRILLS - PRO

DGN506 SERIES

## CARBIDE, DREAM DRILLS PRO WITH COOLANT HOLES

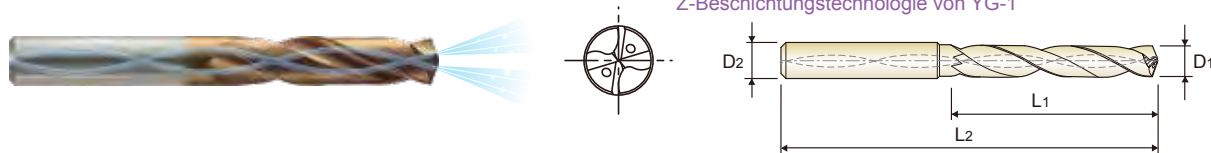
SHORT

- VHM DREAM DRILLS PRO BOHRER MIT INNENKÜHLUNG
- FORETS DREAM DRILLS CARBURE MONOBLOC - PRO, AVEC ARROSAGE CENTRAL
- MD, DREAM DRILL PRO CON FORI DI REFRIGERAZIONE

KURZ  
COURTE  
CORTA

- Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
- Wave shape cutting edge to improve chip formation for low cutting force
- Helical thinning for low thrust, stable torque and good chip breakage
- Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- Bohren für Kohlenstoffstähle, legierte Stähle (HB225-325), vorvergütete Stähle (HRC30-50), Gusseisen
- Wellenförmige Schneidkante zur Verbesserung der Spanbildung und für geringe Schnittkräfte
- Spiralförmige Ausspitzung für geringe Axialkräfte, niedrige Schnittmomente und verbesserten Spanbruch
- Extrem hohe Härte und Hitzebeständigkeit durch die spezielle Z-Beschichtungstechnologie von YG-1



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar Z Coating p.A75 3 x D

Plain Shank Page  
 SHRINK FIT HOLDER D47 - 72  
 HYDRAULIC CHUCK D15 - 46  
 ER COLLET CHUCK D73 - 115  
 Recommended ToolHolder

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
DGN506150	15.0	16	65	115	DGN506180	18.0	18	73	123
DGN506155	15.5	16	65	115	DGN506185	18.5	20	79	131
DGN506160	16.0	16	65	115	DGN506190	19.0	20	79	131
DGN506165	16.5	18	73	123	DGN506195	19.5	20	79	131
DGN506170	17.0	18	73	123	DGN506200	20.0	20	79	131
DGN506175	17.5	18	73	123					

Other shank types are available on your request.

© : Excellent ○ : Good

ISO	P										M				K																										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron																				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

# YG DREAM DRILLS - PRO

DGN508 SERIES

## CARBIDE, DREAM DRILLS PRO WITH COOLANT HOLES

LONG

- VHM DREAM DRILLS PRO BOHRER MIT INNENKÜHLUNG
- FORETS DREAM DRILLS CARBURE MONOBLOC - PRO, AVEC ARROSAGE CENTRAL
- MD, DREAM DRILL PRO CON FORI DI REFRIGERAZIONE

LANG  
LONGUE  
LUNGA

- Drilling for Carbon Steels, Alloy Steels (HB225-325), Pre-hardened Steels (HRC30-50), Cast Iron
- Wave shape cutting edge to improve chip formation for low cutting force
- Helical thinning for low thrust, stable torque and good chip breakage
- Extremely high hardness and heat resistance due to YG-1 special Z-Coating technology

- Bohren für Kohlenstoffstähle, legierte Stähle (HB225-325), vorvergütete Stähle (HRC30-50), Gusseisen
- Wellenförmige Schneidkante zur Verbesserung der Spanbildung und für geringe Schnittkräfte
- Spiralförmige Ausspitzung für geringe Axialkräfte, niedrige Schnittmomente und verbesserten Spanbruch
- Extrem hohe Härte und Hitzebeständigkeit durch die spezielle Z-Beschichtungstechnologie von YG-1



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar Z Coating p.A75 5 x D

Plain Shank Page  
 SHRINK FIT HOLDER D47 - 72  
 HYDRAULIC CHUCK D15 - 46  
 ER COLLET CHUCK D73 - 115  
 Recommended ToolHolder

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
DGN508010	1.0	3	8	55	DGN508034	3.4	6	28	66
DGN508011	1.1	3	12	55	DGN508035	3.5	6	28	66
DGN508012	1.2	3	12	55	DGN508036	3.6	6	28	66
DGN508013	1.3	3	12	55	DGN508037	3.7	6	28	66
DGN508014	1.4	3	12	55	DGN508038	3.8	6	36	74
DGN508015	1.5	3	16	55	DGN508039	3.9	6	36	74
DGN508016	1.6	3	16	55	DGN508040	4.0	6	36	74
DGN508017	1.7	3	16	55	DGN508041	4.1	6	36	74
DGN508018	1.8	3	16	55	DGN508042	4.2	6	36	74
DGN508019	1.9	3	16	55	DGN508043	4.3	6	36	74
DGN508020	2.0	4	21	57	DGN508044	4.4	6	36	74
DGN508021	2.1	4	21	57	DGN508045	4.5	6	36	74
DGN508022	2.2	4	21	57	DGN508046	4.6	6	36	74
DGN508023	2.3	4	21	57	DGN508047	4.7	6	36	74
DGN508024	2.4	4	21	57	DGN508048	4.8	6	44	82
DGN508025	2.5	4	21	57	DGN508049	4.9	6	44	82
DGN508026	2.6	4	21	57	DGN508050	5.0	6	44	82
DGN508027	2.7	4	21	57	DGN508051	5.1	6	44	82
DGN508028	2.8	4	21	57	DGN508052	5.2	6	44	82
DGN508029	2.9	4	21	57	DGN508053	5.3	6	44	82
DGN508030	3.0	6	28	66	DGN508054	5.4	6	44	82
DGN508031	3.1	6	28	66	DGN508055	5.5	6	44	82
DGN508032	3.2	6	28	66	DGN508056	5.6	6	44	82
DGN508033	3.3	6	28	66	DGN508057	5.7	6	44	82

Other shank types are available on your request.

NEXT PAGE

© : Excellent ○ : Good

ISO	P										M				K																										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron																				
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

CARBIDE, DREAM DRILLS PRO WITH COOLANT HOLES LONG LANG LONGUE LUNGA

- VHM DREAM DRILLS PRO BOHRER MIT INNENKÜHLUNG
FORETS DREAM DRILLS CARBURE MONOBLOC - PRO, AVEC ARROSAGE CENTRAL
MD, DREAM DRILL PRO CON FORI DI REFRIGERAZIONE

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DIN 6537 CARBIDE 30° h6 m7 140° 20 bar Z Coating p.A75 5 x D Recommended Tool Holder

Table with 5 columns: EDP No., Drill Diameter, Shank Diameter, Flute Length, Overall Length. Lists various drill bit models and their specifications.

Other shank types are available on your request.

NEXT PAGE

◎: Excellent ○: Good

Material compatibility chart for carbide drills with ISO standards, showing suitability for various materials like non-alloy steel, stainless steel, cast iron, etc.

CARBIDE, DREAM DRILLS PRO WITH COOLANT HOLES LONG LANG LONGUE LUNGA

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Material compatibility chart for carbide drills with ISO standards, showing suitability for various materials like non-alloy steel, stainless steel, cast iron, etc.





RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDPARAMETER



RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDPARAMETER

DGN523, DGN526 SERIES without COOLANT HOLES

RPM = rev./min. FEED = mm/rev.

DGN506, DGN508 SERIES with COOLANT HOLES

RPM = rev./min. FEED = mm/rev.

Table with columns for ISO, VDI 3323, Material Description, Vc, Parameter, Drill Diameter (mm) [1.0, 2.0, 3.0, 4.0, 5.0, 6.0], RPM, FEED.

Table with columns for ISO, VDI 3323, Material Description, Vc, Parameter, Drill Diameter (mm) [1.0, 2.0, 3.0, 4.0, 5.0, 6.0], RPM, FEED.

Table with columns for ISO, VDI 3323, Material Description, Vc, Parameter, Drill Diameter (mm) [8.0, 10.0, 12.0, 14.0, 16.0, 18.0, 20.0], RPM, FEED.

Table with columns for ISO, VDI 3323, Material Description, Vc, Parameter, Drill Diameter (mm) [8.0, 10.0, 12.0, 14.0, 16.0, 18.0, 20.0], RPM, FEED.

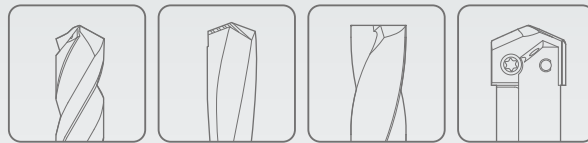
Recommend to reduce the feed rate as following Feed 100% : DGN523(3xD), DGN526(5xD)

Recommend to reduce the feed rate as following Feed 100% : DGN506(3xD), DGN508(5xD)





Global Cutting Tool Leader **YG-1**



# HOLEMAKING



Leading Through Innovation

**SOLID CARBIDE**

# **DREAM DRILLS -GENERAL**

**DREAM DRILLS - UNIVERSAL**

- For General Purpose (HRc30 to HRc50)
- Für allgemeine Anwendungen (HRc30 bis HRc50)

SELECTION GUIDE



SERIES	DH404	DH423 DH443
DRILLING DEPTH	3XD	3XD
LENGTH	STUB	SHORT
SIZE MIN	D3.0	D3.0
SIZE MAX	D20.0	D20.0
PAGE	A80	A82
SURFACE TREATMENT	TiAIN	

# SOLID CARBIDE DREAM DRILLS GENERAL

For General Purpose (HRc30 to HRc50)

Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

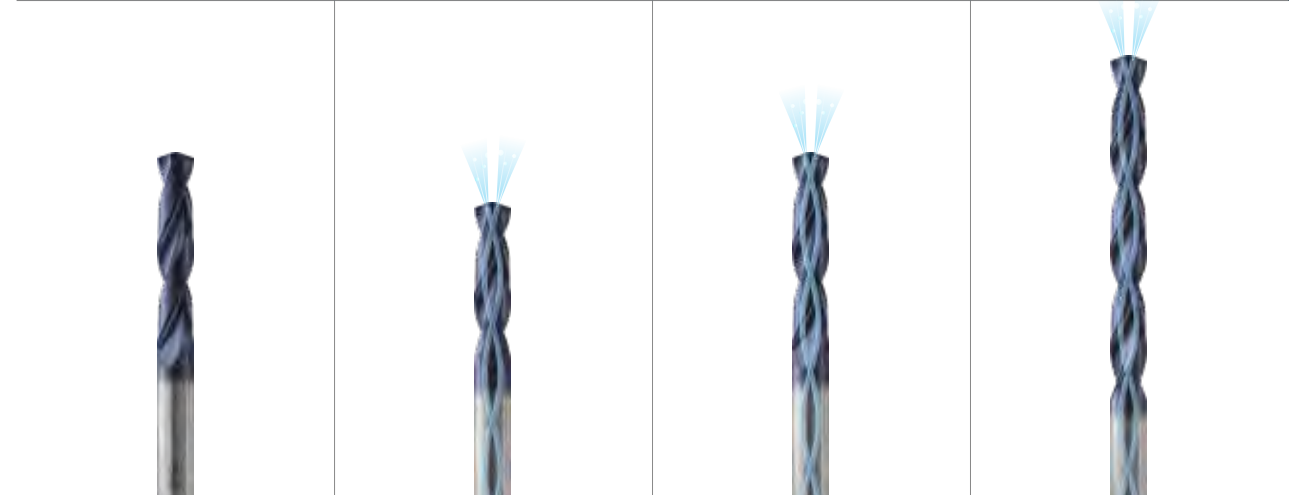
◎ : Excellent ○ : Good

Recommended cutting conditions : P.94



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc
P	1	Non-alloy steel	About 0.15% C Annealed	125	
	2		About 0.45% C Annealed	190	13
	3		About 0.45% C Quenched & Tempered	250	25
	4		About 0.75% C Annealed	270	28
	5		About 0.75% C Quenched & Tempered	300	32
	6	Low alloy steel	Annealed	180	10
	7		Quenched & Tempered	275	29
	8		Quenched & Tempered	300	32
	9		Quenched & Tempered	350	38
	10		High alloyed steel, and tool steel	Annealed	200
	11	Quenched & Tempered		325	35
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15
	13		Martensitic Quenched & Tempered	240	23
	14		Austenitic	180	10
K	15	Grey cast iron	Pearlitic / ferritic	180	10
	16		Pearlitic (Martensitic)	260	26
	17	Nodular cast iron	Ferritic	160	3
	18		Pearlitic	250	25
	19	Malleable cast iron	Ferritic	130	
	20		Pearlitic	230	21
N	21	Aluminum-wrought alloy	Not Curable	60	
	22		Curable Hardened	100	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	
	24		≤ 12% Si, Curable Hardened	90	
	25		> 12% Si, Not Curable	130	
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110	
	27		CuZn, CuSnZn (Brass)	90	
28	CuSn, lead-free copper and electrolytic copper		100		
29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			
30		Rubber, Wood, etc.			
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15
	32		Cured	280	30
	33		Annealed	250	25
	34	Titanium Alloys	Ni or Co Based Cured	350	38
	35		Cast	320	34
	36		Pure Titanium	400 Rm	
37	Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55
	39		Hardened	630	60
	40		Chilled Cast Iron	400	42
	41		Hardened Cast Iron	550	55

DH424 DH444	DH406 DH446	DH408 DH448	DH421
5XD	3XD	5XD	8XD
LONG	SHORT	LONG	EXTRA LONG
D1.0	D3.0	D1.0	D3.0
D20.0	D20.0	D20.0	D14.0
A85	A88	A91	A94
TiAIN			



◎	◎	◎	◎	1
◎	◎	◎	◎	2
◎	◎	◎	◎	3
◎	◎	◎	◎	4
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◎	◎	◎	◎	6 P
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◎	◎	◎	◎	10
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○	○	○	○	12
○	○	○	○	13 M
○	○	○	○	14
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◎	◎	◎	◎	17 K
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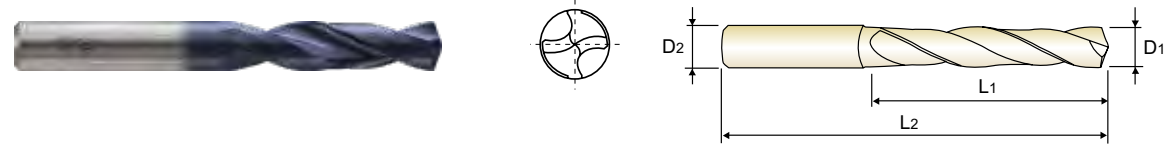
PLAIN SHANK DH423 SERIES
FLAT SHANK DH443 SERIES

CARBIDE, DREAM DRILLS

SHORT KURZ COURTE CORTA
VOLLHARTMETALL DREAM SPIRALBOHRER
Forets DREAM DRILLS carbure, série courte
PUNTE ELICOIDALI IN MD - DREAM DRILLS

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
▶ Self centering and chip breaking by R-thinning
▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ Bohren von Stahl, Stahlguss, Gusseisen, Temperguss, Nichteisenmetallen-Leichtmetallen, abrasiven Kunststoffen
▶ Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung
▶ Wellenform und Neagtivfase auf der Schneide bewirken geringen Schub, stabiles Drehmoment und lange Standzeit
▶ Optimierte Nutenform für Hochleistungsbohren und leichte Spanabfuhr



DIN 6539 CARBIDE 30° h6 h7 140° TiAlN p.A96 3 x D

Plain Shank Page
SHRINK FIT HOLDER D47-72
HYDRAULIC CHUCK D15-46
ER COLLET CHUCK D73-115

Table with 5 columns: EDP No. (TiAlN) Plain, Flat, Drill Diameter D1, Shank Diameter D2, Flute Length L1, Overall Length L2. Rows 1-35.

Table with 5 columns: EDP No. (TiAlN) Plain, Flat, Drill Diameter D1, Shank Diameter D2, Flute Length L1, Overall Length L2. Rows 1-35.

▶ Other shank types are available on your request. ▶ NEXT PAGE

ISO Material Description table for P, M, K, N, S, H groups with material compatibility symbols.



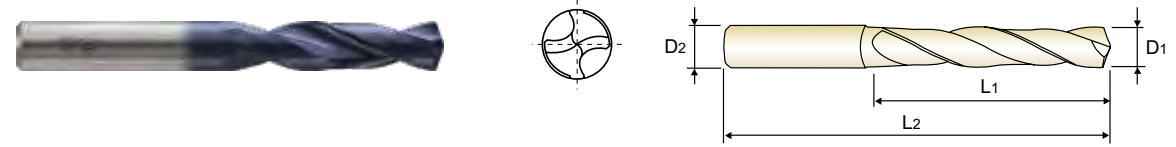
PLAIN SHANK DH423 SERIES
FLAT SHANK DH443 SERIES

CARBIDE, DREAM DRILLS

SHORT KURZ COURTE CORTA
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ER COLLET CHUCK D73-115

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▶ NEXT PAGE

ISO Material Description table for P, M, K, N, S, H groups with material compatibility symbols.

HSS

HSS



PLAIN SHANK **DH423** SERIES  
FLAT SHANK **DH443** SERIES

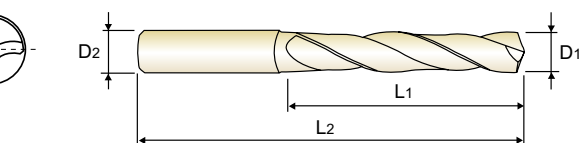


PLAIN SHANK **DH424** SERIES  
FLAT SHANK **DH444** SERIES

**CARBIDE, DREAM DRILLS**

- VOLLHARTMETALL DREAM SPIRALBOHRER
- Forets DREAM DRILLS carbure, série courte
- PUNTE ELICOIDALI IN MD - DREAM DRILLS

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DIN 6539 CARBIDE 30° h6 h7 140° TiAlN p.A96 3 x D

Plain Shank Page  
SHRINK FIT HOLDER D47-72  
HYDRAULIC CHUCK D15-46  
ER COLLET CHUCK D73-115

EDP No. (TiAlN)		Drill Diameter	Shank Diameter	Flute Length	Overall Length
Plain	Flat	D1	D2	L1	L2
DH423138	DH443138	13.8	14	60	107
DH423140	DH443140	14.0	14	60	107
DH423145	DH443145	14.5	16	65	115
DH423148	DH443148	14.8	16	65	115
DH423150	DH443150	15.0	16	65	115
DH423155	DH443155	15.5	16	65	115
DH423158	DH443158	15.8	16	65	115
DH423160	DH443160	16.0	16	65	115
DH423165	DH443165	16.5	18	73	123
DH423168	DH443168	16.8	18	73	123

EDP No. (TiAlN)		Drill Diameter	Shank Diameter	Flute Length	Overall Length
Plain	Flat	D1	D2	L1	L2
DH423170	DH443170	17.0	18	73	123
DH423175	DH443175	17.5	18	73	123
DH423178	DH443178	17.8	18	73	123
DH423180	DH443180	18.0	18	73	123
DH423185	DH443185	18.5	20	79	131
DH423190	DH443190	19.0	20	79	131
DH423195	DH443195	19.5	20	79	131
DH423198	DH443198	19.8	20	79	131
DH423200	DH443200	20.0	20	79	131

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ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○	◎	○	◎	◎	◎	○

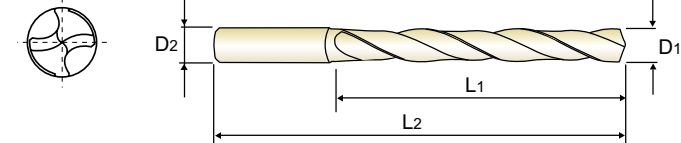
  

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

**CARBIDE, DREAM DRILLS**

- VOLLHARTMETALL DREAM SPIRALBOHRER
- Forets DREAM DRILLS carbure, série longue
- PUNTE ELICOIDALI IN MD - DREAM DRILLS

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation



DIN 6539 CARBIDE 30° h6 h7 140° TiAlN p.A96 5 x D

Plain Shank Page  
SHRINK FIT HOLDER D47-72  
HYDRAULIC CHUCK D15-46  
ER COLLET CHUCK D73-115

EDP No. (TiAlN)		Drill Diameter	Shank Diameter	Flute Length	Overall Length
Plain	Flat	D1	D2	L1	L2
DH424010	-	1.0	3	8	55
DH424011	-	1.1	3	12	55
DH424012	-	1.2	3	12	55
DH424013	-	1.3	3	12	55
DH424014	-	1.4	3	12	55
DH424015	-	1.5	3	16	55
DH424016	-	1.6	3	16	55
DH424017	-	1.7	3	16	55
DH424018	-	1.8	3	16	55
DH424019	-	1.9	3	16	55
DH424020	-	2.0	4	21	57
DH424021	-	2.1	4	21	57
DH424022	-	2.2	4	21	57
DH424023	-	2.3	4	21	57
DH424024	-	2.4	4	21	57
DH424025	-	2.5	4	21	57
DH424026	-	2.6	4	21	57
DH424027	-	2.7	4	21	57
DH424028	-	2.8	4	21	57
DH424029	-	2.9	4	21	57
DH424030	DH444030	3.0	6	28	66
DH424031	DH444031	3.1	6	28	66
DH424032	DH444032	3.2	6	28	66
DH424033	DH444033	3.3	6	28	66

EDP No. (TiAlN)		Drill Diameter	Shank Diameter	Flute Length	Overall Length
Plain	Flat	D1	D2	L1	L2
DH424034	DH444034	3.4	6	28	66
DH424035	DH444035	3.5	6	28	66
DH424036	DH444036	3.6	6	28	66
DH424037	DH444037	3.7	6	28	66
DH424038	DH444038	3.8	6	36	74
DH424039	DH444039	3.9	6	36	74
DH424040	DH444040	4.0	6	36	74
DH424041	DH444041	4.1	6	36	74
DH424042	DH444042	4.2	6	36	74
DH424043	DH444043	4.3	6	36	74
DH424044	DH444044	4.4	6	36	74
DH424045	DH444045	4.5	6	36	74
DH424046	DH444046	4.6	6	36	74
DH424047	DH444047	4.7	6	36	74
DH424048	DH444048	4.8	6	44	82
DH424049	DH444049	4.9	6	44	82
DH424050	DH444050	5.0	6	44	82
DH424051	DH444051	5.1	6	44	82
DH424052	DH444052	5.2	6	44	82
DH424053	DH444053	5.3	6	44	82
DH424054	DH444054	5.4	6	44	82
DH424055	DH444055	5.5	6	44	82
DH424056	DH444056	5.6	6	44	82
DH424057	DH444057	5.7	6	44	82

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○	◎	○	◎	◎	◎	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					



**CARBIDE, DREAM DRILLS**

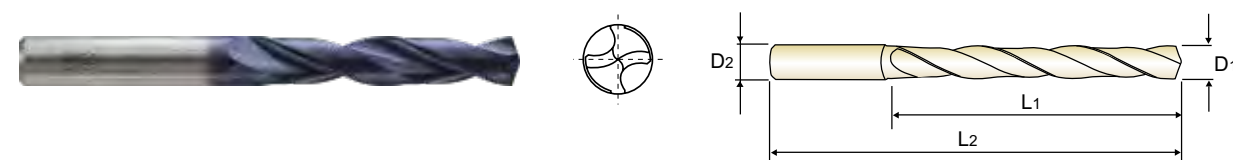
**LONG**

- VOLLHARTMETALL DREAM SPIRALBOHRER
- Forets DREAM DRILLS carbure, série longue
- PUNTE ELICOIDALI IN MD - DREAM DRILLS

**LANG**  
**LONGUE**  
**LUNGA**

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ Bohren von Stahl, Stahlguss, Gusseisen, Temperguss, Nichteisenmetallen-Leichtmetallen, abrasiven Kunststoffen
- ▶ Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung
- ▶ Wellenform und Neagtivfase auf der Schneide bewirken geringen Schub, stabiles Drehmoment und lange Standzeit
- ▶ Optimierte Nutenform für Hochleistungsbohren und leichte Spanabfuhr



**DIN 5639** CARBIDE 30° h6 h7 140° TiAIN p.A96 5 x D

Recommended ToolHolder:  
 ◎ SHRINK FIT HOLDER D47-72  
 ◎ HYDRAULIC CHUCK D15-46  
 ○ ER COLLET CHUCK D73-115

EDP No. (TiAIN)		Drill Diameter	Shank Diameter	Flute Length	Overall Length
Plain	Flat	D1	D2	L1	L2
DH424058	DH444058	5.8	6	44	82
DH424059	DH444059	5.9	6	44	82
DH424060	DH444060	6.0	6	44	82
DH424061	DH444061	6.1	8	53	91
DH424062	DH444062	6.2	8	53	91
DH424063	DH444063	6.3	8	53	91
DH424064	DH444064	6.4	8	53	91
DH424065	DH444065	6.5	8	53	91
DH424066	DH444066	6.6	8	53	91
DH424067	DH444067	6.7	8	53	91
DH424068	DH444068	6.8	8	53	91
DH424069	DH444069	6.9	8	53	91
DH424070	DH444070	7.0	8	53	91
DH424071	DH444071	7.1	8	53	91
DH424072	DH444072	7.2	8	53	91
DH424073	DH444073	7.3	8	53	91
DH424074	DH444074	7.4	8	53	91
DH424075	DH444075	7.5	8	53	91
DH424076	DH444076	7.6	8	53	91
DH424077	DH444077	7.7	8	53	91
DH424078	DH444078	7.8	8	53	91
DH424079	DH444079	7.9	8	53	91
DH424080	DH444080	8.0	8	53	91
DH424081	DH444081	8.1	10	61	103

▶ Other shank types are available on your request. **▶ NEXT PAGE**

ISO Material Description	P									M						K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○	◎	○	◎	◎	◎	○	

**CARBIDE, DREAM DRILLS**

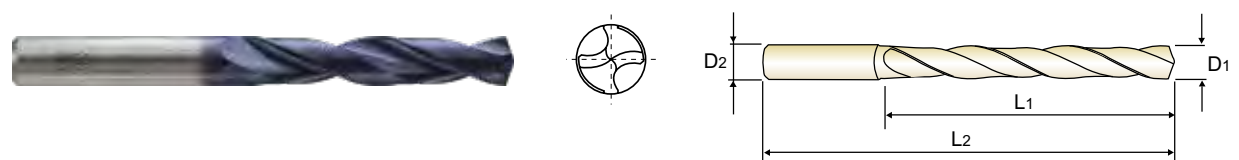
**LONG**

- VOLLHARTMETALL DREAM SPIRALBOHRER
- Forets DREAM DRILLS carbure, série longue
- PUNTE ELICOIDALI IN MD - DREAM DRILLS

**LANG**  
**LONGUE**  
**LUNGA**

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
- ▶ Self centering and chip breaking by R-thinning
- ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
- ▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ Bohren von Stahl, Stahlguss, Gusseisen, Temperguss, Nichteisenmetallen-Leichtmetallen, abrasiven Kunststoffen
- ▶ Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung
- ▶ Wellenform und Neagtivfase auf der Schneide bewirken geringen Schub, stabiles Drehmoment und lange Standzeit
- ▶ Optimierte Nutenform für Hochleistungsbohren und leichte Spanabfuhr



**DIN 5639** CARBIDE 30° h6 h7 140° TiAIN p.A96 5 x D

Recommended ToolHolder:  
 ◎ SHRINK FIT HOLDER D47-72  
 ◎ HYDRAULIC CHUCK D15-46  
 ○ ER COLLET CHUCK D73-115

EDP No. (TiAIN)		Drill Diameter	Shank Diameter	Flute Length	Overall Length
Plain	Flat	D1	D2	L1	L2
DH424106	DH444106	10.6	12	71	118
DH424107	DH444107	10.7	12	71	118
DH424108	DH444108	10.8	12	71	118
DH424109	DH444109	10.9	12	71	118
DH424110	DH444110	11.0	12	71	118
DH424111	DH444111	11.1	12	71	118
DH424112	DH444112	11.2	12	71	118
DH424113	DH444113	11.3	12	71	118
DH424114	DH444114	11.4	12	71	118
DH424115	DH444115	11.5	12	71	118
DH424116	DH444116	11.6	12	71	118
DH424117	DH444117	11.7	12	71	118
DH424118	DH444118	11.8	12	71	118
DH424119	DH444119	11.9	12	71	118
DH424120	DH444120	12.0	12	71	118
DH424125	DH444125	12.5	14	77	124
DH424130	DH444130	13.0	14	77	124
DH424135	DH444135	13.5	14	77	124
DH424140	DH444140	14.0	14	77	124
DH424145	DH444145	14.5	16	83	133
DH424150	DH444150	15.0	16	83	133
DH424155	DH444155	15.5	16	83	133
DH424160	DH444160	16.0	16	83	133
DH424165	DH444165	16.5	18	93	143

▶ Other shank types are available on your request. **▶ NEXT PAGE**

ISO Material Description	P									M						K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	○	○	◎	◎	○	○	○	○	○	○	○	◎	○	◎	◎	◎	○	

HSS  
 i-ONE DRILLS  
 i-DREAM DRILLS  
 DREAM DRILLS -PRO  
 DREAM DRILLS -GENERAL  
 DREAM DRILLS -HIGH FEED  
 DREAM DRILLS -FLAT BOTTOM  
 DREAM DRILLS -INOX  
 DREAM DRILLS -ALU  
 DREAM DRILLS -MQL  
 DREAM DRILLS for HIGH HARDENED STEELS  
 GENERAL CARBIDE DRILLS  
 MULTI-1 DRILLS  
 HPD DRILLS  
 GOLD-P DRILLS  
 SUPER-GP DRILLS  
 STRAIGHT SHANK DRILLS  
 TAPER SHANK DRILLS  
 NC-SPOTTING DRILLS  
 CENTER DRILLS  
 SPADE DRILLS  
 REAMERS  
 COUNTER SINKS  
 COUNTER BORES  
 TECHNICAL DATA

HSS  
 i-ONE DRILLS  
 i-DREAM DRILLS  
 DREAM DRILLS -PRO  
 DREAM DRILLS -GENERAL  
 DREAM DRILLS -HIGH FEED  
 DREAM DRILLS -FLAT BOTTOM  
 DREAM DRILLS -INOX  
 DREAM DRILLS -ALU  
 DREAM DRILLS -MQL  
 DREAM DRILLS for HIGH HARDENED STEELS  
 GENERAL CARBIDE DRILLS  
 MULTI-1 DRILLS  
 HPD DRILLS  
 GOLD-P DRILLS  
 SUPER-GP DRILLS  
 STRAIGHT SHANK DRILLS  
 TAPER SHANK DRILLS  
 NC-SPOTTING DRILLS  
 CENTER DRILLS  
 SPADE DRILLS  
 REAMERS  
 COUNTER SINKS  
 COUNTER BORES  
 TECHNICAL DATA



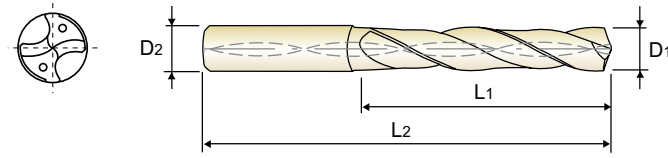
PLAIN SHANK DH406 SERIES
FLAT SHANK DH446 SERIES

CARBIDE, DREAM DRILLS with COOLANT HOLES SHORT

VOLLHARTMETALL DREAM SPIRALBOHRER mit KÜHLKANAL
Forets DREAM DRILLS carbure, avec arrosage central, série courte
PUNTE ELICOIDALI IN MD - DREAM DRILLS (con fori di refrigerazione)

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
▶ Self centering and chip breaking by R-thinning
▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ Bohren von Stahl, Stahlguss, Gusseisen, Temperguss, Nichteisenmetallen-Leichtmetallen, abrasiven Kunststoffen
▶ Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung
▶ Wellenform und Neagtivfase auf der Schneide bewirken geringen Schub, stabiles Drehmoment und lange Standzeit
▶ Optimierte Nutzenform für Hochleistungsbohren und leichte Spanabfuhr



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar TiAIN p.A97 3 x D

Plain Shank Page SHRINK FIT HOLDER D47-72 HYDRAULIC CHUCK D15-46 ER COLLET CHUCK D73-115

Table with columns EDP No. (TiAIN), Drill Diameter (D1), Shank Diameter (D2), Flute Length (L1, L2), Overall Length. Rows include DH406030 to DH406053.

Table with columns EDP No. (TiAIN), Drill Diameter (D1), Shank Diameter (D2), Flute Length (L1, L2), Overall Length. Rows include DH406054 to DH406077.

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎: Excellent ○: Good

ISO material compatibility chart for P, M, K, N, S, H groups across various materials like Non-alloy steel, Stainless steel, Titanium Alloys, etc.



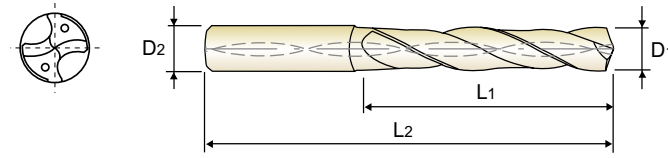
PLAIN SHANK DH406 SERIES
FLAT SHANK DH446 SERIES

CARBIDE, DREAM DRILLS with COOLANT HOLES SHORT

VOLLHARTMETALL DREAM SPIRALBOHRER mit KÜHLKANAL
Forets DREAM DRILLS carbure, avec arrosage central, série courte
PUNTE ELICOIDALI IN MD - DREAM DRILLS (con fori di refrigerazione)

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
▶ Self centering and chip breaking by R-thinning
▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
▶ Optimized flute shape for strength of drilling and smooth chip evacuation

- ▶ Bohren von Stahl, Stahlguss, Gusseisen, Temperguss, Nichteisenmetallen-Leichtmetallen, abrasiven Kunststoffen
▶ Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung
▶ Wellenform und Neagtivfase auf der Schneide bewirken geringen Schub, stabiles Drehmoment und lange Standzeit
▶ Optimierte Nutzenform für Hochleistungsbohren und leichte Spanabfuhr



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar TiAIN p.A97 3 x D

Plain Shank Page SHRINK FIT HOLDER D47-72 HYDRAULIC CHUCK D15-46 ER COLLET CHUCK D73-115

Table with columns EDP No. (TiAIN), Drill Diameter (D1), Shank Diameter (D2), Flute Length (L1, L2), Overall Length. Rows include DH406078 to DH406101.

Table with columns EDP No. (TiAIN), Drill Diameter (D1), Shank Diameter (D2), Flute Length (L1, L2), Overall Length. Rows include DH406102 to DH406145.

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎: Excellent ○: Good

ISO material compatibility chart for P, M, K, N, S, H groups across various materials like Non-alloy steel, Stainless steel, Titanium Alloys, etc.

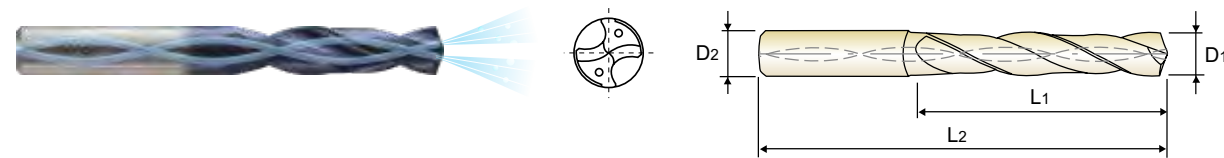


PLAIN SHANK **DH406** SERIES  
FLAT SHANK **DH446** SERIES

**CARBIDE, DREAM DRILLS with COOLANT HOLES** **SHORT**

- VOLLHARTMETALL DREAM SPIRALBOHRER mit KÜHLKANAL **KURZ**
- Forets DREAM DRILLS carbure, avec arrosage central, série courte **COURTE**
- PUNTE ELICOIDALI IN MD - DREAM DRILLS (con fori di refrigerazione) **CORTA**

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
  - ▶ Self centering and chip breaking by R-thinning
  - ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
  - ▶ Optimized flute shape for strength of drilling and smooth chip evacuation
- ▶ Bohren von Stahl, Stahlguss, Gusseisen, Temperguss, Nichteisenmetallen-Leichtmetallen, abrasiven Kunststoffen
  - ▶ Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung
  - ▶ Wellenform und Neagtivfase auf der Schneide bewirken geringen Schub, stabiles Drehmoment und lange Standzeit
  - ▶ Optimierte Nutenform für Hochleistungsbohren und leichte Spanabfuhr



**DIN 6537** **CARBIDE** **30°** **h6** **m7** **140°** **20 bar** **TIAIN** **p.A97** **3 × D**

Recommended ToolHolder: SHRINK FIT HOLDER (D47-72), HYDRAULIC CHUCK (D15-46), ER COLLET CHUCK (D73-115)

EDP No. (TiAIN)		Drill Diameter	Shank Diameter	Flute Length	Overall Length
Plain	Flat	D1	D2	L1	L2
DH406150	DH446150	15.0	16	65	115
DH406155	DH446155	15.5	16	65	115
DH406160	DH446160	16.0	16	65	115
DH406165	DH446165	16.5	18	73	123
DH406170	DH446170	17.0	18	73	123
DH406175	DH446175	17.5	18	73	123

EDP No. (TiAIN)		Drill Diameter	Shank Diameter	Flute Length	Overall Length
Plain	Flat	D1	D2	L1	L2
DH406180	DH446180	18.0	18	73	123
DH406185	DH446185	18.5	20	79	131
DH406190	DH446190	19.0	20	79	131
DH406195	DH446195	19.5	20	79	131
DH406200	DH446200	20.0	20	79	131

Unit : mm

▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	19	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	◎	◎	○	○	○	○	○	○	◎	○	◎	◎	◎	○

ISO	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

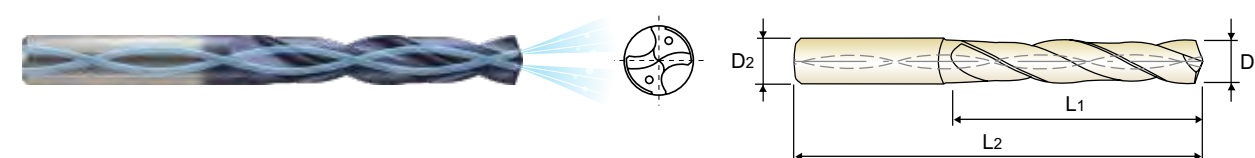


PLAIN SHANK **DH408** SERIES  
FLAT SHANK **DH448** SERIES

**CARBIDE, DREAM DRILLS with COOLANT HOLES** **LONG**

- VOLLHARTMETALL DREAM SPIRALBOHRER mit KÜHLKANAL **LANG**
- Forets DREAM DRILLS carbure, avec arrosage central, série longue **LONGUE**
- PUNTE ELICOIDALI IN MD - DREAM DRILLS (con fori di refrigerazione) **LUNGA**

- ▶ Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
  - ▶ Self centering and chip breaking by R-thinning
  - ▶ Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
  - ▶ Optimized flute shape for strength of drilling and smooth chip evacuation
- ▶ Bohren von Stahl, Stahlguss, Gusseisen, Temperguss, Nichteisenmetallen-Leichtmetallen, abrasiven Kunststoffen
  - ▶ Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung
  - ▶ Wellenform und Neagtivfase auf der Schneide bewirken geringen Schub, stabiles Drehmoment und lange Standzeit
  - ▶ Optimierte Nutenform für Hochleistungsbohren und leichte Spanabfuhr



**DIN 6537** **CARBIDE** **30°** **h6** **m7** **140°** **20 bar** **TIAIN** **p.A97** **5 × D**

Recommended ToolHolder: SHRINK FIT HOLDER (D47-72), HYDRAULIC CHUCK (D15-46), ER COLLET CHUCK (D73-115)

EDP No. (TiAIN)		Drill Diameter	Shank Diameter	Flute Length	Overall Length
Plain	Flat	D1	D2	L1	L2
DH408010	-	1.0	3	8	55
DH408011	-	1.1	3	12	55
DH408012	-	1.2	3	12	55
DH408013	-	1.3	3	12	55
DH408014	-	1.4	3	12	55
DH408015	-	1.5	3	16	55
DH408016	-	1.6	3	16	55
DH408017	-	1.7	3	16	55
DH408018	-	1.8	3	16	55
DH408019	-	1.9	3	16	55
DH408020	-	2.0	4	21	57
DH408021	-	2.1	4	21	57
DH408022	-	2.2	4	21	57
DH408023	-	2.3	4	21	57
DH408024	-	2.4	4	21	57
DH408025	-	2.5	4	21	57
DH408026	-	2.6	4	21	57
DH408027	-	2.7	4	21	57
DH408028	-	2.8	4	21	57
DH408029	-	2.9	4	21	57
DH408030	DH448030	3.0	6	28	66
DH408031	DH448031	3.1	6	28	66
DH408032	DH448032	3.2	6	28	66
DH408033	DH448033	3.3	6	28	66

EDP No. (TiAIN)		Drill Diameter	Shank Diameter	Flute Length	Overall Length
Plain	Flat	D1	D2	L1	L2
DH408034	DH448034	3.4	6	28	66
DH408035	DH448035	3.5	6	28	66
DH408036	DH448036	3.6	6	28	66
DH408037	DH448037	3.7	6	28	66
DH408038	DH448038	3.8	6	36	74
DH408039	DH448039	3.9	6	36	74
DH408040	DH448040	4.0	6	36	74
DH408041	DH448041	4.1	6	36	74
DH408042	DH448042	4.2	6	36	74
DH408043	DH448043	4.3	6	36	74
DH408044	DH448044	4.4	6	36	74
DH408045	DH448045	4.5	6	36	74
DH408046	DH448046	4.6	6	36	74
DH408047	DH448047	4.7	6	36	74
DH408048	DH448048	4.8	6	44	82
DH408049	DH448049	4.9	6	44	82
DH408050	DH448050	5.0	6	44	82
DH408051	DH448051	5.1	6	44	82
DH408052	DH448052	5.2	6	44	82
DH408053	DH448053	5.3	6	44	82
DH408054	DH448054	5.4	6	44	82
DH408055	DH448055	5.5	6	44	82
DH408056	DH448056	5.6	6	44	82
DH408057	DH448057	5.7	6	44	82

Unit : mm

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	19	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	◎	◎	○	○	○	○	○	○	◎	○	◎	◎	◎	○

ISO	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					





CARBIDE, DREAM DRILLS with COOLANT HOLES

EXTRA LONG

- VOLLHARTMETALL DREAM SPIRALBOHRER mit KÜHLKANAL
Forets DREAM DRILLS carbure, avec arrosage central, série extra-longue
PUNTE ELICOIDALI IN MD - DREAM DRILLS (con fori di refrigerazione)

- Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
Self centering and chip breaking by R-thinning
Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
Optimized flute shape for strength of drilling and smooth chip evacuation

- Bohren von Stahl, Stahlguss, Gusseisen, Temperguss, Nichteisenmetallen-Leichtmetallen, abrasiven Kunststoffen
Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung
Wellenform und Neagtivfase auf der Schneide bewirken geringen Schub, stabiles Drehmoment und lange Standzeit
Optimierte Nutzenform für Hochleistungsbohren und leichte Spanabfuhr

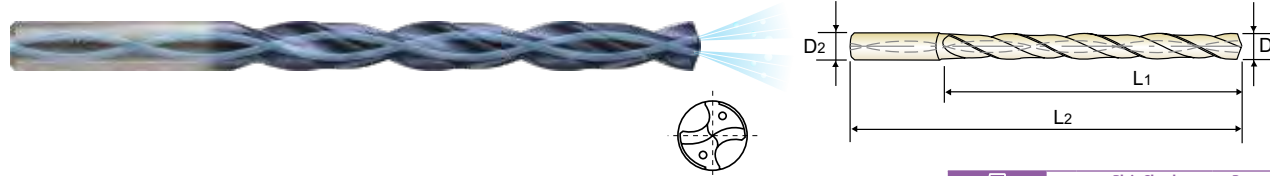


Table with 2 columns: Plain Shank and Page. Rows include SHRINK FIT HOLDER (D47-72), HYDRAULIC CHUCK (D15-46), and ER COLLET CHUCK (D73-115).

Table with 5 columns: EDP No., Drill Diameter, Shank Diameter, Flute Length, Overall Length. Lists drill sizes from DH421030 to DH421053.

Table with 5 columns: EDP No., Drill Diameter, Shank Diameter, Flute Length, Overall Length. Lists drill sizes from DH421054 to DH421077.

Unit : mm

Other shank types are available on your request.

NEXT PAGE

ISO Material Recommendation Chart (A99) with columns for Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron, Aluminum-wrought alloy, Aluminum-cast, Copper and Copper Alloys, Non Metallic Materials, Heat Resistant Super Alloys, Titanium Alloys, Hardened steel, Chilled Cast Iron.

CARBIDE, DREAM DRILLS with COOLANT HOLES

EXTRA LONG

- VOLLHARTMETALL DREAM SPIRALBOHRER mit KÜHLKANAL
Forets DREAM DRILLS carbure, avec arrosage central, série extra-longue
PUNTE ELICOIDALI IN MD - DREAM DRILLS (con fori di refrigerazione)

- Drilling for Steel, Cast Steel, Cast Iron, Malleable Cast Iron
Self centering and chip breaking by R-thinning
Wave shape and negative land on the cutting edge for low thrust, stable torque and long tool life
Optimized flute shape for strength of drilling and smooth chip evacuation

- Bohren von Stahl, Stahlguss, Gusseisen, Temperguss, Nichteisenmetallen-Leichtmetallen, abrasiven Kunststoffen
Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung
Wellenform und Neagtivfase auf der Schneide bewirken geringen Schub, stabiles Drehmoment und lange Standzeit
Optimierte Nutzenform für Hochleistungsbohren und leichte Spanabfuhr

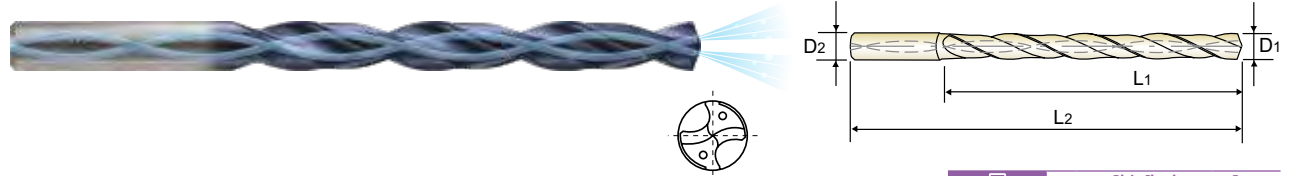


Table with 2 columns: Plain Shank and Page. Rows include SHRINK FIT HOLDER (D47-72), HYDRAULIC CHUCK (D15-46), and ER COLLET CHUCK (D73-115).

Table with 5 columns: EDP No., Drill Diameter, Shank Diameter, Flute Length, Overall Length. Lists drill sizes from DH421078 to DH421101.

Table with 5 columns: EDP No., Drill Diameter, Shank Diameter, Flute Length, Overall Length. Lists drill sizes from DH421102 to DH421140.

Unit : mm

Other shank types are available on your request.

ISO Material Recommendation Chart (A99) with columns for Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron, Aluminum-wrought alloy, Aluminum-cast, Copper and Copper Alloys, Non Metallic Materials, Heat Resistant Super Alloys, Titanium Alloys, Hardened steel, Chilled Cast Iron.



RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDPARAMETER

DH404, DH423, DH443, DH424, DH444 SERIES without COOLANT HOLES

VC = M/MIN
RPM = rev./min.
FEED = mm/rev.

Table with columns for ISO, VDI 3323, Material Description, Vc, Parameter, Drill Diameter (mm), and Vc. Includes rows for Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron, and Hardened steel.

Table with columns for ISO, VDI 3323, Material Description, Vc, Parameter, Drill Diameter (mm), and Vc. Includes rows for Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron, and Hardened steel.

Recommend to reduce the feed rate as following Feed 100% : DH404(3xD), DH423(3xD), DH424(5xD)



RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDPARAMETER

DH406, DH446, DH408, DH448, DH421 SERIES with COOLANT HOLES

VC = M/MIN
RPM = rev./min.
FEED = mm/rev.

Table with columns for ISO, VDI 3323, Material Description, Vc, Parameter, Drill Diameter (mm), and Vc. Includes rows for Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron, and Hardened steel.

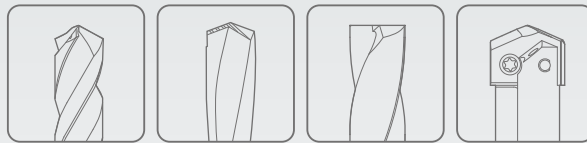
Table with columns for ISO, VDI 3323, Material Description, Vc, Parameter, Drill Diameter (mm), and Vc. Includes rows for Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron, and Hardened steel.

Recommend to reduce the feed rate as following Feed 100% : DH406(3xD), DH408(5xD) Feed 75% : DH421(8xD)





Global Cutting Tool Leader **YG-1**



# HOLEMAKING



Leading Through Innovation

**SOLID CARBIDE**

# **DREAM DRILLS -HIGH FEED**

## **DREAM DRILLS - HIGH FEED**

- 1.5 to 2 Times Faster Feeding Speed than 2-Flute Drill  
For Carbon Steels, Alloy Steels(up to HRc35) and Cast Iron
- 1,5 bis 2 mal höhere Vorschubgeschwindigkeit als Bohrer mit 2 Schneiden,  
für Kohlenstoffstähle, legierte Stähle (bis HRc35) und Grauguss

SELECTION GUIDE



SERIES	DGR493	DGR495
DRILLING DEPTH	3XD	5XD
LENGTH	SHORT	LONG
SIZE MIN	D5.0	D5.0
SIZE MAX	D20.0	D20.0
PAGE	A101	A103
SURFACE TREATMENT	H-Coating	

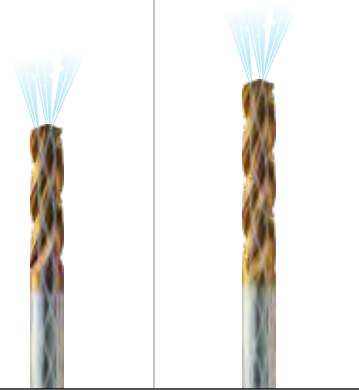
# SOLID CARBIDE DREAM DRILLS HIGH FEED

1.5 to 2 Times Faster Feeding Speed than 2-Flute Drill for Carbon Steels, Alloy Steels(up to HRC35) and Cast Iron

Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A105



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC
P	1	Non-alloy steel	About 0.15% C Annealed	125	
	2		About 0.45% C Annealed	190	13
	3		About 0.45% C Quenched & Tempered	250	25
	4		About 0.75% C Annealed	270	28
	5		About 0.75% C Quenched & Tempered	300	32
	6	Low alloy steel	Annealed	180	10
	7		Quenched & Tempered	275	29
	8		Quenched & Tempered	300	32
	9		Quenched & Tempered	350	38
	10		High alloyed steel, and tool steel	Annealed	200
	11	Quenched & Tempered	325	35	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15
	13		Martensitic Quenched & Tempered	240	23
	14		Austenitic	180	10
K	15	Grey cast iron	Pearlitic / ferritic	180	10
	16		Pearlitic (Martensitic)	260	26
	17	Nodular cast iron	Ferritic	160	3
	18		Pearlitic	250	25
	19	Malleable cast iron	Ferritic	130	
20	Pearlitic		230	21	
N	21	Aluminum-wrought alloy	Not Curable	60	
	22		Curable Hardened	100	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	
	24		≤ 12% Si, Curable Hardened	90	
	25		> 12% Si, Not Curable	130	
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110	
	27		CuZn, CuSnZn (Brass)	90	
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100	
	29		Duroplastic, Fiber Reinforced Plastic		
	30	Rubber, Wood, etc.			
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15
	32		Cured	280	30
	33		Annealed	250	25
	34		Ni or Co Based Cured	350	38
	35		Cast	320	34
36	Titanium Alloys	Pure Titanium	400 Rm		
37		Alpha + Beta Alloys Hardened	1050 Rm		
H	38	Hardened steel	Hardened	550	55
	39		Hardened	630	60
	40		Cast	400	42
41	Hardened Cast Iron	Hardened	550	55	

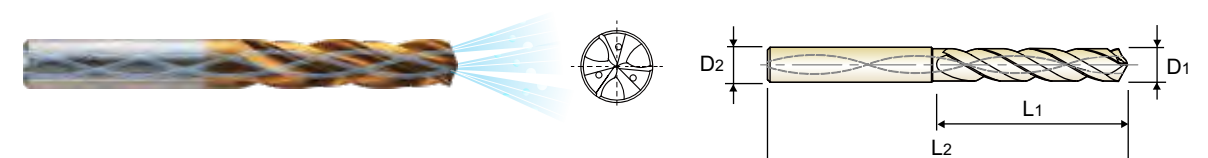
## DREAM DRILLS - HIGH FEED

### DGR493 SERIES

**CARBIDE, DREAM DRILLS - HIGH FEED with COOLANT HOLES** **SHORT**  
**DREAM DRILLS HIGH FEED mit KÜHLKANAL** **KURZ**  
**Forets DREAM DRILLS carbure Grande Avance avec arrosage central, série courte** **COURTE**  
**PUNTE DREAM DRILL HIGH FEED (con i fori di refrigerazione)** **CORTA**

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRC35) and Cast Iron
- ▶ Higher productivity due to 1.5 to 2 times faster feeding speed than 2-flute drill
- ▶ Multi-Layer coating delivers much better productivity and reliability
- ▶ Self centering and chip breaking by R-thinning and coolant holes

- ▶ Bohren von Kohlenstoff-Stählen, legierten Stählen(-HRC35) und Gusseisen
- ▶ Höhere Produktivität durch den 1,5 bis 2-fach höheren Vorschub gegenüber herkömmlichen zweischneidigen Bohrern
- ▶ Die Multi-Layer Beschichtung ermöglicht eine bessere Produktivität und Zuverlässigkeit
- ▶ Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar H Coating p.A105 3 x D

Recommended ToolHolder: Plain Shank Page, SHRINK FIT HOLDER D47-72, HYDRAULIC CHUCK D15-46, ER COLLET CHUCK D73-115

EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length		Overall Length L2	EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length		Overall Length L2
			L1	L2					L1	L2	
DGR493050	5.0	6	28	66	DGR493074	7.4	8	41	79		
DGR493051	5.1	6	28	66	DGR493075	7.5	8	41	79		
DGR493052	5.2	6	28	66	DGR493076	7.6	8	41	79		
DGR493053	5.3	6	28	66	DGR493077	7.7	8	41	79		
DGR493054	5.4	6	28	66	DGR493078	7.8	8	41	79		
DGR493055	5.5	6	28	66	DGR493079	7.9	8	41	79		
DGR493056	5.6	6	28	66	DGR493080	8.0	8	41	79		
DGR493057	5.7	6	28	66	DGR493081	8.1	10	47	89		
DGR493058	5.8	6	28	66	DGR493082	8.2	10	47	89		
DGR493059	5.9	6	28	66	DGR493083	8.3	10	47	89		
DGR493060	6.0	6	28	66	DGR493084	8.4	10	47	89		
DGR493061	6.1	8	34	79	DGR493085	8.5	10	47	89		
DGR493062	6.2	8	34	79	DGR493086	8.6	10	47	89		
DGR493063	6.3	8	34	79	DGR493087	8.7	10	47	89		
DGR493064	6.4	8	34	79	DGR493088	8.8	10	47	89		
DGR493065	6.5	8	34	79	DGR493089	8.9	10	47	89		
DGR493066	6.6	8	34	79	DGR493090	9.0	10	47	89		
DGR493067	6.7	8	34	79	DGR493091	9.1	10	47	89		
DGR493068	6.8	8	34	79	DGR493092	9.2	10	47	89		
DGR493069	6.9	8	34	79	DGR493093	9.3	10	47	89		
DGR493070	7.0	8	34	79	DGR493094	9.4	10	47	89		
DGR493071	7.1	8	41	79	DGR493095	9.5	10	47	89		
DGR493072	7.2	8	41	79	DGR493096	9.6	10	47	89		
DGR493073	7.3	8	41	79	DGR493097	9.7	10	47	89		

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323																				
HRC																				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323																					
HRC																					
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended																					



# YG DREAM DRILLS - HIGH FEED

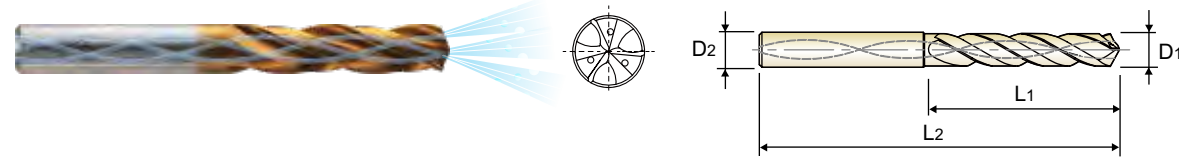
### DGR493 SERIES

## CARBIDE, DREAM DRILLS - HIGH FEED with COOLANT HOLES SHORT

- DREAM DRILLS HIGH FEED mit KÜHLKANAL** KURZ
- Forets DREAM DRILLS carbure Grande Avance avec arrosage central, série courte** COURTE
- PUNTE DREAM DRILL HIGH FEED (con i fori di refrigerazione)** CORTA

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRc35) and Cast Iron
- ▶ Higher productivity due to 1.5 to 2 times faster feeding speed than 2-flute drill
- ▶ Multi-Layer coating delivers much better productivity and reliability
- ▶ Self centering and chip breaking by R-thinning and coolant holes

- ▶ Bohren von Kohlenstoff-Stählen, legierten Stählen(-HRc35) und Gusseisen
- ▶ Höhere Produktivität durch den 1,5 bis 2-fach höheren Vorschub gegenüber herkömmlichen zweischneidigen Bohrern
- ▶ Die Multi-Layer Beschichtung ermöglicht eine bessere Produktivität und Zuverlässigkeit
- ▶ Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung



**DIN 6537** CARBIDE 30° h6 m7 140° 20 bar Coating p.A105 3 x D

Plain Shank Page  
 SHRINK FIT HOLDER D47-72  
 HYDRAULIC CHUCK D15-46  
 ER COLLET CHUCK D73-115

EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2	EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2
DGR493098	9.8	10	47	89	DGR493118	11.8	12	55	102
DGR493099	9.9	10	47	89	DGR493119	11.9	12	55	102
DGR493100	10.0	10	47	89	DGR493120	12.0	12	55	102
DGR493101	10.1	12	55	102	DGR493125	12.5	14	60	107
DGR493102	10.2	12	55	102	DGR493130	13.0	14	60	107
DGR493103	10.3	12	55	102	DGR493135	13.5	14	60	107
DGR493104	10.4	12	55	102	DGR493140	14.0	14	60	107
DGR493105	10.5	12	55	102	DGR493145	14.5	16	65	115
DGR493106	10.6	12	55	102	DGR493150	15.0	16	65	115
DGR493107	10.7	12	55	102	DGR493155	15.5	16	65	115
DGR493108	10.8	12	55	102	DGR493160	16.0	16	65	115
DGR493109	10.9	12	55	102	DGR493165	16.5	18	73	123
DGR493110	11.0	12	55	102	DGR493170	17.0	18	73	123
DGR493111	11.1	12	55	102	DGR493175	17.5	18	73	123
DGR493112	11.2	12	55	102	DGR493180	18.0	18	73	123
DGR493113	11.3	12	55	102	DGR493185	18.5	20	79	131
DGR493114	11.4	12	55	102	DGR493190	19.0	20	79	131
DGR493115	11.5	12	55	102	DGR493195	19.5	20	79	131
DGR493116	11.6	12	55	102	DGR493200	20.0	20	79	131
DGR493117	11.7	12	55	102					

▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	○	◎	◎	○	○	◎	○	◎	○	○	◎	○	◎	○	◎	○

ISO Material Description	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc											15	30	25	38	34			55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended																						

# YG DREAM DRILLS - HIGH FEED

### DGR495 SERIES

## CARBIDE, DREAM DRILLS - HIGH FEED with COOLANT HOLES LONG

- DREAM DRILLS HIGH FEED mit KÜHLKANAL** KURZ
- Forets DREAM DRILLS carbure Grande Avance avec arrosage central, série longue** LONGUE
- PUNTE DREAM DRILL HIGH FEED (con i fori di refrigerazione)** LUNGA

- ▶ Drilling for Carbon Steels, Alloy Steels(-HRc35) and Cast Iron
- ▶ Higher productivity due to 1.5 to 2 times faster feeding speed than 2-flute drill
- ▶ Multi-Layer coating delivers much better productivity and reliability
- ▶ Self centering and chip breaking by R-thinning and coolant holes

- ▶ Bohren von Kohlenstoff-Stählen, legierten Stählen(-HRc35) und Gusseisen
- ▶ Höhere Produktivität durch den 1,5 bis 2-fach höheren Vorschub gegenüber herkömmlichen zweischneidigen Bohrern
- ▶ Die Multi-Layer Beschichtung ermöglicht eine bessere Produktivität und Zuverlässigkeit
- ▶ Selbst zentrierend und guter Spanbruch durch die R-Ausspitzung



**DIN 6537** CARBIDE 30° h6 m7 140° 20 bar Coating p.A105 5 x D

Plain Shank Page  
 SHRINK FIT HOLDER D47-72  
 HYDRAULIC CHUCK D15-46  
 ER COLLET CHUCK D73-115

EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2	EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2
DGR495050	5.0	6	44	82	DGR495074	7.4	8	53	91
DGR495051	5.1	6	44	82	DGR495075	7.5	8	53	91
DGR495052	5.2	6	44	82	DGR495076	7.6	8	53	91
DGR495053	5.3	6	44	82	DGR495077	7.7	8	53	91
DGR495054	5.4	6	44	82	DGR495078	7.8	8	53	91
DGR495055	5.5	6	44	82	DGR495079	7.9	8	53	91
DGR495056	5.6	6	44	82	DGR495080	8.0	8	53	91
DGR495057	5.7	6	44	82	DGR495081	8.1	10	61	103
DGR495058	5.8	6	44	82	DGR495082	8.2	10	61	103
DGR495059	5.9	6	44	82	DGR495083	8.3	10	61	103
DGR495060	6.0	6	44	82	DGR495084	8.4	10	61	103
DGR495061	6.1	8	53	91	DGR495085	8.5	10	61	103
DGR495062	6.2	8	53	91	DGR495086	8.6	10	61	103
DGR495063	6.3	8	53	91	DGR495087	8.7	10	61	103
DGR495064	6.4	8	53	91	DGR495088	8.8	10	61	103
DGR495065	6.5	8	53	91	DGR495089	8.9	10	61	103
DGR495066	6.6	8	53	91	DGR495090	9.0	10	61	103
DGR495067	6.7	8	53	91	DGR495091	9.1	10	61	103
DGR495068	6.8	8	53	91	DGR495092	9.2	10	61	103
DGR495069	6.9	8	53	91	DGR495093	9.3	10	61	103
DGR495070	7.0	8	53	91	DGR495094	9.4	10	61	103
DGR495071	7.1	8	53	91	DGR495095	9.5	10	61	103
DGR495072	7.2	8	53	91	DGR495096	9.6	10	61	103
DGR495073	7.3	8	53	91	DGR495097	9.7	10	61	103

▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron			Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	○	◎	◎	○	○	◎	○	◎	○	○	◎	○	◎	○	◎	○

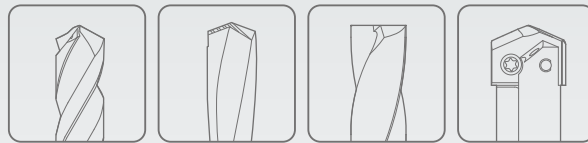
  

ISO Material Description	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc											15	30	25	38	34			55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended																						





Global Cutting Tool Leader **YG-1**



# HOLEMAKING





Leading Through Innovation

**SOLID CARBIDE**

**DREAM DRILLS  
-FLAT BOTTOM**

**DREAM DRILLS - FLACHBOHRER**

- For Holes on Various Angled Surfaces
- Für Bohrungen auf verschiedenen abgewinkelten Oberflächen

SELECTION GUIDE



SERIES	DPP447	DH450
DRILLING DEPTH	2XD	5XD
LENGTH	SHORT	LONG
SIZE MIN	D3.0	D3.0
SIZE MAX	D20.0	D20.0
PAGE	A110	A112
SURFACE TREATMENT	X-Coating	TiAIN

# SOLID CARBIDE DREAM DRILLS FLAT BOTTOM

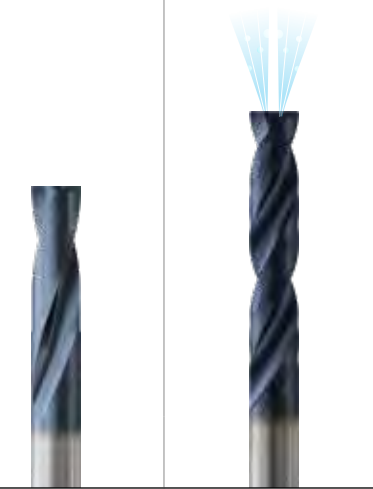
For Holes on Various Angled Surfaces

Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A114

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc		
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎
	4		About 0.75% C Annealed	270	28	○	○
	5		About 0.75% C Quenched & Tempered	300	32	○	○
	6	Low alloy steel	Annealed	180	10	◎	◎
	7		Quenched & Tempered	275	29	○	○
	8		Quenched & Tempered	300	32	○	○
	9		Quenched & Tempered	350	38	○	○
	10		High alloyed steel, and tool steel	Annealed	200	15	
	11		Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○
	13		Martensitic Quenched & Tempered	240	23		
	14	Austenitic	180	10			
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎
	16		Pearlitic (Martensitic)	260	26	○	○
	17	Nodular cast iron	Ferritic	160	3		
	18		Pearlitic	250	25		
	19	Malleable cast iron	Ferritic	130			
20	Pearlitic		230	21			
N	21	Aluminum-wrought alloy	Not Curable	60		○	○
	22		Curable Hardened	100		○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75			
	24		≤ 12% Si, Curable Hardened	90			
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110			
	27		CuZn, CuSnZn (Brass)	90			
	28		CuSn, lead-free copper and electrolytic copper	100			
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				
	30		Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Cured	350	38		
	35	Ni or Co Based Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm			
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Chilled Cast Iron	Cast	400	42		
	41	Hardened Cast Iron	Hardened	550	55		



### Only One Operation for Angled Surface

**For angled surfaces, two operations are required to drill in a conventional process**

**1st operation (End mill)**  
Counter boring to make flat surface and guide hole

**2nd operation (Drill)**  
Drilling to required depth of hole

**For angled surfaces, only one operation can complete the drilling with Dream Drill Flat Bottom**

**One operation (Dream Drill Flat Bottom)**  
One Drill does it all without using both an end mill and a drill

### Pilot Drilling for 5 X D

**1. FLAT SURFACE**

Pilot Drill (Flat Bottom 2xD) → Dream Drill Flat Bottom (5xD)

**2. INCLINED SURFACE**

Pilot Drill (Flat Bottom 2xD or End Mill) → Dream Drill Flat Bottom (5xD)

- ▶ For Flat bottom 5xD drilling depth, Slope surface needs Pilot Drilling with YG-1 Flat Bottom Drill (2XD) and Flat surface needs Pilot Drilling with YG-1 Dream Drill General.
- ▶ Pilot Drilling Depth : around 1XD
- ▶ Pilot Drilling Diameter : same size diameter

HSS

HSS

# YG DREAM DRILLS - FLAT BOTTOM

## DPP447 SERIES

# YG DREAM DRILLS - FLAT BOTTOM

## DPP447 SERIES

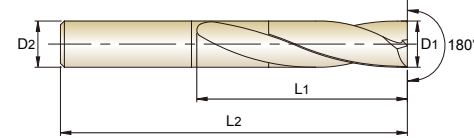
### CARBIDE, DREAM DRILLS - FLAT BOTTOM

SHORT

- VHM, DREAM DRILLS - FLACHBOHRER
- DREAM DRILLS - FOND PLAT, FORET CARBURE MONOBLOC
- PUNTE IN MD DREAM DRILLS, TESTA PIANA

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
- ▶ For through holes, minimized burrs at entrance and exit when drilling thin plate.

- ▶ Für Bohrungen auf verschiedenen abgewinkelten Flächen.
- ▶ Der 180-Grad-Spitzenwinkel ermöglicht das Bohren von flachen, geneigten und gekrümmten Oberflächen.
- ▶ Optimierte Nutenform für hervorragende Spanabfuhr.
- ▶ Hochfeste Schneide zur Verbesserung der Standzeit und Vielseitigkeit beim Bohren.
- ▶ Für Durchgangsbohrungen, minimierter Grat am Ein- und Austritt beim Bohren von dünnen Blechen.



2 x D

Recommended ToolHolder		Plain Shank	Page
○	SHRINK FIT HOLDER	D47-72	D47-72
○	HYDRAULIC CHUCK	D15-46	D15-46
○	ER COLLET CHUCK	D73-115	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	Unit : mm				
					TiAIN	D1	D2	L1	L2
DPP447030	3.0	6	16	50					
DPP447031	3.1	6	16	50					
DPP447032	3.2	6	16	50					
DPP447033	3.3	6	16	50					
DPP447034	3.4	6	18	50					
DPP447035	3.5	6	18	50					
DPP447036	3.6	6	18	50					
DPP447037	3.7	6	18	50					
DPP447038	3.8	6	18	50					
DPP447039	3.9	6	18	50					
DPP447040	4.0	6	18	50					
DPP447041	4.1	6	20	60					
DPP447042	4.2	6	20	60					
DPP447043	4.3	6	20	60					
DPP447044	4.4	6	20	60					
DPP447045	4.5	6	22	60					
DPP447046	4.6	6	22	60					
DPP447047	4.7	6	22	60					
DPP447048	4.8	6	22	60					
DPP447049	4.9	6	22	60					
DPP447050	5.0	6	22	60					
DPP447051	5.1	6	24	60					
DPP447052	5.2	6	24	60					
DPP447053	5.3	6	24	60					
DPP447054	5.4	6	24	60					
DPP447055	5.5	6	24	60					
DPP447056	5.6	6	24	60					
DPP447057	5.7	6	26	60					

▶ Other diameters and shank types are available upon request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○			○			◎	○				

ISO	N						S							H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320			400 Rm	1050 Rm	550	630
Recommended	○	○																			

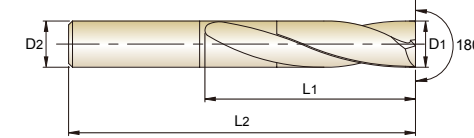
### CARBIDE, DREAM DRILLS - FLAT BOTTOM

SHORT

- VHM, DREAM DRILLS - FLACHBOHRER
- DREAM DRILLS - FOND PLAT, FORET CARBURE MONOBLOC
- PUNTE IN MD DREAM DRILLS, TESTA PIANA

- ▶ For holes on various angled surfaces.
- ▶ 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- ▶ Optimized flute shape for excellent chip evacuation.
- ▶ High strength cutting edge to improve tool life and versatility drilling.
- ▶ For through holes, minimized burrs at entrance and exit when drilling thin plate.

- ▶ Für Bohrungen auf verschiedenen abgewinkelten Flächen.
- ▶ Der 180-Grad-Spitzenwinkel ermöglicht das Bohren von flachen, geneigten und gekrümmten Oberflächen.
- ▶ Optimierte Nutenform für hervorragende Spanabfuhr.
- ▶ Hochfeste Schneide zur Verbesserung der Standzeit und Vielseitigkeit beim Bohren.
- ▶ Für Durchgangsbohrungen, minimierter Grat am Ein- und Austritt beim Bohren von dünnen Blechen.



2 x D

Recommended ToolHolder		Plain Shank	Page
○	SHRINK FIT HOLDER	D47-72	D47-72
○	HYDRAULIC CHUCK	D15-46	D15-46
○	ER COLLET CHUCK	D73-115	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	Unit : mm				
					TiAIN	D1	D2	L1	L2
DPP447084	8.4	10	38	80					
DPP447085	8.5	10	38	80					
DPP447086	8.6	10	38	80					
DPP447087	8.7	10	40	80					
DPP447088	8.8	10	40	80					
DPP447089	8.9	10	40	80					
DPP447090	9.0	10	40	80					
DPP447091	9.1	10	42	80					
DPP447092	9.2	10	42	80					
DPP447093	9.3	10	42	80					
DPP447094	9.4	10	42	80					
DPP447095	9.5	10	42	80					
DPP447096	9.6	10	42	80					
DPP447097	9.7	10	45	80					
DPP447098	9.8	10	45	80					
DPP447099	9.9	10	45	80					
DPP447100	10.0	10	45	80					
DPP447101	10.1	12	46	90					
DPP447102	10.2	12	46	90					
DPP447103	10.3	12	46	90					
DPP447104	10.4	12	48	90					
DPP447105	10.5	12	48	90					
DPP447106	10.6	12	48	90					
DPP447107	10.7	12	48	90					
DPP447108	10.8	12	48	90					
DPP447109	10.9	12	48	90					
DPP447110	11.0	12	48	90					
DPP447111	11.1	12	50	90					

▶ Other diameters and shank types are available upon request.

◎ : Excellent ○ : Good

ISO	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○			○			◎	○				

ISO	N						S							H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320			400 Rm	1050 Rm	550	630
Recommended	○	○																			



# YG DREAM DRILLS - FLAT BOTTOM

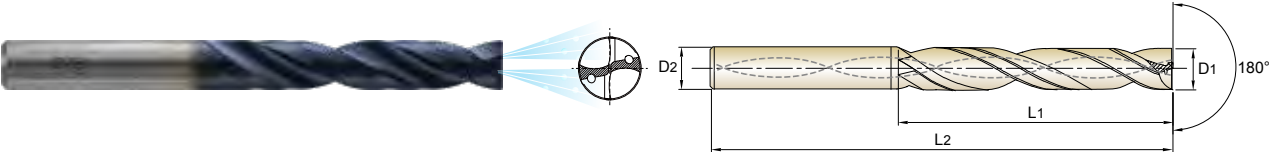
DH450 SERIES

## CARBIDE, DREAM DRILLS - FLAT BOTTOM with COOLANT HOLES LONG

- VHM, DREAM DRILLS - FLACHBOHRER
- DREAM DRILLS - FOND PLAT, FORET CARBURE MONOBLOC
- PUNTE IN MD DREAM DRILLS, TESTA PIANA

- For holes on various angled surfaces.
- 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- Optimized flute shape for excellent chip evacuation.
- High strength cutting edge to improve tool life and versatility drilling.
- For through holes, minimized burrs at entrance and exit when drilling thin plate.
- Pilot Drilling for 5XD

- Für Bohrungen auf verschiedenen abgewinkelten Flächen.
- Der 180-Grad-Spitzenwinkel ermöglicht das Bohren von flachen, geneigten und gekrümmten Oberflächen.
- Optimierte Nutenform für hervorragende Spanabfuhr.
- Hochfeste Schneide zur Verbesserung der Standzeit und Vielseitigkeit beim Bohren.
- Für Durchgangsbohrungen, minimierter Grat am Ein- und Austritt beim Bohren von dünnen Blechen.
- Pilotbohren 5XD



CARBIDE 30° h6 h7 180° 20 bar TiAIN p.A115 5 x D

Recommended ToolHolder: SHRINK FIT HOLDER (D47-72), HYDRAULIC CHUCK (D15-46), ER COLLET CHUCK (D73-115)

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
DH450030	3.0	6	28	66	DH450058	5.8	6	44	82
DH450031	3.1	6	28	66	DH450059	5.9	6	44	82
DH450032	3.2	6	28	66	DH450060	6.0	6	44	82
DH450033	3.3	6	28	66	DH450061	6.1	8	53	91
DH450034	3.4	6	28	66	DH450062	6.2	8	53	91
DH450035	3.5	6	28	66	DH450063	6.3	8	53	91
DH450036	3.6	6	28	66	DH450064	6.4	8	53	91
DH450037	3.7	6	28	66	DH450065	6.5	8	53	91
DH450038	3.8	6	36	74	DH450066	6.6	8	53	91
DH450039	3.9	6	36	74	DH450067	6.7	8	53	91
DH450040	4.0	6	36	74	DH450068	6.8	8	53	91
DH450041	4.1	6	36	74	DH450069	6.9	8	53	91
DH450042	4.2	6	36	74	DH450070	7.0	8	53	91
DH450043	4.3	6	36	74	DH450071	7.1	8	53	91
DH450044	4.4	6	36	74	DH450072	7.2	8	53	91
DH450045	4.5	6	36	74	DH450073	7.3	8	53	91
DH450046	4.6	6	36	74	DH450074	7.4	8	53	91
DH450047	4.7	6	36	74	DH450075	7.5	8	53	91
DH450048	4.8	6	44	82	DH450076	7.6	8	53	91
DH450049	4.9	6	44	82	DH450077	7.7	8	53	91
DH450050	5.0	6	44	82	DH450078	7.8	8	53	91
DH450051	5.1	6	44	82	DH450079	7.9	8	53	91
DH450052	5.2	6	44	82	DH450080	8.0	8	53	91
DH450053	5.3	6	44	82	DH450081	8.1	10	61	103
DH450054	5.4	6	44	82	DH450082	8.2	10	61	103
DH450055	5.5	6	44	82	DH450083	8.3	10	61	103
DH450056	5.6	6	44	82					
DH450057	5.7	6	44	82					

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323																						
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	☉	☉	☉	○	○	☉	○	○	○	○	○	○	○	○	○	○	○	○	○	○		

# YG DREAM DRILLS - FLAT BOTTOM

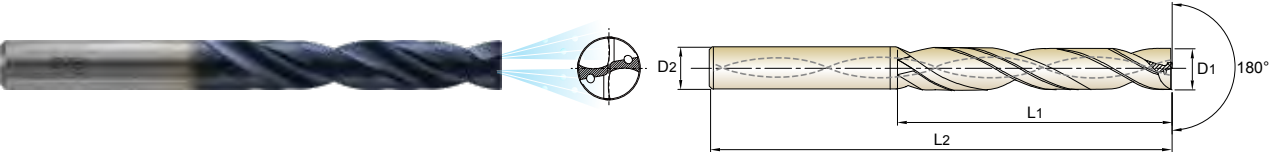
DH450 SERIES

## CARBIDE, DREAM DRILLS - FLAT BOTTOM with COOLANT HOLES LONG

- VHM, DREAM DRILLS - FLACHBOHRER
- DREAM DRILLS - FOND PLAT, FORET CARBURE MONOBLOC
- PUNTE IN MD DREAM DRILLS, TESTA PIANA

- For holes on various angled surfaces.
- 180 degree point angle enables drilling of flat, inclined and curved surfaces.
- Optimized flute shape for excellent chip evacuation.
- High strength cutting edge to improve tool life and versatility drilling.
- For through holes, minimized burrs at entrance and exit when drilling thin plate.
- Pilot Drilling for 5XD

- Für Bohrungen auf verschiedenen abgewinkelten Flächen.
- Der 180-Grad-Spitzenwinkel ermöglicht das Bohren von flachen, geneigten und gekrümmten Oberflächen.
- Optimierte Nutenform für hervorragende Spanabfuhr.
- Hochfeste Schneide zur Verbesserung der Standzeit und Vielseitigkeit beim Bohren.
- Für Durchgangsbohrungen, minimierter Grat am Ein- und Austritt beim Bohren von dünnen Blechen.
- Pilotbohren 5XD

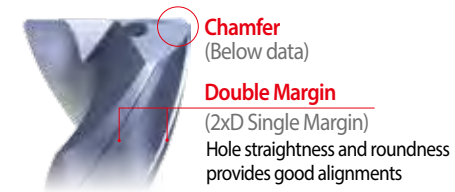


CARBIDE 30° h6 h7 180° 20 bar TiAIN p.A115 5 x D

Recommended ToolHolder: SHRINK FIT HOLDER (D47-72), HYDRAULIC CHUCK (D15-46), ER COLLET CHUCK (D73-115)

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
DH450084	8.4	10	61	103	DH450140	14.0	14	77	124
DH450085	8.5	10	61	103	DH450145	14.5	16	83	133
DH450086	8.6	10	61	103	DH450150	15.0	16	83	133
DH450087	8.7	10	61	103	DH450155	15.5	16	83	133
DH450088	8.8	10	61	103	DH450160	16.0	16	83	133
DH450089	8.9	10	61	103	DH450165	16.5	18	93	143
DH450090	9.0	10	61	103	DH450170	17.0	18	93	143
DH450091	9.1	10	61	103	DH450175	17.5	18	93	143
DH450092	9.2	10	61	103	DH450180	18.0	18	93	143
DH450093	9.3	10	61	103	DH450185	18.5	20	101	153
DH450094	9.4	10	61	103	DH450190	19.0	20	101	153
DH450095	9.5	10	61	103	DH450195	19.5	20	101	153
DH450096	9.6	10	61	103	DH450200	20.0	20	101	153
DH450097	9.7	10	61	103					
DH450098	9.8	10	61	103					
DH450099	9.9	10	61	103					
DH450100	10.0	10	61	103					
DH450102	10.2	12	71	118					
DH450105	10.5	12	71	118					
DH450108	10.8	12	71	118					
DH450110	11.0	12	71	118					
DH450115	11.5	12	71	118					
DH450118	11.8	12	71	118					
DH450119	11.9	12	71	118					
DH450120	12.0	12	71	118					
DH450125	12.5	14	77	124					
DH450130	13.0	14	77	124					
DH450135	13.5	14	77	124					

Other diameters and shank types are available upon request.



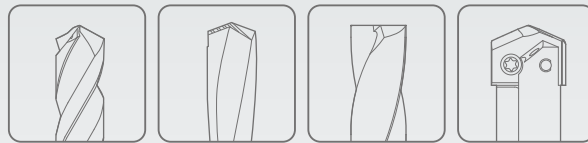
Drill Diameter (mm)	Corner Chamfer (mm)
Ø3.0 ~ Ø6.0	0.06
Ø6.1 ~ Ø10.0	0.12
Ø10.1 ~ Ø14.0	0.18
Ø14.1 ~ Ø20.0	0.26

ISO Material Description	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323																						
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21			
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	☉	☉	☉	○	○	☉	○	○	○	○	○	○	○	○	○	○	○	○	○	○		





Global Cutting Tool Leader **YG-1**



# HOLEMAKING





Leading Through Innovation



**SOLID CARBIDE**

**DREAM DRILLS  
-INOX**

**DREAM DRILLS - INOX**

- For Tough Materials like Stainless Steels
- Für schwierig zerspanbare Materialien wie Edelstahl

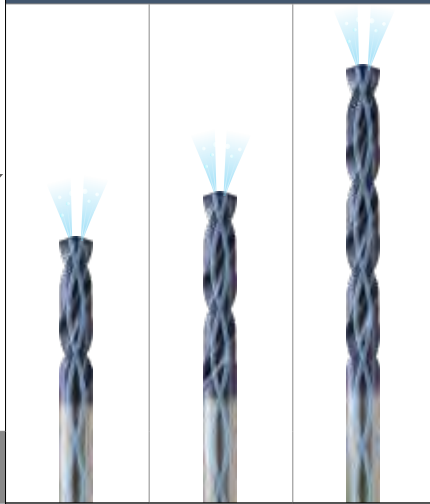
SELECTION GUIDE



SERIES	DH451	DH452	DH453
DRILLING DEPTH	3XD	5XD	8XD
LENGTH	SHORT	LONG	EXTRA LONG
SIZE MIN	D3.0	D1.0	D3.0
SIZE MAX	D20.0	D20.0	D14.0
PAGE	A119	A122	A125
SURFACE TREATMENT	TiAIN		

# SOLID CARBIDE DREAM DRILLS INOX

For Tough Materials like Stainless Steels



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A127

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC			
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	○	○	○
	4		About 0.75% C Annealed	270	28			
	5		About 0.75% C Quenched & Tempered	300	32			
	6	Low alloy steel	Annealed	180	10	◎	◎	◎
	7		Quenched & Tempered	275	29	○	○	○
	8		Quenched & Tempered	300	32			
	9		Quenched & Tempered	350	38			
	10		High alloyed steel, and tool steel	Annealed	200	15		
	11	Quenched & Tempered	325	35				
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	◎	◎
	13		Martensitic Quenched & Tempered	240	23	◎	◎	◎
	14		Austenitic	180	10	◎	◎	◎
K	15	Grey cast iron	Pearlitic / ferritic	180	10			
	16		Pearlitic (Martensitic)	260	26			
	17	Nodular cast iron	Ferritic	160	3			
	18		Pearlitic	250	25			
	19		Ferritic	130				
20	Malleable cast iron	Pearlitic	230	21				
N	21	Aluminum-wrought alloy	Not Curable	60		◎	◎	◎
	22		Curable Hardened	100		◎	◎	◎
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○	○
	24		≤ 12% Si, Curable Hardened	90		○	○	○
	25		> 12% Si, Not Curable	130		○	○	○
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110			
	27	Non Metallic Materials	CuZn, CuSnZn (Brass)	90				
	28		CuSn, lead-free copper and electrolytic copper	100				
	29		Duroplastic, Fiber Reinforced Plastic					
	30	Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15			
	32		Cured	280	30			
	33		Annealed	250	25			
	34		Cured	350	38			
	35	Cast	320	34				
	36	Titanium Alloys	Pure Titanium	400 Rm				
	37		Alpha + Beta Alloys Hardened	1050 Rm		○	○	○
H	38	Hardened steel	Hardened	550	55			
	39		Hardened	630	60			
	40		Cast	400	42			
41	Hardened Cast Iron	Hardened	550	55				



DH451 SERIES

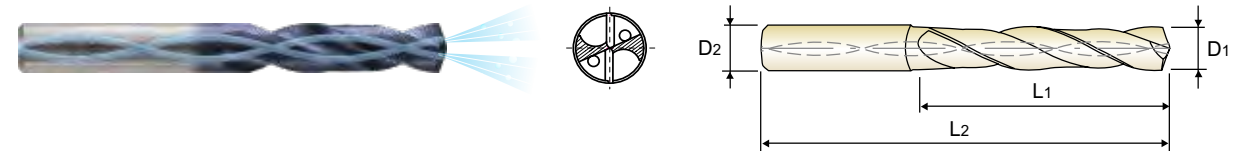
CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES

- VOLLHARTMETALL DREAM SPIRALBOHRER - INOX mit KÜHLKANAL
- Forets DREAM DRILLS carbure pour INOX, avec arrosage central, série courte
- PUNTE ELICOIDALI IN MD, DREAM DRILLS - INOX (con fori di refrigerazione)

SHORT  
KURZ  
COURTE  
CORTA

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAIN coating for better surface finishes and longer tool life

- Spezielle Nutenform und Geometrie für die Bearbeitung von rostfreiem Stahl
- Hervorragende Spanabfuhr durch bessere Oberflächenbehandlung
- Vorzügliche Zentrierung und Spanbruch durch die R-Ausspitzung
- TiAIN-Beschichtung für bessere Oberflächengüte der Bohrung und längere Standzeit



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar TiAIN p.A127 3 x D

Recommended ToolHolder: Plain Shank Page D47-72, SHRINK FIT HOLDER, HYDRAULIC CHUCK D15-46, ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAIN	D1	D2	L1	L2
DH451030	3.0	6	20	62
DH451031	3.1	6	20	62
DH451032	3.2	6	20	62
DH451033	3.3	6	20	62
DH451034	3.4	6	20	62
DH451035	3.5	6	20	62
DH451036	3.6	6	20	62
DH451037	3.7	6	20	62
DH451038	3.8	6	24	66
DH451039	3.9	6	24	66
DH451040	4.0	6	24	66
DH451041	4.1	6	24	66
DH451042	4.2	6	24	66
DH451043	4.3	6	24	66
DH451044	4.4	6	24	66
DH451045	4.5	6	24	66
DH451046	4.6	6	24	66
DH451047	4.7	6	24	66
DH451048	4.8	6	28	66
DH451049	4.9	6	28	66
DH451050	5.0	6	28	66
DH451051	5.1	6	28	66
DH451052	5.2	6	28	66
DH451053	5.3	6	28	66

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAIN	D1	D2	L1	L2
DH451054	5.4	6	28	66
DH451055	5.5	6	28	66
DH451056	5.6	6	28	66
DH451057	5.7	6	28	66
DH451058	5.8	6	28	66
DH451059	5.9	6	28	66
DH451060	6.0	6	28	66
DH451061	6.1	8	34	79
DH451062	6.2	8	34	79
DH451063	6.3	8	34	79
DH451064	6.4	8	34	79
DH451065	6.5	8	34	79
DH451066	6.6	8	34	79
DH451067	6.7	8	34	79
DH451068	6.8	8	34	79
DH451069	6.9	8	34	79
DH451070	7.0	8	34	79
DH451071	7.1	8	41	79
DH451072	7.2	8	41	79
DH451073	7.3	8	41	79
DH451074	7.4	8	41	79
DH451075	7.5	8	41	79
DH451076	7.6	8	41	79
DH451077	7.7	8	41	79

► Other shank types are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323																				
HRC																				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	◎	◎	◎	◎	◎						

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel		Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323																					
HRC																					
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○	○						◎	◎	◎	◎	◎	○	○	◎	◎	◎	◎

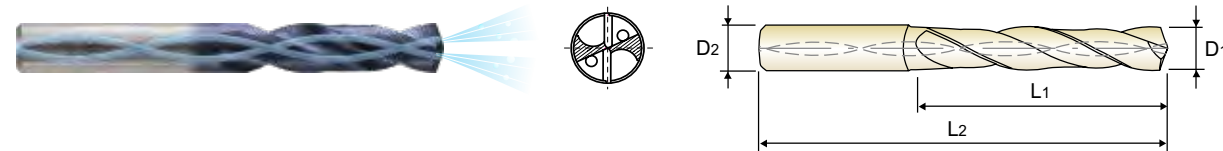
# YIG DREAM DRILLS - INOX

## DH451 SERIES

### CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES SHORT

- VOLLHARTMETALL DREAM SPIRALBOHRER - INOX mit KÜHLKANAL **KURZ**
- Forets DREAM DRILLS carbure pour INOX, avec arrosage central, série courte **COURTE**
- PUNTE ELICOIDALI IN MD, DREAM DRILLS - INOX (con fori di refrigerazione) **CORTA**

- ▶ Special flute shape and geometry suitable for machining stainless steel
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- ▶ Vorzügliche Zentrierung und Spanbruch durch die R-Ausspitzung
- ▶ TiAIN-Beschichtung für bessere Oberflächengüte der Bohrung und längere Standzeit



DIN 6537
CARBIDE
30°
h6
m7
140°
20 bar
TiAIN
p.A127
3 x D
Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

TiAIN					TiAIN				
EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2	EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2
DH451078	7.8	8	41	79	DH451102	10.2	12	55	102
DH451079	7.9	8	41	79	DH451103	10.3	12	55	102
DH451080	8.0	8	41	79	DH451104	10.4	12	55	102
DH451081	8.1	10	47	89	DH451105	10.5	12	55	102
DH451082	8.2	10	47	89	DH451106	10.6	12	55	102
DH451083	8.3	10	47	89	DH451107	10.7	12	55	102
DH451084	8.4	10	47	89	DH451108	10.8	12	55	102
DH451085	8.5	10	47	89	DH451109	10.9	12	55	102
DH451086	8.6	10	47	89	DH451110	11.0	12	55	102
DH451087	8.7	10	47	89	DH451111	11.1	12	55	102
DH451088	8.8	10	47	89	DH451112	11.2	12	55	102
DH451089	8.9	10	47	89	DH451113	11.3	12	55	102
DH451090	9.0	10	47	89	DH451114	11.4	12	55	102
DH451091	9.1	10	47	89	DH451115	11.5	12	55	102
DH451092	9.2	10	47	89	DH451116	11.6	12	55	102
DH451093	9.3	10	47	89	DH451117	11.7	12	55	102
DH451094	9.4	10	47	89	DH451118	11.8	12	55	102
DH451095	9.5	10	47	89	DH451119	11.9	12	55	102
DH451096	9.6	10	47	89	DH451120	12.0	12	55	102
DH451097	9.7	10	47	89	DH451125	12.5	14	60	107
DH451098	9.8	10	47	89	DH451130	13.0	14	60	107
DH451099	9.9	10	47	89	DH451135	13.5	14	60	107
DH451100	10.0	10	47	89	DH451140	14.0	14	60	107
DH451101	10.1	12	55	102	DH451145	14.5	16	65	115

▶ Other shank types are available on your request. ▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S							H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320			400Rm	1050Rm	400	550
Recommended	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

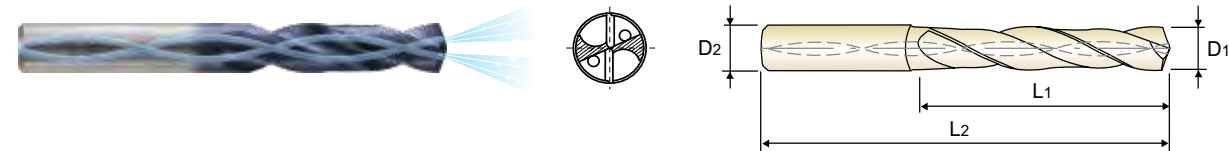
# YIG DREAM DRILLS - INOX

## DH451 SERIES

### CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES SHORT

- VOLLHARTMETALL DREAM SPIRALBOHRER - INOX mit KÜHLKANAL **KURZ**
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DIN 6537
CARBIDE
30°
h6
m7
140°
20 bar
TiAIN
p.A127
3 x D
Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

TiAIN					TiAIN				
EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2	EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2
DH451150	15.0	16	65	115	DH451180	18.0	18	73	123
DH451155	15.5	16	65	115	DH451185	18.5	20	79	131
DH451160	16.0	16	65	115	DH451190	19.0	20	79	131
DH451165	16.5	18	73	123	DH451195	19.5	20	79	131
DH451170	17.0	18	73	123	DH451200	20.0	20	79	131
DH451175	17.5	18	73	123					

▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

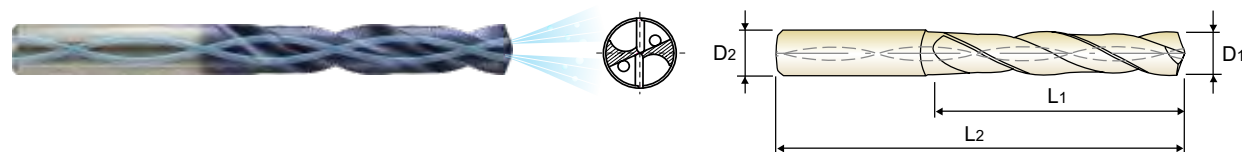
ISO Material Description	N										S							H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320			400Rm	1050Rm	400	550
Recommended	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



**CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES** LONG

- VOLLHARTMETALL DREAM SPIRALBOHRER - INOX mit KÜHLKANAL LANG
- Forets DREAM DRILLS carbure pour INOX, avec arrosage central, série longue LONGUE
- PUNTE ELICOIDALI IN MD, DREAM DRILLS - INOX (con fori di refrigerazione) LUNGA

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAlN coating for better surface finishes and longer tool life
- Spezielle Nutenform und Geometrie für die Bearbeitung von rostfreiem Stahl
- Hervorragende Spanabfuhr durch bessere Oberflächenbehandlung
- Vorzügliche Zentrierung und Spanbruch durch die R-Ausspitzung
- TiAlN-Beschichtung für bessere Oberflächengüte der Bohrung und längere Standzeit



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar TiAlN p.A127 5 x D

Plain Shank Page  
 ◎ SHRINK FIT HOLDER D47-72  
 ◎ HYDRAULIC CHUCK D15-46  
 ○ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2	TiAlN	D1	D2	L1	L2
DH452010	1.0	3	8	55	DH452034	3.4	6	28	66
DH452011	1.1	3	12	55	DH452035	3.5	6	28	66
DH452012	1.2	3	12	55	DH452036	3.6	6	28	66
DH452013	1.3	3	12	55	DH452037	3.7	6	28	66
DH452014	1.4	3	12	55	DH452038	3.8	6	36	74
DH452015	1.5	3	16	55	DH452039	3.9	6	36	74
DH452016	1.6	3	16	55	DH452040	4.0	6	36	74
DH452017	1.7	3	16	55	DH452041	4.1	6	36	74
DH452018	1.8	3	16	55	DH452042	4.2	6	36	74
DH452019	1.9	3	16	55	DH452043	4.3	6	36	74
DH452020	2.0	4	21	57	DH452044	4.4	6	36	74
DH452021	2.1	4	21	57	DH452045	4.5	6	36	74
DH452022	2.2	4	21	57	DH452046	4.6	6	36	74
DH452023	2.3	4	21	57	DH452047	4.7	6	36	74
DH452024	2.4	4	21	57	DH452048	4.8	6	44	82
DH452025	2.5	4	21	57	DH452049	4.9	6	44	82
DH452026	2.6	4	21	57	DH452050	5.0	6	44	82
DH452027	2.7	4	21	57	DH452051	5.1	6	44	82
DH452028	2.8	4	21	57	DH452052	5.2	6	44	82
DH452029	2.9	4	21	57	DH452053	5.3	6	44	82
DH452030	3.0	6	28	66	DH452054	5.4	6	44	82
DH452031	3.1	6	28	66	DH452055	5.5	6	44	82
DH452032	3.2	6	28	66	DH452056	5.6	6	44	82
DH452033	3.3	6	28	66	DH452057	5.7	6	44	82

► Other shank types are available on your request. ► NEXT PAGE

◎ : Excellent ○ : Good

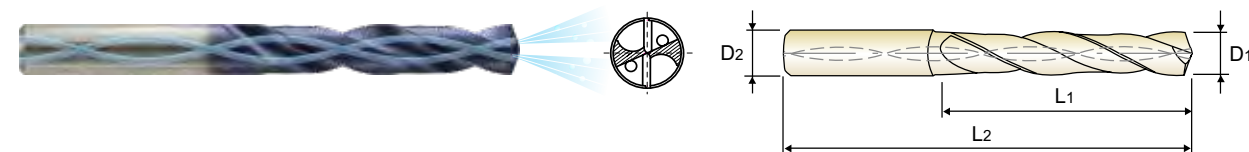
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	◎	○	○	◎	◎	◎	◎	◎	○	○	○	○	○	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

**CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES** LONG

- VOLLHARTMETALL DREAM SPIRALBOHRER - INOX mit KÜHLKANAL LANG
- Forets DREAM DRILLS carbure pour INOX, avec arrosage central, série longue LONGUE
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DIN 6537 CARBIDE 30° h6 m7 140° 20 bar TiAlN p.A127 5 x D

Plain Shank Page  
 ◎ SHRINK FIT HOLDER D47-72  
 ◎ HYDRAULIC CHUCK D15-46  
 ○ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2	TiAlN	D1	D2	L1	L2
DH452058	5.8	6	44	82	DH452082	8.2	10	61	103
DH452059	5.9	6	44	82	DH452083	8.3	10	61	103
DH452060	6.0	6	44	82	DH452084	8.4	10	61	103
DH452061	6.1	8	53	91	DH452085	8.5	10	61	103
DH452062	6.2	8	53	91	DH452086	8.6	10	61	103
DH452063	6.3	8	53	91	DH452087	8.7	10	61	103
DH452064	6.4	8	53	91	DH452088	8.8	10	61	103
DH452065	6.5	8	53	91	DH452089	8.9	10	61	103
DH452066	6.6	8	53	91	DH452090	9.0	10	61	103
DH452067	6.7	8	53	91	DH452091	9.1	10	61	103
DH452068	6.8	8	53	91	DH452092	9.2	10	61	103
DH452069	6.9	8	53	91	DH452093	9.3	10	61	103
DH452070	7.0	8	53	91	DH452094	9.4	10	61	103
DH452071	7.1	8	53	91	DH452095	9.5	10	61	103
DH452072	7.2	8	53	91	DH452096	9.6	10	61	103
DH452073	7.3	8	53	91	DH452097	9.7	10	61	103
DH452074	7.4	8	53	91	DH452098	9.8	10	61	103
DH452075	7.5	8	53	91	DH452099	9.9	10	61	103
DH452076	7.6	8	53	91	DH452100	10.0	10	61	103
DH452077	7.7	8	53	91	DH452101	10.1	12	71	118
DH452078	7.8	8	53	91	DH452102	10.2	12	71	118
DH452079	7.9	8	53	91	DH452103	10.3	12	71	118
DH452080	8.0	8	53	91	DH452104	10.4	12	71	118
DH452081	8.1	10	61	103	DH452105	10.5	12	71	118

► Other shank types are available on your request. ► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	◎	○	○	◎	◎	◎	◎	◎	○	○	○	○	○	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

HSS

HSS

# YG DREAM DRILLS - INOX

DH452 SERIES

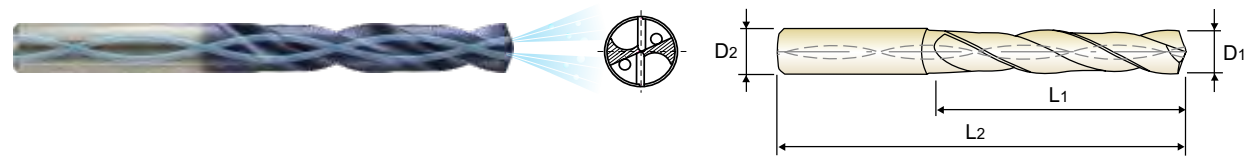
# YG DREAM DRILLS - INOX

DH453 SERIES

## CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES LONG

- VOLLHARTMETALL DREAM SPIRALBOHRER - INOX mit KÜHLKANAL
- Forets DREAM DRILLS carbure pour INOX, avec arrosage central, série longue
- PUNTE ELICOIDALI IN MD, DREAM DRILLS - INOX (con fori di refrigerazione)

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAIN coating for better surface finishes and longer tool life
- Spezielle Nutenform und Geometrie für die Bearbeitung von rostfreiem Stahl
- Hervorragende Spanabfuhr durch bessere Oberflächenbehandlung
- Vorzügliche Zentrierung und Spanbruch durch die R-Ausspitzung
- TiAIN-Beschichtung für bessere Oberflächengüte der Bohrung und längere Standzeit



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar TiAIN p.A127 5 x D

Plain Shank Page  
 ◎ SHRINK FIT HOLDER D47-72  
 ○ HYDRAULIC CHUCK D15-46  
 ○ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2
TiAIN				
DH452106	10.6	12	71	118
DH452107	10.7	12	71	118
DH452108	10.8	12	71	118
DH452109	10.9	12	71	118
DH452110	11.0	12	71	118
DH452111	11.1	12	71	118
DH452112	11.2	12	71	118
DH452113	11.3	12	71	118
DH452114	11.4	12	71	118
DH452115	11.5	12	71	118
DH452116	11.6	12	71	118
DH452117	11.7	12	71	118
DH452118	11.8	12	71	118
DH452119	11.9	12	71	118
DH452120	12.0	12	71	118
DH452125	12.5	14	77	124
DH452130	13.0	14	77	124
DH452135	13.5	14	77	124
DH452140	14.0	14	77	124
DH452145	14.5	16	83	133
DH452150	15.0	16	83	133
DH452155	15.5	16	83	133
DH452160	16.0	16	83	133
DH452165	16.5	18	93	143

EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2
TiAIN				
DH452170	17.0	18	93	143
DH452175	17.5	18	93	143
DH452180	18.0	18	93	143
DH452185	18.5	20	101	153
DH452190	19.0	20	101	153
DH452195	19.5	20	101	153
DH452200	20.0	20	101	153

► Other shank types are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

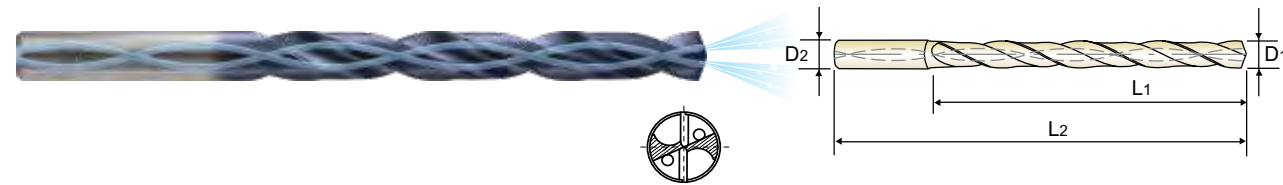
  

ISO Material Description	N										S							H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

## CARBIDE, DREAM DRILLS - INOX with COOLANT HOLES EXTRA LONG

- VOLLHARTMETALL DREAM SPIRALBOHRER - INOX mit KÜHLKANAL
- Forets DREAM DRILLS carbure pour INOX, avec arrosage central, série extra-longue
- PUNTE ELICOIDALI IN MD, DREAM DRILLS - INOX (con fori di refrigerazione)

- Special flute shape and geometry suitable for machining stainless steel
- Excellent chip evacuation from better surface treatment
- Point R-thinning achieves superior centering and chip curling
- TiAIN coating for better surface finishes and longer tool life
- Spezielle Nutenform und Geometrie für die Bearbeitung von rostfreiem Stahl
- Hervorragende Spanabfuhr durch bessere Oberflächenbehandlung
- Vorzügliche Zentrierung und Spanbruch durch die R-Ausspitzung
- TiAIN-Beschichtung für bessere Oberflächengüte der Bohrung und längere Standzeit



DIN 6537 CARBIDE 30° h6 m7 140° 20 bar TiAIN p.A127 8 x D

Plain Shank Page  
 ◎ SHRINK FIT HOLDER D47-72  
 ○ HYDRAULIC CHUCK D15-46  
 ○ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2
TiAIN				
DH453030	3.0	6	34	72
DH453031	3.1	6	34	72
DH453032	3.2	6	34	72
DH453033	3.3	6	34	72
DH453034	3.4	6	34	72
DH453035	3.5	6	34	72
DH453036	3.6	6	34	72
DH453037	3.7	6	34	72
DH453038	3.8	6	43	81
DH453039	3.9	6	43	81
DH453040	4.0	6	43	81
DH453041	4.1	6	43	81
DH453042	4.2	6	43	81
DH453043	4.3	6	43	81
DH453044	4.4	6	43	81
DH453045	4.5	6	43	81
DH453046	4.6	6	43	81
DH453047	4.7	6	43	81
DH453048	4.8	6	57	95
DH453049	4.9	6	57	95
DH453050	5.0	6	57	95
DH453051	5.1	6	57	95
DH453052	5.2	6	57	95
DH453053	5.3	6	57	95

EDP No.	Drill Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2
TiAIN				
DH453054	5.4	6	57	95
DH453055	5.5	6	57	95
DH453056	5.6	6	57	95
DH453057	5.7	6	57	95
DH453058	5.8	6	57	95
DH453059	5.9	6	57	95
DH453060	6.0	6	57	95
DH453061	6.1	8	76	114
DH453062	6.2	8	76	114
DH453063	6.3	8	76	114
DH453064	6.4	8	76	114
DH453065	6.5	8	76	114
DH453066	6.6	8	76	114
DH453067	6.7	8	76	114
DH453068	6.8	8	76	114
DH453069	6.9	8	76	114
DH453070	7.0	8	76	114
DH453071	7.1	8	76	114
DH453072	7.2	8	76	114
DH453073	7.3	8	76	114
DH453074	7.4	8	76	114
DH453075	7.5	8	76	114
DH453076	7.6	8	76	114
DH453077	7.7	8	76	114

► Other shank types are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S							H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



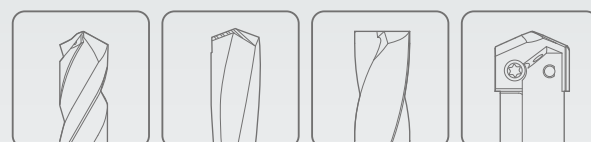




Leading Through Innovation



Global Cutting Tool Leader **YG-1**



# HOLEMAKING



## SOLID CARBIDE

# DREAM DRILLS -ALU

## DREAM DRILLS - ALU

- For Aluminum and Aluminum Alloys

- Für Aluminium und Aluminiumlegierungen

SELECTION GUIDE



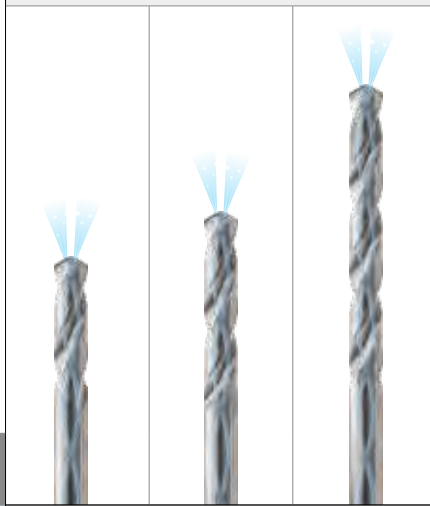
SERIES	D5432	D5433	D5434
DRILLING DEPTH	3XD	5XD	8XD
LENGTH	SHORT	LONG	EXTRA LONG
SIZE MIN	D3.0	D3.0	D3.0
SIZE MAX	D20.0	D20.0	D14.0
PAGE	A131	A134	A137

SURFACE TREATMENT

Bright

# SOLID CARBIDE DREAM DRILLS ALU

For Aluminum and Aluminum Alloys



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A139

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc				
P	1	Non-alloy steel	About 0.15% C	Annealed	125				
	2		About 0.45% C	Annealed	190				
	3		About 0.45% C	Quenched & Tempered	250	25			
	4		About 0.75% C	Annealed	270	28			
	5		About 0.75% C	Quenched & Tempered	300	32			
	6	Low alloy steel		Annealed	180	10			
	7		Quenched & Tempered	275	29				
	8		Quenched & Tempered	300	32				
	9		Quenched & Tempered	350	38				
	10		High alloyed steel, and tool steel	Annealed	200	15			
	11		Quenched & Tempered	325	35				
M	12	Stainless steel	Ferritic / Martensitic	Annealed	200	15			
	13		Martensitic	Quenched & Tempered	240	23			
	14		Austenitic		180	10			
K	15	Grey cast iron	Pearlitic / ferritic		180	10			
	16		Pearlitic (Martensitic)		260	26			
	17	Nodular cast iron	Ferritic		160	3			
	18		Pearlitic		250	25			
	19		Ferritic		130				
20	Malleable cast iron	Pearlitic		230	21				
N	21	Aluminum-wrought alloy	Not Curable		60		◎	◎	
	22		Curable	Hardened	100		◎	◎	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		◎	◎	
	24		≤ 12% Si, Curable	Hardened	90		◎	◎	
	25		> 12% Si, Not Curable		130				
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%		110			
	27	Non Metallic Materials	CuZn, CuSnZn (Brass)		90				
	28		CuSn, lead-free copper and electrolytic copper		100				
	29		Duroplastic, Fiber Reinforced Plastic						
	30	Rubber, Wood, etc.							
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33			Annealed	250	25			
	34		Ni or Co Based	Cured	350	38			
	35			Cast	320	34			
	36			Pure Titanium	400 Rm				
37	Alpha + Beta Alloys	Hardened	1050 Rm						
H	38	Hardened Cast Iron	Hardened		550	55			
	39				630	60			
	40		Cast	400	42				
	41		Hardened	550	55				

## YG DREAM DRILLS - ALU

D5432 SERIES

### CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES

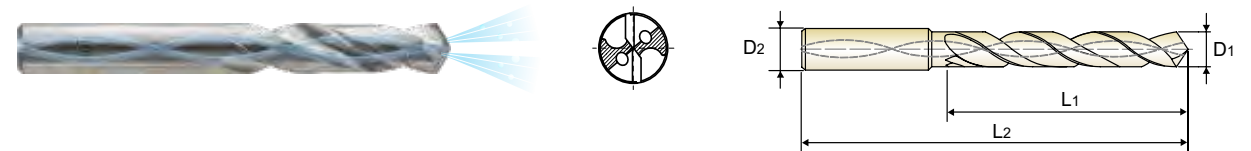
SHORT

- VOLLHARTMETALL DREAM SPIRALBOHRER - ALU mit KÜHLKANAL
- Forets DREAM DRILLS carbure pour ALU, avec arrosage central, série courte
- PUNTE ELICOIDALI IN MD, DREAM DRILLS - ALU (con fori di refrigerazione)

KURZ  
COURTE  
CORTA

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes

- ▶ Optimierte Ausspitzung für Aluminum & Aluminiumlegierungen zur Vermeidung von Verstopfungen durch das Aufschweißen der Späne
- ▶ Breitere und tiefere Spannuten für maximale Spanabfuhr
- ▶ Spezielle Geometrie und glatte Beschichtung reduzieren Aufbauschnittenbildung und verbessern die Oberflächen



DIN 6537
CARBIDE
30°
h6
m7
118°
20 bar
Bright
p.A139
3 x D
Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter		Flute Length	Overall Length	EDP No.	Drill Diameter		Flute Length	Overall Length
	D1	D2				D1	D2		
D5432030	3.0	6	20	62	D5432054	5.4	6	28	66
D5432031	3.1	6	20	62	D5432055	5.5	6	28	66
D5432032	3.2	6	20	62	D5432056	5.6	6	28	66
D5432033	3.3	6	20	62	D5432057	5.7	6	28	66
D5432034	3.4	6	20	62	D5432058	5.8	6	28	66
D5432035	3.5	6	20	62	D5432059	5.9	6	28	66
D5432036	3.6	6	20	62	D5432060	6.0	6	28	66
D5432037	3.7	6	20	62	D5432061	6.1	8	34	79
D5432038	3.8	6	24	66	D5432062	6.2	8	34	79
D5432039	3.9	6	24	66	D5432063	6.3	8	34	79
D5432040	4.0	6	24	66	D5432064	6.4	8	34	79
D5432041	4.1	6	24	66	D5432065	6.5	8	34	79
D5432042	4.2	6	24	66	D5432066	6.6	8	34	79
D5432043	4.3	6	24	66	D5432067	6.7	8	34	79
D5432044	4.4	6	24	66	D5432068	6.8	8	34	79
D5432045	4.5	6	24	66	D5432069	6.9	8	34	79
D5432046	4.6	6	24	66	D5432070	7.0	8	34	79
D5432047	4.7	6	24	66	D5432071	7.1	8	41	79
D5432048	4.8	6	28	66	D5432072	7.2	8	41	79
D5432049	4.9	6	28	66	D5432073	7.3	8	41	79
D5432050	5.0	6	28	66	D5432074	7.4	8	41	79
D5432051	5.1	6	28	66	D5432075	7.5	8	41	79
D5432052	5.2	6	28	66	D5432076	7.6	8	41	79
D5432053	5.3	6	28	66	D5432077	7.7	8	41	79

- ▶ DLC coating is available on your request.
- ▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320						
Recommended	◎	◎	◎	◎																	



D5432 SERIES

**CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES**

SHORT

- VOLLHARTMETALL DREAM SPIRALBOHRER - ALU mit KÜHLKANAL
- Forets DREAM DRILLS carbure pour ALU, avec arrosage central, série courte
- PUNTE ELICOIDALI IN MD, DREAM DRILLS - ALU (con fori di refrigerazione)

KURZ  
COURTE  
CORTA

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DIN 6537 CARBIDE 30° h6 m7 118° 20 bar Bright p.A139 3 x D Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter		Flute Length L1	Overall Length L2	EDP No.	Drill Diameter		Flute Length L1	Overall Length L2
	D1	D2				D1	D2		
D5432078	7.8	8	41	79	D5432102	10.2	12	55	102
D5432079	7.9	8	41	79	D5432103	10.3	12	55	102
D5432080	8.0	8	41	79	D5432104	10.4	12	55	102
D5432081	8.1	10	47	89	D5432105	10.5	12	55	102
D5432082	8.2	10	47	89	D5432106	10.6	12	55	102
D5432083	8.3	10	47	89	D5432107	10.7	12	55	102
D5432084	8.4	10	47	89	D5432108	10.8	12	55	102
D5432085	8.5	10	47	89	D5432109	10.9	12	55	102
D5432086	8.6	10	47	89	D5432110	11.0	12	55	102
D5432087	8.7	10	47	89	D5432111	11.1	12	55	102
D5432088	8.8	10	47	89	D5432112	11.2	12	55	102
D5432089	8.9	10	47	89	D5432113	11.3	12	55	102
D5432090	9.0	10	47	89	D5432114	11.4	12	55	102
D5432091	9.1	10	47	89	D5432115	11.5	12	55	102
D5432092	9.2	10	47	89	D5432116	11.6	12	55	102
D5432093	9.3	10	47	89	D5432117	11.7	12	55	102
D5432094	9.4	10	47	89	D5432118	11.8	12	55	102
D5432095	9.5	10	47	89	D5432119	11.9	12	55	102
D5432096	9.6	10	47	89	D5432120	12.0	12	55	102
D5432097	9.7	10	47	89	D5432125	12.5	14	60	107
D5432098	9.8	10	47	89	D5432130	13.0	14	60	107
D5432099	9.9	10	47	89	D5432135	13.5	14	60	107
D5432100	10.0	10	47	89	D5432140	14.0	14	60	107
D5432101	10.1	12	55	102	D5432145	14.5	16	65	115

▶ DLC coating is available on your request. ▶ NEXT PAGE  
▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



D5432 SERIES

**CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES**

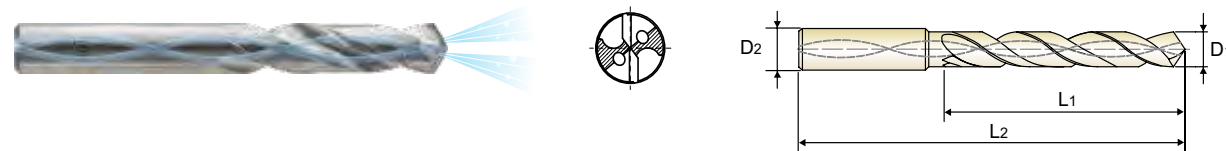
SHORT

- VOLLHARTMETALL DREAM SPIRALBOHRER - ALU mit KÜHLKANAL
- Forets DREAM DRILLS carbure pour ALU, avec arrosage central, série courte
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KURZ  
COURTE  
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- ▶ Spezielle Geometrie und glatte Beschichtung reduzieren Aufbauschneidenbildung und verbessern die Oberflächen



DIN 6537 CARBIDE 30° h6 m7 118° 20 bar Bright p.A139 3 x D Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter		Flute Length L1	Overall Length L2	EDP No.	Drill Diameter		Flute Length L1	Overall Length L2
	D1	D2				D1	D2		
D5432150	15.0	16	65	115	D5432190	19.0	20	79	131
D5432155	15.5	16	65	115	D5432195	19.5	20	79	131
D5432160	16.0	16	65	115	D5432200	20.0	20	79	131
D5432165	16.5	18	73	123					
D5432170	17.0	18	73	123					
D5432175	17.5	18	73	123					
D5432180	18.0	18	73	123					
D5432185	18.5	20	79	131					

▶ DLC coating is available on your request.  
▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



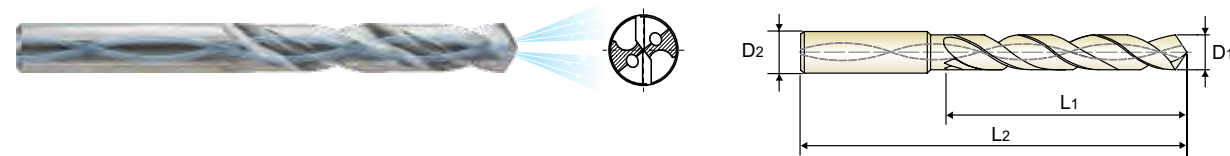
# YG DREAM DRILLS - ALU

## D5433 SERIES

### CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES LONG

- VOLLHARTMETALL DREAM SPIRALBOHRER - ALU mit KÜHLKANAL LANG
- Forets DREAM DRILLS carbure pour ALU, avec arrosage central, série longue LONGUE
- PUNTE ELICOIDALI IN MD, DREAM DRILLS - ALU (CON FORI DI REFRIGERAZIONE) LUNGA

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
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- ▶ Spezielle Geometrie und glatte Beschichtung reduzieren Aufbauabschneidenbildung und verbessern die Oberflächen



**DIN 6537** CARBIDE 30° h6 m7 118° 20 bar Bright p.A139 5 x D

Plain Shank Page  
 ◎ SHRINK FIT HOLDER D47-72  
 ◎ HYDRAULIC CHUCK D15-46  
 ◎ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter		Flute Length L1	Overall Length L2	EDP No.	Drill Diameter		Flute Length L1	Overall Length L2
	D1	D2				D1	D2		
D5433030	3.0	6	28	66	D5433054	5.4	6	44	82
D5433031	3.1	6	28	66	D5433055	5.5	6	44	82
D5433032	3.2	6	28	66	D5433056	5.6	6	44	82
D5433033	3.3	6	28	66	D5433057	5.7	6	44	82
D5433034	3.4	6	28	66	D5433058	5.8	6	44	82
D5433035	3.5	6	28	66	D5433059	5.9	6	44	82
D5433036	3.6	6	28	66	D5433060	6.0	6	44	82
D5433037	3.7	6	28	66	D5433061	6.1	8	53	91
D5433038	3.8	6	36	74	D5433062	6.2	8	53	91
D5433039	3.9	6	36	74	D5433063	6.3	8	53	91
D5433040	4.0	6	36	74	D5433064	6.4	8	53	91
D5433041	4.1	6	36	74	D5433065	6.5	8	53	91
D5433042	4.2	6	36	74	D5433066	6.6	8	53	91
D5433043	4.3	6	36	74	D5433067	6.7	8	53	91
D5433044	4.4	6	36	74	D5433068	6.8	8	53	91
D5433045	4.5	6	36	74	D5433069	6.9	8	53	91
D5433046	4.6	6	36	74	D5433070	7.0	8	53	91
D5433047	4.7	6	36	74	D5433071	7.1	8	53	91
D5433048	4.8	6	44	82	D5433072	7.2	8	53	91
D5433049	4.9	6	44	82	D5433073	7.3	8	53	91
D5433050	5.0	6	44	82	D5433074	7.4	8	53	91
D5433051	5.1	6	44	82	D5433075	7.5	8	53	91
D5433052	5.2	6	44	82	D5433076	7.6	8	53	91
D5433053	5.3	6	44	82	D5433077	7.7	8	53	91

▶ DLC coating is available on your request. ▶ NEXT PAGE  
 ▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

ISO Material Description	N						S						H								
	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys	Harden steel	Chilled Cast Iron	Harden Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	

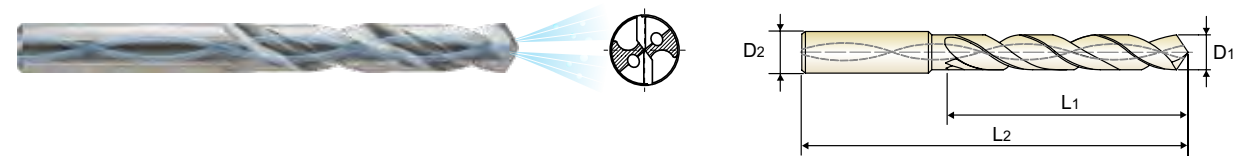
# YG DREAM DRILLS - ALU

## D5433 SERIES

### CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES LONG

- VOLLHARTMETALL DREAM SPIRALBOHRER - ALU mit KÜHLKANAL LANG
- Forets DREAM DRILLS carbure pour ALU, avec arrosage central, série longue LONGUE
- PUNTE ELICOIDALI IN MD, DREAM DRILLS - ALU (CON FORI DI REFRIGERAZIONE) LUNGA

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**DIN 6537** CARBIDE 30° h6 m7 118° 20 bar Bright p.A139 5 x D

Plain Shank Page  
 ◎ SHRINK FIT HOLDER D47-72  
 ◎ HYDRAULIC CHUCK D15-46  
 ◎ ER COLLET CHUCK D73-115

EDP No.	Drill Diameter		Flute Length L1	Overall Length L2	EDP No.	Drill Diameter		Flute Length L1	Overall Length L2
	D1	D2				D1	D2		
D5433078	7.8	8	53	91	D5433102	10.2	12	71	118
D5433079	7.9	8	53	91	D5433103	10.3	12	71	118
D5433080	8.0	8	53	91	D5433104	10.4	12	71	118
D5433081	8.1	10	61	103	D5433105	10.5	12	71	118
D5433082	8.2	10	61	103	D5433106	10.6	12	71	118
D5433083	8.3	10	61	103	D5433107	10.7	12	71	118
D5433084	8.4	10	61	103	D5433108	10.8	12	71	118
D5433085	8.5	10	61	103	D5433109	10.9	12	71	118
D5433086	8.6	10	61	103	D5433110	11.0	12	71	118
D5433087	8.7	10	61	103	D5433111	11.1	12	71	118
D5433088	8.8	10	61	103	D5433112	11.2	12	71	118
D5433089	8.9	10	61	103	D5433113	11.3	12	71	118
D5433090	9.0	10	61	103	D5433114	11.4	12	71	118
D5433091	9.1	10	61	103	D5433115	11.5	12	71	118
D5433092	9.2	10	61	103	D5433116	11.6	12	71	118
D5433093	9.3	10	61	103	D5433117	11.7	12	71	118
D5433094	9.4	10	61	103	D5433118	11.8	12	71	118
D5433095	9.5	10	61	103	D5433119	11.9	12	71	118
D5433096	9.6	10	61	103	D5433120	12.0	12	71	118
D5433097	9.7	10	61	103	D5433125	12.5	14	77	124
D5433098	9.8	10	61	103	D5433130	13.0	14	77	124
D5433099	9.9	10	61	103	D5433135	13.5	14	77	124
D5433100	10.0	10	61	103	D5433140	14.0	14	77	124
D5433101	10.1	12	71	118	D5433145	14.5	16	83	133

▶ DLC coating is available on your request. ▶ NEXT PAGE  
 ▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

ISO Material Description	N						S						H								
	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys	Harden steel	Chilled Cast Iron	Harden Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	

# YG DREAM DRILLS - ALU

## D5433 SERIES

### CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES LONG

- VOLLHARTMETALL DREAM SPIRALBOHRER - ALU mit KÜHLKANAL LANG
- Forets DREAM DRILLS carbure pour ALU, avec arrosage central, série longue LONGUE
- PUNTE ELICOIDALI IN MD, DREAM DRILLS - ALU (CON FORI DI REFRIGERAZIONE) LUNGA

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes
- ▶ Optimierte Ausspitzung für Aluminum & Aluminiumlegierungen zur Vermeidung von Verstopfungen durch das Aufschweißen der Späne
- ▶ Breitere und tiefere Spannuten für maximale Spanabfuhr
- ▶ Spezielle Geometrie und glatte Beschichtung reduzieren Aufbauschneidenbildung und verbessern die Oberflächen



DIN 6537
CARBIDE
30°
h6
m7
118°
20 bar
Bright
p.A139
5 × D
Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

EDP No.	Drill Diameter		Flute Length L1	Overall Length L2
	D1	D2		
D5433150	15.0	16	83	133
D5433155	15.5	16	83	133
D5433160	16.0	16	83	133
D5433165	16.5	18	93	143
D5433170	17.0	18	93	143
D5433175	17.5	18	93	143
D5433180	18.0	18	93	143
D5433185	18.5	20	101	153

EDP No.	Drill Diameter		Flute Length L1	Overall Length L2
	D1	D2		
D5433190	19.0	20	101	153
D5433195	19.5	20	101	153
D5433200	20.0	20	101	153

- ▶ DLC coating is available on your request.
- ▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	30	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

ISO	N					S							H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	

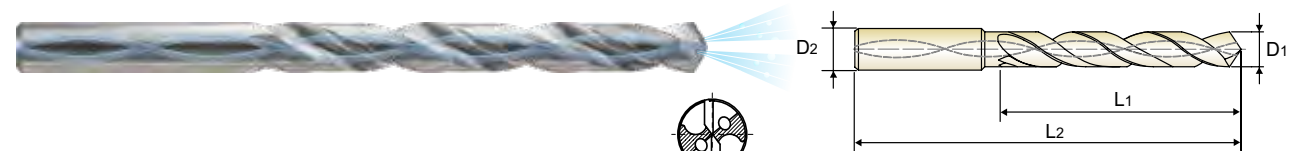
# YG DREAM DRILLS - ALU

## D5434 SERIES

### CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES EXTRA LONG

- VOLLHARTMETALL DREAM SPIRALBOHRER - ALU mit KÜHLKANAL ÜBERLANG
- Forets DREAM DRILLS carbure pour ALU, avec arrosage central, série extra-longue EXTRA-LONGUE
- PUNTE ELICOIDALI IN MD, DREAM DRILLS - ALU (con fori di refrigerazione) EXTRA LUNGA

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes
- ▶ Optimierte Ausspitzung für Aluminum & Aluminiumlegierungen zur Vermeidung von Verstopfungen durch das Aufschweißen der Späne
- ▶ Breitere und tiefere Spannuten für maximale Spanabfuhr
- ▶ Spezielle Geometrie und glatte Beschichtung reduzieren Aufbauschneidenbildung und verbessern die Oberflächen



DIN 6537
CARBIDE
30°
h6
m7
118°
20 bar
Bright
p.A139
8 × D
Recommended ToolHolder

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

EDP No.	Drill Diameter		Flute Length L1	Overall Length L2
	D1	D2		
D5434030	3.0	6	34	72
D5434031	3.1	6	34	72
D5434032	3.2	6	34	72
D5434033	3.3	6	34	72
D5434034	3.4	6	34	72
D5434035	3.5	6	34	72
D5434036	3.6	6	34	72
D5434037	3.7	6	34	72
D5434038	3.8	6	43	81
D5434039	3.9	6	43	81
D5434040	4.0	6	43	81
D5434041	4.1	6	43	81
D5434042	4.2	6	43	81
D5434043	4.3	6	43	81
D5434044	4.4	6	43	81
D5434045	4.5	6	43	81
D5434046	4.6	6	43	81
D5434047	4.7	6	43	81
D5434048	4.8	6	57	95
D5434049	4.9	6	57	95
D5434050	5.0	6	57	95
D5434051	5.1	6	57	95
D5434052	5.2	6	57	95
D5434053	5.3	6	57	95
D5434054	5.4	6	57	95

EDP No.	Drill Diameter		Flute Length L1	Overall Length L2
	D1	D2		
D5434055	5.5	6	57	95
D5434056	5.6	6	57	95
D5434057	5.7	6	57	95
D5434058	5.8	6	57	95
D5434059	5.9	6	57	95
D5434060	6.0	6	57	95
D5434061	6.1	8	76	114
D5434062	6.2	8	76	114
D5434063	6.3	8	76	114
D5434064	6.4	8	76	114
D5434065	6.5	8	76	114
D5434066	6.6	8	76	114
D5434067	6.7	8	76	114
D5434068	6.8	8	76	114
D5434069	6.9	8	76	114
D5434070	7.0	8	76	114
D5434071	7.1	8	76	114
D5434072	7.2	8	76	114
D5434073	7.3	8	76	114
D5434074	7.4	8	76	114
D5434075	7.5	8	76	114
D5434076	7.6	8	76	114
D5434077	7.7	8	76	114
D5434078	7.8	8	76	114
D5434079	7.9	8	76	114

- ▶ DLC coating is available on your request.
- ▶ Other shank types are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	30	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

ISO	N					S							H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎																	



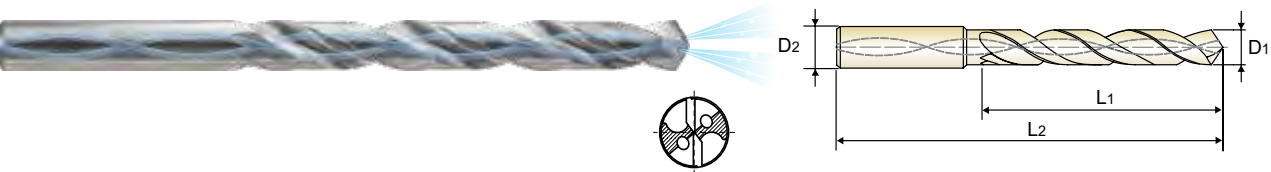
D5434 SERIES

**CARBIDE, DREAM DRILLS - ALU with COOLANT HOLES** *EXTRA LONG*

● **VOLLHARTMETALL DREAM SPIRALBOHRER - ALU mit KÜHLKANAL** *ÜBERLANG*  
● **Forets DREAM DRILLS carbure pour ALU, avec arrosage central, série extra-longue** *EXTRA-LONGUE*  
● **PUNTE ELICOIDALI IN MD, DREAM DRILLS - ALU (con fori di refrigerazione)** *EXTRA LUNGA*

- ▶ Optimized thinning for Aluminum & Aluminum Alloys to prevent any clogging from chip welding
- ▶ Wider and deeper flute gullets for maximum chip removal
- ▶ Special geometry and smooth coating reduces built up edge and improves finishes

- ▶ Optimierte Ausspitzung für Aluminum & Aluminiumlegierungen zur Vermeidung von Verstopfungen durch das Aufschweißen der Späne
- ▶ Breitere und tiefere Spannuten für maximale Spanabfuhr
- ▶ Spezielle Geometrie und glatte Beschichtung reduzieren Aufbauschneidenbildung und verbessern die Oberflächen



DIN 6537 CARBIDE 30° h6 m7 118° 20 bar Bright p.A139 8 x D

Plain Shank Page  
 SHRINK FIT HOLDER D47-72  
 HYDRAULIC CHUCK D15-46  
 ER COLLET CHUCK D73-115

EDP No.	Drill Diameter		Flute Length L1	Overall Length L2	EDP No.	Drill Diameter		Flute Length L1	Overall Length L2
	D1	D2				D1	D2		
D5434080	8.0	8	76	114	D5434105	10.5	12	114	162
D5434081	8.1	10	95	142	D5434106	10.6	12	114	162
D5434082	8.2	10	95	142	D5434107	10.7	12	114	162
D5434083	8.3	10	95	142	D5434108	10.8	12	114	162
D5434084	8.4	10	95	142	D5434109	10.9	12	114	162
D5434085	8.5	10	95	142	D5434110	11.0	12	114	162
D5434086	8.6	10	95	142	D5434111	11.1	12	114	162
D5434087	8.7	10	95	142	D5434112	11.2	12	114	162
D5434088	8.8	10	95	142	D5434113	11.3	12	114	162
D5434089	8.9	10	95	142	D5434114	11.4	12	114	162
D5434090	9.0	10	95	142	D5434115	11.5	12	114	162
D5434091	9.1	10	95	142	D5434116	11.6	12	114	162
D5434092	9.2	10	95	142	D5434117	11.7	12	114	162
D5434093	9.3	10	95	142	D5434118	11.8	12	114	162
D5434094	9.4	10	95	142	D5434119	11.9	12	114	162
D5434095	9.5	10	95	142	D5434120	12.0	12	114	162
D5434096	9.6	10	95	142	D5434125	12.5	14	133	178
D5434097	9.7	10	95	142	D5434130	13.0	14	133	178
D5434098	9.8	10	95	142	D5434135	13.5	14	133	178
D5434099	9.9	10	95	142	D5434140	14.0	14	133	178
D5434100	10.0	10	95	142					
D5434101	10.1	12	114	162					
D5434102	10.2	12	114	162					
D5434103	10.3	12	114	162					
D5434104	10.4	12	114	162					

- ▶ DLC coating is available on your request.
- ▶ Other shank types are available on your request.

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550



**D5432, D5433, D5434 SERIES** with COOLANT HOLES

**RECOMMENDED CUTTING CONDITIONS**  
**EMPHOHLENE SCHNEIDPARAMETER**

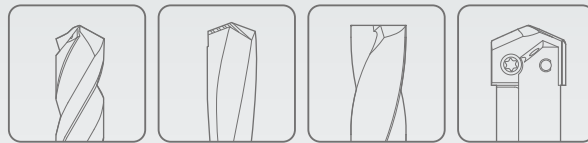
VC = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)										
					3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
N	21	Aluminum-wrought alloy	200	RPM	21220	15920	12730	10610	7960	6370	5310	4550	3980	3540	3180
			FEED	0.12-0.18	0.14-0.22	0.15-0.23	0.17-0.25	0.21-0.28	0.24-0.30	0.24-0.30	0.25-0.35	0.25-0.35	0.28-0.38	0.30-0.40	
	160		RPM	16980	12730	10190	8490	6370	5090	4240	3640	3180	2830	2550	
	FEED		0.12-0.18	0.14-0.22	0.15-0.23	0.17-0.25	0.21-0.28	0.24-0.30	0.24-0.30	0.25-0.35	0.25-0.35	0.28-0.38	0.30-0.40		
	23	Aluminum-cast, alloyed	150	RPM	15920	11940	9550	7960	5970	4770	3980	3410	2980	2650	2390
			FEED	0.15-0.21	0.17-0.25	0.19-0.27	0.21-0.28	0.24-0.31	0.29-0.45	0.33-0.55	0.35-0.60	0.35-0.60	0.39-0.73	0.39-0.85	
	140		RPM	14850	11140	8910	7430	5570	4460	3710	3180	2790	2480	2230	
	FEED		0.15-0.21	0.17-0.25	0.19-0.27	0.21-0.28	0.24-0.31	0.29-0.45	0.33-0.55	0.35-0.60	0.35-0.60	0.39-0.73	0.39-0.85		





Global Cutting Tool Leader **YG-1**



# HOLEMAKING



Leading Through Innovation

**SOLID CARBIDE**

# **DREAM DRILLS -MQL TYPE**

**DREAM DRILLS - MQL TYPE**

- Minimum Quantity Lubrication Drilling Deep Holes (10×D ~ 40×D)
- Minimalmengenschmierung Tieflochbohren (10×D ~ 40×D)

SELECTION GUIDE



SERIES	DH510	DH515	DH520
DRILLING DEPTH	10XD	15XD	20XD
LENGTH	EXTRA LONG	EXTRA LONG	EXTRA LONG
SIZE MIN	D3.0	D3.0	D3.0
SIZE MAX	D14.0	D12.0	D12.0
PAGE	A144	A145	

SURFACE TREATMENT

TiAIN

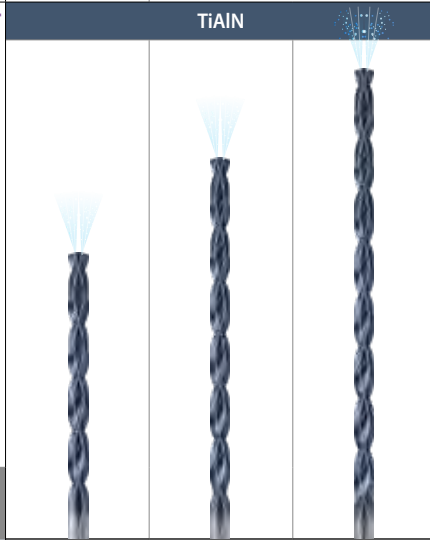
# SOLID CARBIDE DREAM DRILLS MQL TYPE

Minimum Quantity Lubrication  
Drilling Deep Holes (10×D ~ 40×D)

Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p. A148



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc				
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	
	2		About 0.45% C Annealed	190	13	◎	◎	◎	
	3		About 0.45% C Quenched & Tempered	250	25	○	○	○	
	4		About 0.75% C Annealed	270	28				
	5		About 0.75% C Quenched & Tempered	300	32				
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	
	7		Quenched & Tempered	275	29	○	○	○	
	8		Quenched & Tempered	300	32	○	○	○	
	9		Quenched & Tempered	350	38				
	10		High alloyed steel, and tool steel	Annealed	200	15	○	○	○
	11		Quenched & Tempered	325	35	○	○	○	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15				
	13		Martensitic Quenched & Tempered	240	23				
	14		Austenitic	180	10				
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎	
	16		Pearlitic (Martensitic)	260	26	○	○	○	
	17	Nodular cast iron	Ferritic	160	3	◎	◎	◎	
	18		Pearlitic	250	25	○	○	○	
	19	Malleable cast iron	Ferritic	130		◎	◎	◎	
	20		Pearlitic	230	21	○	○	○	
N	21	Aluminum-wrought alloy	Not Curable	60					
	22		Curable Hardened	100					
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75					
	24		≤ 12% Si, Curable Hardened	90					
	25		> 12% Si, Not Curable	130					
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110					
	27		CuZn, CuSnZn (Brass)	90					
	28		CuSn, lead-free copper and electrolytic copper	100					
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based	Annealed	200	15			
	32			Cured	280	30			
	33		Annealed	250	25				
	34		Cured	350	38				
	35		Cast	320	34				
	36	Titanium Alloys	Pure Titanium	400 Rm					
	37		Alpha + Beta Alloys	Hardened	1050 Rm				
H	38	Hardened steel		Hardened	550	55			
	39		Hardened	630	60				
	40		Cast	400	42				
41	Hardened Cast Iron	Hardened	550	55					

DHM10	DHM15	DHM20	DHM25	DHM30
10XD	15XD	20XD	25XD	30XD
EXTRA LONG	EXTRA LONG	EXTRA LONG	EXTRA LONG	EXTRA LONG
D3.0	D3.0	D3.0	D3.0	D3.0
D14.0	D12.0	D12.0	D10.0	D8.0
A146			A147	



◎	◎	◎	◎	◎	1
◎	◎	◎	◎	◎	2
○	○	○	○	○	3
					4
					5
◎	◎	◎	◎	◎	6
○	○	○	○	○	7
○	○	○	○	○	8
					9
○	○	○	○	○	10
○	○	○	○	○	11
					12
					13
					14
◎	◎	◎	◎	◎	15
○	○	○	○	○	16
◎	◎	◎	◎	◎	17
○	○	○	○	○	18
◎	◎	◎	◎	◎	19
○	○	○	○	○	20
					21
					22
					23
					24
					25
					26
					27
					28
					29
					30
					31
					32
					33
					34
					35
					36
					37
					38
					39
					40
					41

HSS

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

HPD DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA



# YG DREAM DRILLS - MQL TYPE

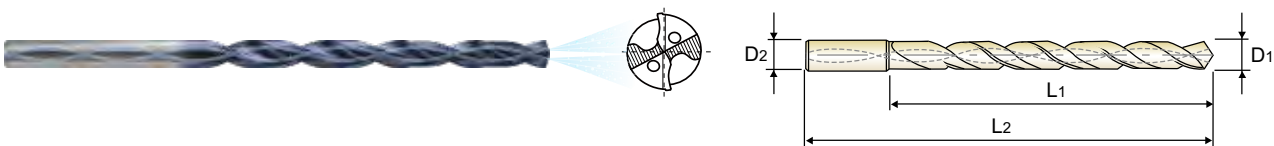
## DH510 SERIES

### CARBIDE, DREAM DRILLS MQL TYPE with COOLANT HOLES EXTRA LONG

● VOLLHARTMETALL DREAM SPIRALBOHRER MQL - TYPE mit KÜHLKANAL in GERADZÄHLIGER SCHAFTAUSFÜHRUNG **ÜBERLANG**  
● Forets DREAM DRILLS carbure Type MQL avec arrosage central, série extra-longue **EXTRA-LONGUE**  
● PUNTE ELICOIDALI IN MD, DREAM DRILLS MQL (con fori di refrigerazione) **EXTRA LUNGA**

- ▶ 4-Facet Point for good centering capability
- ▶ Optimized special flutes are ideal for removing chips and for productive drilling
- ▶ Enhanced chip evacuation by polished flute upgraded TiAlN nano layer full coating
- ▶ MQL system compatible (Minimum Quantity Lubrication)

- ▶ 4-Facetten-Spitze für gute Zentrierfähigkeit
- ▶ Optimierte Spezialnuten für die ideale Spanabfuhr und zum produktiven Bohren
- ▶ Verbesserte Spanabfuhr durch hochglanzpolierte TiAlN-Nano-Vollbeschichtung
- ▶ MMS geeignet



CARBIDE
30°
h6
h7
140°
20 bar
TiAlN
p.A148

10 × D

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2
DH510030	3.0	3	39	90
DH510033	3.3	4	46	97
DH510035	3.5	4	46	97
DH510040	4.0	4	52	103
DH510042	4.2	5	59	112
DH510045	4.5	5	59	112
DH510050	5.0	5	65	118
DH510055	5.5	6	72	127
DH510060	6.0	6	78	133
DH510065	6.5	7	85	141
DH510068	6.8	7	91	147
DH510070	7.0	7	91	147
DH510075	7.5	8	98	155

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2
DH510080	8.0	8	104	161
DH510085	8.5	9	111	169
DH510090	9.0	9	117	175
DH510095	9.5	10	124	182
DH510100	10.0	10	130	188
DH510105	10.5	11	137	201
DH510110	11.0	11	143	207
DH510115	11.5	12	150	215
DH510120	12.0	12	156	221
DH510125	12.5	13	163	229
DH510130	13.0	13	169	235
DH510135	13.5	14	176	243
DH510140	14.0	14	182	249

Unit : mm

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	19	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	◎	○	◎	○

ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended																						

# YG DREAM DRILLS - MQL TYPE

## DH515 SERIES

## DH520 SERIES

### CARBIDE, DREAM DRILLS MQL TYPE with COOLANT HOLES EXTRA LONG

● VOLLHARTMETALL DREAM SPIRALBOHRER MQL - TYPE mit KÜHLKANAL in GERADZÄHLIGER SCHAFTAUSFÜHRUNG **ÜBERLANG**  
● Forets DREAM DRILLS carbure Type MQL avec arrosage central, série extra-longue **EXTRA-LONGUE**  
● PUNTE ELICOIDALI IN MD, DREAM DRILLS MQL (con fori di refrigerazione) **EXTRA LUNGA**

- ▶ 4-Facet Point for good centering capability
- ▶ Optimized special flutes are ideal for removing chips and for productive drilling
- ▶ Enhanced chip evacuation by polished flute upgraded TiAlN nano layer full coating
- ▶ MQL system compatible (Minimum Quantity Lubrication)

- ▶ 4-Facetten-Spitze für gute Zentrierfähigkeit
- ▶ Optimierte Spezialnuten für die ideale Spanabfuhr und zum produktiven Bohren
- ▶ Verbesserte Spanabfuhr durch hochglanzpolierte TiAlN-Nano-Vollbeschichtung
- ▶ MMS geeignet



CARBIDE
30°
h6
h7
140°
20 bar
TiAlN
p.A148

15 × D (DH515) 20 × D (DH520)

Plain Shank	Page
SHRINK FIT HOLDER	D47 - 72
HYDRAULIC CHUCK	D15 - 46
ER COLLET CHUCK	D73 - 115

#### DH515

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2
DH515030	3.0	3	54	105
DH515035	3.5	4	63	114
DH515040	4.0	4	72	123
DH515045	4.5	5	81	134
DH515050	5.0	5	90	143
DH515055	5.5	6	99	154
DH515060	6.0	6	108	163
DH515070	7.0	7	126	182
DH515080	8.0	8	144	201
DH515090	9.0	9	162	220
DH515100	10.0	10	180	238
DH515110	11.0	11	198	262
DH515120	12.0	12	216	281

#### DH520

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAlN	D1	D2	L1	L2
DH520030	3.0	3	69	120
DH520035	3.5	4	81	132
DH520040	4.0	4	92	143
DH520045	4.5	5	104	157
DH520050	5.0	5	115	168
DH520055	5.5	6	127	182
DH520060	6.0	6	138	193
DH520070	7.0	7	161	217
DH520080	8.0	8	184	241
DH520090	9.0	9	207	265
DH520100	10.0	10	230	288
DH520120	12.0	12	276	341

Unit : mm

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	19	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	◎	○	◎	○

ISO	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended																						

# YG DREAM DRILLS - MQL TYPE

DHM10 SERIES

DHM15 SERIES

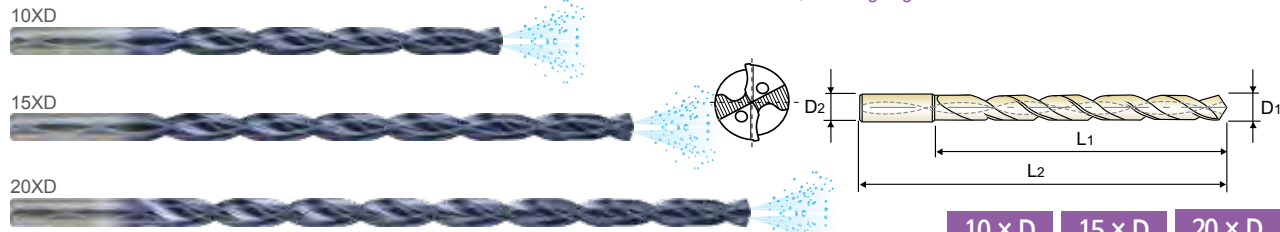
DHM20 SERIES

## CARBIDE, DREAM DRILL MQL TYPE END MILL SHANK with COOLANT HOLE EXTRA LONG

● VOLLHARTMETALL DREAM SPIRALBOHRER MQL - TYPE MIT KÜHLKANAL **ÜBERLANG**  
● Forets DREAM DRILLS carbure Type MQL avec arrosage central, série extra-longue **EXTRA-LONGUE**  
● PUNTE MD, DREAM DRILLS MQL GAMBO RINFORZATO (con fori di refrigerazione) **EXTRA LUNGA**

- ▶ 4-Facet Point for good centering capability
- ▶ Optimized special flutes are ideal for removing chips and for productive drilling
- ▶ Enhanced chip evacuation by polished flute upgraded TiAIN nano layer full coating
- ▶ MQL system compatible (Minimum Quantity Lubrication)

- ▶ 4-Facetten-Spitze für gute Zentrierfähigkeit
- ▶ Optimierte Spezialnuten für die ideale Spanabfuhr und zum produktiven Bohren
- ▶ Verbesserte Spanabfuhr durch hochglanzpolierte TiAIN-Nano-Vollbeschichtung
- ▶ MMS geeignet



CARBIDE
30°
h6
h7
140°
20 bar
45 bar
TiAIN
p.A148

10 × D (DHM10)	15 × D (DHM15)	20 × D (DHM20)
Plain Shank	Plain Shank	Plain Shank
SHRINK FIT HOLDER	SHRINK FIT HOLDER	SHRINK FIT HOLDER
HYDRAULIC CHUCK	HYDRAULIC CHUCK	HYDRAULIC CHUCK
ER COLLET CHUCK	ER COLLET CHUCK	ER COLLET CHUCK

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAIN	D1	D2	L1	L2
DHM10030	3.0	6	40	80
DHM10033	3.3	6	47	87
DHM10035	3.5	6	47	87
DHM10040	4.0	6	53	93
DHM10042	4.2	6	60	100
DHM10045	4.5	6	60	100
DHM10050	5.0	6	66	106
DHM10055	5.5	6	73	113
DHM10060	6.0	6	79	119
DHM10065	6.5	8	86	126
DHM10068	6.8	8	92	132
DHM10070	7.0	8	92	132
DHM10075	7.5	8	99	139
DHM10080	8.0	8	105	145
DHM10085	8.5	10	112	156
DHM10090	9.0	10	118	162
DHM10095	9.5	10	126	170
DHM10100	10.0	10	132	176
DHM10105	10.5	12	139	188
DHM10110	11.0	12	145	194
DHM10115	11.5	12	152	201
DHM10120	12.0	12	158	207
DHM10125	12.5	14	165	214
DHM10130	13.0	14	171	220
DHM10135	13.5	14	178	227
DHM10140	14.0	14	184	233

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAIN	D1	D2	L1	L2
DHM15030	3.0	6	55	95
DHM15035	3.5	6	64	104
DHM15040	4.0	6	73	113
DHM15045	4.5	6	82	122
DHM15050	5.0	6	91	131
DHM15055	5.5	6	100	140
DHM15060	6.0	6	109	149
DHM15070	7.0	8	127	167
DHM15080	8.0	8	145	185
DHM15090	9.0	10	163	207
DHM15100	10.0	10	182	226
DHM15110	11.0	12	200	249
DHM15120	12.0	12	218	267

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAIN	D1	D2	L1	L2
DHM20030	3.0	6	70	110
DHM20035	3.5	6	82	122
DHM20040	4.0	6	93	133
DHM20045	4.5	6	105	145
DHM20050	5.0	6	116	156
DHM20055	5.5	6	128	168
DHM20060	6.0	6	139	179
DHM20070	7.0	8	162	202
DHM20080	8.0	8	185	225
DHM20090	9.0	10	208	252
DHM20100	10.0	10	232	276
DHM20110	11.0	12	255	304
DHM20120	12.0	12	278	327

ISO Material Description	P									M						K				
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	⊙	⊙	○	○	○	⊙	○	○	○	○	○	○	○	○	⊙	○	⊙	○	⊙	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	55	60	42	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	⊙	⊙	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

# YG DREAM DRILLS - MQL TYPE

DHM25 SERIES

DHM30 SERIES

## CARBIDE, DREAM DRILL MQL TYPE END MILL SHANK with COOLANT HOLE EXTRA LONG

● VOLLHARTMETALL DREAM SPIRALBOHRER MQL - TYPE MIT KÜHLKANAL **ÜBERLANG**  
● Forets DREAM DRILLS carbure Type MQL avec arrosage central, attachment type fraise, série extra-longue **EXTRA-LONGUE**  
● PUNTE MD, DREAM DRILLS MQL GAMBO RINFORZATO (con fori di refrigerazione) **EXTRA LUNGA**

- ▶ 4-Facet Point for good centering capability
- ▶ Optimized special flutes are ideal for removing chips and for productive drilling
- ▶ Enhanced chip evacuation by polished flute upgraded TiAIN nano layer full coating
- ▶ MQL system compatible (Minimum Quantity Lubrication)

- ▶ 4-Facetten-Spitze für gute Zentrierfähigkeit
- ▶ Optimierte Spezialnuten für die ideale Spanabfuhr und zum produktiven Bohren
- ▶ Verbesserte Spanabfuhr durch hochglanzpolierte TiAIN-Nano-Vollbeschichtung
- ▶ MMS geeignet



CARBIDE
30°
h6
h7
140°
45 bar
TiAIN
p.A148

25 × D (DHM25)	30 × D (DHM30)
Plain Shank	Plain Shank
SHRINK FIT HOLDER	SHRINK FIT HOLDER
HYDRAULIC CHUCK	HYDRAULIC CHUCK
ER COLLET CHUCK	ER COLLET CHUCK

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAIN	D1	D2	L1	L2
DHM25030	3.0	6.0	85	125
DHM25035	3.5	6.0	99	139
DHM25040	4.0	6.0	113	153
DHM25045	4.5	6.0	127	167
DHM25050	5.0	6.0	141	181
DHM25055	5.5	6.0	155	195
DHM25060	6.0	6.0	169	209
DHM25070	7.0	8.0	197	237
DHM25080	8.0	8.0	225	265
DHM25090	9.0	10.0	253	297
DHM25100	10.0	10.0	282	326

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAIN	D1	D2	L1	L2
DHM30030	3.0	6.0	100	140
DHM30035	3.5	6.0	117	157
DHM30040	4.0	6.0	133	173
DHM30045	4.5	6.0	150	190
DHM30050	5.0	6.0	166	206
DHM30055	5.5	6.0	183	223
DHM30060	6.0	6.0	199	239
DHM30070	7.0	8.0	232	272
DHM30080	8.0	8.0	265	305

▶ Made to order in depth 35 & 40D(3-6mm)

ISO Material Description	P									M						K				
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	⊙	⊙	○	○	○	⊙	○	○	○	○	○	○	○	○	⊙	○	⊙	○	⊙	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	55	60	42	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	⊙	⊙	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



**DH510, DH515, DH520, DHM10, DHM15, DHM20, DHM25, DHM30 SERIES**

with COOLANT HOLES

VC = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc		Parameter	Drill Diameter (mm)							
			10xD 20xD	25xD 30xD		3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0
P	1	Non-alloy steel	120	100	RPM(10xD-20xD)	12730	9550	7640	6370	4770	3820	3180	2730
					RPM(25xD-30xD)	10610	7960	6370	5310	3980	3180	2650	2270
					FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31
	2		100	80	RPM(10xD-20xD)	10610	7960	6370	5310	3980	3180	2650	2270
					RPM(25xD-30xD)	8490	6370	5090	4240	3180	2550	2120	1820
					FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31
	3		80	65	RPM(10xD-20xD)	8490	6370	5090	4240	3180	2550	2120	1820
					RPM(25xD-30xD)	6900	5170	4140	3450	2590	2070	1720	1480
					FEED	0.06-0.10	0.08-0.12	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26
	6		100	100	RPM(10xD-20xD)	10610	7960	6370	5310	3980	3180	2650	2270
					RPM(25xD-30xD)	10610	7960	6370	5310	3980	3180	2650	2270
FEED		0.08-0.12			0.10-0.14	0.12-0.18	0.14-0.20	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31		
7	70	60	RPM(10xD-20xD)	7430	5570	4460	3710	2790	2230	1860	1590		
			RPM(25xD-30xD)	6370	4770	3820	3180	2390	1910	1590	1360		
			FEED	0.06-0.10	0.08-0.12	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26		
8	55	50	RPM(10xD-20xD)	5840	4380	3500	2920	2190	1750	1460	1250		
			RPM(25xD-30xD)	5310	3980	3180	2650	1990	1590	1330	1140		
			FEED	0.06-0.10	0.08-0.12	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24	0.20-0.26		
10	60	50	RPM(10xD-20xD)	6370	4770	3820	3180	2390	1910	1590	1360		
			RPM(25xD-30xD)	5310	3980	3180	2650	1990	1590	1330	1140		
			FEED	0.05-0.09	0.07-0.11	0.08-0.14	0.10-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.18-0.24		
11	50	45	RPM(10xD-20xD)	5310	3980	3180	2650	1990	1590	1330	1140		
			RPM(25xD-30xD)	4770	3580	2860	2390	1790	1430	1190	1020		
			FEED	0.04-0.08	0.06-0.10	0.07-0.13	0.08-0.14	0.10-0.16	0.12-0.18	0.13-0.19	0.15-0.21		
15	90	75	RPM(10xD-20xD)	9550	7160	5730	4770	3580	2860	2390	2050		
			RPM(25xD-30xD)	7960	5970	4770	3980	2980	2390	1990	1710		
			FEED	0.10-0.14	0.12-0.16	0.17-0.23	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.30-0.36		
16	70	60	RPM(10xD-20xD)	7430	5570	4460	3710	2790	2230	1860	1590		
			RPM(25xD-30xD)	6370	4770	3820	3180	2390	1910	1590	1360		
			FEED	0.10-0.14	0.12-0.16	0.17-0.23	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.30-0.36		
17	100	80	RPM(10xD-20xD)	10610	7960	6370	5310	3980	3180	2650	2270		
			RPM(25xD-30xD)	8490	6370	5090	4240	3180	2550	2120	1820		
			FEED	0.10-0.14	0.12-0.16	0.17-0.23	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.30-0.36		
18	70	60	RPM(10xD-20xD)	7430	5570	4460	3710	2790	2230	1860	1590		
			RPM(25xD-30xD)	6370	4770	3820	3180	2390	1910	1590	1360		
			FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31		
19	80	65	RPM(10xD-20xD)	8490	6370	5090	4240	3180	2550	2120	1820		
			RPM(25xD-30xD)	6900	5170	4140	3450	2590	2070	1720	1480		
			FEED	0.10-0.14	0.12-0.16	0.17-0.23	0.19-0.25	0.22-0.28	0.24-0.30	0.28-0.34	0.30-0.36		
20	70	55	RPM(10xD-20xD)	7430	5570	4460	3710	2790	2230	1860	1590		
			RPM(25xD-30xD)	5840	4380	3500	2920	2190	1750	1460	1250		
			FEED	0.08-0.12	0.10-0.14	0.12-0.18	0.14-0.20	0.18-0.24	0.20-0.26	0.22-0.26	0.25-0.31		

1. Guide Drilling should be done as Diameter +0.01~+0.1mm between 3xD and 5xD depth.
2. For Main Drilling, proceed with low RPM at Guide Drilling segment. (RPM 300, FEED 400mm/min)
3. Just before the end of Guide Drilling segment, reduce feed to zero and increase the RPM according to Recommended Cutting Condition chart (See above).
4. After then, proceed main drilling by increasing feed without step drilling.
5. When coming out from Guide Drilling start point after drilling, RPM should be reduced as 300 and feed should be 1000 mm/min.
6. When coming out from Guide Drilling segment to the outside, the feed should be decreased as 50%.



**SOLID CARBIDE**

**DREAM DRILLS**  
- for HIGH HARDENED STEELS  
DREAM DRILLS - FÜR HOCHGEHÄRTETE STÄHLE

- For High Hardened Steels (HRc50 to HRc70)
- Für hochgehärtete Stähle (HRc50 bis HRc70)



SELECTION GUIDE



SERIES	DH500
DRILLING DEPTH	3XD
LENGTH	SHORT
SIZE MIN	D2.6
SIZE MAX	D14.0
PAGE	A151
SURFACE TREATMENT	TiAIN

# SOLID CARBIDE DREAM DRILLS for HIGH HARDENED STEELS

For High Hardened Steels (HRc50 to HRc70)

Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A151

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc
<b>P</b>	1	Non-alloy steel	About 0.15% C Annealed	125	
	2		About 0.45% C Annealed	190	13
	3		About 0.45% C Quenched & Tempered	250	25
	4		About 0.75% C Annealed	270	28
	5		About 0.75% C Quenched & Tempered	300	32
	6	Low alloy steel	Annealed	180	10
	7		Quenched & Tempered	275	29
	8		Quenched & Tempered	300	32
	9		Quenched & Tempered	350	38
	10		High alloyed steel, and tool steel	Annealed	200
	11		Quenched & Tempered	325	35
<b>M</b>	12	Stainless steel	Ferritic / Martensitic Annealed	200	15
	13		Martensitic Quenched & Tempered	240	23
	14		Austenitic	180	10
<b>K</b>	15	Grey cast iron	Pearlitic / ferritic	180	10
	16		Pearlitic (Martensitic)	260	26
	17	Nodular cast iron	Ferritic	160	3
	18		Pearlitic	250	25
	19	Malleable cast iron	Ferritic	130	
	20		Pearlitic	230	21
<b>N</b>	21	Aluminum-wrought alloy	Not Curable	60	
	22		Curable Hardened	100	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	
	24		≤ 12% Si, Curable Hardened	90	
	25		> 12% Si, Not Curable	130	
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110	
	27		CuZn, CuSnZn (Brass)	90	
	28		CuSn, lead-free copper and electrolytic copper	100	
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic		
	30		Rubber, Wood, etc.		
<b>S</b>	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15
	32		Cured	280	30
	33		Annealed	250	25
	34		Cured	350	38
	35		Cast	320	34
	36	Titanium Alloys	Pure Titanium	400 Rm	
	37		Alpha + Beta Alloys Hardened	1050 Rm	
<b>H</b>	38	Hardened steel	Hardened	550	55
	39.1		Hardened	630	60
	39.3		Hardened	70	
	40		Chilled Cast Iron	Cast	400
41	Hardened Cast Iron	Hardened	550	55	



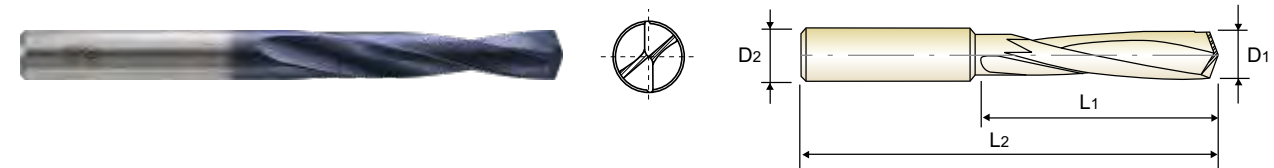
## YG DREAM DRILLS for HIGH HARDENED STEELS

DH500 SERIES

**CARBIDE, DREAM DRILLS for HIGH HARDENED STEELS (HRc50~HRc70)** **SHORT**  
**VOLLHARTMETALL DREAM SPIRALBOHRER FÜR HOCHGEHARTETE STAHL** **KURZ**  
**Forets DREAM DRILLS carbure pour Aciers Trempés (50 HRc ~ 70 HRc)** **COURTE**  
**PUNTE ELICOIDALI IN MD, DREAM DRILL - ACCIAI HRC 50 - 70** **CORTA**

- ▶ Drilling for High Hardened Steels; Quenched Steels, Tempered Steels (under HRc 70)
- ▶ Special geometry design for Hardened Steels
- ▶ Minimum of cutting load through special thinning
- ▶ Performing good chip removal and powerful drilling

- ▶ Bohren von hoch gehärteten Stählen, Vergütungsstähle, angelassenen Stählen bis HRc 70
- ▶ Spezielle Bohrergeometrie für gehärtete Stähle
- ▶ Minimaler Schneidendruck durch spezielle Ausspitzung
- ▶ Gute Spanabfuhr und Hochleistungsbohren



3 x D

Plain Shank	Page
SHRINK FIT HOLDER	D47-72
HYDRAULIC CHUCK	D15-46
ER COLLET CHUCK	D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
DH500026	2.6	3	14	44	DH500070	7.0	8	45	85
DH500030	3.0	3	16	46	DH500075	7.5	8	45	85
DH500033	3.3	4	18	48	DH500080	8.0	8	50	98
DH500034	3.4	4	20	50	DH500085	8.5	10	50	98
DH500035	3.5	4	20	50	DH500086	8.6	10	57	105
DH500040	4.0	4	22	52	DH500088	8.8	10	57	105
DH500042	4.2	6	25	65	DH500090	9.0	10	57	105
DH500043	4.3	6	28	68	DH500095	9.5	10	57	105
DH500044	4.4	6	28	68	DH500100	10.0	10	63	111
DH500045	4.5	6	28	68	DH500102	10.2	12	63	111
DH500050	5.0	6	32	72	DH500103	10.3	12	63	111
DH500051	5.1	6	32	72	DH500105	10.5	12	63	111
DH500052	5.2	6	32	72	DH500108	10.8	12	71	119
DH500055	5.5	6	35	75	DH500110	11.0	12	71	119
DH500060	6.0	6	35	75	DH500115	11.5	12	71	119
DH500065	6.5	8	40	80	DH500120	12.0	12	71	119
DH500068	6.8	8	45	85	DH500140	14.0	14	77	125
DH500069	6.9	8	45	85					

CUTTING CONDITIONS

DH500 SERIES DREAM DRILLS for HIGH HARDENED STEELS

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)											
					2.5	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0			
<b>H</b>	38	Hardened steel	20	RPM	2550	2120	1590	1270	1060	800	640	530	450			
	FEED			0.01~0.03	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.06	0.01-0.06				
	39.1			RPM	1910	1590	1190	950	800	600	480	400	340			
39.3	FEED	0.01~0.03	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.06	0.01-0.06						
			12	RPM	1530	1270	950	760	640	480	380	320	270			
				FEED	0.01~0.03	0.01-0.03	0.01-0.04	0.01-0.04	0.01-0.05	0.01-0.05	0.01-0.05	0.01-0.06	0.01-0.06			

◎ : Excellent ○ : Good

ISO	<b>P</b>										<b>M</b>						<b>K</b>					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended																						
ISO	<b>N</b>									<b>S</b>						<b>H</b>						
	Aluminum-wrought alloy			Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	600	70	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	400	550
Recommended																						

HSS

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

HPD DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

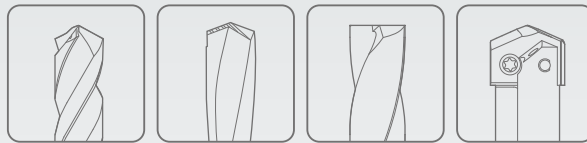
COUNTER SINKS

COUNTER BORES

TECHNICAL DATA



Global Cutting Tool Leader **YG-1**



# HOLEMAKING



Leading Through Innovation

**SOLID CARBIDE**

**GENERAL  
CARBIDE DRILLS**  
UNIVERSELLE VHM - BOHRER

- For General Purpose, DIN338 & DIN6539
- Für allgemeine Anwendungen, DIN 338 & DIN 6539



SELECTION GUIDE



SERIES	D5405	D5407
STANDARD	DIN6539	DIN338
LENGTH	STUB	JOBBER
SIZE MIN	D1.0	D1.0
SIZE MAX	D13.0	D13.0
PAGE	A155	A157

SURFACE TREATMENT

Bright

# SOLID CARBIDE GENERAL CARBIDE DRILLS

For General Purpose, DIN338 & DIN6539



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A159

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc		
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎
	2		About 0.45% C Annealed	190	13	○	○
	3		About 0.45% C Quenched & Tempered	250	25		
	4		About 0.75% C Annealed	270	28		
	5		About 0.75% C Quenched & Tempered	300	32		
	6	Low alloy steel	Annealed	180	10	○	○
	7		Quenched & Tempered	275	29		
	8		Quenched & Tempered	300	32		
	9		Quenched & Tempered	350	38		
	10		High alloyed steel, and tool steel	Annealed	200	15	
	11		Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○
	13		Martensitic Quenched & Tempered	240	23		
	14		Austenitic	180	10		
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○
	16		Pearlitic (Martensitic)	260	26		
	17	Nodular cast iron	Ferritic	160	3		
	18		Pearlitic	250	25		
	19		Ferritic	130			
20	Malleable cast iron	Pearlitic	230	21			
N	21	Aluminum-wrought alloy	Not Curable	60		◎	◎
	22		Curable Hardened	100		◎	◎
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		◎	◎
	24		≤ 12% Si, Curable Hardened	90		◎	◎
	25		> 12% Si, Not Curable	130			
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110			
	27		CuZn, CuSnZn (Brass)	90			
	28	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100			
	29		Duroplastic, Fiber Reinforced Plastic				
	30	Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Cured	350	38		
	35	Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm		○	○
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40	Chilled Cast Iron	Cast	400	42		
41	Hardened Cast Iron	Hardened	550	55			



D5405 SERIES

CARBIDE DRILLS

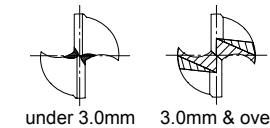
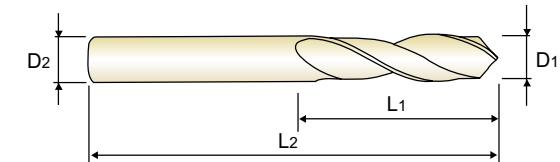
VOLLHARTMETALL-SPIRALBOHRER  
Forets carbure, série extra-courte  
PUNTE IN METALLO DURO

STUB

EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

Application : Drilling steels in general, cast steels, cast iron, chilled cast iron, malleable cast iron, non-ferrous heavy metals, non-ferrous light metals, abrasive plastics.

Verwendung : Zum wirtschaftlichen Bohren von Stahl allgemein, Stahlguß, Hart-und Temperguß, Nichteisen Leichtmetallen, abrasiven Kunststoffen.



Recommended Toolholder	Plain Shank	Page
◎ SHRINK FIT HOLDER		D47-72
◎ HYDRAULIC CHUCK		D15-46
○ ER COLLET CHUCK		D73-115

Unit : mm

EDP No.	Drill Diameter			EDP No.	Drill Diameter		
	D1	Flute Length L1	Overall Length L2		D1	Flute Length L1	Overall Length L2
D5405010	1.0	6	26	D5405034	3.4	20	52
D5405011	1.1	7	28	D5405035	3.5	20	52
D5405012	1.2	8	30	D5405036	3.6	20	52
D5405013	1.3	8	30	D5405037	3.7	20	52
D5405014	1.4	9	32	D5405038	3.8	22	55
D5405015	1.5	9	32	D5405039	3.9	22	55
D5405016	1.6	10	34	D5405040	4.0	22	55
D5405017	1.7	10	34	D5405041	4.1	22	55
D5405018	1.8	11	36	D5405042	4.2	22	55
D5405019	1.9	11	36	D5405043	4.3	24	58
D5405020	2.0	12	38	D5405044	4.4	24	58
D5405021	2.1	12	38	D5405045	4.5	24	58
D5405022	2.2	13	40	D5405046	4.6	24	58
D5405023	2.3	13	40	D5405047	4.7	24	58
D5405024	2.4	14	43	D5405048	4.8	26	62
D5405025	2.5	14	43	D5405049	4.9	26	62
D5405026	2.6	14	43	D5405050	5.0	26	62
D5405027	2.7	16	46	D5405051	5.1	26	62
D5405028	2.8	16	46	D5405052	5.2	26	62
D5405029	2.9	16	46	D5405053	5.3	26	62
D5405030	3.0	16	46	D5405054	5.4	28	66
D5405031	3.1	18	49	D5405055	5.5	28	66
D5405032	3.2	18	49	D5405056	5.6	28	66
D5405033	3.3	18	49	D5405057	5.7	28	66

TIN(D6405), TICN(DG405) and TiAIN(DH405) are available on your request.

NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323																				
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	○				○						○			○					

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323																					
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320			550	630	400	550
Recommended	◎	◎	◎	◎												○					

**CARBIDE DRILLS**

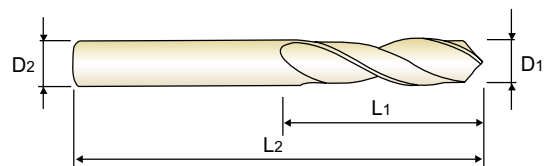
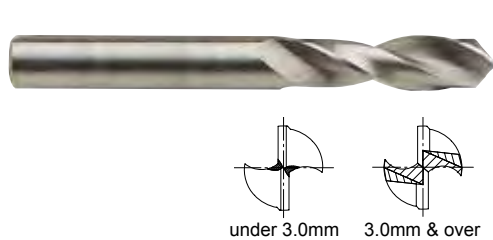
- VOLLHARTMETALL-SPIRALBOHRER
- Forets carbure, série extra-courte
- PUNTE IN METALLO DURO

STUB

EXTRA KURZ  
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►Application : Drilling steels in general, cast steels, cast iron, chilled cast iron, malleable cast iron, non-ferrous heavy metals, non-ferrous light metals, abrasive plastics.

►Verwendung : Zum wirtschaftlichen Bohren von Stahl allgemein, Stahlguß, Hart-und Temperguß, Nichteisen Leichtmetallen, abrasiven Kunststoffen.



D1=D2

DIN 6539 CARBIDE 30° h6 h7 118° p.A159

Recommended ToolHolder  
Plain Shank Page  
SHRINK FIT HOLDER D47-72  
HYDRAULIC CHUCK D15-46  
ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D5405058	5.8	28	66
D5405059	5.9	28	66
D5405060	6.0	28	66
D5405061	6.1	31	70
D5405062	6.2	31	70
D5405063	6.3	31	70
D5405064	6.4	31	70
D5405065	6.5	31	70
D5405066	6.6	31	70
D5405067	6.7	31	70
D5405068	6.8	34	74
D5405069	6.9	34	74
D5405070	7.0	34	74
D5405071	7.1	34	74
D5405072	7.2	34	74
D5405073	7.3	34	74
D5405074	7.4	34	74
D5405075	7.5	34	74
D5405076	7.6	37	79
D5405077	7.7	37	79
D5405078	7.8	37	79
D5405079	7.9	37	79
D5405080	8.0	37	79
D5405081	8.1	37	79
D5405082	8.2	37	79

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D5405083	8.3	37	79
D5405084	8.4	37	79
D5405085	8.5	37	79
D5405086	8.6	40	84
D5405087	8.7	40	84
D5405088	8.8	40	84
D5405089	8.9	40	84
D5405090	9.0	40	84
D5405091	9.1	40	84
D5405092	9.2	40	84
D5405093	9.3	40	84
D5405094	9.4	40	84
D5405095	9.5	40	84
D5405096	9.6	43	89
D5405097	9.7	43	89
D5405098	9.8	43	89
D5405099	9.9	43	89
D5405100	10.0	43	89
D5405102	10.2	43	89
D5405105	10.5	43	89
D5405110	11.0	47	95
D5405115	11.5	47	95
D5405120	12.0	51	102
D5405130	13.0	51	102

► TiN(D6405), TiCN(DG405) and TiAlN(DH405) are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	○				○				○					○					

ISO Material Description	N										S						H					
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎	◎	◎							○					○						

**CARBIDE DRILLS**

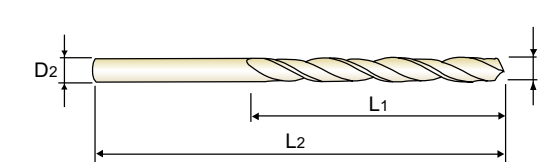
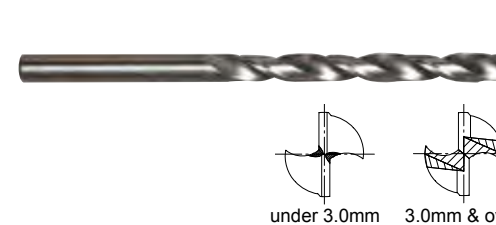
- VOLLHARTMETALL-SPIRALBOHRER
- Forets carbure, série courte
- PUNTE IN METALLO DURO

JOBBER

KURZ  
COURTE  
CORTA

►Application : Drilling steels in general, cast steels, cast iron, chilled cast iron, malleable cast iron, non-ferrous heavy metals, non-ferrous light metals, abrasive plastics.

►Verwendung : Zum wirtschaftlichen Bohren von Stahl allgemein, Stahlguß, Hart-und Temperguß, Nichteisen Leichtmetallen, abrasiven Kunststoffen.



D1=D2

DIN 338 CARBIDE 30° h6 h7 118° p.A159

Recommended ToolHolder  
Plain Shank Page  
SHRINK FIT HOLDER D47-72  
HYDRAULIC CHUCK D15-46  
ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D5407010	1.0	12	34
D5407011	1.1	14	36
D5407012	1.2	16	38
D5407013	1.3	16	38
D5407014	1.4	18	40
D5407015	1.5	18	40
D5407016	1.6	20	43
D5407017	1.7	20	43
D5407018	1.8	22	46
D5407019	1.9	22	46
D5407020	2.0	24	49
D5407021	2.1	24	49
D5407022	2.2	27	53
D5407023	2.3	27	53
D5407024	2.4	30	57
D5407025	2.5	30	57
D5407026	2.6	30	57
D5407027	2.7	33	61
D5407028	2.8	33	61
D5407029	2.9	33	61
D5407030	3.0	33	61
D5407031	3.1	36	65

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D5407032	3.2	36	65
D5407033	3.3	36	65
D5407034	3.4	39	70
D5407035	3.5	39	70
D5407036	3.6	39	70
D5407037	3.7	39	70
D5407038	3.8	43	75
D5407039	3.9	43	75
D5407040	4.0	43	75
D5407041	4.1	43	75
D5407042	4.2	43	75
D5407043	4.3	47	80
D5407044	4.4	47	80
D5407045	4.5	47	80
D5407046	4.6	47	80
D5407047	4.7	47	80
D5407048	4.8	52	86
D5407049	4.9	52	86
D5407050	5.0	52	86
D5407051	5.1	52	86
D5407052	5.2	52	86
D5407053	5.3	52	86

► TiN(D6407), TiCN(DG407) and TiAlN(DH407) are available on your request.

► NEXT PAGE

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	○				○				○					○					

ISO Material Description	N										S						H					
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	◎	◎	◎	◎							○					○						

# YG GENERAL CARBIDE DRILLS

## D5407 SERIES

### CARBIDE DRILLS

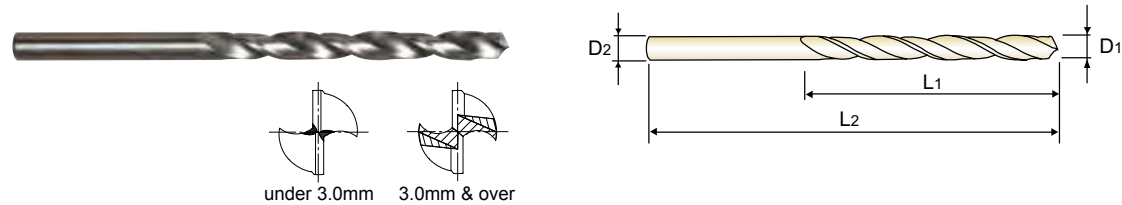
- VOLLHARTMETALL-SPIRALBOHRER
- Forets carbure, série courte
- MPUNTE IN METALLO DURO

JOBBER

KURZ  
COURTE  
CORTA

►Application : Drilling steels in general, cast steels, cast iron, chilled cast iron, malleable cast iron, non-ferrous heavy metals, non-ferrous light metals, abrasive plastics.

►Verwendung : Zum wirtschaftlichen Bohren von Stahl allgemein, Stahlguß, Hart-und Temperguß, Nichteisen Leichtmetallen, abrasiven Kunststoffen.



D1=D2

DIN 338 CARBIDE 30° h6 h7 118° p.A159

Plain Shank		Page
⊙	SHRINK FIT HOLDER	D47 - 72
⊙	HYDRAULIC CHUCK	D15 - 46
⊙	ER COLLET CHUCK	D73 - 115

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2		D1	L1	L2
D5407054	5.4	57	93	D5407070	7.0	69	109
D5407055	5.5	57	93	D5407075	7.5	69	109
D5407056	5.6	57	93	D5407080	8.0	75	117
D5407057	5.7	57	93	D5407085	8.5	75	117
D5407058	5.8	57	93	D5407090	9.0	81	125
D5407059	5.9	57	93	D5407095	9.5	81	125
D5407060	6.0	57	93	D5407100	10.0	87	133
D5407061	6.1	63	101	D5407102	10.2	87	133
D5407062	6.2	63	101	D5407105	10.5	87	133
D5407063	6.3	63	101	D5407110	11.0	94	142
D5407064	6.4	63	101	D5407115	11.5	94	142
D5407065	6.5	63	101	D5407120	12.0	101	151
D5407068	6.8	69	109	D5407130	13.0	101	151

► TiN(D6407), TiCN(DG407) and TiAlN(DH407) are available on your request.

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# YG GENERAL CARBIDE DRILLS

## RECOMMENDED CUTTING CONDITIONS EMPFOLHENE SCHNEIDPARAMETER

### D5405, D5407 SERIES GENERAL CARBIDE DRILLS

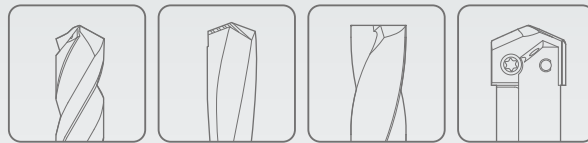
VC = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)		Vc	Parameter	Drill Diameter (mm)											
					1.0	2.0			3.0	4.0	5.0	6.0	8.0	10.0	12.0	13.0				
P	1	Non-alloy steel	55	RPM	17510	8750	70	RPM	7430	5570	4460	3710	2790	2230	1860	1710				
			FEED	0.02-0.03	0.02-0.04	0.03-0.05			0.03-0.06	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.10-0.14	0.12-0.16					
	2	45	RPM	14320	7160	60	RPM	6370	4770	3820	3180	2390	1910	1590	1470					
M	6	Low alloy steel	35	RPM	11140	5570	50	RPM	5310	3980	3180	2650	1990	1590	1330	1220				
			FEED	0.02-0.03	0.02-0.04	0.03-0.05			0.03-0.06	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.10-0.14	0.12-0.16					
	12	15	RPM	4770	2390	25	RPM	2650	1990	1590	1330	990	800	660	610					
K	15	Grey cast iron	25	RPM	7960	3980	45	RPM	4770	3580	2860	2390	1790	1430	1190	1100				
			FEED	0.03-0.04	0.03-0.05	0.04-0.06			0.04-0.07	0.05-0.08	0.06-0.09	0.09-0.12	0.12-0.16	0.14-0.18	0.16-0.20					
	21	90	RPM	31830	15920	140	RPM	14850	11140	8910	7430	5570	4460	3710	3430					
N	22	Aluminum-wrought alloy	90	RPM	28650	14320	120	RPM	12730	9550	7640	6370	4770	3820	3180	2940				
			FEED	0.04-0.05	0.04-0.06	0.05-0.07			0.05-0.08	0.06-0.09	0.08-0.11	0.12-0.15	0.15-0.19	0.19-0.23	0.21-0.25					
	23	70	RPM	22280	11140	100	RPM	10610	7960	6370	5310	3980	3180	2650	2450					
S	24	Aluminum-cast, alloyed	60	RPM	19100	9550	80	RPM	8490	6370	5090	4240	3180	2550	2120	1960				
			FEED	0.04-0.05	0.04-0.06	0.05-0.07			0.05-0.08	0.06-0.09	0.08-0.11	0.12-0.15	0.15-0.19	0.19-0.23	0.21-0.25					
	36	10	RPM	3180	1590	20	RPM	2120	1590	1270	1060	800	640	530	490					





Global Cutting Tool Leader **YG-1**



# HOLEMAKING



Leading Through Innovation



**HSS-PM**

# MULTI-1 DRILLS

## MULTI-1 BOHRER

- Premium HSS-PM Drills  
For Wide Range of Applications Particularly Stainless Steels and Titanium
- HSS-PM Bohrer  
Für ein breites Anwendungsspektrum, insbesondere Edelstahl und Titan

SELECTION GUIDE



SERIES	CDRA03	CDRA04
TOOL MATERIAL	HSS-PM	
LENGTH	STUB	JOBBER
SIZE MIN	D1.0	D2.0
SIZE MAX	D13.0	D13.0
PAGE	A163	A166
SURFACE TREATMENT	TiAIN	

# HSS-PM MULTI-1 DRILLS

Premium HSS-PM Drills for Wide Range of Applications Particularly Stainless Steels and Titanium



◎ : Excellent ○ : Good

Recommended cutting conditions : p.A169

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	CDRA03	CDRA04
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	○	○
	4		About 0.75% C Annealed	270	28		
	5		About 0.75% C Quenched & Tempered	300	32		
	6	Low alloy steel	Annealed	180	10	◎	◎
	7		Quenched & Tempered	275	29	○	○
	8		Quenched & Tempered	300	32	○	○
	9		Quenched & Tempered	350	38	○	○
	10		High alloyed steel, and tool steel	Annealed	200	15	
	11		Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○
	13		Martensitic Quenched & Tempered	240	23		
	14		Austenitic	180	10	◎	◎
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○
	16		Pearlitic (Martensitic)	260	26		
	17	Nodular cast iron	Ferritic	160	3		
	18		Pearlitic	250	25		
	19		Ferritic	130			
20	Malleable cast iron	Pearlitic	230	21			
N	21	Aluminum-wrought alloy	Not Curable	60		◎	◎
	22		Curable Hardened	100		◎	◎
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○
	24		≤ 12% Si, Curable Hardened	90		○	○
	25		> 12% Si, Not Curable	130			
	26		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90		
	27	Non Metallic Materials	Cutting Alloys, PB>1%	110			
	28		CuSn, lead-free copper and electrolytic copper	100			
	29		Duroplastic, Fiber Reinforced Plastic				
	30	Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Ni or Co Based Cured	350	38		
	35		Cast	320	34		
36	Titanium Alloys	Pure Titanium	400 Rm				
37		Alpha + Beta Alloys Hardened	1050 Rm			○	
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40		Chilled Cast Iron	Cast	400	42	
41	Hardened Cast Iron	Hardened	550	55			

# YG MULTI-1 DRILLS

CDRA03 SERIES

## HSS-PM, MULTI-1 DRILLS

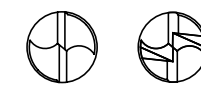
- HSS-PM MULTI-1 BOHRER
- Forets MULTI-1 HSS-PM Premium, série extra-courte
- PUNTA GAMBO CILINDRICO MULTI-1, HSS-PM

STUB

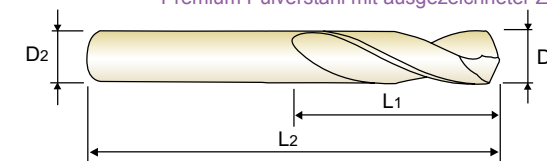
EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

- Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRc30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
- Advantage** : Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

- Anwendung** : Baustähle, Kohlenstoffstähle, legierte Stähle, vorgehärtete Stähle, Formstähle, rostfreie Stähle, gehärtete Stähle (HRc 30~45), Gusseisen, Aluminiumlegierungen, Nichteisen Legierungen, Titan.
- Vorteile** : Maximale Selbstzentrierung durch besonderen Spitzenanschliff. Bohrergeometrie für optimale Spanabfuhr. Premium Pulverstahl mit ausgezeichneter Zähigkeit.



up to 1.4mm over 1.4mm



HSS PM
30°
h6
h7
118°
135°
TiAIN
p.A169

up to 1.9mm over 1.9mm

Plain Shank
ER COLLET CHUCK
D73-115

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAIN	D1	D2	L1	L2
CDRA03010	1.0	3	6	38
CDRA03011	1.1	3	7	39
CDRA03012	1.2	3	8	40
CDRA03013	1.3	3	8	40
CDRA03014	1.4	3	9	41
CDRA03015	1.5	3	9	41
CDRA03016	1.6	3	10	42
CDRA03017	1.7	3	10	42
CDRA03018	1.8	3	11	43
CDRA03019	1.9	3	11	43
CDRA03020	2.0	3	12	44
CDRA03021	2.1	3	12	44
CDRA03022	2.2	3	13	45
CDRA03023	2.3	3	13	45
CDRA03024	2.4	3	14	46
CDRA03025	2.5	3	14	46
CDRA03026	2.6	3	14	46
CDRA03027	2.7	3	16	48
CDRA03028	2.8	3	16	48
CDRA03029	2.9	3	16	48
CDRA03030	3.0	3	16	48
CDRA03031	3.1	4	18	50
CDRA03032	3.2	4	18	50
CDRA03033	3.3	4	18	50

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
TiAIN	D1	D2	L1	L2
CDRA03034	3.4	4	20	52
CDRA03035	3.5	4	20	52
CDRA03036	3.6	4	20	52
CDRA03037	3.7	4	20	52
CDRA03038	3.8	4	22	54
CDRA03039	3.9	4	22	54
CDRA03040	4.0	4	22	54
CDRA03041	4.1	6	22	66
CDRA03042	4.2	6	22	66
CDRA03043	4.3	6	24	68
CDRA03044	4.4	6	24	68
CDRA03045	4.5	6	24	68
CDRA03046	4.6	6	24	68
CDRA03047	4.7	6	24	68
CDRA03048	4.8	6	26	70
CDRA03049	4.9	6	26	70
CDRA03050	5.0	6	26	70
CDRA03051	5.1	6	26	70
CDRA03052	5.2	6	26	70
CDRA03053	5.3	6	26	70
CDRA03054	5.4	6	28	72
CDRA03055	5.5	6	28	72
CDRA03056	5.6	6	28	72
CDRA03057	5.7	6	28	72

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323																					
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
HB	◎	◎	○			◎	○	○	○		○	◎			○						
Recommended																					
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323																					
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550
HB	◎	◎	○	○							◎	◎	◎	◎	◎	○	○	◎	◎	◎	◎
Recommended																					



# YG MULTI-1 DRILLS

CDRA03 SERIES

## HSS-PM, MULTI-1 DRILLS

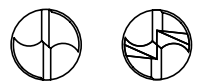
STUB

- HSS-PM MULTI-1 BOHRER
- Forets MULTI-1 HSS-PM Premium, série extra-courte
- PUNTA GAMBO CILINDRICO MULTI-1, HSS-PM

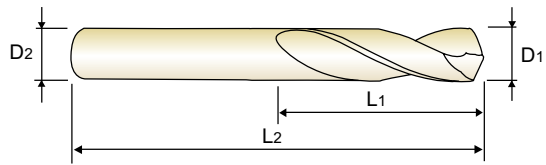
EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

► **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRc30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.  
► **Advantage** : Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

► **Anwendung** : Baustähle, Kohlenstoffstähle, legierte Stähle, vorgehärtete Stähle, Formstähle, rostfreie Stähle, gehärtete Stähle (HRc 30~45), Gusseisen, Aluminiumlegierungen, Nichteisen Legierungen, Titan.  
► **Vorteile** : Maximale Selbstzentrierung durch besonderen Spitzenanschliff. Bohrergeometrie für optimale Spanabfuhr. Premium Pulverstahl mit ausgezeichneter Zähigkeit.



up to 1.4mm over 1.4mm



up to 1.9mm over 1.9mm



Plain Shank Page  
ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length		Overall Length
			L1	L2	
TiAlN	D1	D2	L1	L2	
CDRA03058	5.8	6	28	72	
CDRA03059	5.9	6	28	72	
CDRA03060	6.0	6	28	72	
CDRA03061	6.1	8	31	75	
CDRA03062	6.2	8	31	75	
CDRA03063	6.3	8	31	75	
CDRA03064	6.4	8	31	75	
CDRA03065	6.5	8	31	75	
CDRA03066	6.6	8	31	75	
CDRA03067	6.7	8	31	75	
CDRA03068	6.8	8	34	78	
CDRA03069	6.9	8	34	78	
CDRA03070	7.0	8	34	78	
CDRA03071	7.1	8	34	78	
CDRA03072	7.2	8	34	78	
CDRA03073	7.3	8	34	78	
CDRA03074	7.4	8	34	78	
CDRA03075	7.5	8	34	78	
CDRA03076	7.6	8	37	81	
CDRA03077	7.7	8	37	81	
CDRA03078	7.8	8	37	81	
CDRA03079	7.9	8	37	81	
CDRA03080	8.0	8	37	81	
CDRA03081	8.1	10	37	87	

EDP No.	Drill Diameter	Shank Diameter	Flute Length		Overall Length
			L1	L2	
TiAlN	D1	D2	L1	L2	
CDRA03082	8.2	10	37	87	
CDRA03083	8.3	10	37	87	
CDRA03084	8.4	10	37	87	
CDRA03085	8.5	10	37	87	
CDRA03086	8.6	10	40	90	
CDRA03087	8.7	10	40	90	
CDRA03088	8.8	10	40	90	
CDRA03089	8.9	10	40	90	
CDRA03090	9.0	10	40	90	
CDRA03091	9.1	10	40	90	
CDRA03092	9.2	10	40	90	
CDRA03093	9.3	10	40	90	
CDRA03094	9.4	10	40	90	
CDRA03095	9.5	10	40	90	
CDRA03096	9.6	10	43	93	
CDRA03097	9.7	10	43	93	
CDRA03098	9.8	10	43	93	
CDRA03099	9.9	10	43	93	
CDRA03100	10.0	10	43	93	
CDRA03101	10.1	12	43	100	
CDRA03102	10.2	12	43	100	
CDRA03103	10.3	12	43	100	
CDRA03104	10.4	12	43	100	
CDRA03105	10.5	12	43	100	

Unit : mm

◎ : Excellent ○ : Good

ISO	P					M					K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel									
Material Description																				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

# YG MULTI-1 DRILLS

CDRA03 SERIES

## HSS-PM, MULTI-1 DRILLS

STUB

- HSS-PM MULTI-1 BOHRER
- Forets MULTI-1 HSS-PM Premium, série extra-courte
- PUNTA GAMBO CILINDRICO MULTI-1, HSS-PM

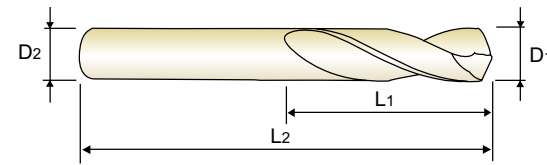
EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

► **Application** : Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRc30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.  
► **Advantage** : Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

► **Anwendung** : Baustähle, Kohlenstoffstähle, legierte Stähle, vorgehärtete Stähle, Formstähle, rostfreie Stähle, gehärtete Stähle (HRc 30~45), Gusseisen, Aluminiumlegierungen, Nichteisen Legierungen, Titan.  
► **Vorteile** : Maximale Selbstzentrierung durch besonderen Spitzenanschliff. Bohrergeometrie für optimale Spanabfuhr. Premium Pulverstahl mit ausgezeichneter Zähigkeit.



up to 1.4mm over 1.4mm



up to 1.9mm over 1.9mm



Plain Shank Page  
ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length		Overall Length
			L1	L2	
TiAlN	D1	D2	L1	L2	
CDRA03106	10.6	12	43	100	
CDRA03107	10.7	12	47	104	
CDRA03108	10.8	12	47	104	
CDRA03109	10.9	12	47	104	
CDRA03110	11.0	12	47	104	
CDRA03111	11.1	12	47	104	
CDRA03112	11.2	12	47	104	
CDRA03113	11.3	12	47	104	
CDRA03114	11.4	12	47	104	
CDRA03115	11.5	12	47	104	
CDRA03116	11.6	12	47	104	
CDRA03117	11.7	12	47	104	
CDRA03118	11.8	12	47	104	
CDRA03119	11.9	12	51	108	
CDRA03120	12.0	12	51	108	
CDRA03121	12.1	12	51	108	
CDRA03122	12.2	12	51	108	
CDRA03123	12.3	12	51	108	
CDRA03124	12.4	12	51	108	
CDRA03125	12.5	12	51	108	

EDP No.	Drill Diameter	Shank Diameter	Flute Length		Overall Length
			L1	L2	
TiAlN	D1	D2	L1	L2	
CDRA03126	12.6	12	51	108	
CDRA03127	12.7	12	51	108	
CDRA03128	12.8	12	51	108	
CDRA03129	12.9	12	51	108	
CDRA03130	13.0	12	51	108	

Unit : mm

◎ : Excellent ○ : Good

ISO	P					M					K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel									
Material Description																				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○



CDRA04 SERIES

HSS-PM, MULTI-1 DRILLS

JOBBER

- HSS-PM MULTI-1 BOHRER
Forets MULTI-1 HSS-PM Premium, série courte
PUNTA GAMBO CILINDRICO MULTI-1, HSS-PM

KURZ
COURTE
CORTA

Application: Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRC30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
Advantage: Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

Anwendung: Baustähle, Kohlenstoffstähle, legierte Stähle, vorgehärtete Stähle, Formstähle, rostfreie Stähle, gehärtete Stähle (HRc 30~45), Gusseisen, Aluminiumlegierungen, Nichteisen Legierungen, Titan.
Vorteile: Maximale Selbstzentrierung durch besonderen Spitzenanschliff. Bohrergeometrie für optimale Spanabfuhr. Premium Pulverstahl mit ausgezeichneter Zähigkeit.



Table with columns: EDP No., Drill Diameter, Shank Diameter, Flute Length, Overall Length. Lists various drill sizes from 2.0mm to 4.3mm.

Table with columns: EDP No., Drill Diameter, Shank Diameter, Flute Length, Overall Length. Lists various drill sizes from 4.4mm to 6.7mm.

▶ NEXT PAGE

◎: Excellent ○: Good

ISO Material Recommendation chart showing compatibility with various materials like Non-alloy steel, Low alloy steel, High alloyed steel, etc.



CDRA04 SERIES

HSS-PM, MULTI-1 DRILLS

JOBBER

- HSS-PM MULTI-1 BOHRER
Forets MULTI-1 HSS-PM Premium, série courte
PUNTA GAMBO CILINDRICO MULTI-1, HSS-PM

KURZ
COURTE
CORTA

Application: Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRC30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
Advantage: Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

Anwendung: Baustähle, Kohlenstoffstähle, legierte Stähle, vorgehärtete Stähle, Formstähle, rostfreie Stähle, gehärtete Stähle (HRc 30~45), Gusseisen, Aluminiumlegierungen, Nichteisen Legierungen, Titan.
Vorteile: Maximale Selbstzentrierung durch besonderen Spitzenanschliff. Bohrergeometrie für optimale Spanabfuhr. Premium Pulverstahl mit ausgezeichneter Zähigkeit.



Table with columns: EDP No., Drill Diameter, Shank Diameter, Flute Length, Overall Length. Lists various drill sizes from 6.8mm to 9.1mm.

Table with columns: EDP No., Drill Diameter, Shank Diameter, Flute Length, Overall Length. Lists various drill sizes from 9.2mm to 11.5mm.

▶ NEXT PAGE

◎: Excellent ○: Good

ISO Material Recommendation chart showing compatibility with various materials like Non-alloy steel, Low alloy steel, High alloyed steel, etc.



RECOMMENDED CUTTING CONDITIONS  
EMPFOHLENE SCHNEIDPARAMETER

CDRA04 SERIES

CDRA03, CDRA04 SERIES MULTI-1 DRILLS

VC = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

**HSS-PM, MULTI-1 DRILLS**

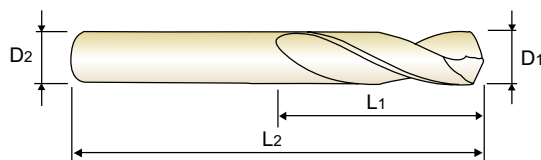
JOBBER

- HSS-PM MULTI-1 BOHRER**
- Forets MULTI-1 HSS-PM Premium, série courte**
- PUNTA GAMBO CILINDRICO MULTI-1, HSS-PM**

KURZ  
COURTE  
CORTA

- Application:** Structural steels, Carbon steels, Alloy steels, Pre-hardened steels, Mold steels, Stainless steels, Hardened steels(HRC30~45), Cast iron, Aluminum alloys, Nonferrous alloys, Titanium.
- Advantage:** Point shape to maximize self-centering. Flute design for the best chip evacuation. Premium powder materials with excellent toughness.

- Anwendung:** Baustähle, Kohlenstoffstähle, legierte Stähle, vorgehärtete Stähle, Formstähle, rostfreie Stähle, gehärtete Stähle (HRc 30~45), Gusseisen, Aluminiumlegierungen, Nichteisen Legierungen, Titan.
- Vorteile:** Maximale Selbstzentrierung durch besonderen Spitzenanschliff. Bohrergeometrie für optimale Spanabfuhr. Premium Pulverstahl mit ausgezeichneter Zähigkeit.



HSS PM 30° h6 h7 135° TiAIN p.A169

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
CDRA04116	11.6	12	94	151
CDRA04117	11.7	12	94	151
CDRA04118	11.8	12	94	151
CDRA04119	11.9	12	101	158
CDRA04120	12.0	12	101	158
CDRA04121	12.1	12	101	158
CDRA04122	12.2	12	101	158
CDRA04123	12.3	12	101	158

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
CDRA04124	12.4	12	101	158
CDRA04125	12.5	12	101	158
CDRA04126	12.6	12	101	158
CDRA04127	12.7	12	101	158
CDRA04128	12.8	12	101	158
CDRA04129	12.9	12	101	158
CDRA04130	13.0	12	101	158

Unit : mm

◎ : Excellent ○ : Good

ISO	Material Description	P									M				K					
		Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron	Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

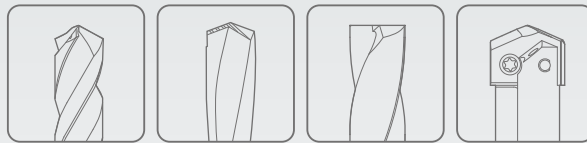
ISO	Material Description	S										H									
		Aluminum-wrought alloy				Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
Recommended	◎	◎	○	○												○					

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)				
					6.0	8.0	10.0	12.0	13.0
P	1	Non-alloy steel	40	RPM	2120	1590	1270	1060	980
				FEED	0.14~0.20	0.18~0.24	0.18~0.28	0.20~0.30	0.20~0.30
				RPM	1860	1390	1110	930	860
	2		35	RPM	1860	1390	1110	930	860
				FEED	0.14~0.20	0.18~0.24	0.18~0.28	0.20~0.30	0.20~0.30
				RPM	1860	1390	1110	930	860
	3		35	RPM	1860	1390	1110	930	860
				FEED	0.14~0.20	0.18~0.24	0.18~0.28	0.20~0.30	0.20~0.30
				RPM	1860	1390	1110	930	860
6	35	RPM	1860	1390	1110	930	860		
		FEED	0.14~0.20	0.18~0.24	0.18~0.28	0.20~0.30	0.20~0.30		
		RPM	1860	1390	1110	930	860		
7	30	RPM	1590	1190	950	800	730		
		FEED	0.12~0.18	0.14~0.20	0.14~0.24	0.16~0.26	0.16~0.26		
		RPM	1330	990	800	660	610		
8	25	RPM	1060	800	640	530	490		
		FEED	0.07~0.13	0.10~0.20	0.12~0.22	0.14~0.24	0.14~0.24		
		RPM	1060	800	640	530	490		
9	20	RPM	1060	800	640	530	490		
		FEED	0.07~0.13	0.10~0.20	0.12~0.22	0.14~0.24	0.14~0.24		
		RPM	1060	800	640	530	490		
12	20	RPM	1060	800	640	530	490		
		FEED	0.12~0.18	0.18~0.24	0.20~0.30	0.26~0.36	0.26~0.36		
14	15	RPM	800	600	480	400	370		
		FEED	0.07~0.13	0.10~0.20	0.12~0.22	0.14~0.24	0.14~0.24		
15	40	RPM	2120	1590	1270	1060	980		
		FEED	0.13~0.19	0.18~0.24	0.20~0.30	0.22~0.32	0.22~0.32		
N	21	Aluminum-wrought alloy	RPM	4770	3580	2860	2390	2200	
			FEED	0.40~0.46	0.45~0.51	0.51~0.61	0.63~0.73	0.63~0.73	
	RPM		4770	3580	2860	2390	2200		
	FEED		0.40~0.46	0.45~0.51	0.51~0.61	0.63~0.73	0.63~0.73		
22	90	RPM	4240	3180	2550	2120	1960		
		FEED	0.40~0.46	0.45~0.51	0.51~0.61	0.63~0.73	0.63~0.73		
23	80	RPM	4240	3180	2550	2120	1960		
		FEED	0.40~0.46	0.45~0.51	0.51~0.61	0.63~0.73	0.63~0.73		
24	70	RPM	3710	2790	2230	1860	1710		
		FEED	0.28~0.34	0.30~0.36	0.34~0.44	0.36~0.46	0.36~0.46		
36	5	RPM	270	200	160	130	120		
		FEED	0.07~0.13	0.09~0.15	0.12~0.22	0.14~0.24	0.14~0.24		





Global Cutting Tool Leader **YG-1**



# HOLEMAKING



Leading Through Innovation



**HSSCo8 & HSS-E**

# **HPD STRAIGHT SHANK DRILLS**

**HPD BOHRER**

- High Precision Drilling for General Steels & Stainless Steels
- Hochpräzises Bohren für allgemeine Stähle und rostfreie Stähle

SELECTION GUIDE



SERIES	D4541	D4542	DJ543	DJ544
TOOL MATERIAL	HSSCo8		HSS-E	
LENGTH	STUB	JOBBER	STUB	JOBBER
SIZE MIN	D2.0	D2.0	D2.0	D2.0
SIZE MAX	D13.0	D32.0	D13.0	D20.0
PAGE	A173	A177	A183	A186

SURFACE TREATMENT

TiN

# HSSCo8 & HSS-E HPD STRAIGHT SHANK DRILLS

High Precision Drilling for General Steels & Stainless Steels



◎ : Excellent ○ : Good

Recommended cutting conditions : P.198

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc				
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	○	○
	2		About 0.45% C Annealed	190	13	◎	◎		
	3		About 0.45% C Quenched & Tempered	250	25	○	○		
	4		About 0.75% C Annealed	270	28				
	5		About 0.75% C Quenched & Tempered	300	32				
	6	Low alloy steel	Annealed	180	10	◎	◎		
	7		Quenched & Tempered	275	29	○	○		
	8		Quenched & Tempered	300	32				
	9		Quenched & Tempered	350	38				
	10		High alloyed steel, and tool steel	Annealed	200	15	○	○	
	11	Quenched & Tempered	325	35					
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15			◎	◎
	13		Martensitic Quenched & Tempered	240	23			○	○
	14		Austenitic	180	10			◎	◎
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎		
	16		Pearlitic (Martensitic)	260	26				
	17	Nodular cast iron	Ferritic	160	3				
	18		Pearlitic	250	25				
	19	Malleable cast iron	Ferritic	130					
	20		Pearlitic	230	21				
N	21	Aluminum-wrought alloy	Not Curable	60				◎	◎
	22		Curable Hardened	100				◎	◎
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75					
	24		≤ 12% Si, Curable Hardened	90					
	25		> 12% Si, Not Curable	130					
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110					
	27		CuZn, CuSnZn (Brass)	90					
	28		CuSn, lead-free copper and electrolytic copper	100					
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15				
	32		Cured	280	30				
	33		Annealed	250	25				
	34		Ni or Co Based Cured	350	38				
	35		Cast	320	34				
36	Titanium Alloys	Pure Titanium	400 Rm						
37		Alpha + Beta Alloys Hardened	1050 Rm						
H	38	Hardened steel	Hardened	550	55				
	39		Hardened	630	60				
40	Chilled Cast Iron	Cast	400	42					
41	Hardened Cast Iron	Hardened	550	55					



D4541 SERIES

## HSSCo8, HPD TWIST DRILLS for STEELS

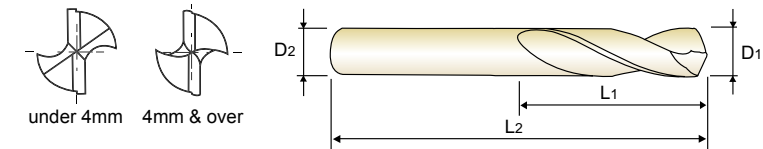
- PREMIUM HSS KOBALT, HPD SPIRALBOHRER für STÄHLE
- Forets HPD HSSCo Premium pour Aciers, série extra-courte
- PUNTE ELICOIDALI HPD IN PREMIUM HSS Co, PER ACCIAI

STUB

EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

- Application** : Designed for accurate drilling on NC/CNC machines. Drilling hard and tough materials, alloyed tool steels, inconel, nimonic, cast iron, aluminum die casting, etc.
- Advantage** : Helical thinning - good chip removal, self-centering, reducing thrust and improving accuracy. Reinforced web and stub length - increasing rigidity, reducing vibration and deflection. Premium Cobalt HSS with superior TiN coating - higher speed and feed, longer tool life. High quality & good surface finish, high productivity

- Anwendung** : Für präzises Bohren mit NC/CNC Maschinen, geeignet zum Bearbeiten von harten und zähen Werkstücken, Legierungen, Werkzeugstahl, Nimonic, Inconel, Gusseisen, Aluminium-Guss usw.
- Vorteile** : Durch Kreuzanschliff gute Spanentfernung, reduzierter Druck, verbesserte Genauigkeit, selbstzentriert, extra kurze Ausführung, verbesserte Stabilität, weniger Vibrationen und Abdrängung, Premium Kobalt HSS mit hochwertiger TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Oberflächengüte und Produktivität.



D1=D2



EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4541020	2.00	12	44
D4541920	2.05	12	44
D4541021	2.10	12	44
D4541921	2.15	13	45
D4541022	2.20	13	45
D4541922	2.25	13	45
D4541023	2.30	13	45
D4541923	2.35	13	45
D4541024	2.40	14	46
D4541924	2.45	14	46
D4541025	2.50	14	46
D4541925	2.55	14	46
D4541026	2.60	14	46
D4541926	2.65	14	46
D4541027	2.70	16	48
D4541927	2.75	16	48
D4541028	2.80	16	48
D4541928	2.85	16	48
D4541029	2.90	16	48
D4541929	2.95	16	48
D4541030	3.00	16	48
D4541930	3.05	18	50

EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4541031	3.10	18	50
D4541931	3.15	18	50
D4541032	3.20	18	50
D4541932	3.25	18	50
D4541033	3.30	18	50
D4541933	3.35	18	50
D4541034	3.40	20	52
D4541934	3.45	20	52
D4541035	3.50	20	52
D4541935	3.55	20	52
D4541036	3.60	20	52
D4541936	3.65	20	52
D4541037	3.70	20	52
D4541937	3.75	20	52
D4541038	3.80	22	54
D4541938	3.85	22	54
D4541039	3.90	22	54
D4541939	3.95	22	54
D4541040	4.00	22	54
D4541940	4.05	22	66
D4541041	4.10	22	66
D4541941	4.15	22	66

TiCN(D7541), TiAlN(DQ541) are available on your request.

NEXT PAGE

ISO	P										M						K			
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron	Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○			◎	○			○					◎					

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					



**HSSCo8, HPD TWIST DRILLS for STEELS**

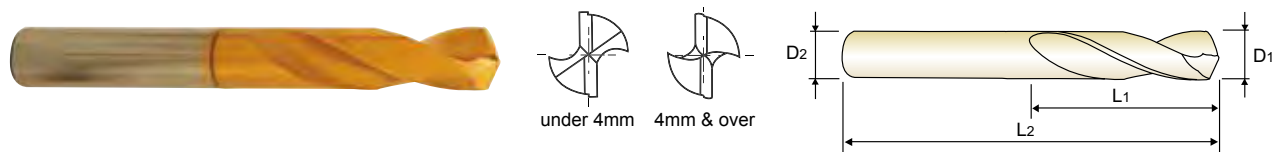
STUB

- PREMIUM HSS KOBALT, HPD SPIRALBOHRER für STÄHLE
- Forets HPD HSSCo Premium pour Aciers, série extra-courte
- PUNTE ELICOIDALI HPD IN PREMIUM HSS Co, PER ACCIAI

EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

**►Application** : Designed for accurate drilling on NC/CNC machines. Drilling hard and tough materials, alloyed tool steels, inconel, nimonic, cast iron, aluminum die casting, etc.  
**►Advantage** : Helical thinning - good chip removal, self-centering, reducing thrust and improving accuracy. Reinforced web and stub length - increasing rigidity, reducing vibration and deflection. Premium Cobalt HSS with superior TiN coating - higher speed and feed, longer tool life. High quality & good surface finish, high productivity

**►Anwendung** : Für präzises Bohren mit NC/CNC Maschinen, geeignet zum Bearbeiten von harten und zähen Werkstücken, Legierungen, Werkzeugstahl, Nimonic, Inconel, Gusseisen, Aluminium-Guss usw.  
**►Vorteile** : Durch Kreuzanschliff gute Spanentfernung, reduzierter Druck, verbesserte Genauigkeit, selbstzentriert, extra kurze Ausführung, verbesserte Stabilität, weniger Vibrationen und Abdrängung. Premium Kobalt HSS mit hochwertiger TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Oberflächengüte und Produktivität.



EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4541042	4.20	22	66
D4541942	4.25	22	66
D4541043	4.30	24	68
D4541943	4.35	24	68
D4541044	4.40	24	68
D4541944	4.45	24	68
D4541045	4.50	24	68
D4541945	4.55	24	68
D4541046	4.60	24	68
D4541946	4.65	24	68
D4541047	4.70	24	68
D4541947	4.75	24	68
D4541048	4.80	26	70
D4541948	4.85	26	70
D4541049	4.90	26	70
D4541949	4.95	26	70
D4541050	5.00	26	70
D4541950	5.05	26	70
D4541051	5.10	26	70
D4541951	5.15	26	70
D4541052	5.20	26	70
D4541952	5.25	26	70

EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4541053	5.30	26	70
D4541953	5.35	28	72
D4541054	5.40	28	72
D4541954	5.45	28	72
D4541055	5.50	28	72
D4541955	5.55	28	72
D4541056	5.60	28	72
D4541956	5.65	28	72
D4541057	5.70	28	72
D4541957	5.75	28	72
D4541058	5.80	28	72
D4541958	5.85	28	72
D4541059	5.90	28	72
D4541959	5.95	28	72
D4541060	6.00	28	72
D4541061	6.10	31	75
D4541062	6.20	31	75
D4541063	6.30	31	75
D4541064	6.40	31	75
D4541065	6.50	31	75
D4541065	6.55	31	75
D4541066	6.60	31	75

► TiCN(D7541), TiAlN(DQ541) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO	N										S				H						
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials	Heat Resistant Super Alloys		Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

**HSSCo8, HPD TWIST DRILLS for STEELS**

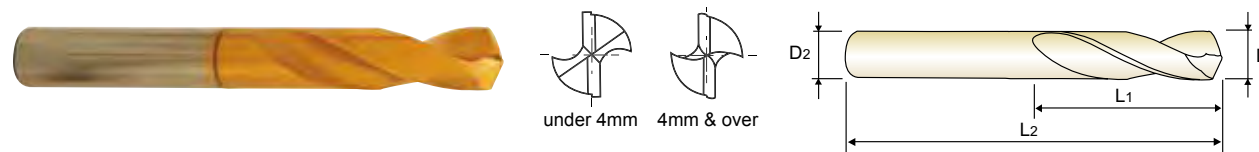
STUB

- PREMIUM HSS KOBALT, HPD SPIRALBOHRER für STÄHLE
- Forets HPD HSSCo Premium pour Aciers, série extra-courte
- PUNTE ELICOIDALI HPD IN PREMIUM HSS Co, PER ACCIAI

EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

**►Application** : Designed for accurate drilling on NC/CNC machines. Drilling hard and tough materials, alloyed tool steels, inconel, nimonic, cast iron, aluminum die casting, etc.  
**►Advantage** : Helical thinning - good chip removal, self-centering, reducing thrust and improving accuracy. Reinforced web and stub length - increasing rigidity, reducing vibration and deflection. Premium Cobalt HSS with superior TiN coating - higher speed and feed, longer tool life. High quality & good surface finish, high productivity

**►Anwendung** : Für präzises Bohren mit NC/CNC Maschinen, geeignet zum Bearbeiten von harten und zähen Werkstücken, Legierungen, Werkzeugstahl, Nimonic, Inconel, Gusseisen, Aluminium-Guss usw.  
**►Vorteile** : Durch Kreuzanschliff gute Spanentfernung, reduzierter Druck, verbesserte Genauigkeit, selbstzentriert, extra kurze Ausführung, verbesserte Stabilität, weniger Vibrationen und Abdrängung. Premium Kobalt HSS mit hochwertiger TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Oberflächengüte und Produktivität.



EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4541966	6.65	31	75
D4541067	6.70	31	75
D4541068	6.80	34	78
D4541069	6.90	34	78
D4541070	7.00	34	78
D4541071	7.10	34	78
D4541072	7.20	34	78
D4541073	7.30	34	78
D4541973	7.35	34	78
D4541074	7.40	34	78
D4541075	7.50	34	78
D4541975	7.55	37	81
D4541076	7.60	37	81
D4541976	7.65	37	81
D4541077	7.70	37	81
D4541078	7.80	37	81
D4541079	7.90	37	81
D4541080	8.00	37	81
D4541081	8.10	37	87
D4541082	8.20	37	87
D4541083	8.30	37	87
D4541983	8.35	37	87

EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4541084	8.40	37	87
D4541085	8.50	37	87
D4541985	8.55	40	90
D4541086	8.60	40	90
D4541986	8.65	40	90
D4541087	8.70	40	90
D4541088	8.80	40	90
D4541089	8.90	40	90
D4541090	9.00	40	90
D4541091	9.10	40	90
D4541092	9.20	40	90
D4541992	9.25	40	90
D4541093	9.30	40	90
D4541993	9.35	40	90
D4541094	9.40	40	90
D4541994	9.45	40	90
D4541095	9.50	40	90
D4541995	9.55	43	93
D4541096	9.60	43	93
D4541996	9.65	43	93
D4541097	9.70	43	93
D4541098	9.80	43	93

► TiCN(D7541), TiAlN(DQ541) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO	N										S				H						
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials	Heat Resistant Super Alloys		Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

**HSSCo8, HPD TWIST DRILLS for STEELS**

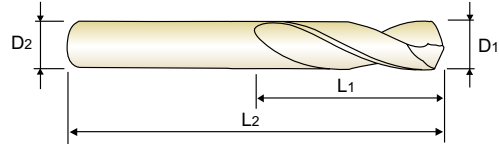
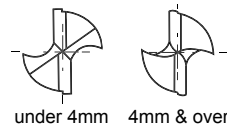
STUB

- PREMIUM HSS KOBALT, HPD SPIRALBOHRER für STÄHLE
- Forets HPD HSSCo Premium pour Aciers, série extra-courte
- PUNTE ELICOIDALI HPD IN PREMIUM HSS Co, PER ACCIAI

EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

**Application** : Designed for accurate drilling on NC/CNC machines. Drilling hard and tough materials, alloyed tool steels, inconel, nimonic, cast iron, aluminum die casting, etc.  
**Advantage** : Helical thinning - good chip removal, self-centering, reducing thrust and improving accuracy. Reinforced web and stub length - increasing rigidity, reducing vibration and deflection. Premium Cobalt HSS with superior TiN coating - higher speed and feed, longer tool life. High quality & good surface finish, high productivity

**Anwendung** : Für präzises Bohren mit NC/CNC Maschinen, geeignet zum Bearbeiten von harten und zähen Werkstücken, Legierungen, Werkzeugstahl, Nimonic, Inconel, Gusseisen, Aluminium-Guss usw.  
**Vorteile** : Durch Kreuzanschliff gute Spanentfernung, reduzierter Druck, verbesserte Genauigkeit, selbstzentriert, extra kurze Ausführung, verbesserte Stabilität, weniger Vibrationen und Abdrängung. Premium Kobalt HSS mit hochwertiger TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Oberflächengüte und Produktivität.



D1=D2

HSS Co8, 25°, h7, h8, 130°, TiN, p.A189

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4541099	9.90	43	93
D4541999	9.95	43	93
D4541100	10.00	43	93
D4541101	10.10	43	100
D4541102	10.20	43	100
D4541802	10.25	43	100
D4541103	10.30	43	100
D4541803	10.35	43	100
D4541104	10.40	43	100
D4541105	10.50	43	100
D4541805	10.55	43	100
D4541106	10.60	43	100
D4541806	10.65	47	104
D4541107	10.70	47	104
D4541108	10.80	47	104
D4541109	10.90	47	104
D4541809	10.95	47	104
D4541110	11.00	47	104
D4541111	11.10	47	104
D4541112	11.20	47	104
D4541812	11.25	47	104
D4541113	11.30	47	104

EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4541813	11.35	47	104
D4541114	11.40	47	104
D4541115	11.50	47	104
D4541815	11.55	47	104
D4541116	11.60	47	104
D4541117	11.70	47	104
D4541118	11.80	47	104
D4541119	11.90	51	108
D4541120	12.00	51	108
D4541121	12.10	51	108
D4541122	12.20	51	108
D4541123	12.30	51	108
D4541124	12.40	51	108
D4541125	12.50	51	108
D4541126	12.60	51	108
D4541127	12.70	51	108
D4541128	12.80	51	108
D4541129	12.90	51	108
D4541130	13.00	51	108

TiCN(D7541), TiAlN(DQ541) are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

**HSSCo8, HPD TWIST DRILLS for STEELS**

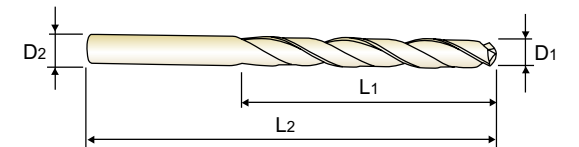
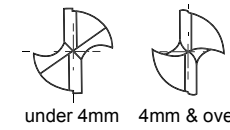
JOBBER

- PREMIUM HSS KOBALT, HPD SPIRALBOHRER für STÄHLE
- Forets HPD HSSCo Premium pour Aciers, série courte
- PUNTE ELICOIDALI HPD IN PREMIUM HSS Co, PER ACCIAI

KURZ  
COURTE  
CORTA

**Application** : Designed for high speed non-step 4D~5D drilling. Drilling mild steels, cast iron, aluminum, alloyed tool steels, etc.  
**Advantage** : Helical thinning - good chip removal, self-centering, reducing thrust and improving accuracy. Reinforced web and jobbers length - increasing rigidity and suitable for 4D~5D drilling. Premium Cobalt HSS with superior TiN coating - higher speed and feed, longer tool life. High quality & good surface finish, high productivity.

**Anwendung** : Zum Hochgeschwindigkeitsbohren 4D~5D Bohrtiefe geeignet zum Bearbeiten von Stahl, Gusseisen, Aluminium, Legierungen, Werkzeugstahl, usw.  
**Vorteile** : Gute Spanabfuhr, selbstzentriert, geringere Abdrängung und verbesserte Genauigkeit, kurze Ausführung, verbesserte Stabilität, zum Bearbeiten von Premium kobalt HSS mit hochwertiger TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Oberflächengüte und Produktivität.



D1=D2

HSS Co8, 30°, h7, h6, h8, 130°, TiN, p.A189

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

up to 13mm over 13mm

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4542020	2.00	24	56
D4542920	2.05	24	56
D4542021	2.10	24	56
D4542921	2.15	27	59
D4542022	2.20	27	59
D4542922	2.25	27	59
D4542023	2.30	27	59
D4542923	2.35	27	59
D4542024	2.40	30	62
D4542924	2.45	30	62
D4542025	2.50	30	62
D4542925	2.55	30	62
D4542026	2.60	30	62
D4542926	2.65	30	62
D4542027	2.70	33	65
D4542927	2.75	33	65
D4542028	2.80	33	65
D4542928	2.85	33	65
D4542029	2.90	33	65
D4542929	2.95	33	65
D4542030	3.00	33	65
D4542930	3.05	36	68

EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4542031	3.10	36	68
D4542931	3.15	36	68
D4542032	3.20	36	68
D4542932	3.25	36	68
D4542033	3.30	36	68
D4542933	3.35	36	68
D4542034	3.40	39	71
D4542934	3.45	39	71
D4542035	3.50	39	71
D4542935	3.55	39	71
D4542036	3.60	39	71
D4542936	3.65	39	71
D4542037	3.70	39	71
D4542937	3.75	39	71
D4542038	3.80	43	75
D4542938	3.85	43	75
D4542039	3.90	43	75
D4542939	3.95	43	75
D4542040	4.00	43	75
D4542940	4.05	43	87
D4542041	4.10	43	87
D4542941	4.15	43	87

TiCN(D7542), TiAlN(DQ542) are available on your request.

NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

**HSSCo8, HPD TWIST DRILLS for STEELS**

JOBBER

- PREMIUM HSS KOBALT, HPD SPIRALBOHRER für STÄHLE
- Forets HPD HSSCo Premium pour Aciers, série courte
- PUNTE ELICOIDALI HPD IN PREMIUM HSS Co, PER ACCIAI

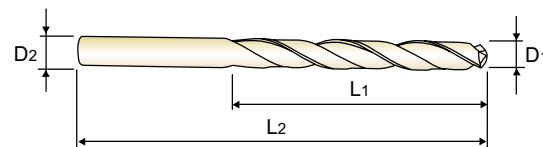
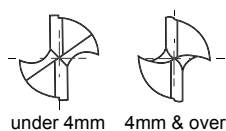
KURZ  
COURTE  
CORTA

**Application** : Designed for high speed non-step 4D~5D drilling. Drilling mild steels, cast iron, aluminum, alloyed tool steels, etc.

**Advantage** : Helical thinning - good chip removal, self-centering, reducing thrust and improving accuracy. Reinforced web and jobbers length - increasing rigidity and suitable for 4D~5D drilling. Premium Cobalt HSS with superior TiN coating - higher speed and feed, longer tool life. High quality & good surface finish, high productivity.

**Anwendung** : Zum Hochgeschwindigkeitsbohren 4D~5D Bohrtiefe geeignet zum Bearbeiten von Stahl, Gusseisen, Aluminium, Legierungen, Werkzeugstahl, usw.

**Vorteile** : Gute Spanabfuhr, selbstzentriert, geringere Abdrängung und verbesserte Genauigkeit, kurze Ausführung, verbesserte Stabilität, zum Bearbeiten von Premium kobalt HSS mit hochwertiger TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Oberflächengüte und Produktivität.



D1=D2



p.A189



up to 13mm over 13mm

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4542042	4.20	43	87
D4542942	4.25	43	87
D4542043	4.30	47	91
D4542943	4.35	47	91
D4542044	4.40	47	91
D4542944	4.45	47	91
D4542045	4.50	47	91
D4542945	4.55	47	91
D4542046	4.60	47	91
D4542946	4.65	47	91
D4542047	4.70	47	91
D4542947	4.75	47	91
D4542048	4.80	52	96
D4542948	4.85	52	96
D4542049	4.90	52	96
D4542949	4.95	52	96
D4542050	5.00	52	96
D4542950	5.05	52	96
D4542051	5.10	52	96
D4542951	5.15	52	96
D4542052	5.20	52	96
D4542952	5.25	52	96

EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4542053	5.30	52	96
D4542953	5.35	57	101
D4542054	5.40	57	101
D4542954	5.45	57	101
D4542055	5.50	57	101
D4542955	5.55	57	101
D4542056	5.60	57	101
D4542956	5.65	57	101
D4542057	5.70	57	101
D4542957	5.75	57	101
D4542058	5.80	57	101
D4542958	5.85	57	101
D4542059	5.90	57	101
D4542959	5.95	57	101
D4542060	6.00	57	101
D4542960	6.05	63	107
D4542061	6.10	63	107
D4542961	6.15	63	107
D4542062	6.20	63	107
D4542962	6.25	63	107
D4542063	6.30	63	107
D4542963	6.35	63	107

TiCN(D7542), TiAlN(DQ542) are available on your request.

NEXT PAGE

⊙ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	⊙	⊙	○	○	○	⊙	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S				H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	⊙	⊙	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

**HSSCo8, HPD TWIST DRILLS for STEELS**

JOBBER

- PREMIUM HSS KOBALT, HPD SPIRALBOHRER für STÄHLE
- Forets HPD HSSCo Premium pour Aciers, série courte
- PUNTE ELICOIDALI HPD IN PREMIUM HSS Co, PER ACCIAI

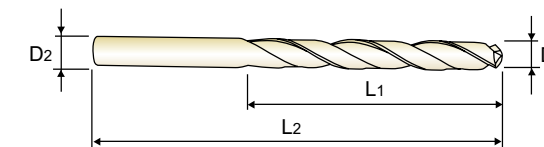
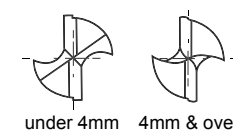
KURZ  
COURTE  
CORTA

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**Vorteile** : Gute Spanabfuhr, selbstzentriert, geringere Abdrängung und verbesserte Genauigkeit, kurze Ausführung, verbesserte Stabilität, zum Bearbeiten von Premium kobalt HSS mit hochwertiger TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Oberflächengüte und Produktivität.



D1=D2



p.A189



up to 13mm over 13mm

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4542064	6.40	63	107
D4542964	6.45	63	107
D4542065	6.50	63	107
D4542965	6.55	63	107
D4542066	6.60	63	107
D4542966	6.65	63	107
D4542067	6.70	63	107
D4542967	6.75	69	113
D4542068	6.80	69	113
D4542968	6.85	69	113
D4542069	6.90	69	113
D4542969	6.95	69	113
D4542070	7.00	69	113
D4542970	7.05	69	113
D4542071	7.10	69	113
D4542971	7.15	69	113
D4542072	7.20	69	113
D4542972	7.25	69	113
D4542073	7.30	69	113
D4542973	7.35	69	113
D4542074	7.40	69	113
D4542974	7.45	69	113

EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2
D4542075	7.50	69	113
D4542975	7.55	75	119
D4542076	7.60	75	119
D4542976	7.65	75	119
D4542077	7.70	75	119
D4542977	7.75	75	119
D4542078	7.80	75	119
D4542978	7.85	75	119
D4542079	7.90	75	119
D4542979	7.95	75	119
D4542080	8.00	75	119
D4542980	8.05	75	125
D4542081	8.10	75	125
D4542981	8.15	75	125
D4542082	8.20	75	125
D4542982	8.25	75	125
D4542083	8.30	75	125
D4542983	8.35	75	125
D4542084	8.40	75	125
D4542984	8.45	75	125
D4542085	8.50	75	125
D4542985	8.55	81	131

TiCN(D7542), TiAlN(DQ542) are available on your request.

NEXT PAGE

⊙ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	⊙	⊙	○	○	○	⊙	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S				H							
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	⊙	⊙	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



**HSSCo8, HPD TWIST DRILLS for STEELS**

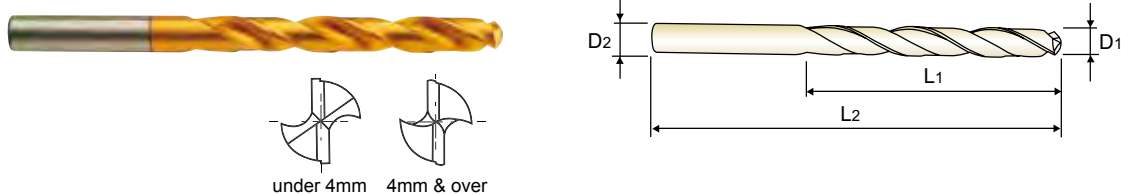
**JOBBER**

- PREMIUM HSS KOBALT, HPD SPIRALBOHRER für STÄHLE
- Forets HPD HSSCo Premium pour Aciers, série courte
- PUNTE ELICOIDALI HPD IN PREMIUM HSS Co, PER ACCIAI

**KURZ COURTE CORTA**

- **Application** : Designed for high speed non-step 4D~5D drilling. Drilling mild steels, cast iron, aluminum, alloyed tool steels, etc.
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D1=D2



p.A189



up to 13mm over 13mm

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2	TiN	D1	L1	L2
D4542086	8.60	81	131	D4542097	9.70	87	137
D4542986	8.65	81	131	D4542997	9.75	87	137
D4542087	8.70	81	131	D4542098	9.80	87	137
D4542987	8.75	81	131	D4542998	9.85	87	137
D4542088	8.80	81	131	D4542099	9.90	87	137
D4542988	8.85	81	131	D4542999	9.95	87	137
D4542089	8.90	81	131	D4542100	10.00	87	137
D4542989	8.95	81	131	D4542800	10.05	87	144
D4542090	9.00	81	131	D4542101	10.10	87	144
D4542990	9.05	81	131	D4542801	10.15	87	144
D4542091	9.10	81	131	D4542102	10.20	87	144
D4542991	9.15	81	131	D4542802	10.25	87	144
D4542092	9.20	81	131	D4542103	10.30	87	144
D4542992	9.25	81	131	D4542803	10.35	87	144
D4542093	9.30	81	131	D4542104	10.40	87	144
D4542993	9.35	81	131	D4542804	10.45	87	144
D4542094	9.40	81	131	D4542105	10.50	87	144
D4542994	9.45	81	131	D4542805	10.55	87	144
D4542095	9.50	81	131	D4542106	10.60	87	144
D4542995	9.55	87	137	D4542806	10.65	94	151
D4542096	9.60	87	137	D4542107	10.70	94	151
D4542996	9.65	87	137	D4542807	10.75	94	151

► TiCN(D7542), TiAIN(DQ542) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M						K				
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

**HSSCo8, HPD TWIST DRILLS for STEELS**

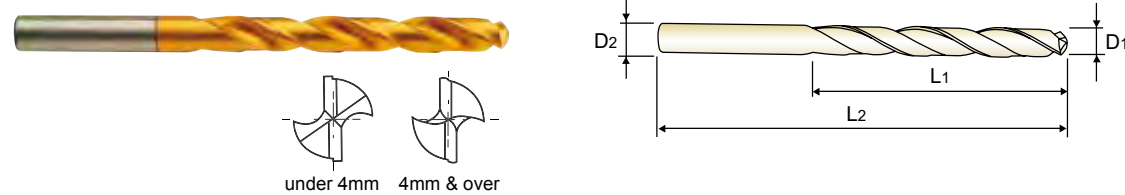
**JOBBER**

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D1=D2



p.A189



up to 13mm over 13mm

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
TiN	D1	L1	L2	TiN	D1	L1	L2
D4542108	10.80	94	151	D4542119	11.90	101	158
D4542808	10.85	94	151	D4542819	11.95	101	158
D4542109	10.90	94	151	D4542120	12.00	101	158
D4542809	10.95	94	151	D4542121	12.10	101	158
D4542110	11.00	94	151	D4542122	12.20	101	158
D4542810	11.05	94	151	D4542123	12.30	101	158
D4542111	11.10	94	151	D4542124	12.40	101	158
D4542811	11.15	94	151	D4542125	12.50	101	158
D4542112	11.20	94	151	D4542126	12.60	101	158
D4542812	11.25	94	151	D4542127	12.70	101	158
D4542113	11.30	94	151	D4542128	12.80	101	158
D4542813	11.35	94	151	D4542129	12.90	101	158
D4542114	11.40	94	151	D4542130	13.00	101	158
D4542814	11.45	94	151	D4542135	13.50	90	150
D4542115	11.50	94	151	D4542140	14.00	90	150
D4542815	11.55	94	151	D4542141	14.10	95	155
D4542116	11.60	94	151	D4542145	14.50	95	155
D4542816	11.65	94	151	D4542150	15.00	95	161
D4542117	11.70	94	151	D4542155	15.50	100	166
D4542817	11.75	94	151	D4542156	15.60	100	166
D4542118	11.80	94	151	D4542160	16.00	100	166
D4542818	11.85	101	158	D4542165	16.50	106	172

► TiCN(D7542), TiAIN(DQ542) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M						K				
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

**HSSCo8, HPD TWIST DRILLS for STEELS**

**JOBBER**

- PREMIUM HSS KOBALT, HPD SPIRALBOHRER für STÄHLE
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- PUNTE ELICOIDALI HPD IN PREMIUM HSS Co, PER ACCIAI

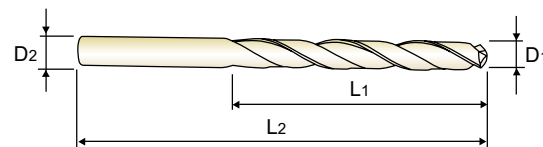
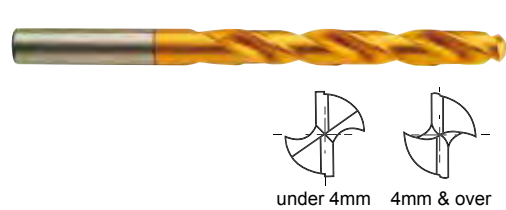
**KURZ  
COURTE  
CORTA**

**Application** : Designed for high speed non-step 4D~5D drilling. Drilling mild steels, cast iron, aluminum, alloyed tool steels, etc.

**Advantage** : Helical thinning - good chip removal, self-centering, reducing thrust and improving accuracy. Reinforced web and jobbers length - increasing rigidity and suitable for 4D~5D drilling. Premium Cobalt HSS with superior TiN coating - higher speed and feed, longer tool life. High quality & good surface finish, high productivity.

**Anwendung** : Zum Hochgeschwindigkeitsbohren 4D~5D Bohrtiefe geeignet zum Bearbeiten von Stahl, Gusseisen, Aluminium, Legierungen, Werkzeugstahl, usw.

**Vorteile** : Gute Spanabfuhr, selbstzentriert, geringere Abdrängung und verbesserte Genauigkeit, kurze Ausführung, verbesserte Stabilität, zum Bearbeiten von Premium kobalt HSS mit hochwertiger TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Oberflächengüte und Produktivität.



Icons for HSS Co8, 30°, h7, h6, h8, 130°, TiN, and p.A189. Text: up to 13mm over 13mm.

Plain Shank, ER COLLET CHUCK, D73-115, Recommended ToolHolder.

D1=D2

Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2
D4542170	17.00	106	172
D4542175	17.50	112	178
D4542176	17.60	112	178
D4542180	18.00	112	178
D4542185	18.50	118	184
D4542190	19.00	118	194
D4542195	19.50	125	201
D4542196	19.60	125	201
D4542200	20.00	125	201
D4542205	20.50	128	204
D4542210	21.00	128	204
D4542211	21.10	128	204
D4542215	21.50	132	208
D4542220	22.00	132	208
D4542225	22.50	136	212

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2
D4542230	23.00	136	212
D4542235	23.50	136	212
D4542240	24.00	140	220
D4542245	24.50	140	220
D4542250	25.00	140	220
D4542255	25.50	145	225
D4542260	26.00	145	225
D4542265	26.50	145	225
D4542270	27.00	150	230
D4542280	28.00	150	230
D4542290	29.00	155	235
D4542300	30.00	155	235
D4542310	31.00	160	240
D4542320	32.00	165	245

TiCN(D7542), TiAlN(DQ542) are available on your request.

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	⊙	⊙	○	○	○	⊙	○	○	○	○	○	○	○	○	⊙	○	○	○	○	○

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	⊙	⊙	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

**HSS-E, HPD-SUS TWIST DRILLS for STAINLESS STEELS**

**STUB**

- HSS-E, HPD-SUS SPIRALBOHRER für ROSTFREIER STÄHLE
- Forets HPD-SUS HSS-E pour INOX, série extra-courte
- PUNTE ELICOIDALI HPD-SUS IN HSS-E, PER ACCIAI INOX

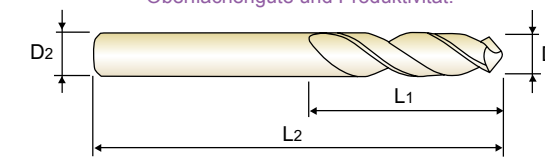
**EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA**

**Application** : Designed for drilling stainless steels, mild steels, aluminum, aluminum alloys, aluminum die casting, copper, copper alloys, etc.

**Advantage** : High helix-sharp cutting edges to avoid built-up and to be suitable for high performance drilling. Wide flute and stub length-increasing chip removal and reducing vibration and deflection. High vanadium HSS-E material with superior TiN coating - higher speed and feed, longer tool life. High quality & good surface finish, high productivity.

**Anwendung** : Geeignet zum Bearbeiten von rostfreier stähle, Aluminium, Aluminium-Legierungen, Aluminium-Guss, Kupfer, Kupfer-Legierungen usw.

**Vorteile** : Durch hohen Helix wird Spanstau vermieden, geeignet zum Hochleistungsbohren, durch die breiten Schneiden und die kurze Ausführung wird die Spanabfuhr erhöht und Vibrationen und Stoß reduziert. Hoch Vanadium HSS-E-Material mit TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Oberflächengüte und Produktivität.



Icons for HSS-E, 38°, h7, h8, 130°, 120°, TiN, and p.A189. Text: up to 4mm over 4mm.

Plain Shank, ER COLLET CHUCK, D73-115, Recommended ToolHolder.

four facet

D1=D2

Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2
DJ543020	2.00	12	44
DJ543021	2.10	12	44
DJ543022	2.20	13	45
DJ543023	2.30	13	45
DJ543024	2.40	14	46
DJ543025	2.50	14	46
DJ543026	2.60	14	46
DJ543027	2.70	16	48
DJ543028	2.80	16	48
DJ543029	2.90	16	48
DJ543030	3.00	16	48
DJ543031	3.10	18	50
DJ543032	3.20	18	50
DJ543033	3.30	18	50
DJ543034	3.40	20	52
DJ543035	3.50	20	52
DJ543036	3.60	20	52
DJ543037	3.70	20	52
DJ543038	3.80	22	54
DJ543039	3.90	22	54
DJ543040	4.00	22	54
DJ543041	4.10	22	66

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2
DJ543042	4.20	22	66
DJ543043	4.30	24	68
DJ543044	4.40	24	68
DJ543045	4.50	24	68
DJ543046	4.60	24	68
DJ543047	4.70	24	68
DJ543048	4.80	26	70
DJ543049	4.90	26	70
DJ543050	5.00	26	70
DJ543051	5.10	26	70
DJ543052	5.20	26	70
DJ543053	5.30	26	70
DJ543054	5.40	28	72
DJ543055	5.50	28	72
DJ543056	5.60	28	72
DJ543057	5.70	28	72
DJ543058	5.80	28	72
DJ543059	5.90	28	72
DJ543060	6.00	28	72
DJ543061	6.10	31	75
DJ543062	6.20	31	75
DJ543063	6.30	31	75

TiCN(DW543), TiAlN(DY543) are available on your request.

▶ NEXT PAGE

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	⊙	⊙	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

**HSS-E, HPD-SUS TWIST DRILLS for STAINLESS STEELS**

STUB

- HSS-E, HPD-SUS SPIRALBOHRER für ROSTFREIER STÄHLE
- Forets HPD-SUS HSS-E pour INOX, série extra-courte
- PUNTE ELICOIDALI HPD-SUS IN HSS-E, PER ACCIAI INOX

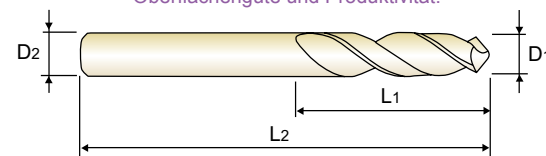
EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

**►Application** : Designed for drilling stainless steels, mild steels, aluminum, aluminum alloys, aluminum die casting, copper, copper alloys, etc.  
**►Advantage** : High helix-sharp cutting edges to avoid built-up and to be suitable for high performance drilling. Wide flute and stub length-increasing chip removal and reducing vibration and deflection. High vanadium HSS-E material with superior TiN coating - higher speed and feed, longer tool life. High quality & good surface finish, high productivity.

**►Anwendung** : Geeignet zum Bearbeiten von rostfreier stähle, Aluminium, Aluminium-Legierungen, Aluminium-Guss, Kupfer, Kupfer-Legierungen usw.  
**►Vorteile** : Durch hohen Helix wird Spanstau vermieden, geeignet zum Hochleistungsbohren, durch die breiten Schneiden und die kurze Ausführung wird die Spanabfuhr erhöht und Vibrationen und Stoß reduziert. Hoch Vanadium HSS-E-Material mit TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Oberflächengüte und Produktivität.



four facet



D1=D2

for STAINLESS STEELS  
für rostfreier Stäle

Icons for HSS-E, 38°, h7, h8, 130°, 120°, TiN, and a chip removal diagram. Text: up to 4mm over 4mm, p.A189

Plain Shank, Recommended ToolHolder, ER COLLET CHUCK, D73-115, Page

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
DJ543064	6.40	31	75	DJ543086	8.60	40	90
DJ543065	6.50	31	75	DJ543087	8.70	40	90
DJ543066	6.60	31	75	DJ543088	8.80	40	90
DJ543067	6.70	31	75	DJ543089	8.90	40	90
DJ543068	6.80	34	78	DJ543090	9.00	40	90
DJ543069	6.90	34	78	DJ543091	9.10	40	90
DJ543070	7.00	34	78	DJ543092	9.20	40	90
DJ543071	7.10	34	78	DJ543093	9.30	40	90
DJ543072	7.20	34	78	DJ543094	9.40	40	90
DJ543073	7.30	34	78	DJ543095	9.50	40	90
DJ543074	7.40	34	78	DJ543096	9.60	43	93
DJ543075	7.50	34	78	DJ543097	9.70	43	93
DJ543076	7.60	37	81	DJ543098	9.80	43	93
DJ543077	7.70	37	81	DJ543099	9.90	43	93
DJ543078	7.80	37	81	DJ543100	10.00	43	93
DJ543079	7.90	37	81	DJ543101	10.10	43	100
DJ543080	8.00	37	81	DJ543102	10.20	43	100
DJ543081	8.10	37	87	DJ543103	10.30	43	100
DJ543082	8.20	37	87	DJ543104	10.40	43	100
DJ543083	8.30	37	87	DJ543105	10.50	43	100
DJ543084	8.40	37	87	DJ543106	10.60	43	100
DJ543085	8.50	37	87	DJ543107	10.70	47	104

► TiCN(DW543), TiAlN(DY543) are available on your request.

► NEXT PAGE

© : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○					○				○		○									

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○				○																

**HSS-E, HPD-SUS TWIST DRILLS for STAINLESS STEELS**

STUB

- HSS-E, HPD-SUS SPIRALBOHRER für ROSTFREIER STÄHLE
- Forets HPD-SUS HSS-E pour INOX, série extra-courte
- PUNTE ELICOIDALI HPD-SUS IN HSS-E, PER ACCIAI INOX

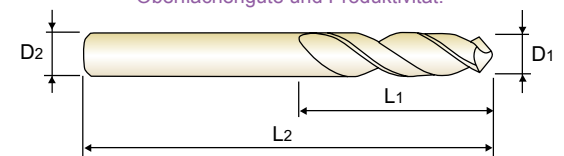
EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

**►Application** : Designed for drilling stainless steels, mild steels, aluminum, aluminum alloys, aluminum die casting, copper, copper alloys, etc.  
**►Advantage** : High helix-sharp cutting edges to avoid built-up and to be suitable for high performance drilling. Wide flute and stub length-increasing chip removal and reducing vibration and deflection. High vanadium HSS-E material with superior TiN coating - higher speed and feed, longer tool life. High quality & good surface finish, high productivity.

**►Anwendung** : Geeignet zum Bearbeiten von rostfreier stähle, Aluminium, Aluminium-Legierungen, Aluminium-Guss, Kupfer, Kupfer-Legierungen usw.  
**►Vorteile** : Durch hohen Helix wird Spanstau vermieden, geeignet zum Hochleistungsbohren, durch die breiten Schneiden und die kurze Ausführung wird die Spanabfuhr erhöht und Vibrationen und Stoß reduziert. Hoch Vanadium HSS-E-Material mit TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Oberflächengüte und Produktivität.



four facet



D1=D2

for STAINLESS STEELS  
für rostfreier Stäle

Icons for HSS-E, 38°, h7, h8, 130°, 120°, TiN, and a chip removal diagram. Text: up to 4mm over 4mm, p.A189

Plain Shank, Recommended ToolHolder, ER COLLET CHUCK, D73-115, Page

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
DJ543108	10.80	47	104	DJ543120	12.00	51	108
DJ543109	10.90	47	104	DJ543121	12.10	51	108
DJ543110	11.00	47	104	DJ543122	12.20	51	108
DJ543111	11.10	47	104	DJ543123	12.30	51	108
DJ543112	11.20	47	104	DJ543124	12.40	51	108
DJ543113	11.30	47	104	DJ543125	12.50	51	108
DJ543114	11.40	47	104	DJ543126	12.60	51	108
DJ543115	11.50	47	104	DJ543127	12.70	51	108
DJ543116	11.60	47	104	DJ543128	12.80	51	108
DJ543117	11.70	47	104	DJ543129	12.90	51	108
DJ543118	11.80	47	104	DJ543130	13.00	51	108
DJ543119	11.90	51	108				

► TiCN(DW543), TiAlN(DY543) are available on your request.

© : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	35	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○					○				○		○									

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○				○																



## HSS-E, HPD-SUS TWIST DRILLS for STAINLESS STEELS

JOBBER

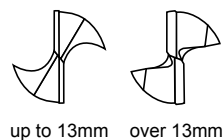
**HSS-E, HPD-SUS SPIRALBOHRER für ROSTFREIER STÄHLE**  
**Forets HPD-SUS HSS-E pour INOX, série courte**  
**PUNTE ELICOIDALI HPD-SUS IN HSS-E, PER ACCIAI INOX**

KURZ  
COURTE  
CORTA

► **Application** : Designed for 4D~5D drilling stainless steels, mild steels, aluminum, aluminum alloys, aluminum die casting, copper, copper alloys, etc.  
 ► **Advantage** : High helix-sharp cutting edges to avoid built-up and to be suitable for high performance drilling Reinforced web and jobbers length-increasing rigidity and suitable for 4D~5D drilling. High vanadium HSS-E material with superior TiN coating - higher speed and feed, longer tool life High quality & good surface finish, high productivity.

► **Anwendung** : Für 4D~5D Bohrtiefe, geeignet für rostfreier stähle, Stahl, Aluminium, Aluminium-Legierungen, Aluminium-Guss, Kupfer, Kupfer-Legierung usw.  
 ► **Vorteile** : Helixwinkel, durch scharfe Hauptschneide wird Spanstau vermieden, geeignet zum Hochleistungsbohren, verstärkte Kerndicke, kurze Ausführung, Hoch Vanadium HSS-E-Material mit TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Stabilität, Oberflächengüte und Produktivität.

for STAINLESS STEELS  
für rostfreier Stäle



up to 13mm over 13mm



up to 4mm over 4mm

p.A189



Plain Shank Page

ER COLLET CHUCK D73 - 115

D<sub>1</sub>=D<sub>2</sub>

Unit : mm

EDP No.	Drill Diameter D <sub>1</sub>	Flute Length L <sub>1</sub>	Overall Length L <sub>2</sub>	Material			
				Grey cast iron	Nodular cast iron	Malleable cast iron	Stainless steel
				15	16	17	18
DJ544020	2.00	24	56	15	16	17	18
DJ544021	2.10	24	56	15	16	17	18
DJ544022	2.20	27	59	15	16	17	18
DJ544023	2.30	27	59	15	16	17	18
DJ544024	2.40	30	62	15	16	17	18
DJ544025	2.50	30	62	15	16	17	18
DJ544026	2.60	30	62	15	16	17	18
DJ544027	2.70	33	65	15	16	17	18
DJ544028	2.80	33	65	15	16	17	18
DJ544029	2.90	33	65	15	16	17	18
DJ544030	3.00	33	65	15	16	17	18
DJ544031	3.10	36	68	15	16	17	18
DJ544032	3.20	36	68	15	16	17	18
DJ544033	3.30	36	68	15	16	17	18
DJ544034	3.40	39	71	15	16	17	18
DJ544035	3.50	39	71	15	16	17	18
DJ544036	3.60	39	71	15	16	17	18
DJ544037	3.70	39	71	15	16	17	18
DJ544038	3.80	43	75	15	16	17	18
DJ544039	3.90	43	75	15	16	17	18
DJ544040	4.00	43	75	15	16	17	18
DJ544041	4.10	43	87	15	16	17	18

► TiCN(DW544), TiAlN(DY544) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M						K				
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○					◎	○					◎	○							

A186 phone:+82-32-526-0909, www.yg1.kr, E-mail:yg1@yg1.kr

YG-1 CO., LTD.

## HSS-E, HPD-SUS TWIST DRILLS for STAINLESS STEELS

JOBBER

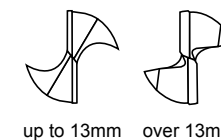
**HSS-E, HPD-SUS SPIRALBOHRER für ROSTFREIER STÄHLE**  
**Forets HPD-SUS HSS-E pour INOX, série courte**  
**PUNTE ELICOIDALI HPD-SUS IN HSS-E, PER ACCIAI INOX**

KURZ  
COURTE  
CORTA

► **Application** : Designed for 4D~5D drilling stainless steels, mild steels, aluminum, aluminum alloys, aluminum die casting, copper, copper alloys, etc.  
 ► **Advantage** : High helix-sharp cutting edges to avoid built-up and to be suitable for high performance drilling Reinforced web and jobbers length-increasing rigidity and suitable for 4D~5D drilling. High vanadium HSS-E material with superior TiN coating - higher speed and feed, longer tool life High quality & good surface finish, high productivity.

► **Anwendung** : Für 4D~5D Bohrtiefe, geeignet für rostfreier stähle, Stahl, Aluminium, Aluminium-Legierungen, Aluminium-Guss, Kupfer, Kupfer-Legierung usw.  
 ► **Vorteile** : Helixwinkel, durch scharfe Hauptschneide wird Spanstau vermieden, geeignet zum Hochleistungsbohren, verstärkte Kerndicke, kurze Ausführung, Hoch Vanadium HSS-E-Material mit TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Stabilität, Oberflächengüte und Produktivität.

for STAINLESS STEELS  
für rostfreier Stäle



up to 13mm over 13mm



up to 4mm over 4mm

p.A189



Plain Shank Page

ER COLLET CHUCK D73 - 115

D<sub>1</sub>=D<sub>2</sub>

Unit : mm

EDP No.	Drill Diameter D <sub>1</sub>	Flute Length L <sub>1</sub>	Overall Length L <sub>2</sub>	Material			
				Grey cast iron	Nodular cast iron	Malleable cast iron	Stainless steel
				15	16	17	18
DJ544064	6.40	63	107	15	16	17	18
DJ544065	6.50	63	107	15	16	17	18
DJ544066	6.60	63	107	15	16	17	18
DJ544067	6.70	63	107	15	16	17	18
DJ544068	6.80	69	113	15	16	17	18
DJ544069	6.90	69	113	15	16	17	18
DJ544070	7.00	69	113	15	16	17	18
DJ544071	7.10	69	113	15	16	17	18
DJ544072	7.20	69	113	15	16	17	18
DJ544073	7.30	69	113	15	16	17	18
DJ544074	7.40	69	113	15	16	17	18
DJ544075	7.50	69	113	15	16	17	18
DJ544076	7.60	75	119	15	16	17	18
DJ544077	7.70	75	119	15	16	17	18
DJ544078	7.80	75	119	15	16	17	18
DJ544079	7.90	75	119	15	16	17	18
DJ544080	8.00	75	119	15	16	17	18
DJ544081	8.10	75	125	15	16	17	18
DJ544082	8.20	75	125	15	16	17	18
DJ544083	8.30	75	125	15	16	17	18
DJ544084	8.40	75	125	15	16	17	18
DJ544085	8.50	75	125	15	16	17	18

► TiCN(DW544), TiAlN(DY544) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M						K				
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron	Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○					◎	○					◎	○							

YG-1 CO., LTD.

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A187

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

HPD DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

COUNTER BORES

TECHNICAL DATA

HSS-E, HPD-SUS TWIST DRILLS for STAINLESS STEELS

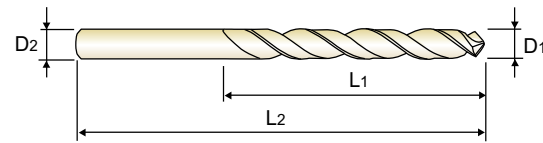
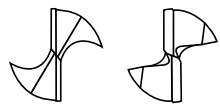
JOBBER

- HSS-E, HPD-SUS SPIRALBOHRER für ROSTFREIER STÄHLE
Forets HPD-SUS HSS-E pour INOX, série courte
PUNTE ELICOIDALI HPD-SUS IN HSS-E, PER ACCIAI INOX

KURZ
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Advantage: High helix-sharp cutting edges to avoid built-up and to be suitable for high performance drilling Reinforced web and jobbers length-increasing rigidity and suitable for 4D~5D drilling. High vanadium HSS-E material with superior TiN coating - higher speed and feed, longer tool life High quality & good surface finish, high productivity.

Anwendung: Für 4D~5D Bohrtiefe, geeignet für rostfreier stähle, Stahl, Aluminium, Aluminium-Legierungen, Aluminium-Guss, Kupfer, Kupfer-Legierung usw.
Vorteile: Helixwinkel, durch scharfe Hauptschneide wird Spanstau vermieden, geeignet zum Hochleistungsbohren, verstärkte Kerndicke, kurze Ausführung, Hoch Vanadium HSS-E-Material mit TiN-Beschichtung, höhere Geschwindigkeit und Vorschub, längere Standzeit, verbesserte Stabilität, Oberflächengüte und Produktivität.



for STAINLESS STEELS für rostfreier Stäle

up to 13mm over 13mm

D1=D2



p.A189



Unit : mm

Table with 4 columns: EDP No., Drill Diameter, Flute Length, Overall Length. Lists various drill bit models and their specifications.

Table with 4 columns: EDP No., Drill Diameter, Flute Length, Overall Length. Lists various drill bit models and their specifications.

TiCN(DW544), TiAlN(DY544) are available on your request.

© : Excellent ○ : Good

ISO Material Compatibility Chart showing recommended parameters for various materials like Non-alloy steel, Low alloy steel, High alloyed steel, Stainless steel, Grey cast iron, Nodular cast iron, Malleable cast iron, Aluminum-wrought alloy, Aluminum-cast, alloyed, Copper and Copper Alloys, Non Metallic Materials, Heat Resistant Super Alloys, Titanium Alloys, Hardened steel, Chilled Cast Iron, Hardened Cast Iron.

D4541, D4542 SERIES HPD DRILLS for STEELS

VC = M/MIN
RPM = rev./min.
FEED = mm/rev.

Table with columns: ISO, VDI 3323, Material Description, Vc, Parameter, Drill Diameter (mm) [2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0, 12.0]. Lists parameters for Non-alloy steel, Low alloy steel, and Grey cast iron.

Table with columns: ISO, VDI 3323, Material Description, Vc, Parameter, Drill Diameter (mm) [14.0, 16.0, 18.0, 20.0, 22.0, 24.0, 26.0, 28.0, 30.0, 32.0]. Lists parameters for Non-alloy steel, Low alloy steel, and Grey cast iron.

Please decrease the feed rate (15~20%) in D4542 SERIES HPD drills. Den Vorschub in der D4542 Gruppe HPD Bohrer bitte verringern.

DJ543, DJ544 SERIES HPD-SUS DRILLS for STAINLESS STEELS

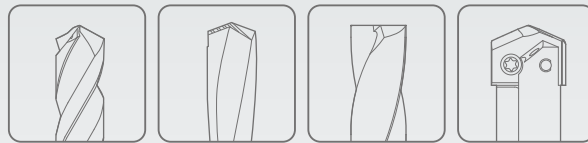
Table with columns: ISO, VDI 3323, Material Description, Vc, Parameter, Drill Diameter (mm) [2.0, 3.0, 4.0, 5.0, 6.0]. Lists parameters for Non-alloy steel, Stainless steel, Aluminum-wrought alloy, and Copper and Copper Alloys.

Table with columns: ISO, VDI 3323, Material Description, Vc, Parameter, Drill Diameter (mm) [8.0, 10.0, 12.0, 14.0, 16.0, 18.0, 20.0]. Lists parameters for Non-alloy steel, Stainless steel, Aluminum-wrought alloy, and Copper and Copper Alloys.

Please decrease the feed rate (15~20%) in DJ544 SERIES HPD-SUS drills. Den Vorschub in der DJ544 Gruppe HPD-SUS Bohrer bitte verringern



Global Cutting Tool Leader **YG-1**



# HOLEMAKING





Leading Through Innovation



**HSS & HSS-E**

# **GOLD-P DRILLS**

**GOLD-P BOHRER**

- Same Performance as Full TiN-coated Drills
- Gleiche Leistung, wie bei voll TiN-beschichteten Bohrern

SELECTION GUIDE



SERIES	D1GP125	D1GP165
STANDARD	DIN338	DIN338
LENGTH	JOBBER	JOBBER
SIZE MIN	D1.0	D1.6
SIZE MAX	D13.0	D13.0
PAGE	A194	A197

SURFACE TREATMENT

TiN

# HSS & HSS-E GOLD-P DRILLS

Same Performance as Full TiN-coated Drills



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A207

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	
P	1	Non-alloy steel	About 0.15% C Annealed	125	◎	
	2		About 0.45% C Annealed	190	13	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎
	4		About 0.75% C Annealed	270	28	○
	5		About 0.75% C Quenched & Tempered	300	32	○
	6	Low alloy steel	Annealed	180	10	◎
	7		Quenched & Tempered	275	29	○
	8		Quenched & Tempered	300	32	○
	9		Quenched & Tempered	350	38	○
	10		High alloyed steel, and tool steel	Annealed	200	15
	11		Quenched & Tempered	325	35	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎
	13		Martensitic Quenched & Tempered	240	23	○
	14	Austenitic	180	10	○	
	K	15	Grey cast iron	Pearlitic / ferritic	180	10
16		Pearlitic (Martensitic)		260	26	○
17		Nodular cast iron	Ferritic	160	3	○
18			Pearlitic	250	25	○
19		Malleable cast iron	Ferritic	130		○
20			Pearlitic	230	21	○
N	21	Aluminum-wrought alloy	Not Curable	60	○	
	22		Curable Hardened	100	○	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	○	
	24		≤ 12% Si, Curable Hardened	90		
	25		> 12% Si, Not Curable	130		
	26		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90	
	27		CuSn, lead-free copper and electrolytic copper	100		
	28	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			○
	29		Rubber, Wood, etc.			○
	30					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	
	32		Cured	280	30	
	33		Annealed	250	25	
	34		Ni or Co Based Cured	350	38	
	35		Cast	320	34	
	36	Titanium Alloys	Pure Titanium	400 Rm		○
	37		Alpha + Beta Alloys Hardened	1050 Rm		○
H	38	Hardened steel	Hardened	550	55	
	39		Hardened	630	60	
	40	Chilled Cast Iron	Cast	400	42	
	41	Hardened Cast Iron	Hardened	550	55	

SERIES	DLGP195	DLGP506
STANDARD	DIN338	DIN338
LENGTH	JOBBER	JOBBER
SIZE MIN	D1.0	D2.0
SIZE MAX	D13.0	D13.0
PAGE	A200	A203

TiN



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	
P	1	Non-alloy steel	About 0.15% C Annealed	125	◎	
	2		About 0.45% C Annealed	190	13	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎
	4		About 0.75% C Annealed	270	28	○
	5		About 0.75% C Quenched & Tempered	300	32	○
	6	Low alloy steel	Annealed	180	10	◎
	7		Quenched & Tempered	275	29	○
	8		Quenched & Tempered	300	32	○
	9		Quenched & Tempered	350	38	○
	10		High alloyed steel, and tool steel	Annealed	200	15
	11		Quenched & Tempered	325	35	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎
	13		Martensitic Quenched & Tempered	240	23	○
	14	Austenitic	180	10	○	
	K	15	Grey cast iron	Pearlitic / ferritic	180	10
16		Pearlitic (Martensitic)		260	26	○
17		Nodular cast iron	Ferritic	160	3	○
18			Pearlitic	250	25	○
19		Malleable cast iron	Ferritic	130		○
20			Pearlitic	230	21	○
N	21	Aluminum-wrought alloy	Not Curable	60	○	
	22		Curable Hardened	100	○	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75	○	
	24		≤ 12% Si, Curable Hardened	90		
	25		> 12% Si, Not Curable	130		
	26		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90	
	27		CuSn, lead-free copper and electrolytic copper	100		
	28	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			○
	29		Rubber, Wood, etc.			○
	30					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	
	32		Cured	280	30	
	33		Annealed	250	25	
	34		Ni or Co Based Cured	350	38	
	35		Cast	320	34	
	36	Titanium Alloys	Pure Titanium	400 Rm		○
	37		Alpha + Beta Alloys Hardened	1050 Rm		○
H	38	Hardened steel	Hardened	550	55	
	39		Hardened	630	60	
	40	Chilled Cast Iron	Cast	400	42	
	41	Hardened Cast Iron	Hardened	550	55	

GOLD-P DRILL SETS

SET1	SET2	SET3	SET4
19pcs	25pcs	24pcs	91pcs
1.0mm ~ 10.0mm ×0.5mm step	1.0mm ~ 13.0mm ×0.5mm step	1.0mm ~ 10.5mm ×0.5mm step +3.3 +4.2 +6.8 +10.2	1.0mm ~ 10.0mm ×0.1mm step
p. A206			



D1GP125 SERIES

HSS, STRAIGHT SHANK DRILLS, GOLD-P COATED

JOBBER

- HSS SPIRALBOHRER, GOLD-P BESCHICHTET
Forets GOLD-P HSS queue cylindrique revêtus, série courte
PUNTE IN HSS, GAMBO CILINDRICO, GOLD-P

KURZ
COURTE
CORTA

- Flute Geometry: Right hand helix
Point Angle: 118°, Normal point
Surface treatment: Bright body, TiN coating on working area
Application: Drilling steels, Cast steels alloyed and Non-alloyed, Grey cast iron, Graphite, Malleable cast iron
Nutenform: Rechtsspirale
Spitzenwinkel: 118° Normalanschliff
Oberfläche: Blank mit TiN-Beschichtung im Arbeitsbereich
Anwendung: Stahl, legierter und unlegierter Stahlguss, Grauguss, Graphit, Temperguss

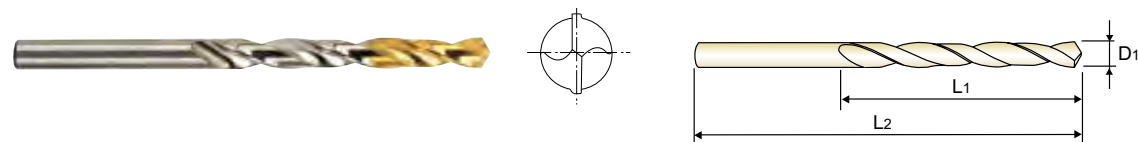


Table with 4 columns: EDP No., Drill Diameter (D1), Flute Length (L1), Overall Length (L2). Lists 35 drill models from D1GP125010 to D1GP125061.

▶ NEXT PAGE

◎: Excellent ○: Good

ISO material compatibility chart for P, M, K, N, S, H groups across various materials like Non-alloy steel, Low alloy steel, High alloyed steel, etc.



D1GP125 SERIES

HSS, STRAIGHT SHANK DRILLS, GOLD-P COATED

JOBBER

- HSS SPIRALBOHRER, GOLD-P BESCHICHTET
Forets GOLD-P HSS queue cylindrique revêtus, série courte
PUNTE IN HSS, GAMBO CILINDRICO, GOLD-P

KURZ
COURTE
CORTA

- Flute Geometry: Right hand helix
Point Angle: 118°, Normal point
Surface treatment: Bright body, TiN coating on working area
Application: Drilling steels, Cast steels alloyed and Non-alloyed, Grey cast iron, Graphite, Malleable cast iron
Nutenform: Rechtsspirale
Spitzenwinkel: 118° Normalanschliff
Oberfläche: Blank mit TiN-Beschichtung im Arbeitsbereich
Anwendung: Stahl, legierter und unlegierter Stahlguss, Grauguss, Graphit, Temperguss

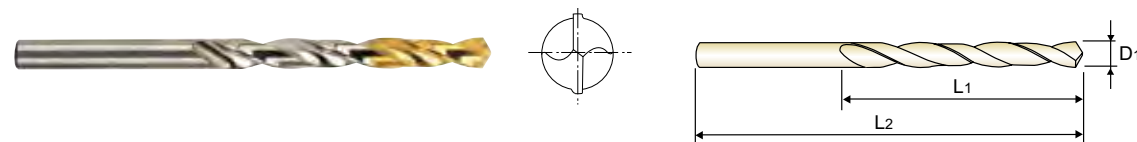


Table with 4 columns: EDP No., Drill Diameter (D1), Flute Length (L1), Overall Length (L2). Lists 35 drill models from D1GP125062 to D1GP125113.

▶ NEXT PAGE

◎: Excellent ○: Good

ISO material compatibility chart for P, M, K, N, S, H groups across various materials like Non-alloy steel, Low alloy steel, High alloyed steel, etc.



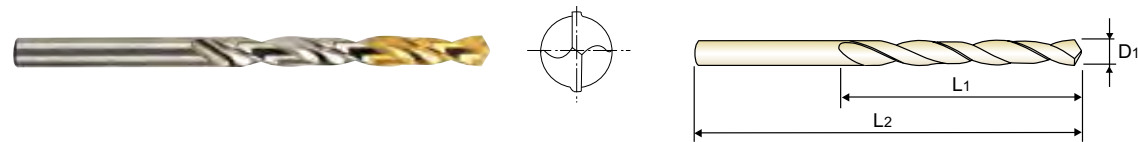
**HSS, STRAIGHT SHANK DRILLS, GOLD-P COATED**

JOBBER

- HSS SPIRALBOHRER, GOLD-P BESCHICHTET
- Forets GOLD-P HSS queue cylindrique revêtus, série courte
- PUNTE IN HSS, GAMBO CILINDRICO, GOLD-P

KURZ  
COURTE  
CORTA

- **Flute Geometry** : Right hand helix
- **Point Angle** : 118°, Normal point
- **Surface treatment** : Bright body, TiN coating on working area
- **Application** : Drilling steels, Cast steels alloyed and Non-alloyed, Grey cast iron, Graphite, Malleable cast iron
- **Nutenform** : Rechtsspirale
- **Spitzenwinkel** : 118° Normalanschiff
- **Oberfläche** : Blank mit TiN-Beschichtung im Arbeitsbereich
- **Anwendung** : Stahl, legierter und unlegierter Stahlguss, Grauguss, Graphit, Temperguss



DIN 338 HSS N 30° h8 118° TiN p.A207

Plain Shank Page ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D1GP125114	11.4	94	142
D1GP125115	11.5	94	142
D1GP125116	11.6	94	142
D1GP125117	11.7	94	142
D1GP125118	11.8	94	142
D1GP125119	11.9	101	151
D1GP125120	12.0	101	151
D1GP125121	12.1	101	151
D1GP125122	12.2	101	151
D1GP125123	12.3	101	151

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D1GP125124	12.4	101	151
D1GP125125	12.5	101	151
D1GP125126	12.6	101	151
D1GP125127	12.7	101	151
D1GP125128	12.8	101	151
D1GP125129	12.9	101	151
D1GP125130	13.0	101	151

Unit : mm

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

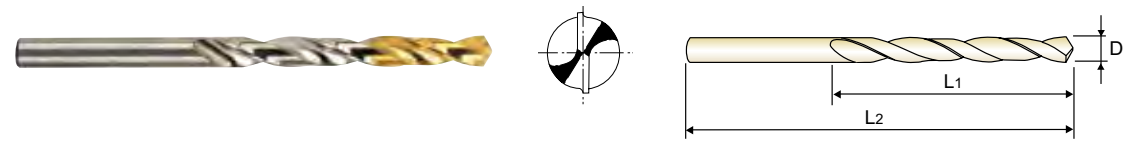
**HSS, STRAIGHT SHANK DRILLS, GOLD-P COATED**

JOBBER

- HSS SPIRALBOHRER, GOLD-P BESCHICHTET
- Forets GOLD-P HSS queue cylindrique revêtus, série courte
- PUNTE IN HSS, GAMBO CILINDRICO, GOLD-P

KURZ  
COURTE  
CORTA

- **Flute Geometry** : Right hand helix
- **Point Angle** : 118°, Split point
- **Surface treatment** : Bright body, TiN coating on working area
- **Application** : Drilling steels, Cast steels alloyed and Non-alloyed, Grey cast iron, Graphite, Malleable cast iron
- **Nutenform** : Rechtsspirale
- **Spitzenwinkel** : 118° Kreuzanschiff
- **Oberfläche** : Blank mit TiN-Beschichtung im Arbeitsbereich
- **Anwendung** : Stahl, legierter und unlegierter Stahlguss, Grauguss, Graphit, Temperguss



DIN 338 HSS N 30° h8 118° TiN p.A207

Plain Shank Page ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D1GP165016	1.6	20	43
D1GP165017	1.7	20	43
D1GP165018	1.8	22	46
D1GP165019	1.9	22	46
D1GP165020	2.0	24	49
D1GP165021	2.1	24	49
D1GP165022	2.2	27	53
D1GP165023	2.3	27	53
D1GP165024	2.4	30	57
D1GP165025	2.5	30	57
D1GP165026	2.6	30	57
D1GP165027	2.7	33	61
D1GP165028	2.8	33	61
D1GP165029	2.9	33	61
D1GP165030	3.0	33	61
D1GP165031	3.1	36	65
D1GP165032	3.2	36	65
D1GP165033	3.3	36	65
D1GP165034	3.4	39	70
D1GP165035	3.5	39	70
D1GP165036	3.6	39	70
D1GP165037	3.7	39	70
D1GP165038	3.8	43	75
D1GP165039	3.9	43	75
D1GP165040	4.0	43	75
D1GP165041	4.1	43	75

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D1GP165042	4.2	43	75
D1GP165043	4.3	47	80
D1GP165044	4.4	47	80
D1GP165045	4.5	47	80
D1GP165046	4.6	47	80
D1GP165047	4.7	47	80
D1GP165048	4.8	52	86
D1GP165049	4.9	52	86
D1GP165050	5.0	52	86
D1GP165051	5.1	52	86
D1GP165052	5.2	52	86
D1GP165053	5.3	52	86
D1GP165054	5.4	57	93
D1GP165055	5.5	57	93
D1GP165056	5.6	57	93
D1GP165057	5.7	57	93
D1GP165058	5.8	57	93
D1GP165059	5.9	57	93
D1GP165060	6.0	57	93
D1GP165061	6.1	63	101
D1GP165062	6.2	63	101
D1GP165063	6.3	63	101
D1GP165064	6.4	63	101
D1GP165065	6.5	63	101
D1GP165066	6.6	63	101
D1GP165067	6.7	63	101

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○						○							○					

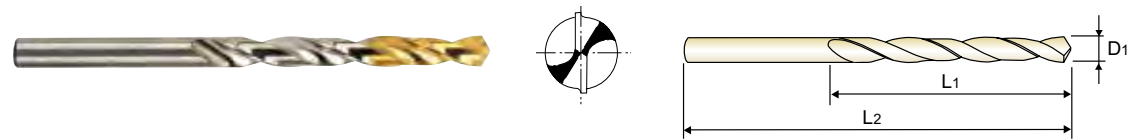
**HSS, STRAIGHT SHANK DRILLS, GOLD-P COATED**

**JOBBER**

- HSS SPIRALBOHRER, GOLD-P BESCHICHTET
- Forets GOLD-P HSS queue cylindrique revêtus, série courte
- PUNTE IN HSS, GAMBO CILINDRICO, GOLD-P

**KURZ**  
**COURTE**  
**CORTA**

- **Flute Geometry** : Right hand helix
- **Point Angle** : 118°, Split point
- **Surface treatment** : Bright body, TiN coating on working area
- **Application** : Drilling steels, Cast steels alloyed and Non-alloyed, Grey cast iron, Graphite, Malleable cast iron
- **Nutenform** : Rechtsspirale
- **Spitzenwinkel** : 118° Kreuzanschliff
- **Oberfläche** : Blank mit TiN-Beschichtung im Arbeitsbereich
- **Anwendung** : Stahl, legierter und unlegierter Stahlguss, Grauguss, Graphit, Temperguss



DIN 338 HSS N 30° h8 118° TiN p.A207

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

EDP No.	Drill Diameter			Flute Length			Overall Length		
	D1	L1	L2	D1	L1	L2	D1	L1	L2
D1GP165068	6.8	69	109	D1GP165094	9.4	81	125		
D1GP165069	6.9	69	109	D1GP165095	9.5	81	125		
D1GP165070	7.0	69	109	D1GP165096	9.6	87	133		
D1GP165071	7.1	69	109	D1GP165097	9.7	87	133		
D1GP165072	7.2	69	109	D1GP165098	9.8	87	133		
D1GP165073	7.3	69	109	D1GP165099	9.9	87	133		
D1GP165074	7.4	69	109	D1GP165100	10.0	87	133		
D1GP165075	7.5	69	109	D1GP165101	10.1	87	133		
D1GP165076	7.6	75	117	D1GP165102	10.2	87	133		
D1GP165077	7.7	75	117	D1GP165103	10.3	87	133		
D1GP165078	7.8	75	117	D1GP165104	10.4	87	133		
D1GP165079	7.9	75	117	D1GP165105	10.5	87	133		
D1GP165080	8.0	75	117	D1GP165106	10.6	87	133		
D1GP165081	8.1	75	117	D1GP165107	10.7	94	142		
D1GP165082	8.2	75	117	D1GP165108	10.8	94	142		
D1GP165083	8.3	75	117	D1GP165109	10.9	94	142		
D1GP165084	8.4	75	117	D1GP165110	11.0	94	142		
D1GP165085	8.5	75	117	D1GP165111	11.1	94	142		
D1GP165086	8.6	81	125	D1GP165112	11.2	94	142		
D1GP165087	8.7	81	125	D1GP165113	11.3	94	142		
D1GP165088	8.8	81	125	D1GP165114	11.4	94	142		
D1GP165089	8.9	81	125	D1GP165115	11.5	94	142		
D1GP165090	9.0	81	125	D1GP165116	11.6	94	142		
D1GP165091	9.1	81	125	D1GP165117	11.7	94	142		
D1GP165092	9.2	81	125	D1GP165118	11.8	94	142		
D1GP165093	9.3	81	125	D1GP165119	11.9	101	151		

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M						K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron			Nodular cast iron			Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel		Chilled Cast Iron		Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○								○					○					

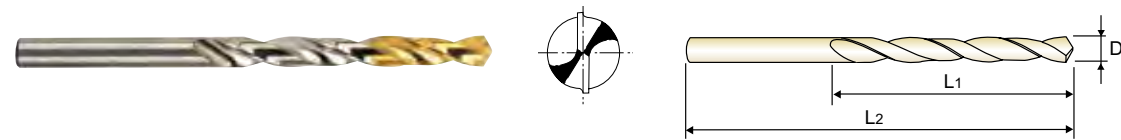
**HSS, STRAIGHT SHANK DRILLS, GOLD-P COATED**

**JOBBER**

- HSS SPIRALBOHRER, GOLD-P BESCHICHTET
- Forets GOLD-P HSS queue cylindrique revêtus, série courte
- PUNTE IN HSS, GAMBO CILINDRICO, GOLD-P

**KURZ**  
**COURTE**  
**CORTA**

- **Flute Geometry** : Right hand helix
- **Point Angle** : 118°, Split point
- **Surface treatment** : Bright body, TiN coating on working area
- **Application** : Drilling steels, Cast steels alloyed and Non-alloyed, Grey cast iron, Graphite, Malleable cast iron
- **Nutenform** : Rechtsspirale
- **Spitzenwinkel** : 118° Kreuzanschliff
- **Oberfläche** : Blank mit TiN-Beschichtung im Arbeitsbereich
- **Anwendung** : Stahl, legierter und unlegierter Stahlguss, Grauguss, Graphit, Temperguss



DIN 338 HSS N 30° h8 118° TiN p.A207

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

EDP No.	Drill Diameter			Flute Length			Overall Length		
	D1	L1	L2	D1	L1	L2	D1	L1	L2
D1GP165120	12.0	101	151	D1GP165126	12.6	101	151		
D1GP165121	12.1	101	151	D1GP165127	12.7	101	151		
D1GP165122	12.2	101	151	D1GP165128	12.8	101	151		
D1GP165123	12.3	101	151	D1GP165129	12.9	101	151		
D1GP165124	12.4	101	151	D1GP165130	13.0	101	151		
D1GP165125	12.5	101	151						

◎ : Excellent ○ : Good

ISO Material Description	P									M						K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron			Nodular cast iron			Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel		Chilled Cast Iron		Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○								○					○					

# YG GOLD-P DRILLS

## DLGP195 SERIES

### HSS-E, STRAIGHT SHANK DRILLS, GOLD-P COATED

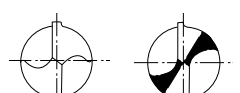
JOBBER

- HSS-E SPIRALBOHRER, GOLD-P BESCHICHTET
- Forets GOLD-P HSS-E queue cylindrique revêtus, série courte
- PUNTE IN HSS-E, GAMBO CILINDRICO, GOLD-P

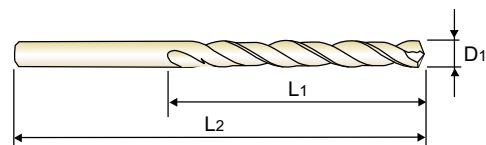
KURZ  
COURTE  
CORTA

- **Flute Geometry** : Right hand helix
- **Point Angle** : 135°, under 1.6mm : Normal point  
1.6mm & over : Split point
- **Surface treatment** : Bright body, TiN coating on working area
- **Application** : Drilling stainless steels, difficult to cut materials such as titanium alloys and inconel.

- **Nutenform** : Rechtsspirale
- **Spitzenwinkel** : 135°, unter 1.6mm : Normalanschiff  
1.6mm & über : Kreuzanschiff
- **Oberfläche** : Blank mit TiN-Beschichtung im Arbeitsbereich
- **Anwendung** : Tiefe Bohrungen in unlegierten und legierten Stählen, Grauguss, Temperguss, Aluminium- und Magnesiumlegierungen



under 1.6mm 1.6mm & over



EDP No.	Drill Diameter			Flute Length			Overall Length		
	D1	L1	L2	D1	L1	L2	D1	L1	L2
DLGP195010	1.0	12	34	1.0	12	34	1.0	12	34
DLGP195011	1.1	14	36	1.1	14	36	1.1	14	36
DLGP195012	1.2	16	38	1.2	16	38	1.2	16	38
DLGP195013	1.3	16	38	1.3	16	38	1.3	16	38
DLGP195014	1.4	18	40	1.4	18	40	1.4	18	40
DLGP195015	1.5	18	40	1.5	18	40	1.5	18	40
DLGP195016	1.6	20	43	1.6	20	43	1.6	20	43
DLGP195017	1.7	20	43	1.7	20	43	1.7	20	43
DLGP195018	1.8	22	46	1.8	22	46	1.8	22	46
DLGP195019	1.9	22	46	1.9	22	46	1.9	22	46
DLGP195020	2.0	24	49	2.0	24	49	2.0	24	49
DLGP195021	2.1	24	49	2.1	24	49	2.1	24	49
DLGP195022	2.2	27	53	2.2	27	53	2.2	27	53
DLGP195023	2.3	27	53	2.3	27	53	2.3	27	53
DLGP195024	2.4	30	57	2.4	30	57	2.4	30	57
DLGP195025	2.5	30	57	2.5	30	57	2.5	30	57
DLGP195026	2.6	30	57	2.6	30	57	2.6	30	57
DLGP195027	2.7	33	61	2.7	33	61	2.7	33	61
DLGP195028	2.8	33	61	2.8	33	61	2.8	33	61
DLGP195029	2.9	33	61	2.9	33	61	2.9	33	61
DLGP195030	3.0	33	61	3.0	33	61	3.0	33	61
DLGP195031	3.1	36	65	3.1	36	65	3.1	36	65
DLGP195032	3.2	36	65	3.2	36	65	3.2	36	65
DLGP195033	3.3	36	65	3.3	36	65	3.3	36	65
DLGP195034	3.4	39	70	3.4	39	70	3.4	39	70
DLGP195035	3.5	39	70	3.5	39	70	3.5	39	70

Unit : mm

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel					Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○			○								○					

# YG GOLD-P DRILLS

## DLGP195 SERIES

### HSS-E, STRAIGHT SHANK DRILLS, GOLD-P COATED

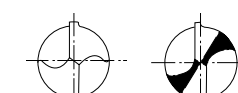
JOBBER

- HSS-E SPIRALBOHRER, GOLD-P BESCHICHTET
- Forets GOLD-P HSS-E queue cylindrique revêtus, série courte
- PUNTE IN HSS-E, GAMBO CILINDRICO, GOLD-P

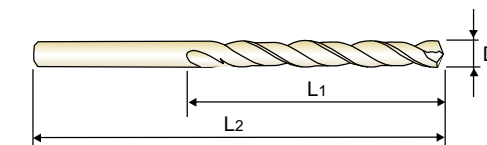
KURZ  
COURTE  
CORTA

- **Flute Geometry** : Right hand helix
- **Point Angle** : 135°, under 1.6mm : Normal point  
1.6mm & over : Split point
- **Surface treatment** : Bright body, TiN coating on working area
- **Application** : Drilling stainless steels, difficult to cut materials such as titanium alloys and inconel.

- **Nutenform** : Rechtsspirale
- **Spitzenwinkel** : 135°, unter 1.6mm : Normalanschiff  
1.6mm & über : Kreuzanschiff
- **Oberfläche** : Blank mit TiN-Beschichtung im Arbeitsbereich
- **Anwendung** : Tiefe Bohrungen in unlegierten und legierten Stählen, Grauguss, Temperguss, Aluminium- und Magnesiumlegierungen



under 1.6mm 1.6mm & over



EDP No.	Drill Diameter			Flute Length			Overall Length		
	D1	L1	L2	D1	L1	L2	D1	L1	L2
DLGP195062	6.2	63	101	6.2	63	101	6.2	63	101
DLGP195063	6.3	63	101	6.3	63	101	6.3	63	101
DLGP195064	6.4	63	101	6.4	63	101	6.4	63	101
DLGP195065	6.5	63	101	6.5	63	101	6.5	63	101
DLGP195066	6.6	63	101	6.6	63	101	6.6	63	101
DLGP195067	6.7	63	101	6.7	63	101	6.7	63	101
DLGP195068	6.8	69	109	6.8	69	109	6.8	69	109
DLGP195069	6.9	69	109	6.9	69	109	6.9	69	109
DLGP195070	7.0	69	109	7.0	69	109	7.0	69	109
DLGP195071	7.1	69	109	7.1	69	109	7.1	69	109
DLGP195072	7.2	69	109	7.2	69	109	7.2	69	109
DLGP195073	7.3	69	109	7.3	69	109	7.3	69	109
DLGP195074	7.4	69	109	7.4	69	109	7.4	69	109
DLGP195075	7.5	69	109	7.5	69	109	7.5	69	109
DLGP195076	7.6	75	117	7.6	75	117	7.6	75	117
DLGP195077	7.7	75	117	7.7	75	117	7.7	75	117
DLGP195078	7.8	75	117	7.8	75	117	7.8	75	117
DLGP195079	7.9	75	117	7.9	75	117	7.9	75	117
DLGP195080	8.0	75	117	8.0	75	117	8.0	75	117
DLGP195081	8.1	75	117	8.1	75	117	8.1	75	117
DLGP195082	8.2	75	117	8.2	75	117	8.2	75	117
DLGP195083	8.3	75	117	8.3	75	117	8.3	75	117
DLGP195084	8.4	75	117	8.4	75	117	8.4	75	117
DLGP195085	8.5	75	117	8.5	75	117	8.5	75	117
DLGP195086	8.6	81	125	8.6	81	125	8.6	81	125
DLGP195087	8.7	81	125	8.7	81	125	8.7	81	125

Unit : mm

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel					Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○			○								○					



### HSS-E, STRAIGHT SHANK DRILLS, GOLD-P COATED

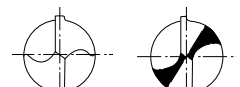
JOBBER

- HSS-E SPIRALBOHRER, GOLD-P BESCHICHTET
- Forets GOLD-P HSS-E queue cylindrique revêtus, série courte
- PUNTE IN HSS-E, GAMBO CILINDRICO, GOLD-P

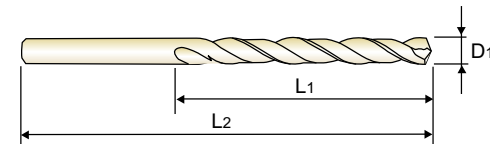
KURZ  
COURTE  
CORTA

- ▶ **Flute Geometry** : Right hand helix
- ▶ **Point Angle** : 135°, under 1.6mm : Normal point  
1.6mm & over : Split point
- ▶ **Surface treatment** : Bright body, TiN coating on working area
- ▶ **Application** : Drilling stainless steels, difficult to cut materials such as titanium alloys and inconel.

- ▶ **Nutenform** : Rechtsspirale
- ▶ **Spitzenwinkel** : 135°, unter 1.6mm : Normalanschliff  
1.6mm & über : Kreuzanschliff
- ▶ **Oberfläche** : Blank mit TiN-Beschichtung im Arbeitsbereich
- ▶ **Anwendung** : Tiefe Bohrungen in unlegierten und legierten Stählen, Grauguss, Temperguss, Aluminium- und Magnesiumlegierungen



under 1.6mm 1.6mm & over



DIN 338
HSS-E
33°
h8
135°
TiN
p.A207

Plain Shank
Page  
Recommended ToolHolder
ER COLLET CHUCK
D73-115

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DLGP195114	11.4	94	142
DLGP195115	11.5	94	142
DLGP195116	11.6	94	142
DLGP195117	11.7	94	142
DLGP195118	11.8	94	142
DLGP195119	11.9	101	151
DLGP195120	12.0	101	151
DLGP195121	12.1	101	151
DLGP195122	12.2	101	151
DLGP195123	12.3	101	151

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DLGP195124	12.4	101	151
DLGP195125	12.5	101	151
DLGP195126	12.6	101	151
DLGP195127	12.7	101	151
DLGP195128	12.8	101	151
DLGP195129	12.9	101	151
DLGP195130	13.0	101	151

### HSS-E, DH100 STRAIGHT SHANK DRILLS for DEEP HOLES, GOLD-P COATED

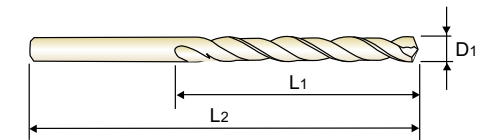
JOBBER

- HSS-E DH100 SPIRALBOHRER, für TIEFLOCH mit ZYLINDERSCHAFT, GOLD-P BESCHICHTET
- Forets GOLD-P HSS-E queue cylindrique revêtus, DH100 pour perçage profond, série courte
- PUNTE GAMBO CILINDRICO DH100 IN HSS-E, PER FORI PROFONDI, GOLD-P

KURZ  
COURTE  
CORTA

- ▶ **Flute Geometry** : Right hand, 38° helix, DH100 worm pattern type.
- ▶ **Point Angle** : 130°, Split point giving higher chip removal.
- ▶ **Surface treatment** : Bright body, TiN coating on working area.
- ▶ **Application** : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, or magnesium alloys.

- ▶ **Nutenform** : 38° Rechtsspirale, DH 100 Flachnut
- ▶ **Spitzenwinkel** : Durch 130° Kreuzanschliff Gute Spanabfuhr
- ▶ **Oberfläche** : Blank mit TiN-Beschichtung im Arbeitsbereich
- ▶ **Anwendung** : Tiefe Bohrungen in unlegierten und legierten Stählen, Grauguss, Temperguss, Aluminium- und Magnesiumlegierungen



### ▶ DH100 worm pattern drills

DIN 338
HSS-E
38°
h8
130°
TiN
p.A207

Plain Shank
Page  
Recommended ToolHolder
ER COLLET CHUCK
D73-115

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DLGP506020	2.0	24	49
DLGP506021	2.1	24	49
DLGP506022	2.2	27	53
DLGP506023	2.3	27	53
DLGP506024	2.4	30	57
DLGP506025	2.5	30	57
DLGP506026	2.6	30	57
DLGP506027	2.7	33	61
DLGP506028	2.8	33	61
DLGP506029	2.9	33	61
DLGP506030	3.0	33	61
DLGP506031	3.1	36	65
DLGP506032	3.2	36	65
DLGP506033	3.3	36	65
DLGP506034	3.4	39	70
DLGP506035	3.5	39	70
DLGP506036	3.6	39	70
DLGP506037	3.7	39	70
DLGP506038	3.8	43	75
DLGP506039	3.9	43	75
DLGP506040	4.0	43	75
DLGP506041	4.1	43	75
DLGP506042	4.2	43	75
DLGP506043	4.3	47	80
DLGP506044	4.4	47	80
DLGP506045	4.5	47	80

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DLGP506046	4.6	47	80
DLGP506047	4.7	47	80
DLGP506048	4.8	52	86
DLGP506049	4.9	52	86
DLGP506050	5.0	52	86
DLGP506051	5.1	52	86
DLGP506052	5.2	52	86
DLGP506053	5.3	52	86
DLGP506054	5.4	57	93
DLGP506055	5.5	57	93
DLGP506056	5.6	57	93
DLGP506057	5.7	57	93
DLGP506058	5.8	57	93
DLGP506059	5.9	57	93
DLGP506060	6.0	57	93
DLGP506061	6.1	63	101
DLGP506062	6.2	63	101
DLGP506063	6.3	63	101
DLGP506064	6.4	63	101
DLGP506065	6.5	63	101
DLGP506066	6.6	63	101
DLGP506067	6.7	63	101
DLGP506068	6.8	69	109
DLGP506069	6.9	69	109
DLGP506070	7.0	69	109
DLGP506071	7.1	69	109

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○								○					○					

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○								○					○					

i-ONE DRILLS

i-DREAM DRILLS

DREAM DRILLS -PRO

DREAM DRILLS -GENERAL

DREAM DRILLS -HIGH FEED

DREAM DRILLS -FLAT BOTTOM

DREAM DRILLS -INOX

DREAM DRILLS -ALU

DREAM DRILLS -MQL

DREAM DRILLS for HIGH HARDENED STEELS

GENERAL CARBIDE DRILLS

MULTI-1 DRILLS

HPD DRILLS

GOLD-P DRILLS

SUPER-GP DRILLS

STRAIGHT SHANK DRILLS

TAPER SHANK DRILLS

NC-SPOTTING DRILLS

CENTER DRILLS

SPADE DRILLS

REAMERS

COUNTER SINKS

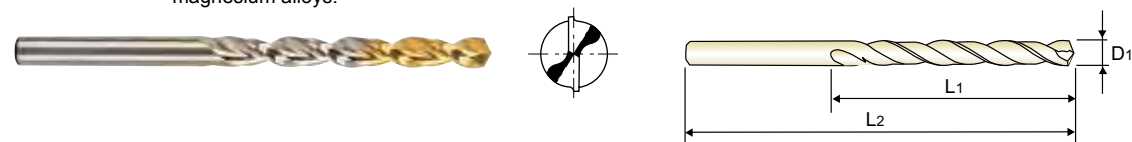
COUNTER BORES

TECHNICAL DATA

**HSS-E, DH100 STRAIGHT SHANK DRILLS for DEEP HOLES, GOLD-P COATED** **JOBBER**

**HSS-E DH100 SPIRALBOHRER, für TIEFLOCH mit ZYLINDERSCHAFT, GOLD-P BESCHICHTET** **KURZ**  
**Forets GOLD-P HSS-E queue cylindrique revêtus, DH100 pour perçage profond, série courte** **COURTE**  
**PUNTE GAMBO CILINDRICO DH100 IN HSS-E, PER FORI PROFONDI, GOLD-P** **CORTA**

- Flute Geometry** : Right hand, 38° helix, DH100 worm pattern type.
  - Point Angle** : 130°, Split point giving higher chip removal.
  - Surface treatment** : Bright body, TiN coating on working area.
  - Application** : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, or magnesium alloys.
- Nutenform** : 38° Rechtsspirale, DH 100 Flachnut
  - Spitzenwinkel** : Durch 130° Kreuzanschliff Gute Spanabfuhr
  - Oberfläche** : Blank mit TiN-Beschichtung im Arbeitsbereich
  - Anwendung** : Tiefe Bohrungen in unlegierten und legierten Stählen, Grauguss, Temperguss, Aluminium- und Magnesiumlegierungen



**► DH100 worm pattern drills**

DIN 338 HSS-E 38° h8 130° TiN p.A207

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter			EDP No.	Drill Diameter		
	D1	L1	L2		D1	L1	L2
DLGP506072	7.2	69	109	DLGP506098	9.8	87	133
DLGP506073	7.3	69	109	DLGP506099	9.9	87	133
DLGP506074	7.4	69	109	DLGP506100	10.0	87	133
DLGP506075	7.5	69	109	DLGP506101	10.1	87	133
DLGP506076	7.6	75	117	DLGP506102	10.2	87	133
DLGP506077	7.7	75	117	DLGP506103	10.3	87	133
DLGP506078	7.8	75	117	DLGP506104	10.4	87	133
DLGP506079	7.9	75	117	DLGP506105	10.5	87	133
DLGP506080	8.0	75	117	DLGP506106	10.6	87	133
DLGP506081	8.1	75	117	DLGP506107	10.7	94	142
DLGP506082	8.2	75	117	DLGP506108	10.8	94	142
DLGP506083	8.3	75	117	DLGP506109	10.9	94	142
DLGP506084	8.4	75	117	DLGP506110	11.0	94	142
DLGP506085	8.5	75	117	DLGP506111	11.1	94	142
DLGP506086	8.6	81	125	DLGP506112	11.2	94	142
DLGP506087	8.7	81	125	DLGP506113	11.3	94	142
DLGP506088	8.8	81	125	DLGP506114	11.4	94	142
DLGP506089	8.9	81	125	DLGP506115	11.5	94	142
DLGP506090	9.0	81	125	DLGP506116	11.6	94	142
DLGP506091	9.1	81	125	DLGP506117	11.7	94	142
DLGP506092	9.2	81	125	DLGP506118	11.8	94	142
DLGP506093	9.3	81	125	DLGP506119	11.9	101	151
DLGP506094	9.4	81	125	DLGP506120	12.0	101	151
DLGP506095	9.5	81	125	DLGP506121	12.1	101	151
DLGP506096	9.6	87	133	DLGP506122	12.2	101	151
DLGP506097	9.7	87	133	DLGP506123	12.3	101	151

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M					K						
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

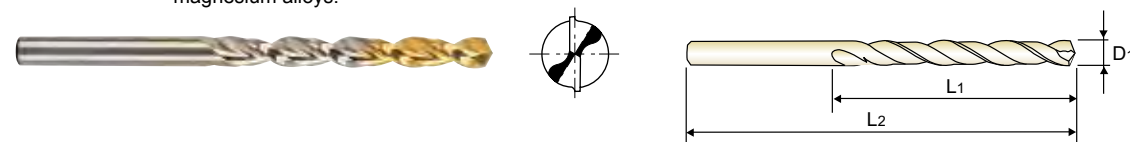
  

ISO Material Description	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

**HSS-E, DH100 STRAIGHT SHANK DRILLS for DEEP HOLES, GOLD-P COATED** **JOBBER**

**HSS-E DH100 SPIRALBOHRER, für TIEFLOCH mit ZYLINDERSCHAFT, GOLD-P BESCHICHTET** **KURZ**  
**Forets GOLD-P HSS-E queue cylindrique revêtus, DH100 pour perçage profond, série courte** **COURTE**  
**PUNTE GAMBO CILINDRICO DH100 IN HSS-E, PER FORI PROFONDI, GOLD-P** **CORTA**

- Flute Geometry** : Right hand, 38° helix, DH100 worm pattern type.
  - Point Angle** : 130°, Split point giving higher chip removal.
  - Surface treatment** : Bright body, TiN coating on working area.
  - Application** : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, or magnesium alloys.
- Nutenform** : 38° Rechtsspirale, DH 100 Flachnut
  - Spitzenwinkel** : Durch 130° Kreuzanschliff Gute Spanabfuhr
  - Oberfläche** : Blank mit TiN-Beschichtung im Arbeitsbereich
  - Anwendung** : Tiefe Bohrungen in unlegierten und legierten Stählen, Grauguss, Temperguss, Aluminium- und Magnesiumlegierungen



**► DH100 worm pattern drills**

DIN 338 HSS-E 38° h8 130° TiN p.A207

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter			EDP No.	Drill Diameter		
	D1	L1	L2		D1	L1	L2
DLGP506124	12.4	101	151	DLGP506128	12.8	101	151
DLGP506125	12.5	101	151	DLGP506129	12.9	101	151
DLGP506126	12.6	101	151	DLGP506130	13.0	101	151
DLGP506127	12.7	101	151				

**GOLD-P COATED DRILL SETS**

- GOLD-P BESCHICHTET BOHRER SATS
- Coffrets de Forets GOLD-P revêtus
- SET DI PUNTE GOLD-P



**DIN338 DRILL SETS JOBBER LENGTH Gold-P coated Drills**

EDP No.	DESCRIPTON	SIZE	Q'TY
<b>D1GP165SET1</b>	HSS Straight Shank, Split Point (Ø1.0 & Ø1.5 : NORMAL point)	1.0-10.0x0.5mm step	19 pcs
<b>D1GP165SET2</b>	HSS Straight Shank, Split Point (Ø1.0 & Ø1.5 : NORMAL point)	1.0-13.0x0.5mm step	25 pcs
<b>D1GP165SET3</b>	HSS Straight Shank, Split Point (Ø1.0 & Ø1.5 : NORMAL point)	1.0-10.5x0.5mm step +3.3 +4.2 +6.8 +10.2	24 pcs
<b>DLGP195SET1</b>	HSS-E Straight Shank, Split Point (Ø1.0 & Ø1.5 : NORMAL point)	1.0-10.0x0.5mm step	19 pcs
<b>DLGP195SET2</b>	HSS-E Straight Shank, Split Point (Ø1.0 & Ø1.5 : NORMAL point)	1.0-13.0x0.5mm step	25 pcs
<b>DLGP195SET3</b>	HSS-E Straight Shank, Split Point (Ø1.0 & Ø1.5 : NORMAL point)	1.0-10.5x0.5mm step +3.3 +4.2 +6.8 +10.2	24 pcs
<b>DLGPSET982</b>	HSS-E Straight Shank, Split Point (Ø1.0 & Ø1.5 : NORMAL point)	1.0-10.0x0.1mm step	91 pcs

**D1GP125, D1GP165, DLGP195, DLGP506 SERIES HSS & HSS-E GOLD-P DRILLS**

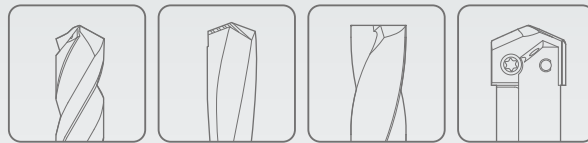
VC = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)	Vc	Parameter	Drill Diameter (mm)							
								1.0	2.0	3.0	4.0	6.0	8.0	10.0	13.0
<b>P</b>	1	Non-alloy steel	28	RPM	8910	40	RPM	6370	4240	3180	2120	1590	1270	980	
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24	
			25	RPM	7960	35	RPM	5570	3710	2790	1860	1390	1110	860	
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24	
	20		RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730		
			FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24		
	15		RPM	4770	20	RPM	3180	2120	1590	1060	800	640	490		
			FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18		
	6	25	Low alloy steel	25	RPM	7960	35	RPM	5570	3710	2790	1860	1390	1110	860
					FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
20				RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730	
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24	
20	RPM	6370		30	RPM	4770	3180	2390	1590	1190	950	730			
	FEED	0.01-0.02			FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18			
10	15	High alloyed steel, and tool steel		15	RPM	4770	20	RPM	3180	2120	1590	1060	800	640	490
					FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24
			18	RPM	5730	25	RPM	3980	2650	1990	1330	990	800	610	
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24	
15	RPM		4770	20	RPM	3180	2120	1590	1060	800	640	490			
	FEED		0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24			
10	RPM		3180	15	RPM	2390	1590	1190	800	600	480	370			
	FEED		0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18			
<b>K</b>	15	Grey cast iron	28	RPM	8910	40	RPM	6370	4240	3180	2120	1590	1270	980	
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24	
			25	RPM	7960	35	RPM	5570	3710	2790	1860	1390	1110	860	
				FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18	
			28	RPM	8910	40	RPM	6370	4240	3180	2120	1590	1270	980	
				FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24	
20	RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730				
	FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.04-0.10	0.06-0.12	0.08-0.14	0.12-0.18				
<b>N</b>	21	Aluminum-wrought alloy	45	RPM	14320	65	RPM	10350	6900	5170	3450	2590	2070	1590	
				FEED	0.02-0.05		FEED	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.22-0.28	
			45	RPM	14320	65	RPM	10350	6900	5170	3450	2590	2070	1590	
				FEED	0.02-0.05		FEED	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.22-0.28	
			35	RPM	11140	50	RPM	7960	5310	3980	2650	1990	1590	1220	
				FEED	0.02-0.05		FEED	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22	0.22-0.28	
20	RPM	6370	30	RPM	4770	3180	2390	1590	1190	950	730				
	FEED	0.01-0.03		FEED	0.04-0.08	0.06-0.10	0.08-0.12	0.12-0.16	0.12-0.18	0.16-0.22	0.18-0.24				
36	RPM	4770	20	RPM	3180	2120	1590	1060	800	640	490				
	FEED	0.01-0.02		FEED	0.02-0.05	0.02-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.13	0.08-0.14				





Global Cutting Tool Leader **YG-1**



# HOLEMAKING



Leading Through Innovation

**SUPER HSS**

**SUPER-GP  
DRILLS**

**SUPER-GP DRILLS**

- All Applications Regardless of Machining Conditions; Good or Poor
- Für alle Anwendungen unabhängig von den Bearbeitungsbedingungen; gut oder schlecht

SELECTION GUIDE



SERIES	DSH105
STANDARD	DIN338
LENGTH	JOBBER
SIZE MIN	D2.0
SIZE MAX	D13.0
PAGE	A211
SURFACE TREATMENT	Steam Tempered

# SUPER HSS SUPER-GP DRILLS

All Applications Regardless of Machining Conditions; Good or Poor



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P.226



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc		
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	
	2		About 0.45% C Annealed	190	13	◎	
	3		About 0.45% C Quenched & Tempered	250	25	◎	
	4		About 0.75% C Annealed	270	28	○	
	5		About 0.75% C Quenched & Tempered	300	32	○	
	6	Low alloy steel	Annealed	180	10	◎	
	7		Quenched & Tempered	275	29	○	
	8		Quenched & Tempered	300	32	○	
	9		Quenched & Tempered	350	38	○	
	10		High alloyed steel, and tool steel	Annealed	200	15	○
	11			Quenched & Tempered	325	35	○
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	
	13		Martensitic Quenched & Tempered	240	23	○	
	14		Austenitic	180	10	○	
	15		Grey cast iron	Pearlitic / ferritic	180	10	○
16	Pearlitic (Martensitic)	260		26	○		
17	Nodular cast iron	Ferritic		160	3	○	
18		Pearlitic	250	25	○		
K	19	Malleable cast iron	Ferritic	130		○	
	20		Pearlitic	230	21	○	
	21		Aluminum-wrought alloy	Not Curable	60		○
22	Curable Hardened	100			○		
23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable		75		○	
24		≤ 12% Si, Curable Hardened		90		○	
25		> 12% Si, Not Curable		130		○	
N	26	Copper and Copper Alloys (Bronze / Brass)		Cutting Alloys, PB>1%	110		○
	27			CuZn, CuSnZn (Brass)	90		○
	28	Non Metallic Materials		CuSn, lead-free copper and electrolytic copper	100		○
	29			Duroplastic, Fiber Reinforced Plastic			○
	30			Rubber, Wood, etc.			○
S	31	Heat Resistant Super Alloys		Fe Based Annealed	200	15	○
	32		Cured	280	30	○	
	33		Annealed	250	25	○	
	34		Ni or Co Based	Cured	350	38	○
	35	Cast		320	34	○	
	36	Titanium Alloys		Pure Titanium	400 Rm		○
	37		Alpha + Beta Alloys Hardened	1050 Rm		○	
38	Hardened steel		Hardened	550	55	○	
39		Hardened	630	60	○		
40		Chilled Cast Iron	Cast	400	42	○	
41			Hardened	550	55	○	



DSH105 SERIES

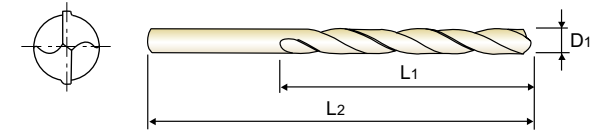
## SUPER HSS, SUPER-GP DRILLS (DIN338)

- SUPER HSS, SUPER-GP DRILLS (DIN338)
- Forets SUPER-GP Super HSS, queue cylindrique (DIN338)
- PUNTA SUPER-GP DRILL, IN SUPER-HSS, GAMBO CILINDRICO (DIN338)

JOBBER  
KURZ  
COURTE  
CORTA

- ▶ Surface treatment: Steam Tempered (Black Oxide Finish)
- ▶ Applications: Excellent tool performance in steels, cast iron, alloy steels and malleable cast iron.
- ▶ Special HSS improves toughness, wear resistance as well as extends dramatically the tool life.
- ▶ All applications regardless of machine condition: Good or Poor.

- ▶ Oberflächenbehandlung: Dampfgehärtet (Schwarze Oxydschicht)
- ▶ Anwendungen: Ausgezeichnete Leistung bei Stählen, Gusseisen, legierten Stählen und Temperguss.
- ▶ Spezial-HSS verbessert Zähigkeit, Verschleißfestigkeit und verlängert drastisch die Standzeit.
- ▶ Alle Anwendungen unabhängig vom Maschinenzustand: Gut oder schlecht.



DIN 338 SUPER HSS 30° h8 118° Vap p.A214

Plain Shank ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
* DSH105020	2.0	24	49
* DSH105021	2.1	24	49
* DSH105022	2.2	27	53
* DSH105023	2.3	27	53
* DSH105024	2.4	30	57
* DSH105025	2.5	30	57
* DSH105026	2.6	30	57
* DSH105027	2.7	33	61
* DSH105028	2.8	33	61
* DSH105029	2.9	33	61
* DSH105030	3.0	33	61
* DSH105031	3.1	36	65
* DSH105032	3.2	36	65
* DSH105033	3.3	36	65
* DSH105034	3.4	39	70
* DSH105035	3.5	39	70
* DSH105036	3.6	39	70
* DSH105037	3.7	39	70
* DSH105038	3.8	43	75
* DSH105039	3.9	43	75
* DSH105040	4.0	43	75
* DSH105041	4.1	43	75
* DSH105042	4.2	43	75
* DSH105043	4.3	47	80

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
* DSH105044	4.4	47	80
* DSH105045	4.5	47	80
* DSH105046	4.6	47	80
* DSH105047	4.7	47	80
* DSH105048	4.8	52	86
* DSH105049	4.9	52	86
* DSH105050	5.0	52	86
* DSH105051	5.1	52	86
* DSH105052	5.2	52	86
* DSH105053	5.3	52	86
* DSH105054	5.4	57	93
* DSH105055	5.5	57	93
* DSH105056	5.6	57	93
* DSH105057	5.7	57	93
* DSH105058	5.8	57	93
* DSH105059	5.9	57	93
* DSH105060	6.0	57	93
* DSH105061	6.1	63	101
* DSH105062	6.2	63	101
* DSH105063	6.3	63	101
* DSH105064	6.4	63	101
* DSH105065	6.5	63	101
* DSH105066	6.6	63	101
* DSH105067	6.7	63	101

\* 10pcs per package  
\*\* 5pcs per package

▶ NEXT PAGE

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc																				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc																					
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



**SUPER HSS, SUPER-GP DRILLS (DIN338)**

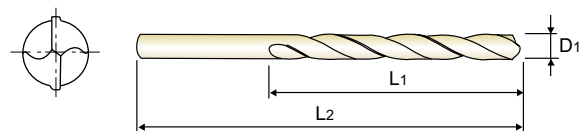
**JOBBER**

- SUPER HSS, SUPER-GP DRILLS (DIN338)
- Forets SUPER-GP Super HSS, queue cylindrique (DIN338)
- PUNTA SUPER-GP DRILL, IN SUPER-HSS, GAMBO CILINDRICO (DIN338)

**KURZ**  
**COURTE**  
**CORTA**

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- ▶ Spezial-HSS verbessert Zähigkeit, Verschleissfestigkeit und verlängert drastisch die Standzeit.
- ▶ Alle Anwendungen unabhängig vom Maschinenzustand: Gut oder schlecht.



DIN 338 SUPER HSS 30° h8 118° Vap p.A214

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2		D1	L1	L2
* DSH105068	6.8	69	109	** DSH105092	9.2	81	125
* DSH105069	6.9	69	109	** DSH105093	9.3	81	125
* DSH105070	7.0	69	109	** DSH105094	9.4	81	125
* DSH105071	7.1	69	109	** DSH105095	9.5	81	125
* DSH105072	7.2	69	109	** DSH105096	9.6	87	133
* DSH105073	7.3	69	109	** DSH105097	9.7	87	133
* DSH105074	7.4	69	109	** DSH105098	9.8	87	133
* DSH105075	7.5	69	109	** DSH105099	9.9	87	133
* DSH105076	7.6	75	117	** DSH105100	10.0	87	133
* DSH105077	7.7	75	117	** DSH105101	10.1	87	133
* DSH105078	7.8	75	117	** DSH105102	10.2	87	133
* DSH105079	7.9	75	117	** DSH105103	10.3	87	133
* DSH105080	8.0	75	117	** DSH105104	10.4	87	133
* DSH105081	8.1	75	117	** DSH105105	10.5	87	133
* DSH105082	8.2	75	117	** DSH105106	10.6	87	133
* DSH105083	8.3	75	117	** DSH105107	10.7	94	142
** DSH105084	8.4	75	117	** DSH105108	10.8	94	142
** DSH105085	8.5	75	117	** DSH105109	10.9	94	142
** DSH105086	8.6	81	125	** DSH105110	11.0	94	142
** DSH105087	8.7	81	125	** DSH105111	11.1	94	142
** DSH105088	8.8	81	125	** DSH105112	11.2	94	142
** DSH105089	8.9	81	125	** DSH105113	11.3	94	142
** DSH105090	9.0	81	125	** DSH105114	11.4	94	142
** DSH105091	9.1	81	125	** DSH105115	11.5	94	142

\* 10pcs per package  
\*\* 5pcs per package

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○													○					

**SUPER HSS, SUPER-GP DRILLS (DIN338)**

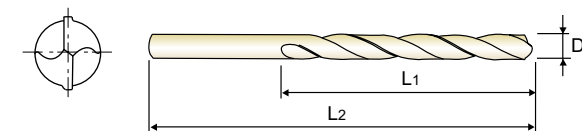
**JOBBER**

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- Forets SUPER-GP Super HSS, queue cylindrique (DIN338)
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**COURTE**  
**CORTA**

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- ▶ Alle Anwendungen unabhängig vom Maschinenzustand: Gut oder schlecht.



DIN 338 SUPER HSS 30° h8 118° Vap p.A214

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2		D1	L1	L2
** DSH105116	11.6	94	142	** DSH105124	12.4	101	151
** DSH105117	11.7	94	142	** DSH105125	12.5	101	151
** DSH105118	11.8	94	142	** DSH105126	12.6	101	151
** DSH105119	11.9	101	151	** DSH105127	12.7	101	151
** DSH105120	12.0	101	151	** DSH105128	12.8	101	151
** DSH105121	12.1	101	151	** DSH105129	12.9	101	151
** DSH105122	12.2	101	151	** DSH105130	13.0	101	151
** DSH105123	12.3	101	151				

\* 10pcs per package  
\*\* 5pcs per package

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○													○					



**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOLHENE SCHNEIDPARAMETER**

**DSH105** SERIES **SUPER HSS, SUPER-GP DRILLS (DIN338)**

R.P.M = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)						
					2.0	3.0	4.0	6.0	8.0	10.0	13.0
P	1	Non-alloy steel	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
			25	RPM	3980	2650	1990	1330	990	800	610
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	20	RPM	3180	2120	1590	1060	800	640	490		
		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17		
	20	RPM	3180	2120	1590	1060	800	640	490		
		FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10		
	6	25	Low alloy steel	RPM	3980	2650	1990	1330	990	800	610
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
20		RPM	3180	2120	1590	1060	800	640	490		
		FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17		
20	RPM	3180	2120	1590	1060	800	640	490			
	FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10			
10	High alloyed steel, and tool steel	15	RPM	2390	1590	1190	800	600	480	370	
			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17	
M	12	Stainless steel	20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
			15	RPM	2390	1590	1190	800	600	480	370
14	10	FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10		
			RPM	1590	1060	800	530	400	320	240	
K	15	Grey cast iron	30	RPM	4770	3180	2390	1590	1190	950	730
				FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17
	25	RPM	3980	2650	1990	1330	990	800	610		
			FEED	0.01-0.02	0.01-0.03	0.02-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.10	
17	Nodular cast iron	30	RPM	4770	3180	2390	1590	1190	950	730	
			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17	
19	Malleable cast iron	25	RPM	3980	2650	1990	1330	990	800	610	
			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.1-0.13	0.11-0.15	0.11-0.17	
N	21	Aluminum-wrought alloy	55	RPM	8750	5840	4380	2920	2190	1750	1350
				FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22
	22	55	RPM	8750	5840	4380	2920	2190	1750	1350	
			FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22	
23	Aluminum-cast, alloyed	40	RPM	6370	4240	3180	2120	1590	1270	980	
			FEED	0.03-0.06	0.05-0.09	0.07-0.11	0.12-0.16	0.12-0.18	0.14-0.20	0.16-0.22	
29	Non Metallic Materials	20	RPM	3180	2120	1590	1060	800	640	490	
			FEED	0.02-0.04	0.03-0.05	0.04-0.06	0.05-0.08	0.10-0.13	0.11-0.15	0.11-0.17	
P	36	Titanium Alloys	10	RPM	1590	1060	800	530	400	320	240
				FEED	0.01-0.03	0.02-0.04	0.03-0.05	0.04-0.07	0.05-0.08	0.05-0.09	0.06-0.10



Leading Through Innovation



**HSS, HSS-E & HSSCo8**

# **STRAIGHT SHANK DRILLS**

**BOHRER MIT ZYLINDERSCHAFT**

- For General Purpose (Soft & Tough Materials)
- Für allgemeine Anwendungen (weiche & zähe Materialien)



SELECTION GUIDE



SERIES	D2107	D1107	D2105
STANDARD	DIN1897	DIN1897	DIN338
LENGTH	STUB	STUB	JOBBER
SIZE MIN	D1.0	D1.0	D1.0
SIZE MAX	D31.0	D13.0	D20.0
PAGE	A220	A224	A227

SURFACE TREATMENT	Gold Coloring	Steam Tempered	Gold Coloring
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# HSS, HSS-E & HSSCo8 STRAIGHT SHANK DRILLS

For General Purpose (Soft & Tough Materials)



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A262

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc			
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎
	4		About 0.75% C Annealed	270	28	○	○	○
	5		About 0.75% C Quenched & Tempered	300	32			
	6	Low alloy steel	Annealed	180	10	◎	◎	◎
	7		Quenched & Tempered	275	29	○	○	○
	8		Quenched & Tempered	300	32	○	○	○
	9		Quenched & Tempered	350	38			
	10		High alloyed steel, and tool steel	Annealed	200	15	○	○
	11		Quenched & Tempered	325	35			
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	○	◎
	13		Martensitic Quenched & Tempered	240	23	○	○	○
	14		Austenitic	180	10	○	○	○
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○	○
	16		Pearlitic (Martensitic)	260	26	○	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○	○
	18		Pearlitic	250	25			
	19		Ferritic	130		○	○	○
20	Malleable cast iron	Pearlitic	230	21				
N	21	Aluminum-wrought alloy	Not Curable	60		○	○	○
	22		Curable Hardened	100		○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○	○
	24		≤ 12% Si, Curable Hardened	90				
	25		> 12% Si, Not Curable	130				
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110				
	27		CuZn, CuSnZn (Brass)	90				
28		CuSn, lead-free copper and electrolytic copper	100					
29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				○	○	○
30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15			
	32		Cured	280	30			
	33		Annealed	250	25			
	34		Ni or Co Based Cured	350	38			
	35		Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm		○	○	○
37	Alpha + Beta Alloys Hardened		1050 Rm					
H	38	Hardened steel	Hardened	550	55			
	39		Hardened	630	60			
	40		Cast	400	42			
41	Hardened Cast Iron	Hardened	550	55				

DL105	D1105	D1125	D2104	D1121	DL109	D1100	D1106
DIN338	DIN338	DIN338	DIN340	DIN1869/1	DIN338	DIN338	DIN338
JOBBER	JOBBER	JOBBER	LONG	EXTRA LONG	JOBBER	JOBBER	JOBBER
D1.0	D0.3	D2.0	D2.0	D2.0	D1.5	D1.5	D1.5
D20.0	D20.0	D20.0	D12.0	D13.0	D13.0	D13.0	D13.0
A230	A233	A238	A241	A243	A244	A245	A247
Gold Coloring	Steam Tempered	Bright	Gold Coloring	Steam Tempered	Bright		



◎	◎	◎	◎	◎	◎			1
◎	◎	◎	◎	◎	◎			2
◎	◎	◎	◎	◎	◎			3
○	○	○	○	○	○			4
								5
◎	◎	◎	◎	◎	◎			6
○	○	○	○	○	○			7
○	○	○	○	○	○			8
○	○	○	○	○	○			9
○	○	○	○	○	○			10
○	○	○	○	○	○			11
◎	○	○	◎	○	◎			12
○	○	○	○	○	○			13
○	○	○	○	○	○			14
○	○	○	○	○	○			15
○	○	○	○	○	○			16
○	○	○	○	○	○			17
○	○	○	○	○	○			18
○	○	○	○	○	○			19
○	○	○	○	○	○			20
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○	○	○	○	○	○		◎	22
○	○	○	○	○	○		◎	23
							◎	24
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○	○	○	○	○	○		◎	28
								29
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								31
								32
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○	○	○	○	○	○			35
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								40
								41

SELECTION GUIDE



SERIES	DH100 DL510	DH100 DL508	DH100 DL509
STANDARD	DIN1897	DIN338	DIN340
LENGTH	STUB	JOBBER	LONG
SIZE MIN	D2.0	D2.0	D2.0
SIZE MAX	D20.0	D16.0	D12.0
PAGE	A249	A251	A253

SURFACE TREATMENT

Bright

# HSS-E STRAIGHT SHANK DRILLS

For General Purpose (Soft & Tough Materials)



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A262

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc				
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	
	2		About 0.45% C Annealed	190	13	◎	◎	◎	
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	
	4		About 0.75% C Annealed	270	28	○	○	○	
	5		About 0.75% C Quenched & Tempered	300	32				
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	
	7		Quenched & Tempered	275	29	○	○	○	
	8		Quenched & Tempered	300	32	○	○	○	
	9		Quenched & Tempered	350	38				
	10		High alloyed steel, and tool steel	Annealed	200	15	○	○	○
	11		Quenched & Tempered	325	35				
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15				
	13		Martensitic Quenched & Tempered	240	23				
	14		Austenitic	180	10				
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○	○	
	16		Pearlitic (Martensitic)	260	26	○	○	○	
	17	Nodular cast iron	Ferritic	160	3	○	○	○	
	18		Pearlitic	250	25	○	○	○	
	19		Ferritic	130		○	○	○	
20	Malleable cast iron	Pearlitic	230	21	○	○	○		
N	21	Aluminum-wrought alloy	Not Curable	60				◎	
	22		Curable Hardened	100				◎	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75				○	
	24		≤ 12% Si, Curable Hardened	90					
	25		> 12% Si, Not Curable	130					
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110					
	27		CuZn, CuSnZn (Brass)	90					
	28		CuSn, lead-free copper and electrolytic copper	100					
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic						
	30		Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15				
	32		Cured	280	30				
	33		Annealed	250	25				
	34		Cured	350	38				
	35		Cast	320	34				
	36	Titanium Alloys	Pure Titanium	400 Rm					
	37		Alpha + Beta Alloys Hardened	1050 Rm					
H	38	Hardened steel	Hardened	550	55				
	39		Hardened	630	60				
	40		Cast	400	42				
	41	Hardened Cast Iron	Hardened	550	55				

DH100 DL505	DH100 DL504	DH100 DT600	DH100 DT692	DH100 DT693	DH100 DL608	DH50 DL507
DIN338	DIN340	DIN1869/1	DIN1869/2	DIN1869/3	DIN341	-
JOBBER	LONG	EXTRA LONG			LONG	EXTRA LONG
D2.0	D2.0	D2.0	D3.0	D4.0	D13.0	D2.0
D13.0	D13.0	D10.5	D10.2	D10.0	D30.0	D13.0
A255	A257	A258			A259	A260

Steam Tempered

TiAIN

Bright



◎	◎	◎	◎	◎	◎	○	1
◎	◎	◎	◎	◎	◎	◎	2
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○	○	○	○	○	○	○	4
							5
◎	◎	◎	◎	◎	◎	◎	6
○	○	○	○	○	○	○	7
○	○	○	○	○	○	○	8
							9
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# YG STRAIGHT SHANK DRILLS

D2107 SERIES

## HSSCo8, STRAIGHT SHANK TWIST DRILLS

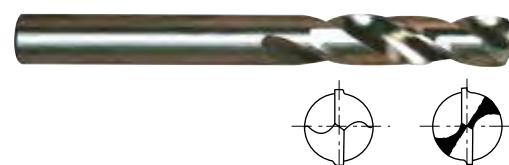
STUB

- HSSCo8, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSSCo8, queue cylindrique, Forme C, série extra-courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSSCo8

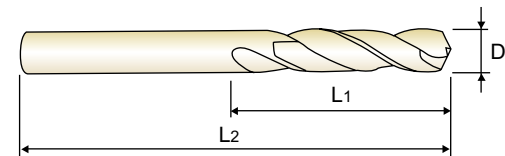
EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

▶ **Surface treatment** : Coloring(Gold color)  
▶ **Application** : Suitable for drilling thin materials with portable electric drills.  
Special twist drills for automatic and turret lathes

▶ **Oberflächenbehandlung** : Coloring(Goldfarbe)  
▶ **Verwendung** : Sonderbohrer zum Einsatz auf Automaten und Revolverdrehbänken.  
Geeignet für den Einsatz in Handbohrmaschinen zum Bohren von dünnwandigem Material.



under 1.6mm 1.6mm & over



DIN 1897 HSS Co8 33° h8 135° Gold Coloring p.A262

Plain Shank Page ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Overall Length	EDP No.	Drill Diameter		Overall Length
	D1	L1			D1	L1	
D2107010	1.0	6	26	D2107032	3.2	18	49
D2107011	1.1	7	28	D2107932	3.25	18	49
D2107012	1.2	8	30	D2107033	3.3	18	49
D2107912	1.25	8	30	D2107034	3.4	20	52
D2107013	1.3	8	30	D2107035	3.5	20	52
D2107014	1.4	9	32	D2107036	3.6	20	52
D2107015	1.5	9	32	D2107037	3.7	20	52
D2107016	1.6	10	34	D2107937	3.75	20	52
D2107017	1.7	10	34	D2107038	3.8	22	55
D2107917	1.75	11	36	D2107039	3.9	22	55
D2107018	1.8	11	36	D2107040	4.0	22	55
D2107019	1.9	11	36	D2107041	4.1	22	55
D2107020	2.0	12	38	D2107042	4.2	22	55
D2107021	2.1	12	38	D2107942	4.25	22	55
D2107022	2.2	13	40	D2107043	4.3	24	58
D2107922	2.25	13	40	D2107044	4.4	24	58
D2107023	2.3	13	40	D2107045	4.5	24	58
D2107024	2.4	14	43	D2107046	4.6	24	58
D2107025	2.5	14	43	D2107946	4.65	24	58
D2107026	2.6	14	43	D2107047	4.7	24	58
D2107027	2.7	16	46	D2107947	4.75	24	58
D2107927	2.75	16	46	D2107048	4.8	26	62
D2107028	2.8	16	46	D2107049	4.9	26	62
D2107029	2.9	16	46	D2107050	5.0	26	62
D2107030	3.0	16	46	D2107051	5.1	26	62
D2107031	3.1	18	49	D2107052	5.2	26	62

▶ HSS-E(DL107) is available on your request.  
▶ TiN(D4107), TiCN(D7107) and TiAlN(DQ107) are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	40	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommended	○	○	○								○					○						

# YG STRAIGHT SHANK DRILLS

D2107 SERIES

## HSSCo8, STRAIGHT SHANK TWIST DRILLS

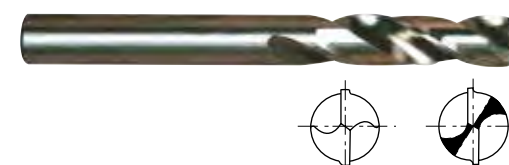
STUB

- HSSCo8, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSSCo8, queue cylindrique, Forme C, série extra-courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSSCo8

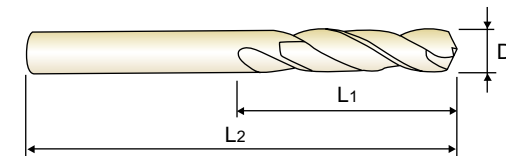
EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

▶ **Surface treatment** : Coloring(Gold color)  
▶ **Application** : Suitable for drilling thin materials with portable electric drills.  
Special twist drills for automatic and turret lathes

▶ **Oberflächenbehandlung** : Coloring(Goldfarbe)  
▶ **Verwendung** : Sonderbohrer zum Einsatz auf Automaten und Revolverdrehbänken.  
Geeignet für den Einsatz in Handbohrmaschinen zum Bohren von dünnwandigem Material.



under 1.6mm 1.6mm & over



DIN 1897 HSS Co8 33° h8 135° Gold Coloring p.A262

Plain Shank Page ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Overall Length	EDP No.	Drill Diameter		Overall Length
	D1	L1			L2	D1	
D2107952	5.25	26	62	D2107073	7.3	34	74
D2107053	5.3	26	62	D2107074	7.4	34	74
D2107054	5.4	28	66	D2107974	7.45	34	74
D2107055	5.5	28	66	D2107075	7.5	34	74
D2107955	5.55	28	66	D2107076	7.6	37	79
D2107056	5.6	28	66	D2107077	7.7	37	79
D2107057	5.7	28	66	D2107977	7.75	37	79
D2107957	5.75	28	66	D2107078	7.8	37	79
D2107058	5.8	28	66	D2107079	7.9	37	79
D2107059	5.9	28	66	D2107080	8.0	37	79
D2107060	6.0	28	66	D2107081	8.1	37	79
D2107061	6.1	31	70	D2107082	8.2	37	79
D2107062	6.2	31	70	D2107982	8.25	37	79
D2107962	6.25	31	70	D2107083	8.3	37	79
D2107063	6.3	31	70	D2107084	8.4	37	79
D2107064	6.4	31	70	D2107085	8.5	37	79
D2107065	6.5	31	70	D2107086	8.6	40	84
D2107066	6.6	31	70	D2107087	8.7	40	84
D2107067	6.7	31	70	D2107987	8.75	40	84
D2107967	6.75	34	74	D2107088	8.8	40	84
D2107068	6.8	34	74	D2107089	8.9	40	84
D2107069	6.9	34	74	D2107090	9.0	40	84
D2107070	7.0	34	74	D2107091	9.1	40	84
D2107071	7.1	34	74	D2107092	9.2	40	84
D2107072	7.2	34	74	D2107992	9.25	40	84
D2107972	7.25	34	74	D2107093	9.3	40	84

▶ HSS-E(DL107) is available on your request.  
▶ TiN(D4107), TiCN(D7107) and TiAlN(DQ107) are available on your request.

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34	40	55	60	42	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550	
Recommended	○	○	○								○					○						



# YG STRAIGHT SHANK DRILLS

D2107 SERIES

## HSSCo8, STRAIGHT SHANK TWIST DRILLS

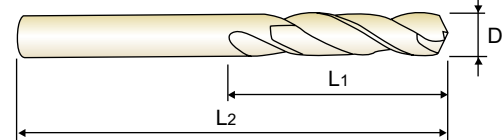
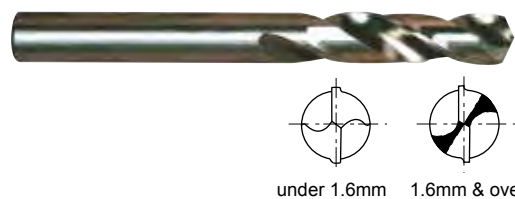
STUB

- HSSCo8, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSSCo8, queue cylindrique, Forme C, série extra-courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSSCo8

EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

► **Surface treatment** : Coloring(Gold color)  
► **Application** : Suitable for drilling thin materials with portable electric drills.  
Special twist drills for automatic and turret lathes

► **Oberflächenbehandlung** : Coloring(Goldfarbe)  
► **Verwendung** : Sonderbohrer zum Einsatz auf Automaten und Revolverdrehbänken.  
Geeignet für den Einsatz in Handbohrmaschinen zum Bohren von dünnwandigem Material.



DIN 1897 HSS Co8 33° h8 135° Gold Coloring p.A262

Plain Shank Page ER COLLET CHUCK D73-115

EDP No.	Drill Diameter		Overall Length	EDP No.	Drill Diameter		Overall Length
	D1	L1			D1	L1	
D2107993	9.35	40	84	D2107138	13.8	54	107
D2107094	9.4	40	84	D2107140	14.0	54	107
D2107095	9.5	40	84	D2107842	14.25	56	111
D2107096	9.6	43	89	D2107145	14.5	56	111
D2107097	9.7	43	89	D2107847	14.75	56	111
D2107997	9.75	43	89	D2107150	15.0	56	111
D2107098	9.8	43	89	D2107852	15.25	58	115
D2107099	9.9	43	89	D2107155	15.5	58	115
D2107100	10.0	43	89	D2107857	15.75	58	115
D2107102	10.2	43	89	D2107160	16.0	58	115
D2107802	10.25	43	89	D2107862	16.25	60	119
D2107105	10.5	43	89	D2107165	16.5	60	119
D2107807	10.75	47	95	D2107867	16.75	60	119
D2107110	11.0	47	95	D2107170	17.0	60	119
D2107812	11.25	47	95	D2107872	17.25	62	123
D2107115	11.5	47	95	D2107175	17.5	62	123
D2107817	11.75	47	95	D2107877	17.75	62	123
D2107118	11.8	47	95	D2107180	18.0	62	123
D2107120	12.0	51	102	D2107882	18.25	64	127
D2107822	12.25	51	102	D2107185	18.5	64	127
D2107125	12.5	51	102	D2107887	18.75	64	127
D2107827	12.75	51	102	D2107190	19.0	64	127
D2107130	13.0	51	102	D2107892	19.25	66	131
D2107832	13.25	54	107	D2107195	19.5	66	131
D2107135	13.5	54	107	D2107897	19.75	66	131
D2107837	13.75	54	107	D2107200	20.0	66	131

► HSS-E(DL107) is available on your request.  
► TiN(D4107), TiCN(D7107) and TiAlN(DQ107) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P									M					K					
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○						○							○					

# YG STRAIGHT SHANK DRILLS

D2107 SERIES

## HSSCo8, STRAIGHT SHANK TWIST DRILLS

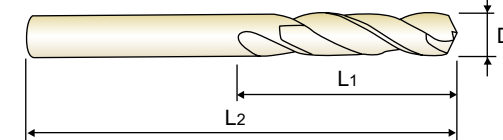
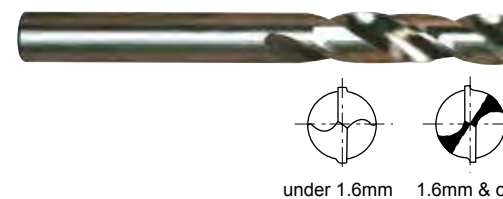
STUB

- HSSCo8, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSSCo8, queue cylindrique, Forme C, série extra-courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSSCo8

EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

► **Surface treatment** : Coloring(Gold color)  
► **Application** : Suitable for drilling thin materials with portable electric drills.  
Special twist drills for automatic and turret lathes

► **Oberflächenbehandlung** : Coloring(Goldfarbe)  
► **Verwendung** : Sonderbohrer zum Einsatz auf Automaten und Revolverdrehbänken.  
Geeignet für den Einsatz in Handbohrmaschinen zum Bohren von dünnwandigem Material.



DIN 1897 HSS Co8 33° h8 135° Gold Coloring p.A262

Plain Shank Page ER COLLET CHUCK D73-115

EDP No.	Drill Diameter		Overall Length	EDP No.	Drill Diameter		Overall Length
	D1	L1			D1	L1	
D2107205	20.5	68	136	D2107245	24.5	75	151
D2107210	21.0	68	136	D2107250	25.0	75	151
D2107215	21.5	70	141	D2107260	26.0	78	156
D2107220	22.0	70	141	D2107270	27.0	81	162
D2107225	22.5	72	146	D2107280	28.0	81	162
D2107230	23.0	72	146	D2107290	29.0	84	168
D2107235	23.5	72	146	D2107300	30.0	84	168
D2107240	24.0	75	151	D2107310	31.0	87	174

► HSS-E(DL107) is available on your request.  
► TiN(D4107), TiCN(D7107) and TiAlN(DQ107) are available on your request.

◎ : Excellent ○ : Good

ISO	P									M					K					
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○						○							○					

# YG STRAIGHT SHANK DRILLS

D1107 SERIES

## HSS, STRAIGHT SHANK TWIST DRILLS

STUB

- HSS, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série extra-courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

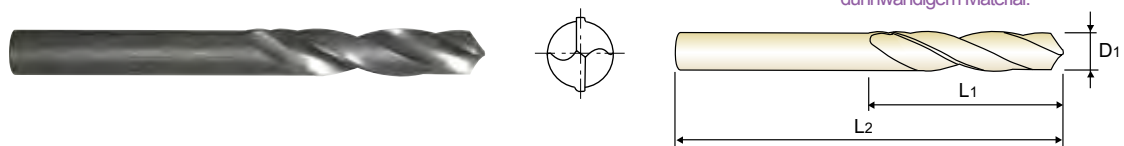
EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

► **Surface treatment** : Steam Tempered(Black Oxide Finish)  
Bright Finish under 2mm

► **Application** : Suitable for drilling thin materials with portable electric drills.  
Special twist drills for automatic and turret lathes.

► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
Helle Beschaffenheit unter 2mm

► **Verwendung** : Sonderbohrer zum Einsatz auf Automaten und Revolverdrehbänken.  
Geeignet für den Einsatz in Handbohrmaschinen zum Bohren von dünnwandigem Material.



DIN 1897 HSS N 20~30° h8 118° Vap p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Overall Length	EDP No.	Drill Diameter		Overall Length
	D1	L1			D1	L1	
D1107010	1.0	6	26	D1107032	3.2	18	49
D1107011	1.1	7	28	D1107932	3.25	18	49
D1107012	1.2	8	30	D1107033	3.3	18	49
D1107912	1.25	8	30	D1107034	3.4	20	52
D1107013	1.3	8	30	D1107035	3.5	20	52
D1107014	1.4	9	32	D1107036	3.6	20	52
D1107015	1.5	9	32	D1107037	3.7	20	52
D1107016	1.6	9	34	D1107937	3.75	20	52
D1107017	1.7	10	34	D1107038	3.8	22	55
D1107917	1.75	11	36	D1107039	3.9	22	55
D1107018	1.8	11	36	D1107040	4.0	22	55
D1107019	1.9	11	36	D1107041	4.1	22	55
D1107020	2.0	12	38	D1107042	4.2	22	55
D1107021	2.1	12	38	D1107942	4.25	22	55
D1107022	2.2	13	40	D1107043	4.3	24	58
D1107922	2.25	13	40	D1107044	4.4	24	58
D1107023	2.3	13	40	D1107045	4.5	24	58
D1107024	2.4	14	43	D1107046	4.6	24	58
D1107025	2.5	14	43	D1107047	4.7	24	58
D1107026	2.6	14	43	D1107947	4.75	24	58
D1107027	2.7	16	46	D1107048	4.8	26	62
D1107927	2.75	16	46	D1107049	4.9	26	62
D1107028	2.8	16	46	D1107050	5.0	26	62
D1107029	2.9	16	46	D1107051	5.1	26	62
D1107030	3.0	16	46	D1107052	5.2	26	62
D1107031	3.1	18	49	D1107952	5.25	26	62

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	41	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○																		

# YG STRAIGHT SHANK DRILLS

D1107 SERIES

## HSS, STRAIGHT SHANK TWIST DRILLS

STUB

- HSS, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série extra-courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

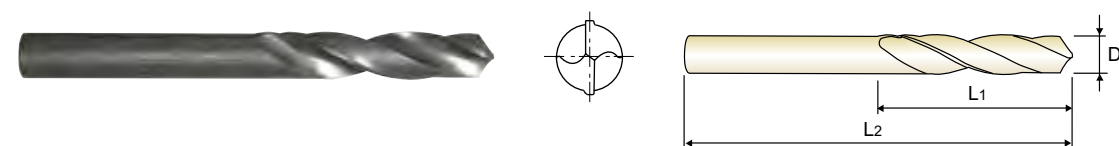
EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

► **Surface treatment** : Steam Tempered(Black Oxide Finish)

► **Application** : Suitable for drilling thin materials with portable electric drills.  
Special twist drills for automatic and turret lathes.

► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)

► **Verwendung** : Sonderbohrer zum Einsatz auf Automaten und Revolverdrehbänken.  
Geeignet für den Einsatz in Handbohrmaschinen zum Bohren von dünnwandigem Material.



DIN 1897 HSS N 20~30° h8 118° Vap p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Overall Length	EDP No.	Drill Diameter		Overall Length
	D1	L1			D1	L1	
D1107053	5.3	26	62	D1107075	7.5	34	74
D1107054	5.4	28	66	D1107076	7.6	37	79
D1107055	5.5	28	66	D1107077	7.7	37	79
D1107056	5.6	28	66	D1107977	7.75	37	79
D1107057	5.7	28	66	D1107078	7.8	37	79
D1107957	5.75	28	66	D1107079	7.9	37	79
D1107058	5.8	28	66	D1107080	8.0	37	79
D1107059	5.9	28	66	D1107081	8.1	37	79
D1107060	6.0	28	66	D1107082	8.2	37	79
D1107061	6.1	31	70	D1107982	8.25	37	79
D1107062	6.2	31	70	D1107083	8.3	37	79
D1107962	6.25	31	70	D1107084	8.4	37	79
D1107063	6.3	31	70	D1107085	8.5	37	79
D1107064	6.4	31	70	D1107086	8.6	40	84
D1107065	6.5	31	70	D1107087	8.7	40	84
D1107066	6.6	31	70	D1107987	8.75	40	84
D1107067	6.7	31	70	D1107088	8.8	40	84
D1107967	6.75	34	74	D1107089	8.9	40	84
D1107068	6.8	34	74	D1107090	9.0	40	84
D1107069	6.9	34	74	D1107091	9.1	40	84
D1107070	7.0	34	74	D1107092	9.2	40	84
D1107071	7.1	34	74	D1107992	9.25	40	84
D1107072	7.2	34	74	D1107093	9.3	40	84
D1107972	7.25	34	74	D1107094	9.4	40	84
D1107073	7.3	34	74	D1107095	9.5	40	84
D1107074	7.4	34	74	D1107096	9.6	43	89

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	41	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○																		

# YG STRAIGHT SHANK DRILLS

## D1107 SERIES

### HSS, STRAIGHT SHANK TWIST DRILLS

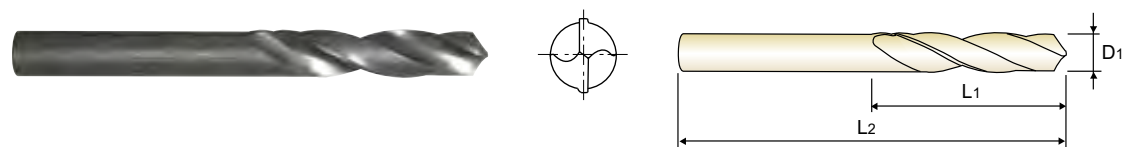
STUB

- HSS, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série extra-courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

► **Surface treatment** : Steam Tempered(Black Oxide Finish)  
► **Application** : Suitable for drilling thin materials with portable electric drills.  
Special twist drills for automatic and turret lathes.

► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
► **Verwendung** : Sonderbohrer zum Einsatz auf Automaten und Revolverdrehbänken.  
Geeignet für den Einsatz in Handbohrmaschinen zum Bohren von dünnwandigem Material.



DIN 1897 HSS N 20~30° h8 118° Vap p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73 - 115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length	
	D1	L1	L2	L1	L2	L2
D1107097	9.7	43	89			
D1107997	9.75	43	89			
D1107098	9.8	43	89			
D1107099	9.9	43	89			
D1107100	10.0	43	89			
D1107802	10.25	43	89			
D1107105	10.5	43	89			
D1107807	10.75	47	95			
D1107110	11.0	47	95			
D1107812	11.25	47	95			
D1107115	11.5	47	95			
D1107817	11.75	47	95			

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○													○					

# YG STRAIGHT SHANK DRILLS

## D2105 SERIES

### HSSCo8, STRAIGHT SHANK TWIST DRILLS

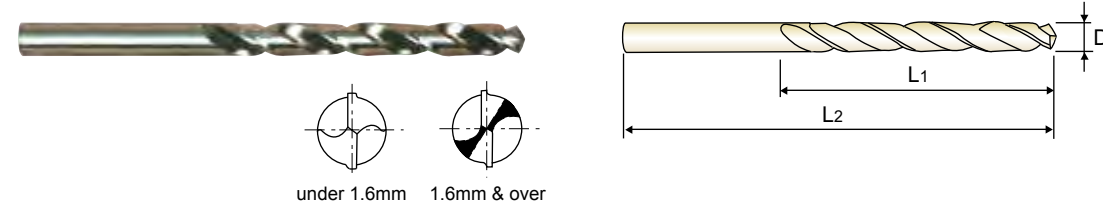
JOBBER

- HSSCo8, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSSCo8, queue cylindrique, Forme C, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSSCo8

KURZ  
COURTE  
CORTA

► **Surface treatment** : Coloring(Gold color)  
► **Application** : Drilling stainless steels and difficult - to - cut materials such as titanium and inconel.

► **Oberflächenbehandlung** : Coloring(Goldfarbe)  
► **Verwendung** : Zum Bohren von rostfreien und austenitischen. Stählen, schwerzerspanbaren Werkstoffen wie Titan und Inconel.



DIN 338 HSS Co8 33° h8 135° Gold Coloring p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73 - 115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length	
	D1	L1	L2	L1	L2	L2
D2105010	1.0	12	34			
D2105011	1.1	14	36			
D2105012	1.2	16	38			
D2105912	1.25	16	38			
D2105013	1.3	16	38			
D2105014	1.4	18	40			
D2105015	1.5	18	40			
D2105016	1.6	20	43			
D2105017	1.7	20	43			
D2105917	1.75	22	46			
D2105018	1.8	22	46			
D2105019	1.9	22	46			
D2105020	2.0	24	49			
D2105021	2.1	24	49			
D2105022	2.2	27	53			
D2105922	2.25	27	53			
D2105023	2.3	27	53			
D2105024	2.4	30	57			
D2105025	2.5	30	57			
D2105026	2.6	30	57			
D2105027	2.7	33	61			
D2105927	2.75	33	61			
D2105028	2.8	33	61			
D2105029	2.9	33	61			
D2105030	3.0	33	61			
D2105031	3.1	36	65			

► TiN(D4105), TiCN(D7105) and TiAlN(DQ105) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○													○					



# YG STRAIGHT SHANK DRILLS

D2105 SERIES

## HSSCo8, STRAIGHT SHANK TWIST DRILLS

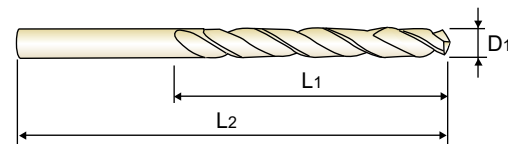
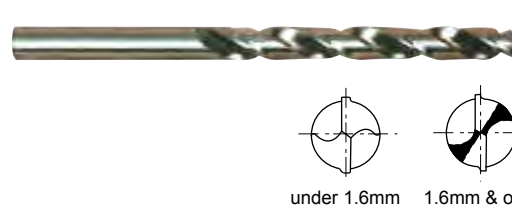
JOBBER

- HSSCo8, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSSCo8, queue cylindrique, Forme C, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSSCo8

KURZ  
COURTE  
CORTA

► **Surface treatment** : Coloring(Gold color)  
► **Application** : Drilling stainless steels and difficult - to - cut materials such as titanium and inconel.

► **Oberflächenbehandlung** : Coloring(Goldfarbe)  
► **Verwendung** : Zum Bohren von rostfreien und austenitischen. Stählen, schwerzerspanbaren Werkstoffen wie Titan und Inconel.



DIN 338 HSS Co8 33° h8 135° Gold Coloring p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D2105053	5.3	52	86	D2105075	7.5	69	109
D2105054	5.4	57	93	D2105076	7.6	75	117
D2105055	5.5	57	93	D2105077	7.7	75	117
D2105056	5.6	57	93	D2105078	7.8	75	117
D2105057	5.7	57	93	D2105079	7.9	75	117
D2105058	5.75	57	93	D2105080	8.0	75	117
D2105059	5.8	57	93	D2105081	8.1	75	117
D2105060	5.9	57	93	D2105082	8.2	75	117
D2105061	6.0	57	93	D2105083	8.25	75	117
D2105062	6.1	63	101	D2105084	8.3	75	117
D2105063	6.2	63	101	D2105085	8.4	75	117
D2105064	6.25	63	101	D2105086	8.5	75	117
D2105065	6.3	63	101	D2105087	8.6	81	125
D2105066	6.3	63	101	D2105088	8.7	81	125
D2105067	6.4	63	101	D2105089	8.75	81	125
D2105068	6.5	63	101	D2105090	8.8	81	125
D2105069	6.6	63	101	D2105091	8.9	81	125
D2105070	6.7	63	101	D2105092	9.0	81	125
D2105071	6.75	69	109	D2105093	9.1	81	125
D2105072	6.8	69	109	D2105094	9.2	81	125
D2105073	6.9	69	109	D2105095	9.25	81	125
D2105074	7.0	69	109	D2105096	9.3	81	125
D2105075	7.1	69	109		9.4	81	125
D2105076	7.2	69	109		9.5	81	125
D2105077	7.25	69	109		9.6	87	133
D2105078	7.3	69	109				
D2105079	7.3	69	109				
D2105080	7.4	69	109				

► TIN(D4105), TiCN(D7105) and TiAlN(DQ105) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○								○											

# YG STRAIGHT SHANK DRILLS

D2105 SERIES

## HSSCo8, STRAIGHT SHANK TWIST DRILLS

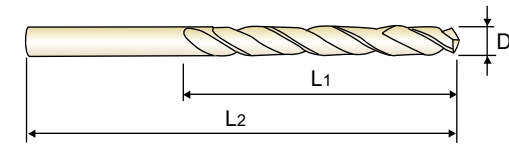
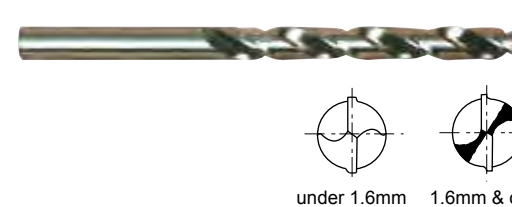
JOBBER

- HSSCo8, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSSCo8, queue cylindrique, Forme C, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSSCo8

KURZ  
COURTE  
CORTA

► **Surface treatment** : Coloring(Gold color)  
► **Application** : Drilling stainless steels and difficult - to - cut materials such as titanium and inconel.

► **Oberflächenbehandlung** : Coloring(Goldfarbe)  
► **Verwendung** : Zum Bohren von rostfreien und austenitischen. Stählen, schwerzerspanbaren Werkstoffen wie Titan und Inconel.



DIN 338 HSS Co8 33° h8 135° Gold Coloring p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D2105097	9.7	87	133	D2105145	14.5	114	169
D2105098	9.75	87	133	D2105150	15.0	114	169
D2105099	9.8	87	133	D2105155	15.5	120	178
D2105100	9.9	87	133	D2105160	16.0	120	178
D2105102	10.0	87	133	D2105165	16.5	125	184
D2105105	10.2	87	133	D2105170	17.0	125	184
D2105105	10.5	87	133	D2105175	17.5	130	191
D2105110	10.5	87	133	D2105180	18.0	130	191
D2105110	11.0	94	142	D2105185	18.5	135	198
D2105115	11.0	94	142	D2105190	19.0	135	198
D2105120	11.5	94	142	D2105195	19.5	140	205
D2105125	12.0	101	151	D2105200	20.0	140	205
D2105125	12.5	101	151				
D2105130	12.5	101	151				
D2105135	13.0	101	151				
D2105140	13.5	108	160				
D2105140	14.0	108	160				

► TiN(D4105), TiCN(D7105) and TiAlN(DQ105) are available on your request.

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○								○											

# YIG STRAIGHT SHANK DRILLS

DL105 SERIES

## HSS-E, STRAIGHT SHANK TWIST DRILLS

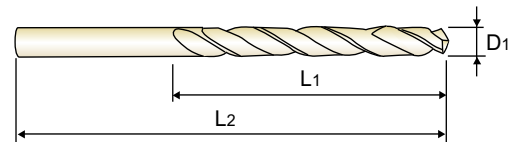
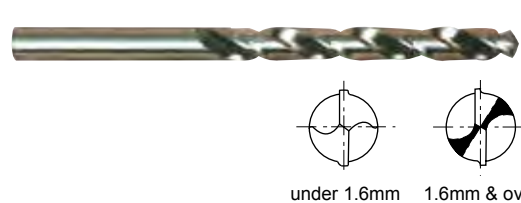
JOBBER

- HSS-E, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS-E, queue cylindrique, Forme C, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS - E

KURZ  
COURTE  
CORTA

► Surface treatment : Coloring(Gold color)  
► Application : Drilling stainless steels and difficult - to - cut materials such as titanium and inconel.

► Oberflächenbehandlung : Coloring(Goldfarbe)  
► Verwendung : Zum Bohren von rostfreien und austenitischen. Stählen, schwerzerspanbaren Werkstoffen wie Titan und Inconel.



DIN 338 HSS-E 33° h8 135° Gold Coloring p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73 - 115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
DL105010	1.0	12	34	DL105032	3.2	36	65
DL105011	1.1	14	36	DL105932	3.25	36	65
DL105012	1.2	16	38	DL105033	3.3	36	65
DL105912	1.25	16	38	DL105034	3.4	39	70
DL105013	1.3	16	38	DL105035	3.5	39	70
DL105014	1.4	18	40	DL105036	3.6	39	70
DL105015	1.5	18	40	DL105037	3.7	39	70
DL105016	1.6	20	43	DL105937	3.75	39	70
DL105017	1.7	20	43	DL105038	3.8	43	75
DL105917	1.75	22	46	DL105039	3.9	43	75
DL105018	1.8	22	46	DL105040	4.0	43	75
DL105019	1.9	22	46	DL105041	4.1	43	75
DL105020	2.0	24	49	DL105042	4.2	43	75
DL105021	2.1	24	49	DL105942	4.25	43	75
DL105022	2.2	27	53	DL105043	4.3	47	80
DL105922	2.25	27	53	DL105044	4.4	47	80
DL105023	2.3	27	53	DL105045	4.5	47	80
DL105024	2.4	30	57	DL105046	4.6	47	80
DL105025	2.5	30	57	DL105047	4.7	47	80
DL105026	2.6	30	57	DL105947	4.75	47	80
DL105027	2.7	33	61	DL105048	4.8	52	86
DL105927	2.75	33	61	DL105049	4.9	52	86
DL105028	2.8	33	61	DL105050	5.0	52	86
DL105029	2.9	33	61	DL105051	5.1	52	86
DL105030	3.0	33	61	DL105052	5.2	52	86
DL105031	3.1	36	65	DL105952	5.25	52	86

► TiN(DN105), TiCN(DX105) and TiAlN(DT105) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P									M					K					
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO	N							S					H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	41	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○								○	○	○	○	○	○	○	○	○	○	○

# YIG STRAIGHT SHANK DRILLS

DL105 SERIES

## HSS-E, STRAIGHT SHANK TWIST DRILLS

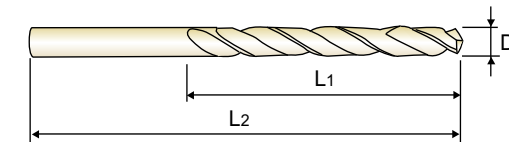
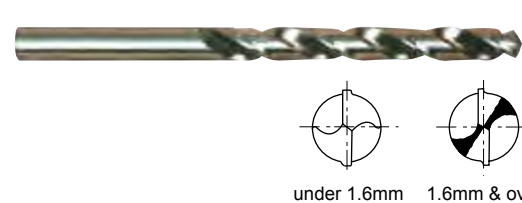
JOBBER

- HSS-E, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS-E, queue cylindrique, Forme C, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS - E

KURZ  
COURTE  
CORTA

► Surface treatment : Coloring(Gold color)  
► Application : Drilling stainless steels and difficult - to - cut materials such as titanium and inconel.

► Oberflächenbehandlung : Coloring(Goldfarbe)  
► Verwendung : Zum Bohren von rostfreien und austenitischen. Stählen, schwerzerspanbaren Werkstoffen wie Titan und Inconel.



DIN 338 HSS-E 33° h8 135° Gold Coloring p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73 - 115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
DL105053	5.3	52	86	DL105075	7.5	69	109
DL105054	5.4	57	93	DL105076	7.6	75	117
DL105055	5.5	57	93	DL105077	7.7	75	117
DL105056	5.6	57	93	DL105977	7.75	75	117
DL105057	5.7	57	93	DL105078	7.8	75	117
DL105957	5.75	57	93	DL105079	7.9	75	117
DL105058	5.8	57	93	DL105080	8.0	75	117
DL105059	5.9	57	93	DL105081	8.1	75	117
DL105060	6.0	57	93	DL105082	8.2	75	117
DL105061	6.1	63	101	DL105982	8.25	75	117
DL105062	6.2	63	101	DL105083	8.3	75	117
DL105962	6.25	63	101	DL105084	8.4	75	117
DL105063	6.3	63	101	DL105085	8.5	75	117
DL105064	6.4	63	101	DL105086	8.6	81	125
DL105065	6.5	63	101	DL105087	8.7	81	125
DL105066	6.6	63	101	DL105987	8.75	81	125
DL105067	6.7	63	101	DL105088	8.8	81	125
DL105967	6.75	69	109	DL105089	8.9	81	125
DL105068	6.8	69	109	DL105090	9.0	81	125
DL105069	6.9	69	109	DL105091	9.1	81	125
DL105070	7.0	69	109	DL105092	9.2	81	125
DL105071	7.1	69	109	DL105992	9.25	81	125
DL105072	7.2	69	109	DL105093	9.3	81	125
DL105972	7.25	69	109	DL105094	9.4	81	125
DL105073	7.3	69	109	DL105095	9.5	81	125
DL105074	7.4	69	109	DL105096	9.6	87	133

► TiN(DN105), TiCN(DX105) and TiAlN(DT105) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P									M					K					
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO	N							S					H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	41	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○								○	○	○	○	○	○	○	○	○	○	○

# YG STRAIGHT SHANK DRILLS

## DL105 SERIES

### HSS-E, STRAIGHT SHANK TWIST DRILLS

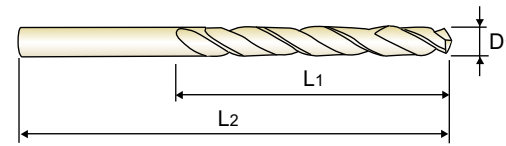
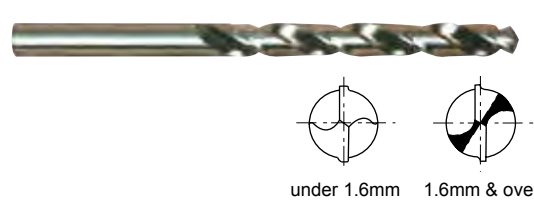
JOBBER

- HSS-E, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS-E, queue cylindrique, Forme C, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS - E

KURZ  
COURTE  
CORTA

► **Surface treatment** : Coloring(Gold color)  
► **Application** : Drilling stainless steels and difficult - to - cut materials such as titanium and inconel.

► **Oberflächenbehandlung** : Coloring(Goldfarbe)  
► **Verwendung** : Zum Bohren von rostfreien und austenitischen. Stählen, schwerzerspanbaren Werkstoffen wie Titan und Inconel.



DIN 338 HSS-E 33° h8 135° Gold Coloring p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73 - 115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
DL105097	9.7	87	133	DL105145	14.5	114	169
DL105098	9.75	87	133	DL105150	15.0	114	169
DL105099	9.8	87	133	DL105155	15.5	120	178
DL105100	9.9	87	133	DL105160	16.0	120	178
DL105102	10.0	87	133	DL105165	16.5	125	184
DL105105	10.2	87	133	DL105170	17.0	125	184
DL105110	10.5	87	133	DL105175	17.5	130	191
DL105115	11.0	94	142	DL105180	18.0	130	191
DL105120	11.5	94	142	DL105185	18.5	135	198
DL105125	12.0	101	151	DL105190	19.0	135	198
DL105130	12.5	101	151	DL105195	19.5	140	205
DL105135	13.0	101	151	DL105200	20.0	140	205
DL105140	13.5	108	160				
DL105140	14.0	108	160				

► TiN(DN105), TiCN(DX105) and TiAlN(DT105) are available on your request.

◎ : Excellent ○ : Good

ISO	P										M				K							
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	260	160	250	130	230			
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
Recommended	○	○	○						○						○						

# YG STRAIGHT SHANK DRILLS

## D1105 SERIES

### HSS, STRAIGHT SHANK TWIST DRILLS

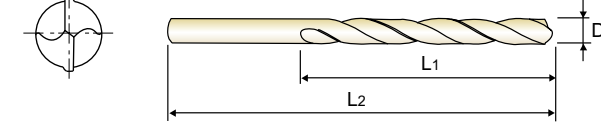
JOBBER

- HSS, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

KURZ  
COURTE  
CORTA

► **Surface treatment** : Steam Tempered(Black Oxide Finish)  
Bright Finish under 2mm  
► **Application** : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron and graphite.

► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
Helle Beschaffenheit unter 2mm  
► **Verwendung** : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphärguß, Sintereisen, Graphite.



DIN 338 HSS 20~30° h8 118° Vap p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73 - 115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D1105003	0.3	3	19	D1105919	1.95	24	49
D1105004	0.4	5	20	D1105020	2.0	24	49
D1105005	0.5	6	22	D1105920	2.05	24	49
D1105006	0.6	7	24	D1105021	2.1	24	49
D1105007	0.7	9	28	D1105921	2.15	27	53
D1105008	0.8	10	30	D1105022	2.2	27	53
D1105009	0.9	11	32	D1105922	2.25	27	53
D1105010	1.0	12	34	D1105023	2.3	27	53
D1105910	1.05	12	34	D1105923	2.35	27	53
D1105011	1.1	14	36	D1105024	2.4	30	57
D1105911	1.15	14	36	D1105924	2.45	30	57
D1105012	1.2	16	38	D1105025	2.5	30	57
D1105912	1.25	16	38	D1105925	2.55	30	57
D1105013	1.3	16	38	D1105026	2.6	30	57
D1105913	1.35	18	40	D1105926	2.65	30	57
D1105014	1.4	18	40	D1105027	2.7	33	61
D1105914	1.45	18	40	D1105927	2.75	33	61
D1105015	1.5	18	40	D1105028	2.8	33	61
D1105915	1.55	20	43	D1105928	2.85	33	61
D1105016	1.6	20	43	D1105029	2.9	33	61
D1105916	1.65	20	43	D1105929	2.95	33	61
D1105017	1.7	20	43	D1105030	3.0	33	61
D1105917	1.75	22	46	D1105930	3.05	36	65
D1105018	1.8	22	46	D1105031	3.1	36	65
D1105918	1.85	22	46	D1105931	3.15	36	65
D1105019	1.9	22	46	D1105032	3.2	36	65

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K							
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	260	160	250	130	230			
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
Recommended	○	○	○						○						○						



# YG STRAIGHT SHANK DRILLS

D1105 SERIES

## HSS, STRAIGHT SHANK TWIST DRILLS

JOBBER

- HSS, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

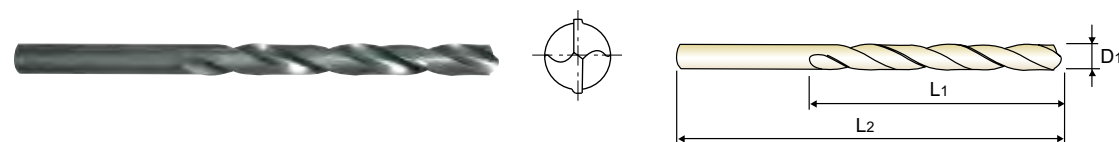
- KURZ
- COURTE
- CORTA

**Surface treatment** : Steam Tempered(Black Oxide Finish)  
Bright Finish under 2mm

**Application** : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron and graphite.

**Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
Helle Beschaffenheit unter 2mm

**Verwendung** : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sintereisen, Graphite.



DIN 338 HSS N 20~30° h8 118° Vap p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D1105932	3.25	36	65	D1105945	4.55	47	80
D1105033	3.3	36	65	D1105046	4.6	47	80
D1105933	3.35	36	65	D1105946	4.65	47	80
D1105034	3.4	39	70	D1105047	4.7	47	80
D1105934	3.45	39	70	D1105947	4.75	47	80
D1105035	3.5	39	70	D1105048	4.8	52	86
D1105935	3.55	39	70	D1105948	4.85	52	86
D1105036	3.6	39	70	D1105049	4.9	52	86
D1105936	3.65	39	70	D1105949	4.95	52	86
D1105037	3.7	39	70	D1105050	5.0	52	86
D1105937	3.75	39	70	D1105950	5.05	52	86
D1105038	3.8	43	75	D1105051	5.1	52	86
D1105938	3.85	43	75	D1105951	5.15	52	86
D1105039	3.9	43	75	D1105052	5.2	52	86
D1105939	3.95	43	75	D1105952	5.25	52	86
D1105040	4.0	43	75	D1105053	5.3	52	86
D1105940	4.05	43	75	D1105953	5.35	57	93
D1105041	4.1	43	75	D1105054	5.4	57	93
D1105941	4.15	43	75	D1105954	5.45	57	93
D1105042	4.2	43	75	D1105055	5.5	57	93
D1105942	4.25	43	75	D1105955	5.55	57	93
D1105043	4.3	47	80	D1105056	5.6	57	93
D1105943	4.35	47	80	D1105956	5.65	57	93
D1105044	4.4	47	80	D1105057	5.7	57	93
D1105944	4.45	47	80	D1105957	5.75	57	93
D1105045	4.5	47	80	D1105058	5.8	57	93

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	41	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○													○					

# YG STRAIGHT SHANK DRILLS

D1105 SERIES

## HSS, STRAIGHT SHANK TWIST DRILLS

JOBBER

- HSS, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

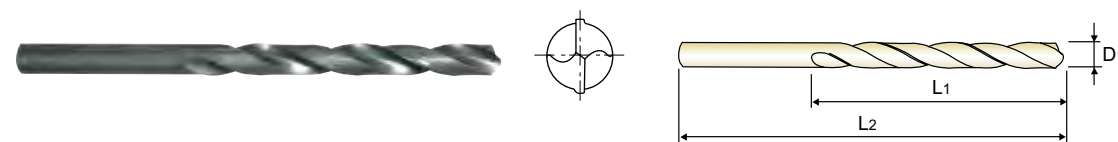
- KURZ
- COURTE
- CORTA

**Surface treatment** : Steam Tempered(Black Oxide Finish)  
Bright Finish under 2mm

**Application** : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron and graphite.

**Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
Helle Beschaffenheit unter 2mm

**Verwendung** : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sintereisen, Graphite.



DIN 338 HSS N 20~30° h8 118° Vap p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D1105958	5.85	57	93	D1105971	7.15	69	109
D1105059	5.9	57	93	D1105072	7.2	69	109
D1105959	5.95	57	93	D1105972	7.25	69	109
D1105060	6.0	57	93	D1105073	7.3	69	109
D1105960	6.05	63	101	D1105973	7.35	69	109
D1105061	6.1	63	101	D1105074	7.4	69	109
D1105961	6.15	63	101	D1105974	7.45	69	109
D1105062	6.2	63	101	D1105075	7.5	69	109
D1105962	6.25	63	101	D1105975	7.55	75	117
D1105063	6.3	63	101	D1105076	7.6	75	117
D1105963	6.35	63	101	D1105976	7.65	75	117
D1105064	6.4	63	101	D1105077	7.7	75	117
D1105964	6.45	63	101	D1105977	7.75	75	117
D1105065	6.5	63	101	D1105078	7.8	75	117
D1105965	6.55	63	101	D1105978	7.85	75	117
D1105066	6.6	63	101	D1105079	7.9	75	117
D1105966	6.65	63	101	D1105979	7.95	75	117
D1105067	6.7	63	101	D1105080	8.0	75	117
D1105967	6.75	69	109	D1105081	8.1	75	117
D1105068	6.8	69	109	D1105082	8.2	75	117
D1105968	6.85	69	109	D1105982	8.25	75	117
D1105069	6.9	69	109	D1105083	8.3	75	117
D1105969	6.95	69	109	D1105084	8.4	75	117
D1105070	7.0	69	109	D1105085	8.5	75	117
D1105970	7.05	69	109	D1105086	8.6	81	125
D1105071	7.1	69	109	D1105087	8.7	81	125

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	41	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○													○					

# YG STRAIGHT SHANK DRILLS

D1105 SERIES

## HSS, STRAIGHT SHANK TWIST DRILLS

JOBBER

- HSS, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

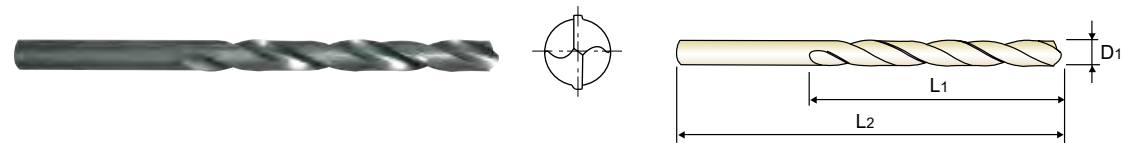
KURZ  
COURTE  
CORTA

**Surface treatment** : Steam Tempered(Black Oxide Finish)  
Bright Finish under 2mm

**Application** : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron and graphite.

**Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
Helle Beschaffenheit unter 2mm

**Verwendung** : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sinterisen, Graphite.



DIN 338 HSS N 20~30° h8 118° Vap p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D1105987	8.75	81	125	D1105109	10.9	94	142
D1105088	8.8	81	125	D1105110	11.0	94	142
D1105089	8.9	81	125	D1105111	11.1	94	142
D1105090	9.0	81	125	D1105112	11.2	94	142
D1105091	9.1	81	125	D1105812	11.25	94	142
D1105092	9.2	81	125	D1105113	11.3	94	142
D1105992	9.25	81	125	D1105114	11.4	94	142
D1105093	9.3	81	125	D1105115	11.5	94	142
D1105094	9.4	81	125	D1105116	11.6	94	142
D1105095	9.5	81	125	D1105117	11.7	94	142
D1105096	9.6	87	133	D1105817	11.75	94	142
D1105097	9.7	87	133	D1105118	11.8	94	142
D1105997	9.75	87	133	D1105119	11.9	101	151
D1105098	9.8	87	133	D1105120	12.0	101	151
D1105099	9.9	87	133	D1105121	12.1	101	151
D1105100	10.0	87	133	D1105122	12.2	101	151
D1105101	10.1	87	133	D1105822	12.25	101	151
D1105102	10.2	87	133	D1105123	12.3	101	151
D1105802	10.25	87	133	D1105124	12.4	101	151
D1105103	10.3	87	133	D1105125	12.5	101	151
D1105104	10.4	87	133	D1105126	12.6	101	151
D1105105	10.5	87	133	D1105127	12.7	101	151
D1105106	10.6	87	133	D1105827	12.75	101	151
D1105107	10.7	94	142	D1105128	12.8	101	151
D1105807	10.75	94	142	D1105129	12.9	101	151
D1105108	10.8	94	142	D1105130	13.0	101	151

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials	Heat Resistant Super Alloys				Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	41	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○																		

# YG STRAIGHT SHANK DRILLS

D1105 SERIES

## HSS, STRAIGHT SHANK TWIST DRILLS

JOBBER

- HSS, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

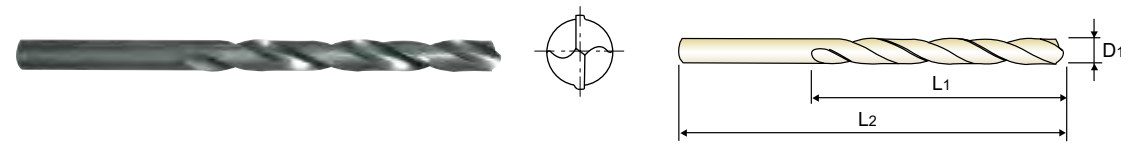
KURZ  
COURTE  
CORTA

**Surface treatment** : Steam Tempered(Black Oxide Finish)  
Bright Finish under 2mm

**Application** : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron and graphite.

**Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
Helle Beschaffenheit unter 2mm

**Verwendung** : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sinterisen, Graphite.



DIN 338 HSS N 20~30° h8 118° Vap p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D1105832	13.25	108	160	D1105867	16.75	125	184
D1105135	13.5	108	160	D1105170	17.0	125	184
D1105837	13.75	108	160	D1105872	17.25	130	191
D1105140	14.0	108	160	D1105175	17.5	130	191
D1105842	14.25	114	169	D1105877	17.75	130	191
D1105145	14.5	114	169	D1105180	18.0	130	191
D1105847	14.75	114	169	D1105882	18.25	135	198
D1105150	15.0	114	169	D1105185	18.5	135	198
D1105155	15.5	120	178	D1105887	18.75	135	198
D1105852	15.25	120	178	D1105190	19.0	135	198
D1105157	15.75	120	178	D1105892	19.25	140	205
D1105160	16.0	120	178	D1105195	19.5	140	205
D1105862	16.25	125	184	D1105897	19.75	140	205
D1105165	16.5	125	184	D1105200	20.0	140	205

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials	Heat Resistant Super Alloys				Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	40	41	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○																		

# YG STRAIGHT SHANK DRILLS

D1125 SERIES

## HSS, STRAIGHT SHANK TWIST DRILLS

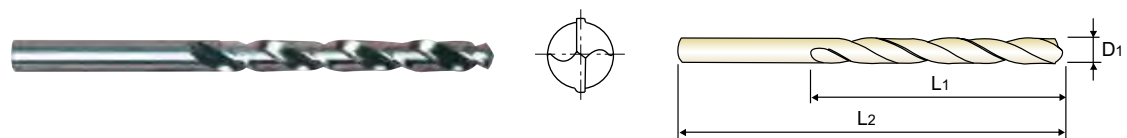
JOBBER

- HSS, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

KURZ  
COURTE  
CORTA

►Surface treatment : Bright Finish  
►Application : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron and graphite.

►Oberflächenbehandlung : Helle Beschaffenheit  
►Verwendung : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphärguß, Sintereisen, Graphite.



DIN 338 HSS N 20~30° h8 118° Bright p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D1125020	2.0	24	49	D1125046	4.6	47	80
D1125021	2.1	24	49	D1125047	4.7	47	80
D1125022	2.2	27	53	D1125048	4.8	52	86
D1125023	2.3	27	53	D1125049	4.9	52	86
D1125024	2.4	30	57	D1125050	5.0	52	86
D1125025	2.5	30	57	D1125051	5.1	52	86
D1125026	2.6	30	57	D1125052	5.3	52	86
D1125027	2.7	33	61	D1125053	5.3	52	86
D1125028	2.8	33	61	D1125054	5.4	57	93
D1125029	2.9	33	61	D1125055	5.5	57	93
D1125030	3.0	33	61	D1125056	5.6	57	93
D1125031	3.1	36	65	D1125057	5.7	57	93
D1125032	3.2	36	65	D1125058	5.8	57	93
D1125033	3.3	36	65	D1125059	5.9	57	93
D1125034	3.4	39	70	D1125060	6.0	57	93
D1125035	3.5	39	70	D1125061	6.1	63	101
D1125036	3.6	39	70	D1125062	6.2	63	101
D1125037	3.7	39	70	D1125063	6.3	63	101
D1125038	3.8	43	75	D1125064	6.4	63	101
D1125039	3.9	43	75	D1125065	6.5	63	101
D1125040	4.0	43	75	D1125066	6.6	63	101
D1125041	4.1	43	75	D1125067	6.7	63	101
D1125042	4.2	43	75	D1125068	6.8	69	109
D1125043	4.3	47	80	D1125069	6.9	69	109
D1125044	4.4	47	80	D1125070	7.0	69	109
D1125045	4.5	47	80	D1125071	7.1	69	109

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	34	34	34	34	34	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○						○							○					

# YG STRAIGHT SHANK DRILLS

D1125 SERIES

## HSS, STRAIGHT SHANK TWIST DRILLS

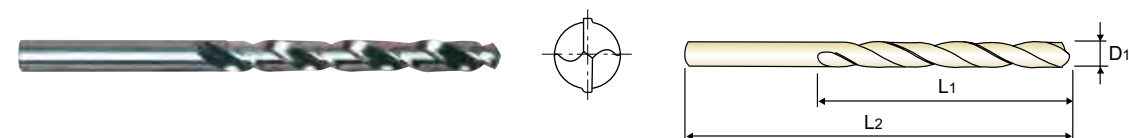
JOBBER

- HSS, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

KURZ  
COURTE  
CORTA

►Surface treatment : Bright Finish  
►Application : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron and graphite.

►Oberflächenbehandlung : Helle Beschaffenheit  
►Verwendung : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphärguß, Sintereisen, Graphite.



DIN 338 HSS N 20~30° h8 118° Bright p.A262

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D1125072	7.2	69	109	D1125098	9.8	87	133
D1125073	7.3	69	109	D1125099	9.9	87	133
D1125074	7.4	69	109	D1125100	10.0	87	133
D1125075	7.5	69	109	D1125101	10.1	87	133
D1125076	7.6	75	117	D1125102	10.2	87	133
D1125077	7.7	75	117	D1125103	10.3	87	133
D1125078	7.8	75	117	D1125104	10.4	87	133
D1125079	7.9	75	117	D1125105	10.5	87	133
D1125080	8.0	75	117	D1125106	10.6	87	133
D1125081	8.1	75	117	D1125107	10.7	94	142
D1125082	8.2	75	117	D1125108	10.8	94	142
D1125083	8.3	75	117	D1125109	10.9	94	142
D1125084	8.4	75	117	D1125110	11.0	94	142
D1125085	8.5	75	117	D1125111	11.1	94	142
D1125086	8.6	81	125	D1125112	11.2	94	142
D1125087	8.7	81	125	D1125113	11.3	94	142
D1125088	8.8	81	125	D1125114	11.4	94	142
D1125089	8.9	81	125	D1125115	11.5	94	142
D1125090	9.0	81	125	D1125116	11.6	94	142
D1125091	9.1	81	125	D1125117	11.7	94	142
D1125092	9.2	81	125	D1125118	11.8	94	142
D1125093	9.3	81	125	D1125119	11.9	101	151
D1125094	9.4	81	125	D1125120	12.0	101	151
D1125095	9.5	81	125	D1125121	12.1	101	151
D1125096	9.6	87	133	D1125122	12.2	101	151
D1125097	9.7	87	133	D1125123	12.3	101	151

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	34	34	34	34	34	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○						○							○					



# YG STRAIGHT SHANK DRILLS

## D1125 SERIES

### HSS, STRAIGHT SHANK TWIST DRILLS

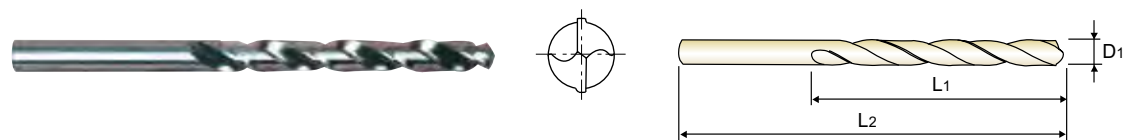
JOBBER

- HSS, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

- KURZ
- COURTE
- CORTA

►Surface treatment : Bright Finish  
 ►Application : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron and graphite.

►Oberflächenbehandlung : Helle Beschaffenheit  
 ►Verwendung : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphärguß, Sintereisen, Graphite.



DIN 338 HSS N 20~30° h8 118° Bright p.A262

Plain Shank Page ER COLLET CHUCK D73 - 115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D1125124	12.4	101	151	D1125150	15.0	114	169
D1125125	12.5	101	151	D1125155	15.5	120	178
D1125126	12.6	101	151	D1125160	16.0	120	178
D1125127	12.7	101	151	D1125165	16.5	125	184
D1125128	12.8	101	151	D1125170	17.0	125	184
D1125129	12.9	101	151	D1125175	17.5	130	191
D1125130	13.0	101	151	D1125180	18.0	130	191
D1125132	13.2	101	151	D1125185	18.5	135	198
D1125133	13.3	108	160	D1125190	19.0	135	198
D1125135	13.5	108	160	D1125195	19.5	140	205
D1125140	14.0	108	160	D1125200	20.0	140	205
D1125145	14.5	114	169				

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○													○					

# YG STRAIGHT SHANK DRILLS

## D2104 SERIES

### HSSCo8, STRAIGHT SHANK TWIST DRILLS

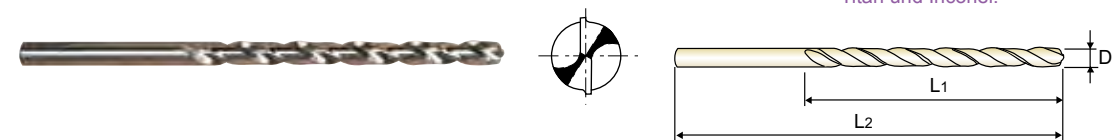
LONG

- HSSCo8, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSSCo8, queue cylindrique, série longue
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSSCo8

- LANG
- LONGUE
- LUNGA

►Surface treatment : Coloring(Gold color)  
 ►Application : Drilling deep holes in stainless steels and difficult - to - cut materials such as titanium and inconel.

►Oberflächenbehandlung : Coloring(Goldfarbe)  
 ►Verwendung : Für Bohrarbeiten mit Bohrungen oder an tief liegenden Stellen. Zum Bohren von rostfreien und austenitischen Stählen, schwerzerspanbaren Werkstoffen wie Titan und Inconel.



DIN 340 HSS Co8 33° h8 135° Gold Coloring p.A262

Plain Shank Page ER COLLET CHUCK D73 - 115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D2104020	2.0	56	85	D2104046	4.6	82	126
D2104021	2.1	56	85	D2104047	4.7	82	126
D2104022	2.2	59	90	D2104048	4.8	87	132
D2104023	2.3	59	90	D2104049	4.9	87	132
D2104024	2.4	62	95	D2104050	5.0	87	132
D2104025	2.5	62	95	D2104051	5.1	87	132
D2104026	2.6	62	95	D2104052	5.2	87	132
D2104027	2.7	66	100	D2104053	5.3	87	132
D2104028	2.8	66	100	D2104054	5.4	91	139
D2104029	2.9	66	100	D2104055	5.5	91	139
D2104030	3.0	66	100	D2104056	5.6	91	139
D2104031	3.1	69	106	D2104057	5.7	91	139
D2104032	3.2	69	106	D2104058	5.8	91	139
D2104033	3.3	69	106	D2104059	5.9	91	139
D2104034	3.4	73	112	D2104060	6.0	91	139
D2104035	3.5	73	112	D2104061	6.1	97	148
D2104036	3.6	73	112	D2104062	6.2	97	148
D2104037	3.7	73	112	D2104063	6.3	97	148
D2104038	3.8	78	119	D2104064	6.4	97	148
D2104039	3.9	78	119	D2104065	6.5	97	148
D2104040	4.0	78	119	D2104066	6.6	97	148
D2104041	4.1	78	119	D2104067	6.7	97	148
D2104042	4.2	78	119	D2104068	6.8	102	156
D2104043	4.3	82	126	D2104069	6.9	102	156
D2104044	4.4	82	126	D2104070	7.0	102	156
D2104045	4.5	82	126	D2104071	7.1	102	156

► HSS-E(DL104) is available on your request. ► NEXT PAGE  
 ► TiN(D4104), TiCN(D7104) and TiAlN(DQ104) are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	◎	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34						15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○													○					

# YG STRAIGHT SHANK DRILLS

## D2104 SERIES

### HSSCo8, STRAIGHT SHANK TWIST DRILLS

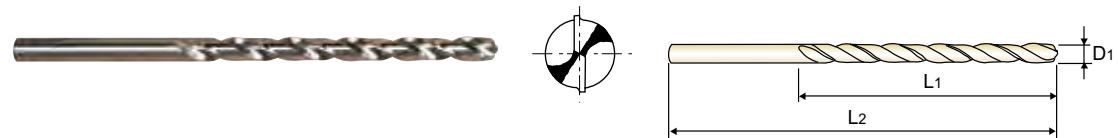
LONG

- HSSCo8, SPIRALBOHRER mit ZYLINDERSCHAFT
- Forets HSSCo8, queue cylindrique, série longue
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSSCo8

LANG  
LONGUE  
LUNGA

► **Surface treatment** : Coloring(Gold color)  
► **Application** : Drilling deep holes in stainless steels and difficult - to - cut materials such as titanium and inconel.

► **Oberflächenbehandlung** : Coloring(Goldfarbe)  
► **Verwendung** : Für Bohrarbeiten mit Bohrbuchsen oder an tief liegenden Stellen. Zum Bohren von rostfreien und austenitischen. Stählen, schwerzerspanbaren Werkstoffen wie Titan und Inconel.



DIN 340 HSS Co8 33° h8 135° Gold Coloring p.A262

Plain Shank Page ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D2104072	7.2	102	156	D2104092	9.2	115	175
D2104073	7.3	102	156	D2104093	9.3	115	175
D2104074	7.4	102	156	D2104094	9.4	115	175
D2104075	7.5	102	156	D2104095	9.5	115	175
D2104076	7.6	109	165	D2104096	9.6	121	184
D2104077	7.7	109	165	D2104097	9.7	121	184
D2104078	7.8	109	165	D2104098	9.8	121	184
D2104079	7.9	109	165	D2104099	9.9	121	184
D2104080	8.0	109	165	D2104100	10.0	121	184
D2104081	8.1	109	165	D2104102	10.2	121	184
D2104082	8.2	109	165	D2104105	10.5	121	184
D2104083	8.3	109	165	D2104108	10.8	128	195
D2104084	8.4	109	165	D2104110	11.0	128	195
D2104085	8.5	109	165	D2104112	11.2	128	195
D2104086	8.6	115	175	D2104115	11.5	128	195
D2104087	8.7	115	175	D2104118	11.8	128	195
D2104088	8.8	115	175	D2104120	12.0	134	205
D2104089	8.9	115	175				
D2104090	9.0	115	175				
D2104091	9.1	115	175				

► HSS-E(DL104) is available on your request.  
► TiN(D4104), TiCN(D7104) and TiAlN(DQ104) are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P									M					K						
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○								○					○					

# YG STRAIGHT SHANK DRILLS

## D1121 SERIES

### HSS, STRAIGHT SHANK TWIST DRILLS

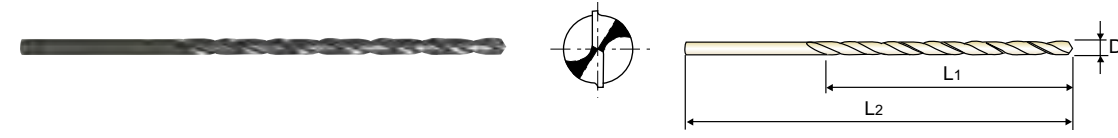
EXTRA LONG

- HSS, SPIRALBOHRER MIT ZYLINDERSCHAFT
- Forets HSS, queue cylindrique, série extra-longue
- PUNTE ELICOIDALI, GAMBO CILINDRICO, HSS

ÜBERLANG  
EXTRA-LONGUE  
EXTRA LUNGA

► **Surface treatment** : Steam Tempered(Black Oxide Finish)  
► **Application** : Designed for drilling deep holes or deeply located holes. Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron and graphite.

► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
► **Verwendung** : Standardbohrer zum Bohren extrem tiefer Löcher, zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sinterisen, Graphit.



DIN 1869/1 HSS 20~30° h8 118° Vap p.A262

Plain Shank Page ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D1121020	2.0	85	125	D1121080	8.0	165	240
D1121025	2.5	95	140	D1121085	8.5	165	240
D1121030	3.0	100	150	D1121090	9.0	175	250
D1121035	3.5	115	165	D1121095	9.5	175	250
D1121040	4.0	120	175	D1121100	10.0	185	265
D1121045	4.5	125	185	D1121105	10.5	185	265
D1121050	5.0	135	195	D1121110	11.0	195	280
D1121055	5.5	140	205	D1121115	11.5	195	280
D1121060	6.0	140	205	D1121120	12.0	205	295
D1121065	6.5	150	215	D1121125	12.5	205	295
D1121070	7.0	155	225	D1121130	13.0	205	295
D1121075	7.5	155	225				

◎ : Excellent ○ : Good

ISO Material Description	P									M					K						
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○								○					○					

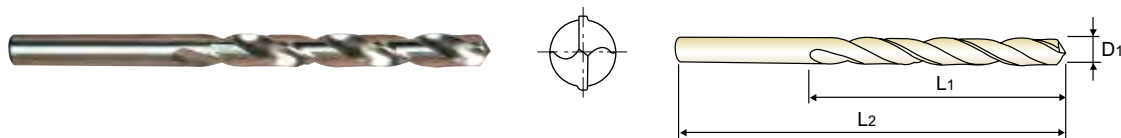
# YG STRAIGHT SHANK DRILLS

**DL109** SERIES

## HSS-E, STRAIGHT SHANK TWIST DRILLS for HEAVY DUTY JOBBER

**HSS-E, SPIRALBOHRER für HOHE LEISTUNGEN mit ZYLINDERSCHAFT**  
 ( Forets HSS-E, queue cylindrique pour matériaux durs, série courte KURZ  
 ( PUNTE ELICOIDALI PER IMPIEGHI GRAVOSI, GAMBO CILINDRICO, HSS - E COURTE  
CORTA

**Application:** Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron and graphite.  
**Verwendung:** Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sinterisen, Graphit.



DIN 338 HSS-E N 20~30° h8 118° Bright p.A262

Plain Shank Page  
 Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2		D1	L1	L2
DL109015	1.5	18	40	DL109080	8.0	75	117
DL109917	1.75	22	46	DL109982	8.25	75	117
DL109020	2.0	24	49	DL109085	8.5	75	117
DL109922	2.25	27	53	DL109987	8.75	81	125
DL109025	2.5	30	57	DL109090	9.0	81	125
DL109927	2.75	33	61	DL109992	9.25	81	125
DL109030	3.0	33	61	DL109095	9.5	81	125
DL109932	3.25	36	65	DL109997	9.75	87	133
DL109035	3.5	39	70	DL109100	10.0	87	133
DL109937	3.75	39	70	DL109105	10.5	87	133
DL109040	4.0	43	75	DL109110	11.0	94	142
DL109942	4.25	43	75	DL109115	11.5	94	142
DL109045	4.5	47	80	DL109120	12.0	101	151
DL109947	4.75	47	80	DL109125	12.5	101	151
DL109050	5.0	52	86	DL109130	13.0	101	151
DL109952	5.25	52	86				
DL109055	5.5	57	93				
DL109957	5.75	57	93				
DL109060	6.0	57	93				
DL109962	6.25	63	101				
DL109065	6.5	63	101				
DL109967	6.75	69	109				
DL109070	7.0	69	109				
DL109972	7.25	69	109				
DL109075	7.5	69	109				
DL109977	7.75	75	117				

TIN(DN109), TICN(DX109) and TiAIN(DT109) are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P									M					K																														
	Non-alloy steel				Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron					Nodular cast iron					Malleable cast iron															
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41				
HRc																																													
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230																									
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc																						
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	550	630	400	550	
Recommended	○	○	○													○						

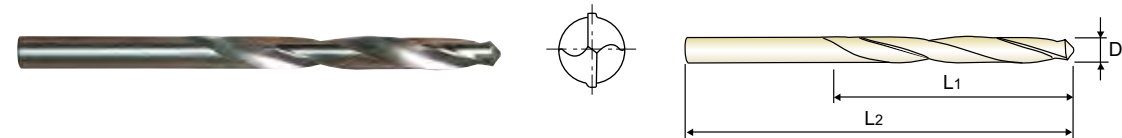
# YG STRAIGHT SHANK DRILLS

**D1100** SERIES

## HSS, STRAIGHT SHANK TWIST DRILLS for BRASS/BRONZE JOBBER

**HSS, SPIRALBOHRER für MESSING/BRONZE mit ZYLINDERSCHAFT**  
 ( Forets HSS, queue cylindrique pour Laiton/Bronze, série courte KURZ  
 ( PUNTE ELICOIDALI, GAMBO CILINDRICO PER OTTONE (HSS) COURTE  
CORTA

**Application:** Drilling hard, brittle and short-chip materials. i.e., brass, bronze, phosphor bronze and magnesium alloys.  
**Verwendung:** Zum Bohren von harten und spröden Werkstoffen wie Messing, Magnesium-Legierungen, Bronze, Phosphorbronze.



DIN 338 HSS N 15~20° h8 118° Bright p.A263

Plain Shank Page  
 Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2		D1	L1	L2
D1100015	1.5	18	40	D1100041	4.1	43	75
D1100016	1.6	20	43	D1100042	4.2	43	75
D1100017	1.7	20	43	D1100043	4.3	47	80
D1100018	1.8	22	46	D1100044	4.4	47	80
D1100019	1.9	22	46	D1100045	4.5	47	80
D1100020	2.0	24	49	D1100046	4.6	47	80
D1100021	2.1	24	49	D1100047	4.7	47	80
D1100022	2.2	27	53	D1100048	4.8	52	86
D1100023	2.3	27	53	D1100049	4.9	52	86
D1100024	2.4	30	57	D1100050	5.0	52	86
D1100025	2.5	30	57	D1100051	5.1	52	86
D1100026	2.6	30	57	D1100052	5.2	52	86
D1100027	2.7	33	61	D1100053	5.3	52	86
D1100028	2.8	33	61	D1100054	5.4	57	93
D1100029	2.9	33	61	D1100055	5.5	57	93
D1100030	3.0	33	61	D1100056	5.6	57	93
D1100031	3.1	36	65	D1100057	5.7	57	93
D1100032	3.2	36	65	D1100058	5.8	57	93
D1100033	3.3	36	65	D1100059	5.9	57	93
D1100034	3.4	39	70	D1100060	6.0	57	93
D1100035	3.5	39	70	D1100061	6.1	63	101
D1100036	3.6	39	70	D1100062	6.2	63	101
D1100037	3.7	39	70	D1100063	6.3	63	101
D1100038	3.8	43	75	D1100064	6.4	63	101
D1100039	3.9	43	75	D1100065	6.5	63	101
D1100040	4.0	43	75	D1100066	6.6	63	101

◎ : Excellent ○ : Good

ISO Material Description	P									M					K																														
	Non-alloy steel				Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron					Nodular cast iron					Malleable cast iron															
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41				
HRc																																													
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230																									
Recommended	◎	◎	◎	○	○	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H											
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc																						
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	550	630	400	550	
Recommended	○	○	○													○						



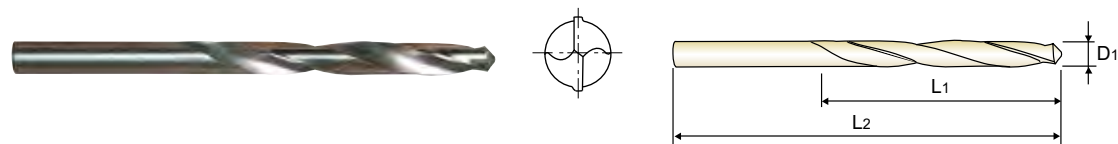
# YG STRAIGHT SHANK DRILLS

## D1100 SERIES

### HSS, STRAIGHT SHANK TWIST DRILLS for BRASS/BRONZE JOBBER

- HSS, SPIRALBOHRER für MESSING/BRONZE mit ZYLINDERSCHAFT KURZ
- Forets HSS, queue cylindrique pour Laiton/Bronze, série courte COURTE
- PUNTE ELICOIDALI, GAMBO CILINDRICO PER OTTONE (HSS) CORTA

►Application : Drilling hard, brittle and short-chip materials. i.e., brass, bronze, phosphor bronze and magnesium alloys. ►Verwendung : Zum Bohren von harten und spröden Werkstoffen wie Messing, Magnesium-Legierungen, Bronze, Phosphorbronze.



DIN 338 HSS N 15~20° h8 118° Bright p.A263

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D1100067	6.7	63	101	D1100087	8.7	81	125
D1100068	6.8	69	109	D1100088	8.8	81	125
D1100069	6.9	69	109	D1100089	8.9	81	125
D1100070	7.0	69	109	D1100090	9.0	81	125
D1100071	7.1	69	109	D1100091	9.1	81	125
D1100072	7.2	69	109	D1100092	9.2	81	125
D1100073	7.3	69	109	D1100093	9.3	81	125
D1100074	7.4	69	109	D1100094	9.4	81	125
D1100075	7.5	69	109	D1100095	9.5	81	125
D1100076	7.6	75	117	D1100096	9.6	87	133
D1100077	7.7	75	117	D1100097	9.7	87	133
D1100078	7.8	75	117	D1100098	9.8	87	133
D1100079	7.9	75	117	D1100099	9.9	87	133
D1100080	8.0	75	117	D1100100	10.0	87	133
D1100081	8.1	75	117	D1100105	10.5	87	133
D1100082	8.2	75	117	D1100110	11.0	94	142
D1100083	8.3	75	117	D1100115	11.5	94	142
D1100084	8.4	75	117	D1100120	12.0	101	151
D1100085	8.5	75	117	D1100125	12.5	101	151
D1100086	8.6	81	125	D1100130	13.0	101	151

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	550	630	400	550					
HB	60	100	75	90	130	110	90	100													
Recommended	◎	◎	◎	◎		◎	◎														

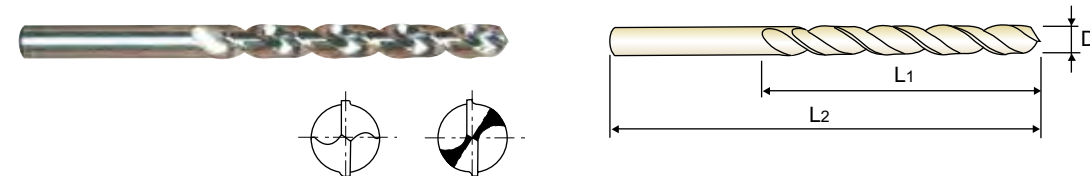
# YG STRAIGHT SHANK DRILLS

## D1106 SERIES

### HSS, STRAIGHT SHANK TWIST DRILLS for ALUMINUM JOBBER

- HSS, SPIRALBOHRER für ALUMINIUM mit ZYLINDERSCHAFT KURZ
- Forets HSS, queue cylindrique pour ALU, Forme C, série courte COURTE
- PUNTE ELICOIDALI, GAMBO CILINDRICO, PER ALLUMINIO (HSS) CORTA

►Application : Drilling hard, brittle and short-chip materials. i.e., brass, bronze, phosphor bronze aluminum and magnesium alloys. ►Verwendung : Zum Bohren von harten und spröden Werkstoffen wie Messing, Magnesium-Legierungen, Bronze, Phosphorbronze.



DIN 338 HSS 38° h8 135° Bright p.A263

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
D1106015	1.5	18	40	D1106041	4.1	43	75
D1106016	1.6	20	43	D1106042	4.2	43	75
D1106017	1.7	20	43	D1106043	4.3	47	80
D1106018	1.8	22	46	D1106044	4.4	47	80
D1106019	1.9	22	46	D1106045	4.5	47	80
D1106020	2.0	24	49	D1106046	4.6	47	80
D1106021	2.1	24	49	D1106047	4.7	47	80
D1106022	2.2	27	53	D1106048	4.8	52	86
D1106023	2.3	27	53	D1106049	4.9	52	86
D1106024	2.4	30	57	D1106050	5.0	52	86
D1106025	2.5	30	57	D1106051	5.1	52	86
D1106026	2.6	30	57	D1106052	5.2	52	86
D1106027	2.7	33	61	D1106053	5.3	52	86
D1106028	2.8	33	61	D1106054	5.4	57	93
D1106029	2.9	33	61	D1106055	5.5	57	93
D1106030	3.0	33	61	D1106056	5.6	57	93
D1106031	3.1	36	65	D1106057	5.7	57	93
D1106032	3.2	36	65	D1106058	5.8	57	93
D1106033	3.3	36	65	D1106059	5.9	57	93
D1106034	3.4	39	70	D1106060	6.0	57	93
D1106035	3.5	39	70	D1106061	6.1	63	101
D1106036	3.6	39	70	D1106062	6.2	63	101
D1106037	3.7	39	70	D1106063	6.3	63	101
D1106038	3.8	43	75	D1106064	6.4	63	101
D1106039	3.9	43	75	D1106065	6.5	63	101
D1106040	4.0	43	75	D1106066	6.6	63	101

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended																				

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	550	630	400	550					
HB	60	100	75	90	130	110	90	100													
Recommended	◎	◎	◎	◎		◎	◎														

# YG STRAIGHT SHANK DRILLS

## D1106 SERIES

### HSS, STRAIGHT SHANK TWIST DRILLS for ALUMINUM

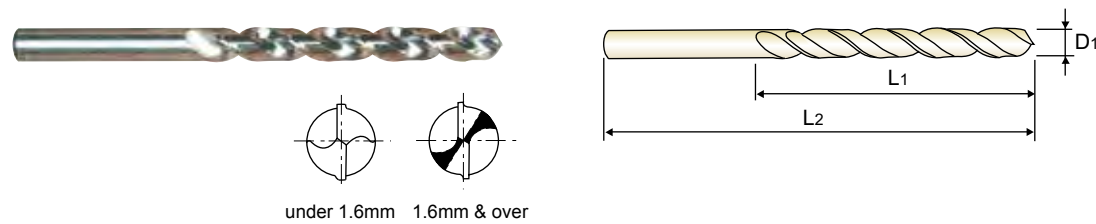
JOBBER

- HSS, SPIRALBOHRER für ALUMINIUM mit ZYLINDERSCHAFT
- Forets HSS, queue cylindrique pour ALU, Forme C, série courte
- PUNTE ELICOIDALI, GAMBO CILINDRICO, PER ALLUMINIO (HSS)

KURZ  
COURTE  
CORTA

►Application : Drilling hard, brittle and short-chip materials. i.e., brass, bronze, phosphor bronze aluminum and magnesium alloys.

►Verwendung : Zum Bohren von harten und spröden Werkstoffen wie Messing, Magnesium-Legierungen, Bronze, Phosphorbronze.



under 1.6mm 1.6mm & over

DIN 338 HSS 38° h8 135° Bright p.A263

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2		D1	L1	L2
D1106067	6.7	63	101	D1106087	8.7	81	125
D1106068	6.8	69	109	D1106088	8.8	81	125
D1106069	6.9	69	109	D1106089	8.9	81	125
D1106070	7.0	69	109	D1106090	9.0	81	125
D1106071	7.1	69	109	D1106091	9.1	81	125
D1106072	7.2	69	109	D1106092	9.2	81	125
D1106073	7.3	69	109	D1106093	9.3	81	125
D1106074	7.4	69	109	D1106094	9.4	81	125
D1106075	7.5	69	109	D1106095	9.5	81	125
D1106076	7.6	75	117	D1106096	9.6	87	133
D1106077	7.7	75	117	D1106097	9.7	87	133
D1106078	7.8	75	117	D1106098	9.8	87	133
D1106079	7.9	75	117	D1106099	9.9	87	133
D1106080	8.0	75	117	D1106100	10.0	87	133
D1106081	8.1	75	117	D1106105	10.5	87	133
D1106082	8.2	75	117	D1106110	11.0	94	142
D1106083	8.3	75	117	D1106115	11.5	94	142
D1106084	8.4	75	117	D1106120	12.0	101	151
D1106085	8.5	75	117	D1106125	12.5	101	151
D1106086	8.6	81	125	D1106130	13.0	101	151

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	550	600	42	55	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# YG STRAIGHT SHANK DRILLS

## DL510 SERIES

### HSS-E, STRAIGHT SHANK TWIST DRILLS for DEEP HOLES

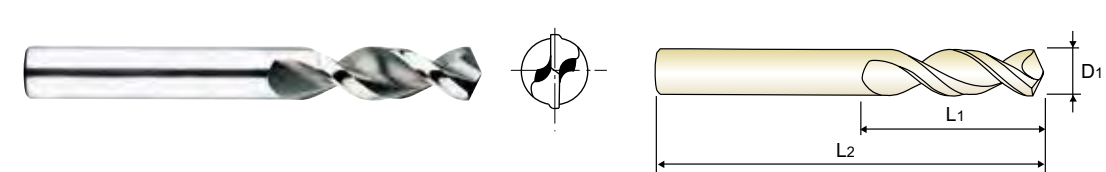
STUB

- HSS-E, SPIRALBOHRER für TIEFLOCH mit ZYLINDERSCHAFT
- Forets HSS-E, queue cylindrique pour perçage profond, série extra-courte
- PUNTA IN HSS-E, GAMBO CILINDRICO PER FORI NON - STOP

EXTRA KURZ  
EXTRA-COURTE  
EXTRA CORTA

►Application : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys.

►Verwendung : Zum Bohren von legiertem und unlegiertem Stahl, Grauguß, Temperguß, Sphäroguß, Druckguß, Alu-Legierungen kurzspanend, Bronze, Messing zäh, Neusilber.



► DH100 worm pattern drills

DIN 1897 HSS-E 42° h8 130° Bright p.A264

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2		D1	L1	L2
DL510020	2.0	12	38	DL510046	4.6	24	58
DL510021	2.1	12	38	DL510047	4.7	24	58
DL510022	2.2	13	40	DL510048	4.8	26	62
DL510023	2.3	13	40	DL510049	4.9	26	62
DL510024	2.4	14	43	DL510050	5.0	26	62
DL510025	2.5	14	43	DL510051	5.1	26	62
DL510026	2.6	14	43	DL510052	5.2	26	62
DL510027	2.7	16	46	DL510053	5.3	26	66
DL510028	2.8	16	46	DL510054	5.4	28	66
DL510029	2.9	16	46	DL510055	5.5	28	66
DL510030	3.0	16	46	DL510056	5.6	28	66
DL510031	3.1	18	49	DL510057	5.7	28	66
DL510032	3.2	18	49	DL510058	5.8	28	66
DL510033	3.3	18	49	DL510059	5.9	28	66
DL510034	3.4	20	52	DL510060	6.0	28	66
DL510035	3.5	20	52	DL510061	6.1	31	70
DL510036	3.6	20	52	DL510062	6.2	31	70
DL510037	3.7	20	52	DL510063	6.3	31	70
DL510038	3.8	22	55	DL510064	6.4	31	70
DL510039	3.9	22	55	DL510065	6.5	31	70
DL510040	4.0	22	55	DL510066	6.6	31	70
DL510041	4.1	22	55	DL510067	6.7	31	70
DL510042	4.2	22	55	DL510068	6.8	34	74
DL510043	4.3	24	58	DL510069	6.9	34	74
DL510044	4.4	24	58	DL510070	7.0	34	74
DL510045	4.5	24	58	DL510071	7.1	34	74

► NEXT PAGE

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	550	600	42	55	55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# YG STRAIGHT SHANK DRILLS

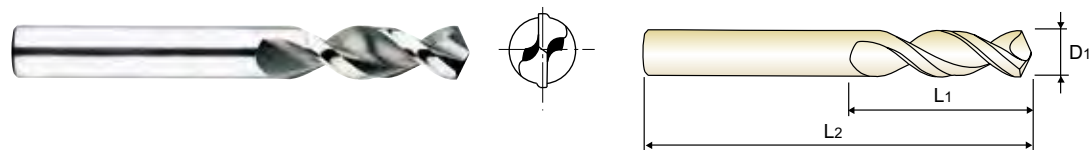
## DL510 SERIES

### HSS-E, STRAIGHT SHANK TWIST DRILLS for DEEP HOLES STUB

- HSS-E, SPIRALBOHRER für TIEFLOCH mit ZYLINDERSCHAFT EXTRA KURZ
- Forets HSS-E, queue cylindrique pour perçage profond, série extra-courte EXTRA-COURTE
- PUNTA IN HSS-E, GAMBO CILINDRICO PER FORI NON - STOP EXTRA CORTA

►Application : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys.

►Verwendung : Zum Bohren von legiertem und unlegiertem stahl, Grauguß, Temperguß, Sphäroguß, Druckguß, Alu-Legierungen kurzspanend, Bronze, Messing zäh, Neusilber.



#### ► DH100 worm pattern drills

DIN 1897 HSS-E 42° h8 130° Bright p.A264

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
DL510072	7.2	34	74	DL510100	10.0	43	89
DL510073	7.3	34	74	DL510102	10.2	43	89
DL510074	7.4	34	74	DL510105	10.5	43	89
DL510075	7.5	34	74	DL510108	10.8	47	95
DL510076	7.6	37	79	DL510110	11.0	47	95
DL510077	7.7	37	79	DL510112	11.2	47	95
DL510078	7.8	37	79	DL510115	11.5	47	95
DL510079	7.9	37	79	DL510118	11.8	47	95
DL510080	8.0	37	79	DL510120	12.0	51	102
DL510081	8.1	37	79	DL510125	12.5	51	102
DL510082	8.2	37	79	DL510130	13.0	51	102
DL510083	8.3	37	79	DL510135	13.5	54	107
DL510084	8.4	37	79	DL510140	14.0	54	107
DL510085	8.5	37	79	DL510145	14.5	56	111
DL510086	8.6	40	84	DL510150	15.0	56	111
DL510087	8.7	40	84	DL510155	15.5	58	115
DL510088	8.8	40	84	DL510160	16.0	58	115
DL510089	8.9	40	84	DL510165	16.5	60	119
DL510090	9.0	40	84	DL510170	17.0	60	119
DL510091	9.1	40	84	DL510175	17.5	62	123
DL510092	9.2	40	84	DL510180	18.0	62	123
DL510093	9.3	40	84	DL510185	18.5	64	127
DL510094	9.4	40	84	DL510190	19.0	64	127
DL510095	9.5	40	84	DL510195	19.5	66	131
DL510096	9.6	43	89	DL510200	20.0	66	131
DL510097	9.7	43	89				
DL510098	9.8	43	89				
DL510099	9.9	43	89				

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel					Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

# YG STRAIGHT SHANK DRILLS

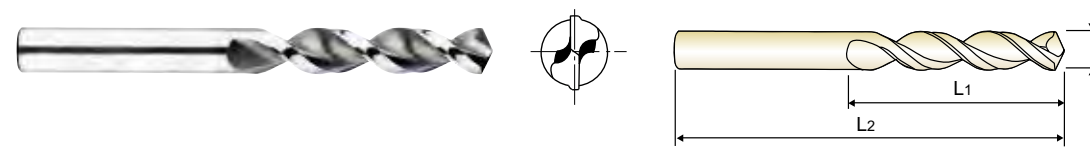
## DL508 SERIES

### HSS-E, STRAIGHT SHANK TWIST DRILLS for DEEP HOLES JOBBER

- HSS-E, SPIRALBOHRER für TIEFLOCH mit ZYLINDERSCHAFT KURZ
- Forets HSS-E, queue cylindrique pour perçage profond, série courte COURTE
- PUNTA IN HSS-E, GAMBO CILINDRICO PER FORI NON - STOP CORTA

►Application : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys.

►Verwendung : Zum Bohren von legiertem und unlegiertem stahl, Grauguß, Temperguß, Sphäroguß, Druckguß, Alu-Legierungen kurzspanend, Bronze, Messing zäh, Neusilber.



#### ► DH100 worm pattern drills

DIN 338 HSS-E 42° h8 130° Bright p.A264

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
DL508020	2.0	24	49	DL508046	4.6	47	80
DL508021	2.1	24	49	DL508047	4.7	47	80
DL508022	2.2	27	53	DL508048	4.8	52	86
DL508023	2.3	27	53	DL508049	4.9	52	86
DL508024	2.4	30	57	DL508050	5.0	52	86
DL508025	2.5	30	57	DL508051	5.1	52	86
DL508026	2.6	30	57	DL508052	5.2	52	86
DL508027	2.7	33	61	DL508053	5.3	52	86
DL508028	2.8	33	61	DL508054	5.4	57	93
DL508029	2.9	33	61	DL508055	5.5	57	93
DL508030	3.0	33	61	DL508056	5.6	57	93
DL508031	3.1	36	65	DL508057	5.7	57	93
DL508032	3.2	36	65	DL508058	5.8	57	93
DL508033	3.3	36	65	DL508059	5.9	57	93
DL508034	3.4	39	70	DL508060	6.0	57	93
DL508035	3.5	39	70	DL508061	6.1	63	101
DL508036	3.6	39	70	DL508062	6.2	63	101
DL508037	3.7	39	70	DL508063	6.3	63	101
DL508038	3.8	43	75	DL508064	6.4	63	101
DL508039	3.9	43	75	DL508065	6.5	63	101
DL508040	4.0	43	75	DL508066	6.6	63	101
DL508041	4.1	43	75	DL508067	6.7	63	101
DL508042	4.2	43	75	DL508068	6.8	69	109
DL508043	4.3	47	80	DL508069	6.9	69	109
DL508044	4.4	47	80	DL508070	7.0	69	109
DL508045	4.5	47	80	DL508071	7.1	69	109

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel					Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					



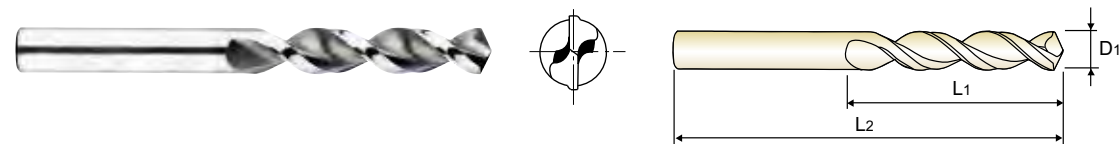
# YG STRAIGHT SHANK DRILLS

DL508 SERIES

## HSS-E, STRAIGHT SHANK TWIST DRILLS for DEEP HOLES JOBBER

- HSS-E, SPIRALBOHRER für TIEFLOCH mit ZYLINDERSCHAFT KURZ
- Forets HSS-E, queue cylindrique pour perçage profond, série courte COURTE
- PUNTA IN HSS-E, GAMBO CILINDRICO PER FORI NON - STOP CORTA

► **Application** : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys. ► **Verwendung** : Zum Bohren von legiertem und unlegiertem stahl, Grauguß, Temperguß, Sphäroguß, Druckguß, Alu-Legierungen kurzspanend, Bronze, Messing zäh, Neusilber.



### ► DH100 worm pattern drills

DIN 338 HSS-E 42° h8 130° Bright p.A264

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
DL508072	7.2	69	109	DL508096	9.6	87	133
DL508073	7.3	69	109	DL508097	9.7	87	133
DL508074	7.4	69	109	DL508098	9.8	87	133
DL508075	7.5	69	109	DL508099	9.9	87	133
DL508076	7.6	75	117	DL508100	10.0	87	133
DL508077	7.7	75	117	DL508102	10.2	87	133
DL508078	7.8	75	117	DL508105	10.5	87	133
DL508079	7.9	75	117	DL508110	11.0	94	142
DL508080	8.0	75	117	DL508112	11.2	94	142
DL508081	8.1	75	117	DL508115	11.5	94	142
DL508082	8.2	75	117	DL508120	12.0	101	151
DL508083	8.3	75	117	DL508125	12.5	101	151
DL508084	8.4	75	117	DL508130	13.0	101	151
DL508085	8.5	75	117	DL508135	13.5	108	160
DL508086	8.6	81	125	DL508140	14.0	108	160
DL508087	8.7	81	125	DL508145	14.5	114	169
DL508088	8.8	81	125	DL508150	15.0	114	169
DL508089	8.9	81	125	DL508155	15.5	120	178
DL508090	9.0	81	125	DL508160	16.0	120	178
DL508091	9.1	81	125				
DL508092	9.2	81	125				
DL508093	9.3	81	125				
DL508094	9.4	81	125				
DL508095	9.5	81	125				

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	40	55	60	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

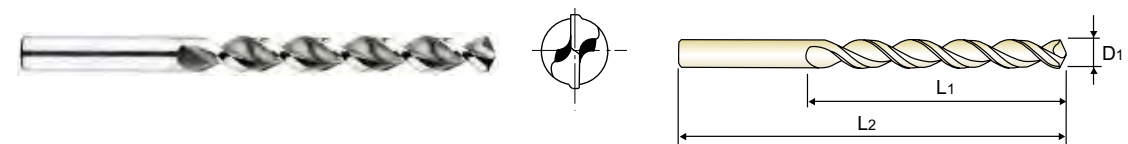
# YG STRAIGHT SHANK DRILLS

DL509 SERIES

## HSS-E, STRAIGHT SHANK TWIST DRILLS for DEEP HOLES LONG

- HSS-E, SPIRALBOHRER für TIEFLOCH mit ZYLINDERSCHAFT LANG
- Forets HSS-E, queue cylindrique pour perçage profond, série longue LONGUE
- PUNTA IN HSS-E, GAMBO CILINDRICO PER FORI NON - STOP LUNGA

► **Application** : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys. ► **Verwendung** : Zum Bohren von legiertem und unlegiertem stahl, Grauguß, Temperguß, Sphäroguß, Druckguß, Alu-Legierungen kurzspanend, Bronze, Messing zäh, Neusilber.



### ► DH100 worm pattern drills

DIN 340 HSS-E 42° h8 130° Bright p.A264

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
DL509020	2.0	56	85	DL509046	4.6	82	126
DL509021	2.1	56	85	DL509047	4.7	82	126
DL509022	2.2	59	90	DL509048	4.8	87	132
DL509023	2.3	59	90	DL509049	4.9	87	132
DL509024	2.4	62	95	DL509050	5.0	87	132
DL509025	2.5	62	95	DL509051	5.1	87	132
DL509026	2.6	62	95	DL509052	5.2	87	132
DL509027	2.7	66	100	DL509053	5.3	87	132
DL509028	2.8	66	100	DL509054	5.4	91	139
DL509029	2.9	66	100	DL509055	5.5	91	139
DL509030	3.0	66	100	DL509056	5.6	91	139
DL509031	3.1	69	106	DL509057	5.7	91	139
DL509032	3.2	69	106	DL509058	5.8	91	139
DL509033	3.3	69	106	DL509059	5.9	91	139
DL509034	3.4	73	112	DL509060	6.0	91	139
DL509035	3.5	73	112	DL509061	6.1	97	148
DL509036	3.6	73	112	DL509062	6.2	97	148
DL509037	3.7	73	112	DL509063	6.3	97	148
DL509038	3.8	78	119	DL509064	6.4	97	148
DL509039	3.9	78	119	DL509065	6.5	97	148
DL509040	4.0	78	119	DL509066	6.6	97	148
DL509041	4.1	78	119	DL509067	6.7	97	148
DL509042	4.2	78	119	DL509068	6.8	102	156
DL509043	4.3	82	126	DL509069	6.9	102	156
DL509044	4.4	82	126	DL509070	7.0	102	156
DL509045	4.5	82	126	DL509071	7.1	102	156

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	40	55	60	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

# YG STRAIGHT SHANK DRILLS

DL509 SERIES

## HSS-E, STRAIGHT SHANK TWIST DRILLS for DEEP HOLES

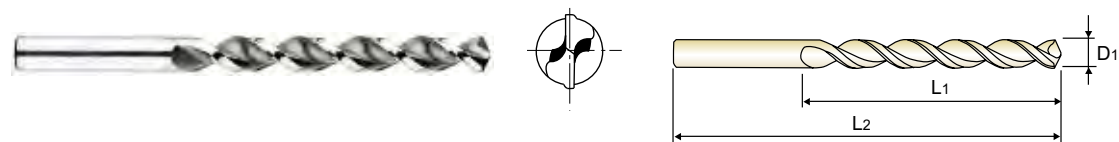
LONG

- HSS-E, SPIRALBOHRER für TIEFLOCH mit ZYLINDERSCHAFT
- Forets HSS-E, queue cylindrique pour perçage profond, série longue
- PUNTA IN HSS-E, GAMBO CILINDRICO PER FORI NON - STOP

LANG  
LONGUE  
LUNGA

►Application : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys.

►Verwendung : Zum Bohren von legiertem und unlegiertem stahl, Grauguß, Temperguß, Sphäroguß, Druckguß, Alu-Legierungen kurzspanend, Bronze, Messing zäh, Neusilber.



### ► DH100 worm pattern drills

DIN 340 HSS-E 42° h8 130° Bright p.A264

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

EDP No.	Drill Diameter		Overall Length
	D1	L1	
DL509072	7.2	102	156
DL509073	7.3	102	156
DL509074	7.4	102	156
DL509075	7.5	102	156
DL509076	7.6	109	165
DL509077	7.7	109	165
DL509078	7.8	109	165
DL509079	7.9	109	165
DL509080	8.0	109	165
DL509081	8.1	109	165
DL509082	8.2	109	165
DL509083	8.3	109	165
DL509084	8.4	109	165
DL509085	8.5	109	165
DL509086	8.6	115	175
DL509087	8.7	115	175
DL509088	8.8	115	175
DL509089	8.9	115	175
DL509090	9.0	115	175
DL509091	9.1	115	175
DL509092	9.2	115	175
DL509093	9.3	115	175
DL509094	9.4	115	175
DL509095	9.5	115	175
DL509096	9.6	121	184
DL509097	9.7	121	184

EDP No.	Drill Diameter		Overall Length
	D1	L1	
DL509098	9.8	121	184
DL509099	9.9	121	184
DL509100	10.0	121	184
DL509102	10.2	121	184
DL509105	10.5	121	184
DL509110	11.0	128	195
DL509115	11.5	128	195
DL509120	12.0	134	205

Unit : mm

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

# YG STRAIGHT SHANK DRILLS

DL505 SERIES

## HSS-E, STRAIGHT SHANK TWIST DRILLS for DEEP HOLES

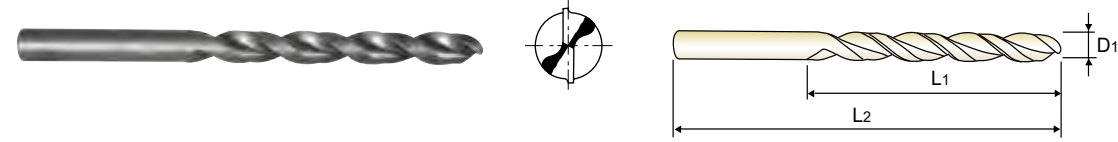
JOBBER

- HSS-E, SPIRALBOHRER für TIEFLOCH mit ZYLINDERSCHAFT
- Forets HSS-E, queue cylindrique pour perçage profond, série courte
- PUNTA IN HSS-E, GAMBO CILINDRICO PER FORI NON - STOP

KURZ  
COURTE  
CORTA

►Surface treatment : Steam Tempered(Black Oxide Finish)  
►Application : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys.

►Oberflächenbehandlung : Steam Homo(Schwarzoxidation)  
►Verwendung : Zum Bohren von legiertem und unlegiertem stahl, Grauguß, Temperguß, Sphäroguß, Druckguß, Alu-Legierungen kurzspanend, Bronze, Messing zäh, Neusilber.



### ► DH100 worm pattern drills

DIN 338 HSS-E 38° h8 130° Vap p.A264

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

EDP No.	Drill Diameter		Overall Length
	D1	L1	
DL505020	2.0	24	49
DL505021	2.1	24	49
DL505022	2.2	27	53
DL505023	2.3	27	53
DL505024	2.4	30	57
DL505025	2.5	30	57
DL505026	2.6	30	57
DL505027	2.7	33	61
DL505028	2.8	33	61
DL505029	2.9	33	61
DL505030	3.0	33	61
DL505031	3.1	36	65
DL505032	3.2	36	65
DL505033	3.3	36	65
DL505034	3.4	39	70
DL505035	3.5	39	70
DL505036	3.6	39	70
DL505037	3.7	39	70
DL505038	3.8	43	75
DL505039	3.9	43	75
DL505040	4.0	43	75
DL505041	4.1	43	75
DL505042	4.2	43	75
DL505043	4.3	47	80
DL505044	4.4	47	80
DL505045	4.5	47	80

EDP No.	Drill Diameter		Overall Length
	D1	L1	
DL505046	4.6	47	80
DL505047	4.7	47	80
DL505048	4.8	52	86
DL505049	4.9	52	86
DL505050	5.0	52	86
DL505051	5.1	52	86
DL505052	5.2	52	86
DL505053	5.3	52	86
DL505054	5.4	57	93
DL505055	5.5	57	93
DL505056	5.6	57	93
DL505057	5.7	57	93
DL505058	5.8	57	93
DL505059	5.9	57	93
DL505060	6.0	57	93
DL505061	6.1	63	101
DL505062	6.2	63	101
DL505063	6.3	63	101
DL505064	6.4	63	101
DL505065	6.5	63	101
DL505066	6.6	63	101
DL505067	6.7	63	101
DL505068	6.8	69	109
DL505069	6.9	69	109
DL505070	7.0	69	109
DL505071	7.1	69	109

► TIN(DN505), TICN(DX505) and TIAN(DT505) are available on your request.

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

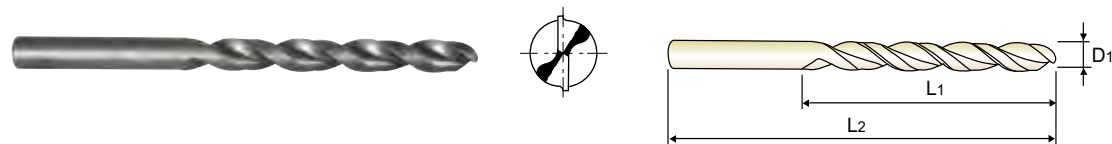
# YG STRAIGHT SHANK DRILLS

## DL505 SERIES

### HSS-E, STRAIGHT SHANK TWIST DRILLS for DEEP HOLES JOBBER

- HSS-E, SPIRALBOHRER für TIEFLOCH mit ZYLINDERSCHAFT KURZ
- Forets HSS-E, queue cylindrique pour perçage profond, série courte COURTE
- PUNTA IN HSS-E, GAMBO CILINDRICO PER FORI NON - STOP CORTA

► **Surface treatment** : Steam Tempered(Black Oxide Finish) ► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
 ► **Application** : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys. ► **Verwendung** : Zum Bohren von legiertem und unlegiertem stahl, Grauguß, Temperguß, Sphäroguß, Druckguß, Alu-Legierungen kurzspanend, Bronze, Messing zäh, Neusilber.



### ► DH100 worm pattern drills

DIN 338 HSS-E 38° h8 130° Vap p.A264

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
DL505072	7.2	69	109	DL505098	9.8	87	133
DL505073	7.3	69	109	DL505099	9.9	87	133
DL505074	7.4	69	109	DL505100	10.0	87	133
DL505075	7.5	69	109	DL505101	10.1	87	133
DL505076	7.6	75	117	DL505102	10.2	87	133
DL505077	7.7	75	117	DL505105	10.5	87	133
DL505078	7.8	75	117	DL505108	10.8	94	142
DL505079	7.9	75	117	DL505110	11.0	94	142
DL505080	8.0	75	117	DL505112	11.2	94	142
DL505081	8.1	75	117	DL505115	11.5	94	142
DL505082	8.2	75	117	DL505118	11.8	94	142
DL505083	8.3	75	117	DL505120	12.0	101	151
DL505084	8.4	75	117	DL505122	12.2	101	151
DL505085	8.5	75	117	DL505125	12.5	101	151
DL505086	8.6	81	125	DL505128	12.8	101	151
DL505087	8.7	81	125	DL505130	13.0	101	151
DL505088	8.8	81	125				
DL505089	8.9	81	125				
DL505090	9.0	81	125				
DL505091	9.1	81	125				
DL505092	9.2	81	125				
DL505093	9.3	81	125				
DL505094	9.4	81	125				
DL505095	9.5	81	125				
DL505096	9.6	87	133				
DL505097	9.7	87	133				

► TIN(DN505), TICN(DX505) and TIAIN(DT505) are available on your request.

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					

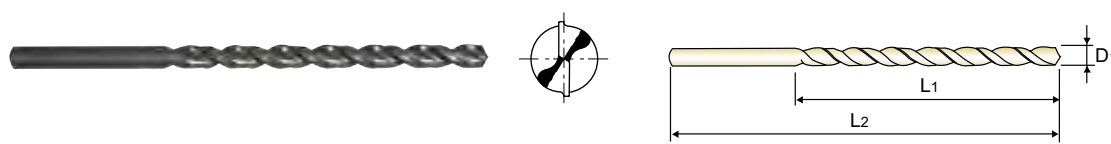
# YG STRAIGHT SHANK DRILLS

## DL504 SERIES

### HSS-E, STRAIGHT SHANK TWIST DRILLS for DEEP HOLES LONG

- HSS-E, SPIRALBOHRER für TIEFLOCH mit ZYLINDERSCHAFT LANG
- Forets HSS-E, queue cylindrique pour perçage profond, série longue LONGUE
- PUNTA IN HSS-E, GAMBO CILINDRICO PER FORI NON - STOP LUNGA

► **Surface treatment** : Steam Tempered(Black Oxide Finish) ► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
 ► **Application** : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys. ► **Verwendung** : Zum Bohren von legiertem und unlegiertem stahl, Grauguß, Temperguß, Sphäroguß, Druckguß, Alu-Legierungen kurzspanend, Bronze, Messing zäh, Neusilber.



### ► DH100 worm pattern drills

DIN 340 HSS-E 38° h8 130° Vap p.A264

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Drill Diameter		Flute Length		Overall Length		
	D1	L1	L2	D1	L1	L2	
DL504020	2.0	56	85	DL504055	5.5	91	139
DL504021	2.1	56	85	DL504058	5.8	91	139
DL504022	2.2	59	90	DL504060	6.0	91	139
DL504023	2.3	59	90	DL504062	6.2	97	148
DL504024	2.4	62	95	DL504065	6.5	97	148
DL504025	2.5	62	95	DL504068	6.8	102	156
DL504026	2.6	62	95	DL504070	7.0	102	156
DL504027	2.7	66	100	DL504072	7.2	102	156
DL504028	2.8	66	100	DL504075	7.5	102	156
DL504029	2.9	66	100	DL504078	7.8	109	165
DL504030	3.0	66	100	DL504080	8.0	109	165
DL504031	3.1	69	106	DL504082	8.2	109	165
DL504032	3.2	69	106	DL504085	8.5	109	165
DL504033	3.3	69	106	DL504090	9.0	115	175
DL504034	3.4	73	112	DL504095	9.5	115	175
DL504035	3.5	73	112	DL504098	9.8	121	184
DL504036	3.6	73	112	DL504100	10.0	121	184
DL504037	3.7	73	112	DL504105	10.5	121	184
DL504038	3.8	78	119	DL504110	11.0	128	195
DL504039	3.9	78	119	DL504115	11.5	128	195
DL504040	4.0	78	119	DL504120	12.0	134	205
DL504042	4.2	78	119	DL504125	12.5	134	205
DL504045	4.5	82	126	DL504130	13.0	134	205
DL504048	4.8	87	132				
DL504050	5.0	87	132				
DL504052	5.2	87	132				

► TIN(DN504), TICN(DX504) and TIAIN(DT504) are available on your request.

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400 Rm	1050 Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended																					



# YIG STRAIGHT SHANK DRILLS

DT600 SERIES

DT692 SERIES

DT693 SERIES

## HSS-E, STRAIGHT SHANK TWIST DRILLS for DEEP HOLES

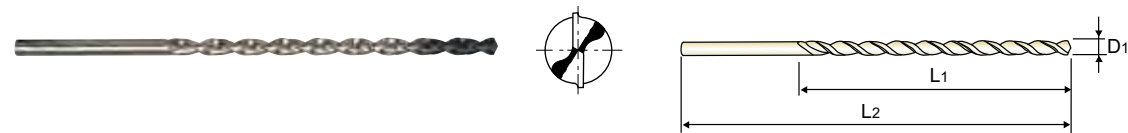
EXTRA LONG

- HSS-E, SPIRALBOHRER für TIEFLOCH mit ZYLINDERSCHAFT
- Forets HSS-E, queue cylindrique pour perçage profond, Forme C, série extra-longue
- PUNTA IN HSS-E, GAMBO CILINDRICO PER FORI NON - STOP

ÜBERLANG  
EXTRA-LONGUE  
EXTRA LUNGA

► **Surface treatment** : TiAlN coating on working area.  
► **Application** : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys.

► **Verwendung** : Zum Bohren von legiertem und unlegiertem stahl, Grauguß, Temperguß, Sphäroguß, Druckguß, Alu-Legierungen kurzspanend, Bronze, Messing zäh, Neusilber.



### ► DH100 worm pattern drills

DIN 1869/1, DIN 1869/2, DIN 1869/3, HSS-E, 38°, h8, 130°, TiAlN, p.A265

Plain Shank, ER COLLET CHUCK, D73-115

#### DT600 SERIES (DIN1869/1)

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DT600020	2.0	85	125
DT600025	2.5	95	140
DT600030	3.0	100	150
DT600035	3.5	115	165
DT600040	4.0	120	175
DT600045	4.5	125	185
DT600050	5.0	135	195
DT600055	5.5	140	205
DT600060	6.0	140	205
DT600065	6.5	150	215
DT600070	7.0	155	225
DT600075	7.5	155	225
DT600080	8.0	165	240
DT600085	8.5	165	240
DT600090	9.0	175	250
DT600095	9.5	175	250
DT600100	10.0	185	265
DT600105	10.5	185	265

#### DT692 SERIES (DIN1869/2)

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DT692030	3.0	130	190
DT692035	3.5	145	210
DT692040	4.0	150	220
DT692045	4.5	160	235
DT692050	5.0	170	245
DT692055	5.5	180	260
DT692060	6.0	180	260
DT692065	6.5	190	275
DT692070	7.0	200	290
DT692075	7.5	200	290
DT692080	8.0	210	305
DT692085	8.5	210	305
DT692090	9.0	220	320
DT692095	9.5	220	320
DT692100	10.0	235	340
DT692102	10.2	235	340

#### DT693 SERIES (DIN1869/3)

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
DT693040	4.0	190	280
DT693050	5.0	210	315
DT693060	6.0	225	330
DT693080	8.0	265	390
DT693100	10.0	295	430

► TiN(DN600) and TiCN(DX600) are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P									M				K						
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	55	60	42	55							
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# YIG STRAIGHT SHANK DRILLS

DL608 SERIES

## HSS-E, MORSE TAPER SHANK TWIST DRILLS for DEEP HOLES

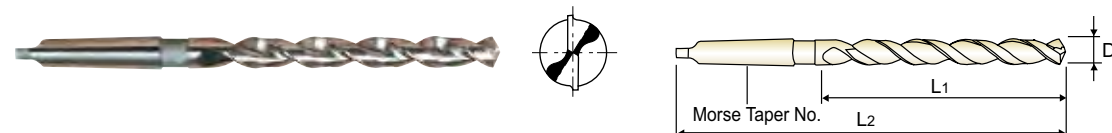
LONG

- HSS-E, SPIRALBOHRER für TIEFLOCH mit MORSEKEGELSCHAFT
- Forets HSS-E, queue cône morse pour perçage profond, série longue
- PUNTE IN HSS - E, ATTACCO CONO MORSE PER FORI NON - STOP

LANG  
LONGUE  
LUNGA

► **Application** : Drilling deep holes in non alloy steels, alloy steels, grey cast iron, malleable cast iron, special aluminum or magnesium alloys.

► **Verwendung** : Zum Bohren von legiertem und unlegiertem stahl, Grauguß, Temperguß, Sphäroguß, Druckguß, Alu-Legierungen kurzspanend, Bronze, Messing zäh, Neusilber.



### ► DH100 worm pattern drills

DIN 341, HSS-E, 38°, 1~3, h8, 130°, Bright, p.A264

Plain Shank, ER COLLET CHUCK, D73-115

EDP No.	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
	D1	L1	L2	
DL608130	13.0	134	215	1
DL608135	13.5	142	223	1
DL608140	14.0	142	223	1
DL608145	14.5	147	245	2
DL608150	15.0	147	245	2
DL608155	15.5	153	251	2
DL608160	16.0	153	251	2
DL608165	16.5	159	257	2
DL608170	17.0	159	257	2
DL608175	17.5	165	263	2
DL608180	18.0	165	263	2
DL608185	18.5	171	269	2
DL608190	19.0	171	269	2

EDP No.	Drill Diameter	Flute Length	Overall Length	No. of Morse Taper
	D1	L1	L2	
DL608195	19.5	177	275	2
DL608200	20.0	177	275	2
DL608210	21.0	184	282	2
DL608220	22.0	191	289	2
DL608230	23.0	198	296	2
DL608240	24.0	206	327	3
DL608250	25.0	206	327	3
DL608260	26.0	214	335	3
DL608270	27.0	222	343	3
DL608280	28.0	222	343	3
DL608290	29.0	230	351	3
DL608300	30.0	230	351	3

◎ : Excellent ○ : Good

ISO Material Description	P									M				K						
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

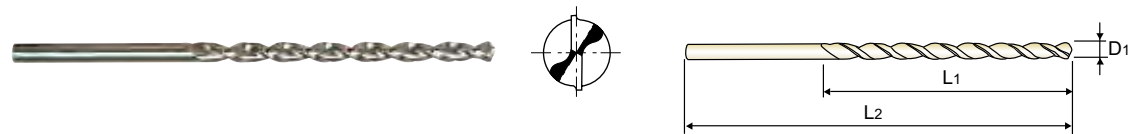
ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	55	60	42	55							
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# YIG STRAIGHT SHANK DRILLS

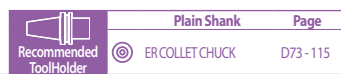
DL507 SERIES

**HSS-E, STRAIGHT SHANK TWIST DRILLS for ALUMINUM DEEP HOLES** *EXTRA LONG*  
 HSS-E, SPIRALBOHRER für ALUMINIUM TIEFLOCH mit ZYLINDERSCHAFT *ÜBERLANG*  
 Forets HSS-E, queue cylindrique pour ALU, perçage profond, série extra-longue *EXTRA-LONGUE*  
 PUNTE HSS-E, GAMBO CILINDRICO PER FORATURE NON - STOP SU ALLUMINIO *EXTRA LUNGA*

**Application :** Drilling deep holes in aluminum and its alloys, silumini, zinc, refined copper, wood and other soft synthetic materials.  
**Verwendung :** Zum Bohren von weichen und langspanenden Werkstoffen wie Alu-Legierungen, Zink, Kupfer, Kunststoffe und Holz.



**DH50 worm pattern drills**



Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2
DL507120	2.0	40	75	DL507430	3.0	100	200
DL507121	2.1	40	75	DL507433	3.3	100	200
DL507220	2.0	50	100	DL507435	3.5	100	200
DL507221	2.1	50	100	DL507440	4.0	100	200
DL507225	2.5	50	100	DL507442	4.2	100	200
DL507227	2.7	50	100	DL507445	4.5	100	200
DL507230	3.0	50	100	DL507450	5.0	100	200
DL507233	3.3	50	100	DL507453	5.3	100	200
DL507235	3.5	50	100	DL507455	5.5	100	200
DL507320	2.0	75	150	DL507460	6.0	100	200
DL507321	2.1	75	150	DL507465	6.5	100	200
DL507325	2.5	75	150	DL507468	6.8	100	200
DL507327	2.7	75	150	DL507470	7.0	100	200
DL507330	3.0	75	150	DL507475	7.5	100	200
DL507333	3.3	75	150	DL507480	8.0	100	200
DL507335	3.5	75	150	DL507485	8.5	100	200
DL507340	4.0	75	150	DL507488	8.8	100	200
DL507342	4.2	75	150	DL507490	9.0	100	200
DL507345	4.5	75	150	DL507495	9.5	100	200
DL507350	5.0	75	150	DL507700	10.0	100	200
DL507353	5.3	75	150	DL507540	4.0	150	250
DL507355	5.5	75	150	DL507542	4.2	150	250
DL507360	6.0	75	150	DL507545	4.5	150	250
				DL507550	5.0	150	250
				DL507553	5.3	150	250

▶ NEXT PAGE

© : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel					Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○																			

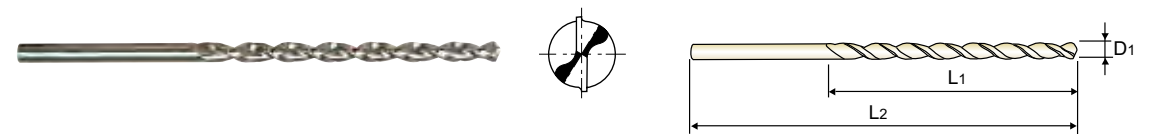
ISO Material Description	N									S							H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials	Heat Resistant Super Alloys							Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○																		

# YIG STRAIGHT SHANK DRILLS

DL507 SERIES

**HSS-E, STRAIGHT SHANK TWIST DRILLS for ALUMINUM DEEP HOLES** *EXTRA LONG*  
 HSS-E, SPIRALBOHRER für ALUMINIUM TIEFLOCH mit ZYLINDERSCHAFT *ÜBERLANG*  
 Forets HSS-E, queue cylindrique pour ALU, perçage profond, série extra-longue *EXTRA-LONGUE*  
 PUNTE HSS-E, GAMBO CILINDRICO PER FORATURE NON - STOP SU ALLUMINIO *EXTRA LUNGA*

**Application :** Drilling deep holes in aluminum and its alloys, silumini, zinc, refined copper, wood and other soft synthetic materials.  
**Verwendung :** Zum Bohren von weichen und langspanenden Werkstoffen wie Alu-Legierungen, Zink, Kupfer, Kunststoffe und Holz.



**DH50 worm pattern drills**



Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2
DL507555	5.5	150	250	DL507650	5.0	180	300
DL507560	6.0	150	250	DL507653	5.3	180	300
DL507565	6.5	150	250	DL507655	5.5	180	300
DL507568	6.8	150	250	DL507660	6.0	180	300
DL507570	7.0	150	250	DL507665	6.5	180	300
DL507575	7.5	150	250	DL507668	6.8	180	300
DL507580	8.0	150	250	DL507670	7.0	180	300
DL507585	8.5	150	250	DL507675	7.5	180	300
DL507588	8.8	150	250	DL507680	8.0	180	300
DL507590	9.0	150	250	DL507685	8.5	180	300
DL507595	9.5	150	250	DL507688	8.8	180	300
DL507800	10.0	150	250	DL507690	9.0	180	300
DL507803	10.3	150	250	DL507695	9.5	180	300
DL507805	10.5	150	250	DL507900	10.0	180	300
DL507810	11.0	150	250	DL507903	10.3	180	300
DL507815	11.5	150	250	DL507905	10.5	180	300
DL507820	12.0	150	250	DL507910	11.0	180	300
DL507825	12.5	150	250	DL507915	11.5	180	300
DL507830	13.0	150	250	DL507920	12.0	180	300
				DL507925	12.5	180	300
				DL507930	13.0	180	300

© : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel					Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○																			

ISO Material Description	N									S							H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials	Heat Resistant Super Alloys							Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	○																		



**RECOMMENDED CUTTING CONDITIONS**  
**EMPHOHLENE SCHNEIDPARAMETER**

**D2107, D1107, D2105, DL105, D1105, D1125, D2104, D1121, DL109** SERIES

**HSS, HSS-E & HSSCo8 COBALT DRILLS**

Vc = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)												
					2.0	3.0	4.0	6.0	8.0	10.0	13.0	16.0	18.0	20.0	30.0		
P	1	Non-alloy steel	30	RPM	4770	3180	2390	1590	1190	950	730	600	530	480	320		
				FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28		
			25	RPM	3980	2650	1990	1330	990	800	610	500	440	400	270		
				FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28		
	20		RPM	3180	2120	1590	1060	800	640	490	400	350	320	210			
			FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28			
	20		RPM	3180	2120	1590	1060	800	640	490	400	350	320	210			
			FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18			
	6	RPM	3980	2650	1990	1330	990	800	610	500	440	400	270				
		FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28				
7	RPM	3180	2120	1590	1060	800	640	490	400	350	320	210					
	FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28					
8	RPM	3180	2120	1590	1060	800	640	490	400	350	320	210					
	FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18					
10	RPM	2390	1590	1190	800	600	480	370	300	270	240	160					
	FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28					
M	12	Stainless steel	20	RPM	3180	2120	1590	1060	800	640	490	400	350	320	210		
				FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28		
			15	RPM	2390	1590	1190	800	600	480	370	300	270	240	160		
FEED	0.02~0.04			0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28				
10	RPM		1590	1060	800	530	400	320	240	200	180	160	110				
	FEED		0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18				
K	15	Grey cast iron	30	RPM	4770	3180	2390	1590	1190	950	730	600	530	480	320		
				FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28		
	25		RPM	3980	2650	1990	1330	990	800	610	500	440	400	270			
			FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18			
30	RPM	4770	3180	2390	1590	1190	950	730	600	530	480	320					
	FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28					
25	RPM	3980	2650	1990	1330	990	800	610	500	440	400	270					
	FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28					
N	21	Aluminum-wrought alloy	55	RPM	8750	5840	4380	2920	2190	1750	1350	1090	970	880	580		
				FEED	0.03~0.06	0.05~0.09	0.07~0.11	0.12~0.16	0.12~0.18	0.14~0.20	0.16~0.22	0.18~0.24	0.20~0.28	0.20~0.30	0.28~0.38		
	55		RPM	8750	5840	4380	2920	2190	1750	1350	1090	970	880	580			
			FEED	0.03~0.06	0.05~0.09	0.07~0.11	0.12~0.16	0.12~0.18	0.14~0.20	0.16~0.22	0.18~0.24	0.20~0.28	0.20~0.30	0.28~0.38			
	40		RPM	6370	4240	3180	2120	1590	1270	980	800	710	640	420			
			FEED	0.03~0.06	0.05~0.09	0.07~0.11	0.12~0.16	0.12~0.18	0.14~0.20	0.16~0.22	0.18~0.24	0.20~0.28	0.20~0.30	0.28~0.38			
20	RPM	3180	2120	1590	1060	800	640	490	400	350	320	210					
	FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28					
36	Titanium Alloys	10	RPM	1590	1060	800	530	400	320	240	200	180	160	110			
			FEED	0.01~0.03	0.02~0.04	0.03~0.05	0.04~0.07	0.05~0.08	0.05~0.09	0.06~0.10	0.05~0.11	0.06~0.12	0.09~0.13	0.12~0.18			



**RECOMMENDED CUTTING CONDITIONS**  
**EMPHOHLENE SCHNEIDPARAMETER**

**D1100** SERIES **HSS, TWIST DRILLS for BRASS / BRONZE**

Vc = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)									
					1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	13.0	
N	27	Copper and Copper Alloys (Bronze / Brass)	45	RPM	9550	7160	4770	3580	2860	2390	1790	1430	1100	
				FEED	0.03~0.06	0.05~0.08	0.06~0.10	0.08~0.12	0.10~0.14	0.12~0.16	0.16~0.20	0.19~0.25	0.22~0.32	
30	RPM		6370	4770	3180	2390	1910	1590	1190	950	730			
	FEED		0.01~0.03	0.02~0.05	0.03~0.06	0.04~0.08	0.05~0.09	0.07~0.11	0.09~0.13	0.10~0.16	0.11~0.21			

**D1106** SERIES **HSS, TWIST DRILLS for ALUMINUM**

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)									
					1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	13.0	
N	21	Aluminum-wrought alloy	50	RPM	10610	7960	5310	3980	3180	2650	1990	1590	1220	
				FEED	0.03~0.06	0.05~0.08	0.06~0.10	0.08~0.12	0.10~0.14	0.14~0.18	0.14~0.20	0.19~0.25	0.25~0.35	
	22		RPM	10610	7960	5310	3980	3180	2650	1990	1590	1220		
			FEED	0.03~0.06	0.05~0.08	0.06~0.10	0.08~0.12	0.10~0.14	0.14~0.18	0.14~0.20	0.19~0.25	0.25~0.35		
23	Aluminum-cast, alloyed	40	RPM	8490	6370	4240	3180	2550	2120	1590	1270	980		
			FEED	0.03~0.06	0.05~0.08	0.06~0.10	0.08~0.12	0.10~0.14	0.14~0.18	0.14~0.20	0.19~0.25	0.25~0.35		
30		RPM	6370	4770	3180	2390	1910	1590	1190	950	730			
		FEED	0.01~0.04	0.03~0.06	0.03~0.07	0.04~0.08	0.05~0.09	0.04~0.10	0.06~0.12	0.10~0.16	0.12~0.22			



**YG STRAIGHT SHANK DRILLS**

**RECOMMENDED CUTTING CONDITIONS  
EMPFOHLENE SCHNEIDPARAMETER**

**DL510, DL508, DL509,  
DL505, DL504, DL608** SERIES

**HSS-E, DH100 WORM  
PATTERN DRILLS**

VC = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)												
					2.0	3.0	4.0	6.0	8.0	10.0	13.0	16.0	18.0	20.0	30.0		
P	1	Non-alloy steel	30	RPM	4770	3180	2390	1590	1190	950	730	600	530	480	320		
				FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28		
			25	RPM	3980	2650	1990	1330	990	800	610	500	440	400	270		
				FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28		
	20		RPM	3180	2120	1590	1060	800	640	490	400	350	320	210			
			FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28			
	4		RPM	3180	2120	1590	1060	800	640	490	400	350	320	210			
			FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18			
	6	RPM	3980	2650	1990	1330	990	800	610	500	440	400	270				
		FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28				
7	RPM	3180	2120	1590	1060	800	640	490	400	350	320	210					
	FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28					
8	RPM	3180	2120	1590	1060	800	640	490	400	350	320	210					
	FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18					
10	RPM	2390	1590	1190	800	600	480	370	300	270	240	160					
	FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28					
K	15	Grey cast iron	30	RPM	4770	3180	2390	1590	1190	950	730	600	530	480	320		
				FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28		
	25		RPM	3980	2650	1990	1330	990	800	610	500	440	400	270			
			FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18			
	30	RPM	4770	3180	2390	1590	1190	950	730	600	530	480	320				
		FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28				
	20	RPM	3180	2120	1590	1060	800	640	490	400	350	320	210				
		FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18				
	17	RPM	3980	2650	1990	1330	990	800	610	500	440	400	270				
		FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28				
	18	RPM	3180	2120	1590	1060	800	640	490	400	350	320	210				
		FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18				
19	RPM	3980	2650	1990	1330	990	800	610	500	440	400	270					
	FEED	0.02~0.04	0.03~0.05	0.04~0.06	0.05~0.08	0.10~0.13	0.11~0.15	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28					
20	RPM	3180	2120	1590	1060	800	640	490	400	350	320	210					
	FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18					

**YG STRAIGHT SHANK DRILLS**

**RECOMMENDED CUTTING CONDITIONS  
EMPFOHLENE SCHNEIDPARAMETER**

**DT600, DT692, DT693** SERIES

**HSS-E, DH100 WORM PATTERN DRILLS (EXTRA LONG)**

VC = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)						
					2.0	3.0	4.0	6.0	8.0	10.0	13.0
P	1	Non-alloy steel	20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.01~0.03	0.03~0.05	0.04~0.06	0.05~0.08	0.08~0.11	0.09~0.13	0.10~0.16
			15	RPM	2390	1590	1190	800	600	480	370
				FEED	0.01~0.03	0.03~0.05	0.04~0.06	0.05~0.08	0.08~0.11	0.09~0.13	0.10~0.16
	10		RPM	1590	1060	800	530	400	320	240	
			FEED	0.01~0.03	0.03~0.05	0.04~0.06	0.05~0.08	0.08~0.11	0.09~0.13	0.10~0.16	
	10		RPM	1590	1060	800	530	400	320	240	
			FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10	
	6	RPM	2390	1590	1190	800	600	480	370		
		FEED	0.01~0.03	0.03~0.05	0.04~0.06	0.05~0.08	0.08~0.11	0.09~0.13	0.10~0.16		
7	RPM	1590	1060	800	530	400	320	240			
	FEED	0.01~0.03	0.03~0.05	0.04~0.06	0.05~0.08	0.08~0.11	0.09~0.13	0.10~0.16			
8	RPM	1590	1060	800	530	400	320	240			
	FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10			
10	RPM	800	530	400	270	200	160	120			
	FEED	0.01~0.03	0.03~0.05	0.04~0.06	0.05~0.08	0.08~0.11	0.09~0.13	0.10~0.16			
K	15	Grey cast iron	20	RPM	3180	2120	1590	1060	800	640	490
				FEED	0.01~0.03	0.03~0.05	0.04~0.06	0.05~0.08	0.08~0.11	0.09~0.13	0.10~0.16
	15		RPM	2390	1590	1190	800	600	480	370	
			FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10	
	20	RPM	3180	2120	1590	1060	800	640	490		
		FEED	0.01~0.03	0.03~0.05	0.04~0.06	0.05~0.08	0.08~0.11	0.09~0.13	0.10~0.16		
	17	RPM	1590	1060	800	530	400	320	240		
		FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10		
	18	RPM	2390	1590	1190	800	600	480	370		
		FEED	0.01~0.03	0.03~0.05	0.04~0.06	0.05~0.08	0.08~0.11	0.09~0.13	0.10~0.16		
19	RPM	1590	1060	800	530	400	320	240			
	FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10			
20	RPM	2390	1590	1190	800	600	480	370			
	FEED	0.01~0.03	0.03~0.05	0.04~0.06	0.05~0.08	0.08~0.11	0.09~0.13	0.10~0.16			
10	RPM	1590	1060	800	530	400	320	240			
	FEED	0.01~0.02	0.01~0.03	0.02~0.04	0.02~0.05	0.03~0.06	0.03~0.06	0.04~0.10			

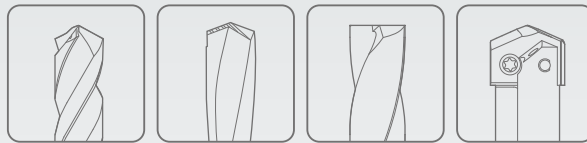
**DL507** SERIES

**HSS-E, DH50 WORM PATTERN DRILLS**

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)						
					2.0	3.0	4.0	6.0	8.0	10.0	13.0
P	1	Non-alloy steel	15	RPM	2390	1590	1190	800	600	480	370
				FEED	0.01~0.03	0.02~0.04	0.03~0.06	0.04~0.08	0.04~0.10	0.07~0.13	0.09~0.15
N	21	Aluminum-wrought alloy	55	RPM	8750	5840	4380	2920	2190	1750	1350
				FEED	0.02~0.04	0.03~0.06	0.04~0.08	0.08~0.12	0.10~0.16	0.14~0.20	0.16~0.26
	22	Aluminum-wrought alloy	45	RPM	7160	4770	3580	2390	1790	1430	1100
				FEED	0.02~0.04	0.03~0.06	0.04~0.08	0.08~0.12	0.10~0.16	0.14~0.20	0.16~0.26
23	Aluminum-cast, alloyed	40	RPM	6370	4240	3180	2120	1590	1270	980	
			FEED	0.02~0.04	0.03~0.06	0.04~0.08	0.08~0.12	0.10~0.16	0.14~0.20	0.16~0.26	



Global Cutting Tool Leader **YG-1**



# HOLEMAKING



Leading Through Innovation



**HSS & HSS-E**

# MORSE TAPER SHANK DRILLS

**BOHRER MIT MK**

- Morse Taper Shank Drills for Wide Applications
- Bohrer mit Morsekegel für breite Anwendungen



SELECTION GUIDE



SERIES	DL205	D1205	D1206
STANDARD	DIN345	DIN345	DIN341
LENGTH	JOBBER	JOBBER	LONG
SIZE MIN	D13.0	D5.0	D13.0
SIZE MAX	D30.0	D60.0	D30.0
PAGE	A270	A271	A274

D1209	D1210
DIN1870/1	DIN1870/2
EXTRA LONG	EXTRA LONG
D13.0	D13.0
D50.0	D50.0
A275	A276

SURFACE TREATMENT

Bright	Steam Tempered
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Steam Tempered
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# HSS & HSS-E MORSE TAPER SHANK DRILLS

Morse Taper Shank Drills for Wide Applications



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A277

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc			
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎
	4		About 0.75% C Annealed	270	28	○	○	○
	5		About 0.75% C Quenched & Tempered	300	32			
	6	Low alloy steel	Annealed	180	10	◎	◎	◎
	7		Quenched & Tempered	275	29	○	○	○
	8		Quenched & Tempered	300	32	○	○	○
	9		Quenched & Tempered	350	38			
	10		High alloyed steel, and tool steel	Annealed	200	15	○	○
	11		Quenched & Tempered	325	35			
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	◎	◎
	13		Martensitic Quenched & Tempered	240	23	○	○	○
	14		Austenitic	180	10			
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○	○
	16		Pearlitic (Martensitic)	260	26	○	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○	○
	18		Pearlitic	250	25	○	○	○
	19		Ferritic	130		○	○	○
20	Malleable cast iron	Pearlitic	230	21	○	○	○	
N	21	Aluminum-wrought alloy	Not Curable	60		○	○	○
	22		Curable Hardened	100		○	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○	○
	24		≤ 12% Si, Curable Hardened	90				
	25		> 12% Si, Not Curable	130				
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110				
	27		CuZn, CuSnZn (Brass)	90				
	28		CuSn, lead-free copper and electrolytic copper	100				
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic			○	○	○
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15			
	32		Cured	280	30			
	33		Annealed	250	25			
	34		Ni or Co Based Cured	350	38			
	35		Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm		○	○	○
	37		Alpha + Beta Alloys Hardened	1050 Rm				
H	38	Hardened steel	Hardened	550	55			
	39		Hardened	630	60			
	40		Cast	400	42			
41	Hardened Cast Iron	Hardened	550	55				

◎	◎	◎	1
◎	◎	◎	2
◎	◎	◎	3
○	○	○	4
			5
◎	◎	◎	6
○	○	○	7
○	○	○	8
○	○	○	9
○	○	○	10
○	○	○	11
◎	◎	◎	12
○	○	○	13
			14
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○	○	○	17
○	○	○	18
○	○	○	19
○	○	○	20
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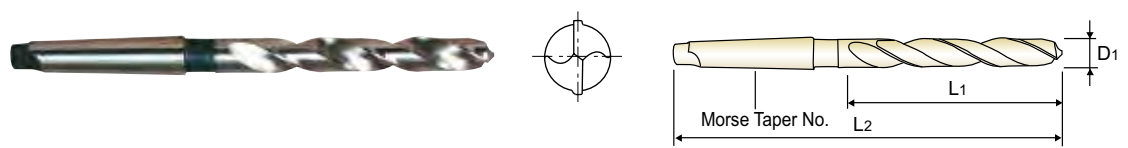
# YG MORSE TAPER SHANK DRILLS

DL205 SERIES

## HSS-E, MORSE TAPER SHANK TWIST DRILLS for HEAVY DUTY JOBBER

- HSS-E, SPIRALBOHRER für HOHELEISTUNGEN mit MORSEKEGELSCHAFT KURZ
- Forets HSS-E, queue cône morse pour matériaux durs, série courte COURTE
- HSS-E, PUNTE ELICOIDALI, ATTACCO CM PER LAVORAZIONI GRAVOSE CORTA

► **Surface treatment** : Bright Finish ► **Oberflächenbehandlung** : Helle Beschaffenheit  
 ► **Application** : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron, graphite. ► **Verwendung** : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sinterisen, Graphit.



DIN 345
HSS-E
N 30°
1~3
h8
118°
Bright
p.A277
Recommended ToolHolder
Plain Shank
MORSE TAPER ARBOR
D177-181

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	Morse Taper No.
	D1	L1	L2	
DL205130	13.0	101	182	1
DL205135	13.5	108	189	1
DL205140	14.0	108	189	1
DL205145	14.5	114	212	2
DL205150	15.0	114	212	2
DL205155	15.5	120	218	2
DL205160	16.0	120	218	2
DL205165	16.5	125	223	2
DL205170	17.0	125	223	2
DL205175	17.5	130	228	2
DL205180	18.0	130	228	2
DL205185	18.5	135	233	2
DL205190	19.0	135	233	2
DL205195	19.5	140	238	2
DL205200	20.0	140	238	2
DL205205	20.5	145	243	2
DL205210	21.0	145	243	2
DL205215	21.5	150	248	2

EDP No.	Drill Diameter	Flute Length	Overall Length	Morse Taper No.
	D1	L1	L2	
DL205220	22.0	150	248	2
DL205225	22.5	155	253	2
DL205230	23.0	155	253	2
DL205235	23.5	155	276	3
DL205240	24.0	160	281	3
DL205245	24.5	160	281	3
DL205250	25.0	160	281	3
DL205255	25.5	165	286	3
DL205260	26.0	165	286	3
DL205265	26.5	165	286	3
DL205270	27.0	170	291	3
DL205275	27.5	170	291	3
DL205280	28.0	170	291	3
DL205285	28.5	175	296	3
DL205290	29.0	175	296	3
DL205295	29.5	175	296	3
DL205300	30.0	175	296	3

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	42	45	48	52	55	58	60	62	65	68	70	72	75	78
HB	125	190	250	270	300	180	215	235	260	280	200	235	250	280	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

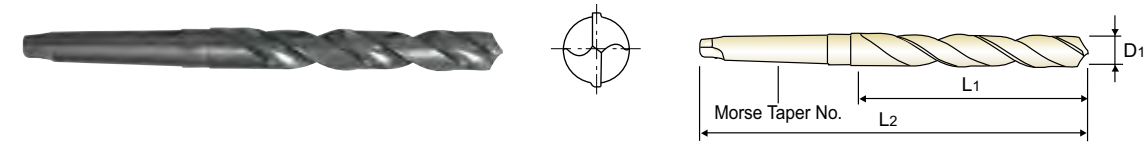
# YG MORSE TAPER SHANK DRILLS

D1205 SERIES

## HSS, MORSE TAPER SHANK TWIST DRILLS JOBBER

- HSS, SPIRALBOHRER mit MORSEKEGELSCHAFT KURZ
- Forets HSS, queue cône morse, série courte COURTE
- PUNTE ELICOIDALI IN HSS, ATTACCO CM CORTA

► **Surface treatment** : Steam Tempered(Black Oxide Finish) ► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
 ► **Application** : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron, graphite. ► **Verwendung** : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sinterisen, Graphit.



DIN 345
HSS
N 30°
1~5
h8
118°
Vap
p.A277
Recommended ToolHolder
Plain Shank
MORSE TAPER ARBOR
D177-181

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length	Morse Taper No.
	D1	L1	L2	
D1205050	5.0	52	133	1
D1205055	5.5	57	138	1
D1205060	6.0	57	138	1
D1205065	6.5	63	144	1
D1205070	7.0	69	150	1
D1205075	7.5	69	150	1
D1205080	8.0	75	156	1
D1205085	8.5	75	156	1
D1205090	9.0	81	162	1
D1205095	9.5	81	162	1
D1205100	10.0	87	168	1
D1205105	10.5	87	168	1
D1205110	11.0	94	175	1
D1205115	11.5	94	175	1
D1205120	12.0	101	182	1
D1205125	12.5	101	182	1
D1205130	13.0	101	182	1
D1205132	13.2	101	182	1
D120513A	13.25	108	189	1
D1205135	13.5	108	189	1
D120513B	13.75	108	189	1
D1205138	13.8	108	189	1
D1205140	14.0	108	189	1
D120514A	14.25	114	212	2
D1205145	14.5	114	212	2
D120514B	14.75	114	212	2

EDP No.	Drill Diameter	Flute Length	Overall Length	Morse Taper No.
	D1	L1	L2	
D1205150	15.0	114	212	2
D120515A	15.25	120	218	2
D1205155	15.5	120	218	2
D120515B	15.75	120	218	2
D1205160	16.0	120	218	2
D120516A	16.25	125	223	2
D1205165	16.5	125	223	2
D120516B	16.75	125	223	2
D1205170	17.0	125	223	2
D120517A	17.25	130	228	2
D1205175	17.5	130	228	2
D120517B	17.75	130	228	2
D1205180	18.0	130	228	2
D120518A	18.25	135	233	2
D1205185	18.5	135	233	2
D120518B	18.75	135	233	2
D1205190	19.0	135	233	2
D120519A	19.25	140	238	2
D1205195	19.5	140	238	2
D120519B	19.75	140	238	2
D1205200	20.0	140	238	2
D120520A	20.25	145	243	2
D1205205	20.5	145	243	2
D120520B	20.75	145	243	2
D1205210	21.0	145	243	2
D120521A	21.25	150	248	2

▶ NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	42	45	48	52	55	58	60	62	65	68	70	72	75	78
HB	125	190	250	270	300	180	215	235	260	280	200	235	250	280	180	260	160	250	130	230
Recommended	◎	◎	◎	○	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

# YG MORSE TAPER SHANK DRILLS

D1205 SERIES

## HSS, MORSE TAPER SHANK TWIST DRILLS

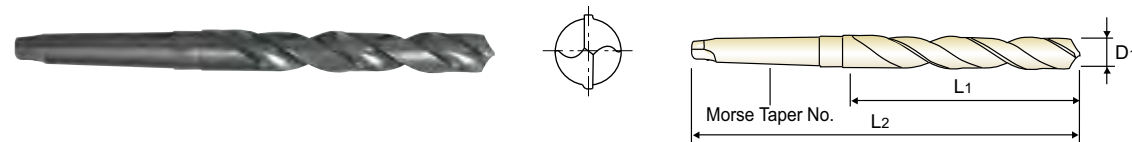
JOBBER

- HSS, SPIRALBOHRER mit MORSEKEGELSCHAFT
- Forets HSS, queue cône morse, série courte
- PUNTE ELICOIDALI IN HSS, ATTACCO CM

- KURZ
- COURTE
- CORTA

► **Surface treatment** : Steam Tempered(Black Oxide Finish)  
 ► **Application** : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron, graphite.

► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
 ► **Verwendung** : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sinterisen, Graphit.



DIN 345 HSS N 30° 1~5 h8 118° Vap p.A277

Plain Shank Page  
 Recommended ToolHolder MORSE TAPER ARBOR D177-181

Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	Morse Taper No.	EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	Morse Taper No.
D1205215	21.5	150	248	2	D1205280	28.0	170	291	3
D120521B	21.75	150	248	2	D120528A	28.25	175	296	3
D1205220	22.0	150	248	2	D1205285	28.5	175	296	3
D120522A	22.25	150	248	2	D120528B	28.75	175	296	3
D1205225	22.5	155	253	2	D1205290	29.0	175	296	3
D120522B	22.75	155	253	2	D120529A	29.25	175	296	3
D1205230	23.0	155	253	2	D1205295	29.5	175	296	3
D120523A	23.25	155	276	3	D120529B	29.75	175	296	3
D1205235	23.5	155	276	3	D1205300	30.0	175	296	3
D120523B	23.75	160	281	3	D120530A	30.25	180	301	3
D1205240	24.0	160	281	3	D1205305	30.5	180	301	3
D120524A	24.25	160	281	3	D120530B	30.75	180	301	3
D1205245	24.5	160	281	3	D1205310	31.0	180	301	3
D120524B	24.75	160	281	3	D120531A	31.25	180	301	3
D1205250	25.0	160	281	3	D1205315	31.5	180	301	3
D120525A	25.25	165	286	3	D120531B	31.75	185	306	3
D1205255	25.5	165	286	3	D1205320	32.0	185	334	4
D120525B	25.75	165	286	3	D1205325	32.5	185	334	4
D1205260	26.0	165	286	3	D1205330	33.0	185	334	4
D120526A	26.25	165	286	3	D1205335	33.5	185	334	4
D1205265	26.5	165	286	3	D1205340	34.0	190	339	4
D120526B	26.75	170	291	3	D1205345	34.5	190	339	4
D1205270	27.0	170	291	3	D1205350	35.0	190	339	4
D120527A	27.25	170	291	3	D1205355	35.5	190	339	4
D1205275	27.5	170	291	3	D1205360	36.0	195	344	4
D120527B	27.75	170	291	3	D1205365	36.5	195	344	4

► NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○								○					○					

# YG MORSE TAPER SHANK DRILLS

D1205 SERIES

## HSS, MORSE TAPER SHANK TWIST DRILLS

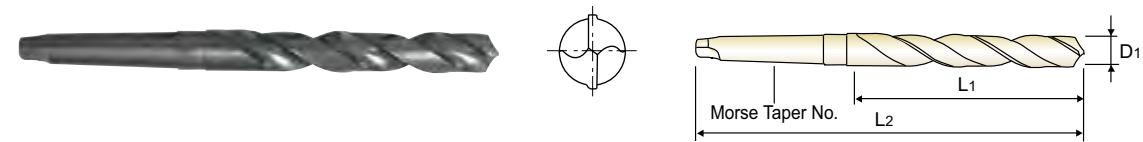
JOBBER

- HSS, SPIRALBOHRER mit MORSEKEGELSCHAFT
- Forets HSS, queue cône morse, série courte
- PUNTE ELICOIDALI IN HSS, ATTACCO CM

- KURZ
- COURTE
- CORTA

► **Surface treatment** : Steam Tempered(Black Oxide Finish)  
 ► **Application** : Drilling steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron, graphite.

► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
 ► **Verwendung** : Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sinterisen, Graphit.



DIN 345 HSS N 30° 1~5 h8 118° Vap p.A277

Plain Shank Page  
 Recommended ToolHolder MORSE TAPER ARBOR D177-181

Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	Morse Taper No.	EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	Morse Taper No.
D1205370	37.0	195	344	4	D1205500	50.0	220	369	4
D1205375	37.5	195	344	4	D1205505	50.5	225	374	4
D1205380	38.0	200	349	4	D1205510	51.0	225	412	5
D1205385	38.5	200	349	4	D1205520	52.0	225	412	5
D1205390	39.0	200	349	4	D1205530	53.0	225	412	5
D1205395	39.5	200	349	4	D1205540	54.0	230	417	5
D1205400	40.0	200	349	4	D1205550	55.0	230	417	5
D1205405	40.5	205	354	4	D1205560	56.0	230	417	5
D1205410	41.0	205	354	4	D1205570	57.0	235	422	5
D1205415	41.5	205	354	4	D1205580	58.0	235	422	5
D1205420	42.0	205	354	4	D1205590	59.0	235	422	5
D1205425	42.5	205	354	4	D1205600	60.0	235	422	5
D1205430	43.0	210	359	4					
D1205435	43.5	210	359	4					
D1205440	44.0	210	359	4					
D1205445	44.5	210	359	4					
D1205450	45.0	210	359	4					
D1205455	45.5	215	364	4					
D1205460	46.0	215	364	4					
D1205465	46.5	215	364	4					
D1205470	47.0	215	364	4					
D1205475	47.5	215	364	4					
D1205480	48.0	220	369	4					
D1205485	48.5	220	369	4					
D1205490	49.0	220	369	4					
D1205495	49.5	220	369	4					

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○								○					○					



# YIG MORSE TAPER SHANK DRILLS

D1206 SERIES

## HSS, MORSE TAPER SHANK TWIST DRILLS

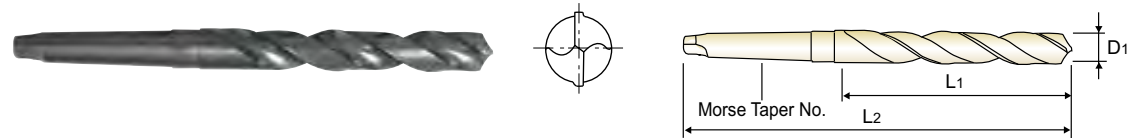
LONG

- HSS, SPIRALBOHRER mit MORSEKEGELSCHAFT
- Forets HSS, queue cône morse, série longue
- PUNTE ELICOIDALI IN HSS, ATTACCO CM

LANG  
LONGUE  
LUNGA

► **Surface treatment** : Steam Tempered(Black Oxide Finish)  
► **Application** : Drilling deep holes in steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron, graphite.

► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
► **Verwendung** : Für Bohrungen mit Bohrbuchsen oder an tief liegenden Stellen.  
Zum Bohren von Stahl und Stahlguß, Grauß, Temperguß, Sphäroguß, Sintereisen, Neusilber und Graphit.



DIN 341 HSS N 30° 1~3 h8 118° Vap p.A277

Plain Shank Page  
Recommended ToolHolder MORSE TAPER ARBOR D177-181

Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	Morse Taper No.
D1206130	13.0	134	215	1
D1206135	13.5	142	223	1
D1206140	14.0	142	223	1
D1206145	14.5	147	245	2
D1206150	15.0	147	245	2
D1206155	15.5	153	251	2
D1206160	16.0	153	251	2
D1206165	16.5	159	257	2
D1206170	17.0	159	257	2
D1206175	17.5	165	263	2
D1206180	18.0	165	263	2
D1206185	18.5	171	269	2
D1206190	19.0	171	269	2

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	Morse Taper No.
D1206195	19.5	177	275	2
D1206200	20.0	177	275	2
D1206210	21.0	184	282	2
D1206220	22.0	191	289	2
D1206230	23.0	198	296	2
D1206240	24.0	206	327	3
D1206250	25.0	206	327	3
D1206260	26.0	214	335	3
D1206270	27.0	222	343	3
D1206280	28.0	222	343	3
D1206290	29.0	230	351	3
D1206300	30.0	230	351	3

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	○	○	○						○							○							

# YIG MORSE TAPER SHANK DRILLS

D1209 SERIES

## HSS, MORSE TAPER SHANK TWIST DRILLS

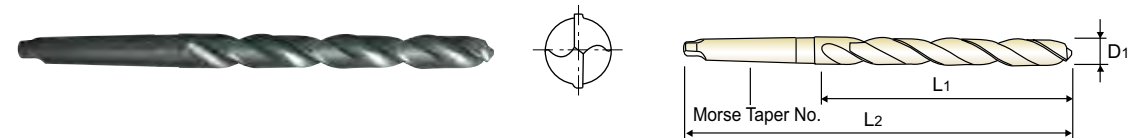
EXTRA LONG

- HSS, SPIRALBOHRER mit MORSEKEGELSCHAFT
- Forets HSS, queue cône morse, série extra-longue
- PUNTE ELICOIDALI IN HSS, ATTACCO CM

ÜBERLANG  
EXTRA-LONGUE  
EXTRA LUNGA

► **Surface treatment** : Steam Tempered(Black Oxide Finish)  
► **Application** : Drilling deep holes in steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron, graphite.

► **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
► **Verwendung** : Für Bohrungen mit Bohrbuchsen oder an tief liegenden Stellen.  
Zum Bohren von Stahl und Stahlguß, Grauß, Temperguß, Sphäroguß, Sintereisen, Neusilber und Graphit.



DIN 1870/1 HSS N 30° 1~4 h8 118° Vap p.A277

Plain Shank Page  
Recommended ToolHolder MORSE TAPER ARBOR D177-181

Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	Morse Taper No.
D1209130	13.0	205	310	1
D1209135	13.5	220	325	1
D1209140	14.0	220	325	1
D1209145	14.5	220	340	2
D1209150	15.0	220	340	2
D1209155	15.5	230	355	2
D1209160	16.0	230	355	2
D1209165	16.5	230	355	2
D1209170	17.0	230	355	2
D1209175	17.5	245	370	2
D1209180	18.0	245	370	2
D1209185	18.5	245	370	2
D1209190	19.0	245	370	2
D1209195	19.5	260	385	2
D1209200	20.0	260	385	2
D1209205	20.5	260	385	2
D1209210	21.0	260	385	2
D1209215	21.5	270	405	2
D1209220	22.0	270	405	2
D1209225	22.5	270	405	2
D1209230	23.0	270	405	2
D1209235	23.5	270	425	3
D1209240	24.0	290	440	3
D1209245	24.5	290	440	3
D1209250	25.0	290	440	3
D1209255	25.5	290	440	3
D1209260	26.0	290	440	3
D1209265	26.5	290	440	3

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	Morse Taper No.
D1209270	27.0	305	460	3
D1209275	27.5	305	460	3
D1209280	28.0	305	460	3
D1209285	28.5	305	460	3
D1209290	29.0	305	460	3
D1209295	29.5	305	460	3
D1209300	30.0	305	460	3
D1209305	30.5	320	480	3
D1209310	31.0	320	480	3
D1209320	32.0	320	505	4
D1209330	33.0	320	505	4
D1209340	34.0	340	530	4
D1209350	35.0	340	530	4
D1209360	36.0	340	530	4
D1209370	37.0	340	530	4
D1209380	38.0	360	555	4
D1209390	39.0	360	555	4
D1209400	40.0	360	555	4
D1209410	41.0	360	555	4
D1209420	42.0	360	555	4
D1209430	43.0	385	585	4
D1209440	44.0	385	585	4
D1209450	45.0	385	585	4
D1209460	46.0	385	585	4
D1209470	47.0	385	585	4
D1209480	48.0	405	605	4
D1209490	49.0	405	605	4
D1209500	50.0	405	605	4

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	45	15	35	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S				H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	○	○	○						○							○							

# YG MORSE TAPER SHANK DRILLS

## D1210 SERIES

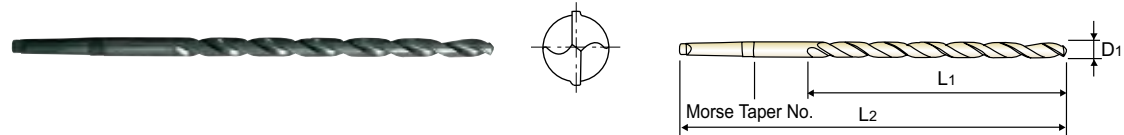
### HSS, MORSE TAPER SHANK TWIST DRILLS

EXTRA LONG

- HSS, SPIRALBOHRER mit MORSEKEGELSCHAFT
- Forets HSS, queue cône morse, série extra-longue
- PUNTE ELICOIDALI IN HSS, ATTACCO CM

▶ **Oberflächenbehandlung** : Steam Homo(Schwarzoxidation)  
 ▶ **Verwendung** : Standardbohrer zum Bohren extrem tiefer Löcher.  
 Zum Bohren von Stahl und Stahlguß, Grauguß, Temperguß, Sphäroguß, Sintereisen und Graphit

▶ **Surface treatment** : Steam Tempered(Black Oxide Finish)  
 ▶ **Application** : Designed for drilling deep holes or deeply located holes. Drilling into steels, cast steels alloyed and non-alloyed, grey cast iron, malleable cast iron, Spheroidal graphite cast iron, sintered iron, aluminum and aluminum alloys.



DIN 1870/2 HSS N 30° 1~4 h8 118° Vap p.A277

Plain Shank Page  
 Recommended ToolHolder MORSE TAPER ARBOR D177-181

Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	Morse Taper No.	EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2	Morse Taper No.
D1210130	13.0	260	395	1	D1210270	27.0	385	580	3
D1210135	13.5	275	410	1	D1210275	27.5	385	580	3
D1210140	14.0	275	410	1	D1210280	28.0	385	580	3
D1210145	14.5	275	425	2	D1210285	28.5	385	580	3
D1210150	15.0	275	425	2	D1210290	29.0	385	580	3
D1210155	15.5	295	445	2	D1210295	29.5	385	580	3
D1210160	16.0	295	445	2	D1210300	30.0	385	580	3
D1210165	16.5	295	445	2	D1210310	31.0	410	610	3
D1210170	17.0	295	445	2	D1210320	32.0	410	635	4
D1210175	17.5	310	465	2	D1210330	33.0	410	635	4
D1210180	18.0	310	465	2	D1210340	34.0	430	665	4
D1210185	18.5	310	465	2	D1210350	35.0	430	665	4
D1210190	19.0	310	465	2	D1210360	36.0	430	665	4
D1210195	19.5	325	490	2	D1210370	37.0	430	665	4
D1210200	20.0	325	490	2	D1210380	38.0	460	695	4
D1210205	20.5	325	490	2	D1210390	39.0	460	695	4
D1210210	21.0	325	490	2	D1210400	40.0	460	695	4
D1210215	21.5	345	515	2	D1210410	41.0	460	695	4
D1210220	22.0	345	515	2	D1210420	42.0	460	695	4
D1210225	22.5	345	515	2	D1210430	43.0	490	735	4
D1210230	23.0	345	515	2	D1210440	44.0	490	735	4
D1210235	23.5	345	535	3	D1210450	45.0	490	735	4
D1210240	24.0	365	555	3	D1210460	46.0	490	735	4
D1210245	24.5	365	555	3	D1210470	47.0	490	735	4
D1210250	25.0	365	555	3	D1210480	48.0	510	765	4
D1210255	25.5	365	555	3	D1210490	49.0	510	765	4
D1210260	26.0	365	555	3	D1210500	50.0	510	765	4
D1210265	26.5	365	555	3					

◎ : Excellent ○ : Good

ISO Material Description	P									M				K						
	Non-alloy steel			Low alloy steel			High alloyed steel and tool steel			Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	35	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron					
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommended	○	○	○													○					

# YG MORSE TAPER SHANK DRILLS

## RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDKONDITIONEN

### DL205, D1205, D1206, D1209, D1210 SERIES

### HSS&HSS-E, MORSE TAPER SHANK DRILLS

VC = M/MIN  
 RPM = rev./min.  
 FEED = mm/rev.

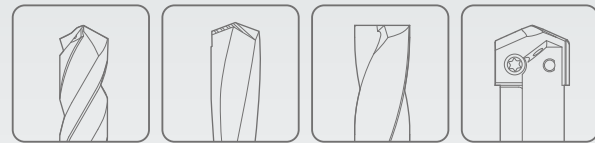
ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)							
					13.0	16.0	18.0	20.0	30.0	40.0	50.0	60.0
P	1	Non-alloy steel	30	RPM	730	600	530	480	320	240	190	160
			FEED	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28	0.24~0.30	0.28~0.34	0.36~0.40	
			25	RPM	610	500	440	400	270	200	160	130
	FEED		0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28	0.24~0.30	0.28~0.34	0.36~0.40		
	20		RPM	490	400	350	320	210	160	130	110	
	FEED		0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28	0.24~0.30	0.28~0.34	0.36~0.40		
	Low alloy steel	15	RPM	370	300	270	240	160	120	100	80	
		FEED	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18	0.14~0.20	0.16~0.22	0.18~0.24		
		25	RPM	610	500	440	400	270	200	160	130	
		FEED	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28	0.24~0.30	0.28~0.34	0.36~0.40		
High alloyed steel, and tool steel	15	RPM	370	300	270	240	160	120	100	80		
	FEED	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28	0.24~0.30	0.28~0.34	0.36~0.40			
M	12	Stainless steel	20	RPM	490	400	350	320	210	160	130	
			FEED	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28	0.24~0.30	0.28~0.34	0.36~0.40	
K	15	Grey cast iron	30	RPM	730	600	530	480	320	240	190	
			FEED	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28	0.24~0.30	0.28~0.34	0.36~0.40	
	25		RPM	610	500	440	400	270	200	160	130	
	FEED		0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18	0.14~0.20	0.16~0.22	0.18~0.24		
	Nodular cast iron	30	RPM	730	600	530	480	320	240	190	160	
		FEED	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28	0.24~0.30	0.28~0.34	0.36~0.40		
		20	RPM	490	400	350	320	210	160	130	110	
		FEED	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18	0.14~0.20	0.16~0.22	0.18~0.24		
	Malleable cast iron	25	RPM	610	500	440	400	270	200	160	130	
		FEED	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28	0.24~0.30	0.28~0.34	0.36~0.40		
20	RPM	490	400	350	320	210	160	130	110			
FEED	0.04~0.10	0.06~0.12	0.08~0.14	0.10~0.16	0.12~0.18	0.14~0.20	0.16~0.22	0.18~0.24				
N	21	Aluminum-wrought alloy	55	RPM	1350	1090	970	880	580	440	350	
			FEED	0.16~0.22	0.18~0.24	0.20~0.28	0.20~0.30	0.28~0.38	0.32~0.42	0.36~0.46	0.40~0.50	
	55		RPM	1350	1090	970	880	580	440	350	290	
	FEED		0.16~0.22	0.18~0.24	0.20~0.28	0.20~0.30	0.28~0.38	0.32~0.42	0.36~0.46	0.40~0.50		
23	Aluminum-cast, alloyed	40	RPM	980	800	710	640	420	320	250		
		FEED	0.16~0.22	0.18~0.24	0.20~0.28	0.20~0.30	0.28~0.38	0.32~0.42	0.36~0.46	0.40~0.50		
29	Non Metallic Materials	20	RPM	490	400	350	320	210	160	130		
		FEED	0.11~0.17	0.12~0.18	0.14~0.20	0.19~0.25	0.22~0.28	0.24~0.30	0.28~0.34	0.36~0.40		
S	36	Titanium Alloys	10	RPM	240	200	180	160	110	80		
			FEED	0.06~0.10	0.05~0.11	0.06~0.12	0.09~0.13	0.12~0.18	0.14~0.20	0.16~0.22	0.18~0.24	



Leading Through Innovation



Global Cutting Tool Leader **YG-1**



# HOLEMAKING



**SOLID CARBIDE & HSSCo8**

# NC-SPOTTING DRILLS

NC-ANBOHRER

- For Centering and Chamfering of Holes
- Zum Zentrieren und Anfasen von Bohrungen



SELECTION GUIDE



SERIES	D5306 D5307	D5320	D2306 D2321	D2307 D2322	D2320 D2323
POINT ANGLE	90°/120°	142°	90°	120°	142°
SIZE MIN	D6.0	D3.0	D3.0	D3.0/D6.0	D3.0/D6.0
SIZE MAX	D20.0	D20.0	D20.0	D20.0/D12.0	D20.0/D12.0
PAGE	A281	A282	A283	A284	A285

SURFACE TREATMENT Bright

# SOLID CARBIDE & HSSCo8 NC-SPOTTING DRILLS

For Centering and Chamfering of Holes



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A286

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	D5306 D5307	D5320	D2306 D2321	D2307 D2322	D2320 D2323	
<b>P</b>	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎	◎	◎	
	2		About 0.45% C Annealed	190	13	◎	◎	◎	◎	◎	
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	◎	◎	◎	
	4		About 0.75% C Annealed	270	28						
	5		About 0.75% C Quenched & Tempered	300	32						
	6	Low alloy steel	Annealed	180	10	◎	◎	◎	◎	◎	
	7		Quenched & Tempered	275	29	○	○	○	○	○	
	8		Quenched & Tempered	300	32						
	9		Quenched & Tempered	350	38						
	10		High alloyed steel, and tool steel	Annealed	200	15					
	11			Quenched & Tempered	325	35					
<b>M</b>	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○	○	○	○	
	13		Martensitic Quenched & Tempered	240	23						
	14		Austenitic	180	10						
<b>K</b>	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎	◎	◎	
	16		Pearlitic (Martensitic)	260	26	○	○	○	○	○	
	17	Nodular cast iron	Ferritic	160	3	○	○	○	○	○	
	18		Pearlitic	250	25						
	19		Ferritic	130		○	○	○	○	○	
20	Malleable cast iron	Pearlitic	230	21							
<b>N</b>	21	Aluminum-wrought alloy	Not Curable	60		○	○	○	○	○	
	22		Curable Hardened	100		○	○	○	○	○	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○	○	○	○	
	24		≤ 12% Si, Curable Hardened	90							
	25		> 12% Si, Not Curable	130							
	26		Copper and Copper Alloys (Bronze / Brass)	CuSn, lead-free copper and electrolytic copper	100						
	27	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic								
	28		Rubber, Wood, etc.								
	29										
	<b>S</b>	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15					
32		Cured		280	30						
33		Annealed		250	25						
34		Ni or Co Based Cured		350	38						
35		Cast		320	34						
36	Titanium Alloys	Pure Titanium	400 Rm		○	○					
37		Alpha + Beta Alloys Hardened	1050 Rm								
<b>H</b>	38	Hardened steel	Hardened	550	55						
	39		Hardened	630	60						
	40		Chilled Cast Iron	Cast	400	42					
	41		Hardened Cast Iron	Hardened	550	55					

## YG NC-SPOTTING DRILLS

D5306 SERIES

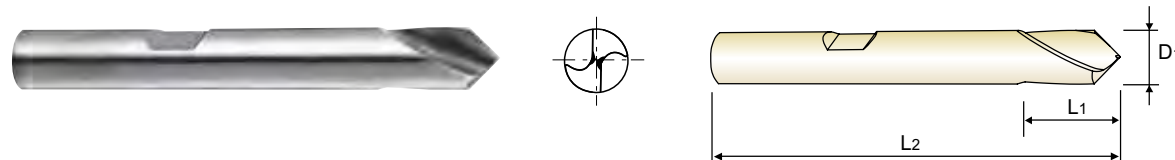
D5307 SERIES

### CARBIDE, NC-SPOTTING DRILLS 90°, 120°

- VOLLHARTMETALL NC-ANBOHRER 90°, 120°
- Forets carbure à pointer NC 90°, 120°
- PUNTE IN MD A CENTRARE NC 90°, 120°

▶Application : For more precise centering work on NC/CNC machines. The large diameter of the tool permits chamfering work after centering continuously.

▶Verwendung : Auf NC-Maschinen, Lehrenbohrwerken u.a. kapitalintensiven Bohrwerken, zum Zentrieren und Anfasen von Gewindebohrungen in einem Arbeitsgang. Besonders geeignet zum Anbohren von hochfesten Stählen, Stahlguß, Grauguß, Hartguß, Mangan-Hartstahl, CrNi-Stählen, Bronze, Leicht-und Buntmetallen.



CARBIDE DIN 6535HB h6 90° 120° Bright p.A286

Plain Shank Page  
NC DRILL CHUCK & OTHER TOOL HOLDERS D247-256  
ER COLLET CHUCK D73-115

#### NC-Spotting drills 90° NC-Anbohrer 90°

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D5306060	6.0	13	50
D5306080	8.0	23	60
D5306100	10.0	24	70
D5306120	12.0	24	70
D5306160	16.0	29	75
D5306200	20.0	35	100

#### NC-Spotting drills 120° NC-Anbohrer 120°

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D5307060	6.0	13	50
D5307080	8.0	23	60
D5307100	10.0	24	70
D5307120	12.0	24	70
D5307160	16.0	29	75
D5307200	20.0	35	100

▶ TiN(D6306, D6307), TiCN(DG306, DG307) and TiAlN(DH306, DH307) are available on your request.

◎ : Excellent ○ : Good

ISO	<b>P</b>										<b>M</b>					<b>K</b>																		
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel					Grey cast iron					Nodular cast iron					Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20														
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20														
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21															
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230														
Recommended	◎	◎	◎			◎	○				○				◎	○	○	○	○															

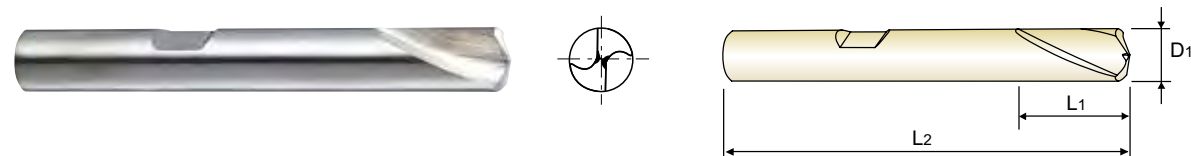
ISO	<b>N</b>										<b>S</b>										<b>H</b>																							
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials					Heat Resistant Super Alloys					Titanium Alloys					Hardened steel					Chilled Cast Iron					Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41																							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41																							
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550																							
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550																							
Recommended	○	○	○													○																												

**CARBIDE, NC-SPOTTING DRILLS 142°**

- VOLLHARTMETALL NC-ANBOHRER 142°
- Forets carbure à pointer NC 142°
- PUNTE IN MD A CENTRARE NC 142°

► **Application** : For more precise centering work on NC/CNC machines. The large diameter of the tool permits chamfering work after centering continuously.

► **Verwendung** : Auf NC-Maschinen, Lehrenbohrwerken u.a. kapitalintensiven Bohrwerken, zum Zentrieren und Anfasen von Gewindebohrungen in einem Arbeitsgang. Besonders geeignet zum Anbohren von hochfesten Stählen, Stahlguß, Grauguß, Hartguß, Mangan-Hartstahl, CrNi-Stählen, Bronze, Leicht- und Buntmetallen.



CARBIDE DIN 6535HB h6 142° Bright p.A286

Plain Shank Page  
 Recommended ToolHolder NC DRILL CHUCK & OTHER TOOL HOLDERS D247-256  
 ER COLLET CHUCK D73-115

**NC-Spotting drills 142° NC-Anbohrer 142°**

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
● D5320030	3.0	8	32
● D5320040	4.0	10	40
● D5320050	5.0	13	50
D5320060	6.0	13	50
D5320080	8.0	23	60
D5320100	10.0	24	70
D5320120	12.0	24	70
D5320160	16.0	29	75
D5320200	20.0	35	100

● with plain shank

◎ : Excellent ○ : Good

ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

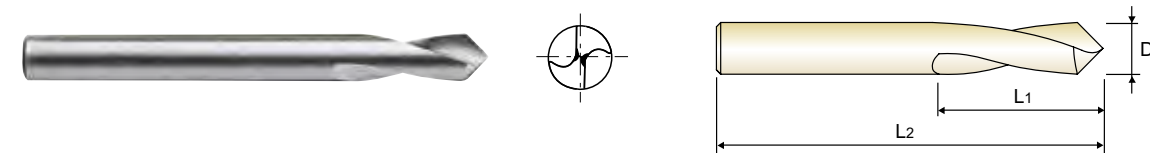
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34											55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

**HSSCo8, NC-SPOTTING DRILLS 90°**

- HSSCo8, NC-ANBOHRER 90°
- Forets HSSCo8 à pointer NC 90°
- PUNTE A CENTRARE NC 90°, HSSCo8

► **Application** : For more precise centering work on NC/CNC Machines. The large diameter of the tool permits chamfering work after centering continuously.

► **Verwendung** : Für positionsgenaueres und schnelles Anbohren mit NC/CNC-Maschinen und Bearbeitungszentren, die Ausführung mit Spitzenwinkel 90° ermöglicht sowohl ein Zentrieren, als auch das Vorbohren für einen nächstgrößeren Durchmesser.



NC HSS Co8 h6 h6 90° Bright p.A286

Plain Shank Page  
 Recommended ToolHolder NC DRILL CHUCK & OTHER TOOL HOLDERS D247-256  
 ER COLLET CHUCK D73-115

**LONG LENGTH**

Unit : mm

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D2306030	3.0	12	46
D2306040	4.0	12	55
D2306050	5.0	15	60
D2306060	6.0	20	66
D2306080	8.0	25	79
D2306100	10.0	25	89
D2306120	12.0	30	102
D2306160	16.0	35	115
D2306200	20.0	40	131

EDP No.	Drill Diameter	Flute Length	Overall Length
	D1	L1	L2
D2321030	3.0	12	80
D2321040	4.0	12	100
D2321050	5.0	15	120
D2321060	6.0	20	140
D2321080	8.0	25	140
D2321100	10.0	25	170
D2321120	12.0	30	170
D2321160	16.0	35	200
D2321200	20.0	40	200

► TiN, TiCN and TiAlN are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P					M				K										
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34											55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# YG NC-SPOTTING DRILLS

D2307 SERIES

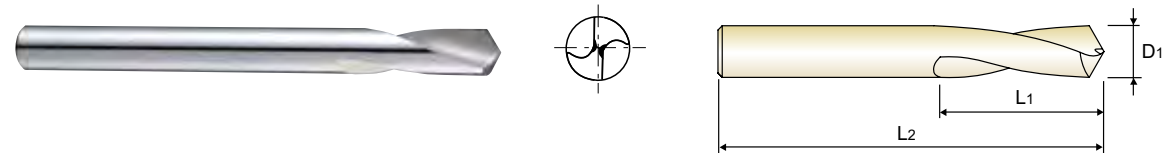
D2322 SERIES

## HSSCo8, NC-SPOTTING DRILLS 120°

- HSSCo8, NC-ANBOHRER 120°
- Forets HSSCo8 à pointer NC 120°
- PUNTE A CENTRARE NC 120°, HSSCo8

**Application :** For more precise centering work on NC/CNC Machines.  
The large diameter of the tool permits chamfering work after centering continuously.

**Verwendung :** Für positionsgenaueres und schnelles Anbohren mit NC/CNC-Maschinen und Bearbeitungszentren, die Ausführung mit Spitzenwinkel 90° ermöglicht sowohl ein Zentrieren, als auch das Vorbohren für einen nächstgrößeren Durchmesser.



NC HSS Co8 h6 h6 120° Bright p.A286

Plain Shank Page  
Recommended ToolHolder NC DRILL CHUCK & OTHER TOOL HOLDERS D247 - 256  
ER COLLET CHUCK D73 - 115

### LONG LENGTH

Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2
D2307030	3.0	12	46
D2307040	4.0	12	55
D2307050	5.0	15	60
D2307060	6.0	20	66
D2307080	8.0	25	79
D2307100	10.0	25	89
D2307120	12.0	30	102
D2307160	16.0	35	115
D2307200	20.0	40	131

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2
D2322060	6.0	20	140
D2322080	8.0	25	140
D2322100	10.0	25	170
D2322120	12.0	30	170

TiN, TiCN and TiAlN are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○																		

# YG NC-SPOTTING DRILLS

D2320 SERIES

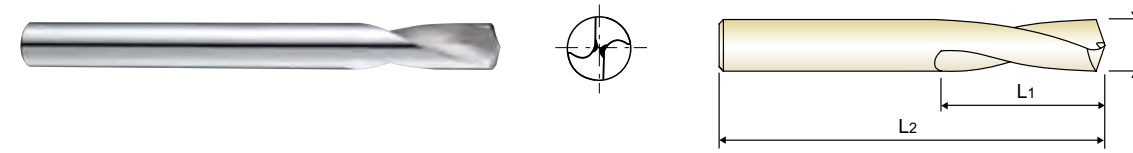
D2323 SERIES

## HSSCo8, NC-SPOTTING DRILLS 142°

- HSSCo8, NC-ANBOHRER 142°
- Forets HSSCo8 à pointer NC 142°
- PUNTE A CENTRARE NC 142°, HSSCo8

**Application :** For more precise centering work on NC/CNC Machines.  
The large diameter of the tool permits chamfering work after centering continuously.

**Verwendung :** Für positionsgenaueres und schnelles Anbohren mit NC/CNC-Maschinen und Bearbeitungszentren, die Ausführung mit Spitzenwinkel 90° ermöglicht sowohl ein Zentrieren, als auch das Vorbohren für einen nächstgrößeren Durchmesser.



NC HSS Co8 h6 h6 142° Bright p.A286

Plain Shank Page  
Recommended ToolHolder NC DRILL CHUCK & OTHER TOOL HOLDERS D247 - 256  
ER COLLET CHUCK D73 - 115

### LONG LENGTH

Unit : mm

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2
D2320030	3.0	12	46
D2320040	4.0	12	55
D2320050	5.0	15	60
D2320060	6.0	20	66
D2320080	8.0	25	79
D2320100	10.0	25	89
D2320120	12.0	30	102
D2320160	16.0	35	115
D2320200	20.0	40	131

EDP No.	Drill Diameter D1	Flute Length L1	Overall Length L2
D2323060	6.0	20	140
D2323080	8.0	25	140
D2323100	10.0	25	170
D2323120	12.0	30	170

TiN, TiCN and TiAlN are available on your request.

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○																		





**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOLHENE SCHNEIDPARAMETER**

**D5306, D5307, D5320** SERIES

**CARBIDE, NC-SPOTTING DRILLS**

VC = M/MIN  
RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)								
					2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1	Non-alloy steel	75	RPM	11940	7960	5970	3980	2980	2390	1990	1490	1190
				FEED	0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21
			70	RPM	11140	7430	5570	3710	2790	2230	1860	1390	1110
	6	Low alloy steel	70	RPM	10350	6900	5170	3450	2590	2070	1720	1290	1030
				FEED	0.01-0.03	0.03-0.05	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19
			55	RPM	11140	7430	5570	3710	2790	2230	1860	1390	1110
				FEED	0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21
M	12	Stainless steel	35	RPM	5570	3710	2790	1860	1390	1110	930	700	560
K	15	Grey cast iron	90	RPM	14320	9550	7160	4770	3580	2860	2390	1790	1430
				FEED	0.03-0.05	0.05-0.07	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.16	0.15-0.20	0.18-0.24	0.22-0.28
	16	Nodular cast iron	70	RPM	11140	7430	5570	3710	2790	2230	1860	1390	1110
				FEED	0.01-0.03	0.03-0.05	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19
19	Malleable cast iron	60	RPM	14320	9550	7160	4770	3580	2860	2390	1790	1430	
			FEED	0.03-0.05	0.05-0.07	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.16	0.15-0.20	0.18-0.24	0.22-0.28	
N	21	Aluminum-wrought alloy	165	RPM	26260	17510	13130	8750	6570	5250	4380	3280	2630
				FEED	0.04-0.06	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.15	0.15-0.19	0.18-0.23	0.21-0.27	0.25-0.31
	22	Aluminum-cast, alloyed	130	RPM	20690	13790	10350	6900	5170	4140	3450	2590	2070
FEED				0.04-0.06	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.15	0.15-0.19	0.18-0.23	0.21-0.27	0.25-0.31	
23	Aluminum-cast, alloyed	110	RPM	17510	11670	8750	5840	4380	3500	2920	2190	1750	
			FEED	0.04-0.06	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.15	0.15-0.19	0.18-0.23	0.21-0.27	0.25-0.31	
S	36	Titanium Alloys	35	RPM	5570	3710	2790	1860	1390	1110	930	700	560
				FEED	0.01-0.03	0.03-0.05	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19

**D2320, D2321, D2322, D2323, D2306, D2307** SERIES

**HSSCo8, NC-SPOTTING DRILLS**

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)								
					2.0	3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1	Non-alloy steel	25	RPM	3980	2650	1990	1330	990	800	660	500	400
				FEED	0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21
			25	RPM	3980	2650	1990	1330	990	800	660	500	400
	6	Low alloy steel	15	RPM	2390	1590	1190	800	600	480	400	300	240
				FEED	0.01-0.03	0.03-0.05	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19
			20	RPM	3180	2120	1590	1060	800	640	530	400	320
				FEED	0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21
7	Low alloy steel	15	RPM	2390	1590	1190	800	600	480	400	300	240	
			FEED	0.01-0.03	0.03-0.05	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	
M	12	Stainless steel	15	RPM	2390	1590	1190	800	600	480	400	300	240
				FEED	0.02-0.04	0.04-0.06	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19	0.15-0.21
K	15	Grey cast iron	30	RPM	4770	3180	2390	1590	1190	950	800	600	480
				FEED	0.03-0.05	0.05-0.07	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.16	0.15-0.20	0.18-0.24	0.22-0.28
	16	Nodular cast iron	25	RPM	3980	2650	1990	1330	990	800	660	500	400
				FEED	0.01-0.03	0.03-0.05	0.04-0.07	0.05-0.08	0.07-0.10	0.08-0.12	0.09-0.14	0.11-0.17	0.13-0.19
19	Malleable cast iron	30	RPM	4770	3180	2390	1590	1190	950	800	600	480	
			FEED	0.03-0.05	0.05-0.07	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.16	0.15-0.20	0.18-0.24	0.22-0.28	
N	21	Aluminum-wrought alloy	65	RPM	10350	6900	5170	3450	2590	2070	1720	1290	1030
				FEED	0.04-0.06	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.15	0.15-0.19	0.18-0.23	0.21-0.27	0.25-0.31
	22	Aluminum-wrought alloy	60	RPM	9550	6370	4770	3180	2390	1910	1590	1190	950
FEED				0.04-0.06	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.15	0.15-0.19	0.18-0.23	0.21-0.27	0.25-0.31	
23	Aluminum-cast, alloyed	50	RPM	7960	5310	3980	2650	1990	1590	1330	990	800	
			FEED	0.04-0.06	0.06-0.09	0.08-0.11	0.10-0.13	0.12-0.15	0.15-0.19	0.18-0.23	0.21-0.27	0.25-0.31	



Leading Through Innovation

**SOLID CARBIDE, HSS & HSS-E**

**CENTER DRILLS**

**ZENTRIERBOHRER**

- For General Purpose
- Für allgemeine Anwendungen

SELECTION GUIDE



SERIES	D5303	DV303	DV333
TOOL MATERIAL	CARBIDE	HSS-E	HSS-E
TYPE	FORM A	FORM A	FORM A
SIZE MIN	D1.0	D0.5	D1.6
SIZE MAX	D6.3	D6.3	D6.3
PAGE	A290	A291	

SURFACE TREATMENT Bright

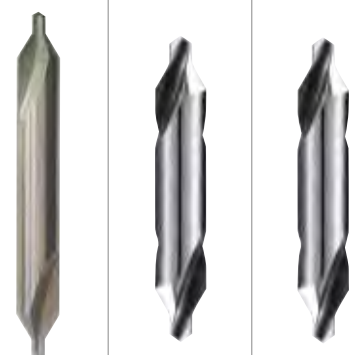
# SOLID CARBIDE, HSS & HSS-E CENTER DRILLS

For General Purpose

Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A297



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc			
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	◎
	2		About 0.45% C Annealed	190	13	◎	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎	○	○
	4		About 0.75% C Annealed	270	28			
	5		About 0.75% C Quenched & Tempered	300	32			
	6	Low alloy steel	Annealed	180	10	◎	◎	◎
	7		Quenched & Tempered	275	29	○	○	○
	8		Quenched & Tempered	300	32			
	9		Quenched & Tempered	350	38			
	10		High alloyed steel, and tool steel	Annealed	200	15		
	11	Quenched & Tempered		325	35			
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○	○
	13		Martensitic Quenched & Tempered	240	23			
	14		Austenitic	180	10			
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	◎
	16		Pearlitic (Martensitic)	260	26	○	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○	○
	18		Pearlitic	250	25			
	19		Ferritic	130				
20	Malleable cast iron	Pearlitic	230	21	○	○	○	
N	21	Aluminum-wrought alloy	Not Curable	60				
	22		Curable Hardened	100				
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75				
	24		≤ 12% Si, Curable Hardened	90				
	25		> 12% Si, Not Curable	130				
	26		Copper and Copper Alloys	Cutting Alloys, PB>1%	110			
	27	(Bronze / Brass)	CuZn, CuSnZn (Brass)	90				
	28		CuSn, lead-free copper and electrolytic copper	100				
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic					
	30		Rubber, Wood, etc.					
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15			
	32		Cured	280	30			
	33		Annealed	250	25			
	34		Cured	350	38			
	35		Cast	320	34			
	36	Titanium Alloys	Pure Titanium	400 Rm				
	37		Alpha + Beta Alloys Hardened	1050 Rm				
H	38	Hardened steel	Hardened	550	55			
	39		Hardened	630	60			
	40		Chilled Cast Iron	Cast	400	42		
41	Hardened Cast Iron	Hardened	550	55				

DV334	D1303	D1343	D1313	D1353	D1363	D1373	DV383
HSS-E	HSS	HSS	HSS	HSS	HSS	HSS	HSS-E
FORM A	FORM A	FORM A	FORM B	FORM B	FORM R	FORM R	FORM R
D1.0	D0.5	D0.5	D1.0	D2.0	D0.5	D0.8	D1.6
D5.0	D10.0	D8.0	D6.3	D6.3	D8.0	D5.0	D6.3
A292	A293		A294		A295		A296

Bright



◎	◎	◎	◎	◎	◎	◎	◎	◎	1
◎	◎	◎	◎	◎	◎	◎	◎	◎	2
○	○	○	○	○	○	○	○	○	3
									4
									5
◎	◎	◎	◎	◎	◎	◎	◎	◎	6
○	○	○	○	○	○	○	○	○	7
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									13
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○	○	○	○	○	○	○	○	○	16
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i-ONE DRILLS  
i-DREAM DRILLS  
DREAM DRILLS -PRO  
DREAM DRILLS -GENERAL  
DREAM DRILLS -HIGH FEED  
DREAM DRILLS -FLAT BOTTOM  
DREAM DRILLS -INOX  
DREAM DRILLS -ALU  
DREAM DRILLS -MQL  
DREAM DRILLS for HIGH HARDENED STEELS  
GENERAL CARBIDE DRILLS  
MULTI-1 DRILLS  
HPD DRILLS  
GOLD-P DRILLS  
SUPER-GP DRILLS  
STRAIGHT SHANK DRILLS  
TAPER SHANK DRILLS  
NC-SPOTTING DRILLS  
CENTER DRILLS  
SPADE DRILLS  
REAMERS  
COUNTER SINKS  
COUNTER BORES  
TECHNICAL DATA

i-ONE DRILLS  
i-DREAM DRILLS  
DREAM DRILLS -PRO  
DREAM DRILLS -GENERAL  
DREAM DRILLS -HIGH FEED  
DREAM DRILLS -FLAT BOTTOM  
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CENTER DRILLS  
SPADE DRILLS  
REAMERS  
COUNTER SINKS  
COUNTER BORES  
TECHNICAL DATA

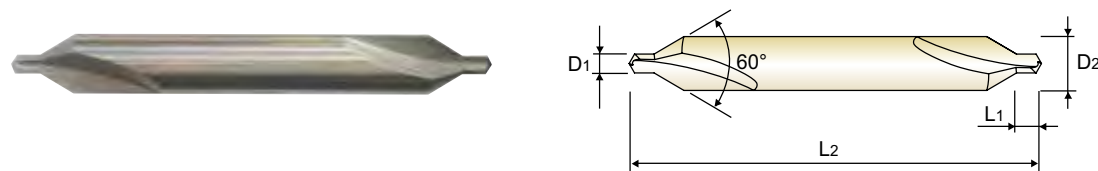




D5303 SERIES

**CARBIDE, CENTER DRILLS / FORM A**

- VOLLHARTMETALL, ZENTRIERBOHRER / FORM A
- Forets carbure à centrer / Forme A
- PUNTE A CENTRARE IN MD / FORMA A



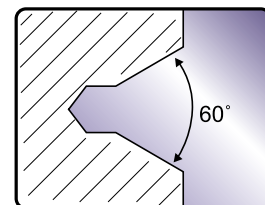
DIN 333 CARBIDE h8 k12 120° Bright p.A297

Plain Shank Page  
 Recommended ToolHolder NC DRILL CHUCK & OTHER TOOL HOLDERS D247 - 256  
 ER COLLET CHUCK D73 - 115

**FORM A (60°)**

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Pilot Length	Overall Length
	D1	D2	L1	L2
D5303010	1.0	3.15	1.3	31.5
D5303912	1.25	3.15	1.6	31.5
D5303016	1.6	4	2	35.5
D5303020	2.0	5	2.5	40
D5303025	2.5	6.3	3.1	45
D5303931	3.15	8	3.9	50
D5303040	4.0	10	5	56
D5303050	5.0	12.5	6.3	63
D5303063	6.3	16	8	71



◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

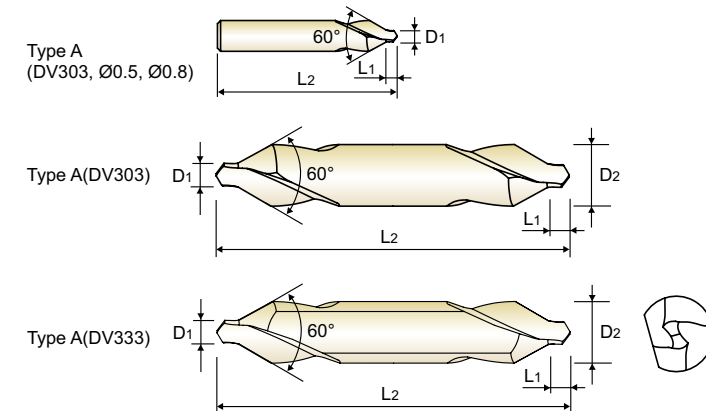


DV303 SERIES

DV333 SERIES

**HSS-E, CENTER DRILLS / FORM A**

- HSS-EX, ZENTRIERBOHRER / FORM A
- Forets HSS-EX à centrer / Forme A
- PUNTE A CENTRARE PER TORNII IN HSS-EX / FORMA A



DIN 333 HSS-E h8 k12 120° Bright p.A297

Plain Shank Page  
 Recommended ToolHolder NC DRILL CHUCK & OTHER TOOL HOLDERS D247 - 256  
 ER COLLET CHUCK D73 - 115

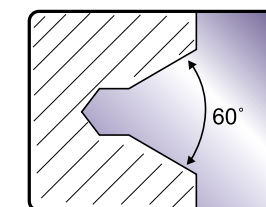
**FORM A (60°)**

**FORM A (60°), FLAT**

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Pilot Length	Overall Length
	D1	D2	L1	L2
DV303005	0.5	3.15	0.8	25
DV303008	0.8	3.15	1.1	25
DV303010	1.0	3.15	1.3	31.5
DV303912	1.25	3.15	1.6	31.5
DV303016	1.6	4	2	35.5
DV303020	2.0	5	2.5	40
DV303025	2.5	6.3	3.1	45
DV303931	3.15	8	3.9	50
DV303040	4.0	10	5	56
DV303050	5.0	12.5	6.3	63
DV303063	6.3	16	8	71

EDP No.	Drill Diameter	Shank Diameter	Pilot Length	Overall Length
	D1	D2	L1	L2
DV333016	1.6	4	2	35.5
DV333020	2.0	5	2.5	40
DV333025	2.5	6.3	3.1	45
DV333931	3.15	8	3.9	50
DV333040	4.0	10	5	56
DV333050	5.0	12.5	6.3	63
DV333063	6.3	16	8	71



▶ Under 1.0mm : Single End

◎ : Excellent ○ : Good

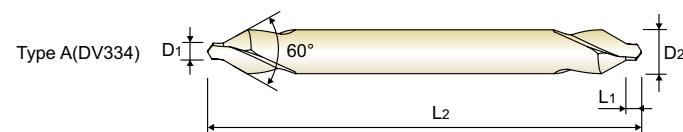
ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	88	92	98	102	108	112
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

**HSS-E, CENTER DRILLS EXTRA LONG / FORM A**

- HSS-EX, ZENTRIERBOHRER / FORM A
- Forets HSS-EX à centrer / Forme A, série extra-longue
- PUNTE A CENTRARE PER TORNI IN HSS-EX / FORMA A



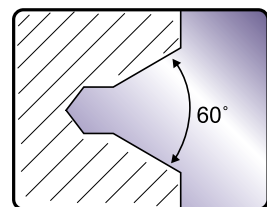
HSS-E h8 k12 120° Bright p.A297

Plain Shank Page  
 Recommended ToolHolder NC DRILL CHUCK & OTHER TOOL HOLDERS D247 - 256  
 ER COLLET CHUCK D73 - 115

**EXTRA LONG / FORM A (60°)**

Unit : mm

EDP No.	Drill Diameter		Pilot Length		Overall Length
	D1	D2	L1	L2	
DV334010	1.0	4	1.3	120	
DV334016	1.6	5	2	120	
DV334020	2.0	6	2.5	120	
DV334025	2.5	8	3.1	120	
DV334931	3.15	10	3.9	120	
DV334040	4.0	12	5	120	
DV334050	5.0	14	6.3	120	



◎ : Excellent ○ : Good

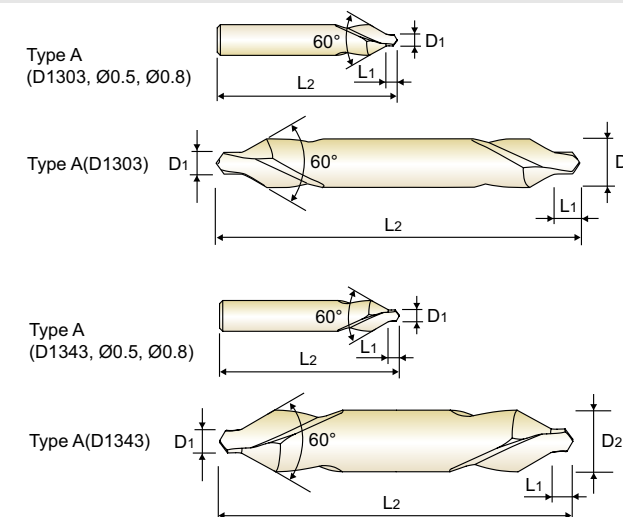
ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	◎	○	◎	○	○	○	○	○	◎	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

**HSS, CENTER DRILLS / FORM A**

- HSS, ZENTRIERBOHRER / FORM A
- Forets HSS à centrer / Forme A
- PUNTE A CENTRARE PER TORNI IN HSS / FORMA A



DIN 333 HSS h8 k12 120° Bright p.A297

Plain Shank Page  
 Recommended ToolHolder NC DRILL CHUCK & OTHER TOOL HOLDERS D247 - 256  
 ER COLLET CHUCK D73 - 115

**FORM A (60°)**

EDP No.	Drill Diameter		Pilot Length		Overall Length
	D1	D2	L1	L2	
D1303005	0.5	3.15	0.8	25	
D1303008	0.8	3.15	1.1	25	
D1303010	1.0	3.15	1.3	31.5	
D1303912	1.25	3.15	1.6	31.5	
D1303016	1.6	4	2	35.5	
D1303020	2.0	5	2.5	40	
D1303025	2.5	6.3	3.1	45	
D1303931	3.15	8	3.9	50	
D1303040	4.0	10	5	56	
D1303050	5.0	12.5	6.3	63	
D1303063	6.3	16	8	71	
D1303080	8.0	20	10.1	80	
D1303100	10.0	25	12.8	100	

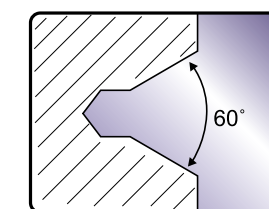
► Under 1.0mm : Single End

**LEFT HELIX / FORM A (60°)**

Unit : mm

EDP No.	Drill Diameter		Pilot Length		Overall Length
	D1	D2	L1	L2	
D1343005	0.5	3.15	0.8	25	
D1343008	0.8	3.15	1.1	25	
D1343010	1.0	3.15	1.3	31.5	
D1343912	1.25	3.15	1.6	31.5	
D1343016	1.6	4	2	35.5	
D1343020	2.0	5	2.5	40	
D1343025	2.5	6.3	3.1	45	
D1343931	3.15	8	3.9	50	
D1343040	4.0	10	5	56	
D1343050	5.0	12.5	6.3	63	
D1343063	6.3	16	8	71	
D1343080	8.0	20	10.1	80	

► Under 1.0mm : Single End



◎ : Excellent ○ : Good

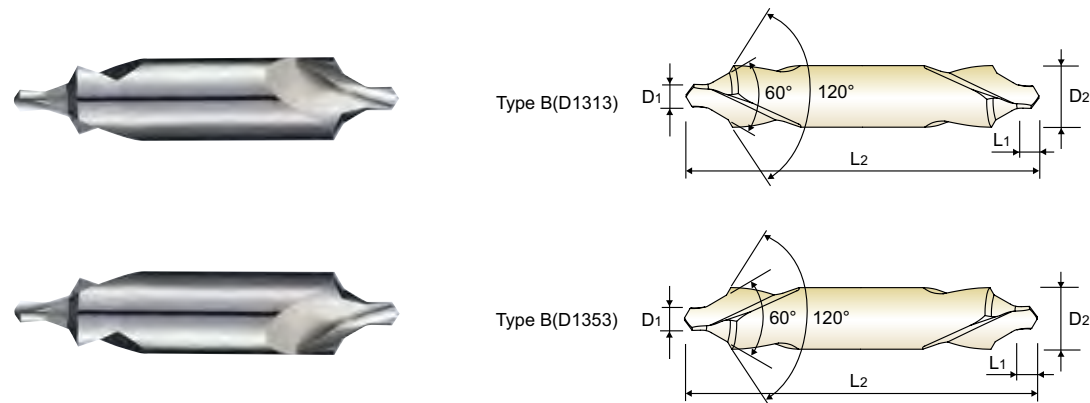
ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	◎	○	◎	○	○	○	○	○	◎	○	○	○	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

**HSS, CENTER DRILLS / FORM B**

- HSS, ZENTRIERBOHRER / FORM B
- Forets HSS à centrer / Forme B
- PUNTE A CENTRARE PER TORNI IN HSS / FORMA B



DIN 333 HSS h8 k12 120° Bright p.A297

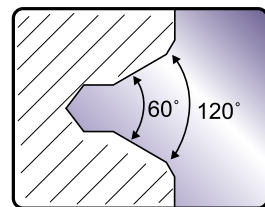
Plain Shank Page  
 Recommended Toolholder NC DRILL CHUCK & OTHER TOOL HOLDERS D247-256  
 ER COLLET CHUCK D73-115

**FORM B (60° + 120°)**

EDP No.	Drill Diameter	Shank Diameter	Pilot Length	Overall Length
	D1	D2	L1	L2
D1313010	1.0	4	1.3	35.5
D1313912	1.25	5	1.6	40
D1313016	1.6	6.3	2	45
D1313020	2.0	8	2.5	50
D1313025	2.5	10	3.1	55
D1313931	3.15	11.2	3.9	60
D1313040	4.0	14	5	67
D1313050	5.0	18	6.3	75
D1313063	6.3	20	8	80

**LEFT HELIX / FORM B (60° + 120°)**

EDP No.	Drill Diameter	Shank Diameter	Pilot Length	Overall Length
	D1	D2	L1	L2
D1353020	2.0	8	2.5	50
D1353025	2.5	10	3.1	55
D1353931	3.15	11.2	3.9	60
D1353040	4.0	14	5	67
D1353063	6.3	20	8	80



◎ : Excellent ○ : Good

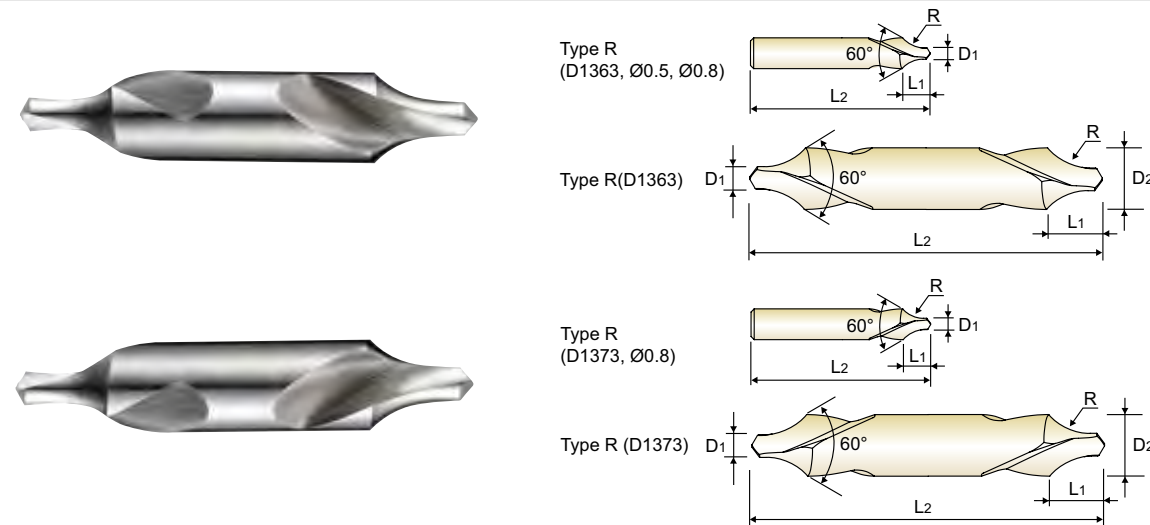
ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

**HSS, CENTER DRILLS / FORM R**

- HSS, ZENTRIERBOHRER / FORM R
- Forets HSS à centrer / Forme R
- PUNTE A CENTRARE PER TORNI IN HSS / FORMA R



DIN 333 HSS h8 k12 120° Bright p.A297

Plain Shank Page  
 Recommended Toolholder NC DRILL CHUCK & OTHER TOOL HOLDERS D247-256  
 ER COLLET CHUCK D73-115

**FORM R**

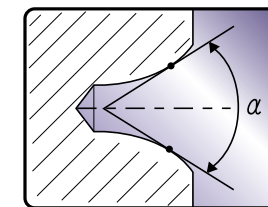
EDP No.	Drill Diameter	Shank Diameter	Pilot Length (Include Radius)	Overall Length	Radius
	D1	D2	L1	L2	R
D1363005	0.5	3.15	2.12	25	1.25
D1363008	0.8	3.15	2.65	25	2
D1363010	1.0	3.15	3	31.5	2.5
D1363912	1.25	3.15	3.35	31.5	3.15
D1363016	1.6	4	4.25	35.5	4
D1363020	2.0	5	5.3	40	5
D1363025	2.5	6.3	6.7	45	6.3
D1363931	3.15	8	8.5	50	8
D1363040	4.0	10	10.6	56	10
D1363050	5.0	12.5	13.2	63	12.5
D1363063	6.3	16	17	71	16
D1363080	8.0	20	21.2	80	20

► Under 1.0mm : Single End

**LEFT HELIX / FORM R**

EDP No.	Drill Diameter	Shank Diameter	Pilot Length (Include Radius)	Overall Length	Radius
	D1	D2	L1	L2	R
D1373008	0.8	3.15	2.65	25	2
D1373010	1.0	3.15	3	31.5	2.5
D1373912	1.25	3.15	3.35	31.5	3.15
D1373016	1.6	4	4.25	35.5	4
D1373020	2.0	5	5.3	40	5
D1373025	2.5	6.3	6.7	45	6.3
D1373931	3.15	8	8.5	50	8
D1373040	4.0	10	10.6	56	10
D1373050	5.0	12.5	13.2	63	12.5

► Under 1.0mm : Single End



◎ : Excellent ○ : Good

ISO Material Description	P									M					K					
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel			Grey cast iron	Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO Material Description	N						S						H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

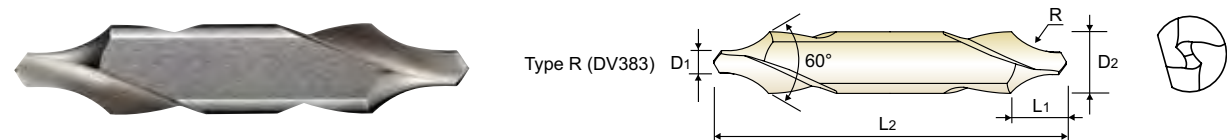




DV383 SERIES

HSS-E, CENTER DRILLS / FORM R

- HSS-EX, ZENTRIERBOHRER / FORM R
- Forets HSS-EX à centrer / Forme R
- PUNTE A CENTRARE PER TORNII IN HSS-EX / FORMA R



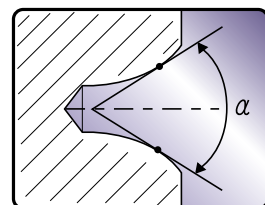
DIN 333 HSS-E h8 k12 120° Bright p.A297

Plain Shank Page  
 Recommended ToolHolder NC DRILL CHUCK & OTHER TOOL HOLDERS D247 - 256  
 ER COLLET CHUCK D73 - 115

FORM R / FLAT

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Pilot Length (Include Radius)	Overall Length	Radius
	D1	D2	L1	L2	R
DV383016	1.6	4	4.25	35.5	4
DV383020	2.0	5	5.3	40	5
DV383025	2.5	6.3	6.7	45	6.3
DV383931	3.15	8	8.5	50	8
DV383040	4.0	10	10.6	56	10
DV383050	5.0	12.5	13.2	63	12.5
DV383063	6.3	16	17	71	16



◎ : Excellent ○ : Good

ISO	P										M						K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel			Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230		
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○		

ISO	N										S						H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		



RECOMMENDED CUTTING CONDITIONS  
 EMPFOHLENE SCHNEIDKONDITIONEN

D5303 SERIES

CARBIDE, CENTER DRILLS

VC = M/MIN  
 RPM = rev./min.  
 FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)					
					1.0	2.0	3.0	4.0	5.0	6.0
P	1	Non-alloy steel	50	RPM	15920	7960	5310	3980	3180	2650
			FEED	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	
	2		40	RPM	12730	6370	4240	3180	2550	2120
			FEED	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	
	3		30	RPM	9550	4770	3180	2390	1910	1590
			FEED	0.01-0.03	0.01-0.035	0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08	
6	40	RPM	12730	6370	4240	3180	2550	2120		
	FEED	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12			
7	30	RPM	9550	4770	3180	2390	1910	1590		
	FEED	0.01-0.03	0.01-0.035	0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08			
M	12	Stainless steel	20	RPM	6370	3180	2120	1590	1270	1060
K	15	Grey cast iron	60	RPM	19100	9550	6370	4770	3820	3180
			FEED	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	
	50		RPM	15920	7960	5310	3980	3180	2650	
			FEED	0.01-0.03	0.01-0.035	0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08	
17	Nodular cast iron	60	RPM	19100	9550	6370	4770	3820	3180	
		FEED	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12		
40		RPM	12730	6370	4240	3180	2550	2120		
		FEED	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12		
19	Malleable cast iron	40	RPM	12730	6370	4240	3180	2550	2120	
		FEED	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12		

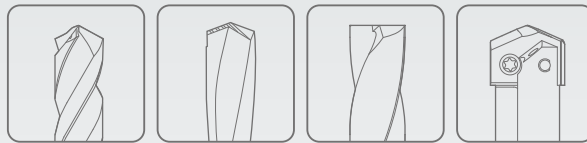
DV303, DV333, DV334, D1303, D1343, D1313, D1353, D1363, D1373, DV383 SERIES

HSS & HSS-E, CENTER DRILLS

ISO	VDI 3323	Material Description	Vc	Parameter	Drill Diameter (mm)	Vc	Parameter	Drill Diameter (mm)									
								0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	
P	1	Non-alloy steel	30	RPM	19100	40	RPM	12730	6370	4240	3180	2550	2120	1590	1270		
			FEED	0.01-0.03	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18					
	2		25	RPM	15920	30	RPM	9550	4770	3180	2390	1910	1590	1190	950		
			FEED	0.01-0.03	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18					
	3		20	RPM	12730	25	RPM	7960	3980	2650	1990	1590	1330	990	800		
			FEED	0.005-0.02	0.01-0.03	0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08	0.06-0.12	0.08-0.14						
6	25	RPM	15920	30	RPM	9550	4770	3180	2390	1910	1590	1190	950				
	FEED	0.01-0.03	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18							
7	15	RPM	9550	20	RPM	6370	3180	2120	1590	1270	1060	800	640				
	FEED	0.005-0.02	0.01-0.03	0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08	0.06-0.12	0.08-0.14								
M	12	Stainless steel	8	RPM	5090	10	RPM	3180	1590	1060	800	640	530	400	320		
K	15	Grey cast iron	30	RPM	19100	40	RPM	12730	6370	4240	3180	2550	2120	1590	1270		
			FEED	0.01-0.03	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18					
	25		RPM	15920	30	RPM	9550	4770	3180	2390	1910	1590	1190	950			
			FEED	0.005-0.02	0.01-0.03	0.015-0.05	0.02-0.06	0.03-0.07	0.04-0.08	0.06-0.12	0.08-0.14						
17	Nodular cast iron	30	RPM	19100	40	RPM	12730	6370	4240	3180	2550	2120	1590	1270			
		FEED	0.01-0.03	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18						
20		RPM	12730	25	RPM	7960	3980	2650	1990	1590	1330	990	800				
		FEED	0.01-0.03	0.02-0.04	0.03-0.06	0.04-0.08	0.05-0.09	0.06-0.10	0.07-0.12	0.09-0.15	0.12-0.18						



Global Cutting Tool Leader **YG-1**



# HOLEMAKING



Leading Through Innovation



**INSERTS & HOLDERS**

**SPADE DRILLS**

**BOHRMESSER**

- For General Machines and Drilling Large Diameters, Longer Tool Life and High Productivity
- Für allgemeine Maschinen und zum Bohren großer Durchmesser, längere Werkzeugstandzeiten und höhere Produktivität



SELECTION GUIDE



SERIES	1~8	Y,Z,0,1~4	Y,Z,0,1,2
TOOL MATERIAL	HSS M4	SUPER HSS T15	PREMIUM HSS M48
POINT	STANDARD	STANDARD	STANDARD
SIZE MIN	Ø17.86(#1)	Ø9.5(#Y)	Ø9.5(#Y)
SIZE MAX	Ø114.3(#8)	Ø65.09(#4)	Ø35(#2)
PAGE	A286	A292	A297



Please visit [global.yg1.com/mat](http://global.yg1.com/mat) for material search

INSERTS & HOLDERS SPADE DRILLS

For General Machines and Drilling Large Diameters Longer Tool Life and High Productivity

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A375

SURFACE TREATMENT TiN / TiCN / TiAlN



ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRC	1~8	Y,Z,0,1~4	Y,Z,0,1,2
P	1	Non-alloy steel	About 0.15% C Annealed	125		○	◎	◎
	2		About 0.45% C Annealed	190	13	○	◎	◎
	3		About 0.45% C Quenched & Tempered	250	25	○	◎	◎
	4		About 0.75% C Annealed	270	28	○	◎	◎
	5		About 0.75% C Quenched & Tempered	300	32	○	◎	◎
	6	Low alloy steel	Annealed	180	10	○	◎	◎
	7		Quenched & Tempered	275	29	○	◎	◎
	8		Quenched & Tempered	300	32	○	◎	◎
	9		Quenched & Tempered	350	38	○	◎	◎
	10	High alloyed steel, and tool steel	Annealed	200	15	○	◎	◎
	11		Quenched & Tempered	325	35	○	◎	◎
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	◎	○	○
	13		Martensitic Quenched & Tempered	240	23	◎	○	○
	14		Austenitic	180	10	◎	○	○
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	○	○
	16		Pearlitic (Martensitic)	260	26	○	◎	◎
	17	Nodular cast iron	Ferritic	160	3	◎	○	○
	18		Pearlitic	250	25	○	◎	◎
	19		Ferritic	130		◎	○	○
20	Malleable cast iron	Pearlitic	230	21	○	◎	◎	
N	21	Aluminum-wrought alloy	Not Curable	60		◎	○	○
	22		Curable Hardened	100		◎	○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75				
	24		≤ 12% Si, Curable Hardened	90				
	25		> 12% Si, Not Curable	130				
	26		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90		◎	○
	27	Non Metallic Materials	Cutting Alloys, PB>1%	110				
	28		CuSn, lead-free copper and electrolytic copper	100				
	29		Duroplastic, Fiber Reinforced Plastic					
	30	Rubber, Wood, etc.						
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		◎	◎
	32		Cured	280	30		○	◎
	33		Annealed	250	25		○	◎
	34		Ni or Co Based Cured	350	38		○	◎
	35	Cast	320	34		○	◎	
	36	Titanium Alloys	Pure Titanium	400 Rm				
	37		Alpha + Beta Alloys Hardened	1050 Rm				
38	Hardened steel		Hardened	550	55		○	◎
H	39	Hardened steel	Hardened	630	60			
	40	Chilled Cast Iron	Cast	400	42			
	41	Hardened Cast Iron	Hardened	550	55			

TAPER SHANK		TAPER SHANK HOLDERS - INCH/METRIC	A364
FLANGED SHANK		FLANGED STRAIGHT SHANK HOLDERS - INCH/METRIC	A364
STRAIGHT SHANK		STRAIGHT SHANK HOLDERS - INCH	A382

Y,Z,0,1,2	Y,Z,0,1~3	Y,Z,0,1~3	1~3	Y,Z,0,1~3	Y,Z,0,1,2	Y,Z,0,1,2	Y,Z,0,1~3	Y,Z,0,1~3	Y,Z,0,1,2
CARBIDE K10	CARBIDE K20	CARBIDE P40	HSS M4	SUPER HSS T15	PREMIUM HSS M48	CARBIDE K10	CARBIDE K20	CARBIDE P40	SUPER COBALT T15
STANDARD	STANDARD	STANDARD	SM-POINT	SM-POINT	SM-POINT	SM-POINT	SM-POINT	SM-POINT	FALT BOTTOM
Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø17.86(#1)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)	Ø9.5(#Y)
Ø35(#2)	Ø47.63(#3)	Ø47.63(#3)	Ø47.63(#3)	Ø47.63(#3)	Ø35(#2)	Ø35(#2)	Ø47.63(#3)	Ø47.63(#3)	Ø35(#2)
A300	A303	A307	A312	A315	A319	A322	A325	A329	A361

TiN / TiCN / TiAlN



	○	◎	○	◎	◎		○	◎	◎	1
	○	◎	○	◎	◎		○	◎	◎	2
	○	◎	○	◎	◎		○	◎	◎	3
	○	◎	○	◎	◎		○	◎	◎	4
										5
	○	◎	○	◎	◎		○	◎	◎	6
	○	◎	○	◎	◎		○	◎	◎	7
	○	◎	○	◎	◎		○	◎	◎	8
	○	◎	○	◎	◎		○	◎	◎	9
	○	◎	○	◎	◎		○	◎	◎	10
	○	◎	○	◎	◎		○	◎	◎	11
	◎	○	◎	○			◎	○	○	12
	◎	○	◎	○			◎	○	○	13
	◎	○	◎	○			◎	○	○	14
◎	○	○	◎	○	○	◎	○	○	○	15
◎	○	○	◎	○	◎	◎	○	○	◎	16
◎	○	○	◎	○	◎	◎	○	○	◎	17
◎	○	○	◎	○	◎	◎	○	○	◎	18
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	◎	○	◎	○			◎	○	○	21
	◎	○	◎	○			◎	○	○	22
										23
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	◎	○	◎	○	○		◎	○	○	27
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										30
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	◎	○		◎	◎		◎	○	◎	32
	◎	○		◎	◎		◎	○	◎	33
	◎	○		◎	◎		◎	○	◎	34
	◎	○		◎	◎		◎	○	◎	35
										36
										37
	○	◎		○	◎		○	◎	○	38
										39
										40
										41

Coating	Characteristics	Coating	Characteristics
H	<ul style="list-style-type: none"> <li>-First choice for excellent wear resistance and toughness</li> <li>-Preventive of chipping due to cold welding</li> <li>-Achieve high penetration rates even in deep holes with reliable tool life</li> <li>-Coefficient of friction against steel : 0.25</li> <li>-Color : Bronze</li> </ul>	TiCN	<ul style="list-style-type: none"> <li>-Maximum working temperature up to 400°C</li> <li>-Better wear resistance over non-coating</li> <li>-Coefficient of friction against steel : 0.4</li> <li>-Color : Blue-Grey</li> </ul>
		TiAlN	<ul style="list-style-type: none"> <li>-Maximum working temperature up to 800°C</li> <li>-Excellent heat and oxidation resistance</li> <li>-Coefficient of friction against steel : 0.4</li> <li>-Color : Violet-Grey</li> </ul>
TiN	<ul style="list-style-type: none"> <li>-Increased tool life over non-coating</li> <li>-Improved wear resistance and high hardness</li> <li>-For normal applications</li> <li>-Coefficient of friction against steel : 0.4</li> <li>-Color : Gold</li> </ul>	Hardsllick	<ul style="list-style-type: none"> <li>-Better chip evauation for tapping and drilling</li> <li>-High hardness and improved lubrication</li> <li>-Coefficient of friction against steel : 0.2</li> <li>-Color : Black-Gery</li> </ul>

HSS  
i-ONE DRILLS  
i-DREAM DRILLS  
DREAM DRILLS -PRO  
DREAM DRILLS -GENERAL  
DREAM DRILLS -HIGH FEED  
DREAM DRILLS -FLAT BOTTOM  
DREAM DRILLS -INOX  
DREAM DRILLS -ALU  
DREAM DRILLS -MQL  
DREAM DRILLS for HIGH HARDENED STEELS  
GENERAL CARBIDE DRILLS  
MULTI-1 DRILLS  
HPD DRILLS  
GOLD-P DRILLS  
SUPER-GP DRILLS  
STRAIGHT SHANK DRILLS  
TAPER SHANK DRILLS  
NC-SPOTTING DRILLS  
CENTER DRILLS  
SPADE DRILLS  
REAMERS  
COUNTER SINKS  
COUNTER BORES  
TECHNICAL DATA

HSS  
i-ONE DRILLS  
i-DREAM DRILLS  
DREAM DRILLS -PRO  
DREAM DRILLS -GENERAL  
DREAM DRILLS -HIGH FEED  
DREAM DRILLS -FLAT BOTTOM  
DREAM DRILLS -INOX  
DREAM DRILLS -ALU  
DREAM DRILLS -MQL  
DREAM DRILLS for HIGH HARDENED STEELS  
GENERAL CARBIDE DRILLS  
MULTI-1 DRILLS  
HPD DRILLS  
GOLD-P DRILLS  
SUPER-GP DRILLS  
STRAIGHT SHANK DRILLS  
TAPER SHANK DRILLS  
NC-SPOTTING DRILLS  
CENTER DRILLS  
SPADE DRILLS  
REAMERS  
COUNTER SINKS  
COUNTER BORES  
TECHNICAL DATA

# YG SPADE DRILLS

## SERIES 1, 2

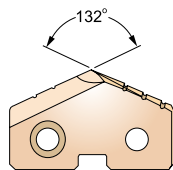
### SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- ⊕ Plaquettes SPADE DRILL - HSS M4
- ⊔ CUSPIDI SPADE DRILL - HSS M4



- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A375

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246			
	ER COLLET CHUCK			D73 - 115

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. HSS M4		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
	<b>1</b> Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86		.7031	S1405045	S1410045
18.00			.7087	S1455180	S1460180	S1465180	
23/32		18.26	.7188	S1405046	S1410046	S1415046	
		18.50	.7283	S1455185	S1460185	S1465185	
47/64		18.65	.7344	S1405047	S1410047	S1415047	
		19.00	.7480	S1455190	S1460190	S1465190	
3/4		19.05	.7500	S1405048	S1410048	S1415048	
		19.45	.7656	S1405049	S1410049	S1415049	
49/64		19.50	.7677	S1455195	S1460195	S1465195	
		19.84	.7813	S1405050	S1410050	S1415050	
51/64		20.00	.7874	S1455200	S1460200	S1465200	
		20.24	.7969	S1405051	S1410051	S1415051	
Ø24.38 (.960)		13/16	20.50	.8071	S1455205	S1460205	S1465205
			20.64	.8125	S1405052	S1410052	S1415052
27/32		21.00	.8268	S1455210	S1460210	S1465210	
		21.43	.8438	S1405054	S1410054	S1415054	
55/64		21.83	.8594	S1405055	S1410055	S1415055	
		22.00	.8661	S1455220	S1460220	S1465220	
7/8		22.23	.8750	S1405056	S1410056	S1415056	
		22.62	.8906	S1405057	S1410057	S1415057	
29/32	23.00	.9055	S1455230	S1460230	S1465230		
	23.02	.9063	S1405058	S1410058	S1415058		
59/64	23.42	.9219	S1405059	S1410059	S1415059		
	23.81	.9375	S1405060	S1410060	S1415060		
15/16	24.00	.9449	S1455240	S1460240	S1465240		
	24.61	.9688	S1405062	S1410062	S1415062		
63/64	25.00	.9843	S1455250	S1460250	S1465250		
	25.40	1.0000	S1405100	S1410100	S1415100		
1	1-1/64	25.80	1.0156	S1405101	S1410101	S1415101	
		26.00	1.0236	S1455260	S1460260	S1465260	
Ø24.41 (.961) to Ø35.05 (1.380)	1-1/32	26.19	1.0313	S1405102	S1410102	S1415102	
		26.59	1.0469	S1405103	S1410103	S1415103	
1-3/64	26.99	1.0625	S1405104	S1410104	S1415104		
	27.00	1.0630	S1455270	S1460270	S1465270		

⊗ : Excellent ○ : Good

ISO	P								M			K								
Material Description	Non-alloy steel				Low alloy steel				High alloyed steel, and tool steel			Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

ISO	N				S						H											
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	⊙	⊙					⊙															

# YG SPADE DRILLS

## SERIES 2, 3

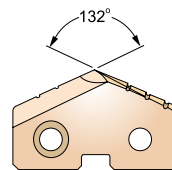
### SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- ⊕ Plaquettes FORETS A LAME - HSS M4
- ⊔ CUSPIDI SPADE DRILL - HSS M4



- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A375

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246			
	ER COLLET CHUCK			D73 - 115

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. HSS M4		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
	<b>2</b> Ø24.41 (.961) to Ø35.05 (1.380)	1-3/32	27.78		1.0938	S1405106	S1410106
28.00			1.1024	S1455280	S1460280	S1465280	
1-7/64		28.18	1.1094	S1405107	S1410107	S1415107	
		28.58	1.1250	S1405108	S1410108	S1415108	
1-1/8		29.00	1.1417	S1455290	S1460290	S1465290	
		29.37	1.1563	S1405110	S1410110	S1415110	
1-5/32		30.00	1.1811	S1455300	S1460300	S1465300	
		30.16	1.1875	S1405112	S1410112	S1415112	
1-3/16		30.96	1.2188	S1405114	S1410114	S1415114	
		31.00	1.2205	S1455310	S1460310	S1465310	
1-7/32		31.75	1.2500	S1405116	S1410116	S1415116	
		32.00	1.2598	S1455320	S1460320	S1465320	
1-1/4		32.54	1.2813	S1405118	S1410118	S1415118	
		33.00	1.2992	S1455330	S1460330	S1465330	
1-5/16		33.34	1.3125	S1405120	S1410120	S1415120	
		34.00	1.3386	S1455340	S1460340	S1465340	
1-11/32		34.13	1.3438	S1405122	S1410122	S1415122	
		34.93	1.3750	S1405124	S1410124	S1415124	
1-3/8		35.00	1.3780	S1455350	S1460350	S1465350	
		35.72	1.4063	S1405126	S1410126	S1415126	
1-13/32	36.00	1.4173	S1455360	S1460360	S1465360		
	36.51	1.4375	S1405128	S1410128	S1415128		
1-7/16	37.00	1.4567	S1455370	S1460370	S1465370		
	37.31	1.4688	S1405130	S1410130	S1415130		
1-15/32	38.00	1.4961	S1455380	S1460380	S1465380		
	38.10	1.5000	S1405132	S1410132	S1415132		
1-1/2	38.89	1.5313	S1455390	S1460390	S1465390		
	39.00	1.5354	S1405134	S1410134	S1415134		
1-17/32	39.69	1.5625	S1455390	S1460390	S1465390		
	40.00	1.5748	S1405136	S1410136	S1415136		
1-9/16	40.48	1.5938	S1455400	S1460400	S1465400		
	41.00	1.6142	S1405138	S1410138	S1415138		
1-19/32	41.28	1.6250	S1455410	S1460410	S1465410		
	42.00	1.6535	S1405140	S1410140	S1415140		
1-5/8	42.00	1.6535	S1455420	S1460420	S1465420		

4.8 (3/16)

6.4 (1/4)

Ø34.37 (1.353) to Ø47.80 (1.882)

⊗ : Excellent ○ : Good

ISO	P								M			K								
Material Description	Non-alloy steel				Low alloy steel				High alloyed steel, and tool steel			Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

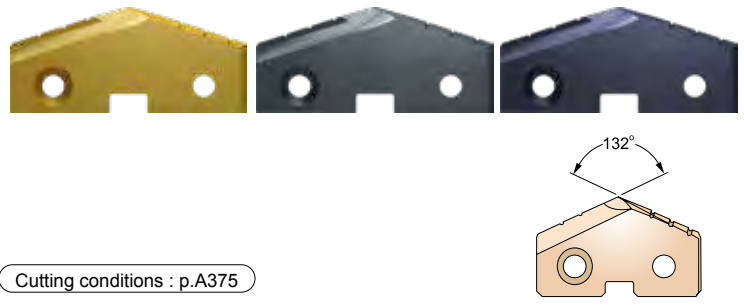
ISO	N				S						H											
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials			Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	400Rm	1050Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	⊙	⊙					⊙															

# SPADE DRILLS

SERIES 3, 4

## SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- Plaquettes FORETS A LAME - HSS M4
- CUSPIDI SPADE DRILL - HSS M4



- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

Für allgemeine Anwendung in Stahl und Gusseisen  
 ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine  
 ▶ Jede Abmessung außerhalb des Kataloges lieferbar

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-

Cutting conditions : p.A375

Series	Min. to Max. mm (inch)	Diameter		Thick	EDP No.			
		Inch (inch)	Metric (mm)		Inch (inch)	HSS M4		
					TiN	TiCN	TiAlN	
<b>3</b>	Ø34.37 (1.353) to Ø47.80 (1.882)	1-21/32	42.07	1.6563	6.4 (1/4)	S1405142	S1410142	S1415142
						S1405144	S1410144	S1415144
						S1455430	S1460430	S1465430
		1-23/32	43.66	1.7188		S1405146	S1410146	S1415146
						S1455440	S1460440	S1465440
						S1405148	S1410148	S1415148
		1-3/4	44.45	1.7500		S1455450	S1460450	S1465450
						S1405150	S1410150	S1415150
						S1455460	S1460460	S1465460
		1-13/16	46.04	1.8125		S1405152	S1410152	S1415152
						S1405154	S1410154	S1415154
						S1455470	S1460470	S1465470
1-27/32	46.83	1.8438	S1405156	S1410156	S1415156			
			S1455480	S1460480	S1465480			
			S1405158	S1410158	S1415158			
1-7/8	47.63	1.8750	S1455490	S1460490	S1465490			
			S1405160	S1410160	S1415160			
			S1455500	S1460500	S1465500			
<b>4</b>	Ø46.99 (1.850) to Ø65.28 (2.570)	1-15/16	49.21	1.9375	7.9 (5/16)	S1405162	S1410162	S1415162
						S1405200	S1410200	S1415200
						S1455510	S1460510	S1465510
		2-1/32	51.59	2.0313		S1405202	S1410202	S1415202
						S1455520	S1460520	S1465520
						S1405204	S1410204	S1415204
		2-3/64	52.00	2.0472		S1455530	S1460530	S1465530
						S1405206	S1410206	S1415206
						S1405208	S1410208	S1415208
		2-1/16	52.39	2.0625		S1455540	S1460540	S1465540
						S1405210	S1410210	S1415210
						S1455550	S1460550	S1465550
2-3/32	53.00	2.0866	S1405212	S1410212	S1415212			
			S1455560	S1460560	S1465560			
			S1405214	S1410214	S1415214			
2-3/32	53.18	2.0938	S1455570	S1460570	S1465570			
			S1405216	S1410216	S1415216			
			S1455580	S1460580	S1465580			
2-1/8	53.98	2.1250	S1405218	S1410218	S1415218			
			S1455590	S1460590	S1465590			
			S1405220	S1410220	S1415220			
2-5/32	54.77	2.1563	S1405222	S1410222	S1415222			
			S1455600	S1460600	S1465600			
			S1405224	S1410224	S1415224			
2-5/32	54.00	2.1260	S1455610	S1460610	S1465610			
			S1405226	S1410226	S1415226			
			S1455620	S1460620	S1465620			
2-3/16	55.00	2.1654	S1405228	S1410228	S1415228			
			S1455630	S1460630	S1465630			
			S1405230	S1410230	S1415230			
2-3/16	55.56	2.1875	S1455640	S1460640	S1465640			
			S1405232	S1410232	S1415232			
			S1455650	S1460650	S1465650			
2-3/16	56.00	2.2047	S1405234	S1410234	S1415234			
			S1455660	S1460660	S1465660			
			S1405236	S1410236	S1415236			
2-7/32	56.36	2.2188	S1405238	S1410238	S1415238			
			S1455670	S1460670	S1465670			
			S1405240	S1410240	S1415240			
2-7/32	57.00	2.2441	S1405242	S1410242	S1415242			
			S1455680	S1460680	S1465680			
			S1405244	S1410244	S1415244			
2-7/32	57.00	2.2441	S1405246	S1410246	S1415246			
			S1455690	S1460690	S1465690			
			S1405248	S1410248	S1415248			

◎: Excellent ○: Good

ISO	P										M				K							
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20		
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21		
HB	125	190	250	270	300	180	275	300	350	200	240	180	260	160	250	130	230	230				
Recommended	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎		

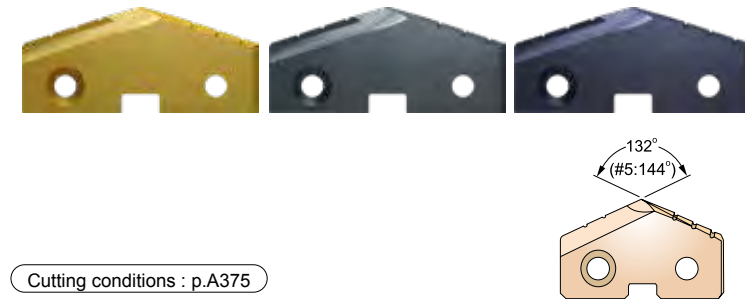
ISO	N						S										H				
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	55	60	42	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎					◎														

# SPADE DRILLS

SERIES 4, 5

## SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- Plaquettes FORETS A LAME - HSS M4
- CUSPIDI SPADE DRILL - HSS M4



- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

Für allgemeine Anwendung in Stahl und Gusseisen  
 ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine  
 ▶ Jede Abmessung außerhalb des Kataloges lieferbar

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-

Cutting conditions : p.A375

Series	Min. to Max. mm (inch)	Diameter		Thick	EDP No.			
		Inch (inch)	Metric (mm)		Inch (inch)	HSS M4		
					TiN	TiCN	TiAlN	
<b>4</b>	Ø46.99 (1.850) to Ø65.28 (2.570)	2-1/4	57.15	2.2500	7.9 (5/16)	S1405216	S1410216	S1415216
						S1405218	S1410218	S1415218
						S1455580	S1460580	S1465580
		2-9/32	57.94	2.2813		S1405220	S1410220	S1415220
						S1455590	S1460590	S1465590
						S1405222	S1410222	S1415222
		2-5/16	58.00	2.2835		S1405224	S1410224	S1415224
						S1455600	S1460600	S1465600
						S1405226	S1410226	S1415226
		2-11/32	58.74	2.3125		S1405228	S1410228	S1415228
						S1455610	S1460610	S1465610
						S1405230	S1410230	S1415230
		2-1/2	59.00	2.3228		S1405232	S1410232	S1415232
						S1455620	S1460620	S1465620
						S1405234	S1410234	S1415234
		2-3/8	59.53	2.3438		S1405236	S1410236	S1415236
						S1455630	S1460630	S1465630
						S1405238	S1410238	S1415238
		2-13/32	60.00	2.3622		S1405240	S1410240	S1415240
						S1455640	S1460640	S1465640
						S1405242	S1410242	S1415242
		2-7/16	60.33	2.3750		S1405244	S1410244	S1415244
						S1455650	S1460650	S1465650
						S1405246	S1410246	S1415246
2-15/32	61.00	2.4016	S1405248	S1410248	S1415248			
			S1455660	S1460660	S1465660			
			S1405250	S1410250	S1415250			
2-1/2	61.12	2.4063	S1405252	S1410252	S1415252			
			S1455670	S1460670	S1465670			
			S1405254	S1410254	S1415254			
2-7/16	61.91	2.4375	S1405256	S1410256	S1415256			
			S1455680	S1460680	S1465680			
			S1405258	S1410258	S1415258			
2-15/32	62.00	2.4409	S1405260	S1410260	S1415260			
			S1455690	S1460690	S1465690			
			S1405262	S1410262	S1415262			
2-1/2	62.71	2.4688	S1405264	S1410264	S1415264			
			S1455700	S1460700	S1465700			
			S1405266	S1410266	S1415266			
2-17/32	63.00	2.4803	S1405268	S1410268	S1415268			
			S1455710	S1460710	S1465710			
			S1405270	S1410270	S1415270			
2-1/2	63.50	2.5000	S1405272	S1410272	S1415272			
			S1455720	S1460720	S1465720			
			S1405274	S1410274	S1415274			
2-17/32	64.00	2.5197	S1405276	S1410276	S1415276			
			S1455730	S1460730	S1465730			
			S1405278	S1410278	S1415278			
2-9/16	64.29	2.5313	S1405280	S1410280	S1415280			
			S1455740	S1460740	S1465740			
			S1405282	S1410282	S1415282			
2-1/2	65.00	2.5591	S1405284	S1410284	S1415284			
			S1455750	S1460750	S1465750			
			S1405286	S1410286	S1415286			
2-9/16	65.09	2.5625	S1405288	S1410288	S1415288			
			S1455760	S1460760	S1465760			
			S1405290	S1410290	S1415290			
2-1/2	65.50	2.5625	S1405292	S1410292	S1415292			
			S1455770	S1460770	S1465770			
			S1405294	S1410294	S1415294			
2-17/32	65.09	2.5625	S1405296	S1410296	S1415296			
			S1455780	S1460780	S1465780			
			S1405298	S1410298	S1415298			
2-9/16	65.88	2.5938	S1405300	S1410300	S1415300			
			S1455790	S1460790	S1465790			
			S1405302	S1410302	S1415302			
2-19/32	66.00	2.5984	S1405304	S1410304	S1415304			
			S1455800	S1460800	S1465800			
			S1405306	S1410306	S1415306			
2-5/8	66.68	2.6250	S1405308	S1410308	S1415308			
			S1455810	S1460810	S1465810			
			S1405310	S1410310	S1415310			
2-21/32	67.47	2.6563	S1405312	S1410312	S1415312			
			S1455820	S1460820	S1465820			
			S1405314	S1410314	S1415314			
2-11/16	68.00	2.6772	S1405316	S1410316	S1415316			
			S1455830	S1460830	S1465830			
			S1405318	S1410318	S1415318			



# YG SPADE DRILLS

SERIES 5, 6, 7

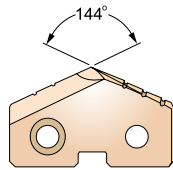
## SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- Plaquettes FORETS A LAME - HSS M4
- CUSPIDI SPADE DRILL - HSS M4



- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A375

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK	-	D73 - 115	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. HSS M4			
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN	
<b>5</b> Ø62.38 (2.456) to Ø76.20 (3.000)	2-27/32	72.00	2.8346	11.1 (7/16)	S1455720	S1460720	S1465720	
	2-7/8	72.23	2.8438		S1405254	S1410254	S1415254	
	2-29/32	73.03	2.8750		S1405256	S1410256	S1415256	
	2-15/16	73.82	2.9063		S1405258	S1410258	S1415258	
	2-31/32	74.00	2.9134		S1455740	S1460740	S1465740	
		74.61	2.9375		S1405260	S1410260	S1415260	
		75.41	2.9688		S1405262	S1410262	S1415262	
		76.00	2.9921		S1455760	S1460760	S1465760	
		76.20	3.0000		S1405300	S1410300	S1415300	
		3-1/32	76.99		3.0313	S1405302	S1410302	S1415302
		3-1/16	77.79		3.0625	S1405304	S1410304	S1415304
		3-3/32	78.00		3.0709	S1455780	S1460780	S1465780
<b>6</b> Ø76.23 (3.001) to Ø89.08 (3.507)	3-3/32	78.58	3.0938	11.1 (7/16)	S1405306	S1410306	S1415306	
	3-1/8	79.38	3.1250		S1405308	S1410308	S1415308	
		80.00	3.1496		S1455800	S1460800	S1465800	
		80.17	3.1563		S1405310	S1410310	S1415310	
		80.96	3.1875		S1405312	S1410312	S1415312	
		81.76	3.2188		S1405314	S1410314	S1415314	
		82.00	3.2283		S1455820	S1460820	S1465820	
		82.55	3.2500		S1405316	S1410316	S1415316	
		83.34	3.2813		S1405318	S1410318	S1415318	
		84.00	3.3071		S1455840	S1460840	S1465840	
		84.14	3.3125		S1405320	S1410320	S1415320	
		84.93	3.3438		S1405322	S1410322	S1415322	
<b>7</b>	3-3/8	85.73	3.3750	11.1 (7/16)	S1405324	S1410324	S1415324	
		86.00	3.3858		S1455860	S1460860	S1465860	
		86.52	3.4063		S1405326	S1410326	S1415326	
		87.31	3.4375		S1405328	S1410328	S1415328	
		88.00	3.4646		S1455880	S1460880	S1465880	
		88.11	3.4688		S1405330	S1410330	S1415330	
		88.90	3.5000		S1405332	S1410332	S1415332	
		89.69	3.5313		S1405334	S1410334	S1415334	
		90.00	3.5433		S1455900	S1460900	S1465900	
		90.49	3.5625		S1405336	S1410336	S1415336	

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	240	180	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	○	◎	○	◎	○

ISO Material Description	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎															

# YG SPADE DRILLS

SERIES 7, 8

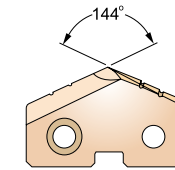
## SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- Plaquettes FORETS A LAME - HSS M4
- CUSPIDI SPADE DRILL - HSS M4



- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A375

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK	-	D73 - 115	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. HSS M4		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
<b>7</b> Ø87.76 (3.455) to Ø101.60 (4.000)	3-19/32	91.28	3.5938	11.1 (7/16)	S1405338	S1410338	S1415338
		92.00	3.6221		S1455920	S1460920	S1465920
	3-5/8	92.08	3.6250		S1405340	S1410340	S1415340
	3-21/32	92.87	3.6563		S1405342	S1410342	S1415342
	3-11/16	93.66	3.6875		S1405344	S1410344	S1415344
		94.00	3.7008		S1455940	S1460940	S1465940
		94.46	3.7188		S1405346	S1410346	S1415346
		95.25	3.7500		S1405348	S1410348	S1415348
		96.00	3.7795		S1455960	S1460960	S1465960
		96.04	3.7813		S1405350	S1410350	S1415350
		96.84	3.8125		S1405352	S1410352	S1415352
		97.63	3.8438		S1405354	S1410354	S1415354
<b>8</b> Ø101.63 (4.001) to Ø114.48 (4.507)	3-3/4	98.00	3.8583	11.1 (7/16)	S1455980	S1460980	S1465980
	3-7/8	98.43	3.8750		S1405356	S1410356	S1415356
		99.22	3.9063		S1405358	S1410358	S1415358
		100.00	3.9370		S1455A00	S1460A00	S1465A00
		100.01	3.9375		S1405360	S1410360	S1415360
		100.81	3.9688		S1405362	S1410362	S1415362
		101.60	4.0000		S1405400	S1410400	S1415400
		102.00	4.0157		S1455A20	S1460A20	S1465A20
		103.19	4.0625		S1405404	S1410404	S1415404
		104.00	4.0945		S1455A40	S1460A40	S1465A40
		104.78	4.1250		S1405408	S1410408	S1415408
		106.00	4.1732		S1455A60	S1460A60	S1465A60
	106.36	4.1875	S1405412	S1410412	S1415412		
	107.95	4.2500	S1405416	S1410416	S1415416		
	108.00	4.2520	S1455A80	S1460A80	S1465A80		
	109.54	4.3125	S1405420	S1410420	S1415420		
	110.00	4.3307	S1455B00	S1460B00	S1465B00		
	111.13	4.3750	S1405424	S1410424	S1415424		
	112.00	4.4094	S1455B20	S1460B20	S1465B20		
	112.71	4.4375	S1405428	S1410428	S1415428		
	114.00	4.4882	S1455B40	S1460B40	S1465B40		
	114.30	4.5000	S1405432	S1410432	S1415432		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	240	180	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	○	◎	○	◎	○

ISO Material Description	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎				◎															

## SPADE DRILL INSERTS - HSS M4

- EINWEG BOHREINSATZ - HSS M4
- Plaquettes FORETS A LAME - HSS M4
- CUSPIDI SPADE DRILL - HSS M4



- ▶ For general use in steels and cast irons.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Stahl und Gusseisen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK	-	D73 - 115	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. HSS M4		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
<b>7</b> Ø87.76 (3.455) to Ø101.60 (4.000)	3-19/32	91.28	3.5938	11.1 (7/16)	S1405338	S1410338	S1415338
		92.00	3.6221		S1455920	S1460920	S1465920
	3-5/8	92.08	3.6250		S1405340	S1410340	S1415340
	3-21/32	92.87	3.6563		S1405342	S1410342	S1415342
	3-11/16	93.66	3.6875		S1405344	S1410344	S1415344

# YG SPADE DRILLS

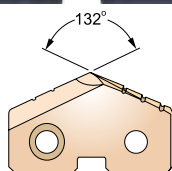
SERIES Y, Z, 0

## SPADE DRILL INSERTS - SUPER HSS T15

- EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL - Super HSS T15
- CUSPIDI SPADE DRILL - SUPER HSS T15



- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.
- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A376

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
<b>Y</b> Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	S1155095	S1160095	S1165095	
		9.53	.3750	S1105024	S1110024	S1115024	
	25/64	9.80	.3860	S1155098	S1160098	S1165098	
		9.92	.3906	S1105025	S1110025	S1115025	
		10.00	.3937	S1155100	S1160100	S1165100	
		10.20	.4016	S1155102	S1160102	S1165102	
		10.32	.4063	S1105026	S1110026	S1115026	
		10.50	.4134	S1155105	S1160105	S1165105	
	27/64	10.72	.4219	S1105027	S1110027	S1115027	
		10.80	.4252	S1155108	S1160108	S1165108	
<b>Z</b> Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	S1105028	S1110028	S1115028	
		11.50	.4528	S1155115	S1160115	S1165115	
	29/64	11.51	.4531	S1105029	S1110029	S1115029	
		11.91	.4688	S1105030	S1110030	S1115030	
	31/64	12.00	.4724	S1155120	S1160120	S1165120	
		12.30	.4844	S1105031	S1110031	S1115031	
	1/2	12.50	.4921	S1155125	S1160125	S1165125	
		12.70	.5000	S1105032	S1110032	S1115032	
	33/64	13.00	.5118	S1155130	S1160130	S1165130	
		13.10	.5156	S1105033	S1110033	S1115033	
13.49		.5313	S1105034	S1110034	S1115034		
13.50		.5315	S1155135	S1160135	S1165135		
13.89		.5469	S1105035	S1110035	S1115035		
14.00		.5512	S1155140	S1160140	S1165140		
9/16		14.29	.5625	S1105036	S1110036	S1115036	
14.50		.5709	S1155145	S1160145	S1165145		
37/64	14.68	.5781	S1105037	S1110037	S1115037		
	15.00	.5906	S1155150	S1160150	S1165150		
	15.08	.5938	S1105038	S1110038	S1115038		
	15.48	.6094	S1105039	S1110039	S1115039		
19/32	15.50	.6102	S1155155	S1160155	S1165155		
	15.88	.6250	S1105040	S1110040	S1115040		
	16.00	.6299	S1155160	S1160160	S1165160		

◎: Excellent ○: Good

ISO	P										M				K										
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	3	25	130	230	160	250	130	210	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A308 phone:+82-32-526-0909, www.yg1.kr, E-mail:yg1@yg1.kr

YG-1 CO., LTD.

# YG SPADE DRILLS

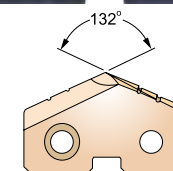
SERIES 0, 1

## SPADE DRILL INSERTS - SUPER HSS T15

- EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL - Super HSS T15
- CUSPIDI SPADE DRILL - SUPER HSS T15



- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.
- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A376

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
<b>0</b> Ø12.98 (.511) to Ø17.65 (.695)	41/64	16.27	.6406	S1105041	S1110041	S1115041	
		16.50	.6496	S1155165	S1160165	S1165165	
	21/32	16.67	.6563	S1105042	S1110042	S1115042	
		17.00	.6693	S1155170	S1160170	S1165170	
		17.07	.6719	S1105043	S1110043	S1115043	
		17.46	.6875	S1105044	S1110044	S1115044	
	11/16	17.50	.6890	S1155175	S1160175	S1165175	
		17.86	.7031	S1105045	S1110045	S1115045	
	<b>1</b> Ø17.53 (.690) to Ø24.38 (.960)	45/64	18.00	.7087	S1155180	S1160180	S1165180
			18.26	.7188	S1105046	S1110046	S1115046
23/32		18.50	.7283	S1155185	S1160185	S1165185	
		18.65	.7344	S1105047	S1110047	S1115047	
47/64		19.00	.7480	S1155190	S1160190	S1165190	
		19.05	.7500	S1105048	S1110048	S1115048	
3/4		19.45	.7656	S1105049	S1110049	S1115049	
		19.50	.7677	S1155195	S1160195	S1165195	
25/32		19.84	.7813	S1105050	S1110050	S1115050	
		20.00	.7874	S1155200	S1160200	S1165200	
51/64	20.24	.7969	S1105051	S1110051	S1115051		
	20.50	.8071	S1155205	S1160205	S1165205		
13/16	20.64	.8125	S1105052	S1110052	S1115052		
	21.00	.8268	S1155210	S1160210	S1165210		
27/32	21.43	.8438	S1105054	S1110054	S1115054		
	21.83	.8594	S1105055	S1110055	S1115055		
55/64	22.00	.8661	S1155220	S1160220	S1165220		
	22.23	.8750	S1105056	S1110056	S1115056		
7/8	22.62	.8906	S1105057	S1110057	S1115057		
	23.00	.9055	S1155230	S1160230	S1165230		
57/64	23.02	.9063	S1105058	S1110058	S1115058		
	23.42	.9219	S1105059	S1110059	S1115059		
29/32	23.81	.9375	S1105060	S1110060	S1115060		
	24.00	.9449	S1155240	S1160240	S1165240		

◎: Excellent ○: Good

ISO	P										M				K										
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	3	25	130	230	160	250	130	210	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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A309

# YG SPADE DRILLS

SERIES 2, 3

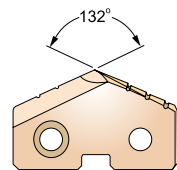
## SPADE DRILL INSERTS - SUPER HSS T15

- EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL - Super HSS T15
- CUSPIDI SPADE DRILL - SUPER HSS T15



- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A376

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS T15		
					TiN	TiCN	TiAlN
<b>2</b> Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S1105062	S1110062	S1115062
	63/64	25.00	.9843		S1155250	S1160250	S1165250
	1	25.40	1.0000		S1105100	S1110100	S1115100
	1-1/64	25.80	1.0156		S1105101	S1110101	S1115101
		26.00	1.0236		S1155260	S1160260	S1165260
	1-1/32	26.19	1.0313		S1105102	S1110102	S1115102
	1-3/64	26.59	1.0469		S1105103	S1110103	S1115103
	1-1/16	26.99	1.0625		S1105104	S1110104	S1115104
		27.00	1.0630		S1155270	S1160270	S1165270
	1-3/32	27.78	1.0938		S1105106	S1110106	S1115106
		28.00	1.1024		S1155280	S1160280	S1165280
	1-7/64	28.18	1.1094		S1105107	S1110107	S1115107
	1-1/8	28.58	1.1250		S1105108	S1110108	S1115108
		29.00	1.1417		S1155290	S1160290	S1165290
	1-5/32	29.37	1.1563		S1105110	S1110110	S1115110
		30.00	1.1811		S1155300	S1160300	S1165300
	1-3/16	30.16	1.1875		S1105112	S1110112	S1115112
	1-7/32	30.96	1.2188		S1105114	S1110114	S1115114
	31.00	1.2205	S1155310	S1160310	S1165310		
1-1/4	31.75	1.2500	S1105116	S1110116	S1115116		
	32.00	1.2598	S1155320	S1160320	S1165320		
1-9/32	32.54	1.2813	S1105118	S1110118	S1115118		
1-5/16	33.00	1.2992	S1155330	S1160330	S1165330		
	33.34	1.3125	S1105120	S1110120	S1115120		
	34.00	1.3386	S1155340	S1160340	S1165340		
1-11/32	34.13	1.3438	S1105122	S1110122	S1115122		
1-3/8	34.93	1.3750	S1105124	S1110124	S1115124		
	35.00	1.3780	S1155350	S1160350	S1165350		
1-13/32	35.72	1.4063	S1105126	S1110126	S1115126		
	36.00	1.4173	S1155360	S1160360	S1165360		
1-7/16	36.51	1.4375	S1105128	S1110128	S1115128		
	37.00	1.4567	S1155370	S1160370	S1165370		
1-15/32	37.31	1.4688	S1105130	S1110130	S1115130		
Ø47.80(1.882)	38.00	1.4961	S1155380	S1160380	S1165380		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K																										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron				Nodular cast iron				Malleable cast iron														
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325
HB	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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# YG SPADE DRILLS

SERIES 3, 4

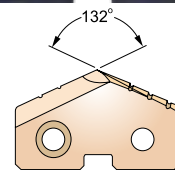
## SPADE DRILL INSERTS - SUPER HSS T15

- EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL - Super HSS T15
- CUSPIDI SPADE DRILL - SUPER HSS T15



- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A376

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS T15		
					TiN	TiCN	TiAlN
<b>3</b> Ø34.37 (1.353) to Ø47.80 (1.882)	1-1/2	38.10	1.5000	6.4 (1/4)	S1105132	S1110132	S1115132
	1-17/32	38.89	1.5313		S1105134	S1110134	S1115134
		39.00	1.5354		S1155390	S1160390	S1165390
	1-9/16	39.69	1.5625		S1105136	S1110136	S1115136
		40.00	1.5748		S1155400	S1160400	S1165400
	1-19/32	40.48	1.5938		S1105138	S1110138	S1115138
		41.00	1.6142		S1155410	S1160410	S1165410
	1-5/8	41.28	1.6250		S1105140	S1110140	S1115140
		42.00	1.6535		S1155420	S1160420	S1165420
	1-21/32	42.07	1.6563		S1105142	S1110142	S1115142
	1-11/16	42.86	1.6875		S1105144	S1110144	S1115144
		43.00	1.6929		S1155430	S1160430	S1165430
	1-23/32	43.66	1.7188		S1105146	S1110146	S1115146
		44.00	1.7323		S1155440	S1160440	S1165440
	1-3/4	44.45	1.7500		S1105148	S1110148	S1115148
		45.00	1.7717		S1155450	S1160450	S1165450
	1-25/32	45.24	1.7813		S1105150	S1110150	S1115150
		46.00	1.8110		S1155460	S1160460	S1165460
1-13/16	46.04	1.8125	S1105152	S1110152	S1115152		
1-27/32	46.83	1.8438	S1105154	S1110154	S1115154		
	47.00	1.8504	S1155470	S1160470	S1165470		
1-7/8	47.63	1.8750	S1105156	S1110156	S1115156		
	48.00	1.8898	S1155480	S1160480	S1165480		
1-29/32	48.42	1.9063	S1105158	S1110158	S1115158		
	49.00	1.9291	S1155490	S1160490	S1165490		
1-15/16	49.21	1.9375	S1105160	S1110160	S1115160		
	50.00	1.9685	S1155500	S1160500	S1165500		
1-31/32	50.01	1.9688	S1105162	S1110162	S1115162		
2	50.80	2.0000	S1105200	S1110200	S1115200		
	51.00	2.0079	S1155510	S1160510	S1165510		
2-1/32	51.59	2.0313	S1105202	S1110202	S1115202		
2-3/64	52.00	2.0472	S1155520	S1160520	S1165520		
2-1/16	52.39	2.0625	S1105204	S1110204	S1115204		
	53.00	2.0866	S1155530	S1160530	S1165530		

**4**

Ø46.99 (1.850) to Ø65.28 (2.570)

◎ : Excellent ○ : Good

ISO Material Description	P										M				K																										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron				Nodular cast iron				Malleable cast iron														
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325
HB	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	325
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

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A311



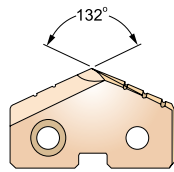
## SPADE DRILL INSERTS - SUPER HSS T15

- EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL - Super HSS T15
- CUSPIDI SPADE DRILL - SUPER HSS T15



- ▶ For use in high nickel alloys and materials over 280 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A376

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	-	-	D73 - 115

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
	<b>4</b> Ø46.99 (1.850) to Ø65.28 (2.570)	2-3/32	53.18		2.0938	S1105206	S1110206
2-1/8		53.98	2.1250	S1105208	S1110208	S1115208	
2-5/32		54.00	2.1260	S1155540	S1160540	S1165540	
		54.77	2.1563	S1105210	S1110210	S1115210	
2-3/16		55.00	2.1654	S1155550	S1160550	S1165550	
		55.56	2.1875	S1105212	S1110212	S1115212	
2-7/32		56.00	2.2047	S1155560	S1160560	S1165560	
		56.36	2.2188	S1105214	S1110214	S1115214	
2-1/4		57.00	2.2441	S1155570	S1160570	S1165570	
		57.15	2.2500	S1105216	S1110216	S1115216	
2-9/32		57.94	2.2813	S1105218	S1110218	S1115218	
		58.00	2.2835	S1155580	S1160580	S1165580	
2-5/16		58.74	2.3125	S1105220	S1110220	S1115220	
		59.00	2.3228	S1155590	S1160590	S1165590	
2-11/32		59.53	2.3438	S1105222	S1110222	S1115222	
		60.00	2.3622	S1155600	S1160600	S1165600	
2-3/8		60.33	2.3750	S1105224	S1110224	S1115224	
		61.00	2.4016	S1155610	S1160610	S1165610	
2-13/32		61.12	2.4063	S1105226	S1110226	S1115226	
		61.91	2.4375	S1105228	S1110228	S1115228	
2-7/16		62.00	2.4409	S1155620	S1160620	S1165620	
		62.71	2.4688	S1105230	S1110230	S1115230	
2-1/2		63.00	2.4803	S1155630	S1160630	S1165630	
		63.50	2.5000	S1105232	S1110232	S1115232	
2-17/32	64.00	2.5197	S1155640	S1160640	S1165640		
	64.29	2.5313	S1105234	S1110234	S1115234		
2-9/16	65.00	2.5591	S1155650	S1160650	S1165650		
	65.09	2.5625	S1105236	S1110236	S1115236		

◎ : Excellent ○ : Good

ISO Material Description	P									M				K						
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	◎	◎	◎	○	◎

ISO Material Description	N					S					H											
	Aluminum- wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○				◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○

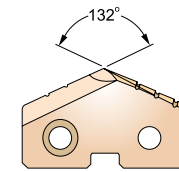
## SPADE DRILL INSERTS - PREMIUM HSS M48

- EINWEG BOHREINSATZ - PREMIUM HSS M48
- Plaquettes SPADE DRILL - HSS Premium M48
- CUSPIDI SPADE DRILL - PREMIUM HSS M48



- ▶ For use in high temperature alloys and materials with 350-500 Brinell.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Zur Anwendung bei hitzebeständigen Legierungen und Werkstoffen mit 350-500 Brinell
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A377

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	-	-	D73 - 115

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. PREMIUM HSS M48		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
	<b>Y</b> Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50		.3740	S1555095	S1560095
9.53			.3750	S1505024	S1510024	S1515024	
25/64		9.80	.3860	S1555098	S1560098	S1565098	
		9.92	.3906	S1505025	S1510025	S1515025	
13/32		10.00	.3937	S1555100	S1560100	S1565100	
		10.20	.4016	S1555102	S1560102	S1565102	
27/64		10.32	.4063	S1505026	S1510026	S1515026	
		10.50	.4134	S1555105	S1560105	S1565105	
7/16		10.80	.4252	S1555108	S1560108	S1565108	
		11.00	.4331	S1555110	S1560110	S1565110	
<b>Z</b> Ø11.11(.437) to Ø12.95(.510)		29/64	11.11	.4375	S1505028	S1510028	S1515028
			11.50	.4528	S1555115	S1560115	S1565115
	15/32	11.51	.4531	S1505029	S1510029	S1515029	
		11.91	.4688	S1505030	S1510030	S1515030	
	31/64	12.00	.4724	S1555120	S1560120	S1565120	
		12.30	.4844	S1505031	S1510031	S1515031	
	1/2	12.50	.4921	S1555125	S1560125	S1565125	
		13.00	.5118	S1505032	S1510032	S1515032	
	33/64	13.00	.5118	S1555130	S1560130	S1565130	
		13.10	.5156	S1505033	S1510033	S1515033	
	17/32	13.49	.5313	S1505034	S1510034	S1515034	
		13.50	.5315	S1555135	S1560135	S1565135	
35/64	13.89	.5469	S1505035	S1510035	S1515035		
	14.00	.5512	S1555140	S1560140	S1565140		
9/16	14.29	.5625	S1505036	S1510036	S1515036		
	14.50	.5709	S1555145	S1560145	S1565145		
37/64	14.68	.5781	S1505037	S1510037	S1515037		
	15.00	.5906	S1555150	S1560150	S1565150		
19/32	15.08	.5938	S1505038	S1510038	S1515038		
	15.48	.6094	S1505039	S1510039	S1515039		
5/8	15.50	.6102	S1555155	S1560155	S1565155		
	15.88	.6250	S1505040	S1510040	S1515040		
39/64	16.00	.6299	S1555160	S1560160	S1565160		

◎ : Excellent ○ : Good

ISO Material Description	P									M				K						
	Non-alloy steel			Low alloy steel			High alloyed steel, and tool steel			Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○	○	◎	◎	◎	○	◎

ISO Material Description	N					S					H											
	Aluminum- wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○				◎	○	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○

# YG SPADE DRILLS

SERIES 0, 1

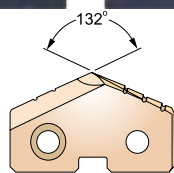
## SPADE DRILL INSERTS - PREMIUM HSS M48

- EINWEG BOHREINSATZ - PREMIUM HSS M48
- Plaquettes SPADE DRILL - HSS Premium M48
- CUSPIDI SPADE DRILL - PREMIUM HSS M48



- For use in high temperature alloys and materials with 350-500 Brinell.
- Set up time can be reduced due to changing inserts easily on the machine.
- Any non-standard size available.

- Zur Anwendung bei hitzebeständigen Legierungen und Werkstoffen mit 350-500 Brinell
- Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A377

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	-	-	D73 - 115

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. PREMIUM HSS M48		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
<b>0</b> Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	S1505041	S1510041	S1515041
		16.50	.6496		S1555165	S1560165	S1565165
	21/32	16.67	.6563		S1505042	S1510042	S1515042
		17.00	.6693		S1555170	S1560170	S1565170
	43/64	17.07	.6719		S1505043	S1510043	S1515043
	11/16	17.46	.6875		S1505044	S1510044	S1515044
		17.50	.6890		S1555175	S1560175	S1565175
	45/64	17.86	.7031		S1505045	S1510045	S1515045
		18.00	.7087		S1555180	S1560180	S1565180
		18.26	.7188		S1505046	S1510046	S1515046
<b>1</b> Ø17.53 (.690) to Ø24.38 (.960)	47/64	18.50	.7283	4.0 (5/32)	S1555185	S1560185	S1565185
		18.65	.7344		S1505047	S1510047	S1515047
		19.00	.7480		S1555190	S1560190	S1565190
	3/4	19.05	.7500		S1505048	S1510048	S1515048
	49/64	19.45	.7656		S1505049	S1510049	S1515049
		19.50	.7677		S1555195	S1560195	S1565195
	25/32	19.84	.7813		S1505050	S1510050	S1515050
		20.00	.7874		S1555200	S1560200	S1565200
	51/64	20.24	.7969		S1505051	S1510051	S1515051
		20.50	.8071		S1555205	S1560205	S1565205
	13/16	20.64	.8125		S1505052	S1510052	S1515052
		21.00	.8268		S1555210	S1560210	S1565210
	27/32	21.43	.8438		S1505054	S1510054	S1515054
	55/64	21.83	.8594		S1505055	S1510055	S1515055
		22.00	.8661		S1555220	S1560220	S1565220
	7/8	22.23	.8750		S1505056	S1510056	S1515056
	57/64	22.62	.8906		S1505057	S1510057	S1515057
	23.00	.9055	S1555230	S1560230	S1565230		
29/32	23.02	.9063	S1505058	S1510058	S1515058		
59/64	23.42	.9219	S1505059	S1510059	S1515059		
15/16	23.81	.9375	S1505060	S1510060	S1515060		
	24.00	.9449	S1555240	S1560240	S1565240		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	◎	◎	○	◎	

ISO Material Description	N										S						H						
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	○	○									◎	◎	◎	◎	◎			◎					

# YG SPADE DRILLS

SERIES 2

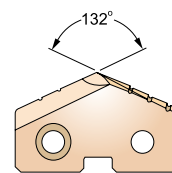
## SPADE DRILL INSERTS - PREMIUM HSS M48

- EINWEG BOHREINSATZ - PREMIUM HSS M48
- Plaquettes SPADE DRILL - HSS Premium M48
- CUSPIDI SPADE DRILL - PREMIUM HSS M48



- For use in high temperature alloys and materials with 350-500 Brinell.
- Set up time can be reduced due to changing inserts easily on the machine.
- Any non-standard size available.

- Zur Anwendung bei hitzebeständigen Legierungen und Werkstoffen mit 350-500 Brinell
- Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A377

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	-	-	D73 - 115

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. PREMIUM HSS M48		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
<b>2</b> Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S1505062	S1510062	S1515062
	63/64	25.00	.9843		S1555250	S1560250	S1565250
	1	25.40	1.0000		S1505100	S1510100	S1515100
	1-1/64	25.80	1.0156		S1505101	S1510101	S1515101
		26.00	1.0236		S1555260	S1560260	S1565260
	1-1/32	26.19	1.0313		S1505102	S1510102	S1515102
	1-3/64	26.59	1.0469		S1505103	S1510103	S1515103
	1-1/16	26.99	1.0625		S1505104	S1510104	S1515104
		27.00	1.0630		S1555270	S1560270	S1565270
	1-3/32	27.78	1.0938		S1505106	S1510106	S1515106
		28.00	1.1024		S1555280	S1560280	S1565280
	1-7/64	28.18	1.1094		S1505107	S1510107	S1515107
	1-1/8	28.58	1.1250		S1505108	S1510108	S1515108
		29.00	1.1417		S1555290	S1560290	S1565290
	1-5/32	29.37	1.1563		S1505110	S1510110	S1515110
		30.00	1.1811		S1555300	S1560300	S1565300
	1-3/16	30.16	1.1875		S1505112	S1510112	S1515112
	1-7/32	30.96	1.2188		S1505114	S1510114	S1515114
		31.00	1.2205		S1555310	S1560310	S1565310
	1-1/4	31.75	1.2500		S1505116	S1510116	S1515116
		32.00	1.2598		S1555320	S1560320	S1565320
	1-9/32	32.54	1.2813		S1505118	S1510118	S1515118
		33.00	1.2992		S1555330	S1560330	S1565330
	1-5/16	33.34	1.3125		S1505120	S1510120	S1515120
	34.00	1.3386	S1555340	S1560340	S1565340		
1-11/32	34.13	1.3438	S1505122	S1510122	S1515122		
1-3/8	34.93	1.3750	S1505124	S1510124	S1515124		
	35.00	1.3780	S1555350	S1560350	S1565350		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	◎	◎	○	◎	

ISO Material Description	N										S						H						
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41		
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55		
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550		
Recommended	○	○									◎	◎	◎	◎	◎			◎					

# YG SPADE DRILLS

SERIES Y, Z, 0

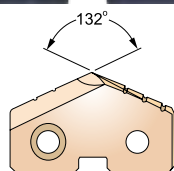
## SPADE DRILL INSERTS for CAST IRON - CARBIDE K10

- EINWEG BOHREINSATZ - VOLLHARTMETALL K10
- Plaquettes SPADE DRILL pour la fonte - Carbure K10
- CUSPIDI SPADE DRILL - MD K10



- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Beste Leistung in Grauguss über 220 Brinell, kurzspanendem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A378

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245-246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK		D73-115

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K10		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN		
					TiCN	TiAlN	TiAlN
<b>Y</b> Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	S1655095	S1660095	S1665095	
		9.53	.3750	S1605024	S1610024	S1615024	
		9.80	.3860	S1655098	S1660098	S1665098	
		9.92	.3906	S1605025	S1610025	S1615025	
		10.00	.3937	S1655100	S1660100	S1665100	
	25/64	10.20	.4016	S1655102	S1660102	S1665102	
		10.32	.4063	S1605026	S1610026	S1615026	
		10.50	.4134	S1655105	S1660105	S1665105	
		10.72	.4219	S1605027	S1610027	S1615027	
		10.80	.4252	S1655108	S1660108	S1665108	
<b>Z</b> Ø11.11(.437) to Ø12.95(.510)	7/16	11.00	.4331	S1655110	S1660110	S1665110	
		11.11	.4375	S1605028	S1610028	S1615028	
		11.50	.4528	S1655115	S1660115	S1665115	
		11.51	.4531	S1605029	S1610029	S1615029	
		11.91	.4688	S1655120	S1660120	S1665120	
	15/32	12.00	.4724	S1605030	S1610030	S1615030	
		12.30	.4844	S1655125	S1660125	S1665125	
		12.50	.4921	S1605031	S1610031	S1615031	
		12.70	.5000	S1655125	S1660125	S1665125	
		13.00	.5118	S1605032	S1610032	S1615032	
<b>0</b> Ø12.98 (.511) to Ø17.65 (.695)	31/64	13.10	.5156	S1655130	S1660130	S1665130	
		13.10	.5156	S1605033	S1610033	S1615033	
		13.49	.5313	S1655135	S1660135	S1665135	
		13.50	.5315	S1605034	S1610034	S1615034	
		13.89	.5469	S1655140	S1660140	S1665140	
	9/16	14.00	.5512	S1605035	S1610035	S1615035	
		14.29	.5625	S1655145	S1660145	S1665145	
		14.50	.5709	S1605036	S1610036	S1615036	
		14.68	.5781	S1655145	S1660145	S1665145	
		15.00	.5906	S1605037	S1610037	S1615037	
37/64	15.08	.5938	S1655150	S1660150	S1665150		
	15.48	.6094	S1605038	S1610038	S1615038		
	15.50	.6102	S1655155	S1660155	S1665155		
	15.88	.6250	S1605039	S1610039	S1615039		
	16.00	.6299	S1655160	S1660160	S1665160		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K							
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	26	3	25	130	21	230	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	230	230
Recommended															◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H							
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)						Non Metallic Materials							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550	55	60	42
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	55	60	42
Recommended																								

# YG SPADE DRILLS

SERIES 0, 1

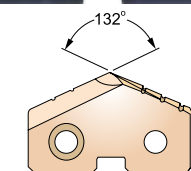
## SPADE DRILL INSERTS for CAST IRON - CARBIDE K10

- EINWEG BOHREINSATZ - VOLLHARTMETALL K10
- Plaquettes SPADE DRILL pour la fonte - Carbure K10
- CUSPIDI SPADE DRILL - MD K10



- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Beste Leistung in Grauguss über 220 Brinell, kurzspanendem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A378

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245-246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK		D73-115

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K10		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN		
					TiCN	TiAlN	TiAlN
<b>0</b> Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	S1605041	S1610041	S1615041	
		16.50	.6496	S1655165	S1660165	S1665165	
		16.67	.6563	S1605042	S1610042	S1615042	
		17.00	.6693	S1655170	S1660170	S1665170	
		17.07	.6719	S1605043	S1610043	S1615043	
	11/16	17.46	.6875	S1605044	S1610044	S1615044	
		17.50	.6890	S1655175	S1660175	S1665175	
		17.86	.7031	S1605045	S1610045	S1615045	
		18.00	.7087	S1655180	S1660180	S1665180	
		18.26	.7188	S1605046	S1610046	S1615046	
<b>1</b> Ø17.53 (.690) to Ø24.38 (.960)	47/64	18.50	.7283	S1655185	S1660185	S1665185	
		18.65	.7344	S1605047	S1610047	S1615047	
		19.00	.7480	S1655190	S1660190	S1665190	
		19.05	.7500	S1605048	S1610048	S1615048	
		19.45	.7656	S1655195	S1660195	S1665195	
	25/32	19.50	.7677	S1605049	S1610049	S1615049	
		19.84	.7813	S1655200	S1660200	S1665200	
		20.00	.7874	S1605050	S1610050	S1615050	
		20.24	.7969	S1655205	S1660205	S1665205	
		20.50	.8071	S1605051	S1610051	S1615051	
<b>4.0 (5/32)</b>	13/16	20.64	.8125	S1655210	S1660210	S1665210	
		21.00	.8268	S1605052	S1610052	S1615052	
		21.43	.8438	S1655220	S1660220	S1665220	
		21.83	.8594	S1605053	S1610053	S1615053	
		22.00	.8661	S1655230	S1660230	S1665230	
	7/8	22.23	.8750	S1605054	S1610054	S1615054	
		22.62	.8906	S1655240	S1660240	S1665240	
		23.00	.9055	S1605055	S1610055	S1615055	
		23.02	.9063	S1655250	S1660250	S1665250	
		23.42	.9219	S1605056	S1610056	S1615056	
59/64	23.81	.9375	S1655260	S1660260	S1665260		
	24.00	.9449	S1605057	S1610057	S1615057		
	24.00	.9449	S1655270	S1660270	S1665270		
	24.00	.9449	S1605058	S1610058	S1615058		
	24.00	.9449	S1655280	S1660280	S1665280		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K							
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	26	3	25	130	21	230	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	230	230
Recommended															◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S						H							
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)						Non Metallic Materials							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	550	630	400	550	55	60	42
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	55	60	42
Recommended																								





# YG SPADE DRILLS

SERIES 0, 1

## SPADE DRILL INSERTS - CARBIDE K20

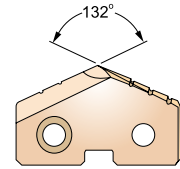
- EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL - Carbure K20
- CUSPIDI SPADE DRILL - MD K20



► High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.  
 ► Set up time can be reduced due to changing inserts easily on the machine.  
 ► Any non-standard size available.

► Beste Leistung in Grauguss über 220 Brinell, kurzspanendem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen  
 ► Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine  
 ► Jede Abmessung außerhalb des Kataloges lieferbar

Cutting conditions : p.A378



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K20		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	S1705041	S1710041	S1715041
		16.50	.6496		S1755165	S1760165	S1765165
	21/32	16.67	.6563		S1705042	S1710042	S1715042
		17.00	.6693		S1755170	S1760170	S1765170
	43/64	17.07	.6719		S1705043	S1710043	S1715043
	11/16	17.46	.6875		S1705044	S1710044	S1715044
		17.50	.6890		S1755175	S1760175	S1765175
	45/64	17.86	.7031		S1705045	S1710045	S1715045
		18.00	.7087		S1755180	S1760180	S1765180
		18.26	.7188		S1705046	S1710046	S1715046
1 Ø17.53 (.690) to Ø24.38 (.960)	23/32	18.26	.7188	4.0 (5/32)	S1755185	S1760185	S1765185
		18.50	.7283		S1705047	S1710047	S1715047
	47/64	18.65	.7344		S1755190	S1760190	S1765190
		19.00	.7480		S1705048	S1710048	S1715048
	3/4	19.05	.7500		S1705049	S1710049	S1715049
	49/64	19.45	.7656		S1755195	S1760195	S1765195
		19.50	.7677		S1705050	S1710050	S1715050
	25/32	19.84	.7813		S1755200	S1760200	S1765200
		20.00	.7874		S1705051	S1710051	S1715051
	51/64	20.24	.7969		S1755205	S1760205	S1765205
		20.50	.8071		S1705052	S1710052	S1715052
	13/16	20.64	.8125		S1755210	S1760210	S1765210
		21.00	.8268		S1705054	S1710054	S1715054
	27/32	21.43	.8438		S1705055	S1710055	S1715055
	55/64	21.83	.8594		S1755220	S1760220	S1765220
		22.00	.8661		S1705056	S1710056	S1715056
	7/8	22.23	.8750		S1705057	S1710057	S1715057
	57/64	22.62	.8906		S1755230	S1760230	S1765230
	23.00	.9055	S1705058	S1710058	S1715058		
29/32	23.02	.9063	S1705059	S1710059	S1715059		
59/64	23.42	.9219	S1705060	S1710060	S1715060		
	23.81	.9375	S1755240	S1760240	S1765240		
	24.00	.9449					

◎ : Excellent ○ : Good

ISO	P												M			K					
Material Description	Non-alloy steel				Low alloy steel				High alloyed steel, and tool steel				Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	○	○	○	○	○	○	

ISO	N										S							H						
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	40	42	55	55	55				
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550				
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			

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YG-1 CO., LTD.

# YG SPADE DRILLS

SERIES 2

## SPADE DRILL INSERTS - CARBIDE K20

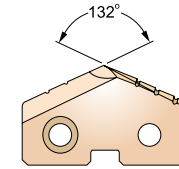
- EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL - Carbure K20
- CUSPIDI SPADE DRILL - MD K20



► High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.  
 ► Set up time can be reduced due to changing inserts easily on the machine.  
 ► Any non-standard size available.

► Beste Leistung in Grauguss über 220 Brinell, kurzspanendem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen  
 ► Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine  
 ► Jede Abmessung außerhalb des Kataloges lieferbar

Cutting conditions : p.A378



Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER	D245 - 246	-	-
	ER COLLET CHUCK		D73 - 115	

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K20		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	S1705062	S1710062	S1715062
	63/64	25.00	.9843		S1755250	S1760250	S1765250
	1	25.40	1.0000		S1705100	S1710100	S1715100
	1-1/64	25.80	1.0156		S1705101	S1710101	S1715101
		26.00	1.0236		S1755260	S1760260	S1765260
	1-1/32	26.19	1.0313		S1705102	S1710102	S1715102
	1-3/64	26.59	1.0469		S1705103	S1710103	S1715103
	1-1/16	26.99	1.0625		S1705104	S1710104	S1715104
		27.00	1.0630		S1755270	S1760270	S1765270
	1-3/32	27.78	1.0938		S1705106	S1710106	S1715106
		28.00	1.1024		S1755280	S1760280	S1765280
	1-7/64	28.18	1.1094		S1705107	S1710107	S1715107
	1-1/8	28.58	1.1250		S1705108	S1710108	S1715108
		29.00	1.1417		S1755290	S1760290	S1765290
	1-5/32	29.37	1.1563		S1705110	S1710110	S1715110
		30.00	1.1811		S1755300	S1760300	S1765300
	1-3/16	30.16	1.1875		S1705112	S1710112	S1715112
	1-7/32	30.96	1.2188		S1705114	S1710114	S1715114
		31.00	1.2205		S1755310	S1760310	S1765310
	1-1/4	31.75	1.2500		S1705116	S1710116	S1715116
		32.00	1.2598		S1755320	S1760320	S1765320
	1-9/32	32.54	1.2813		S1705118	S1710118	S1715118
		33.00	1.2992		S1755330	S1760330	S1765330
	1-5/16	33.34	1.3125		S1705120	S1710120	S1715120
	34.00	1.3386	S1755340	S1760340	S1765340		
1-11/32	34.13	1.3438	S1705122	S1710122	S1715122		
1-3/8	34.93	1.3750	S1705124	S1710124	S1715124		
	35.00	1.3780	S1755350	S1760350	S1765350		

◎ : Excellent ○ : Good

ISO	P												M			K					
Material Description	Non-alloy steel				Low alloy steel				High alloyed steel, and tool steel				Stainless steel			Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	○	○	○	○	○	○	

ISO	N										S							H						
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	40	42	55	55	55				
HB	60	100	75	90	130	110	90	100	200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550				
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎			

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A321



# YG SPADE DRILLS

SERIES 3

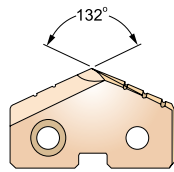
## SPADE DRILL INSERTS - CARBIDE K20

- EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL - Carbure K20
- CUSPIDI SPADE DRILL - MD K20



- ▶ High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Beste Leistung in Grauguss über 220 Brinell, kurzspanendem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A378

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK	D73 - 115	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K20		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4063	S1705126	S1710126	S1715126	
		36.00	1.4173	S1755360	S1760360	S1765360	
	1-7/16	36.51	1.4375	S1705128	S1710128	S1715128	
		37.00	1.4567	S1755370	S1760370	S1765370	
	1-15/32	37.31	1.4688	S1705130	S1710130	S1715130	
		38.00	1.4961	S1755380	S1760380	S1765380	
	1-1/2	38.10	1.5000	S1705132	S1710132	S1715132	
		38.89	1.5313	S1705134	S1710134	S1715134	
	1-9/16	39.00	1.5354	S1755390	S1760390	S1765390	
		39.69	1.5625	S1705136	S1710136	S1715136	
	1-19/32	40.00	1.5748	S1755400	S1760400	S1765400	
		40.48	1.5938	S1705138	S1710138	S1715138	
	1-5/8	41.00	1.6142	S1755410	S1760410	S1765410	
		41.28	1.6250	S1705140	S1710140	S1715140	
	1-21/32	42.00	1.6535	S1755420	S1760420	S1765420	
		42.07	1.6563	S1705142	S1710142	S1715142	
	1-11/16	42.86	1.6875	S1705144	S1710144	S1715144	
		43.00	1.6929	S1755430	S1760430	S1765430	
	1-23/32	43.66	1.7188	S1705146	S1710146	S1715146	
		44.00	1.7323	S1755440	S1760440	S1765440	
1-3/4	44.45	1.7500	S1705148	S1710148	S1715148		
	45.00	1.7717	S1755450	S1760450	S1765450		
1-25/32	45.24	1.7813	S1705150	S1710150	S1715150		
	46.00	1.8110	S1755460	S1760460	S1765460		
1-13/16	46.04	1.8125	S1705152	S1710152	S1715152		
	46.83	1.8438	S1705154	S1710154	S1715154		
1-27/32	47.00	1.8504	S1755470	S1760470	S1765470		
	47.63	1.8750	S1705156	S1710156	S1715156		

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# YG SPADE DRILLS

SERIES Y, Z, O

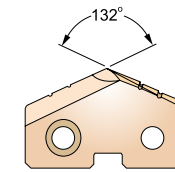
## SPADE DRILL INSERTS - CARBIDE P40

- EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL - Carbure P40
- CUSPIDI SPADE DRILL - MD P40



- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A380

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
Recommended ToolHolder	ER COLLET CHUCK	D73 - 115	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE P40		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	S1855095	S1860095	S1865095	
		9.53	.3750	S1805024	S1810024	S1815024	
	25/64	9.80	.3860	S1855098	S1860098	S1865098	
		9.92	.3906	S1805025	S1810025	S1815025	
	13/32	10.00	.3937	S1855100	S1860100	S1865100	
		10.20	.4016	S1855102	S1860102	S1865102	
	27/64	10.32	.4063	S1805026	S1810026	S1815026	
		10.50	.4134	S1855105	S1860105	S1865105	
	1/2	10.72	.4219	S1805027	S1810027	S1815027	
		10.80	.4252	S1855108	S1860108	S1865108	
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.00	.4331	S1855110	S1860110	S1865110	
		11.11	.4375	S1805028	S1810028	S1815028	
	29/64	11.50	.4528	S1855115	S1860115	S1865115	
		11.51	.4531	S1805029	S1810029	S1815029	
	15/32	11.91	.4688	S1855120	S1860120	S1865120	
		12.00	.4724	S1805031	S1810031	S1815031	
	31/64	12.30	.4844	S1855125	S1860125	S1865125	
		12.50	.4921	S1805032	S1810032	S1815032	
	1/2	13.00	.5118	S1855130	S1860130	S1865130	
		13.10	.5156	S1805033	S1810033	S1815033	
33/64	13.49	.5313	S1855135	S1860135	S1865135		
	13.50	.5315	S1805034	S1810034	S1815034		
35/64	13.89	.5469	S1855140	S1860140	S1865140		
	14.00	.5512	S1805035	S1810035	S1815035		
9/16	14.29	.5625	S1855145	S1860145	S1865145		
	14.50	.5709	S1805036	S1810036	S1815036		
37/64	14.68	.5781	S1855150	S1860150	S1865150		
	15.00	.5906	S1805037	S1810037	S1815037		
19/32	15.08	.5938	S1855155	S1860155	S1865155		
	15.48	.6094	S1805038	S1810038	S1815038		
39/64	15.50	.6102	S1855160	S1860160	S1865160		
	15.88	.6250	S1805039	S1810039	S1815039		
5/8	16.00	.6299	S1855155	S1860155	S1865155		
	16.00	.6299	S1805040	S1810040	S1815040		

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



# YG SPADE DRILLS

SERIES 0, 1

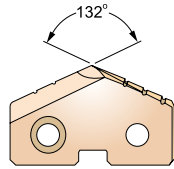
## SPADE DRILL INSERTS - CARBIDE P40

- EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL - Carbure P40
- CUSPIDI SPADE DRILL - MD P40



- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A380

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE P40		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
	<b>0</b> Ø12.98(.511) to Ø17.65(.695)	41/64 21/32 43/64 11/16	16.27 16.50 16.67 17.00 17.07 17.46 17.50		.6406 .6496 .6563 .6693 .6719 .6875 .6890	3.2 (1/8)	S1805041 S1855165 S1805042 S1855170 S1805043 S1805044 S1855175 S1805045 S1855180 S1805046 S1855185 S1805047 S1855190 S1805048 S1805049 S1855195 S1805050 S1855200 S1805051 S1855205 S1805052 S1855210 S1805054 S1805055 S1855220 S1805056 S1805057 S1855230 S1805058 S1805059 S1805060 S1855240
<b>1</b> Ø17.53 (.690) to Ø24.38 (.960)	45/64 23/32 47/64 3/4 49/64 25/32 51/64 13/16 27/32 55/64 7/8 57/64 29/32 59/64 15/16	17.86 18.00 18.26 18.50 18.50 19.00 19.05 19.45 19.50 19.84 20.00 20.24 20.50 20.64 21.00 21.43 21.83 22.00 22.23 22.62 23.00 23.02 23.42 23.81 24.00	.7031 .7087 .7188 .7283 .7344 .7480 .7500 .7656 .7677 .7813 .7874 .7969 .8071 .8125 .8268 .8438 .8594 .8661 .8750 .8906 .9055 .9063 .9219 .9375 .9449	4.0 (5/32)	S1805045 S1855180 S1805046 S1855185 S1805047 S1855190 S1805048 S1805049 S1855195 S1805050 S1855200 S1805051 S1855205 S1805052 S1855210 S1805054 S1805055 S1855220 S1805056 S1805057 S1855230 S1805058 S1805059 S1805060 S1855240	S1810045 S1860180 S1810046 S1860185 S1810047 S1860190 S1810048 S1810049 S1860195 S1810050 S1860200 S1810051 S1860205 S1810052 S1860210 S1810054 S1810055 S1860220 S1810056 S1810057 S1860230 S1810058 S1810059 S1810060 S1860240	S1815045 S1865180 S1815046 S1865185 S1815047 S1865190 S1815048 S1815049 S1865195 S1815050 S1865200 S1815051 S1865205 S1815052 S1865210 S1815054 S1815055 S1865220 S1815056 S1815057 S1865230 S1815058 S1815059 S1815060 S1865240

◎ : Excellent ○ : Good

ISO Material Description	P										M				K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S				H																
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55	55	60	42	55	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400	550	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# YG SPADE DRILLS

SERIES 2

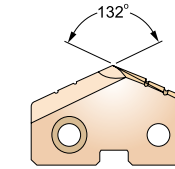
## SPADE DRILL INSERTS - CARBIDE P40

- EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL - Carbure P40
- CUSPIDI SPADE DRILL - MD P40



- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A380

Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE P40		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
	<b>2</b> Ø24.41 (.961) to Ø35.05 (1.380)	31/32 63/64 1 1-1/64 1-1/32 1-3/64 1-1/16 1-3/32 1-7/64 1-1/8 1-5/32 1-3/16 1-7/32 1-1/4 1-9/32 1-5/16 1-11/32 1-3/8	24.61 25.00 25.40 25.80 26.00 26.19 26.59 26.99 27.00 27.78 28.00 28.18 28.58 29.00 29.37 30.00 30.16 30.96 31.00 31.75 32.00 32.54 33.00 33.34 34.00 34.13 34.93 35.00		.9688 .9843 1.0000 1.0156 1.0236 1.0313 1.0469 1.0625 1.0630 1.0938 1.1024 1.1094 1.1250 1.1417 1.1563 1.1811 1.1875 1.2188 1.2205 1.2500 1.2598 1.2813 1.2992 1.3125 1.3386 1.3438 1.3750 1.3780	4.8 (3/16)	S1805062 S1855250 S1805100 S1805101 S1855260 S1805102 S1805103 S1805104 S1855270 S1805106 S1855280 S1805107 S1805108 S1855290 S1805110 S1855300 S1805112 S1805114 S1855310 S1805116 S1855320 S1805118 S1855330 S1805120 S1855340 S1805122 S1805124 S1855350

◎ : Excellent ○ : Good

ISO Material Description	P										M				K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S				H																
	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys		Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	55	60	42	55	55	60	42	55	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400	550	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# Y/G SPADE DRILLS

SERIES 3

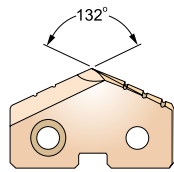
## SPADE DRILL INSERTS - CARBIDE P40

- EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL - Carbure P40
- CUSPIDI SPADE DRILL - MD P40



- ▶ For general use in carbon steels and alloy steels.
- ▶ Set up time can be reduced due to changing inserts easily on the machine.
- ▶ Any non-standard size available.

- ▶ Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- ▶ Reduzierte Rüstzeiten, einfacher Einsatzwechsel auf der Maschine
- ▶ Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A380

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK	-	D73 - 115	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No.		
	Inch (inch)	Metric (mm)	Decimal (inch)		CARBIDE P40		
					TiN	TiCN	TiAlN
<b>3</b> Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4063	S1805126	S1810126	S1815126	
		36.00	1.4173	S1855360	S1860360	S1865360	
	1-7/16	36.51	1.4375	S1805128	S1810128	S1815128	
		37.00	1.4567	S1855370	S1860370	S1865370	
	1-15/32	37.31	1.4688	S1805130	S1810130	S1815130	
		38.00	1.4961	S1855380	S1860380	S1865380	
	1-1/2	38.10	1.5000	S1805132	S1810132	S1815132	
		38.89	1.5313	S1805134	S1810134	S1815134	
	1-17/32	39.00	1.5354	S1855390	S1860390	S1865390	
		39.69	1.5625	S1805136	S1810136	S1815136	
	1-9/16	40.00	1.5748	S1855400	S1860400	S1865400	
		40.48	1.5938	S1805138	S1810138	S1815138	
	1-19/32	41.00	1.6142	S1855410	S1860410	S1865410	
		41.28	1.6250	S1805140	S1810140	S1815140	
	1-5/8	42.00	1.6535	S1855420	S1860420	S1865420	
		42.07	1.6563	S1805142	S1810142	S1815142	
	1-21/32	42.86	1.6875	S1805144	S1810144	S1815144	
		43.00	1.6929	S1855430	S1860430	S1865430	
	1-11/16	43.66	1.7188	S1805146	S1810146	S1815146	
		44.00	1.7323	S1855440	S1860440	S1865440	
	1-23/32	44.45	1.7500	S1805148	S1810148	S1815148	
		45.00	1.7717	S1855450	S1860450	S1865450	
	1-3/4	45.24	1.7813	S1805150	S1810150	S1815150	
		46.00	1.8110	S1855460	S1860460	S1865460	
1-13/16	46.04	1.8125	S1805152	S1810152	S1815152		
	46.83	1.8438	S1805154	S1810154	S1815154		
1-27/32	47.00	1.8504	S1855470	S1860470	S1865470		
	47.63	1.8750	S1805156	S1810156	S1815156		

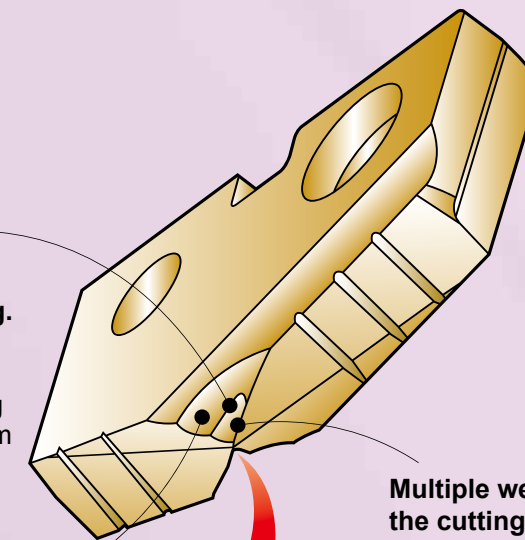
# Y/G Special features of SM-Point Spade Drill

This new "Hybrid Point" combines the strength of the standard point with additional "Web Thinning".

This new point increases stability, reduces thrust, improves centering and allows increased speeds and feeds.

**Multiple thinning form at the bottom of the large thinning.**

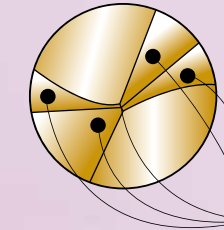
- ▶ The optimum thinning for the difference from the cutting speed, the cutting quantity and the cutting load according to the distance from the drill point to the cutting edge.



**Multiple web thinning with the cutting edge of small web thinning.**

- ▶ Good self-centering
- ▶ Less tool lead off
- ▶ Reduction in bell mouching, thrust
- ▶ Increased stability

**Radius back face**  
▶ Wide chip space



**Four-facet point**

- ▶ Self-centering
- ▶ Less thrust force

© : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRC	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○

ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○									○	○	○	○	○			◎			



# YG SPADE DRILLS

SERIES 1

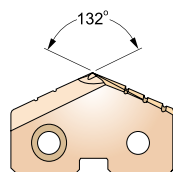
## SM-POINT SPADE DRILL INSERTS - HSS M4

- SM-POINT EINWEG BOHREINSATZ - HSS M4
- Plaquettes SPADE DRILL, pointe SM - HSS M4
- CUSPIDI, SM-POINT - HSS M4



- For general use in steels and cast irons.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- Für allgemeine Anwendung in Stahl und Gusseisen
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschneidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A375

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. HSS M4		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
	1 Ø17.53 (.690) to Ø24.38 (.960)	45/64	17.86		.7031	4.0 (5/32)	SM405045
		18.00	.7087	SM455180	SM460180		SM465180
23/32		18.26	.7188	SM405046	SM410046		SM415046
		18.50	.7283	SM455185	SM460185		SM465185
47/64		18.65	.7344	SM405047	SM410047		SM415047
		19.00	.7480	SM455190	SM460190		SM465190
3/4		19.05	.7500	SM405048	SM410048		SM415048
		19.45	.7656	SM405049	SM410049		SM415049
49/64		19.50	.7677	SM455195	SM460195		SM465195
		19.84	.7812	SM405050	SM410050		SM415050
		20.00	.7874	SM455200	SM460200		SM465200
51/64		20.24	.7969	SM405051	SM410051		SM415051
		20.50	.8071	SM455205	SM460205		SM465205
		21.00	.8268	SM405052	SM410052		SM415052
		21.00	.8268	SM455210	SM460210		SM465210
		21.43	.8438	SM405054	SM410054		SM415054
		21.83	.8594	SM405055	SM410055		SM415055
		22.00	.8661	SM455220	SM460220		SM465220
		22.23	.8750	SM405056	SM410056		SM415056
		22.62	.8906	SM405057	SM410057		SM415057
	22.62	.8906	SM455230	SM460230	SM465230		
	23.00	.9055	SM405058	SM410058	SM415058		
	23.02	.9062	SM405059	SM410059	SM415059		
	23.42	.9219	SM405060	SM410060	SM415060		
	23.81	.9375	SM455240	SM460240	SM465240		
	24.00	.9449					

◎ : Excellent ○ : Good

ISO Material Description	P										M				K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	180	260	160	250	130	230	200	240	180	180	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N				S										H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials				Heat Resistant Super Alloys						Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	400	550	400	550
Recommended	◎	◎				◎																			

# YG SPADE DRILLS

SERIES 2

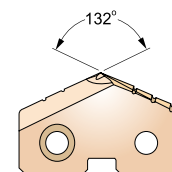
## SM-POINT SPADE DRILL INSERTS - HSS M4

- SM-POINT EINWEG BOHREINSATZ - HSS M4
- Plaquettes SPADE DRILL, pointe SM - HSS M4
- CUSPIDI, SM-POINT - HSS M4



- For general use in steels and cast irons.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- Für allgemeine Anwendung in Stahl und Gusseisen
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschneidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A375

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. HSS M4		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
	2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61		.9688	4.8 (3/16)	SM405062
63/64		25.00	.9843	SM455250	SM460250		SM465250
1		25.40	1.0000	SM405100	SM410100		SM415100
1-1/64		25.80	1.0156	SM405101	SM410101		SM415101
		26.00	1.0236	SM455260	SM460260		SM465260
1-1/32		26.19	1.0312	SM405102	SM410102		SM415102
1-3/64		26.59	1.0469	SM405103	SM410103		SM415103
1-1/16		26.99	1.0625	SM405104	SM410104		SM415104
		27.00	1.0630	SM455270	SM460270		SM465270
1-3/32		27.78	1.0938	SM405106	SM410106		SM415106
		28.00	1.1024	SM455280	SM460280		SM465280
1-7/64		28.18	1.1094	SM405107	SM410107		SM415107
1-1/8		28.58	1.1250	SM405108	SM410108		SM415108
		29.00	1.1417	SM455290	SM460290		SM465290
1-5/32		29.37	1.1562	SM405110	SM410110		SM415110
		30.00	1.1811	SM455300	SM460300		SM465300
1-3/16		30.16	1.1875	SM405112	SM410112		SM415112
1-7/32		30.96	1.2188	SM405114	SM410114		SM415114
		31.00	1.2205	SM455310	SM460310		SM465310
1-1/4		31.75	1.2500	SM405116	SM410116		SM415116
	32.00	1.2598	SM455320	SM460320	SM465320		
1-9/32	32.54	1.2812	SM405118	SM410118	SM415118		
	33.00	1.2992	SM455330	SM460330	SM465330		
1-5/16	33.34	1.3125	SM405120	SM410120	SM415120		
	34.00	1.3386	SM455340	SM460340	SM465340		
1-11/32	34.13	1.3438	SM405122	SM410122	SM415122		
1-3/8	34.93	1.3750	SM405124	SM410124	SM415124		
	35.00	1.3780	SM455350	SM460350	SM465350		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K									
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240
HB	125	190	250	270	300	180	275	300	350	200	240	180	180	180	260	160	250	130	230	200	240	180	180	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N				S										H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials				Heat Resistant Super Alloys						Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	400	550	400	550
Recommended	◎	◎				◎																			



# YG SPADE DRILLS

SERIES 3

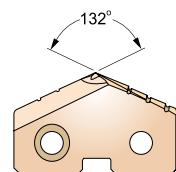
## SM-POINT SPADE DRILL INSERTS - HSS M4

- SM-POINT EINWEG BOHREINSATZ - HSS M4
- Plaquettes SPADE DRILL, pointe SM - HSS M4
- CUSPIDI, SM-POINT - HSS M4



- For general use in steels and cast irons.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- Für allgemeine Anwendung in Stahl und Gusseisen
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte uerscheidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A375

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. HSS M4		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	SM405126	SM410126	SM415126	
		36.00	1.4173	SM455360	SM460360	SM465360	
	1-7/16	36.51	1.4375	SM405128	SM410128	SM415128	
		37.00	1.4567	SM455370	SM460370	SM465370	
	1-15/32	37.31	1.4688	SM405130	SM410130	SM415130	
		38.00	1.4961	SM455380	SM460380	SM465380	
	1-1/2	38.10	1.5000	SM405132	SM410132	SM415132	
		38.89	1.5312	SM405134	SM410134	SM415134	
	1-17/32	39.00	1.5354	SM455390	SM460390	SM465390	
		39.69	1.5625	SM405136	SM410136	SM415136	
	1-9/16	40.00	1.5748	SM455400	SM460400	SM465400	
		40.48	1.5938	SM405138	SM410138	SM415138	
	1-19/32	41.00	1.6142	SM455410	SM460410	SM465410	
		41.28	1.6250	SM405140	SM410140	SM415140	
	1-5/8	42.00	1.6535	SM455420	SM460420	SM465420	
		42.07	1.6562	SM405142	SM410142	SM415142	
	1-21/32	42.86	1.6875	SM405144	SM410144	SM415144	
		43.00	1.6929	SM455430	SM460430	SM465430	
	1-23/32	43.66	1.7188	SM405146	SM410146	SM415146	
		44.00	1.7323	SM455440	SM460440	SM465440	
1-3/4	44.45	1.7500	SM405148	SM410148	SM415148		
	45.00	1.7717	SM455450	SM460450	SM465450		
1-25/32	45.24	1.7812	SM405150	SM410150	SM415150		
	46.00	1.8110	SM455460	SM460460	SM465460		
1-13/16	46.04	1.8125	SM405152	SM410152	SM415152		
	46.83	1.8438	SM405154	SM410154	SM415154		
1-27/32	47.00	1.8504	SM455470	SM460470	SM465470		
	47.63	1.8750	SM405156	SM410156	SM415156		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# YG SPADE DRILLS

SERIES Y, Z, O

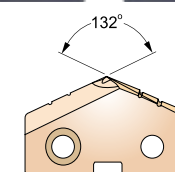
## SM-POINT SPADE DRILL INSERTS - SUPER HSS T15

- SM-POINT EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL, pointe SM - Super HSS T15
- CUSPIDI, SM-POINT - HSS T15



- For use in high nickel alloys and materials over 280 Brinell.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte uerscheidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A376

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	SM155095	SM160095	SM165095	
		9.53	.3750	SM105024	SM110024	SM115024	
	25/64	9.80	.3858	SM155098	SM160098	SM165098	
		9.92	.3906	SM105025	SM110025	SM115025	
		10.00	.3937	SM155100	SM160100	SM165100	
		10.20	.4016	SM155102	SM160102	SM165102	
	13/32	10.32	.4062	SM105026	SM110026	SM115026	
		10.50	.4134	SM155105	SM160105	SM165105	
	Ø11.07 (.436)	10.72	.4219	SM105027	SM110027	SM115027	
		10.80	.4252	SM155108	SM160108	SM165108	
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	SM155110	SM160110	SM165110	
		11.50	.4528	SM105028	SM110028	SM115028	
	29/64	11.51	.4531	SM155115	SM160115	SM165115	
		11.91	.4688	SM105029	SM110029	SM115029	
	15/32	12.00	.4724	SM155120	SM160120	SM165120	
		12.30	.4844	SM105030	SM110030	SM115030	
	31/64	12.50	.4921	SM155125	SM160125	SM165125	
		12.70	.5000	SM105031	SM110031	SM115031	
	1/2	12.70	.5000	SM155130	SM160130	SM165130	
		13.00	.5118	SM105032	SM110032	SM115032	
33/64	13.10	.5156	SM155135	SM160135	SM165135		
	13.49	.5312	SM105033	SM110033	SM115033		
17/32	13.50	.5315	SM155140	SM160140	SM165140		
	13.89	.5469	SM105034	SM110034	SM115034		
35/64	14.00	.5512	SM155145	SM160145	SM165145		
	14.29	.5625	SM105035	SM110035	SM115035		
9/16	14.50	.5709	SM155150	SM160150	SM165150		
	14.68	.5781	SM105036	SM110036	SM115036		
37/64	15.00	.5906	SM155145	SM160145	SM165145		
	15.08	.5938	SM105037	SM110037	SM115037		
19/32	15.08	.5938	SM155150	SM160150	SM165150		
	15.48	.6094	SM105038	SM110038	SM115038		
39/64	15.50	.6102	SM155155	SM160155	SM165155		
	15.88	.6250	SM105039	SM110039	SM115039		
5/8	16.00	.6299	SM155160	SM160160	SM165160		
	16.00	.6299	SM105040	SM110040	SM115040		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# YG SPADE DRILLS

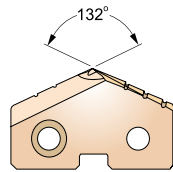
SERIES 0, 1

## SM-POINT SPADE DRILL INSERTS - SUPER HSS T15

- SM-POINT EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL, pointe SM - Super HSS T15
- CUSPIDI DI FORATURA SM-POINT - SUPER HSS T15



- For use in high nickel alloys and materials over 280 Brinell.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.
- Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschneidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A376

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS T15		
					TiN	TiCN	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	SM105041	SM110041	SM115041
		16.50	.6496		SM155165	SM160165	SM165165
	21/32	16.67	.6562		SM105042	SM110042	SM115042
		17.00	.6693		SM155170	SM160170	SM165170
	43/64	17.07	.6719		SM105043	SM110043	SM115043
		17.46	.6875		SM105044	SM110044	SM115044
		17.50	.6890		SM155175	SM160175	SM165175
	45/64	17.86	.7031		SM105045	SM110045	SM115045
		18.00	.7087		SM155180	SM160180	SM165180
		18.26	.7188		SM105046	SM110046	SM115046
1 Ø17.53 (.690) to Ø24.38 (.960)		18.50	.7283	4.0 (5/32)	SM155185	SM160185	SM165185
	47/64	18.65	.7344		SM105047	SM110047	SM115047
		19.00	.7480		SM155190	SM160190	SM165190
	3/4	19.05	.7500		SM105048	SM110048	SM115048
		19.45	.7656		SM105049	SM110049	SM115049
		19.50	.7677		SM155195	SM160195	SM165195
	25/32	19.84	.7812		SM105050	SM110050	SM115050
		20.00	.7874		SM155200	SM160200	SM165200
	51/64	20.24	.7969		SM105051	SM110051	SM115051
		20.50	.8071		SM155205	SM160205	SM165205
		20.64	.8125		SM105052	SM110052	SM115052
		21.00	.8268		SM155210	SM160210	SM165210
		21.43	.8438		SM105054	SM110054	SM115054
		21.83	.8594		SM105055	SM110055	SM115055
		22.00	.8661		SM155220	SM160220	SM165220
		22.23	.8750		SM105056	SM110056	SM115056
		22.62	.8906		SM105057	SM110057	SM115057
		23.00	.9055		SM155230	SM160230	SM165230
	23.02	.9062	SM105058	SM110058	SM115058		
	23.42	.9219	SM105059	SM110059	SM115059		
	23.81	.9375	SM105060	SM110060	SM115060		
	24.00	.9449	SM155240	SM160240	SM165240		

◎ : Excellent ○ : Good

ISO	P										M				K										
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	180	260	160	250	130
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H							
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)						Non Metallic Materials							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55	42	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# YG SPADE DRILLS

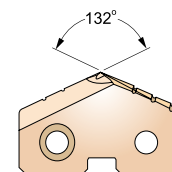
SERIES 2

## SM-POINT SPADE DRILL INSERTS - SUPER HSS T15

- SM-POINT EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL, pointe SM - Super HSS T15
- CUSPIDI DI FORATURA SM-POINT - SUPER HSS T15



- For use in high nickel alloys and materials over 280 Brinell.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.
- Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschneidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A376

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		SUPER HSS T15		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM105062	SM110062	SM115062
	63/64	25.00	.9843		SM155250	SM160250	SM165250
	1	25.40	1.0000		SM105100	SM110100	SM115100
	1-1/64	25.80	1.0156		SM105101	SM110101	SM115101
		26.00	1.0236		SM155260	SM160260	SM165260
	1-1/32	26.19	1.0312		SM105102	SM110102	SM115102
	1-3/64	26.59	1.0469		SM105103	SM110103	SM115103
	1-1/16	26.99	1.0625		SM105104	SM110104	SM115104
		27.00	1.0630		SM155270	SM160270	SM165270
	1-3/32	27.78	1.0938		SM105106	SM110106	SM115106
		28.00	1.1024		SM155280	SM160280	SM165280
	1-7/64	28.18	1.1094		SM105107	SM110107	SM115107
	1-1/8	28.58	1.1250		SM105108	SM110108	SM115108
		29.00	1.1417		SM155290	SM160290	SM165290
	1-5/32	29.37	1.1562		SM105110	SM110110	SM115110
		30.00	1.1811		SM155300	SM160300	SM165300
	1-3/16	30.16	1.1875		SM105112	SM110112	SM115112
	1-7/32	30.96	1.2188		SM105114	SM110114	SM115114
		31.00	1.2205		SM155310	SM160310	SM165310
	1-1/4	31.75	1.2500		SM105116	SM110116	SM115116
	32.00	1.2598	SM155320	SM160320	SM165320		
1-9/32	32.54	1.2812	SM105118	SM110118	SM115118		
	33.00	1.2992	SM155330	SM160330	SM165330		
1-5/16	33.34	1.3125	SM105120	SM110120	SM115120		
	34.00	1.3386	SM155340	SM160340	SM165340		
1-11/32	34.13	1.3438	SM105122	SM110122	SM115122		
1-3/8	34.93	1.3750	SM105124	SM110124	SM115124		
	35.00	1.3780	SM155350	SM160350	SM165350		

◎ : Excellent ○ : Good

ISO	P										M				K										
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	180	260	160	250	130
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S						H							
Material Description	Aluminum-wrought alloy					Aluminum-cast, alloyed					Copper and Copper Alloys (Bronze / Brass)						Non Metallic Materials							
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55	42	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	550	630	400
Recommended	◎	◎				◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



# YG SPADE DRILLS

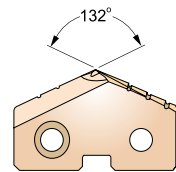
SERIES 3

## SM-POINT SPADE DRILL INSERTS - SUPER HSS T15

- SM-POINT EINWEG BOHREINSATZ - SUPER HSS T15
- Plaquettes SPADE DRILL, pointe SM - Super HSS T15
- CUSPIDI DI FORATURA SM-POINT - SUPER HSS T15



- For use in high nickel alloys and materials over 280 Brinell.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.
- Zur Anwendung bei legierten Stählen mit hohem Nickelanteil und Werkstoffen über 280 Brinell
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnittsgeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A376

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	SM105126	SM110126	SM115126	
		36.00	1.4173	SM155360	SM160360	SM165360	
	1-7/16	36.51	1.4375	SM105128	SM110128	SM115128	
		37.00	1.4567	SM155370	SM160370	SM165370	
	1-15/32	37.31	1.4688	SM105130	SM110130	SM115130	
		38.00	1.4961	SM155380	SM160380	SM165380	
	1-1/2	38.10	1.5000	SM105132	SM110132	SM115132	
		38.89	1.5312	SM105134	SM110134	SM115134	
	1-17/32	39.00	1.5354	SM155390	SM160390	SM165390	
		39.69	1.5625	SM105136	SM110136	SM115136	
	1-9/16	40.00	1.5748	SM155400	SM160400	SM165400	
		40.48	1.5938	SM105138	SM110138	SM115138	
	1-19/32	41.00	1.6142	SM155410	SM160410	SM165410	
		41.28	1.6250	SM105140	SM110140	SM115140	
	1-5/8	42.00	1.6535	SM155420	SM160420	SM165420	
		42.07	1.6562	SM105142	SM110142	SM115142	
	1-21/32	42.86	1.6875	SM105144	SM110144	SM115144	
		43.00	1.6929	SM155430	SM160430	SM165430	
	1-23/32	43.66	1.7188	SM105146	SM110146	SM115146	
		44.00	1.7323	SM155440	SM160440	SM165440	
	1-3/4	44.45	1.7500	SM105148	SM110148	SM115148	
		45.00	1.7717	SM155450	SM160450	SM165450	
	1-25/32	45.24	1.7812	SM105150	SM110150	SM115150	
		46.00	1.8110	SM155460	SM160460	SM165460	
	1-13/16	46.04	1.8125	SM105152	SM110152	SM115152	
		46.83	1.8438	SM105154	SM110154	SM115154	
	1-27/32	47.00	1.8504	SM155470	SM160470	SM165470	
		47.63	1.8750	SM105156	SM110156	SM115156	

◎ : Excellent ○ : Good

ISO	P										M				K																										
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230																					
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

# YG SPADE DRILLS

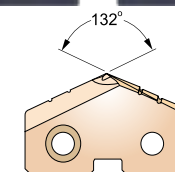
SERIES Y, Z, O

## SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48

- SM-POINT EINWEG BOHREINSATZ - PREMIUM HSS M48
- Plaquettes SPADE DRILL, pointe SM - HSS Premium M48
- CUSPIDI, SM-POINT - PREMIUM HSS M48



- For use in high temperature alloys and materials with 350-500 Brinell.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.
- Zur Anwendung bei hitzebeständigen Legierungen und Werkstoffen mit 350-500 Brinell
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnittsgeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A377

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	D73 - 115	-	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. PREMIUM HSS M48		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	SM555095	SM560095	SM565095	
		9.53	.3750	SM555024	SM510024	SM515024	
		9.80	.3858	SM555098	SM560098	SM565098	
		9.92	.3906	SM555025	SM510025	SM515025	
		10.00	.3937	SM555100	SM560100	SM565100	
		10.20	.4016	SM555102	SM560102	SM565102	
	25/64	10.32	.4062	SM555026	SM510026	SM515026	
		10.50	.4134	SM555105	SM560105	SM565105	
		10.72	.4219	SM555027	SM510027	SM515027	
		10.80	.4252	SM555108	SM560108	SM565108	
		11.00	.4331	SM555110	SM560110	SM565110	
		11.11	.4375	SM555028	SM510028	SM515028	
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.50	.4528	SM555115	SM560115	SM565115	
		11.51	.4531	SM555029	SM510029	SM515029	
		11.91	.4688	SM555030	SM510030	SM515030	
		12.00	.4724	SM555120	SM560120	SM565120	
		12.30	.4844	SM555031	SM510031	SM515031	
		12.50	.4921	SM555125	SM560125	SM565125	
	1/2	12.70	.5000	SM555032	SM510032	SM515032	
		13.00	.5118	SM555130	SM560130	SM565130	
		13.10	.5156	SM555033	SM510033	SM515033	
		13.49	.5312	SM555034	SM510034	SM515034	
		13.50	.5315	SM555135	SM560135	SM565135	
		13.89	.5469	SM555035	SM510035	SM515035	
O Ø12.98 (.511) to Ø17.65 (.695)	35/64	13.89	.5469	SM555140	SM560140	SM565140	
		14.00	.5512	SM555036	SM510036	SM515036	
		14.29	.5625	SM555145	SM560145	SM565145	
		14.50	.5709	SM555037	SM510037	SM515037	
		14.68	.5781	SM555037	SM510037	SM515037	
		15.00	.5906	SM555150	SM560150	SM565150	
	19/32	15.08	.5938	SM555038	SM510038	SM515038	
		15.48	.6094	SM555039	SM510039	SM515039	
		15.50	.6102	SM555155	SM560155	SM565155	
		15.88	.6250	SM555040	SM510040	SM515040	
		16.00	.6299	SM555160	SM560160	SM565160	

◎ : Excellent ○ : Good

ISO	P										M				K																										
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRC	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230																					
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	



# YG SPADE DRILLS

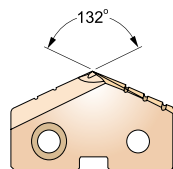
SERIES 0, 1

## SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48

- SM-POINT EINWEG BOHREINSATZ - PREMIUM HSS M48
- Plaquettes SPADE DRILL, pointe SM - HSS Premium M48
- CUSPIDI, SM-POINT - PREMIUM HSS M48



- For use in high temperature alloys and materials with 350-500 Brinell.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.
- Zur Anwendung bei hitzebeständigen Legierungen und Werkstoffen mit 350-500 Brinell
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnitengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A377

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. PREMIUM HSS M48		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN TiCN TiAlN		
					TiN	TiCN	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	SM505041	SM510041	SM515041
		16.50	.6496		SM555165	SM560165	SM565165
	21/32	16.67	.6562		SM505042	SM510042	SM515042
		17.00	.6693		SM555170	SM560170	SM565170
	43/64	17.07	.6719		SM505043	SM510043	SM515043
		17.46	.6875		SM505044	SM510044	SM515044
		17.50	.6890		SM555175	SM560175	SM565175
	45/64	17.86	.7031		SM505045	SM510045	SM515045
		18.00	.7087		SM555180	SM560180	SM565180
		18.26	.7188		SM505046	SM510046	SM515046
1 Ø17.53 (.690) to Ø24.38 (.960)		18.50	.7283	4.0 (5/32)	SM555185	SM560185	SM565185
	47/64	18.65	.7344		SM505047	SM510047	SM515047
		19.00	.7480		SM555190	SM560190	SM565190
	3/4	19.05	.7500		SM505048	SM510048	SM515048
		19.45	.7656		SM505049	SM510049	SM515049
		19.50	.7677		SM555195	SM560195	SM565195
	25/32	19.84	.7812		SM505050	SM510050	SM515050
		20.00	.7874		SM555200	SM560200	SM565200
	51/64	20.24	.7969		SM505051	SM510051	SM515051
		20.50	.8071		SM555205	SM560205	SM565205
		20.64	.8125		SM505052	SM510052	SM515052
		21.00	.8268		SM555210	SM560210	SM565210
		21.43	.8438		SM505054	SM510054	SM515054
		21.83	.8594		SM505055	SM510055	SM515055
		22.00	.8661		SM555220	SM560220	SM565220
		22.23	.8750		SM505056	SM510056	SM515056
		22.62	.8906		SM505057	SM510057	SM515057
		23.00	.9055		SM555230	SM560230	SM565230
	23.02	.9062	SM505058	SM510058	SM515058		
	23.42	.9219	SM505059	SM510059	SM515059		
	23.81	.9375	SM505060	SM510060	SM515060		
	24.00	.9449	SM555240	SM560240	SM565240		

◎ : Excellent ○ : Good

ISO	P										M				K																													
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	26	3	25	130	21	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

A336 phone:+82-32-526-0909, www.yg1.kr, E-mail:yg1@yg1.kr

YG-1 CO., LTD.

# YG SPADE DRILLS

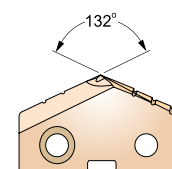
SERIES 2

## SM-POINT SPADE DRILL INSERTS - PREMIUM HSS M48

- SM-POINT EINWEG BOHREINSATZ - PREMIUM HSS M48
- Plaquettes SPADE DRILL, pointe SM - HSS Premium M48
- CUSPIDI, SM-POINT - PREMIUM HSS M48



- For use in high temperature alloys and materials with 350-500 Brinell.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.
- Zur Anwendung bei hitzebeständigen Legierungen und Werkstoffen mit 350-500 Brinell
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnitengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



Cutting conditions : p.A377

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. PREMIUM HSS M48		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN TiCN TiAlN		
					TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM505062	SM510062	SM515062
	63/64	25.00	.9843		SM555250	SM560250	SM565250
	1	25.40	1.0000		SM505100	SM510100	SM515100
	1-1/64	25.80	1.0156		SM505101	SM510101	SM515101
		26.00	1.0236		SM555260	SM560260	SM565260
	1-1/32	26.19	1.0312		SM505102	SM510102	SM515102
	1-3/64	26.59	1.0469		SM505103	SM510103	SM515103
	1-1/16	26.99	1.0625		SM505104	SM510104	SM515104
		27.00	1.0630		SM555270	SM560270	SM565270
	1-3/32	27.78	1.0938		SM505106	SM510106	SM515106
		28.00	1.1024		SM555280	SM560280	SM565280
	1-7/64	28.18	1.1094		SM505107	SM510107	SM515107
	1-1/8	28.58	1.1250		SM505108	SM510108	SM515108
		29.00	1.1417		SM555290	SM560290	SM565290
	1-5/32	29.37	1.1562		SM505110	SM510110	SM515110
		30.00	1.1811		SM555300	SM560300	SM565300
	1-3/16	30.16	1.1875		SM505112	SM510112	SM515112
	1-7/32	30.96	1.2188		SM505114	SM510114	SM515114
		31.00	1.2205		SM555310	SM560310	SM565310
	1-1/4	31.75	1.2500		SM505116	SM510116	SM515116
	32.00	1.2598	SM555320	SM560320	SM565320		
1-9/32	32.54	1.2812	SM505118	SM510118	SM515118		
	33.00	1.2992	SM555330	SM560330	SM565330		
1-5/16	33.34	1.3125	SM505120	SM510120	SM515120		
	34.00	1.3386	SM555340	SM560340	SM565340		
1-11/32	34.13	1.3438	SM505122	SM510122	SM515122		
1-3/8	34.93	1.3750	SM505124	SM510124	SM515124		
	35.00	1.3780	SM555350	SM560350	SM565350		

◎ : Excellent ○ : Good

ISO	P										M				K																													
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																					
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	180	26	3	25	130	21	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

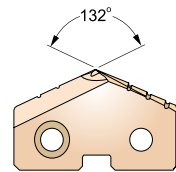
YG-1 CO., LTD.

phone:+82-32-526-0909, www.yg1.kr, E-mail:yg1@yg1.kr

A337

**SM-POINT SPADE DRILL INSERTS for CAST IRON - CARBIDE K10**

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K10
- Plaquettes SPADE DRILL, pointe SM pour la fonte - Carbure K10
- CUSPIDI SM-POINT - MD K10



- High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.
- Beste Leistung in Grauguss über 220 Brinell, kurzspanendem Kugelgraphitguss, Si-Aluminium und Kupferlegierungen
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

cutting conditions : p.A378

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K10		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
<b>Y</b> Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	2.4 (3/32)	SM655095	SM660095	SM665095
		9.53	.3750		SM605024	SM610024	SM615024
	25/64	9.80	.3858		SM655098	SM660098	SM665098
		9.92	.3906		SM605025	SM610025	SM615025
	13/32	10.00	.3937		SM655100	SM660100	SM665100
		10.20	.4016		SM655102	SM660102	SM665102
	27/64	10.32	.4062		SM605026	SM610026	SM615026
		10.50	.4134		SM655105	SM660105	SM665105
	7/16	10.72	.4219		SM605027	SM610027	SM615027
		10.80	.4252		SM655108	SM660108	SM665108
<b>Z</b> Ø11.11(.437) to Ø12.95(.510)	7/16	11.00	.4331	2.4 (3/32)	SM655110	SM660110	SM665110
		11.11	.4375		SM605028	SM610028	SM615028
	29/64	11.50	.4528		SM655115	SM660115	SM665115
		11.51	.4531		SM605029	SM610029	SM615029
	15/32	11.91	.4688		SM655120	SM660120	SM665120
		12.00	.4724		SM605030	SM610030	SM615030
	31/64	12.30	.4844		SM655125	SM660125	SM665125
		12.50	.4921		SM605031	SM610031	SM615031
	1/2	12.70	.5000		SM655130	SM660130	SM665130
		12.70	.5000		SM605032	SM610032	SM615032
<b>0</b> Ø12.98 (.511) to Ø17.65 (.695)	33/64	13.00	.5118	3.2 (1/8)	SM655133	SM660133	SM665133
		13.10	.5156		SM605033	SM610033	SM615033
	17/32	13.49	.5312		SM655135	SM660135	SM665135
		13.50	.5315		SM605034	SM610034	SM615034
	35/64	13.89	.5469		SM655140	SM660140	SM665140
		14.00	.5512		SM605035	SM610035	SM615035
	9/16	14.29	.5625		SM655145	SM660145	SM665145
		14.50	.5709		SM605036	SM610036	SM615036
	37/64	14.68	.5781		SM655150	SM660150	SM665150
		15.00	.5906		SM605037	SM610037	SM615037
19/32	15.08	.5938	SM655155	SM660155	SM665155		
	15.50	.6102	SM605038	SM610038	SM615038		
39/64	15.88	.6250	SM655160	SM660160	SM665160		
	16.00	.6299	SM605039	SM610039	SM615039		

◎ : Excellent ○ : Good

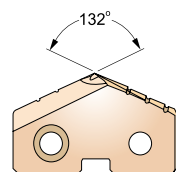
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	◎	◎

ISO Material Description	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					

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- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K10
- Plaquettes SPADE DRILL, pointe SM pour la fonte - Carbure K10
- CUSPIDI SM-POINT - MD K10



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- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

cutting conditions : p.A378

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K10		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
<b>0</b> Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	SM605041	SM610041	SM615041
		16.50	.6496		SM655165	SM660165	SM665165
	21/32	16.67	.6562		SM605042	SM610042	SM615042
		17.00	.6693		SM655170	SM660170	SM665170
	43/64	17.07	.6719		SM605043	SM610043	SM615043
		17.46	.6875		SM605044	SM610044	SM615044
	11/16	17.50	.6890		SM655175	SM660175	SM665175
		17.86	.7031		SM605045	SM610045	SM615045
	45/64	18.00	.7087		SM655180	SM660180	SM665180
		18.26	.7188		SM605046	SM610046	SM615046
23/32	18.50	.7283	SM655185	SM660185	SM665185		
	18.65	.7344	SM605047	SM610047	SM615047		
47/64	19.00	.7480	SM655190	SM660190	SM665190		
	19.05	.7500	SM605048	SM610048	SM615048		
3/4	19.45	.7656	SM655195	SM660195	SM665195		
	19.45	.7656	SM605049	SM610049	SM615049		
49/64	19.50	.7677	SM655195	SM660195	SM665195		
	19.84	.7812	SM605050	SM610050	SM615050		
25/32	19.84	.7812	SM655200	SM660200	SM665200		
	20.00	.7874	SM605051	SM610051	SM615051		
51/64	20.24	.7969	SM655205	SM660205	SM665205		
	20.50	.8071	SM605052	SM610052	SM615052		
13/16	20.64	.8125	SM655210	SM660210	SM665210		
	21.00	.8268	SM605053	SM610053	SM615053		
27/32	21.43	.8438	SM655215	SM660215	SM665215		
	21.83	.8594	SM605054	SM610054	SM615054		
55/64	22.00	.8661	SM655220	SM660220	SM665220		
	22.23	.8750	SM605055	SM610055	SM615055		
7/8	22.62	.8906	SM655225	SM660225	SM665225		
	23.00	.9055	SM605056	SM610056	SM615056		
57/64	23.00	.9055	SM655230	SM660230	SM665230		
	23.02	.9062	SM605057	SM610057	SM615057		
29/32	23.42	.9219	SM655235	SM660235	SM665235		
	23.81	.9375	SM605058	SM610058	SM615058		
15/16	24.00	.9449	SM655240	SM660240	SM665240		
	24.00	.9449	SM605059	SM610059	SM615059		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended															◎	◎	◎	◎	◎	◎

ISO Material Description	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended																					



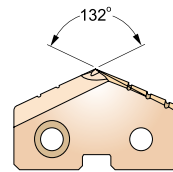
**SM-POINT SPADE DRILL INSERTS for CAST IRON - CARBIDE K10**

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K10
- Plaquettes SPADE DRILL, pointe SM pour la fonte - Carbure K10
- CUSPIDI SM-POINT - MD K10



- High performance on Gray cast iron over 220 Brinell, malleable cast iron with short chips, silicon aluminum and copper alloys.
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- Any non-standard size available.

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- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A378

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245-246	-	-	-
ER COLLET CHUCK	-	D73-115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K10		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
<b>2</b> Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	SM605062	SM610062	SM615062	
	63/64	25.00	.9843	SM655250	SM660250	SM665250	
	1	25.40	1.0000	SM605100	SM610100	SM615100	
	1-1/64	25.80	1.0156	SM605101	SM610101	SM615101	
		26.00	1.0236	SM655260	SM660260	SM665260	
	1-1/32	26.19	1.0312	SM605102	SM610102	SM615102	
	1-3/64	26.59	1.0469	SM605103	SM610103	SM615103	
	1-1/16	26.99	1.0625	SM605104	SM610104	SM615104	
		27.00	1.0630	SM655270	SM660270	SM665270	
	1-3/32	27.78	1.0938	SM605106	SM610106	SM615106	
		28.00	1.1024	SM655280	SM660280	SM665280	
	1-7/64	28.18	1.1094	SM605107	SM610107	SM615107	
	1-1/8	28.58	1.1250	SM605108	SM610108	SM615108	
		29.00	1.1417	SM655290	SM660290	SM665290	
	1-5/32	29.37	1.1562	SM605110	SM610110	SM615110	
		30.00	1.1811	SM655300	SM660300	SM665300	
	1-3/16	30.16	1.1875	SM605112	SM610112	SM615112	
	1-7/32	30.96	1.2188	SM605114	SM610114	SM615114	
		31.00	1.2205	SM655310	SM660310	SM665310	
	1-1/4	31.75	1.2500	SM605116	SM610116	SM615116	
		32.00	1.2598	SM655320	SM660320	SM665320	
	1-9/32	32.54	1.2812	SM605118	SM610118	SM615118	
		33.00	1.2992	SM655330	SM660330	SM665330	
	1-5/16	33.34	1.3125	SM605120	SM610120	SM615120	
	34.00	1.3386	SM655340	SM660340	SM665340		
1-11/32	34.13	1.3438	SM605122	SM610122	SM615122		
1-3/8	34.93	1.3750	SM605124	SM610124	SM615124		
	35.00	1.3780	SM655350	SM660350	SM665350		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	◎	◎	◎	◎

ISO Material Description	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

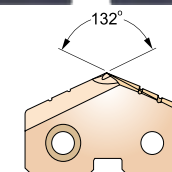
**SM-POINT SPADE DRILL INSERTS - CARBIDE K20**

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL, pointe SM - Carbure K20
- CUSPIDI SM-POINT - MD K20



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- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A378

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245-246	-	-	-
ER COLLET CHUCK	-	D73-115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K20		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
<b>Y</b> Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	SM755095	SM760095	SM765095	
		9.53	.3750	SM705024	SM710024	SM715024	
		9.80	.3858	SM755098	SM760098	SM765098	
	25/64	9.92	.3906	SM705025	SM710025	SM715025	
		10.00	.3937	SM755100	SM760100	SM765100	
		10.20	.4016	SM755102	SM760102	SM765102	
	13/32	10.32	.4062	SM705026	SM710026	SM715026	
		10.50	.4134	SM755105	SM760105	SM765105	
	27/64	10.72	.4219	SM705027	SM710027	SM715027	
		10.80	.4252	SM755108	SM760108	SM765108	
		11.00	.4331	SM755110	SM760110	SM765110	
	<b>Z</b> Ø11.11(.437) to Ø12.95(.510)	7/16	11.11	.4375	SM705028	SM710028	SM715028
		11.50	.4528	SM755115	SM760115	SM765115	
29/64		11.51	.4531	SM705029	SM710029	SM715029	
15/32		11.91	.4688	SM705030	SM710030	SM715030	
		12.00	.4724	SM755120	SM760120	SM765120	
31/64		12.30	.4844	SM705031	SM710031	SM715031	
		12.50	.4921	SM755125	SM760125	SM765125	
1/2		12.70	.5000	SM705032	SM710032	SM715032	
		13.00	.5118	SM755130	SM760130	SM765130	
33/64		13.10	.5156	SM705033	SM710033	SM715033	
17/32		13.49	.5312	SM705034	SM710034	SM715034	
		13.50	.5315	SM755135	SM760135	SM765135	
<b>O</b> Ø12.98 (.511) to Ø17.65 (.695)	35/64	13.89	.5469	SM705035	SM710035	SM715035	
		14.00	.5512	SM755140	SM760140	SM765140	
	9/16	14.29	.5625	SM705036	SM710036	SM715036	
		14.50	.5709	SM755145	SM760145	SM765145	
	37/64	14.68	.5781	SM705037	SM710037	SM715037	
		15.00	.5906	SM755150	SM760150	SM765150	
	19/32	15.08	.5938	SM705038	SM710038	SM715038	
	39/64	15.48	.6094	SM705039	SM710039	SM715039	
		15.50	.6102	SM755155	SM760155	SM765155	
	5/8	15.88	.6250	SM705040	SM710040	SM715040	
		16.00	.6299	SM755160	SM760160	SM765160	

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	○	○	◎	◎	◎	◎

ISO Material Description	N					S										H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	15	30	25	38	34	15	30	25	38	34	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

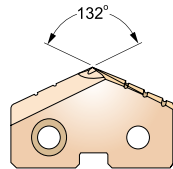


**SM-POINT SPADE DRILL INSERTS - CARBIDE K20**

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL, pointe SM - Carbure K20
- CUSPIDI SM-POINT - MD K20



- For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.
- Zur Anwendung in Grauguss bis 220 Brinell, Nichteisen - Metallen, Kupfer, Messing und Aluminium
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A378

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K20		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	SM705041	SM710041	SM715041
		16.50	.6496		SM755165	SM760165	SM765165
	21/32	16.67	.6562		SM705042	SM710042	SM715042
		17.00	.6693		SM755170	SM760170	SM765170
	43/64	17.07	.6719		SM705043	SM710043	SM715043
		17.46	.6875		SM705044	SM710044	SM715044
		17.50	.6890		SM755175	SM760175	SM765175
	45/64	17.86	.7031		SM705045	SM710045	SM715045
		18.00	.7087		SM755180	SM760180	SM765180
		18.26	.7188		SM705046	SM710046	SM715046
1 Ø17.53 (.690) to Ø24.38 (.960)		18.50	.7283	4.0 (5/32)	SM755185	SM760185	SM765185
	47/64	18.65	.7344		SM705047	SM710047	SM715047
		19.00	.7480		SM755190	SM760190	SM765190
	3/4	19.05	.7500		SM705048	SM710048	SM715048
		19.45	.7656		SM705049	SM710049	SM715049
		19.50	.7677		SM755195	SM760195	SM765195
	25/32	19.84	.7812		SM705050	SM710050	SM715050
		20.00	.7874		SM755200	SM760200	SM765200
	51/64	20.24	.7969		SM705051	SM710051	SM715051
		20.50	.8071		SM755205	SM760205	SM765205
		20.64	.8125		SM705052	SM710052	SM715052
		21.00	.8268		SM755210	SM760210	SM765210
		21.43	.8438		SM705054	SM710054	SM715054
		21.83	.8594		SM705055	SM710055	SM715055
		22.00	.8661		SM755220	SM760220	SM765220
		22.23	.8750		SM705056	SM710056	SM715056
		22.62	.8906		SM705057	SM710057	SM715057
		23.00	.9055		SM755230	SM760230	SM765230
	23.02	.9062	SM705058	SM710058	SM715058		
	23.42	.9219	SM705059	SM710059	SM715059		
	23.81	.9375	SM705060	SM710060	SM715060		
	24.00	.9449	SM755240	SM760240	SM765240		

⊙ : Excellent ○ : Good

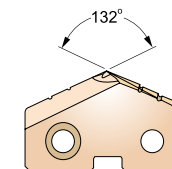
ISO	P										M				K																										
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	180	260	160	250	130	230	200	325	200	240	180	180	260	160	250	130	230				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	200	325	200	240	180	180	260	160	250	130	230	200	325	200	240	180	230				
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙					

**SM-POINT SPADE DRILL INSERTS - CARBIDE K20**

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL, pointe SM - Carbure K20
- CUSPIDI SM-POINT - MD K20



- For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.
- Zur Anwendung in Grauguss bis 220 Brinell, Nichteisen - Metallen, Kupfer, Messing und Aluminium
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A378

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K20		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM705062	SM710062	SM715062
	63/64	25.00	.9843		SM755250	SM760250	SM765250
	1	25.40	1.0000		SM705100	SM710100	SM715100
	1-1/64	25.80	1.0156		SM705101	SM710101	SM715101
		26.00	1.0236		SM755260	SM760260	SM765260
	1-1/32	26.19	1.0312		SM705102	SM710102	SM715102
	1-3/64	26.59	1.0469		SM705103	SM710103	SM715103
	1-1/16	26.99	1.0625		SM705104	SM710104	SM715104
		27.00	1.0630		SM755270	SM760270	SM765270
	1-3/32	27.78	1.0938		SM705106	SM710106	SM715106
		28.00	1.1024		SM755280	SM760280	SM765280
	1-7/64	28.18	1.1094		SM705107	SM710107	SM715107
	1-1/8	28.58	1.1250		SM705108	SM710108	SM715108
		29.00	1.1417		SM755290	SM760290	SM765290
	1-5/32	29.37	1.1562		SM705110	SM710110	SM715110
		30.00	1.1811		SM755300	SM760300	SM765300
	1-3/16	30.16	1.1875		SM705112	SM710112	SM715112
	1-7/32	30.96	1.2188		SM705114	SM710114	SM715114
		31.00	1.2205		SM755310	SM760310	SM765310
	1-1/4	31.75	1.2500		SM705116	SM710116	SM715116
		32.00	1.2598		SM755320	SM760320	SM765320
	1-9/32	32.54	1.2812		SM705118	SM710118	SM715118
		33.00	1.2992		SM755330	SM760330	SM765330
	1-5/16	33.34	1.3125		SM705120	SM710120	SM715120
	34.00	1.3386	SM755340	SM760340	SM765340		
1-11/32	34.13	1.3438	SM705122	SM710122	SM715122		
1-3/8	34.93	1.3750	SM705124	SM710124	SM715124		
	35.00	1.3780	SM755350	SM760350	SM765350		

⊙ : Excellent ○ : Good

ISO	P										M				K																										
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron																		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21	180	260	160	250	130	230	200	325	200	240	180	180	260	160	250	130	230				
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	200	325	200	240	180	180	260	160	250	130	230	200	325	200	240	180	230				
Recommended	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙					

# YG SPADE DRILLS

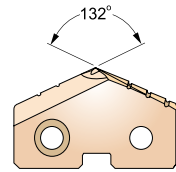
SERIES 3

## SM-POINT SPADE DRILL INSERTS - CARBIDE K20

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL K20
- Plaquettes SPADE DRILL, pointe SM - Carbure K20
- CUSPIDI SM-POINT - MD K20



- For use in Gray cast iron up to 220 Brinell, nonferrous metals, copper, brass and aluminum.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.
- Zur Anwendung in Grauguss bis 220 Brinell, Nichteisen-Metallen, Kupfer, Messing und Aluminium
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnittsgeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A378

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE K20		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
3 Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	SM705126	SM710126	SM715126	
		36.00	1.4173	SM755360	SM760360	SM765360	
	1-7/16	36.51	1.4375	SM705128	SM710128	SM715128	
		37.00	1.4567	SM755370	SM760370	SM765370	
	1-15/32	37.31	1.4688	SM705130	SM710130	SM715130	
		38.00	1.4961	SM755380	SM760380	SM765380	
	1-1/2	38.10	1.5000	SM705132	SM710132	SM715132	
		38.89	1.5312	SM705134	SM710134	SM715134	
	1-17/32	39.00	1.5354	SM755390	SM760390	SM765390	
		39.69	1.5625	SM705136	SM710136	SM715136	
	1-9/16	40.00	1.5748	SM755400	SM760400	SM765400	
		40.48	1.5938	SM705138	SM710138	SM715138	
	1-19/32	41.00	1.6142	SM755410	SM760410	SM765410	
		41.28	1.6250	SM705140	SM710140	SM715140	
	1-5/8	42.00	1.6535	SM755420	SM760420	SM765420	
		42.07	1.6562	SM705142	SM710142	SM715142	
	1-21/32	42.86	1.6875	SM705144	SM710144	SM715144	
		43.00	1.6929	SM755430	SM760430	SM765430	
	1-11/16	43.66	1.7188	SM705146	SM710146	SM715146	
		44.00	1.7323	SM755440	SM760440	SM765440	
	1-23/32	44.45	1.7500	SM705148	SM710148	SM715148	
		45.00	1.7717	SM755450	SM760450	SM765450	
	1-3/4	45.24	1.7812	SM705150	SM710150	SM715150	
		46.00	1.8110	SM755460	SM760460	SM765460	
1-25/32	46.04	1.8125	SM705152	SM710152	SM715152		
	46.83	1.8438	SM705154	SM710154	SM715154		
1-13/16	47.00	1.8504	SM755470	SM760470	SM765470		
	47.63	1.8750	SM705156	SM710156	SM715156		

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

# YG SPADE DRILLS

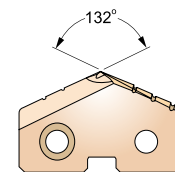
SERIES Y, Z, O

## SM-POINT SPADE DRILL INSERTS - CARBIDE P40

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL, pointe SM - Carbure P40
- CUSPIDI SM-POINT - MD P40



- For general use in carbon steels and alloys steels.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.
- Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnittsgeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A380

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	D73 - 115	-	-

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE P40		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
Y Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	SM855095	SM860095	SM865095	
		9.53	.3750	SM805024	SM810024	SM815024	
		9.80	.3858	SM855098	SM860098	SM865098	
		9.92	.3906	SM805025	SM810025	SM815025	
		10.00	.3937	SM855100	SM860100	SM865100	
		10.20	.4016	SM855102	SM860102	SM865102	
	13/32	10.32	.4062	SM805026	SM810026	SM815026	
		10.50	.4134	SM855105	SM860105	SM865105	
		10.72	.4219	SM805027	SM810027	SM815027	
		10.80	.4252	SM855108	SM860108	SM865108	
		11.00	.4331	SM855110	SM860110	SM865110	
		11.11	.4375	SM805028	SM810028	SM815028	
Z Ø11.11(.437) to Ø12.95(.510)	7/16	11.50	.4528	SM855115	SM860115	SM865115	
		11.91	.4688	SM805029	SM810029	SM815029	
		12.00	.4724	SM855120	SM860120	SM865120	
		12.30	.4844	SM805031	SM810031	SM815031	
		12.50	.4921	SM855125	SM860125	SM865125	
		12.70	.5000	SM805032	SM810032	SM815032	
	15/32	13.00	.5118	SM855130	SM860130	SM865130	
		13.10	.5156	SM805033	SM810033	SM815033	
		13.49	.5312	SM855135	SM860135	SM865135	
		13.50	.5315	SM805034	SM810034	SM815034	
		13.89	.5469	SM855135	SM860135	SM865135	
		13.89	.5469	SM805035	SM810035	SM815035	
O Ø12.98 (.511) to Ø17.65 (.695)	1/2	14.00	.5512	SM855140	SM860140	SM865140	
		14.29	.5625	SM805036	SM810036	SM815036	
		14.50	.5709	SM855145	SM860145	SM865145	
		14.68	.5781	SM805037	SM810037	SM815037	
		15.00	.5906	SM855150	SM860150	SM865150	
		15.08	.5938	SM805038	SM810038	SM815038	
	17/32	15.48	.6094	SM855155	SM860155	SM865155	
		15.50	.6102	SM805039	SM810039	SM815039	
		15.88	.6250	SM855160	SM860160	SM865160	
		16.00	.6299	SM805040	SM810040	SM815040	
		16.00	.6299	SM855160	SM860160	SM865160	
		16.00	.6299	SM805040	SM810040	SM815040	

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	

ISO	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys	Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



# YG SPADE DRILLS

SERIES 0, 1

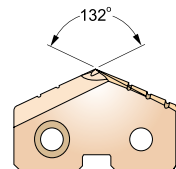
## SM-POINT SPADE DRILL INSERTS - CARBIDE P40

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL, pointe SM - Carbure P40
- CUSPIDI SM-POINT - MD P40



- For general use in carbon steels and alloys steels.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnitengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A380

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE P40		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
0 Ø12.98(.511) to Ø17.65(.695)	41/64	16.27	.6406	3.2 (1/8)	SM805041	SM810041	SM815041
		16.50	.6496		SM855165	SM860165	SM865165
	21/32	16.67	.6562		SM805042	SM810042	SM815042
		17.00	.6693		SM855170	SM860170	SM865170
	43/64	17.07	.6719		SM805043	SM810043	SM815043
		17.46	.6875		SM805044	SM810044	SM815044
		17.50	.6890		SM855175	SM860175	SM865175
	45/64	17.86	.7031		SM805045	SM810045	SM815045
		18.00	.7087		SM855180	SM860180	SM865180
		18.26	.7188		SM805046	SM810046	SM815046
1 Ø17.53 (.690) to Ø24.38 (.960)		18.50	.7283	SM855185	SM860185	SM865185	
	47/64	18.65	.7344	SM805047	SM810047	SM815047	
		19.00	.7480	SM855190	SM860190	SM865190	
	3/4	19.05	.7500	SM805048	SM810048	SM815048	
		19.45	.7656	SM805049	SM810049	SM815049	
		19.50	.7677	SM855195	SM860195	SM865195	
	25/32	19.84	.7812	SM805050	SM810050	SM815050	
		20.00	.7874	SM855200	SM860200	SM865200	
	51/64	20.24	.7969	SM805051	SM810051	SM815051	
		20.50	.8071	SM855205	SM860205	SM865205	
		20.64	.8125	SM805052	SM810052	SM815052	
		21.00	.8268	SM855210	SM860210	SM865210	
		21.43	.8438	SM805054	SM810054	SM815054	
		21.83	.8594	SM805055	SM810055	SM815055	
		22.00	.8661	SM855220	SM860220	SM865220	
		22.23	.8750	SM805056	SM810056	SM815056	
		22.62	.8906	SM805057	SM810057	SM815057	
		23.00	.9055	SM855230	SM860230	SM865230	
	23.02	.9062	SM805058	SM810058	SM815058		
	23.42	.9219	SM805059	SM810059	SM815059		
	23.81	.9375	SM805060	SM810060	SM815060		
	24.00	.9449	SM855240	SM860240	SM865240		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○						○			○	○	○	○	○			◎			

# YG SPADE DRILLS

SERIES 2

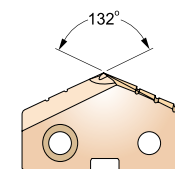
## SM-POINT SPADE DRILL INSERTS - CARBIDE P40

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL, pointe SM - Carbure P40
- CUSPIDI SM-POINT - MD P40



- For general use in carbon steels and alloys steels.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnitengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A380

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
	INDEXABLE DRILL HOLDER D245 - 246	-	-	-
	ER COLLET CHUCK			D73 - 115

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE P40		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN	TiCN	TiAlN
2 Ø24.41 (.961) to Ø35.05 (1.380)	31/32	24.61	.9688	4.8 (3/16)	SM805062	SM810062	SM815062
	63/64	25.00	.9843		SM855250	SM860250	SM865250
	1	25.40	1.0000		SM805100	SM810100	SM815100
	1-1/64	25.80	1.0156		SM805101	SM810101	SM815101
		26.00	1.0236		SM855260	SM860260	SM865260
	1-1/32	26.19	1.0312		SM805102	SM810102	SM815102
	1-3/64	26.59	1.0469		SM805103	SM810103	SM815103
	1-1/16	26.99	1.0625		SM805104	SM810104	SM815104
		27.00	1.0630		SM855270	SM860270	SM865270
	1-3/32	27.78	1.0938		SM805106	SM810106	SM815106
		28.00	1.1024		SM855280	SM860280	SM865280
	1-7/64	28.18	1.1094		SM805107	SM810107	SM815107
	1-1/8	28.58	1.1250		SM805108	SM810108	SM815108
		29.00	1.1417		SM855290	SM860290	SM865290
	1-5/32	29.37	1.1562		SM805110	SM810110	SM815110
		30.00	1.1811		SM855300	SM860300	SM865300
	1-3/16	30.16	1.1875		SM805112	SM810112	SM815112
	1-7/32	30.96	1.2188		SM805114	SM810114	SM815114
		31.00	1.2205		SM855310	SM860310	SM865310
	1-1/4	31.75	1.2500		SM805116	SM810116	SM815116
		32.00	1.2598		SM855320	SM860320	SM865320
	1-9/32	32.54	1.2812		SM805118	SM810118	SM815118
		33.00	1.2992		SM855330	SM860330	SM865330
	1-5/16	33.34	1.3125		SM805120	SM810120	SM815120
	34.00	1.3386	SM855340	SM860340	SM865340		
1-11/32	34.13	1.3438	SM805122	SM810122	SM815122		
1-3/8	34.93	1.3750	SM805124	SM810124	SM815124		
	35.00	1.3780	SM855350	SM860350	SM865350		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○									○	○	○	○	○			◎			



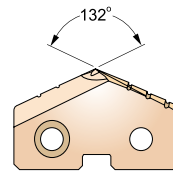
**SM-POINT SPADE DRILL INSERTS - CARBIDE P40**

- SM-POINT EINWEG BOHREINSATZ - VOLLHARTMETALL P40
- Plaquettes SPADE DRILL, pointe SM - Carbure P40
- CUSPIDI SM-POINT - MD P40



- For general use in carbon steels and alloys steels.
- Improved stability and hole straightness by newly developed thinning design.
- Less thrust force and excellent self-centering.
- Any non-standard size available.

- Für allgemeine Anwendung in Kohlenstoffstählen und legierten Stählen
- Erhöhte Stabilität und Fluchtgenauigkeit durch neu entwickelte Querschnidengeometrie
- Verminderte Bohrkraft und ausgezeichnete Selbstzentrierung
- Jede Abmessung außerhalb des Kataloges lieferbar



cutting conditions : p.A380

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	-	-	D73 - 115

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. CARBIDE P40		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN TiCN TiAIN		
					TiN	TiCN	TiAIN
<b>3</b> Ø34.37 (1.353) to Ø47.80 (1.882)	1-13/32	35.72	1.4062	SM805126	SM810126	SM815126	
		36.00	1.4173	SM855360	SM860360	SM865360	
		36.51	1.4375	SM805128	SM810128	SM815128	
	1-7/16	37.00	1.4567	SM855370	SM860370	SM865370	
		37.31	1.4688	SM805130	SM810130	SM815130	
		38.00	1.4961	SM855380	SM860380	SM865380	
	1-1/2	38.10	1.5000	SM805132	SM810132	SM815132	
		38.89	1.5312	SM805134	SM810134	SM815134	
		39.00	1.5354	SM855390	SM860390	SM865390	
	1-9/16	39.69	1.5625	SM805136	SM810136	SM815136	
		40.00	1.5748	SM855400	SM860400	SM865400	
		40.48	1.5938	SM805138	SM810138	SM815138	
	1-19/32	41.00	1.6142	SM855410	SM860410	SM865410	
		41.28	1.6250	SM805140	SM810140	SM815140	
		42.00	1.6535	SM855420	SM860420	SM865420	
	1-5/8	42.07	1.6562	SM805142	SM810142	SM815142	
		42.86	1.6875	SM805144	SM810144	SM815144	
		43.00	1.6929	SM855430	SM860430	SM865430	
	1-23/32	43.66	1.7188	SM805146	SM810146	SM815146	
		44.00	1.7323	SM855440	SM860440	SM865440	
		44.45	1.7500	SM805148	SM810148	SM815148	
	1-3/4	45.00	1.7717	SM855450	SM860450	SM865450	
		45.24	1.7812	SM805150	SM810150	SM815150	
		46.00	1.8110	SM855460	SM860460	SM865460	
1-13/16	46.04	1.8125	SM805152	SM810152	SM815152		
	46.83	1.8438	SM805154	SM810154	SM815154		
	47.00	1.8504	SM855470	SM860470	SM865470		
1-7/8	47.63	1.8750	SM805156	SM810156	SM815156		

◎ : Excellent ○ : Good

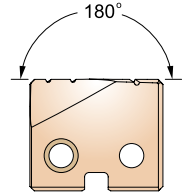
ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	

ISO Material Description	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials				Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○						○			○	○	○	○	○	○	○	◎				

**SPADE DRILL INSERTS - SUPER COBALT T15 FLAT BOTTOM**

- SPADE DRILL BOHRER-EINSÄTZE - SUPER COBALT T15 (FLACH-NUT)
- Plaquettes SPADE DRILL à fond plat - Super Cobalt T15
- INSERTI SPADE DRILL - SUPER HSS T15 FONDO PIATTO



cutting conditions : p.A379

Recommended ToolHolder	Flat Shank	Page	Plain Shank	Page
INDEXABLE DRILL HOLDER	D245 - 246	-	-	-
ER COLLET CHUCK	-	-	-	D73 - 115

Series Min. to Max. mm (inch)	Diameter			Thick Metric (mm, inch)	EDP No. SUPER HSS T15		
	Inch (inch)	Metric (mm)	Decimal (inch)		TiN Hardslick TiAIN		
					TiN	Hardslick	TiAIN
<b>Y</b> Ø9.50 (.374) to Ø11.07 (.436)	3/8	9.50	.3740	S2155095	S2170095	S2165095	
		9.53	.3750	S2105024	S2120024	S2115024	
		9.80	.3858	S2155098	S2170098	S2165098	
		9.92	.3906	S2105025	S2120025	S2115025	
		10.00	.3937	S2155100	S2170100	S2165100	
		10.20	.4016	S2155102	S2170102	S2165102	
	13/32	10.32	.4062	S2105026	S2120026	S2115026	
		10.50	.4134	S2155105	S2170105	S2165105	
		10.72	.4219	S2105027	S2120027	S2115027	
		10.80	.4252	S2155108	S2170108	S2165108	
		11.00	.4331	S2155110	S2170110	S2165110	
		11.11	.4375	S2105028	S2120028	S2115028	
<b>Z</b> Ø11.11(.437) to Ø12.95(.510)	7/16	11.50	.4528	S2155115	S2170115	S2165115	
		11.51	.4531	S2105029	S2120029	S2115029	
		11.91	.4688	S2105030	S2120030	S2115030	
		12.00	.4724	S2155120	S2170120	S2165120	
		12.30	.4844	S2105031	S2120031	S2115031	
		12.50	.4921	S2155125	S2170125	S2165125	
	1/2	12.70	.5000	S2105032	S2120032	S2115032	
		13.00	.5118	S2155130	S2170130	S2165130	
		13.10	.5156	S2105033	S2120033	S2115033	
		13.49	.5312	S2105034	S2120034	S2115034	
		13.50	.5315	S2155135	S2170135	S2165135	
		13.89	.5469	S2105035	S2120035	S2115035	
<b>O</b> Ø12.98 (.511) to Ø17.65 (.695)	35/64	14.00	.5512	S2155140	S2170140	S2165140	
		14.29	.5625	S2105036	S2120036	S2115036	
		14.50	.5709	S2155145	S2170145	S2165145	
		14.68	.5781	S2105037	S2120037	S2115037	
		15.00	.5906	S2155150	S2170150	S2165150	
		15.08	.5938	S2105038	S2120038	S2115038	
	19/32	15.48	.6094	S2105039	S2120039	S2115039	
		15.50	.6102	S2155155	S2170155	S2165155	
		15.88	.6250	S2105040	S2120040	S2115040	
		16.00	.6299	S2155160	S2170160	S2165160	

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	○	○	○	○	○	○	○	○	○	

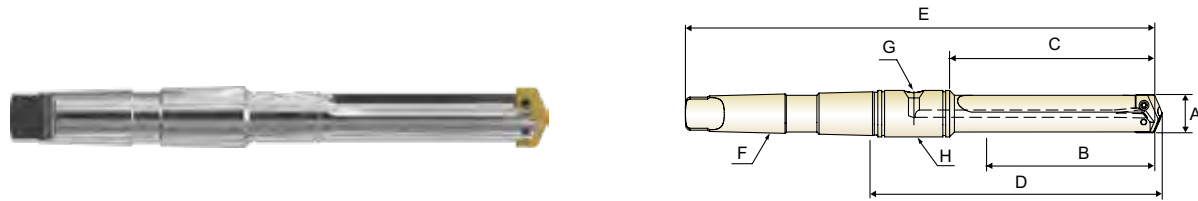
  

ISO Material Description	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials				Heat Resistant Super Alloys						Titanium Alloys		Hardened steel	Chilled Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	55	60	42	55	55	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○						○			○	○	○	○	○	○	○	◎				



**TAPER SHANK HOLDERS**

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



**SHORT LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	ZY0STSMT02I	3/8 ~ 27/64	1-1/4	2-1/32	3-15/32	6-5/16	#2	1/16	PR110048
Z	ZZ0STSMT02I	7/16 ~ 1/2	1-1/4	2-1/32	3-15/32	6-5/16	#2	1/16	PR110048
0	Z00STSMT02I	33/64 ~ 11/16	1-3/8	2-3/16	3-41/64	6-15/32	#2	1/16	PR110048
0.5	Z05STSMT02I	39/64 ~ 11/16	1-3/8	2-3/16	3-41/64	6-15/32	#2	1/16	PR110048
1	Z10STSMT03I	45/64 ~ 15/16	2-3/4	3-7/8	5-39/64	9-5/32	#3	1/8	PR110100
	Z10STSMT04I	45/64 ~ 15/16	2-3/4	3-7/8	5-43/64	10-5/32	#4	1/8	PR110100
1.5	Z15STSMT03I	55/64 ~ 15/16	2-3/4	3-7/8	5-39/64	9-5/32	#3	1/8	PR110100
	Z15STSMT04I	55/64 ~ 15/16	2-3/4	3-7/8	5-43/64	10-5/32	#4	1/8	PR110100
2	Z20STSMT03I	31/32 ~ 1-3/8	3-3/8	4-1/2	6-15/64	9-25/32	#3	1/8	PR110100
	Z20STSMT04I	31/32 ~ 1-3/8	3-3/8	4-1/2	6-19/64	10-25/32	#4	1/8	PR110100
2.5	Z25STSMT03I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	6-15/64	9-25/32	#3	1/8	PR110100
	Z25STSMT04I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	6-37/64	11-1/16	#4	1/4	PR110116
3	Z30STSMT04I	1-13/32 ~ 1-7/8	4-3/4	6	8-1/8	12-9/16	#4	1/4	PR110116
	Z30STSMT05I	1-13/32 ~ 1-7/8	4-3/4	6	8-1/8	13-13/16	#5	1/4	PR110148
4	Z40STSMT04I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	8-5/8	13-1/16	#4	1/4	PR110116
	Z40STSMT05I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	8-5/8	14-5/16	#5	1/4	PR110148
5	Z50STSMT05I	2-1/2 ~ 3-1/2	6-3/4	8-1/2	11-5/16	16-15/16	#5	1/2	PR110216
	Z70STSMT05I	3-17/32 ~ 4-1/2	6-3/4	8-7/8	11-11/16	17-5/16	#5	1/2	PR110216

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)

**TAPER SHANK HOLDERS**

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



**INTERMEDIATE LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
1	Z10ITSMT03I	45/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
1.5	Z15ITSMT03I	55/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
2	Z20ITSMT04I	31/32 ~ 1-3/8	5-3/8	6-1/2	8-19/64	12-25/32	#4	1/8	PR110100
2.5	Z25ITSMT04I	1-3/16 ~ 1-3/8	5-3/8	6-1/2	8-37/64	13-1/16	#4	1/4	PR110116
3	Z30ITSMT04I	1-13/32 ~ 1-7/8	6-1/2	7-3/4	9-7/8	14-5/16	#4	1/4	PR110116

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)



**INTERMEDIATE LENGTH - Helical Flute (Inch)**

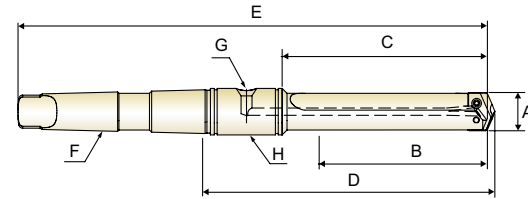
Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
1	Z10ITHMT03I	45/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
1.5	Z15ITHMT03I	55/64 ~ 15/16	4-3/4	5-7/8	7-39/64	11-5/32	#3	1/8	PR110100
2	Z20ITHMT04I	31/32 ~ 1-3/8	5-3/8	6-1/2	8-19/64	12-25/32	#4	1/8	PR110100
2.5	Z25ITHMT04I	1-3/16 ~ 1-3/8	5-3/8	6-1/2	8-37/64	13-1/16	#4	1/4	PR110116

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)



**TAPER SHANK HOLDERS**

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



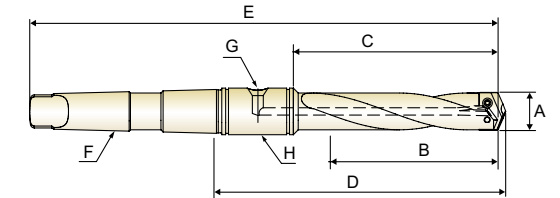
**STANDARD LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	ZY0SDSMT02I	3/8 ~ 27/64	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
Z	ZZ0SDSMT02I	7/16 ~ 1/2	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
0	Z00SDSMT02I	33/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
0.5	Z05SDSMT02I	39/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
1	Z10SDSMT03I	45/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z10SDSMT04I	45/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
1.5	Z15SDSMT03I	55/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z15SDSMT04I	55/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
2	Z20SDSMT03I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z20SDSMT04I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-19/64	14-25/32	#4	1/8	PR110100
2.5	Z25SDSMT03I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z25SDSMT04I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-37/64	15-1/16	#4	1/4	PR110116
3	Z30SDSMT04I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	11-5/8	16-1/16	#4	1/4	PR110116
	Z30SDSMT05I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	11-5/8	17-5/16	#5	1/4	PR110148
4	Z40SDSMT04I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	12-5/8	17-1/16	#4	1/4	PR110116
	Z40SDSMT05I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	12-5/8	18-5/16	#5	1/4	PR110148
5	Z50SDSMT05I	2-1/2 ~ 3-1/2	10-3/4	12-1/2	15-5/16	20-15/16	#5	1/2	PR110216
	Z70SDSMT05I	3-17/32 ~ 4-1/2	10-3/4	12-7/8	15-11/16	21-5/16	#5	1/2	PR110216

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)

**TAPER SHANK HOLDERS**

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



**STANDARD LENGTH - Helical Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	ZY0SDHMT02I	3/8 ~ 27/64	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
Z	ZZ0SDHMT02I	7/16 ~ 1/2	2-3/8	3-5/32	4-19/32	7-7/16	#2	1/16	PR110048
0	Z00SDHMT02I	33/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
0.5	Z05SDHMT02I	39/64 ~ 11/16	2-1/2	3-5/16	4-49/64	7-19/32	#2	1/16	PR110048
1	Z10SDHMT03I	45/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z10SDHMT04I	45/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
1.5	Z15SDHMT03I	55/64 ~ 15/16	6-3/4	7-7/8	9-39/64	13-5/32	#3	1/8	PR110100
	Z15SDHMT04I	55/64 ~ 15/16	6-3/4	7-7/8	9-43/64	14-5/32	#4	1/8	PR110100
2	Z20SDHMT03I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z20SDHMT04I	31/32 ~ 1-3/8	7-3/8	8-1/2	10-19/64	14-25/32	#4	1/8	PR110100
2.5	Z25SDHMT03I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-15/64	13-25/32	#3	1/8	PR110100
	Z25SDHMT04I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	10-37/64	15-1/16	#4	1/4	PR110116

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)

**TAPER SHANK HOLDERS**

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



**EXTENDED LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	ZY0EXSMT02I	3/8 ~ 27/64	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
Z	ZZ0EXSMT02I	7/16 ~ 1/2	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
0	Z00EXSMT02I	33/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
0.5	Z05EXSMT02I	39/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
1	Z10EXSMT03I	45/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
1.5	Z15EXSMT03I	55/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
2	Z20EXSMT04I	31/32 ~ 1-3/8	11-3/8	12-1/2	14-15/64	18-25/32	#4	1/8	PR110100
2.5	Z25EXSMT04I	1-3/16 ~ 1-3/8	11-3/8	12-1/2	14-37/64	19-1/16	#4	1/4	PR110116
3	Z30EXSMT04I	1-13/32 ~ 1-7/8	13-3/4	15	17-1/8	21-9/16	#4	1/4	PR110116
4	Z40EXSMT05I	1-29/32 ~ 2-9/16	16-5/8	18	20-1/8	25-13/16	#5	1/4	PR110148
5	Z50EXSMT05I	2-1/2 ~ 3-1/2	18-1/4	20	22-13/16	28-7/16	#5	1/2	PR110216
7	Z70EXSMT05I	3-17/32 ~ 4-1/2	21-7/8	24	26-13/16	32-7/16	#5	1/2	PR110216

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)



**EXTENDED LENGTH - Helical Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	ZY0EXHMT02I	3/8 ~ 27/64	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
Z	ZZ0EXHMT02I	7/16 ~ 1/2	4-3/8	5-5/32	6-19/32	9-7/16	#2	1/16	PR110048
0	Z00EXHMT02I	33/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
0.5	Z05EXHMT02I	39/64 ~ 11/16	4-1/2	5-5/16	6-49/64	9-19/32	#2	1/16	PR110048
1	Z10EXHMT03I	45/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
1.5	Z15EXHMT03I	55/64 ~ 15/16	10-3/4	11-7/8	13-39/64	17-5/32	#3	1/8	PR110100
2	Z20EXHMT04I	31/32 ~ 1-3/8	11-3/8	12-1/2	14-15/64	18-25/32	#4	1/8	PR110100
2.5	Z25EXHMT04I	1-3/16 ~ 1-3/8	11-3/8	12-1/2	14-37/64	19-1/16	#4	1/4	PR110116

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)

**TAPER SHANK HOLDERS**

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



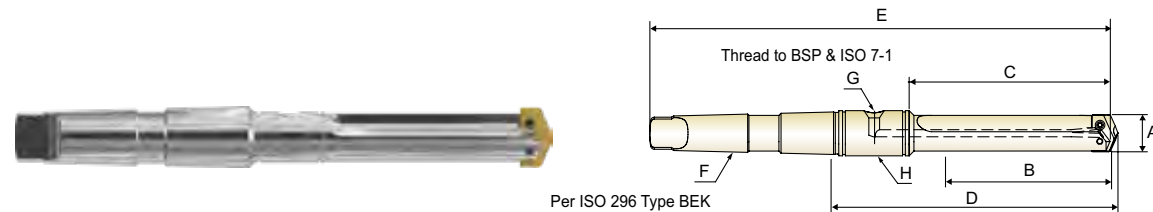
**LONG LENGTH - Helical Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
0	Z00LGHMT02I	33/64 ~ 11/16	7	7-13/16	9-17/64	12-3/32	#2	1/16	PR110048
0.5	Z05LGHMT02I	39/64 ~ 11/16	7	7-13/16	9-17/64	12-3/32	#2	1/16	PR110048

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)

**TAPER SHANK HOLDERS**

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



**SHORT LENGTH - Straight Flute (Metric)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	ZY0STSMT02M	9.5 ~ 11.0	31.8	51.5	88.0	160.3	#2	1/16	PR120190
Z	ZZ0STSMT02M	11.5 ~ 12.5	31.8	51.5	88.0	160.3	#2	1/16	PR120190
0	Z00STSMT02M	13.0 ~ 17.5	35.0	55.5	92.4	164.3	#2	1/16	PR120190
0.5	Z05STSMT02M	15.5 ~ 17.5	35.0	55.5	92.4	164.3	#2	1/16	PR120190
1	Z10STSMT03M	18.0 ~ 24.0	69.8	98.4	142.5	232.5	#3	1/8	PR120254
1.5	Z15STSMT03M	22.0 ~ 24.0	69.8	98.4	142.5	232.5	#3	1/8	PR120254
2	Z20STSMT04M	25.0 ~ 35.0	85.7	114.3	160.4	273.8	#4	1/8	PR120254
2.5	Z25STSMT04M	30.0 ~ 35.0	85.7	114.3	167.6	281.0	#4	1/4	PR120317
3	Z30STSMT04M	36.0 ~ 47.0	120.6	152.4	206.4	319.1	#4	1/4	PR120317
4	Z40STSMT05M	48.0 ~ 65.0	130.1	165.1	219.1	363.5	#5	1/4	PR120444
5	Z50STSMT05M	64.0 ~ 88.0	171.5	215.9	287.3	430.2	#5	1/2	PR120571
7	Z70STSMT05M	90.0 ~ 114.0	171.5	225.4	296.8	439.7	#5	1/2	PR120571

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)



**INTERMEDIATE LENGTH - Helical Flute (Metric)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
1	Z10ITHMT03M	18.0 ~ 24.0	120.7	149.2	193.3	283.3	#3	1/8	PR120254
1.5	Z15ITHMT03M	22.0 ~ 24.0	120.7	149.2	193.3	283.3	#3	1/8	PR120254
2	Z20ITHMT04M	25.0 ~ 35.0	136.5	165.1	211.2	324.6	#4	1/8	PR120254
2.5	Z25ITHMT04M	30.0 ~ 35.0	136.5	165.1	218.4	331.8	#4	1/4	PR120317
3	Z30ITHMT04M	36.0 ~ 47.0	165.1	196.9	250.9	363.6	#4	1/4	PR120317

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)

**TAPER SHANK HOLDERS**

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



**STANDARD LENGTH - Straight Flute (Metric)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	ZY0SDHMT02M	9.5 ~ 11.0	60.3	80.2	116.7	188.9	#2	1/16	PR120190
Z	ZZ0SDHMT02M	11.5 ~ 12.5	60.3	80.2	116.7	188.9	#2	1/16	PR120190
0	Z00SDHMT02M	13.0 ~ 17.5	63.5	84.1	121.0	192.9	#2	1/16	PR120190
0.5	Z05SDHMT02M	15.5 ~ 17.5	63.5	84.1	121.0	192.9	#2	1/16	PR120190
1	Z10SDHMT03M	18.0 ~ 24.0	171.5	200.0	244.1	334.2	#3	1/8	PR120254
1.5	Z15SDHMT03M	22.0 ~ 24.0	171.5	200.0	244.1	334.2	#3	1/8	PR120254
2	Z20SDHMT04M	25.0 ~ 35.0	187.3	215.9	262.0	375.4	#4	1/8	PR120254
2.5	Z25SDHMT04M	30.0 ~ 35.0	187.3	215.9	269.2	382.6	#4	1/4	PR120317
3	Z30SDHMT04M	36.0 ~ 47.0	209.5	241.3	295.3	408.0	#4	1/4	PR120317
4	Z40SDHMT05M	48.0 ~ 65.0	231.8	266.7	320.7	465.1	#5	1/4	PR120444
5	Z50SDHMT05M	64.0 ~ 88.0	273.1	317.5	388.9	531.8	#5	1/2	PR120571
7	Z70SDHMT05M	90.0 ~ 114.0	273.1	327.0	398.5	541.3	#5	1/2	PR120571

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)



**TAPER SHANK HOLDERS**

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



**EXTENDED LENGTH - Helical Flute (Metric)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
Y	ZY0EXHMT02M	9.5 ~ 11.0	111.1	130.9	167.4	239.7	#2	1/16	PR120190
Z	ZZ0EXHMT02M	11.5 ~ 12.5	111.1	130.9	167.4	239.7	#2	1/16	PR120190
0	Z00EXHMT02M	13.0 ~ 17.5	114.3	135.0	171.8	243.7	#2	1/16	PR120190
0.5	Z05EXHMT02M	15.5 ~ 17.5	114.3	135.0	171.8	243.7	#2	1/16	PR120190
1	Z10EXHMT03M	18.0 ~ 24.0	273.1	301.6	345.7	435.8	#3	1/8	PR120254
1.5	Z15EXHMT03M	22.0 ~ 24.0	273.1	301.6	345.7	435.8	#3	1/8	PR120254
2	Z20EXHMT04M	25.0 ~ 35.0	289.0	317.5	363.6	477.0	#4	1/8	PR120254
2.5	Z25EXHMT04M	30.0 ~ 35.0	289.0	317.5	370.8	484.2	#4	1/4	PR120317

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)



**EXTENDED LENGTH - Straight Flute (Metric)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
3	Z30EXSMT04M	36.0 ~ 47.0	349.3	381.0	435.0	547.7	#4	1/4	PR120317
4	Z40EXSMT05M	48.0 ~ 65.0	422.3	457.2	511.2	655.6	#5	1/4	PR120444
5	Z50EXSMT05M	64.0 ~ 88.0	463.6	508.0	579.4	722.3	#5	1/2	PR120571
7	Z70EXSMT05M	90.0 ~ 114.0	555.6	609.6	681.1	823.9	#5	1/2	PR120571

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)

**TAPER SHANK HOLDERS**

- HALTER MIT MORSEKEGEL
- Porte-plaquette à queue cône morse
- PUNTE CON ATTACCO CM



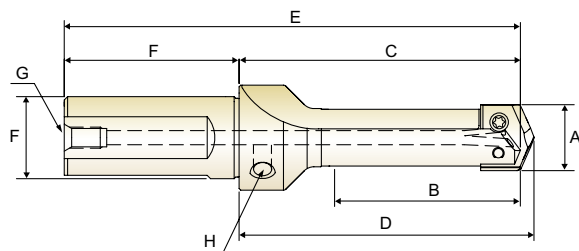
**LONG LENGTH - Helical Flute (Metric)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	MT	Pipe Tap	RCA
		A	B	C	D	E	F	G	H
0	Z00LGHMT02M	13.0 ~ 17.5	177.8	198.5	235.3	307.2	#2	1/16	PR120190
0.5	Z05LGHMT02M	15.5 ~ 17.5	177.8	198.5	235.3	307.2	#2	1/16	PR120190

▶ You can also apply RCA(Rotary Coolant Adapter) for internal cooling. (See page 324)

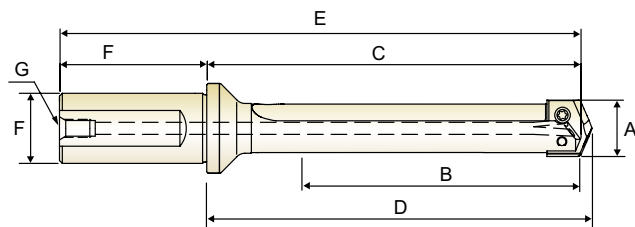
**FLANGED STRAIGHT SHANK HOLDERS**

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



**STUB LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap	
							Dia. F	Length G	Rear H	Side
Y	ZY0SBSF063I	3/8 ~ 27/64	3/4	1-7/8	1-31/32	3-3/4	5/8	1-7/8	1/16	1/8
Z	ZZ0SBSF063I	7/16 ~ 1/2	3/4	1-7/8	1-31/32	3-3/4	5/8	1-7/8	1/16	1/8
0	Z00SBSF075I	33/64 ~ 11/16	7/8	1-7/8	1-63/64	3-29/32	3/4	2-1/32	1/8	1/8
0.5	Z05SBSF075I	39/64 ~ 11/16	7/8	1-7/8	1-63/64	3-29/32	3/4	2-1/32	1/8	1/8
1	Z10SBSF100I	45/64 ~ 15/16	1-7/8	2-63/64	3-1/8	5-17/64	1	2-9/32	1/8	1/8
1.5	Z15SBSF100I	55/64 ~ 15/16	2-1/4	3-31/64	3-5/8	5-49/64	1	2-9/32	1/8	1/8
2	Z20SBSF125I	31/32 ~ 1-3/8	2-1/4	3-31/64	3-5/8	5-49/64	1-1/4	2-9/32	1/4	1/8
2.5	Z25SBSF125I	1-3/16 ~ 1-3/8	3-5/8	4-55/64	5	7-9/64	1-1/4	2-9/32	1/4	1/8
3	Z30SBSF150I	1-13/32 ~ 1-7/8	3	4-59/64	5-7/64	7-39/64	1-1/2	2-11/16	1/4	1/4

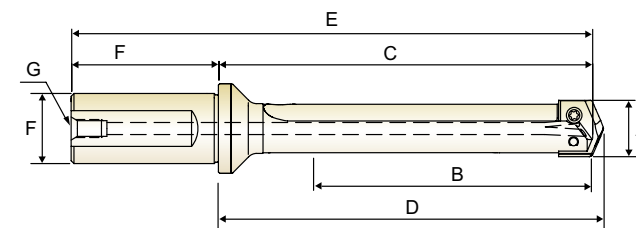


**SHORT LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia. F	Length G	
Y	ZY0STSF075I	3/8 ~ 27/64	1-1/4	2-13/32	2-1/2	4-7/16	3/4	2-1/32	1/8
Z	ZZ0STSF075I	7/16 ~ 1/2	1-1/4	2-13/32	2-1/2	4-7/16	3/4	2-1/32	1/8
0	Z00STSF075I	33/64 ~ 11/16	1-3/8	2-1/2	2-39/64	4-17/32	3/4	2-1/32	1/8
0.5	Z05STSF075I	39/64 ~ 11/16	1-3/8	2-1/2	2-39/64	4-17/32	3/4	2-1/32	1/8
1	Z10STSF100I	45/64 ~ 15/16	2-5/8	4-7/32	4-23/64	6-1/2	1	2-9/32	1/8
1.5	Z15STSF100I	55/64 ~ 15/16	2-5/8	4-7/32	4-23/64	6-1/2	1	2-9/32	1/8
2	Z20STSF125I	31/32 ~ 1-3/8	3-3/8	5-1/16	5-13/64	7-11/32	1-1/4	2-9/32	1/4
2.5	Z25STSF125I	1-3/16 ~ 1-3/8	3-3/8	5-1/16	5-13/64	7-11/32	1-1/4	2-9/32	1/4
3	Z30STSF150I	1-13/32 ~ 1-7/8	4-3/4	6-13/16	7	9-1/2	1-1/2	2-11/16	1/4
4	Z40STSF150I	1-29/32 ~ 2-9/16	5-1/8	7-1/16	7-1/4	9-3/4	1-1/2	2-11/16	1/4

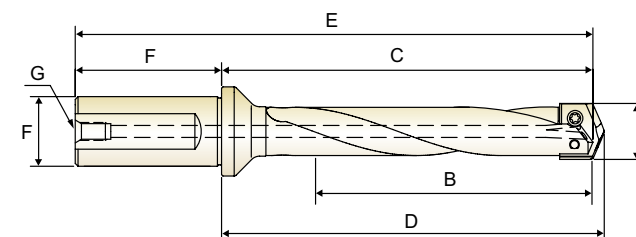
**FLANGED STRAIGHT SHANK HOLDERS**

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



**INTERMEDIATE LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia. F	Length G	
1	Z10ITSF100I	45/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
1.5	Z15ITSF100I	55/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
2	Z20ITSF125I	31/32 ~ 1-3/8	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4
2.5	Z25ITSF125I	1-3/16 ~ 1-3/8	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4
3	Z30ITSF150I	1-13/32 ~ 1-7/8	6-1/2	8-9/16	8-3/4	11-1/4	1-1/2	2-11/16	1/4

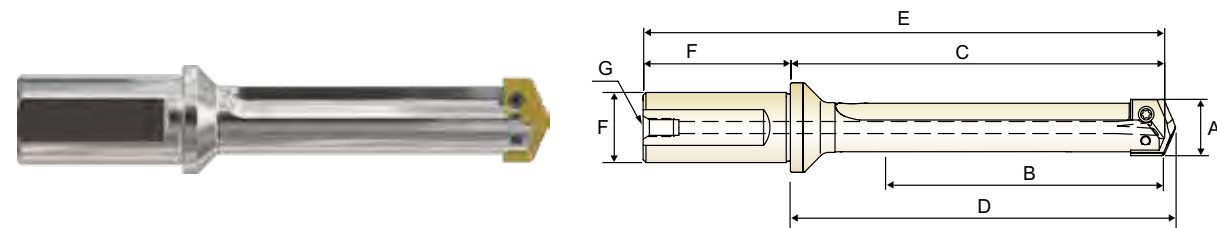


**INTERMEDIATE LENGTH - Helical Flute (Inch)**

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia. F	Length G	
1	Z10ITHF100I	45/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
1.5	Z15ITHF100I	55/64 ~ 15/16	4-5/8	6-3/32	6-15/64	8-3/8	1	2-9/32	1/8
2	Z20ITHF125I	31/32 ~ 1-3/8	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4
2.5	Z25ITHF125I	1-3/16 ~ 1-3/8	5-3/8	7-1/16	7-13/64	9-11/32	1-1/4	2-9/32	1/4
3	Z30ITHF150I	1-13/32 ~ 1-7/8	6-1/2	8-9/16	8-3/4	11-1/4	1-1/2	2-11/16	1/4

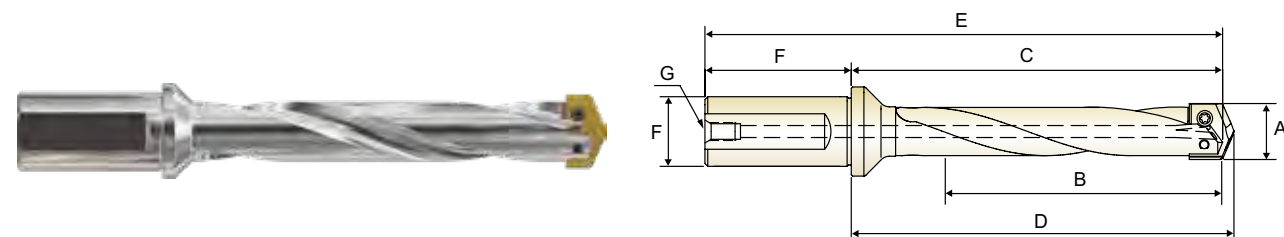
**FLANGED STRAIGHT SHANK HOLDERS**

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



**STANDARD LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
Y	ZY0SDSF075I	3/8 ~ 27/64	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
Z	ZZ0SDSF075I	7/16 ~ 1/2	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
0	Z00SDSF075I	33/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
0.5	Z05SDSF075I	39/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
1	Z10SDSF100I	45/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
1.5	Z15SDSF100I	55/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
2	Z20SDSF125I	31/32 ~ 1-3/8	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4
2.5	Z25SDSF125I	1-3/16 ~ 1-3/8	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4
3	Z30SDSF150I	1-13/32 ~ 1-7/8	8-1/4	10-5/16	10-1/2	13	1-1/2	2-11/16	1/4
4	Z40SDSF150I	1-29/32 ~ 2-9/16	9-1/8	11-1/16	11-1/4	13-3/4	1-1/2	2-11/16	1/4

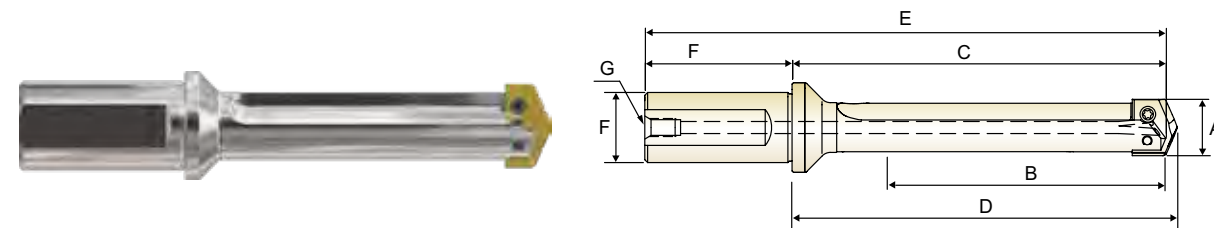


**STANDARD LENGTH - Helical Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
Y	ZY0SDHF075I	3/8 ~ 27/64	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
Z	ZZ0SDHF075I	7/16 ~ 1/2	2-3/8	3-17/32	3-5/8	5-9/16	3/4	2-1/32	1/8
0	Z00SDHF075I	33/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
0.5	Z05SDHF075I	39/64 ~ 11/16	2-1/2	3-5/8	3-47/64	5-21/32	3/4	2-1/32	1/8
1	Z10SDHF100I	45/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
1.5	Z15SDHF100I	55/64 ~ 15/16	6-5/8	8-3/32	8-15/64	10-3/8	1	2-9/32	1/8
2	Z20SDHF125I	31/32 ~ 1-3/8	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4
2.5	Z25SDHF125I	1-3/16 ~ 1-3/8	7-3/8	9-1/16	9-13/64	11-11/32	1-1/4	2-9/32	1/4
3	Z30SDHF150I	1-13/32 ~ 1-7/8	8-1/4	10-5/16	10-1/2	13	1-1/2	2-11/16	1/4
4	Z40SDHF150I	1-29/32 ~ 2-9/16	9-1/8	11-1/16	11-1/4	13-3/4	1-1/2	2-11/16	1/4

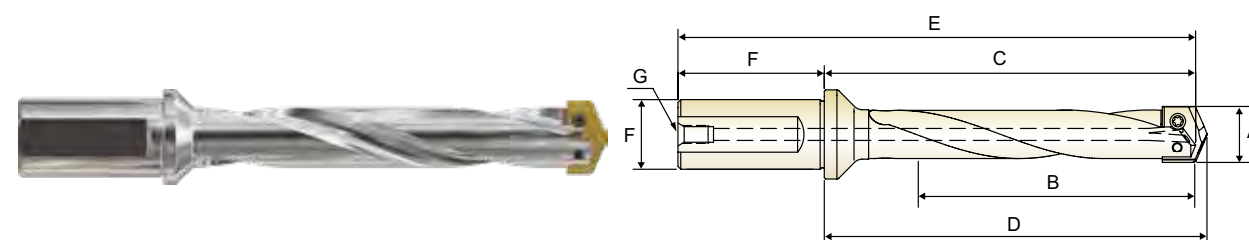
**FLANGED STRAIGHT SHANK HOLDERS**

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



**EXTENDED LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
Y	ZY0EXSF075I	3/8 ~ 27/64	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
Z	ZZ0EXSF075I	7/16 ~ 1/2	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
0	Z00EXSF075I	33/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
0.5	Z05EXSF075I	39/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
1	Z10EXSF100I	45/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
1.5	Z15EXSF100I	55/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
2	Z20EXSF125I	31/32 ~ 1-3/8	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4
2.5	Z25EXSF125I	1-3/16 ~ 1-3/8	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4



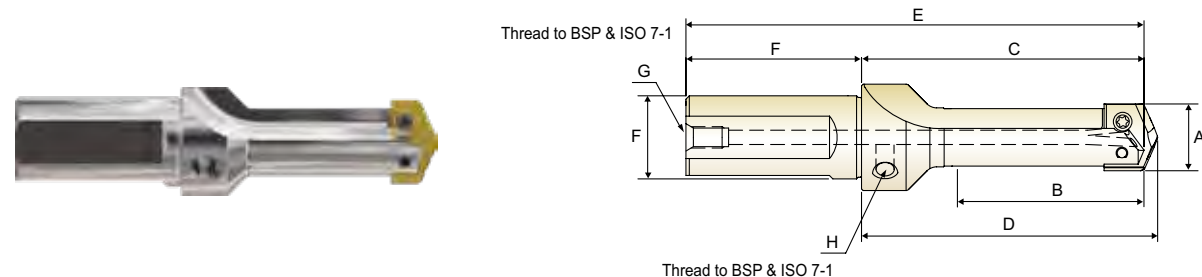
**EXTENDED LENGTH - Helical Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
Y	ZY0EXHF075I	3/8 ~ 27/64	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
Z	ZZ0EXHF075I	7/16 ~ 1/2	4-3/8	5-17/32	5-5/8	7-9/16	3/4	2-1/32	1/8
0	Z00EXHF075I	33/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
0.5	Z05EXHF075I	39/64 ~ 11/16	4-1/2	5-5/8	5-47/64	7-21/32	3/4	2-1/32	1/8
1	Z10EXHF100I	45/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
1.5	Z15EXHF100I	55/64 ~ 15/16	10-5/8	12-3/32	12-15/64	14-3/8	1	2-9/32	1/8
2	Z20EXHF125I	31/32 ~ 1-3/8	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4
2.5	Z25EXHF125I	1-3/16 ~ 1-3/8	11-3/8	13-1/16	13-13/64	15-11/32	1-1/4	2-9/32	1/4



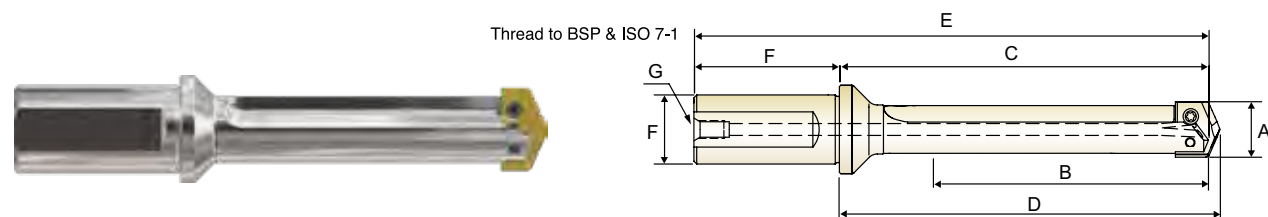
**FLANGED STRAIGHT SHANK HOLDERS**

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



**STUB LENGTH - Straight Flute (Metric)**

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap	
							Dia. F	Length G	Rear H	Side
Y	ZY0SBSF016M	9.5 ~ 11.0	19.1	47.6	50.0	95.6	16.0	48.0	1/16	1/8
Z	ZZ0SBSF016M	11.5 ~ 12.5	19.1	47.6	50.0	95.6	16.0	48.0	1/16	1/8
0	Z00SBSF020M	13.0 ~ 17.5	22.2	47.6	50.4	97.6	20.0	50.0	1/8	1/8
0.5	Z05SBSF020M	15.5 ~ 17.5	22.2	47.6	50.4	97.6	20.0	50.0	1/8	1/8
1	Z10SBSF025M	18.0 ~ 24.0	47.6	75.8	79.4	131.8	25.0	56.0	1/8	1/8
1.5	Z15SBSF025M	22.0 ~ 24.0	57.2	88.5	92.1	144.5	25.0	56.0	1/8	1/8
2	Z20SBSF032M	25.0 ~ 35.0	57.2	88.5	92.1	148.5	32.0	60.0	1/4	1/8
2.5	Z25SBSF032M	30.0 ~ 35.0	92.1	123.4	127.0	183.4	32.0	60.0	1/4	1/8
3	Z30SBSF040M	36.0 ~ 47.0	76.2	125.0	129.8	195.0	40.0	70.0	1/4	1/4

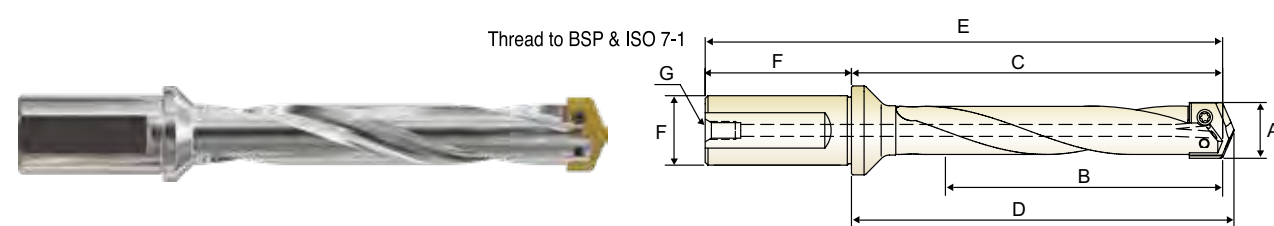


**SHORT LENGTH - Straight Flute (Metric)**

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia. F	Length H	
Y	ZY0STSF020M	9.5 ~ 11.0	31.8	61.1	63.5	111.1	20.0	50.0	1/8
Z	ZZ0STSF020M	11.5 ~ 12.5	31.8	61.1	63.5	111.1	20.0	50.0	1/8
0	Z00STSF020M	13.0 ~ 17.5	34.9	63.5	66.3	113.5	20.0	50.0	1/8
0.5	Z05STSF020M	15.5 ~ 17.5	34.9	63.5	66.3	113.5	20.0	50.0	1/8
1	Z10STSF025M	18.0 ~ 24.0	66.7	107.2	110.7	163.2	25.0	56.0	1/8
1.5	Z15STSF025M	22.0 ~ 24.0	66.7	107.2	110.7	163.2	25.0	56.0	1/8
2	Z20STSF032M	25.0 ~ 35.0	85.7	128.6	132.2	188.6	32.0	60.0	1/4
2.5	Z25STSF032M	30.0 ~ 35.0	85.7	128.6	132.2	188.6	32.0	60.0	1/4
3	Z30STSF040M	36.0 ~ 47.0	120.7	173.0	177.8	243.0	40.0	70.0	1/4
4	Z40STSF040M	48.0 ~ 65.0	130.2	179.4	184.0	249.4	40.0	70.0	1/4

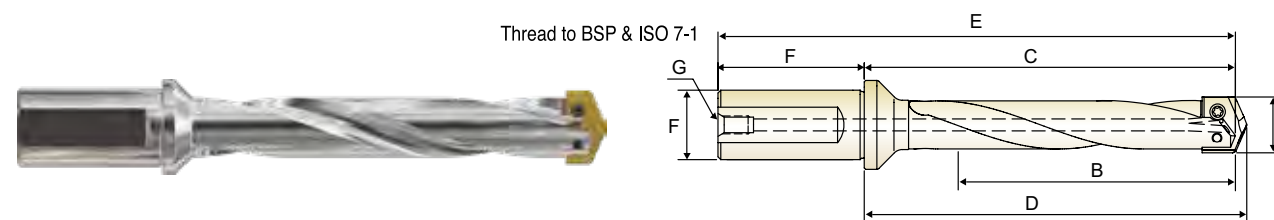
**FLANGED STRAIGHT SHANK HOLDERS**

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



**INTERMEDIATE LENGTH - Helical Flute (Metric)**

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia. F	Length H	
1	Z10ITHF025M	18.0 ~ 24.0	117.5	154.8	158.4	210.8	25.0	56.0	1/8
1.5	Z15ITHF025M	22.0 ~ 24.0	117.5	154.8	158.4	210.8	25.0	56.0	1/8
2	Z20ITHF032M	25.0 ~ 35.0	136.5	179.4	183.0	239.4	32.0	60.0	1/4
2.5	Z25ITHF032M	30.0 ~ 35.0	136.5	179.4	183.0	239.4	32.0	60.0	1/4
3	Z30ITHF040M	36.0 ~ 47.0	165.1	217.5	222.3	287.5	40.0	70.0	1/4

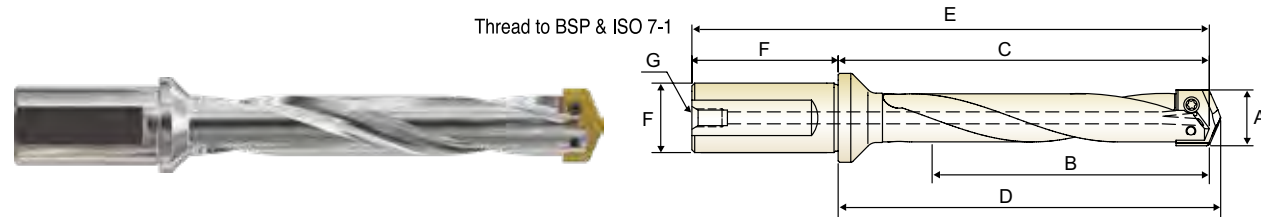


**STANDARD LENGTH - Helical Flute (Metric)**

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia. F	Length H	
Y	ZY0SDHF020M	9.5 ~ 11.0	60.3	89.7	92.1	139.7	20.0	50.0	1/8
Z	ZZ0SDHF020M	11.5 ~ 12.5	60.3	89.7	92.1	139.7	20.0	50.0	1/8
0	Z00SDHF020M	13.0 ~ 17.5	63.5	92.1	94.9	142.1	20.0	50.0	1/8
0.5	Z05SDHF020M	15.5 ~ 17.5	63.5	92.1	94.9	142.1	20.0	50.0	1/8
1	Z10SDHF025M	18.0 ~ 24.0	168.3	205.6	209.2	261.6	25.0	56.0	1/8
1.5	Z15SDHF025M	22.0 ~ 24.0	168.3	205.6	209.2	261.6	25.0	56.0	1/8
2	Z20SDHF032M	25.0 ~ 35.0	187.3	230.2	233.8	290.2	32.0	60.0	1/4
2.5	Z25SDHF032M	30.0 ~ 35.0	187.3	230.2	233.8	290.2	32.0	60.0	1/4
3	Z30SDHF040M	36.0 ~ 47.0	209.6	261.9	266.7	331.9	40.0	70.0	1/4
4	Z40SDHF040M	48.0 ~ 65.0	231.8	281.0	285.8	351.0	40.0	70.0	1/4

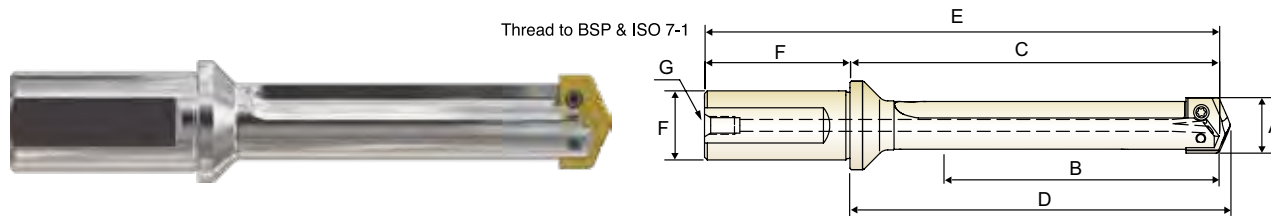
**FLANGED STRAIGHT SHANK HOLDERS**

- HALTER MIT ZYLINDERSCHAFT UND SPANNFLÄCHE
- Porte-plaquette à colerette queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



**EXTENDED LENGTH - Helical Flute (Metric)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
Y	ZY0EXHF020M	9.5 ~ 11.0	111.1	140.5	142.9	190.5	20.0	50.0	1/8
Z	ZZ0EXHF020M	11.5 ~ 12.5	111.1	140.5	142.9	190.5	20.0	50.0	1/8
0	Z00EXHF020M	13.0 ~ 17.5	114.3	142.9	145.7	192.9	20.0	50.0	1/8
0.5	Z05EXHF020M	15.5 ~ 17.5	114.3	142.9	145.7	192.9	20.0	50.0	1/8
1	Z10EXHF025M	18.0 ~ 24.0	269.9	307.2	310.8	363.2	25.0	56.0	1/8
1.5	Z15EXHF025M	22.0 ~ 24.0	269.9	307.2	310.8	363.2	25.0	56.0	1/8
2	Z20EXHF032M	25.0 ~ 35.0	288.9	331.8	335.4	391.8	32.0	60.0	1/4
2.5	Z25EXHF032M	30.0 ~ 35.0	288.9	331.8	335.4	391.8	32.0	60.0	1/4

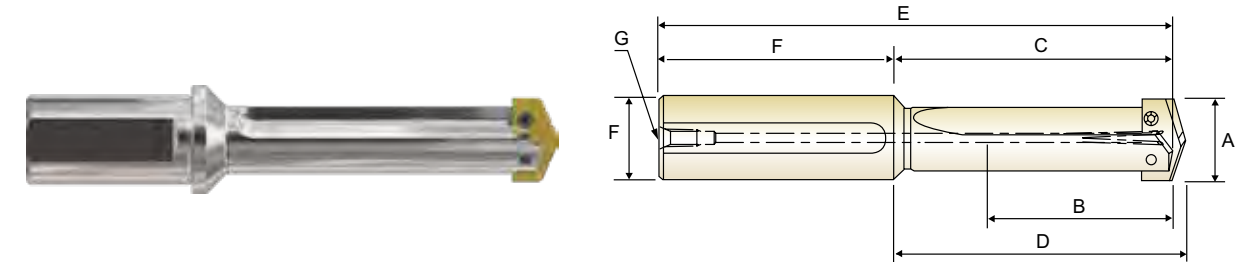


**EXTENDED LENGTH - Straight Flute (Metric)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
3	Z30EXSF040M	36.0 ~ 47.0	349.3	401.6	406.4	471.6	40.0	70.0	1/4
4	Z40EXSF040M	48.0 ~ 65.0	422.3	471.5	476.3	541.5	40.0	70.0	1/4

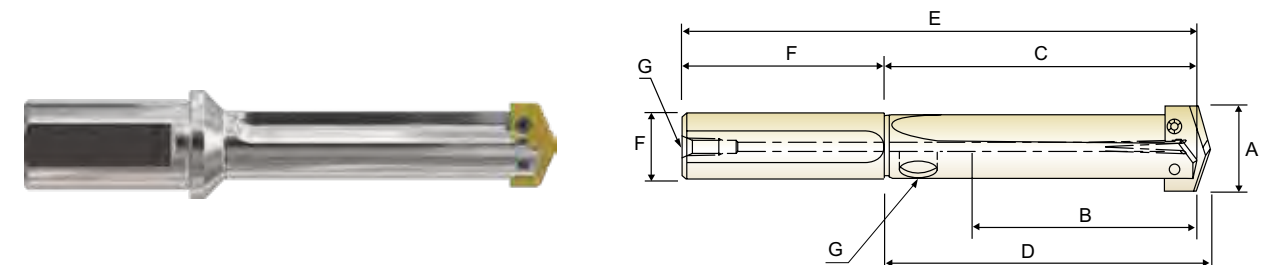
**STRAIGHT SHANK HOLDERS**

- HALTER MIT ZYLINDERSCHAFT
- Porte-plaquette à queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



**SHORT LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
Y	ZY0STSS075I	3/8 ~ 27/64	1-1/4	2-1/32	2-1/8	4-13/32	3/4	2-3/8	1/8
Z	ZZ0STSS075I	7/16 ~ 1/2	1-1/4	2-1/32	2-1/8	4-13/32	3/4	2-3/8	1/8
0	Z00STSS075I	33/64 ~ 11/16	1-3/8	2-3/16	2-19/64	4-9/16	3/4	2-3/8	1/8
0.5	Z05STSS075I	39/64 ~ 11/16	1-3/8	2-3/16	2-19/64	4-9/16	3/4	2-3/8	1/8



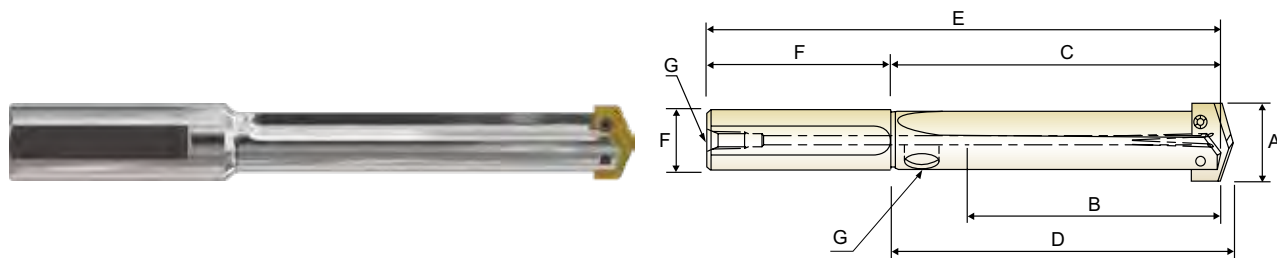
**SHORT LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
1	* Z10STSS075I	45/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3/4	3	1/8
	Z10STSS100I	45/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	1	3	1/8
1.5	* Z15STSS075I	55/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	3/4	3	1/8
	Z15STSS100I	55/64 ~ 15/16	2-5/8	3-7/8	4-1/64	6-7/8	1	3	1/8
2	Z20STSS100I	31/32 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1	3-1/2	1/8
	Z20STSS125I	31/32 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1-1/4	3-1/2	1/8
2.5	* Z25STSS100I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1	3-1/2	1/8
	Z25STSS125I	1-3/16 ~ 1-3/8	3-3/8	4-1/2	4-41/64	8	1-1/4	3-1/2	1/8
3	Z30STSS125I	1-13/32 ~ 1-7/8	4-3/4	6	6-3/16	10	1-1/4	4	1/4
	Z30STSS150I	1-13/32 ~ 1-7/8	4-3/4	6	6-3/16	10	1-1/2	4	1/4
4	Z40STSS150I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	6-11/16	10-1/2	1-1/2	4	1/4
	Z40STSS175I	1-29/32 ~ 2-9/16	5-1/8	6-1/2	6-11/16	10-1/2	1-3/4	4	1/4
5	Z50STSS200I	2-1/2 ~ 3-1/2	6-3/4	8-1/2	8-3/4	12-1/2	2	4	1/2

▶ \* Flanged type

**STRAIGHT SHANK HOLDERS**

- HALTER MIT ZYLINDERSCHAFT
- Porte-plaquette à queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO

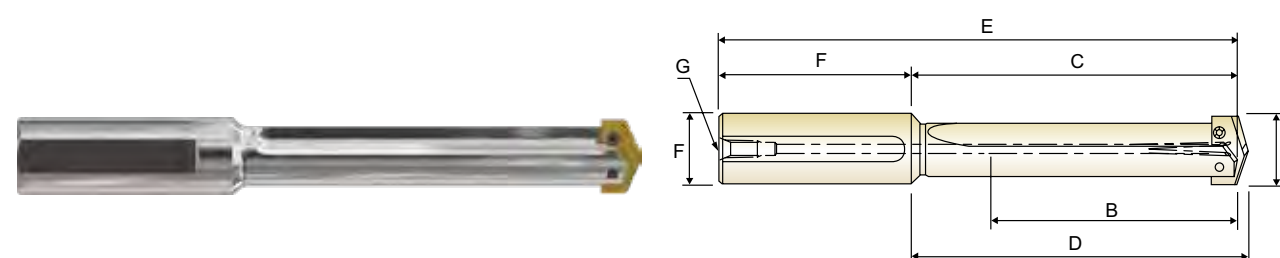


**INTERMEDIATE LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia. F	Length	
1	Z10ITSS100I	45/64 ~ 15/16	4-5/8	5-7/8	6-1/64	8-7/8	1	3	1/8
1.5	Z15ITSS100I	55/64 ~ 15/16	4-5/8	5-7/8	6-1/64	8-7/8	1	3	1/8
2	Z20ITSS125I	31/32 ~ 1-3/8	5-3/8	6-1/2	6-41/64	10	1-1/4	3-1/2	1/8
2.5	Z25ITSS125I	1-3/16 ~ 1-3/8	5-3/8	6-1/2	6-41/64	10	1-1/4	3-1/2	1/8
3	Z30ITSS150I	1-13/32 ~ 1-7/8	6-1/2	7-3/4	7-15/16	11-3/4	1-1/2	4	1/4

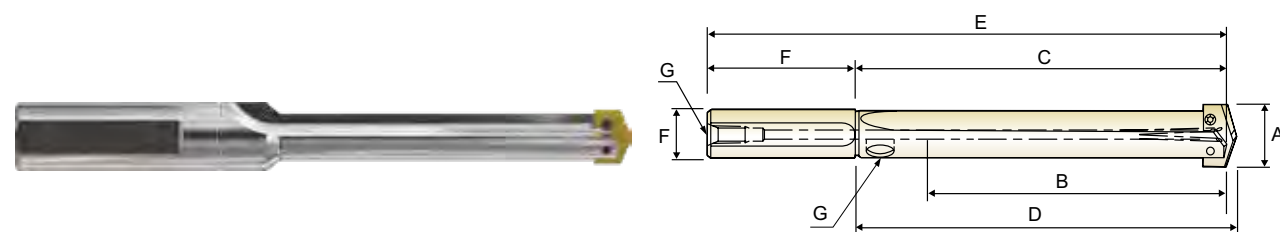
**STRAIGHT SHANK HOLDERS**

- HALTER MIT ZYLINDERSCHAFT
- Porte-plaquette à queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



**STANDARD LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia. F	Length	
Y	ZY0SDSS075I	3/8 ~ 27/64	2-3/8	3-5/32	3-1/4	5-17/32	3/4	2-3/8	1/8
Z	<td>7/16 ~ 1/2</td> <td>2-3/8</td> <td>3-5/32</td> <td>3-1/4</td> <td>5-17/32</td> <td>3/4</td> <td>2-3/8</td> <td>1/8</td>	7/16 ~ 1/2	2-3/8	3-5/32	3-1/4	5-17/32	3/4	2-3/8	1/8
0	Z00SDSS075I	33/64 ~ 11/16	2-1/2	3-5/16	3-27/64	5-11/16	3/4	2-3/8	1/8
0.5	Z05SDSS075I	39/64 ~ 11/16	2-1/2	3-5/16	3-27/64	5-11/16	3/4	2-3/8	1/8



**STANDARD LENGTH - Straight Flute (Inch)**

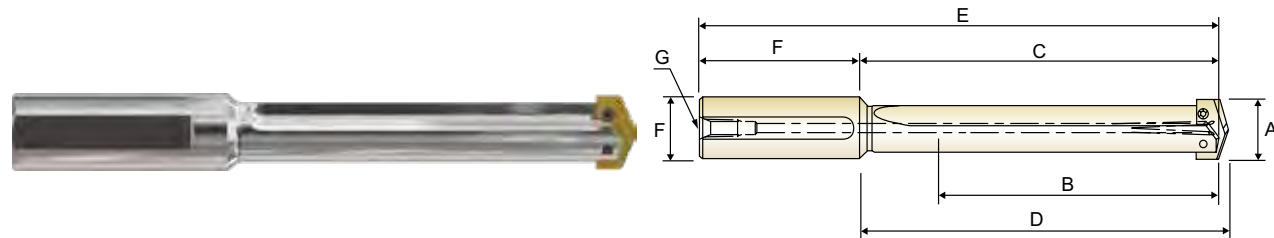
Series	EDP No.	Drill Insert Range A	Max. Drill Depth B	Body Length C	Ref. Length D	Overall Length E	Shank		Pipe Tap G
							Dia. F	Length	
1	* Z10SDSS075I	45/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3/4	3	1/8
	Z10SDSS100I	45/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	1	3	1/8
1.5	* Z15SDSS075I	55/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	3/4	3	1/8
	Z15SDSS100I	55/64 ~ 15/16	6-5/8	7-7/8	8-1/64	10-7/8	1	3	1/8
2	Z20SDSS100I	31/32 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1	3-1/2	1/8
	Z20SDSS125I	31/32 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1-1/4	3-1/2	1/8
2.5	* Z25SDSS100I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1	3-1/2	1/8
	Z25SDSS125I	1-3/16 ~ 1-3/8	7-3/8	8-1/2	8-41/64	12	1-1/4	3-1/2	1/8
3	Z30SDSS125I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	9-11/16	13-1/2	1-1/4	4	1/4
	Z30SDSS150I	1-13/32 ~ 1-7/8	8-1/4	9-1/2	9-11/16	13-1/2	1-1/2	4	1/4
4	Z40SDSS150I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	10-11/16	14-1/2	1-1/2	4	1/4
	Z40SDSS175I	1-29/32 ~ 2-9/16	9-1/8	10-1/2	10-11/16	14-1/2	1-3/4	4	1/4
5	Z50SDSS200I	2-1/2 ~ 3-1/2	10-3/4	12-1/2	12-3/4	16-1/2	2	4	1/2
7	Z70SDSS300I	3-17/32 ~ 4-1/2	10-3/4	12-7/8	13-1/8	17-7/8	3	5	1/2

▶ \* Flanged type



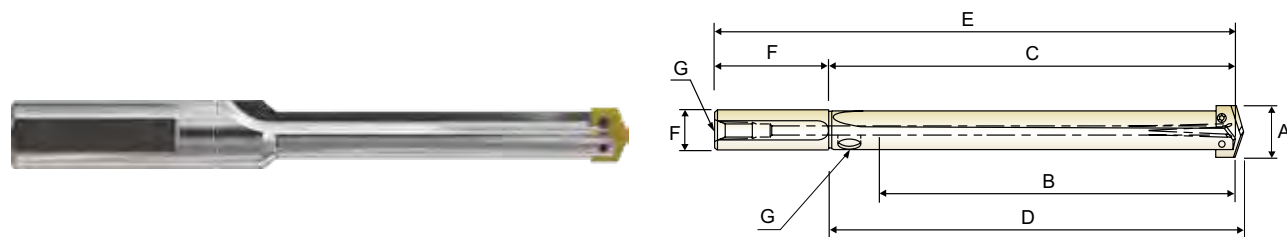
**STRAIGHT SHANK HOLDERS**

- HALTER MIT ZYLINDERSCHAFT
- Porte-plaquette à queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



**EXTENDED LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
Y	ZY0EXSS075I	3/8 ~ 27/64	4-3/8	5-5/32	5-1/4	7-17/32	3/4	2-3/8	1/8
Z	ZZ0EXSS075I	7/16 ~ 1/2	4-3/8	5-5/32	5-1/4	7-17/32	3/4	2-3/8	1/8
0	Z00EXSS075I	33/64 ~ 11/16	4-1/2	5-5/16	5-27/64	7-11/16	3/4	2-3/8	1/8
0.5	Z05EXSS075I	39/64 ~ 11/16	4-1/2	5-5/16	5-27/64	7-11/16	3/4	2-3/8	1/8



**EXTENDED LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
1	Z10EXSS100I	45/64 ~ 15/16	10-5/8	11-7/8	12-1/64	14-7/8	1	3	1/8
1.5	Z15EXSS100I	55/64 ~ 15/16	10-5/8	11-7/8	12-1/64	14-7/8	1	3	1/8
2	Z20EXSS125I	31/32 ~ 1-3/8	11-3/8	12-1/2	12-41/64	16	1-1/4	3-1/2	1/8
2.5	Z25EXSS125I	1-3/16 ~ 1-3/8	11-3/8	12-1/2	12-41/64	16	1-1/4	3-1/2	1/8
3	Z30EXSS125I	1-13/32 ~ 1-7/8	13-3/4	15	15-3/16	19	1-1/4	4	1/4
4	Z40EXSS150I	1-29/32 ~ 2-9/16	16-5/8	18	18-3/16	22	1-1/2	4	1/4
5	Z50EXSS200I	2-1/2 ~ 3-1/2	18-1/4	20	20-1/4	24	2	4	1/2
7	Z70EXSS300I	3-17/32 ~ 4-1/2	21-7/8	24	24-1/4	29	3	5	1/2

**STRAIGHT SHANK HOLDERS**

- HALTER MIT ZYLINDERSCHAFT
- Porte-plaquette à queue cylindrique
- PUNTE ATTACCO CILINDRICO FLANGIATO



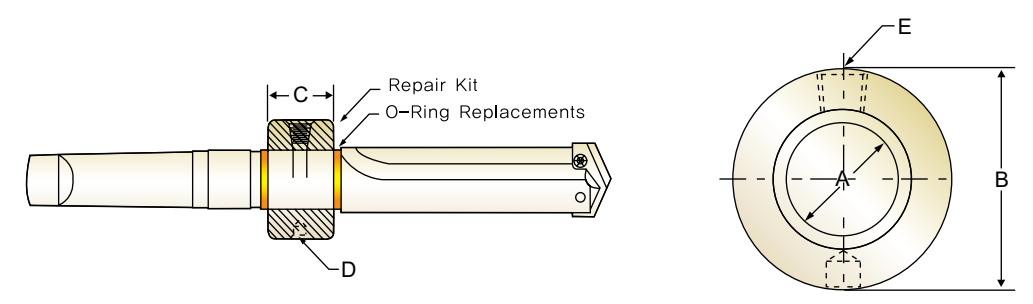
**LONG LENGTH - Straight Flute (Inch)**

Series	EDP No.	Drill Insert Range	Max. Drill Depth	Body Length	Ref. Length	Overall Length	Shank		Pipe Tap
							Dia.	Length	
		A	B	C	D	E	F	G	
0	Z00LGSS075I	33/64 ~ 11/16	7	7-13/16	7-59/64	10-3/16	3/4	2-3/8	1/8
0.5	Z05LGSS075I	39/64 ~ 11/16	7	7-13/16	7-59/64	10-3/16	3/4	2-3/8	1/8



**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOHLENE SCHNEIDKONDITIONEN**

**HOLDER ACCESSORIES**  
**ROTARY COOLANT ADAPTER (RCA) AND ACCESSORIES**



**Inch**

Item No.	I.D.	O.D.	Length	Thread for Driving Rod	Pipe Tap	RCA Repair Kit Item No.	RCA O-Ring Replacements Item No.
	A	B					
PR110048	3/4	1-3/4	7/8	5/16-NC	1/8	PR210048	PR310048
PR110100	1	2-1/8	1-1/8	5/16-NC	1/8	PR210100	PR310100
PR110116	1-1/4	2-1/2	1-3/8	3/8-NC	1/4	PR210116	PR310116
PR110148	1-3/4	3	1-3/8	3/8-NC	1/4	PR210148	PR310148
PR110216	2-1/4	3-3/4	1-3/4	1/2-NC	1/2	PR210216	PR310216

**Metric**

Item No.	I.D.	O.D.	Length	Thread for Driving Rod	Pipe Tap	RCA Repair Kit Item No.	RCA O-Ring Replacements Item No.
	A	B					
PR120190	19.05	44.45	22.23	M8 × 1.25	1/8	PR220190	PR320190
PR120254	25.40	53.97	28.57	M8 × 1.25	1/8	PR220254	PR320254
PR120317	31.75	63.50	34.92	M10 × 1.5	1/4	PR220317	PR320317
PR120444	44.45	76.20	34.92	M10 × 1.5	1/4	PR220444	PR320444
PR120571	57.15	95.27	44.45	M12 × 1.75	1/2	PR220571	PR320571

◆ Thread to BSP & ISO 7-1

**TORX SCREWS**

Holder Series	Item No.	TORX Hand Driver	Drill Range Used With	
			Inch	Metric
Y	J07Y0010	J05Y0070	3/8 ~ 27/64	9.5 mm ~ 11.0 mm
Z	J07Z0110		7/16 ~ 1/2	11.5 mm ~ 12.5 mm
0	J0800210		33/64 ~ 11/16	13.0 mm ~ 17.5 mm
0.5	J0805310	J0500080	39/64 ~ 11/16	15.5 mm ~ 17.5 mm
1	J0910410		45/64 ~ 15/16	18.0 mm ~ 24.0 mm
1.5	J0915510	J0510090	55/64 ~ 15/16	22.0 mm ~ 24.0 mm
2	J1520610		31/32 ~ 1-3/8	25.0 mm ~ 35.0 mm
2.5	J1525710	J0520150	1-3/16 ~ 1-3/8	30.0 mm ~ 35.0 mm
3,4	J2030810		1-13/32 ~ 2-9/16	36.0 mm ~ 65.0 mm
5 ~ 8	J2550910	J0550250	2-1/2 ~ 4-1/2	64.0 mm ~ 114.0 mm

\*\* Note : Replacement screws sold in packages(10 screws per package)



**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOHLENE SCHNEIDKONDITIONEN**

**SPADE DRILL HSS-M4**

ISO	VDI 3323	Material Description	Vc(m/min)			Feed(mm/rev)						
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
P	1	Non-alloy steel	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	6	Low alloy steel	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
	12		Stainless steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36
13	20	23		29	0.12	0.18	0.20	0.24	0.30	0.36	0.46	
14	24	29		34	0.14	0.20	0.23	0.26	0.36	0.41	0.50	
K	15	Grey cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	16		29	35	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
	17	Nodular cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	18		35	44	52	0.13	0.17	0.23	0.3	0.35	0.43	0.50
	19		Malleable cast iron	52	64	75	0.16	0.30	0.40	0.49	0.59	0.69
20	35	44		52	0.13	0.17	0.23	0.30	0.35	0.43	0.50	
N	21	Aluminum-wrought alloy	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	95	128	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points. Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.

**SPADE DRILL HSS-T15**

ISO	VDI 3323	Material Description	Vc(m/min)			Feed(mm/rev)						
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
<b>P</b>	1	Non-alloy steel	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4	45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58	
	6	Low alloy steel	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
	8		39	47	53	0.09	0.15	0.22	0.28	0.38	0.41	0.50
	9		36	43	46	0.08	0.15	0.21	0.27	0.38	0.40	0.51
	10	High alloyed steel, and tool steel	25	34	36	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	11		19	27	29	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	<b>M</b>	12	Stainless steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36
13		20		23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46
14		24		29	34	0.14	0.20	0.23	0.26	0.36	0.41	0.50
<b>K</b>	15	Grey cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	16		29	35	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
	17	Nodular cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
	18		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
	19	Malleable cast iron	52	64	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
	20		35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
<b>N</b>	21	Aluminum-wrought alloy	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	95	128	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79
<b>S</b>	31	Heat Resistant Super Alloys	9	11	12	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	32		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	33		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	34		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	35		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
<b>H</b>	38	Hardened steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points. Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.

**SPADE DRILL HSS-M48**

ISO	VDI 3323	Material Description	Vc(m/min)			Feed(mm/rev)						
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	Ø48-65	Ø66-114
<b>P</b>	1	Non-alloy steel	54	67	75	0.15	0.22	0.28	0.37	0.46	0.56	0.67
	2		49	58	69	0.13	0.19	0.24	0.34	0.43	0.50	0.57
	3		45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58
	4	45	56	63	0.13	0.19	0.23	0.34	0.43	0.50	0.58	
	6	Low alloy steel	45	56	58	0.13	0.20	0.24	0.36	0.42	0.46	0.55
	7		41	50	56	0.13	0.16	0.23	0.35	0.41	0.44	0.55
	8		39	47	53	0.09	0.15	0.22	0.28	0.38	0.41	0.50
	9		36	43	46	0.08	0.15	0.21	0.27	0.38	0.40	0.51
	10	High alloyed steel, and tool steel	25	34	36	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	11		19	27	29	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	<b>K</b>	15	Grey cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64
16		29		35	41	0.10	0.15	0.16	0.23	0.28	0.35	0.40
17		Nodular cast iron	48	58	70	0.14	0.26	0.35	0.45	0.56	0.64	0.68
18			35	44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50
19		Malleable cast iron	52	64	75	0.16	0.30	0.40	0.49	0.59	0.69	0.75
20	35		44	52	0.13	0.17	0.23	0.30	0.35	0.43	0.50	
<b>N</b>	21	Aluminum-wrought alloy	187	229	244	0.19	0.33	0.41	0.50	0.54	0.64	0.70
	22		92	137	137	0.19	0.33	0.41	0.46	0.54	0.64	0.70
	27	Copper and Copper Alloys (Bronze / Brass)	95	128	142	0.19	0.31	0.43	0.53	0.64	0.74	0.79
<b>S</b>	31	Heat Resistant Super Alloys	9	11	12	0.08	0.17	0.20	0.24	0.30	0.37	0.39
	32		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	33		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
	34		8	9	11	0.08	0.14	0.18	0.19	0.25	0.29	0.34
<b>H</b>	38	Hardened steel	20	23	29	0.12	0.18	0.20	0.24	0.30	0.36	0.46

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points. Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.





**RECOMMENDED CUTTING CONDITIONS  
EMPFOHLENE SCHNEIDKONDITIONEN**

**SPADE DRILL CARBIDE-K10**

ISO	VDI 3323	Material Description	Vc(m/min)			Feed(mm/rev)				
			TiN	TiCN	TiAlN	Ø9.5~12.5	Ø13~17.5	Ø18~24	Ø25~35	Ø36~47
<b>K</b>	15	Grey cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	16		56	70	79	0.13	0.18	0.23	0.28	0.33
	17	Nodular cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53
	18		66	81	93	0.13	0.15	0.28	0.33	0.37
	19	Malleable cast iron	98	125	137	0.18	0.30	0.37	0.46	0.56
	20		66	81	93	0.13	0.15	0.28	0.33	0.37

**SPADE DRILL CARBIDE-K20**

ISO	VDI 3323	Material Description	Vc(m/min)			Feed(mm/rev)					
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47	
<b>P</b>	1	Non-alloy steel	94	110	119	0.20	0.24	0.31	0.42	0.46	
	2		76	82	96	0.15	0.22	0.29	0.36	0.40	
	3		66	70	84	0.15	0.22	0.28	0.36	0.40	
	4		66	70	84	0.15	0.22	0.28	0.36	0.40	
	6	Low alloy steel	73	81	88	0.15	0.23	0.29	0.38	0.42	
	7		66	73	81	0.15	0.21	0.28	0.37	0.41	
	8		62	70	78	0.12	0.20	0.27	0.33	0.40	
	9		53	58	64	0.10	0.18	0.23	0.30	0.38	
	10		High alloyed steel, and tool steel	50	56	67	0.09	0.18	0.22	0.28	0.31
	11			37	46	50	0.09	0.18	0.22	0.28	0.31
	12			38	43	47	0.10	0.18	0.20	0.24	0.30
<b>M</b>	13	Stainless steel	38	43	47	0.10	0.18	0.20	0.24	0.30	
	14		43	49	55	0.12	0.20	0.23	0.27	0.35	
<b>K</b>	15	Grey cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53	
	16		56	70	79	0.13	0.18	0.23	0.28	0.33	
	17	Nodular cast iron	95	101	125	0.17	0.26	0.32	0.42	0.53	
	18		66	81	93	0.13	0.15	0.28	0.33	0.37	
	19	Malleable cast iron	98	125	137	0.18	0.30	0.37	0.46	0.56	
	20		66	81	93	0.13	0.15	0.28	0.33	0.37	
<b>N</b>	21	Aluminum-wrought alloy	366	396	427	0.24	0.38	0.45	0.50	0.53	
	22	244	290	291	0.22	0.33	0.40	0.45	0.48		
	27	Copper and Copper Alloys (Bronze / Brass)	136	168	193	0.15	0.24	0.29	0.39	0.47	
<b>S</b>	31	Heat Resistant Super Alloys	50	55	62	0.19	0.19	0.21	0.24	0.30	
	32		38	44	46	0.15	0.17	0.20	0.21	0.25	
	33		38	44	46	0.15	0.17	0.20	0.21	0.25	
	34		38	44	46	0.15	0.17	0.20	0.21	0.25	
	35		38	44	46	0.15	0.17	0.20	0.21	0.25	
<b>H</b>	38	Hardened steel	38	43	47	0.10	0.18	0.20	0.24	0.30	

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points. Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.



**RECOMMENDED CUTTING CONDITIONS  
EMPFOHLENE SCHNEIDKONDITIONEN**

**SPADE DRILL FLAT BOTTOM HSS-T15**

ISO	VDI 3323	Material Description	Vc(m/min)		Feed(mm/rev)			
			TiN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35
<b>P</b>	1	Non-alloy steel	54	60	0.12	0.18	0.22	0.30
	2		46	55	0.10	0.15	0.19	0.27
	3		45	50	0.10	0.15	0.18	0.27
	4		42	46	0.08	0.14	0.17	0.22
	6	Low alloy steel	45	46	0.10	0.16	0.19	0.29
	7		40	45	0.10	0.13	0.18	0.28
	8		38	42	0.07	0.12	0.18	0.22
	9		34	37	0.06	0.12	0.17	0.22
	10		High alloyed steel, and tool steel	27	29	0.07	0.12	0.15
	11	22		23	0.07	0.12	0.15	0.20
	<b>M</b>	12	Stainless steel	23	25	0.13	0.15	0.18
13		23		25	0.13	0.15	0.18	0.22
14		26		29	0.17	0.18	0.20	0.23
<b>K</b>	15	Grey cast iron	51	60	0.12	0.21	0.29	0.40
	16		38	48	0.10	0.14	0.20	0.25
	17	Nodular cast iron	51	60	0.12	0.21	0.29	0.40
	18		38	48	0.10	0.14	0.20	0.25
	19	Malleable cast iron	56	66	0.13	0.25	0.35	0.41
20	38		48	0.10	0.14	0.20	0.25	
<b>N</b>	21	Aluminum-wrought alloy	208	213	0.17	0.28	0.36	0.43
	22	112	121	0.17	0.28	0.36	0.41	
	27	Copper and Copper Alloys (Bronze / Brass)	48	70	0.15	0.26	0.37	0.45
<b>S</b>	31	Heat Resistant Super Alloys	20	10	0.06	0.14	0.16	0.19
	32		7	9	0.06	0.11	0.14	0.15
	33		7	9	0.06	0.11	0.14	0.15
	34		7	9	0.06	0.11	0.14	0.15
	35		7	9	0.06	0.11	0.14	0.15
<b>H</b>	38	Hardened steel	23	25	0.13	0.15	0.18	0.22

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points. Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.



**SPADE DRILL CARBIDE-P40**

ISO	VDI 3323	Material Description	Vc(m/min)			Feed(mm/rev)				
			TiN	TiCN	TiAlN	Ø9.5-12.5	Ø13-17.5	Ø18-24	Ø25-35	Ø36-47
<b>P</b>	1	Non-alloy steel	<b>94</b>	<b>110</b>	<b>119</b>	0.20	0.24	0.31	0.42	0.46
	2		<b>76</b>	<b>82</b>	<b>96</b>	0.15	0.22	0.29	0.36	0.40
	3		<b>66</b>	<b>70</b>	<b>84</b>	0.15	0.22	0.28	0.36	0.40
	4		<b>66</b>	<b>70</b>	<b>84</b>	0.15	0.22	0.28	0.36	0.40
	6	Low alloy steel	<b>73</b>	<b>81</b>	<b>88</b>	0.15	0.23	0.29	0.38	0.42
	7		<b>66</b>	<b>73</b>	<b>81</b>	0.15	0.21	0.28	0.37	0.41
	8		<b>62</b>	<b>70</b>	<b>78</b>	0.12	0.20	0.27	0.33	0.40
	9		<b>53</b>	<b>58</b>	<b>64</b>	0.10	0.18	0.23	0.30	0.38
	10	High alloyed steel, and tool steel	<b>50</b>	<b>56</b>	<b>67</b>	0.09	0.18	0.22	0.28	0.31
	11		<b>37</b>	<b>46</b>	<b>50</b>	0.09	0.18	0.22	0.28	0.31
	<b>M</b>	12	Stainless steel	<b>38</b>	<b>43</b>	<b>47</b>	0.10	0.18	0.20	0.24
13		<b>38</b>		<b>43</b>	<b>47</b>	0.10	0.18	0.20	0.24	0.30
14		<b>43</b>		<b>49</b>	<b>55</b>	0.12	0.20	0.23	0.27	0.35
<b>K</b>	15	Grey cast iron	<b>95</b>	<b>101</b>	<b>125</b>	0.17	0.26	0.32	0.42	0.53
	16		<b>56</b>	<b>70</b>	<b>79</b>	0.13	0.18	0.23	0.28	0.33
	17	Nodular cast iron	<b>95</b>	<b>101</b>	<b>125</b>	0.17	0.26	0.32	0.42	0.53
	18		<b>66</b>	<b>81</b>	<b>93</b>	0.13	0.15	0.28	0.33	0.37
	19		Malleable cast iron	<b>98</b>	<b>125</b>	<b>137</b>	0.18	0.30	0.37	0.46
20	<b>66</b>	<b>81</b>		<b>93</b>	0.13	0.15	0.28	0.33	0.37	
<b>N</b>	21	Aluminum-wrought alloy	<b>366</b>	<b>396</b>	<b>427</b>	0.24	0.38	0.45	0.50	0.53
	22		<b>244</b>	<b>290</b>	<b>291</b>	0.22	0.33	0.40	0.45	0.48
	27	Copper and Copper Alloys (Bronze / Brass)	<b>136</b>	<b>168</b>	<b>193</b>	0.15	0.24	0.29	0.39	0.47
<b>S</b>	31	Heat Resistant Super Alloys	<b>50</b>	<b>55</b>	<b>62</b>	0.19	0.19	0.21	0.24	0.30
	32		<b>38</b>	<b>44</b>	<b>46</b>	0.15	0.17	0.20	0.21	0.25
	33		<b>38</b>	<b>44</b>	<b>46</b>	0.15	0.17	0.20	0.21	0.25
	34		<b>38</b>	<b>44</b>	<b>46</b>	0.15	0.17	0.20	0.21	0.25
	35		<b>38</b>	<b>44</b>	<b>46</b>	0.15	0.17	0.20	0.21	0.25
<b>H</b>	38	Hardened steel	<b>38</b>	<b>43</b>	<b>47</b>	0.10	0.18	0.20	0.24	0.30

► The recommendations for speeds, feeds and other parameters presented in this chart are nominal recommendations and should be considered only as good starting points. Speed and feed reductions (20% reduction in speed and 10% reduction in feed) are recommended.

- NC-SPOTTING DRILLS
- CENTER DRILLS
- SPADE DRILLS**
- REAMERS
- COUNTER SINKS
- COUNTER BORES
- TECHNICAL DATA



Leading Through Innovation

**CARBIDE, HSS & HSS-E**

# REAMERS

REIBAHLEN

- Carbide NC Machine Reamers  
HSS Hand Reamers, HSS-E Chucking Reamers
- Hartmetall NC Maschinenreibahlen  
HSS-Handreibahlen, HSS-E Spannfutter-Reibahlen



SELECTION GUIDE



SERIES	K4101	K4111
HOLETYPE		
FLUTETYPE	<b>Straight</b>	<b>LH Spiral</b>
SIZE MIN	D2.0	D2.0
SIZE MAX	D20.0	D20.0
PAGE	<b>A384</b>	<b>A385</b>

SURFACE TREATMENT

Bright

# CARBIDE, HSS & HSS-E REAMERS

Carbide NC Machine Reamers  
HSS Hand Reamers  
HSS-E Chucking Reamers



◎ : Excellent ○ : Good  
Recommended cutting conditions : p.A405

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	K4101	K4111	
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎	◎	
	2		About 0.45% C Annealed	190	13	◎	◎	
	3		About 0.45% C Quenched & Tempered	250	25	◎	◎	
	4		About 0.75% C Annealed	270	28	○	○	
	5		About 0.75% C Quenched & Tempered	300	32	○	○	
	6	Low alloy steel	Annealed	180	10	◎	◎	
	7		Quenched & Tempered	275	29	◎	◎	
	8		Quenched & Tempered	300	32	○	○	
	9		Quenched & Tempered	350	38	○	○	
	10		High alloyed steel, and tool steel	Annealed	200	15	○	○
	M	11		Quenched & Tempered	325	35	○	○
12		Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○	
13			Martensitic Quenched & Tempered	240	23	○	○	
14		Austenitic	180	10	○	○		
K	15	Grey cast iron	Pearlitic / ferritic	180	10	◎	◎	
	16		Pearlitic (Martensitic)	260	26	○	○	
	17	Nodular cast iron	Ferritic	160	3	◎	◎	
	18		Pearlitic	250	25	○	○	
	19	Malleable cast iron	Ferritic	130		◎	◎	
	20		Pearlitic	230	21	○	○	
N	21	Aluminum-wrought alloy	Not Curable	60		○	○	
	22		Curable Hardened	100		○	○	
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○	
	24		≤ 12% Si, Curable Hardened	90		○	○	
	25		> 12% Si, Not Curable	130		○	○	
	26		Copper and Copper Alloys (Bronze / Brass)	CuZn, CuSnZn (Brass)	90		○	○
	27	Non Metallic Materials	CuSn, lead-free copper and electrolytic copper	100		○	○	
	28		Duroplastic, Fiber Reinforced Plastic					
	29		Rubber, Wood, etc.					
	S	30	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
31		Cured		280	30			
32		Annealed		250	25			
33		Ni or Co Based Cured		350	38			
34		Cast		320	34			
35		Titanium Alloys		Pure Titanium	400 Rm			
36				Alpha + Beta Alloys Hardened	1050 Rm			
H	37	Hardened steel	Hardened	550	55			
	38		Hardened	630	60			
	39		Cast	400	42			
	40	Hardened Cast Iron	Hardened	550	55			
	41		Hardened	550	55			

HSS

K1143	K1153	K2101	K2111	K2121	K2102	K2112	K21B1
<b>Straight</b>	<b>LH Spiral</b>	<b>Straight</b>	<b>LH Spiral</b>	<b>LH Spiral (Quick Spiral)</b>	<b>Straight</b>	<b>LH Spiral</b>	<b>LH Spiral</b>
D2.0	D2.0	D2.0	D2.0	D4.0	D10.0	D10.0	D2.0
D60.0	D60.0	D20.0	D20.0	D20.0	D50.0	D50.0	D20.0
<b>A386</b>	<b>A388</b>	<b>A390</b>	<b>A392</b>	<b>A394</b>	<b>A395</b>	<b>A397</b>	<b>A399</b>

Bright



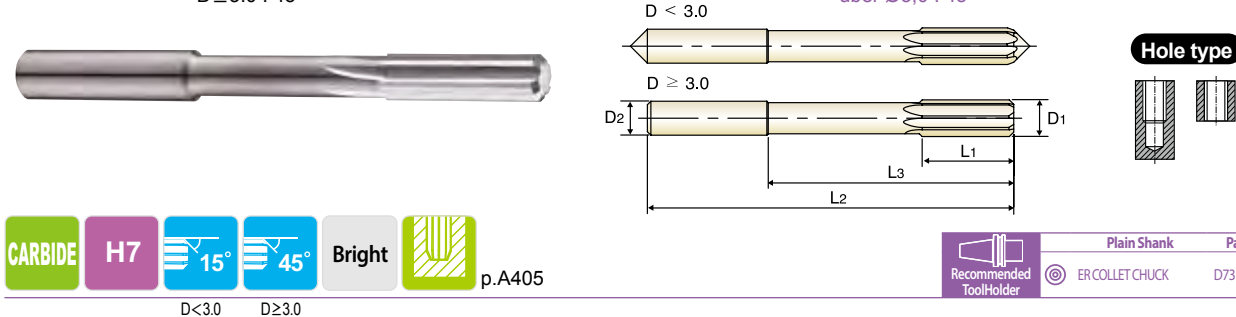
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**CARBIDE, NC MACHINE REAMERS - STRAIGHT FLUTES**

- VHM, NC-MASCHINENREIBAHLEN - GERADEGENUTET
- ALÉSOIRS CARBURE MACHINE CN - ENTRÉE DROITE
- ALESATORI A MACCHINA IN MD - ELICA DRIITA

- ▶ Material - Up to Ø12.0 : Solid Carbide  
- Over Ø12.0 : Carbide Head Brazed
- ▶ Straight Flutes, Right Hand Cut
- ▶ Unequal Flute Spacing
- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank : DIN 6535-HA
- ▶ Chamfer Angle - D<3.0 : 15°  
- D≥3.0 : 45°

- ▶ Material - bis Ø12,0 : VHM  
- über Ø12,0 : gelötete VHM-Köpfe
- ▶ geradegenutet, rechtsschneidend
- ▶ Ungleichteilung
- ▶ Ø Toleranzen : DIN 1420 für H7
- ▶ Schaft : DIN 6535-HA
- ▶ Anschnittwinkel - bis Ø3,0 : 15°  
- über Ø3,0 : 45°



CARBIDE H7 15° 45° Bright p.A405

Plain Shank Page ER COLLET CHUCK D73-115

EDP No.	Reamer Diameter		Shank Diameter		Cutting Length		Neck Length		Overall Length		No. of Flute
	D1	D2	D2	D2	L1	L3	L3	L2	L2		
K410100200	2.0	4	4	4	11	20	20	50	4		
K410100250	2.5	4	4	4	14	26	26	57	4		
K410100300	3.0	4	4	4	15	31	31	61	6		
K410100350	3.5	4	4	4	18	36	36	70	6		
K410100400	4.0	4	4	4	19	42	42	75	6		
K410100450	4.5	6	6	6	21	46	46	80	6		
K410100500	5.0	6	6	6	23	51	51	86	6		
K410100550	5.5	6	6	6	26	56	56	93	6		
K410100600	6.0	6	6	6	26	56	56	93	6		
K410100650	6.5	8	8	8	28	62	62	101	6		
K410100700	7.0	8	8	8	31	68	68	109	6		
K410100750	7.5	8	8	8	31	68	68	109	6		
K410100800	8.0	8	8	8	33	74	74	117	6		
K410100850	8.5	10	10	10	33	74	74	117	6		
K410100900	9.0	10	10	10	36	80	80	125	6		
K410100950	9.5	10	10	10	36	80	80	125	6		
K410101000	10.0	10	10	10	38	86	86	133	6		
K410101050	10.5	12	12	12	38	86	86	133	6		
K410101100	11.0	12	12	12	41	95	95	142	6		
K410101200	12.0	12	12	12	44	104	104	151	6		
K410101300	13.0	16	16	16	44	104	104	151	6		
K410101400	14.0	16	16	16	47	108	108	160	8		
K410101500	15.0	16	16	16	50	110	110	162	8		
K410101600	16.0	16	16	16	52	118	118	170	8		
K410101700	17.0	20	20	20	54	121	121	175	8		
K410101800	18.0	20	20	20	56	128	128	182	8		
K410101900	19.0	20	20	20	58	129	129	189	8		
K410102000	20.0	20	20	20	60	135	135	195	8		

◎ : Excellent ○ : Good

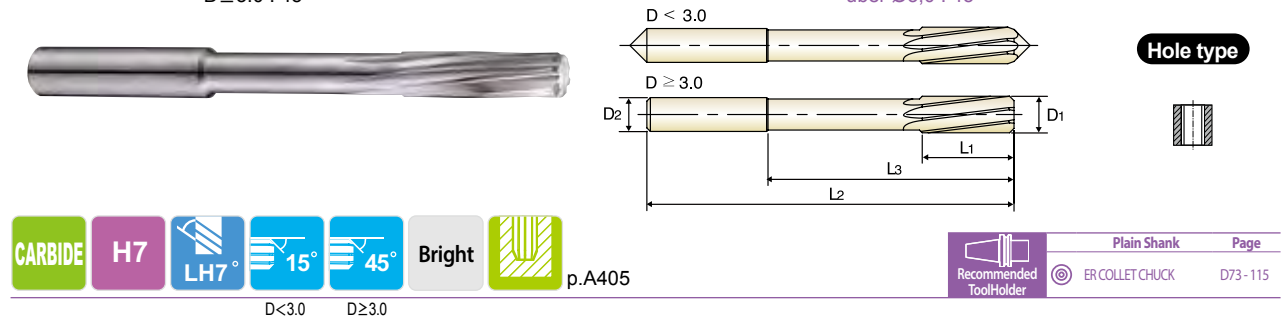
ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	◎	◎	○	○	○	○	○	○	○	◎	○	◎	○	◎	○

**CARBIDE, NC MACHINE REAMERS - LH SPIRAL FLUTES**

- VHM, NC-MASCHINENREIBAHLEN - SPIRALGENUTET mit LINKSDRALL
- ALÉSOIRS CARBURE MACHINE CN - HÉLICE À GAUCHE
- ALESATORI A MACCHINA IN MD - ELICA SINISTRA

- ▶ Material - Up to Ø12.0 : Solid Carbide  
- Over Ø12.0 : Carbide Head Brazed
- ▶ Left Spiral Flutes, Right Hand Cut
- ▶ Unequal Flute Spacing
- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank : DIN 6535-HA
- ▶ Chamfer Angle - D<3.0 : 15°  
- D≥3.0 : 45°

- ▶ Material - bis Ø12,0 : VHM  
- über Ø12,0 : gelötete VHM-Köpfe
- ▶ linksspiralig, rechtsschneidend
- ▶ Ungleichteilung
- ▶ Ø Toleranzen : DIN 1420 für H7
- ▶ Schaft : DIN 6535-HA
- ▶ Anschnittwinkel - bis Ø3,0 : 15°  
- über Ø3,0 : 45°



CARBIDE H7 LH7 15° 45° Bright p.A405

Plain Shank Page ER COLLET CHUCK D73-115

EDP No.	Reamer Diameter		Shank Diameter		Cutting Length		Neck Length		Overall Length		No. of Flute
	D1	D2	D2	D2	L1	L3	L3	L2	L2		
K411100200	2.0	4	4	4	11	20	20	50	4		
K411100250	2.5	4	4	4	14	26	26	57	4		
K411100300	3.0	4	4	4	15	31	31	61	6		
K411100350	3.5	4	4	4	18	36	36	70	6		
K411100400	4.0	4	4	4	19	42	42	75	6		
K411100450	4.5	6	6	6	21	46	46	80	6		
K411100500	5.0	6	6	6	23	51	51	86	6		
K411100550	5.5	6	6	6	26	56	56	93	6		
K411100600	6.0	6	6	6	26	56	56	93	6		
K411100650	6.5	8	8	8	28	62	62	101	6		
K411100700	7.0	8	8	8	31	68	68	109	6		
K411100750	7.5	8	8	8	31	68	68	109	6		
K411100800	8.0	8	8	8	33	74	74	117	6		
K411100850	8.5	10	10	10	33	74	74	117	6		
K411100900	9.0	10	10	10	36	80	80	125	6		
K411100950	9.5	10	10	10	36	80	80	125	6		
K411101000	10.0	10	10	10	38	86	86	133	6		
K411101050	10.5	12	12	12	38	86	86	133	6		
K411101100	11.0	12	12	12	41	95	95	142	6		
K411101200	12.0	12	12	12	44	104	104	151	6		
K411101300	13.0	16	16	16	44	104	104	151	6		
K411101400	14.0	16	16	16	47	108	108	160	8		
K411101500	15.0	16	16	16	50	110	110	162	8		
K411101600	16.0	16	16	16	52	118	118	170	8		
K411101700	17.0	20	20	20	54	121	121	175	8		
K411101800	18.0	20	20	20	56	128	128	182	8		
K411101900	19.0	20	20	20	58	129	129	189	8		
K411102000	20.0	20	20	20	60	135	135	195	8		

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	○	◎	◎	◎	○	○	○	○	○	○	○	◎	○	◎	○	◎	○



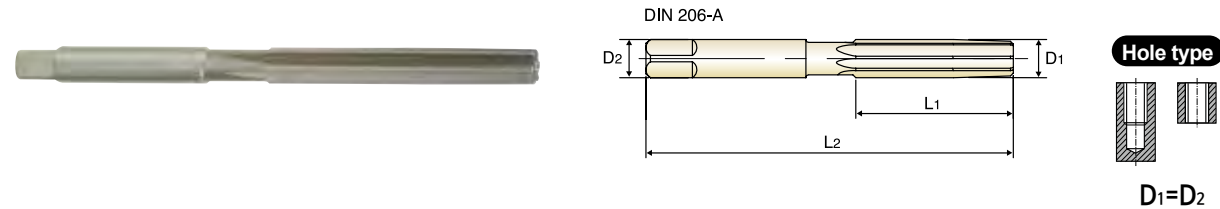
K1143 SERIES

HSS, HAND REAMERS - STRAIGHT FLUTES

- HSS, HANDREIBAHLEN - GERADEGENUTET
- ALÉSOIRS HSS À MAIN - HÉLICE À GAUCHE
- ALESATORI A MANO IN HSS - ELICA SINISTRA

- O.D. Tolerances : DIN 1420 for H7
- Shank Diameter ≈ Nominal Reamer Diameter
- Straight Flutes / Right Hand Cut
- Chamfer Angle- tapered
- Type of center - Up to Ø3.75 : external centers
- Over Ø3.75 : internal centers

- Schneiden-Ø Toleranzen : DIN 1420 für H7
- Schaft-Ø = Nomineller Reibahlen-Ø
- Geradegenutet / Rechtsschneidend
- Anschnittwinkel - Konisch
- Zentrierungsart - bis Ø3,75 mm : Zentrierungszapfen
- über Ø3,75 mm : Zentrierung



HSS DIN 206 H7 Bright

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Reamer Diameter	Flute Length	Overall Length	No. of Flute
	D	L1	L2	
K114300200	2.0	25	50	4
K114300220	2.2	27	54	4
K114300250	2.5	29	58	4
K114300280	2.8	31	62	4
K114300300	3.0	31	62	6
K114300320	3.2	33	66	6
K114300350	3.5	35	71	6
K114300400	4.0	38	76	6
K114300450	4.5	41	81	6
K114300500	5.0	44	87	6
K114300550	5.5	47	93	6
K114300600	6.0	47	93	6
K114300700	7.0	54	107	6
K114300800	8.0	58	115	6
K114300900	9.0	62	124	6
K114301000	10.0	66	133	6
K114301100	11.0	71	142	6
K114301200	12.0	76	152	6
K114301300	13.0	76	152	6
K114301400	14.0	81	163	8
K114301500	15.0	81	163	8
K114301600	16.0	87	175	8
K114301700	17.0	87	175	8
K114301800	18.0	93	188	8
K114301900	19.0	93	188	8
K114302000	20.0	100	201	8
K114302200	22.0	107	215	8
K114302400	24.0	115	231	8

▶NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○				○														

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													



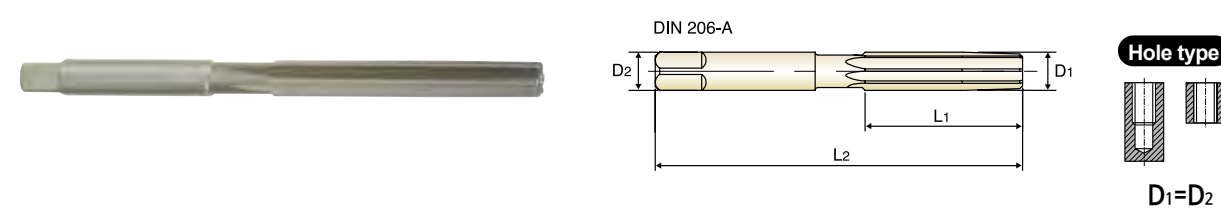
K1143 SERIES

HSS, HAND REAMERS - STRAIGHT FLUTES

- HSS, HANDREIBAHLEN - GERADEGENUTET
- ALÉSOIRS HSS À MAIN - ENTRÉE DROITE
- ALESATORI A MANO IN HSS - ELICA DRITTA

- O.D. Tolerances : DIN 1420 for H7
- Shank Diameter ≈ Nominal Reamer Diameter
- Straight Flutes / Right Hand Cut
- Chamfer Angle- tapered
- Type of center - Up to Ø3.75 : external centers
- Over Ø3.75 : internal centers

- Schneiden-Ø Toleranzen : DIN 1420 für H7
- Schaft-Ø = Nomineller Reibahlen-Ø
- Geradegenutet / Rechtsschneidend
- Anschnittwinkel - Konisch
- Zentrierungsart - bis Ø3,75 mm : Zentrierungszapfen
- über Ø3,75 mm : Zentrierung



HSS DIN 206 H7 Bright

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Reamer Diameter	Flute Length	Overall Length	No. of Flute
	D	L1	L2	
K114302500	25.0	115	231	8
K114302600	26.0	115	231	8
K114302700	27.0	124	247	10
K114302800	28.0	124	247	10
K114302900	29.0	124	247	10
K114303000	30.0	124	247	10
K114303100	31.0	133	265	10
K114303200	32.0	133	265	10
K114303300	33.0	133	265	10
K114303400	34.0	142	284	10
K114303500	35.0	142	284	10
K114303600	36.0	142	284	10
K114303700	37.0	142	284	10
K114303800	38.0	152	305	10
K114303810	38.1	152	305	10
K114303900	39.0	152	305	10
K114304000	40.0	152	305	10
K114304100	41.0	152	305	12
K114304200	42.0	152	305	12
K114304300	43.0	163	326	12
K114304400	44.0	163	326	12
K114304500	45.0	163	326	12
K114304600	46.0	163	326	12
K114304700	47.0	163	326	12
K114304800	48.0	174	347	12
K114304900	49.0	174	347	12
K114305200	52.0	174	347	12
K114306000	60.0	184	367	12

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○				○														

ISO Material Description	N										S						H				
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○		○	○	○													





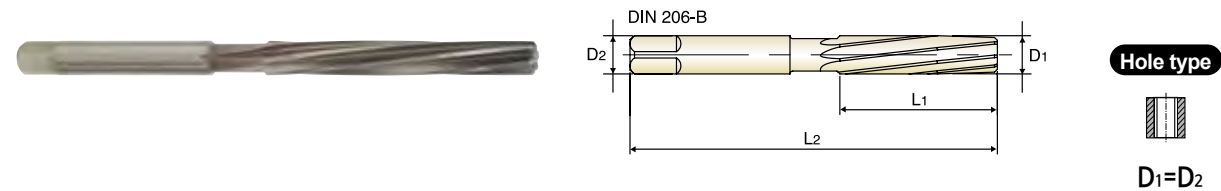
K1153 SERIES

HSS, HAND REAMERS - LH SPIRAL FLUTES

- HSS, HAND REAMERS - LH SPIRAL FLUTES
- ALÉSOIRS HSS À MAIN - HÉLICE À GAUCHE
- ALESATORI A MANO IN HSS - ELICA SINISTRA

- O.D. Tolerances : DIN 1420, H7
- Shank Diameter ≈ Nominal Reamer Diameter
- LH Spiral Flutes / Right Hand Cut
- Chamfer Angle- tapered
- Type of center - Up to Ø3.75 : external centers
- Over Ø3.75 : internal centers

- Schneiden-Ø Toleranzen : DIN 1420 für H7
- Schaft-Ø = Nomineller Reibahlen-Ø
- Spiralgenutet mit Linksdraht / Rechtsschneidend
- Anschnittwinkel - Konisch
- Zentrierungsart - bis Ø3,75 mm : Zentrierungszapfen
- über Ø3,75 mm : Zentrierung



HSS DIN 206 H7 LH7° Bright

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Reamer Diameter	Flute Length	Overall Length	No. of Flute
	D	L1	L2	
K115300200	2.0	25	50	4
K115300220	2.2	27	54	4
K115300250	2.5	29	58	4
K115300280	2.8	31	62	4
K115300300	3.0	31	62	6
K115300320	3.2	33	66	6
K115300350	3.5	35	71	6
K115300400	4.0	38	76	6
K115300450	4.5	41	81	6
K115300500	5.0	44	87	6
K115300550	5.5	47	93	6
K115300600	6.0	47	93	6
K115300700	7.0	54	107	6
K115300800	8.0	58	115	6
K115300900	9.0	62	124	6
K115301000	10.0	66	133	6
K115301100	11.0	71	142	6
K115301200	12.0	76	152	6
K115301300	13.0	76	152	6
K115301400	14.0	81	163	8
K115301500	15.0	81	163	8
K115301600	16.0	87	175	8
K115301700	17.0	87	175	8
K115301800	18.0	93	188	8
K115301900	19.0	93	188	8
K115302000	20.0	100	201	8
K115302200	22.0	107	215	8
K115302400	24.0	115	231	8

▶NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	30	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○				○															

ISO Material Description	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○		○	○	○														



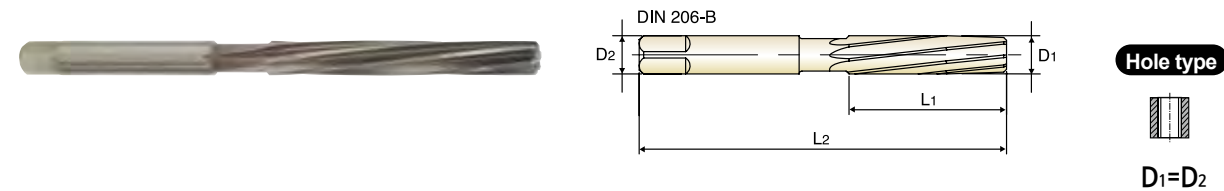
K1153 SERIES

HSS, HAND REAMERS - LH SPIRAL FLUTES

- HSS, HAND REAMERS - LH SPIRAL FLUTES
- ALÉSOIRS HSS À MAIN - HÉLICE À GAUCHE
- ALESATORI A MANO IN HSS - ELICA SINISTRA

- O.D. Tolerances : DIN 1420, H7
- Shank Diameter ≈ Nominal Reamer Diameter
- LH Spiral Flutes / Right Hand Cut
- Chamfer Angle- tapered
- Type of center - Up to Ø3.75 : external centers
- Over Ø3.75 : internal centers

- Schneiden-Ø Toleranzen : DIN 1420 für H7
- Schaft-Ø = Nomineller Reibahlen-Ø
- Geradegenutet / Rechtsschneidend
- Anschnittwinkel - Konisch
- Zentrierungsart - bis Ø3,75 mm : Zentrierungszapfen
- über Ø3,75 mm : Zentrierung



HSS DIN 206 H7 LH7° Bright

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Reamer Diameter	Flute Length	Overall Length	No. of Flute
	D	L1	L2	
K115302500	25.0	115	231	8
K115302600	26.0	115	231	8
K115302700	27.0	124	247	10
K115302800	28.0	124	247	10
K115302900	29.0	124	247	10
K115303000	30.0	124	247	10
K115303100	31.0	133	265	10
K115303200	32.0	133	265	10
K115303300	33.0	133	265	10
K115303400	34.0	142	284	10
K115303500	35.0	142	284	10
K115303600	36.0	142	284	10
K115303700	37.0	142	284	10
K115303800	38.0	152	305	10
K115303810	38.1	152	305	10
K115303900	39.0	152	305	10
K115304000	40.0	152	305	10
K115304100	41.0	152	305	12
K115304200	42.0	152	305	12
K115304300	43.0	163	326	12
K115304400	44.0	163	326	12
K115304500	45.0	163	326	12
K115304600	46.0	163	326	12
K115304700	47.0	163	326	12
K115304800	48.0	174	347	12
K115304900	49.0	174	347	12
K115305200	52.0	174	347	12
K115306000	60.0	184	367	12

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	30	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	○	○				○															

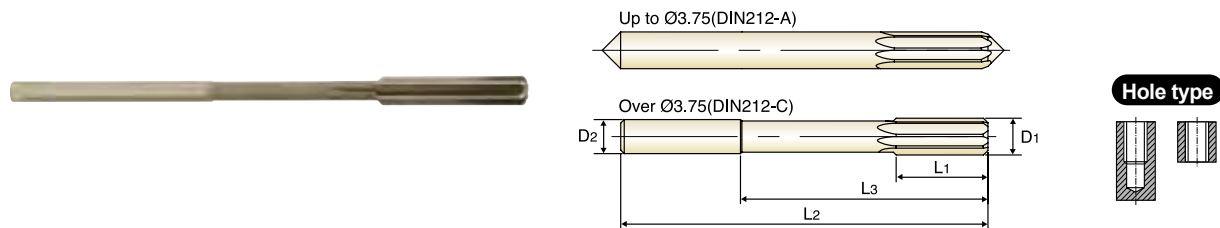
ISO Material Description	N										S						H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed				Copper and Copper Alloys (Bronze / Brass)				Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRc	15	30	25	38	34						15	30	25	38	34			55	60	42	55	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○		○	○	○														

**HSS-E, STRAIGHT SHANK CHUCKING REAMERS - STRAIGHT FLUTES**

- HSS-E, MASCHINENREIBAHLE mit ZYLINDERSCHAFT - GERADEGENUTET
- ALÉSOIRS HSS-E MACHINE DROIT- ENTRÉE DROITE
- ALESATORI IN HSS-E, ATTACCO CILINDRICO - ELICA DRITTA

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter Tolerances : h8
- ▶ Straight Flute / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°  
- Over Ø3.75 : 45°

- ▶ Schneiden-Ø Toleranzen : DIN 1420 für H7
- ▶ Schaft-Ø Toleranzen : h8
- ▶ Geradegenutet / Rechtsschneidend
- ▶ Anschnittwinkel - bis Ø3,75 mm : 15°  
- über Ø3,75 mm : 45°



HSS-E DIN 212 H7 15° 45° Bright p.A406

Recommended ToolHolder ER COLLET CHUCK D73-115

Plain Shank Page

up to Ø3.75 over Ø3.75

Unit : mm

EDP No.	Reamer Diameter		Shank Diameter		Cutting Length		Neck Length		Overall Length		No. of Flute
	D1	D2	D2	D2	L1	L3	L3	L2	L2		
K210100200	2.0	2	2	2	11	-	-	49	4		
K210100220	2.2	2.2	2.2	2.2	12	-	-	53	4		
K210100250	2.5	2.5	2.5	2.5	14	-	-	57	4		
K210100260	2.6	2.6	2.6	2.6	14	-	-	57	4		
K210100280	2.8	2.8	2.8	2.8	15	-	-	61	4		
K210100300	3.0	3	3	3	15	-	-	61	6		
K210100310	3.1	3.1	3.1	3.1	16	-	-	65	6		
K210100320	3.2	3.2	3.2	3.2	16	-	-	65	6		
K210100350	3.5	3.5	3.5	3.5	18	-	-	70	6		
K210100360	3.6	3.6	3.6	3.6	18	-	-	70	6		
K210100370	3.7	3.7	3.7	3.7	18	-	-	70	6		
K210100400	4.0	4	4	4	19	42	42	75	6		
K210100430	4.3	4.5	4.5	4.5	21	46	46	80	6		
K210100450	4.5	4.5	4.5	4.5	21	46	46	80	6		
K210100460	4.6	4.5	4.5	4.5	21	46	46	80	6		
K210100500	5.0	5	5	5	23	51	51	86	6		
K210100550	5.5	5.6	5.6	5.6	26	56	56	93	6		
K210100560	5.6	5.6	5.6	5.6	26	56	56	93	6		
K210100600	6.0	5.6	5.6	5.6	26	56	56	93	6		
K210100650	6.5	6.3	6.3	6.3	28	62	62	101	6		
K210100700	7.0	7.1	7.1	7.1	31	68	68	109	6		
K210100720	7.2	7.1	7.1	7.1	31	68	68	109	6		
K210100800	8.0	8	8	8	33	74	74	117	6		
K210100830	8.3	8	8	8	33	74	74	117	6		
K210100850	8.5	8	8	8	33	74	74	117	6		
K210100900	9.0	9	9	9	36	80	80	125	6		

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◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	35	38	42	45	48	52	55	58	62	65	68	72	75	78	82	85	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

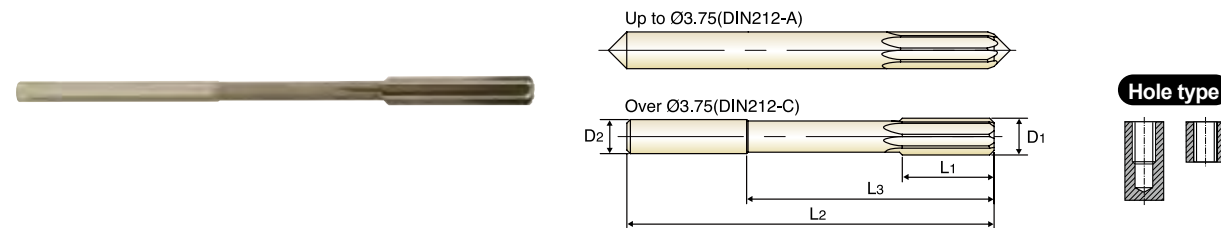
ISO Material Description	N										S					H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	40	55	60	42	55	55			
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○			

**HSS-E, STRAIGHT SHANK CHUCKING REAMERS - STRAIGHT FLUTES**

- HSS-E, MASCHINENREIBAHLE mit ZYLINDERSCHAFT - GERADEGENUTET
- ALÉSOIRS HSS-E MACHINE DROIT- ENTRÉE DROITE
- ALESATORI IN HSS-E, ATTACCO CILINDRICO - ELICA DRITTA

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter Tolerances : h8
- ▶ Straight Flute / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°  
- Over Ø3.75 : 45°

- ▶ Schneiden-Ø Toleranzen : DIN 1420 für H7
- ▶ Schaft-Ø Toleranzen : h8
- ▶ Geradegenutet / Rechtsschneidend
- ▶ Anschnittwinkel - bis Ø3,75 mm : 15°  
- über Ø3,75 mm : 45°



HSS-E DIN 212 H7 15° 45° Bright p.A406

Recommended ToolHolder ER COLLET CHUCK D73-115

Plain Shank Page

up to Ø3.75 over Ø3.75

Unit : mm

EDP No.	Reamer Diameter		Shank Diameter		Cutting Length		Neck Length		Overall Length		No. of Flute
	D1	D2	D2	D2	L1	L3	L3	L2	L2		
K210100950	9.5	9	9	9	36	80	80	125	6		
K210101000	10.0	10	10	10	38	86	86	133	6		
K210101050	10.5	10	10	10	38	86	86	133	6		
K210101100	11.0	10	10	10	41	95	95	142	6		
K210101200	12.0	10	10	10	44	104	104	151	6		
K210101300	13.0	10	10	10	44	104	104	151	6		
K210101400	14.0	12.5	12.5	12.5	47	108	108	160	8		
K210101500	15.0	12.5	12.5	12.5	50	110	110	162	8		
K210101600	16.0	12.5	12.5	12.5	52	118	118	170	8		
K210101700	17.0	14	14	14	54	121	121	175	8		
K210101800	18.0	14	14	14	56	128	128	182	8		
K210101900	19.0	16	16	16	58	129	129	189	8		
K210102000	20.0	16	16	16	60	135	135	195	8		

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	35	38	42	45	48	52	55	58	62	65	68	72	75	78	82	85	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

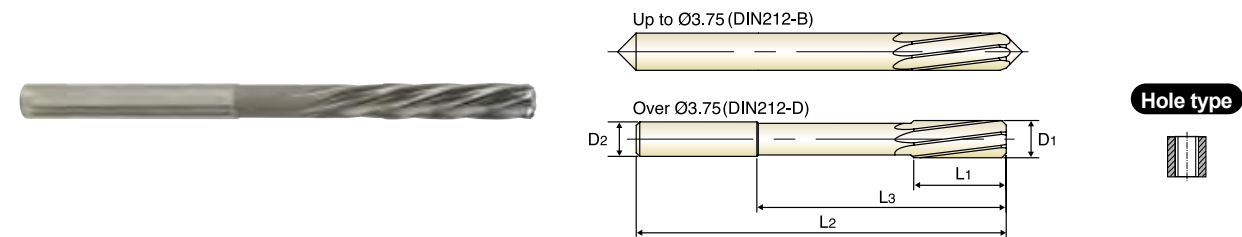
ISO Material Description	N										S					H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	40	55	60	42	55	55			
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○			

**HSS-E, STRAIGHT SHANK CHUCKING REAMERS - LH SPIRAL FLUTES**

● HSS-E, MASCHINENREIBAHLE mit ZYLINDERSCHAFT - SPIRALGENUTET mit LINKSDRALL  
 ○ ALÉSOIRS HSS-E MACHINE DROIT- HÉLICE À GAUCHE  
 ○ ALESATORI IN HSS-E, ATTACCO CILINDRICO - ELICA SINISTRA

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter Tolerances : h8
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°  
- Over Ø3.75 : 45°

- ▶ Schneiden-Ø Toleranzen : DIN 1420 für H7
- ▶ Schaft-Ø Toleranzen : h8
- ▶ Spiralgenutet mit Linksdraht / Rechtsschneidend
- ▶ Anschnittwinkel - bis Ø3,75 mm : 15°  
- über Ø3,75 mm : 45°



HSS-E DIN 212 H7 LH7° 15° 45° Bright p.A406

Recommended ToolHolder ER COLLET CHUCK D73 - 115

Plain Shank Page

up to Ø3.75 over Ø3.75

Unit : mm

EDP No.	Reamer Diameter D1	Shank Diameter D2	Cutting Length L1	Neck Length L3	Overall Length L2	No. of Flute
K211100200	2.0	2	11	-	49	4
K211100220	2.2	2.2	12	-	53	4
K211100250	2.5	2.5	14	-	57	4
K211100260	2.6	2.6	14	-	57	4
K211100280	2.8	2.8	15	-	61	4
K211100300	3.0	3	15	-	61	6
K211100310	3.1	3.1	16	-	65	6
K211100320	3.2	3.2	16	-	65	6
K211100350	3.5	3.5	18	-	70	6
K211100360	3.6	3.6	18	-	70	6
K211100370	3.7	3.7	18	-	70	6
K211100400	4.0	4	19	42	75	6
K211100430	4.3	4.5	21	46	80	6
K211100450	4.5	4.5	21	46	80	6
K211100460	4.6	4.5	21	46	80	6
K211100500	5.0	5	23	51	86	6
K211100550	5.5	5.6	26	56	93	6
K211100560	5.6	5.6	26	56	93	6
K211100600	6.0	5.6	26	56	93	6
K211100650	6.5	6.3	28	62	101	6
K211100700	7.0	7.1	31	68	109	6
K211100720	7.2	7.1	31	68	109	6
K211100800	8.0	8	33	74	117	6
K211100830	8.3	8	33	74	117	6

▶NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	35	15	35	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

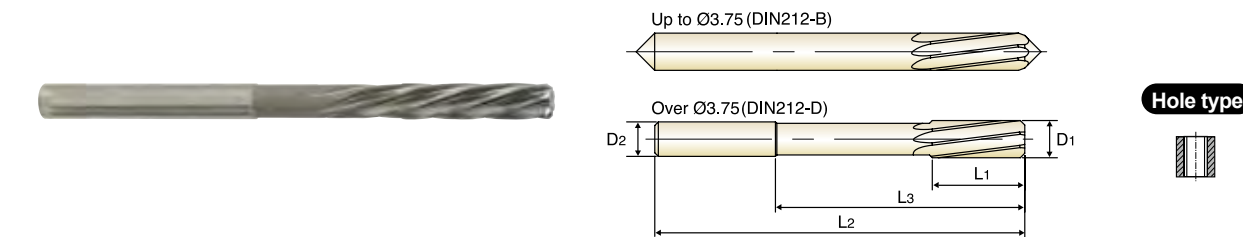
ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

**HSS-E, STRAIGHT SHANK CHUCKING REAMERS - LH SPIRAL FLUTES**

● HSS-E, MASCHINENREIBAHLE mit ZYLINDERSCHAFT - SPIRALGENUTET mit LINKSDRALL  
 ○ ALÉSOIRS HSS-E MACHINE DROIT- HÉLICE À GAUCHE  
 ○ ALESATORI IN HSS-E, ATTACCO CILINDRICO - ELICA SINISTRA

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter Tolerances : h8
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°  
- Over Ø3.75 : 45°

- ▶ Schneiden-Ø Toleranzen : DIN 1420 für H7
- ▶ Schaft-Ø Toleranzen : h8
- ▶ Spiralgenutet mit Linksdraht / Rechtsschneidend
- ▶ Anschnittwinkel - bis Ø3,75 mm : 15°  
- über Ø3,75 mm : 45°



HSS-E DIN 212 H7 LH7° 15° 45° Bright p.A406

Recommended ToolHolder ER COLLET CHUCK D73 - 115

Plain Shank Page

up to Ø3.75 over Ø3.75

Unit : mm

EDP No.	Reamer Diameter D1	Shank Diameter D2	Cutting Length L1	Neck Length L3	Overall Length L2	No. of Flute
K211100850	8.5	8	33	74	117	6
K211100900	9.0	9	36	80	125	6
K211100950	9.5	9	36	80	125	6
K211101000	10.0	10	38	86	133	6
K211101050	10.5	10	38	86	133	6
K211101100	11.0	10	41	95	142	6
K211101200	12.0	10	44	104	151	6
K211101300	13.0	10	44	104	151	6
K211101400	14.0	12.5	47	108	160	8
K211101500	15.0	12.5	50	110	162	8
K211101600	16.0	12.5	52	118	170	8
K211101700	17.0	14	54	121	175	8
K211101800	18.0	14	56	128	182	8
K211101900	19.0	16	58	129	189	8
K211102000	20.0	16	60	135	195	8

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	10	29	32	38	35	15	35	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	15	30	25	38	34	55	60	42	42	55	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

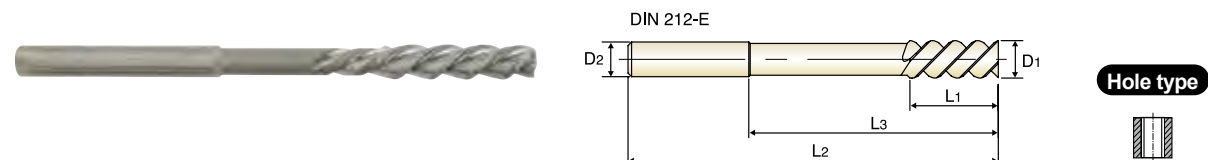


**HSS-E, STRAIGHT SHANK CHUCKING REAMERS - LH SPIRAL FLUTES (QUICK SPIRAL)**

- HSS-E, MASCHINEN - SCHÄLREIBAHLE mit ZYLINDERSCHAFT - SPIRALGENUTET mit LINKSDRAL
- ALÉSOIRS HSS-E MACHINE DROIT- HÉLICE À GAUCHE (HÉLICE RAPIDE)
- ALESATORI IN HSS-E, ATTACCO CILINDRICO - ELICA RAPIDA, SINISTRA

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Shank Diameter Tolerances : h8
- ▶ Chamfer Angle - tapered
- ▶ LH High Spiral Flutes / Right Hand Cut

- ▶ Schneiden-Ø Toleranzen : DIN 1420 für H7
- ▶ Schaft-Ø Toleranzen : h8
- ▶ Ansnittwinkel - Konisch
- ▶ Spiralgenutet mit Linksdraht / Rechtsschneidend



HSS-E DIN 212 H7 LH45° FORM E Bright P.A406

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73 - 115

Unit : mm

EDP No.	Reamer Diameter	Shank Diameter	Cutting Length	Neck Length	Overall Length	No. of Flute
	D1	D2	L1	L3	L2	
K212100400	4.0	4	19	42	75	3
K212100450	4.5	4.5	21	46	80	3
K212100500	5.0	5	23	51	86	3
K212100550	5.5	5.6	26	56	93	3
K212100600	6.0	5.6	26	56	93	3
K212100650	6.5	6.3	28	62	101	3
K212100700	7.0	7.1	31	68	109	3
K212100800	8.0	8	33	74	117	3
K212100850	8.5	8	33	74	117	3
K212100900	9.0	9	36	80	125	3
K212100950	9.5	9	36	80	125	3
K212101000	10.0	10	38	86	133	3
K212101100	11.0	10	41	95	142	3
K212101200	12.0	10	44	104	151	3
K212101300	13.0	10	44	104	151	3
K212101400	14.0	12.5	47	108	160	4
K212101500	15.0	12.5	50	110	162	4
K212101600	16.0	12.5	52	118	170	4
K212101700	17.0	14	54	121	175	4
K212101800	18.0	14	56	128	182	4
K212101900	19.0	16	58	129	189	4
K212102000	20.0	16	60	135	195	4

◎ : Excellent ○ : Good

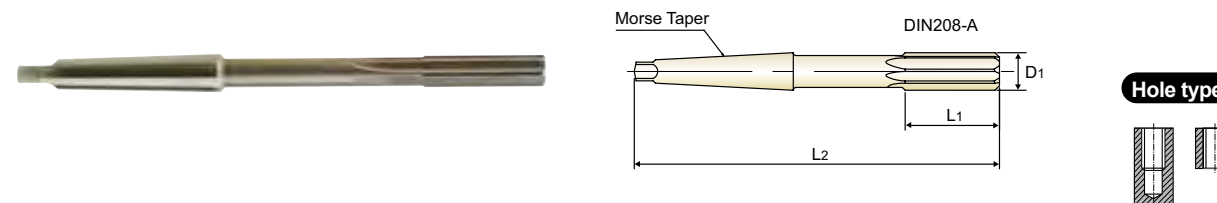
ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

**HSS-E, MORSE TAPER SHANK CHUCKING REAMERS - STRAIGHT FLUTES**

- HSS-E, MASCHINENREIBAHLE mit MK - GERADEGENUTET
- ALÉSOIRS HSS-E MACHINE QUEUE CONIQUE - ENTRÉE DROITE
- ALESATORI IN HSS-E, ATTACCO CONICO - TAGLIENTI DRITTI

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Straight Flute / Right Hand Cut
- ▶ Chamfer Angle : 45°

- ▶ Schneiden-Ø Toleranzen : DIN 1420 für H7
- ▶ Geradegenutet / Rechtsschneidend
- ▶ Ansnittwinkel : 45°



HSS-E DIN 208 H7 45° Bright p.A406

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73 - 115

Unit : mm

EDP No.	Reamer Diameter	No. of Morse Taper	Cutting Length	Overall Length	No. of Flute
	D1		L1	L2	
K210201000	10.0	1	38	168	6
K210201100	11.0	1	41	175	6
K210201200	12.0	1	44	182	6
K210201300	13.0	1	44	182	6
K210201400	14.0	1	47	189	8
K210201500	15.0	2	50	204	8
K210201600	16.0	2	52	210	8
K210201700	17.0	2	54	214	8
K210201800	18.0	2	56	219	8
K210201900	19.0	2	58	223	8
K210202000	20.0	2	60	228	8
K210202100	21.0	2	62	232	8
K210202200	22.0	2	64	237	8
K210202300	23.0	2	66	241	8
K210202400	24.0	3	68	268	8
K210202500	25.0	3	68	268	8
K210202600	26.0	3	70	273	8
K210202700	27.0	3	71	277	10
K210202800	28.0	3	71	277	10
K210202900	29.0	3	73	281	10
K210203000	30.0	3	73	281	10
K210203100	31.0	3	75	285	10
K210203200	32.0	4	77	317	10
K210203400	34.0	4	78	321	10
K210203500	35.0	4	78	321	10
K210203600	36.0	4	79	325	10

▶NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	35	38	40	42	45	48	50	52	55	58	60	62	65	68	70	72
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



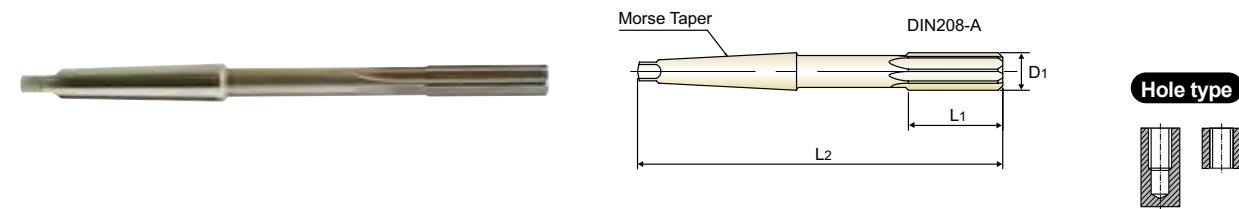
**K2102** SERIES

**HSS-E, MORSE TAPER SHANK CHUCKING REAMERS - STRAIGHT FLUTES**

- HSS-E, MASCHINENREIBAHLE mit MK - GERADEGENUTET
- ALÉSOIRS HSS-E MACHINE QUEUE CONIQUE - ENTRÉE DROITE
- ALESATORI IN HSS-E, ATTACCO CONICO - TAGLIENTI DRITTI

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ Straight Flute / Right Hand Cut
- ▶ Chamfer Angle : 45°

- ▶ Schneiden-Ø Toleranzen : DIN 1420 für H7
- ▶ Geradegenutet / Rechtsschneidend
- ▶ Anschnittwinkel : 45°



HSS-E DIN 208 H7 45° Bright p.A406

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Reamer Diameter D1	No. of Morse Taper	Cutting Length		Overall Length L2	No. of Flute
			L1	L2		
K210203800	38.0	4	81	329	10	
K210204000	40.0	4	81	329	10	
K210204100	41.0	4	82	333	12	
K210204200	42.0	4	82	333	12	
K210204300	43.0	4	83	336	12	
K210204400	44.0	4	83	336	12	
K210204500	45.0	4	83	336	12	
K210204600	46.0	4	84	340	12	
K210204700	47.0	4	84	340	12	
K210204800	48.0	4	86	344	12	
K210205000	50.0	4	86	344	12	

◎ : Excellent ○ : Good

ISO Material Description	P										M				K																										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron																				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



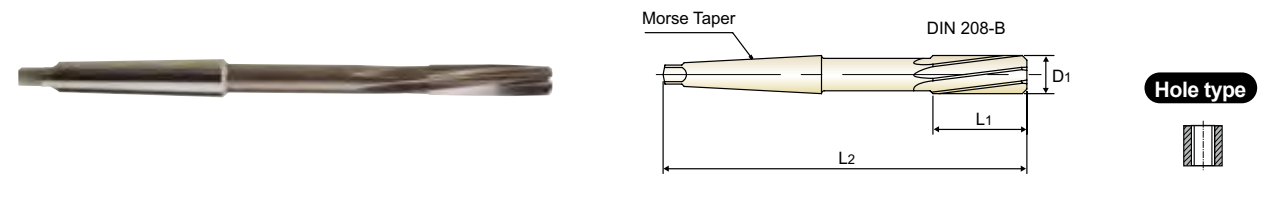
**K2112** SERIES

**HSS-E, MORSE TAPER SHANK CHUCKING REAMERS - LH SPIRAL FLUTES**

- HSS-E, MASCHINENREIBAHLE mit MK - SPIRALGENUTET mit LINKSDRALL
- ALÉSOIRS HSS-E MACHINE QUEUE CONIQUE - HÉLICE À GAUCHE
- ALESATORI IN HSS-E, ATTACCO CONICO - ELICA SINISTRA

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle : 45°

- ▶ Schneiden-Ø Toleranzen : DIN 1420 für H7
- ▶ Spiralgenutet mit Linksdraht / Rechtsschneidend
- ▶ Anschnittwinkel : 45°



HSS-E DIN 208 H7 LH7° 45° Bright p.A406

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Reamer Diameter D1	No. of Morse Taper	Cutting Length		Overall Length L2	No. of Flute
			L1	L2		
K211201000	10.0	1	38	168	6	
K211201100	11.0	1	41	175	6	
K211201200	12.0	1	44	182	6	
K211201300	13.0	1	44	182	6	
K211201400	14.0	1	47	189	8	
K211201500	15.0	2	50	204	8	
K211201600	16.0	2	52	210	8	
K211201700	17.0	2	54	214	8	
K211201800	18.0	2	56	219	8	
K211201900	19.0	2	58	223	8	
K211202000	20.0	2	60	228	8	
K211202100	21.0	2	62	232	8	
K211202200	22.0	2	64	237	8	
K211202300	23.0	2	66	241	8	
K211202400	24.0	3	68	268	8	
K211202500	25.0	3	68	268	8	
K211202600	26.0	3	70	273	8	
K211202700	27.0	3	71	277	10	
K211202800	28.0	3	71	277	10	
K211202900	29.0	3	73	281	10	
K211203000	30.0	3	73	281	10	
K211203100	31.0	3	75	285	10	
K211203200	32.0	4	77	317	10	
K211203400	34.0	4	78	321	10	
K211203500	35.0	4	78	321	10	
K211203600	36.0	4	79	325	10	

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◎ : Excellent ○ : Good

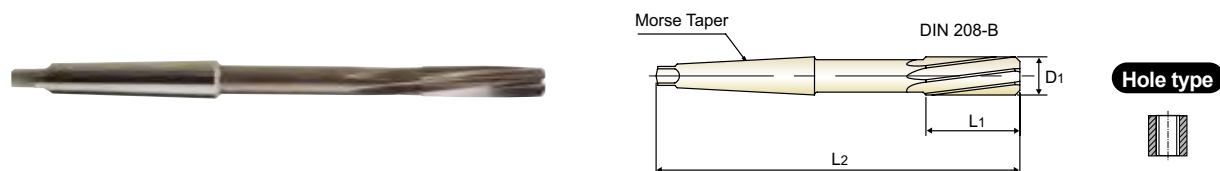
ISO Material Description	P										M				K																										
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron																				
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	125	130	135	140	145	150	155	160	165	170	175	180	185	190	195	200	205	210	215	220	225	230	235	240	245	250	255	260	265	270	275	280	285	290	295	300	305	310	315	320	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

**HSS-E, MORSE TAPER SHANK CHUCKING REAMERS - LH SPIRAL FLUTES**

- HSS-E, MASCHINENREIBAHLE mit MK - SPIRALGENUTET mit LINKSDRALL
- ALÉSOIRS HSS-E MACHINE QUEUE CONIQUE - HÉLICE À GAUCHE
- ALESATORI IN HSS-E, ATTACCO CONICO - ELICA SINISTRA

- ▶ O.D. Tolerances : DIN 1420 for H7
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle : 45°

- ▶ Schneiden-Ø Toleranzen : DIN 1420 für H7
- ▶ Spiralgenutet mit Linksdraht / Rechtsschneidend
- ▶ Anschnittwinkel : 45°



HSS-E DIN 208 H7 LH7° 45° Bright p.A406

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No.	Reamer Diameter D1	No. of Morse Taper	Cutting Length		Overall Length L2	No. of Flute
			L1	L2		
K211203800	38.0	4	81	329	10	
K211204000	40.0	4	81	329	10	
K211204100	41.0	4	82	333	12	
K211204200	42.0	4	82	333	12	
K211204300	43.0	4	83	336	12	
K211204400	44.0	4	83	336	12	
K211204500	45.0	4	83	336	12	
K211204600	46.0	4	84	340	12	
K211204700	47.0	4	84	340	12	
K211204800	48.0	4	86	344	12	
K211205000	50.0	4	86	344	12	

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

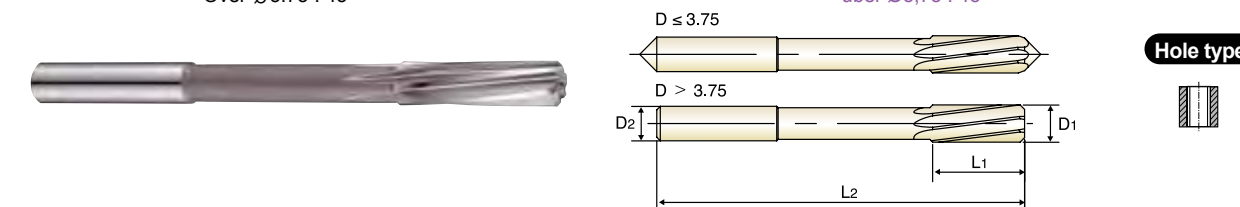
ISO Material Description	N										S					H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	15	30	25	38	34						200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
HB	60	100	75	90	130	110	90	100																
Recommended	○	○	○	○	○	○	○	○																

**HSS-E, NC MACHINE REAMERS WITH WHOLE-NUMBER SHANK Ø**

- HSS-E, NC-MASCHINENREIBAHLEN mit GERADZÄHLIGEN SCHAFT Ø
- ALÉSOIRS HSS-E MACHINE CN AVEC DIFFÉRENTES TOLÉRANCES DE QUEUE
- ALESATORI A MACCHINA IN HSS-E CON GAMMA Ø NOMINALI

- ▶ O.D. Tolerances  
Whole-number Ø and 1/10 size : DIN 1420 for H7  
1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm  
from Ø5.97 to Ø12.03 : +0.005/-0.000mm
- ▶ Shank Diameter Tolerances : h6
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°  
- Over Ø3.75 : 45°

- ▶ Ø Toleranzen:  
ganzzahlige Ø und 1/10 Größen : DIN 1420 für H7  
1/100 Größen : ab Ø2,01 bis Ø5,03 : +0.004/-0.000mm  
von Ø5,97 bis Ø12,03 : +0.005/-0.000mm
- ▶ Schaft-Durchmesser Toleranzen : h6
- ▶ linksspiralig/ rechtsschneidend
- ▶ Anschnittwinkel - bis Ø3,75 : 15°  
- über Ø3,75 : 45°



HSS-E H7 LH7° 15° 45° Bright p.A406

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

up to Ø3.75 over Ø3.75

Unit : mm

EDP No.	Reamer Diameter D1	Shank Diameter D2	Flute Length L1	Overall Length L2
K21B100201	2.01	2	11	49
K21B100202	2.02	2	11	49
K21B100203	2.03	2	11	49
K21B100210	2.1	2	11	49
K21B100220	2.2	3	12	53
K21B100230	2.3	3	12	53
K21B100240	2.4	3	14	57
K21B100247	2.47	3	14	57
K21B100248	2.48	3	14	57
K21B100249	2.49	3	14	57
K21B100250	2.5	3	14	57
K21B100251	2.51	3	14	57
K21B100252	2.52	3	14	57
K21B100253	2.53	3	14	57
K21B100260	2.6	3	14	57
K21B100270	2.7	3	15	61
K21B100280	2.8	3	15	61
K21B100290	2.9	3	15	61
K21B100297	2.97	3	15	61
K21B100298	2.98	3	15	61
K21B100299	2.99	3	15	61
K21B100300	3.0	3	15	61
K21B100301	3.01	4	16	65

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◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

ISO Material Description	N										S					H								
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc	15	30	25	38	34						200	280	250	350	320	400Rm	1050Rm	550	630	400	550			
HB	60	100	75	90	130	110	90	100																
Recommended	○	○	○	○	○	○	○	○																

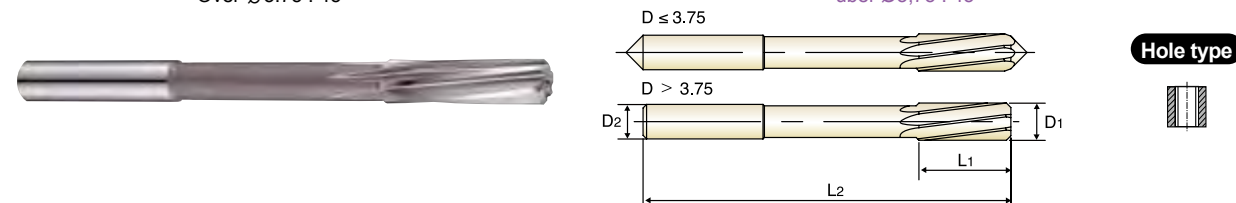


**HSS-E, NC MACHINE REAMERS WITH WHOLE-NUMBER SHANK Ø**

● HSS-E, NC-MASCHINENREIBAHLEN mit GERADZÄHLIGEN SCHAFT Ø  
 ○ ALÉSOIRS HSS-E MACHINE CN AVEC DIFFÉRENTES TOLÉRANCES DE QUEUE  
 ○ ALESATORI A MACCHINA IN HSS-E CON GAMMA Ø NOMINALI

- ▶ O.D. Tolerances  
 Whole-number Ø and 1/10 size : DIN 1420 for H7  
 1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm  
 from Ø5.97 to Ø12.03 : +0.005/-0.000mm
- ▶ Shank Diameter Tolerances : h6
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°  
 - Over Ø3.75 : 45°

- ▶ Ø Toleranzen:  
 ganzzahlige Ø und 1/10 Größen : DIN 1420 für H7  
 1/100 Größen : ab Ø2,01 bis Ø5,03 : +0.004/-0.000mm  
 von Ø5,97 bis Ø12,03 : +0.005/-0.000mm
- ▶ Schaft-Durchmesser Toleranzen : h6
- ▶ linksspiralig/ rechtsscheidend
- ▶ Anschnittwinkel - bis Ø3,75 : 15°  
 - über Ø3,75 : 45°



HSS-E H7 LH7° 15° 45° Bright p.A406  
 Recommended ToolHolder ER COLLET CHUCK D73-115  
 up to Ø3.75 over Ø3.75

EDP No.	Reamer Diameter	Shank Diameter	Flute Length	Overall Length
	D1	D2	L1	L2
K21B100302	3.02	4	16	65
K21B100303	3.03	4	16	65
K21B100310	3.1	4	16	65
K21B100320	3.2	4	16	65
K21B100330	3.3	4	16	65
K21B100340	3.4	4	18	70
K21B100350	3.5	4	18	70
K21B100360	3.6	4	18	70
K21B100370	3.7	4	18	70
K21B100380	3.8	4	19	75
K21B100390	3.9	4	19	75
K21B100397	3.97	4	19	75
K21B100398	3.98	4	19	75
K21B100399	3.99	4	19	75
K21B100400	4.0	4	19	75
K21B100401	4.01	4	19	75
K21B100402	4.02	4	19	75
K21B100403	4.03	4	19	75
K21B100410	4.1	4	19	75
K21B100420	4.2	4	19	75
K21B100430	4.3	5	21	80
K21B100440	4.4	5	21	80
K21B100450	4.5	5	21	80
K21B100460	4.6	5	21	80

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◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

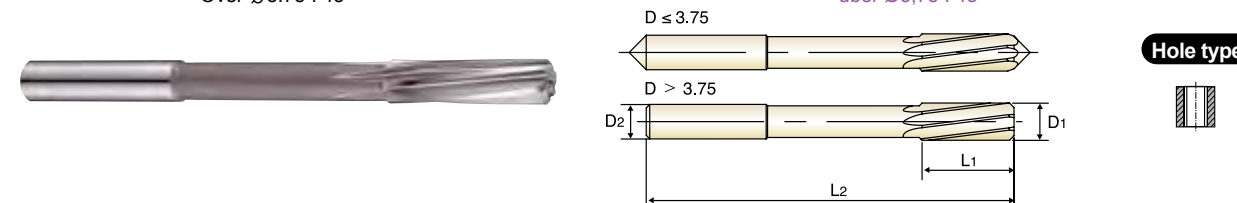
ISO Material Description	N					S					H															
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41					
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41					
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

**HSS-E, NC MACHINE REAMERS WITH WHOLE-NUMBER SHANK Ø**

● HSS-E, NC-MASCHINENREIBAHLEN mit GERADZÄHLIGEN SCHAFT Ø  
 ○ ALÉSOIRS HSS-E MACHINE CN AVEC DIFFÉRENTES TOLÉRANCES DE QUEUE  
 ○ ALESATORI A MACCHINA IN HSS-E CON GAMMA Ø NOMINALI

- ▶ O.D. Tolerances  
 Whole-number Ø and 1/10 size : DIN 1420 for H7  
 1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm  
 from Ø5.97 to Ø12.03 : +0.005/-0.000mm
- ▶ Shank Diameter Tolerances : h6
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°  
 - Over Ø3.75 : 45°

- ▶ Ø Toleranzen:  
 ganzzahlige Ø und 1/10 Größen : DIN 1420 für H7  
 1/100 Größen : ab Ø2,01 bis Ø5,03 : +0.004/-0.000mm  
 von Ø5,97 bis Ø12,03 : +0.005/-0.000mm
- ▶ Schaft-Durchmesser Toleranzen : h6
- ▶ linksspiralig/ rechtsscheidend
- ▶ Anschnittwinkel - bis Ø3,75 : 15°  
 - über Ø3,75 : 45°



HSS-E H7 LH7° 15° 45° Bright p.A406  
 Recommended ToolHolder ER COLLET CHUCK D73-115  
 up to Ø3.75 over Ø3.75

EDP No.	Reamer Diameter	Shank Diameter	Flute Length	Overall Length
	D1	D2	L1	L2
K21B100470	4.7	5	21	80
K21B100480	4.8	5	23	86
K21B100490	4.9	5	23	86
K21B100497	4.97	5	23	86
K21B100498	4.98	5	23	86
K21B100499	4.99	5	23	86
K21B100500	5.0	5	23	86
K21B100501	5.01	5	23	86
K21B100502	5.02	5	23	86
K21B100503	5.03	5	23	86
K21B100510	5.1	5	23	86
K21B100520	5.2	5	23	86
K21B100530	5.3	5	23	86
K21B100540	5.4	6	26	93
K21B100550	5.5	6	26	93
K21B100560	5.6	6	26	93
K21B100570	5.7	6	26	93
K21B100580	5.8	6	26	93
K21B100590	5.9	6	26	93
K21B100597	5.97	6	26	93
K21B100598	5.98	6	26	93
K21B100599	5.99	6	26	93
K21B100600	6.0	6	26	93
K21B100601	6.01	6	28	101

▶NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	130	230	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	

ISO Material Description	N					S					H															
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron				
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41					
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41					
HB	60	100	75	90	130	110	90	100			15	30	25	38	34	200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



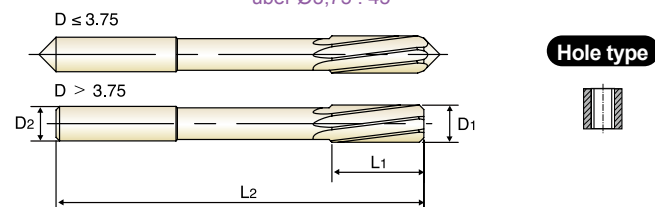
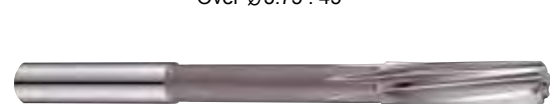
K21B1 SERIES

**HSS-E, NC MACHINE REAMERS WITH WHOLE-NUMBER SHANK Ø**

- HSS-E, NC-MASCHINENREIBAHLEN mit GERADZÄHLIGEN SCHAFT Ø
- ALÉSOIRS HSS-E MACHINE CN AVEC DIFFÉRENTES TOLÉRANCES DE QUEUE
- ALESATORI A MACCHINA IN HSS-E CON GAMMA Ø NOMINALI

- ▶ O.D. Tolerances  
Whole-number Ø and 1/10 size : DIN 1420 for H7  
1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm  
from Ø5.97 to Ø12.03 : +0.005/-0.000mm
- ▶ Shank Diameter Tolerances : h6
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°  
- Over Ø3.75 : 45°

- ▶ Ø Toleranzen:  
ganzahlige Ø und 1/10 Größen : DIN 1420 für H7  
1/100 Größen : ab Ø2,01 bis Ø5,03 : +0.004/-0.000mm  
von Ø5,97 bis Ø12,03 : +0.005/-0.000mm
- ▶ Schaft-Durchmesser Toleranzen : h6
- ▶ linksspiralig/ rechtsscheidend
- ▶ Anschnittwinkel - bis Ø3,75 : 15°  
- über Ø3,75 : 45°



up to Ø3.75 over Ø3.75

Unit : mm

EDP No.	Reamer Diameter		Shank Diameter		Flute Length		Overall Length	
	D1	D2	D2	D1	L1	L2	L2	L2
K21B100602	6.02	6	6	6	28	101		
K21B100603	6.03	6	6	6	28	101		
K21B100610	6.1	6	6	6	28	101		
K21B100620	6.2	6	6	6	28	101		
K21B100630	6.3	6	6	6	28	101		
K21B100640	6.4	6	6	6	28	101		
K21B100650	6.5	6	6	6	28	101		
K21B100660	6.6	6	6	6	28	101		
K21B100670	6.7	6	6	6	28	101		
K21B100680	6.8	8	8	8	31	109		
K21B100690	6.9	8	8	8	31	109		
K21B100700	7.0	8	8	8	31	109		
K21B100710	7.1	8	8	8	31	109		
K21B100720	7.2	8	8	8	31	109		
K21B100730	7.3	8	8	8	31	109		
K21B100740	7.4	8	8	8	31	109		
K21B100750	7.5	8	8	8	31	109		
K21B100760	7.6	8	8	8	33	117		
K21B100770	7.7	8	8	8	33	117		
K21B100780	7.8	8	8	8	33	117		
K21B100790	7.9	8	8	8	33	117		
K21B100797	7.97	8	8	8	33	117		
K21B100798	7.98	8	8	8	33	117		
K21B100799	7.99	8	8	8	33	117		

▶NEXT PAGE

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	19	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○



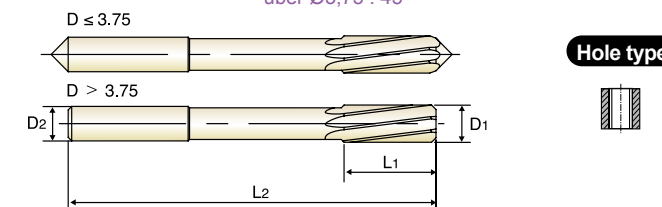
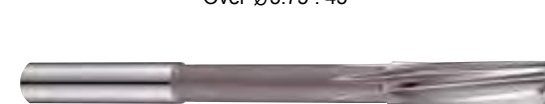
K21B1 SERIES

**HSS-E, NC MACHINE REAMERS WITH WHOLE-NUMBER SHANK Ø**

- HSS-E, NC-MASCHINENREIBAHLEN mit GERADZÄHLIGEN SCHAFT Ø
- ALÉSOIRS HSS-E MACHINE CN AVEC DIFFÉRENTES TOLÉRANCES DE QUEUE
- ALESATORI A MACCHINA IN HSS-E CON GAMMA Ø NOMINALI

- ▶ O.D. Tolerances  
Whole-number Ø and 1/10 size : DIN 1420 for H7  
1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm  
from Ø5.97 to Ø12.03 : +0.005/-0.000mm
- ▶ Shank Diameter Tolerances : h6
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°  
- Over Ø3.75 : 45°

- ▶ Ø Toleranzen:  
ganzahlige Ø und 1/10 Größen : DIN 1420 für H7  
1/100 Größen : ab Ø2,01 bis Ø5,03 : +0.004/-0.000mm  
von Ø5,97 bis Ø12,03 : +0.005/-0.000mm
- ▶ Schaft-Durchmesser Toleranzen : h6
- ▶ linksspiralig/ rechtsscheidend
- ▶ Anschnittwinkel - bis Ø3,75 : 15°  
- über Ø3,75 : 45°



up to Ø3.75 over Ø3.75

Unit : mm

EDP No.	Reamer Diameter		Shank Diameter		Flute Length		Overall Length	
	D1	D2	D2	D1	L1	L2	L2	L2
K21B100800	8.0	8	8	8	33	117		
K21B100801	8.01	8	8	8	33	117		
K21B100802	8.02	8	8	8	33	117		
K21B100803	8.03	8	8	8	33	117		
K21B100810	8.1	8	8	8	33	117		
K21B100820	8.2	8	8	8	33	117		
K21B100830	8.3	8	8	8	33	117		
K21B100840	8.4	8	8	8	33	117		
K21B100850	8.5	8	8	8	33	117		
K21B100860	8.6	10	10	10	36	125		
K21B100870	8.7	10	10	10	36	125		
K21B100880	8.8	10	10	10	36	125		
K21B100890	8.9	10	10	10	36	125		
K21B100900	9.0	10	10	10	36	125		
K21B100901	9.01	10	10	10	36	125		
K21B100902	9.02	10	10	10	36	125		
K21B100903	9.03	10	10	10	36	125		
K21B100910	9.1	10	10	10	36	125		
K21B100920	9.2	10	10	10	36	125		
K21B100930	9.3	10	10	10	36	125		
K21B100940	9.4	10	10	10	36	125		
K21B100950	9.5	10	10	10	36	125		
K21B100960	9.6	10	10	10	38	133		
K21B100970	9.7	10	10	10	38	133		

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◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	19	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○



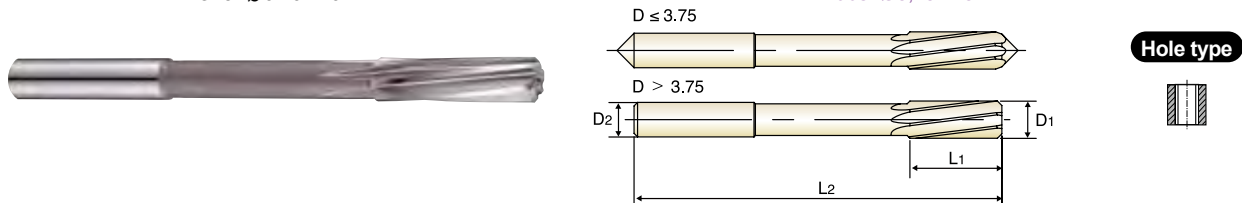
**K21B1** SERIES

**HSS-E, NC MACHINE REAMERS WITH WHOLE-NUMBER SHANK Ø**

● **HSS-E, NC-MASCHINENREIBAHLEN mit GERADZÄHLIGEN SCHAFT Ø**  
● **ALÉSOIRS HSS-E MACHINE CN AVEC DIFFÉRENTES TOLÉRANCES DE QUEUE**  
● **ALESATORI A MACCHINA IN HSS-E CON GAMMA Ø NOMINALI**

- ▶ O.D. Tolerances  
 Whole-number Ø and 1/10 size : DIN 1420 for H7  
 1/100 size : from Ø2.01 to Ø5.03 : +0.004/-0.000mm  
 from Ø5.97 to Ø12.03 : +0.005/-0.000mm
- ▶ Shank Diameter Tolerances : h6
- ▶ LH Spiral Flutes / Right Hand Cut
- ▶ Chamfer Angle - Up to Ø3.75 : 15°  
 - Over Ø3.75 : 45°

- ▶ Ø Toleranzen:  
 ganzzahlige Ø und 1/10 Größen : DIN 1420 für H7  
 1/100 Größen : ab Ø2,01 bis Ø5,03 : +0.004/-0.000mm  
 von Ø5,97 bis Ø12,03 : +0.005/-0.000mm
- ▶ Schaft-Durchmesser Toleranzen : h6
- ▶ linksspiralig/ rechtsscheidend
- ▶ Anschnittwinkel - bis Ø3,75 : 15°  
 - über Ø3,75 : 45°



HSS-E
H7
LH7°
15°
45°
Bright
p.A406

Plain Shank
ER COLLET CHUCK
D73-115

up to Ø3.75 over Ø3.75

EDP No.	Reamer Diameter	Shank Diameter	Flute Length	Overall Length
	D1	D2	L1	L2
K21B100980	9.8	10	38	133
K21B100990	9.9	10	38	133
K21B100997	9.97	10	38	133
K21B100998	9.98	10	38	133
K21B100999	9.99	10	38	133
K21B101000	10.0	10	38	133
K21B101001	10.01	10	38	133
K21B101002	10.02	10	38	133
K21B101003	10.03	10	38	133
K21B101100	11.0	10	41	142
K21B101197	11.97	10	41	151
K21B101198	11.98	10	41	151
K21B101199	11.99	10	41	151
K21B101200	12.0	10	44	151
K21B101201	12.01	10	44	151
K21B101202	12.02	10	44	151
K21B101203	12.03	10	44	151
K21B101300	13.0	10	44	151
K21B101400	14.0	14	47	160
K21B101500	15.0	14	50	162
K21B101600	16.0	14	52	170
K21B101700	17.0	14	54	175
K21B101800	18.0	14	56	182
K21B101900	19.0	16	58	189
K21B102000	20.0	16	60	195

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HRc	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO	N								S							H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys			Hardened steel	Chilled Cast Iron	Hardened Cast Iron			
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○			○	○	○	○	○	○	○	○	○	○	○



**RECOMMENDED CUTTING CONDITIONS  
 EMPFOHLENE SCHNEIDPARAMETER**

**K4101, K4111** SERIES CARBIDE, NC MACHINE REAMERS

Vc = m/min  
 FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Feed									
				2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0	
P	1	Non-alloy steel	18	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40	
	2		17	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40	
	3		15	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40	
	4		15	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40	
	5	15	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40		
	6	Low alloy steel	17	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	
	7		14	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	
	8		14	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	
	10		High alloyed steel, and tool steel	13	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	12	8		0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	
M	13	Stainless steel	7	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	
	14		6	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	
K	15	Grey cast iron	20	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40	
	16		15	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40	
	17	Nodular cast iron	18	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40	
	18		13	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40	
	19		18	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.20-0.24	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40	
20	Malleable cast iron	13	0.08-0.10	0.10-0.12	0.12-0.16	0.16-0.20	0.2-0.240	0.24-0.28	0.28-0.32	0.32-0.36	0.36-0.40		
N	21	Aluminum-wrought alloy	30	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50	
	22		30	0.1-0.130	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50	
	23	Aluminum-cast, alloyed	30	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50	
	24		25	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50	
	26	Copper and Copper Alloys (Bronze / Brass)	25	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50	
	27		22	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50	
	28		23	0.10-0.13	0.13-0.16	0.16-0.20	0.20-0.25	0.25-0.30	0.30-0.35	0.35-0.40	0.40-0.45	0.45-0.50	





**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOLHENE SCHNEIDPARAMETER**



Leading Through Innovation

**K2101, K2111, K21B1, K2102, K2112** SERIES

**HSS-E, STRAIGHT & LH SPIRAL FLUTE CHUCKING REAMERS**  
**HSS-E, NC MACHINE REAMERS**

RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Feed															
				2.0	4.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0	24.0	28.0	32.0	36.0	40.0	45.0	50.0
P	1	Non-alloy steel	14	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50
			14	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50
			10	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
	6	Low alloy steel	8	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
			12	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
			8	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
			10	High alloyed steel, and tool steel	6	0.03-0.04	0.04-0.05	0.05-0.06	0.06-0.07	0.07-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20	0.20-0.22	0.22-0.24	0.24-0.26
M	13	Stainless steel	5	0.03-0.04	0.04-0.05	0.05-0.06	0.06-0.07	0.07-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20	0.20-0.22	0.22-0.24	0.24-0.26	0.26-0.28	0.28-0.30
			4	0.03-0.04	0.04-0.05	0.05-0.06	0.06-0.07	0.07-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20	0.20-0.22	0.22-0.24	0.24-0.26	0.26-0.28	0.28-0.30
			14	0.03-0.04	0.04-0.05	0.05-0.06	0.06-0.07	0.07-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20	0.20-0.22	0.22-0.24	0.24-0.26	0.26-0.28	0.28-0.30
K	15	Grey cast iron	14	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50
			11	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
	17	Nodular cast iron	12	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50
			10	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40
			12	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.32	0.32-0.35	0.35-0.38	0.38-0.41	0.41-0.44	0.44-0.47	0.47-0.50
19	Malleable cast iron	10	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40	
		10	0.05-0.07	0.07-0.09	0.09-0.11	0.11-0.13	0.13-0.15	0.15-0.17	0.17-0.19	0.19-0.21	0.21-0.23	0.23-0.25	0.25-0.27	0.27-0.29	0.29-0.31	0.31-0.34	0.34-0.37	0.37-0.40	
N	21	Aluminum-wrought alloy	18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
			18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
	23	Aluminum-cast, alloyed	18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
			17	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
			18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
	26	Copper and Copper Alloys (Bronze / Brass)	18	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
			16	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60
			20	0.10-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37	0.37-0.40	0.40-0.43	0.43-0.46	0.46-0.49	0.49-0.52	0.52-0.56	0.56-0.60

**K2121** SERIES

**HSS-E, CHUCKING REAMERS - QUICK SPIRAL**

ISO	VDI 3323	Material Description	Vc	Feed							
				2.0	4.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1	Non-alloy steel	18	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32	0.32-0.36	0.36-0.40
			16	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32	0.32-0.36	0.36-0.40
	6	Low alloy steel	14	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
N	21	Aluminum-wrought alloy	20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
			20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
	23	Aluminum-cast, alloyed	20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
			18	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
			19	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
	26	Copper and Copper Alloys (Bronze / Brass)	18	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
			18	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60
			20	0.15-0.20	0.20-0.25	0.25-0.30	0.30-0.36	0.36-0.42	0.42-0.48	0.48-0.54	0.54-0.60

**HSS & HSSCo8**

**COUNTERSINKS**  
**SENKER**

- For Deburring, Chamfering and Countersinking
- Zum Entgraten, Anfasen und Senken

SELECTION GUIDE



SERIES	C1109 C3109	C1119 C3119
STANDARD	-	-
POINT ANGLE	90°	90°
SIZE MIN	D10.0	D10.0
SIZE MAX	D50.0	D50.0
PAGE	A410	A411

SERIES	C1136 C3136	C1139 C3139	C1132 C3132
STANDARD	DIN334C	DIN335C	-
POINT ANGLE	60°	90°	120°
SIZE MIN	D6.3	D4.3	D8.0
SIZE MAX	D25.0	D31.0	D25.0
PAGE	A412	A413	A414

SURFACE TREATMENT Bright

SURFACE TREATMENT Bright

# HSS & HSSCo8 COUNTERSINKS

For Deburring, Chamfering and Countersinking



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A415

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc		
P	1	Non-alloy steel	About 0.15% C Annealed	125		○	○
	2		About 0.45% C Annealed	190	13	○	○
	3		About 0.45% C Quenched & Tempered	250	25	○	○
	4		About 0.75% C Annealed	270	28	○	○
	5		About 0.75% C Quenched & Tempered	300	32	○	○
	6	Low alloy steel	Annealed	180	10		
	7		Quenched & Tempered	275	29		
	8		Quenched & Tempered	300	32		
	9		Quenched & Tempered	350	38		
	10		High alloyed steel, and tool steel	Annealed	200	15	
	11		Quenched & Tempered	325	35		
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	○	○
	13		Martensitic Quenched & Tempered	240	23	○	○
	14		Austenitic	180	10	○	○
K	15	Grey cast iron	Pearlitic / ferritic	180	10	○	○
	16		Pearlitic (Martensitic)	260	26	○	○
	17	Nodular cast iron	Ferritic	160	3	○	○
	18		Pearlitic	250	25	○	○
	19		Ferritic	130		○	○
20	Malleable cast iron	Pearlitic	230	21	○	○	
N	21	Aluminum-wrought alloy	Not Curable	60		○	○
	22		Curable Hardened	100		○	○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○	○
	24		≤ 12% Si, Curable Hardened	90		○	○
	25		> 12% Si, Not Curable	130		○	○
	26	Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110		○	○
	27		CuZn, CuSnZn (Brass)	90		○	○
	28		CuSn, lead-free copper and electrolytic copper	100		○	○
	29	Non Metallic Materials	Duroplastic, Fiber Reinforced Plastic				
	30		Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15		
	32		Cured	280	30		
	33		Annealed	250	25		
	34		Ni or Co Based Cured	350	38		
	35		Cast	320	34		
	36	Titanium Alloys	Pure Titanium	400 Rm			
	37		Alpha + Beta Alloys Hardened	1050 Rm			
H	38	Hardened steel	Hardened	550	55		
	39		Hardened	630	60		
	40		Chilled Cast Iron	Cast	400	42	
41	Hardened Cast Iron	Hardened	550	55			

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C1109 SERIES

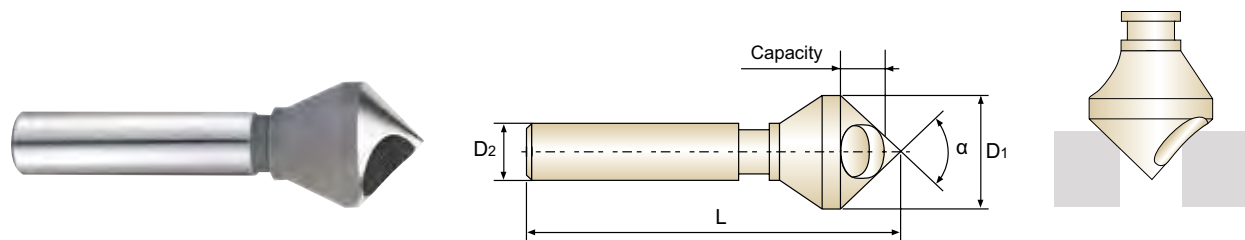
C3109 SERIES

**HSS & HSSCo8, DEBURRING TOOL with HOLE**

- HSS, QUERLOCHSENKER
- FRAISE HSS À ÉBAVURER À TROU
- SVASATORI CON FORO - HSS

- For light metals and plastics.
- For deburring and small chamfers.
- Best surface finish.
- Works without vibrations.

- Für Leichtmetall und Plastik
- Zum Entgraten und Abfasen
- Bestes Oberflächenfinish
- Arbeitet ohne Vibration



YG STD Bright p.A415

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No. (uncoating)		Point Angle	Cutter Diameter	Shank Diameter	Overall Length	Capacity
HSSCo8	HSS	$\alpha$	D1	D2	L ( $\pm 1$ )	min/max
C1109100	C3109100	90°	10.0	6	45	2 - 5
C1109150	C3109150	90°	15.0	8	55	6 - 14
C1109200	C3109200	90°	20.0	10	65	8 - 18
C1109250	C3109250	90°	25.0	12	78	10 - 23
C1109300	C3109300	90°	30.0	12	88	12 - 28
C1109350	C3109350	90°	35.0	16	110	14 - 33
C1109400	C3109400	90°	40.0	16	115	16 - 38
C1109450	C3109450	90°	45.0	16	120	18 - 43
C1109500	C3109500	90°	50.0	16	130	20 - 48

TiN & TiCN coating are available on your request.

Cutter Dia. Tolerance(mm)	Shank Dia. Tolerance(mm)	Point Angle Tolerance(°)
+0.3/-0	h9	+0/-1

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



C1119 SERIES

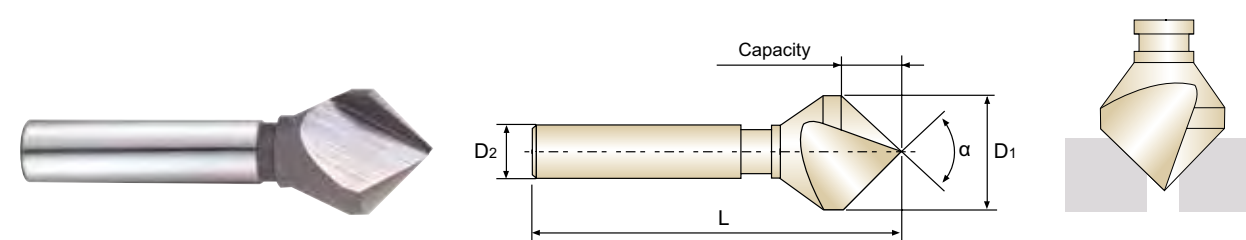
C3119 SERIES

**HSS & HSSCo8, SINGLE FLUTE CHAMFERING CUTTERS**

- HSS, EINSCHNEIDEN KEGELSENKER
- FRAISE HSS À CHANFREINER 1 DENT
- SVASATORI MONOTAGLIENTE - HSS

- For wood and hard plastics.
- Can drill in sheet materials.
- Easy to resharpen.
- Works without vibrations.

- Für Holz und Hartplastik
- Kann in Bleche bohren
- Leicht nachzuschärfen
- Arbeitet ohne Vibration



YG STD Bright p.A415

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73-115

Unit : mm

EDP No. (uncoating)		Point Angle	Cutter Diameter	Shank Diameter	Overall Length	Capacity
HSSCo8	HSS	$\alpha$	D1	D2	L ( $\pm 1$ )	min/max
C1119100	C3119100	90°	10.0	6	45	1 - 10
C1119150	C3119150	90°	15.0	8	55	2 - 15
C1119200	C3119200	90°	20.0	10	65	2 - 20
C1119250	C3119250	90°	25.0	12	78	3 - 25
C1119300	C3119300	90°	30.0	12	88	3 - 30
C1119350	C3119350	90°	35.0	16	110	4 - 35
C1119400	C3119400	90°	40.0	16	115	5 - 40
C1119450	C3119450	90°	45.0	16	120	10 - 45
C1119500	C3119500	90°	50.0	16	130	12 - 50

TiN & TiCN coating are available on your request.

Cutter Dia. Tolerance(mm)	Shank Dia. Tolerance(mm)	Point Angle Tolerance(°)
+0.3/-0	h9	+0/-1

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

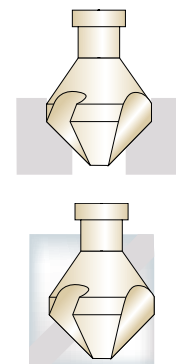
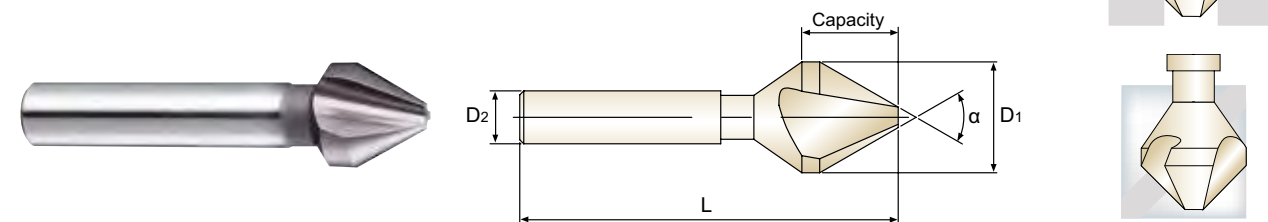


**HSS & HSSCo8, THREE FLUTE COUNTERSINKS (60°)**

- HSS, DREISCHNEIDEN KEGELSENKER (60°)
- FRAISE HSS À CHANFREINER 3 DENTS (60°)
- SVASATORI A TRE TAGLIENTI - HSS (60°)

- ▶ Self-centering(3 flutes)
- ▶ For deburring, chamfering and countersinking
- ▶ Hand using
- ▶ Longitudinal chamfers and contouring
- ▶ Works without vibrations

- ▶ Selbstzentrierend
- ▶ Besonders geeignet zum 90° Ansenken für Senkkopfschrauben
- ▶ Manueller Einsatz möglich
- ▶ Zum Entgraten von Längs- und Profilkanten
- ▶ Arbeitet ohne Vibration



DIN 334 C Bright p.A416

Plain Shank Page ER COLLET CHUCK D73-115

Unit : mm

EDP No. (uncoating)		Point Angle	Cutter Diameter	Shank Diameter	Overall Length	Capacity
HSSCo8	HSS	α	D1	D2	L(±1)	min/max
C1136063	C3136063	60°	6.3	5	45	1.6~6.3
C1136080	C3136080	60°	8.0	6	50	2.0~8.0
C1136100	C3136100	60°	10.0	6	50	2.5~10.0
C1136125	C3136125	60°	12.5	8	56	3.2~12.5
C1136160	C3136160	60°	16.0	10	63	4.0~16.0
C1136200	C3136200	60°	20.0	10	67	5.0~20.0
C1136250	C3136250	60°	25.0	10	71	6.3~25.0

▶ TiN & TiCN coating are available on your request.

Cutter Dia. Tolerance(mm)	Shank Dia. Tolerance(mm)	Point Angle Tolerance(°)
±0.05	h9	+0/-1

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

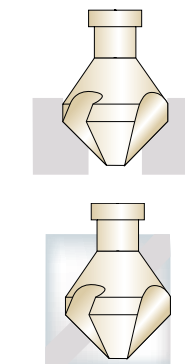
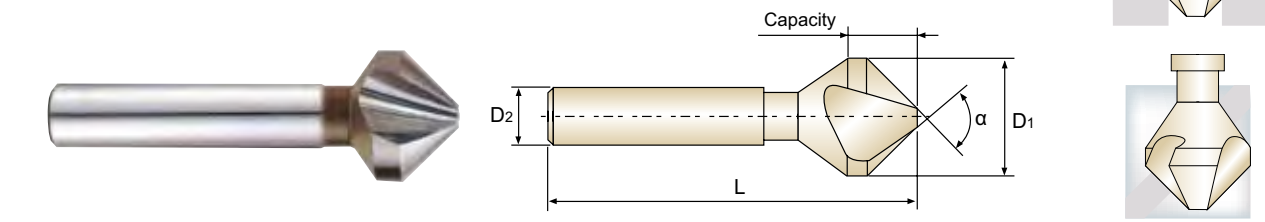
ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

**HSS & HSSCo8, THREE FLUTE COUNTERSINKS (90°)**

- HSS, DREISCHNEIDEN KEGELSENKER (90°)
- FRAISE HSS À CHANFREINER 3 DENTS (90°)
- SVASATORI A TRE TAGLIENTI - HSS (90°)

- ▶ Self-centering(3 flutes).
- ▶ Designed for 90°capscrews countersinking.
- ▶ Hand using.
- ▶ Longitudinal chamfers and contouring.
- ▶ Works without vibrations

- ▶ Selbstzentrierend
- ▶ Besonders geeignet zum 90° Ansenken für Senkkopfschrauben
- ▶ Manueller Einsatz möglich
- ▶ Zum Entgraten von Längs- und Profilkanten
- ▶ Arbeitet ohne Vibration



DIN 334 C Bright p.A416

Plain Shank Page ER COLLET CHUCK D73-115

Unit : mm

EDP No. (uncoating)		Point Angle	Cutter Diameter	Shank Diameter	Overall Length	Capacity
HSSCo8	HSS	α	D1	D2	L(±1)	min/max
C1139043	C3139043	90°	4.3	4	40	1.3 - 4.3
C1139050	C3139050	90°	5.0	4	40	1.5 - 5.0
C1139060	C3139060	90°	6.0	5	45	1.5 - 6.0
C1139063	C3139063	90°	6.3	5	45	1.5 - 6.3
C1139070	C3139070	90°	7.0	6	50	1.8 - 7.0
C1139080	C3139080	90°	8.0	6	50	2.0 - 8.0
C1139083	C3139083	90°	8.3	6	50	2.0 - 8.3
C1139100	C3139100	90°	10.0	6	50	2.5 - 10.0
C1139104	C3139104	90°	10.4	6	50	2.5 - 10.4
C1139115	C3139115	90°	11.5	8	56	2.8 - 11.5
C1139124	C3139124	90°	12.4	8	56	2.8 - 12.4
C1139150	C3139150	90°	15.0	10	60	3.2 - 15.0
C1139165	C3139165	90°	16.5	10	60	3.2 - 16.5
C1139190	C3139190	90°	19.0	10	63	3.5 - 19.0
C1139205	C3139205	90°	20.5	10	63	3.5 - 20.5
C1139230	C3139230	90°	23.0	10	67	3.8 - 23.0
C1139250	C3139250	90°	25.0	10	67	3.8 - 25.0
C1139300	C3139300	90°	30.0	12	71	4.2 - 30.0
C1139310	C3139310	90°	31.0	12	71	4.2 - 31.0

▶ TiN & TiCN coating are available on your request.

Cutter Dia. Tolerance(mm)	Shank Dia. Tolerance(mm)	Point Angle Tolerance(°)
±0.05	h9	+0/-1

◎ : Excellent ○ : Good

ISO Material Description	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron	Malleable cast iron			
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	13	25	28	32	38	10	29	32	38	15	35	15	23	10	10	26	3	25	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO Material Description	N					S					H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)	Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron						
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○



C1132 SERIES

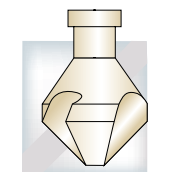
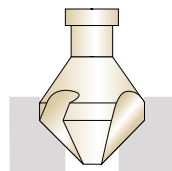
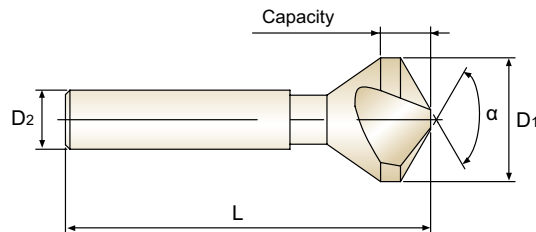
C3132 SERIES

**HSS & HSSCo8, THREE FLUTE COUNTERSINKS (120°)**

- HSS, DREISCHNEIDEN KEGELSENKER (120°)
- FRAISE HSS À CHANFREINER 3 DENTS (120°)
- SVASATORI A TRE TAGLIENTI - HSS (120°)

- ▶ Self-centering(3 flutes)
- ▶ For deburring, chamfering and countersinking
- ▶ Hand using
- ▶ Longitudinal chamfers and contouring
- ▶ Works without vibrations

- ▶ Selbstzentrierend
- ▶ Zum Entgraten, Abfasen und Senkkopfschrauben
- ▶ Manueller Einsatz möglich
- ▶ Zum Entgraten von Längs- und Profilkanten
- ▶ Arbeitet ohne Vibration



YG STD Bright p.A416

Plain Shank Page  
Recommended ToolHolder ER COLLET CHUCK D73 - 115

Unit : mm

EDP No. (uncoating)		Point Angle	Cutter Diameter	Shank Diameter	Overall Length	Capacity
HSSCo8	HSS	α	D1	D2	L(±1)	min/max
C1132080	C3132080	120°	8.0	6	49	2.0~8.0
C1132125	C3132125	120°	12.5	8	54	2.8~12.5
C1132160	C3132160	120°	16.0	10	57	3.2~16.0
C1132200	C3132200	120°	20.0	10	59	3.5~20.0
C1132250	C3132250	120°	25.0	10	65	3.8~25.0

▶ TIN & TiCN coating are available on your request.

Cutter Dia. Tolerance(mm)	Shank Dia. Tolerance(mm)	Point Angle Tolerance(°)
±0.05	h9	+0/-1

◎ : Excellent ○ : Good

ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron	
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	130	21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommended	◎	◎	○	○	○	○	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

ISO	N				S						H										
	Aluminum-wrought alloy		Aluminum-cast, alloyed		Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys				Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			15	30	25	38	34	400Rm	1050Rm	55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	◎	○	○	○	○	○	○	○													



**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOLHENE SCHNEIDPARAMETER**

C1109, C3109, C1119, C3119 SERIES

**DEBURRING TOOL with HOLE**  
**1 FLUTE CHAMFERING CUTTERS**

RPM = rev./min.  
FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Feed						
				10.0	15.0	20.0	25.0	30.0	40.0	50.0
P	1	Non-alloy steel	40	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	2		40	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30
	3		25	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27
	4		18	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20
	5		18	0.06-0.08	0.08-0.10	0.10-0.12	0.12-0.14	0.14-0.16	0.16-0.18	0.18-0.20
M	12	Stainless steel	8	0.05-0.07	0.07-0.09	0.07-0.09	0.09-0.11	0.09-0.11	0.11-0.14	0.11-0.14
	13		7	0.05-0.07	0.07-0.09	0.07-0.09	0.09-0.11	0.09-0.11	0.11-0.14	0.11-0.14
	14		6	0.05-0.07	0.07-0.09	0.07-0.09	0.09-0.11	0.09-0.11	0.11-0.14	0.11-0.14
K	15	Grey cast iron	28	0.13-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.34
	16		24	0.12-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33
	17	Nodular cast iron	24	0.13-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.34
	18		20	0.12-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33
	19		24	0.13-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.34
	20		20	0.12-0.14	0.14-0.17	0.17-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33
N	21	Aluminum-wrought alloy	56	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	22		56	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	23	Aluminum-cast, alloyed	54	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	24		52	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	25		50	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36
	26	Copper and Copper Alloys (Bronze / Brass)	38	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37
	27		35	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.31	0.31-0.34	0.34-0.37
	28		25	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.30	0.30-0.33	0.33-0.36

**C1136, C3136, C1139,  
C3139, C1132, C3132** SERIES

**3 FLUTE COUNTERSINKS**

 RPM = rev./min.  
 FEED = mm/rev.

ISO	VDI 3323	Material Description	Vc	Feed								
				5.0	10.0	15.0	20.0	25.0	30.0	40.0	50.0	
<b>P</b>	1	Non-alloy steel	20	0.12-0.16	0.16-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33	0.33-0.37	0.37-0.41	
	2		20	0.12-0.16	0.16-0.20	0.20-0.23	0.23-0.26	0.26-0.29	0.29-0.33	0.33-0.37	0.37-0.41	
	3		13	0.10-0.14	0.14-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.39	
	4		10	0.06-0.10	0.10-0.14	0.14-0.17	0.17-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	
	5		10	0.06-0.10	0.10-0.14	0.14-0.17	0.17-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	
<b>M</b>	12	Stainless steel	6	0.06-0.08	0.06-0.08	0.08-0.10	0.08-0.10	0.10-0.12	0.10-0.12	0.12-0.15	0.12-0.15	
	13		5	0.06-0.08	0.06-0.08	0.08-0.10	0.08-0.10	0.10-0.12	0.10-0.12	0.12-0.15	0.12-0.15	
	14		4	0.06-0.08	0.06-0.08	0.08-0.10	0.08-0.10	0.10-0.12	0.10-0.12	0.12-0.15	0.12-0.15	
<b>K</b>	15	Grey cast iron	22	0.09-0.11	0.11-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32	
	16		17	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	
	17	Nodular cast iron	17	0.09-0.11	0.11-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32	
	18		15	0.08-0.10	0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	
	19		Malleable cast iron	17	0.09-0.11	0.11-0.13	0.13-0.16	0.16-0.19	0.19-0.22	0.22-0.25	0.25-0.28	0.28-0.32
20	15	0.08-0.10		0.10-0.12	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31		
<b>N</b>	21	Aluminum-wrought alloy	42	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.40	0.40-0.45	
	22		42	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.40	0.40-0.45	
	23	Aluminum-cast, alloyed	39	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.40	0.40-0.45	
	24		37	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.28	0.28-0.32	0.32-0.37	0.37-0.42	
	25		35	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.27	0.27-0.31	0.31-0.35	0.35-0.40	0.40-0.45	
	26		Copper and Copper Alloys (Bronze / Brass)	28	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.28	0.28-0.32	0.32-0.37	0.37-0.42
	27			25	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.28	0.28-0.32	0.32-0.37	0.37-0.42
	28			15	0.12-0.15	0.15-0.18	0.18-0.21	0.21-0.24	0.24-0.28	0.28-0.32	0.32-0.37	0.37-0.42


**HSS-E**

# COUNTERBORES

## FLACHSENKER

- For Machining Screw Head Seats
- Zur Herstellung von Schraubenkopfsenkungen



SELECTION GUIDE



SERIES	EL950		
TYPE	MEDIUM	FINE	BEFORE THREADING
PILOT DIA.	3.4~14.0	3.2~13.0	2.5~10.2
CUTTER DIA.	6.0~20.0		
PAGE	A419		
SURFACE TREATMENT	Bright		

# HSS-E COUNTERBORES

For Machining Screw Head Seats



Please visit [globalyg1.com/mat](http://globalyg1.com/mat) for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : p.A421

ISO	VDI 3323	Material Description	Composition / Structure / Heat Treatment	HB	HRc	
P	1	Non-alloy steel	About 0.15% C Annealed	125		◎
	2		About 0.45% C Annealed	190	13	◎
	3		About 0.45% C Quenched & Tempered	250	25	◎
	4		About 0.75% C Annealed	270	28	◎
	5		About 0.75% C Quenched & Tempered	300	32	◎
	6	Low alloy steel	Annealed	180	10	◎
	7		Quenched & Tempered	275	29	◎
	8		Quenched & Tempered	300	32	◎
	9		Quenched & Tempered	350	38	○
	10		High alloyed steel, and tool steel	Annealed	200	15
	11	Quenched & Tempered	325	35	○	
M	12	Stainless steel	Ferritic / Martensitic Annealed	200	15	
	13		Martensitic Quenched & Tempered	240	23	
	14		Austenitic	180	10	
K	15	Grey cast iron	Pearlitic / ferritic	180	10	
	16		Pearlitic (Martensitic)	260	26	
	17	Nodular cast iron	Ferritic	160	3	
	18		Pearlitic	250	25	
	19	Malleable cast iron	Ferritic	130		
	20		Pearlitic	230	21	
N	21	Aluminum-wrought alloy	Not Curable	60		○
	22		Curable Hardened	100		○
	23	Aluminum-cast, alloyed	≤ 12% Si, Not Curable	75		○
	24		≤ 12% Si, Curable Hardened	90		○
	25		> 12% Si, Not Curable	130		
	26		Copper and Copper Alloys (Bronze / Brass)	Cutting Alloys, PB>1%	110	
	27	Non Metallic Materials	CuZn, CuSnZn (Brass)	90		
	28		CuSn, lead-free copper and electrolytic copper	100		
	29		Duroplastic, Fiber Reinforced Plastic			
	30	Rubber, Wood, etc.				
S	31	Heat Resistant Super Alloys	Fe Based Annealed	200	15	
	32		Cured	280	30	
	33		Annealed	250	25	
	34		Ni or Co Based Cured	350	38	
	35		Cast	320	34	
	36	Titanium Alloys	Pure Titanium	400 Rm		
	37		Alpha + Beta Alloys Hardened	1050 Rm		
H	38	Hardened steel	Hardened	550	55	
	39		Hardened	630	60	
	40		Cast	400	42	
41	Hardened Cast Iron	Hardened	550	55		

## YG COUNTERBORES

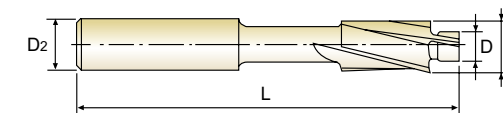
EL950 SERIES

### HSS-E, 3 FLUTE COUNTERBORES for 180° CAPSCREW

- HSS-E, 3 SCHNEIDEN FLACHSENKER MIT FESTEM FÜHRUNGSPAPFEN
- FRAISES À LAMER HSS-E 3 DENTS TÊTE DE VIS À 180°
- LAMATORI A TRE TAGLIANTI IN HSS-E per sedi di viti a testa cilindrica a 180°

The counterbores with solid pilot are designed for machining as fillister screw caps or ejector caps in molds.

Die Flachsenker mit festem Führungspapfen dienen dem 180° Ansenken für Zylinderkopfschrauben und Auswerferstiften in Formen



HSS-E DIN 373 3 PLAIN Bright p.A421

Plain Shank ER COLLET CHUCK D73-115

#### MEDIUM

Unit : mm

EDP No.	ITEM No.	Screw Size	Pilot Diameter D(e8)	Cutter Diameter D1(z9)	Shank Diameter D2(h9)	Overall Length L
EL950003	YG54M3-M	M3	3.4	6.0	5	71
EL950035	YG54M3.5-M	M3.5	3.9	6.5	5	71
EL950004	YG54M4-M	M4	4.5	8.0	5	71
EL950005	YG54M5-M	M5	5.5	10.0	8	80
EL950006	YG54M6-M	M6	6.6	11.0	8	80
EL950008	YG54M8-M	M8	9.0	15.0	12.5	100
EL950010	YG54M10-M	M10	11.0	18.0	12.5	100
EL950012	YG54M12-M	M12	14.0	20.0	12.5	100

#### FINE

Unit : mm

EDP No.	ITEM No.	Screw Size	Pilot Diameter D(e8)	Cutter Diameter D1(z9)	Shank Diameter D2(h9)	Overall Length L
EL950901	YG54M3-F	M3	3.2	6.0	5	71
EL950902	YG54M3.5-F	M3.5	3.7	6.5	5	71
EL950903	YG54M4-F	M4	4.3	8.0	5	71
EL950904	YG54M5-F	M5	5.3	10.0	8	80
EL950905	YG54M6-F	M6	6.4	11.0	8	80
EL950906	YG54M8-F	M8	8.4	15.0	12.5	100
EL950907	YG54M10-F	M10	10.5	18.0	12.5	100
EL950908	YG54M12-F	M12	13.0	20.0	12.5	100

▶NEXT PAGE

◎ : Excellent ○ : Good

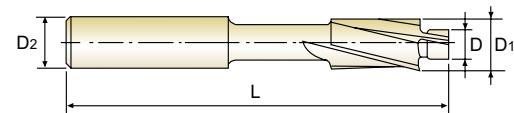
ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel		Grey cast iron		Nodular cast iron		Malleable cast iron		
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	30	10	29	32	38	15	35	15	23	10	10	26	3	25	21		
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	○	◎	○										
ISO	N										S					H					
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel		Chilled Cast Iron	
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550
Recommended	○	○	○	○	○																

**HSS-E, 3 FLUTE COUNTERBORES for 180° CAPSCREW**

- HSS-E, 3 SCHNEIDEN FLACHSENKER MIT FESTEM FÜHRUNGSPAPFEN
- FRAISES À LAMER HSS-E 3 DENTS TÊTE DE VIS À 180°
- LAMATORI A TRE TAGLIANTI IN HSS-E per sedi di viti a testa cilindrica a 180°

▶ The counterbores with solid pilot are designed for machining as fillister screw caps or ejector caps in molds.

▶ Die Flachsenker mit festem Führungspapfen dienen dem 180° Ansenken für Zylinderkopfschrauben und Auswerferstiften in Formen



HSS-E DIN 373 3 PLAIN Bright p.A421

Plain Shank Page Recommended ToolHolder ER COLLET CHUCK D73-115

**BEFORE THREADING**

Unit : mm

EDP No.	ITEM No.	Screw Size	Pilot Diameter D(e8)	Cutter Diameter D1(z9)	Shank Diameter D2(h9)	Overall Length L
EL950909	YG54M3-T	M3	2.5	6.0	5	71
EL950910	YG54M3.5-T	M3.5	2.9	6.5	5	71
EL950911	YG54M4-T	M4	3.3	8.0	5	71
EL950912	YG54M5-T	M5	4.2	10.0	8	80
EL950913	YG54M6-T	M6	5.0	11.0	8	80
EL950914	YG54M8-T	M8	6.8	15.0	12.5	100
EL950915	YG54M10-T	M10	8.5	18.0	12.5	100
EL950916	YG54M12-T	M12	10.2	20.0	12.5	100

**Tolerances according to DIN 7160 & 7161**  
Toleranzen nach DIN 7160 & 7161

	Nominal-Diameter in mm / Nennmaßbereich in mm				Nominal-Diameter in mm / Nennmaßbereich in mm			
	from 1 to 3 von 1 bis 3	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	from 6 to 10 von 6 bis 10	over 10 to 14 über 10 bis 14	over 14 to 18 über 14 bis 18	over 18 to 24 über 18 bis 24
<b>e8</b>	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	+ 78 + 42	+ 93 + 50	+ 103 + 60	+ 125 + 73
<b>h9</b>	0 - 25	0 - 30	0 - 36	0 - 43				

◎ : Excellent ○ : Good

ISO	P										M				K						
	Non-alloy steel					Low alloy steel					High alloy steel, and tool steel		Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron			
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRC	125	13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25	21	21	
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230	
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO	N										S					H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)					Non Metallic Materials		Heat Resistant Super Alloys			Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	
HRC	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400Rm	1050Rm	550	630	400	550	
Recommended	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

**EL950 SERIES**

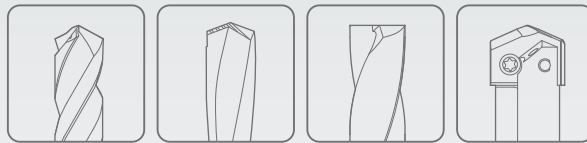
**HSS-E, 3 FLUTE COUNTERBORES for 180° CAPSCREW**

Vc = m/min.  
fz = mm/tooth  
RPM = rev/min.  
FEED = mm/min.

ISO	VDI 3323	Material Description	Parameter	Cutter Diameter (Ø)									
				6.0	6.5	8.0	10.0	11.0	15.0	18.0	20.0		
P	1	Non-alloy steel	Vc	25	25	25	25	25	25	25	25	25	25
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	0.13	0.13
			RPM	1326	1224	995	796	723	531	442	398	398	398
	2		FEED	322	297	242	258	234	172	167	150	150	150
			Vc	24	24	24	24	24	24	24	24	24	24
			fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	0.13	0.13
	3		RPM	1273	1175	955	764	694	509	424	382	382	382
			FEED	309	286	232	248	225	165	160	144	144	144
			Vc	18	18	18	18	18	18	18	18	18	18
	4		fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	0.13	0.13
			RPM	955	881	716	573	521	382	318	286	286	286
FEED		232	214	174	186	169	124	120	108	108	108		
5	Vc	18	18	18	18	18	18	18	18	18	18		
	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	0.13	0.13		
	RPM	955	881	716	573	521	382	318	286	286	286		
6	FEED	232	214	174	186	169	124	120	108	108	108		
	Vc	24	24	24	24	24	24	24	24	24	24		
	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	0.13	0.13		
7	RPM	1273	1175	955	764	694	509	424	382	382	382		
	FEED	309	286	232	248	225	165	160	144	144	144		
	Vc	18	18	18	18	18	18	18	18	18	18		
8	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	0.13	0.13		
	RPM	955	881	716	573	521	382	318	286	286	286		
	FEED	232	214	174	186	169	124	120	108	108	108		
9	Vc	15	15	15	15	15	15	15	15	15	15		
	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	0.13	0.13		
	RPM	796	735	597	477	434	318	265	239	239	239		
10	FEED	193	178	145	155	141	103	100	90	90	90		
	Vc	24	24	24	24	24	24	24	24	24	24		
	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	0.13	0.13		
11	RPM	1273	1175	955	764	694	509	424	382	382	382		
	FEED	309	286	232	248	225	165	160	144	144	144		
	Vc	18	18	18	18	18	18	18	18	18	18		
21	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	0.13	0.13		
	RPM	1592	1469	1194	955	868	637	531	477	477	477		
	FEED	382	353	286	315	286	210	207	186	186	186		
22	Vc	30	30	30	30	30	30	30	30	30	30		
	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	0.13	0.13		
	RPM	1592	1469	1194	955	868	637	531	477	477	477		
23	FEED	382	353	286	315	286	210	207	186	186	186		
	Vc	20	20	20	20	20	20	20	20	20	20		
	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	0.13	0.13		
24	RPM	1061	979	796	637	579	424	354	318	318	318		
	FEED	255	235	191	210	191	140	138	124	124	124		
	Vc	20	20	20	20	20	20	20	20	20	20		
N	fz	0.08	0.08	0.08	0.11	0.11	0.11	0.13	0.13	0.13	0.13		
	RPM	1061	979	796	637	579	424	354	318	318	318		
	FEED	255	235	191	210	191	140	138	124	124	124		



Global Cutting Tool Leader **YG-1**



# HOLEMAKING





Leading Through Innovation

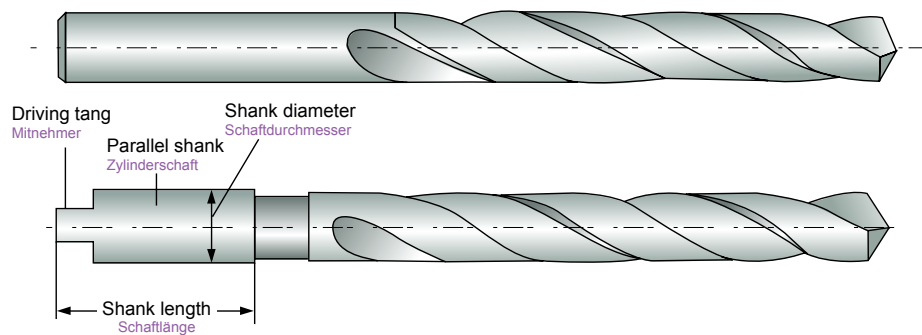


**DRILLS**

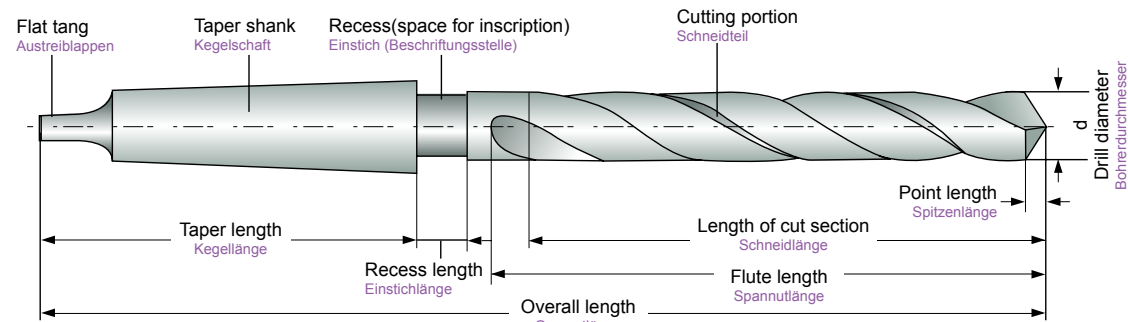
**TECHNICAL DATA**

**TECHNISCHE DATEN**

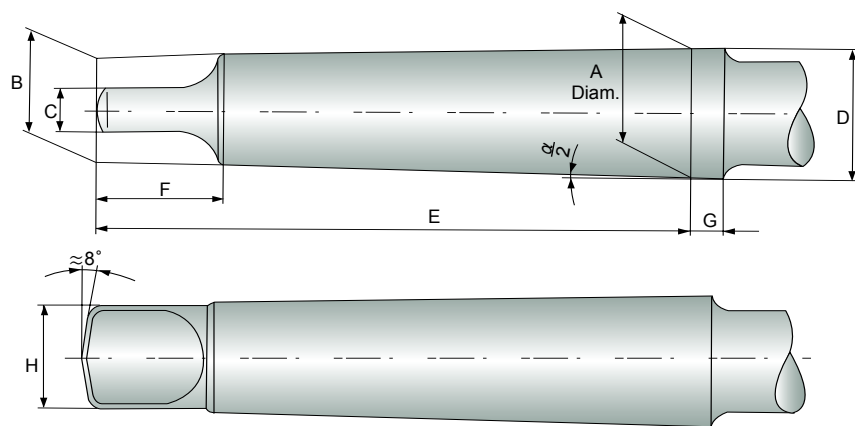
### 1 TWIST DRILL WITH PARALLEL SHANK SPIRALBOHRER MIT ZYLINDERSCHAFT



### 2 TWIST DRILL WITH TAPER SHANK SPIRALBOHRER MIT KEGELSCHAFT

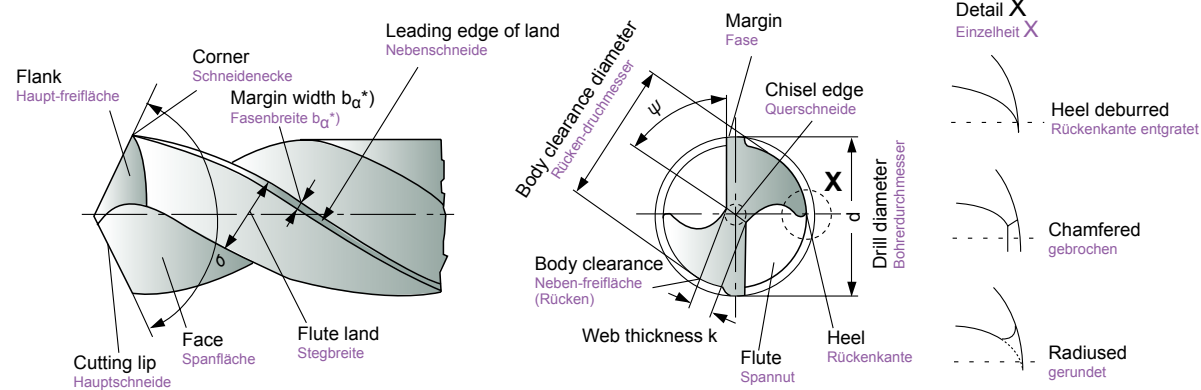


### 3 GENERAL DIMENSIONS OF MORSE TAPER SHANKS TOLERANZEN DES KEGELSCHAFTES



Morse Taper Shank Morsekegelschaft	A mm	B mm	C(h13) mm	D mm	E mm	F(max.) mm	G mm	H(max.) mm	$\alpha/2$
No.1	12.065	9	5.2	12.2	62	13.5	3.5	8.7	1°25'43"
No.2	17.780	14	6.3	18.0	75	16	5	13.5	1°25'50"
No.3	23.825	19.1	7.9	24.1	94	20	5	18.5	1°26'16"
No.4	31.267	25.2	11.9	31.6	117.5	24	6.5	24.5	1°29'15"
No.5	44.399	36.5	15.9	44.7	149.5	29	6.5	35.7	1°30'26"
No.6	63.348	52.4	19	63.8	210	40	8	51	1°29'36"

### 4 CUTTING PORTION SCHNEIDTEIL



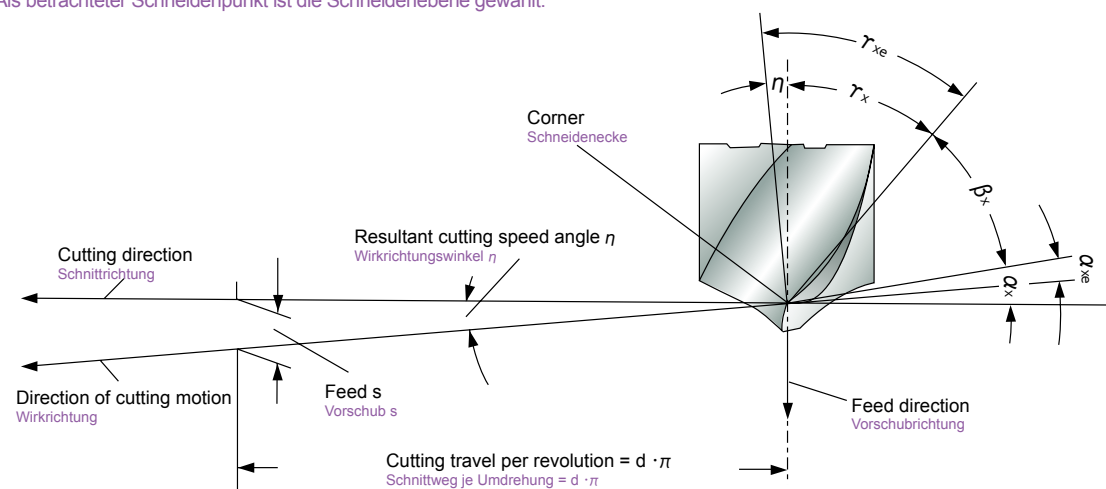
$\sigma$  = Point angle (sigma) Spitzenwinkel (Sigma)

$\psi$  = Chisel edge angle (psi) Querschnittenwinkel (Psi)

\* In the context of cutting technology, land width  $b_g$  is the body clearance land width which is to be by  $b_{fan}$ , see DIN 6581.  
Die Fasbreite  $b_g$  ist bei zerspannungstechnischen Betrachtungen die Fasbreite der Nebenfleißfläche und mit  $b_{fan}$  zu bezeichnen, siehe DIN 6581.

### 5 ANGLE AT THE CUTTING EDGES WINKEL AN DEN SCHNEIDEN

The corner has been adopted as the observed edge point.  
Als betrachteter Schneideneckpunkt ist die Schneidenebene gewählt.



$\alpha_x$  = Side clearance angle (alpha) Seitenfreiwinkel (Alpa)

$\alpha_{xe}$  = Effective side clearance angle Wirk-Seitenfreiwinkel

$\beta_x$  = Side wedge angle (beta) Seitenkeilwinkel (Beta)

$\gamma_x$  = Front rake angle (gamma) Seitenspanwinkel (Gamma)

$\gamma_{xe}$  = Working front rake angle Wirk-Seitenspanwinkel

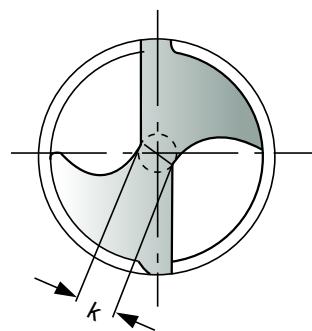
$\eta$  = Resultant cutting speed angle (eta) Wirkrichtungswinkel (Eta)

Clearance angle  $\alpha$ , wedge angle  $\beta$  and rake angle  $\gamma$  are measured in the tool orthogonal plane. For details, see DIN 6581, definitions of metal-cutting technology; geometry at the tool edge.

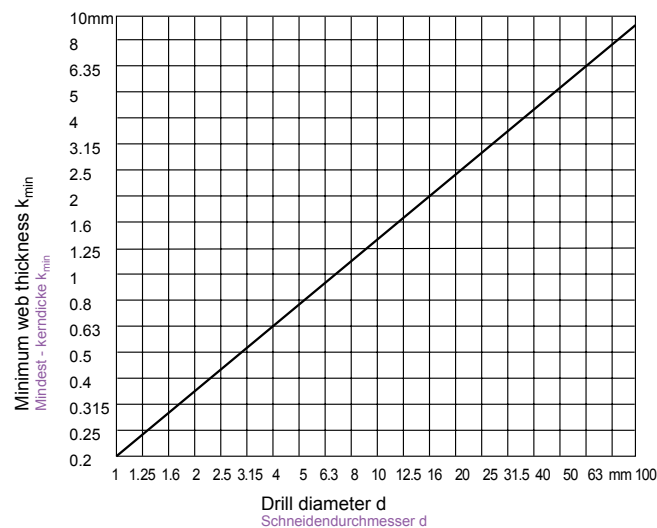
Freiwinkel  $\alpha$ , keilwinkel  $\beta$  und Spanwinkel  $\gamma$  werden in der keilnebene gemessen.  
Einzelheiten siehe DIN 6581, Begriffe der Zerspanntechnik; Geometrie am Schneidkeil des Werkzeuges.

**6 WEB THICKNESS K  
KERNDICKE K**

**Test values :** The web thickness according to Fig. 1 shall not be less than the minimum value  $k_{min}$  indicated in Fig. 2.  
**Prüfwerte :** Die kerndicke nach Bild 1 soll den Bild 2 angegebenen Mindestwert  $k_{min}$  nicht unterschreiten.  
**Test point :** At the point of the drill. **Prüfstelle :** An der Bohrer Spitze  
**Testing equipment :** Slide gauge with measuring points. **Prüfmittel :** Meßschieber (Schieblehre) mit Messerspitzen



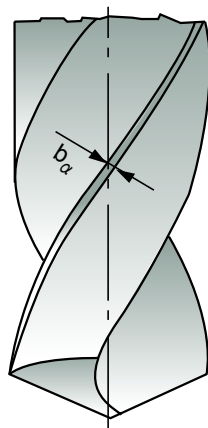
**Figure 1. Web thickness k**  
Bild 1. kerndicke k



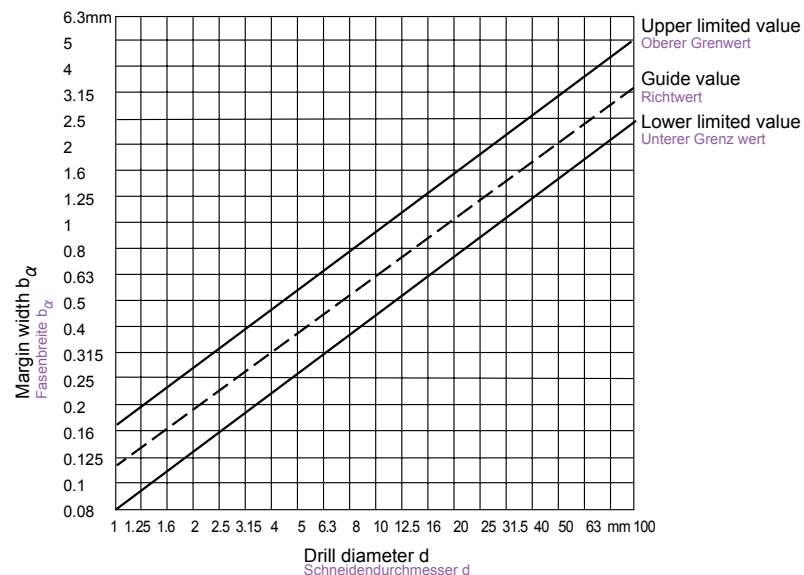
**Figure 2. Web thickness  $k_{min}$**   
Bild 2. Kerndicke  $k_{min}$

**7 MARGIN WIDTH  $b_\alpha$   
FASENBREITE  $b_\alpha$**

**Test values :** The land width as in Fig. 3 shall lie within the limiting values indicated in Fig. 4.  
**Prüfwerte :** Die Fasenbreite nach Bild 3 soll im Bereich der Grenzwerte liegen, die im Bild 4 angegeben sind.  
**Test point :** 5mm behind the corner **Prüfstell :** 5mm hinter der Schneidenecke  
**Testing equipment :** Slide gauge **Prüfmittel :** Meßschieber



**Figure 3. Margin width  $b_\alpha$**   
Bild 3. Fasenbreite  $b_\alpha$



**Figure 4. Margin width  $b_\alpha$**   
Bild 4. Fasenbreite  $b_\alpha$

**8 ANGLE ON TWIST DRILLS  
WINKEL AN SPIRALBOHRERN**

**(1) Side rake angle  $\gamma_f$  (Helix angle)  
Seitenspanwinkel (Spiralwinkel)  $\gamma_f$**

**Recommended test value :** Recommended ranges depending on the tool types N,H and W according to DIN 1836 and the diameter of the drill included in Fig. 5.

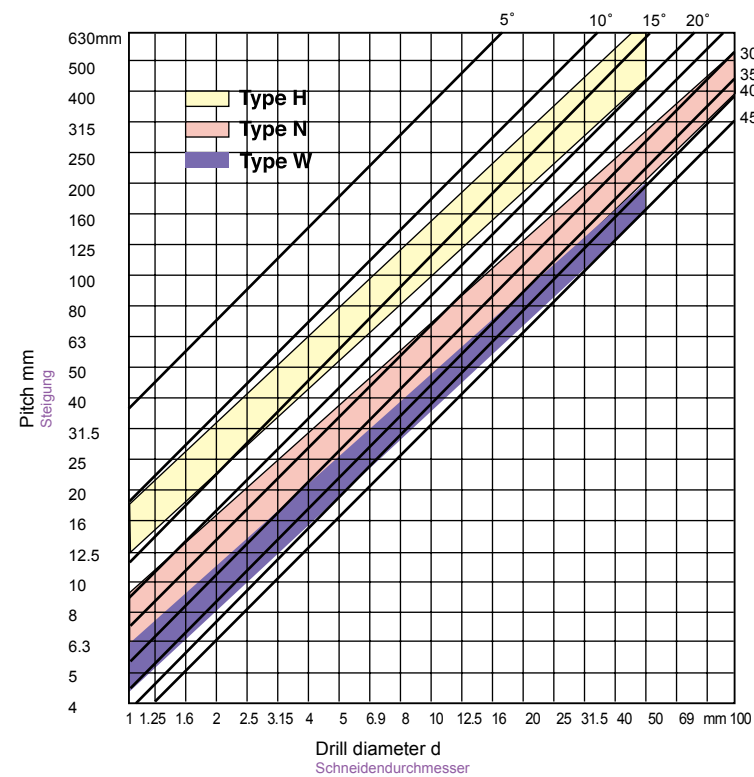
**Empfohlene Prüfwerte :** Empfohlene Bereiche in Abhängigkeit der Werkzeugtypen N, H und W nach DIN 1836 und des Schneiddurchmessers sind in Bild 5.

**Test point :** At the corner, see Fig. 6.  
**Prüfstell :** An der Schneidenecke, siehe Bild 6

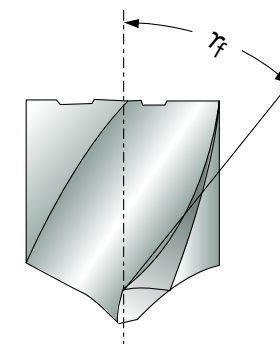
**Testing equipment :** According to VDI Guideline 3331 Part 1, Section Margin width  $b_\alpha$   
**Prüfmittel :** Nach der VDI-Richtlinie 3331 Blatt 1, Abschnitt Fasenbreite  $b_\alpha$

**Note :** The side rake angle  $\gamma_f$  is measured in place of the orthogonal rake angle  $\gamma_0$  found in the wedge measuring plane (see DIN 6581), as this changes along the cutting edge (becoming smaller towards the point of the drill).

**Anmerkung :** Der Seitenspanwinkel  $\gamma_f$  wird an Stelle des in der Keilmeßebeine befindlichen Orthogonal-Spanwinkels  $\gamma_0$  (Siehe DIN 6581) gemessen, da sich dieser entlang der Hauptschneide verändert (er wird zur Bohrer Spitze hin kleiner)



**Figure 6. Side rake angle  $\gamma_f$**   
Bild 6. Seitenspanwinkel  $\gamma_f$



**Figure 5. Side rake angle  $\gamma_f$**   
Bild 5. Seitenspanwinkel  $\gamma_f$



**(2) Point angle  $\sigma$** **Spitzenwinkel  $\sigma$** 

**Test value** : Usual execution for tool types N and H :  $\sigma=118^\circ$ ,  
for tool type W :  $\sigma=130^\circ$

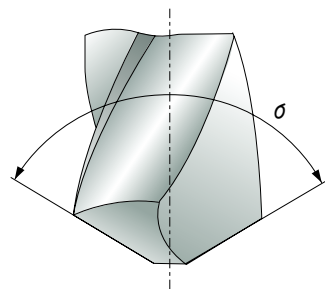
**Prüfwerte** : Regelausführung bei Werkzeugtyp N und H :  $\sigma=118^\circ$   
bei Werkzeugtyp W :  $\sigma=130^\circ$

**Test point** : At the cutting, see Fig. 7.

**Prüfstelle** : An den Hauptschneiden, siehe Bild 7.

**Testing equipment** : According to VDI Guideline 3331 Part 1,  
Section Margin width  $b_\alpha$ .

**Prüfmittel** : Nach der VDI-Richtlinie 3331 Blatt 1, Abschnitt Fasenbreite  $b_\alpha$ .



**Figure 7. Point angle  $\sigma$**   
Bild 7. Spitzenwinkel  $\sigma$

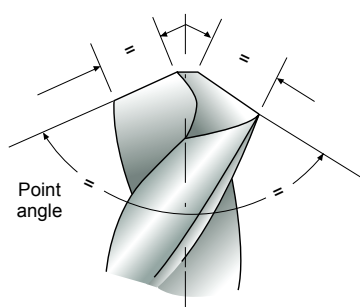


## RESHARPENING TWIST DRILLS NACHSCHLEIFEN VON SPIRALBOHRERN

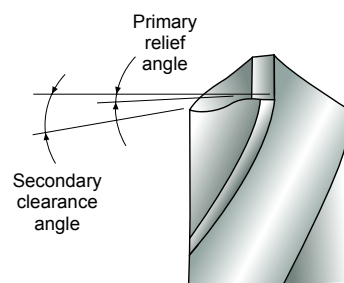
**(1) Drills are worn off irregularly. It should be sharpened prior to developing into excessive wear.**  
**Unregelmäßiger Verschleiß von Bohrern. Bohrer soll vor übermäßigem Verschleiß nachgeschliffen werden.**

**(2) Resharpener (Nachschleifen)**

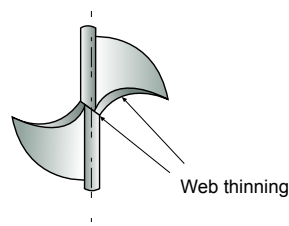
- Grind the correct point angle to suit your application.(figure 8)  
Den für Ihre Anwendung passenden korrekten Spitzenwinkel schleifen (Bild 8)
- Check that both cutting lips have the same angle. On a  $130^\circ$  point, each lip should be  $65^\circ$  toward the axis. The point must be on center, i.e., the chisel edge must produce cutting lips of equal length.(figure 8)  
Überprüfen, dass beide Hauptschneiden den gleichen Winkel haben. Bei einem  $130^\circ$  Spitzenwinkel, sollte jede Hauptschneide  $65^\circ$  haben (Bild 8)
- Grind Primary relief and Secondary clearance.(figure 9)  
Primärer Hinterschliff und Sekundärer Freiwinkel (Bild 9)
- Grind web thinning. (figure 10)  
Den ausgespitzten Kern schleifen (Bild 10)



**Figure 8**  
Bild 8



**Figure 9**  
Bild 9



**Figure 10**  
Bild 10



## WEB THINNING KEGELMANTELSCHLIFF

**(1) Without thinning****Normalanschliff**

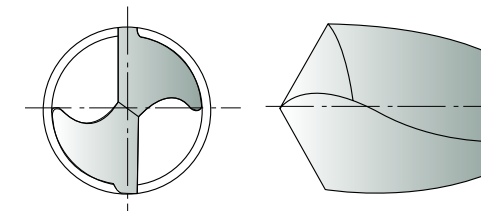
Suitable for drill of general purpose.

Thanks to thin web thickness, web thinning is not needed.  
This without web thinning type is applied to design of drills  
for mild steels, alloy steels, cast iron, stainless steels,  
titanium, inconel, etc. and conventional cutting conditons.

Zum Bohren für allgemeine Zwecke.

Dank dünner Kerndicke, ist Kegelmantelschliff nicht nötig.

Geeignet für Stahl, Stahl-Legierungen, Gusseisen, Edleisahl, Tian, Inconel usw. und für konventionelle Schneidbedingungen

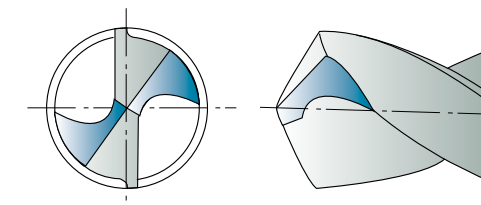
**(2) Type C thinning (DIN1412 FORM C, SPLIT POINT)****DiN 1412 Form C kegelmantelschliff mit Kreuzanschliff**

Because Split point enables good centering when drilling  
and breaks the chips, chip removals are easy.

Suitable for drill design in high hardened tough materials,  
i.e, heat treated steels, titanium alloys, stainless steels,  
incoroy inconel, nimonic, etc.

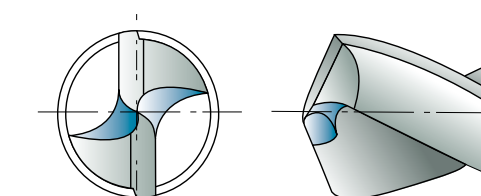
Da Kreuzanschliff gute Zentrierung und Spanbruch während des  
Bohrens ermöglicht, wird die Spanentfernung erleichtert.

Geeignet für zähe Werkstücke oder Werkstücke mit hoher Härte, z.B. hitzebehandelten Stahl, Titan-Legierungen, Edelstahl, Inconoy  
Inconel, Nimonic usw.

**(3) Type R thinning (HELICAL THINNING)****Form R Kegelmantelschliff (Spiralanschliff)**

Helical thinning ensures to frequent chip breaking and  
removal. The different direction force of cutting edges and  
helical thinning parts enable that chips curl, break and  
remove through the flutes. In addition, helical thinning  
makes the chip room up to center, remove the chisel and  
enables good centering

Häufiger Spanbruch und Spanentfernung durch Spiralanschliff, es wird  
ausreichend Raum für Späne geschaffen, und gute Zentrierung ist möglich.

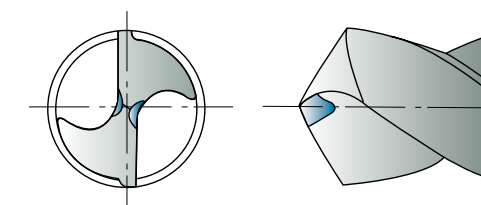
**(4) Type A thinning (DIN1412 FORM A)****DiN 1412 Form A Kegelmantelschliff mit ausgespitzter Querschneide**

A type thinning makes thin chisel, good chip removal and  
favorable centering.

This type is the easiest type to grind the thinning. In narrow  
web and wide fluted drills, keeping of the rigidity and smooth  
chip removal are possible.

Diese Form hat eine dünne Querschneide, dadurch ist gute  
Spanentfernung und Zentrierung möglich.

Der Kegelmantelschliff ist bei dieser Form am einfachsten  
nachzuschleifen, Ein enger Kern und breite Schneiden erhalten die Stabilität.



### (5) Type B thinning (DIN1412 FORM B)

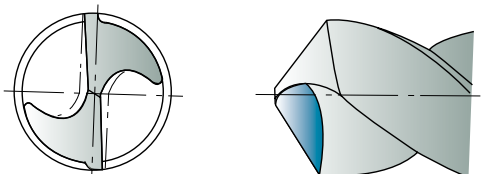
#### DIN 1412 Form B Kegelmantelschliff mit ausgesetzter Querschneide

In case of work materials with low cutting resistance and good chip removal, i.e., cast iron, aluminum, plastic etc., B type thinning is suitable.

Especially when drills for high hardened steels are designed, this type is applied to decrease rake angle and avoid chipping of cutting lips.

Geeignet für Werkstücke mit geringem Schneidwiderstand und guter Spanentfernung, z.B. Gusseisen, Aluminium, Plastik usw.

Diese Form wird besonders dann angewendet, wenn der Bohrer für Stähle mit hoher Härte produziert wurde, da dadurch der Seitenspanwinkel verkleinert wird und Brüche an der Schneidkante vermieden werden.



### (6) Type D thinning (DIN1412 FORM D)

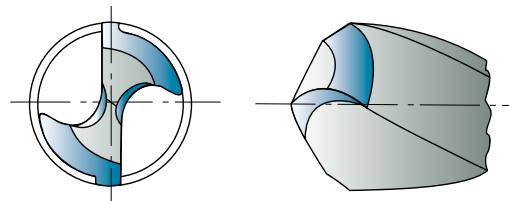
#### DIN 1412 Form D Kegelmantelschliff mit ausgesetztem Kern

Grey cast iron thinning; bevelling of external edges strengthens the cutting edge.

Used for medium to high grey cast iron hardness and for abrasives.

GG-Anschliff; Fasen auf dem Steg verstärken die Schneidkante.

Geeignet für medium bis hohe Härte GG und für abrasive Materialien.



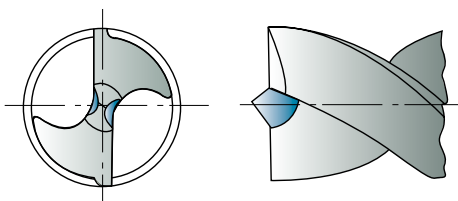
### (7) Type E thinning (DIN1412 FORM E)

#### DIN 1412 Form E Zentrumschneide

Center drill bit thinning; ensures optimal center drilling and does not leave burrs in through holes.

As the bit and cutting edges are delicate, this bit should be used for drilling thin sheet metal.

Zentrisches Bohren, Niedrige Gratbildung, Geeignet zum Bohren von dünnen Blechen und Rohren.



## 11 Surface Finishes for high speed steels Twist Drills Oberflächenbeschaffenheit von HSS-Spiralbohrern

### (1) Bright Finish Helle Beschaffenheit

Drills with a bright finish are without surface treatment and ground condition.

Especially bright finished drills are used in machining of non ferrous materials.

Ohne Oberflächenbehandlung, geeignet zum Bearbeiten von Nichteisen Materialien.

### (2) Coloring (Gold color) Farbe (Bernstein)

The coloring is a thin oxide layer formed on the tool surfaces. Dies ist eine dünne Oxidschicht.

This is often applied to cobalt high speed steels twist drills. Geeignet für Kobalt-HSS-Spiralbohrer.

### (3) Steam Tempered (black oxide finish) Dampfoxydierte Ausführung

This is a black oxide layer 1-2µm formed on the tool surfaces.

Steam Tempered treated drill is the result of a steam tempering operation. Because the oxide layer retains some coolant on the tool surface, and aids chip flow, helps to dissipate heat, steam homo treated drills are recommended for ferrous applications.

Eine schwarze Oxidschicht 1-2µm.

Da die Oxidschicht Kühlmittleigenschaften auf der Werkzeugoberfläche beinhaltet und den Spanfluss verbessert und die Hitze verteilt, sind diese Bohrer für die Bearbeitung von Metal-Werkstücken empfohlen.

## 12 COATING BESCHICHTUNGEN

The use of coated cutting tools reduce production costs.

For example

- Avoidance of machine downtime due to premature tool wear.
- Higher cutting capabilities to reduce actual machining times.
- Reproducible tool life.
- Improvement of component surface quality.

Durch den Gebrauch von beschichteten Werkzeugen werden Produktionskosten reduziert, z.B.

- Vermeidung von Maschinen-Ausfallzeiten wegen frühzeitigem Verschleiß des Bohrers.
- Höhere Bohrleistung, dadurch Verminderung von Arbeitszeit.
- Längere Standzeit.
- Verbesserte Oberflächengüte des Werkstücks.

### (1) TiN Coating TiN (Titan-Nitrid) Beschichtung

Titanium Nitride gives the tool a higher performance in comparison to traditional non-coated drills.

TiN coating, with good all-around properties, is recommended for the general application.

Bessere Leistung im Vergleich zu unbeschichteten Werkzeugen

TiN-Beschichtung, mit guten Allround-Eigenschaften, empfohlen für die allgemeine Anwendung

### (2) TiCN (Titanium Carbon Nitride) coating TiCN (Titan karbon Nitrid) Beschichtung

TiCN coating should be employed when severe thermodynamic stress is expected, for example when drilling in high hardened steels or in mild steels with high speed and feed.

Diese Beschichtung soll bei extremen thermodynamischen Bedingungen verwendet werden, z.B. bei Bohren von Stählen mit hoher Härte und Stähle mit hoher Geschwindigkeit und Vorschub.

### (3) TiAlN (Titanium Aluminium Nitride) coating TiAlN (Titan Aluminium Nitrid) Beschichtung

The addition of Aluminum to the Titanium Nitride produces an increase in hardness and an exceptional increase in resistance to oxidation at high temperature.

TiAlN coating is applied to drilling with severe thermal stress on cutting edges when continuous non-step feed, dry cutting or high speed cutting.

Der Zusatz von Aluminium zum Titan-Nitrid ermöglicht eine höhere Härte und einen auß erordentlich guten Widerstand gegen Oxidation und hohe Temperaturen.

Geeignet zum Bohren unter extremen thermischen Bedingungen auf der Hauptschneide bei kontinuierlichem Vorschub, Trockenschnitt oder Hochgeschwindigkeitsbohren.

### (4) X Coating X Beschichtung

- Coating with low hardness drop at high temperatures and stability against thermal oxidation
- Coating for superior dry and wet machining performance at high cutting speed
- Wide range of application field with stable layer structure

- Beschichtung mit geringem Härteverlust bei hohen Temperaturen und Stabilität gegen thermische Oxidation
- Hervorragende Beschichtung für Trocken- und Nassbearbeitung bei hohen Schnittgeschwindigkeiten
- Breites Anwendungsspektrum durch stabilem Schichtaufbau

**(5) H Coating H Beschichtung**

- AlCrN-based coating, superior mechanical properties compared to TiAl-based coating
- Improved wear resistance compared to TiAl-based, and superior physical properties (high temperature hardness and breaking strength)
- Superior adhesion and surface roughness, and uniform tool wear characteristics with multi-layer coating
- Possible machining with minimum quantity of coolant and dry machining to reduce production costs
- Beschichtung auf AlCrN-Basis, dadurch überlegene mechanische Eigenschaften im Vergleich zu Beschichtungen auf TiAl-Basis
- Verbesserte Verschleißfestigkeit im Vergleich zu TiAl-Beschichtungen und überlegene physikalische Eigenschaften (Hochtemperaturhärte und Bruchfestigkeit)
- Hervorragende Haftung und Oberflächenrauigkeit sowie gleichmäßiger Werkzeugverschleiß durch mehrlagige Beschichtung
- Ermöglicht Bearbeitung mit Minimalmengenschmierung und Trockenbearbeitung zur Senkung der Produktionskosten

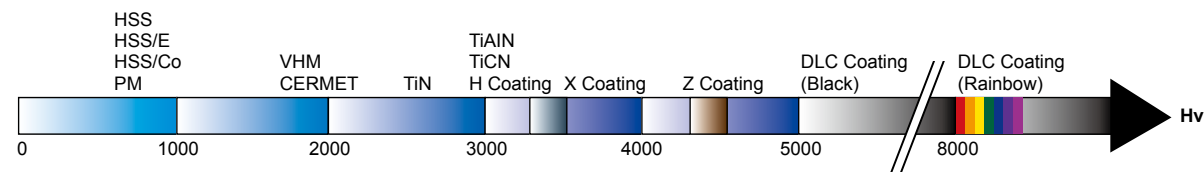
**(6) Z Coating Z Beschichtung**

- Nanocomposite optimized among coatings for high hardness steel machining with Si grade coating
- Superior machinability at high temperatures and used in milling and drilling finishing processes
- Superior surface roughness and wear resistance for a very wide machining application
- Superior physical properties of hardness, adhesion and oxidation resistance at high temperatures
- Optimierte nanokomposit Beschichtung mit Si-Anteil für die Bearbeitung von hochharten Stählen
- Hervorragende Zerspanleistung bei hohen Temperaturen und bei Fräs- und Bohrbearbeitungsprozessen
- Hervorragende Oberflächenrauigkeit und Verschleißfestigkeit für ein sehr breites Anwendungsspektrum
- Hervorragende physikalische Eigenschaften wie Härte, Haftung und Oxidationsbeständigkeit bei hohen Temperaturen

**(7) DLC Coating DLC Beschichtung**

- Suitable coating for extreme wear conditions and fast sliding speed without use of coolant
- Possible coating with high-speed machining and superior wear resistance
- Minimizes friction losses, suitable for engine components such as fuel injection system, valve train and piston
- Geeignete Beschichtung für extreme Verschleißbedingungen und hohe Gleitgeschwindigkeiten ohne Verwendung von Kühlmittel
- Beschichtung für die Hochgeschwindigkeitsbearbeitung bei überlegener Verschleißfestigkeit
- Minimale Reibung, für Motorkomponenten wie Kraftstoffeinspritzsystem, Ventiltrieb und Kolben

Properties	TiN	TiCN	TiAlN	X Coating	H Coating	Z Coating	DLC Coating	
<b>Coating color</b> Beschichtungsfarbe	Gold - yellow	Blue - grey	Violet - grey	Blue grey	Copper	Copper	Black	Rainbow
<b>Hardness (Hv 0.05)</b> härtegrad (Hv 0.05)	2300	3000	3000	3,200	3,000	4,500	5,000	8,000
<b>Coating thickness (µm)</b> Beschichtungsstärke (µm)	1~4	1~4	1~5	1~5	1~5	1~4	1~3	0.1~0.5
<b>Max. working temperature (°C)</b> Max. Arbeitstemperatur (°C)	600	400	800	1,100	1,100	900	500	600
<b>Coefficient of friction against steels (dry)</b> Reibungskoeffizient für stahl (trocken)	0.4	0.4	0.4	0.35	0.25	0.4	~0.1	~0.1



**(5) Selection of coating Verschiedene Beschichtungen**

Properties	HSS TWIST DRILLS	CARBIDE DRILLS
<b>Steels &lt; 1000 N/mm<sup>2</sup></b> Stahls < 1000 N/mm <sup>2</sup>	H, Z, X Coating	H, Z, X Coating
<b>Steels &gt; 1000 N/mm<sup>2</sup></b> Stahls > 1000 N/mm <sup>2</sup>	H, Z, X Coating	Z, H Coating
<b>Stainless steels</b> Edelstähle	H, Z, X Coating	Z, H Coating
<b>Cast iron</b> Gusseisen	H, Z, X Coating	H, Z, X Coating
<b>Al-wrought alloys</b> Al-Knetlegierungen	DLC	DLC
<b>Al-cast alloys</b> Al-Gusslegierungen	DLC	DLC
<b>Copper (pure)</b> Kupfer (pur)	DLC	DLC
<b>Brass</b> Messing	DLC	DLC
<b>Bronze</b> Bronze	DLC	DLC



**DRILL SIZES BEFORE TAPPING DURCHMESSER FÜR BOHRWERKZEUGE FÜR GEWINDEKERNLÖCHER**

**(1) Metric - ISO threads coarse pitch Metrisch - ISO Gewinde, grobverzahnt**

Nominal diameter	Drill diameter	Nominal diameter	Drill diameter	Nominal diameter	Drill diameter	Nominal diameter	Drill diameter
		<b>M3</b>	2.5	<b>M11</b>	9.5	<b>M30</b>	26.5
<b>M1</b>	0.75	<b>M3.5</b>	2.9	<b>M12</b>	10.2	<b>M33</b>	29.5
<b>M1.2</b>	0.95	<b>M4</b>	3.3	<b>M14</b>	12.0	<b>M36</b>	32.0
<b>M1.4</b>	1.1	<b>M5</b>	4.2	<b>M16</b>	14.0	<b>M39</b>	35.0
<b>M1.6</b>	1.25	<b>M6</b>	5.0	<b>M18</b>	15.5	<b>M42</b>	37.5
<b>M1.8</b>	1.45	<b>M7</b>	6.0	<b>M20</b>	17.5	<b>M45</b>	40.5
<b>M2</b>	1.6	<b>M8</b>	6.8	<b>M22</b>	19.5	<b>M48</b>	43.0
<b>M2.2</b>	1.75	<b>M9</b>	7.8	<b>M24</b>	21.0	<b>M52</b>	47.0
<b>M2.5</b>	2.05	<b>M10</b>	8.5	<b>M27</b>	24.0	<b>M56</b>	50.5



**(2) Metric ISO threads fine pitch**  
Metrisch - ISO Gewinde, feinverzahnt

Nominal diameter	Tap Pitch	Drill diameter	Nominal diameter	Tap Pitch	Drill diameter
2.5	0.35	2.15	25	2	23
3	0.35	2.65	26	1.5	24.5
3.5	0.35	3.15	27	1	26
4	0.5	3.5	27	1.5	25.5
4.5	0.5	4	27	2	25
5	0.5	4.5	28	1	27
5.5	0.5	5	28	1.5	26.5
6	0.75	5.2	28	2	26
7	0.75	6.2	30	1	29
8	0.75	7.2	30	1.5	28.5
8	1	7	30	2	28
9	0.75	8.2	30	3	27
9	1	8	32	1.5	30.5
10	0.75	9.2	32	2	30
10	1	9	33	1.5	31.5
10	1.25	8.8	33	2	31
11	0.75	10.2	33	3	30
11	1	10	35	1.5	33.5
12	1	11	36	1.5	34.5
12	1.25	10.8	36	2	34
12	1.5	10.5	36	3	33
14	1	13	38	1.5	36.5
14	1.25	12.8	39	1.5	37.5
14	1.5	12.5	39	2	37
15	1	14	39	3	36
15	1.5	13.5	40	1.5	38.5
16	1	15	40	2	38
16	1.5	14.5	40	3	37
17	1	16	42	1.5	40.5
17	1.5	15.5	42	2	40
18	1	17	42	3	39
18	1.5	16.5	45	1.5	43.5
18	2	16	45	2	43
20	1	19	45	3	42
20	1.5	18.5	48	1.5	46.5
20	2	18	48	2	46
22	1	21	48	3	45
22	1.5	20.5	50	1.5	48.5
22	2	20	50	2	48
24	1	23	50	3	47
24	1.5	22.5	52	1.5	50.5
24	2	22	52	2	50
25	1	24	52	3	49
25	1.5	23.5			

**(3) WITHWORTH pipe threads (BSP)**  
WITHWORTH Rohrgewinde (BSP)

Nominal size	Drill diameter	Nominal size	Drill diameter
inches	mm	inches	mm
G1/8	8.8	G1-1/4	39.5
G1/4	11.8	G1-3/8	42.0
G3/8	15.25	G1-1/2	45.0
G1/2	19.0	G1-3/4	51.0
G5/8	21.0	G2	57.0
G3/4	24.5	G2-1/4	63.0
G7/8	28.25	G2-1/2	73.0
G1	30.75	G2-3/4	79.0
G1 1/8	35.5	G3	85.0

**(4) American unified coarse threads** Amerikanischer Standard, Grobverzahnung

UNC	Drill diameter		UNC	Drill diameter	
	inches	mm		inches	mm
<b>No. 1</b>	53	1.51	<b>7/16</b>	U	9.35
<b>No. 2</b>	50	1.78	<b>1/2</b>	27/64	10.71
<b>No. 3</b>	47	1.99	<b>9/16</b>	31/64	12.30
<b>No. 4</b>	43	2.26	<b>5/8</b>	17/32	13.49
<b>No. 5</b>	38	2.58	<b>3/4</b>	21/32	16.67
<b>No. 6</b>	36	2.71	<b>7/8</b>	49/64	19.44
<b>No. 8</b>	29	3.45	<b>1</b>	7/8	22.22
<b>No. 10</b>	25	3.8	<b>1-1/8</b>	63/64	25.00
<b>No. 12</b>	16	4.5	<b>1-1/4</b>	1-7/64	28.18
<b>1/4</b>	7	5.11	<b>1-3/8</b>	1-7/32	30.95
<b>5/16</b>	F	6.53	<b>1-1/2</b>	1-11/32	34.13
<b>3/8</b>	5/16	7.94			

**(5) American unified fine threads** Amerikanischer Standard, Feinverzahnung

NF	Drill diameter		NF	Drill diameter	
	inches	mm		inches	mm
<b>No. 0</b>	3/64	1.19	<b>3/8</b>	Q	8.43
<b>No. 1</b>	53	1.51	<b>7/16</b>	25/64	9.92
<b>No. 2</b>	50	1.78	<b>1/2</b>	29/64	11.51
<b>No. 3</b>	45	2.08	<b>9/16</b>	33/64	13.10
<b>No. 4</b>	42	2.37	<b>5/8</b>	37/64	14.86
<b>No. 5</b>	37	2.64	<b>3/4</b>	11/16	17.46
<b>No. 6</b>	33	2.87	<b>7/8</b>	13/16	20.64
<b>No. 8</b>	29	3.45	<b>1</b>	59/64	23.42
<b>No. 10</b>	21	4.04	<b>1-1/8</b>	1-3/64	26.59
<b>No. 12</b>	14	4.62	<b>1-1/4</b>	1-11/32	29.76
<b>1/4</b>	3	5.41	<b>1-3/8</b>	1-19/32	32.94
<b>5/16</b>	1	6.91	<b>1-1/2</b>	1-27/64	36.11

**14 ISO TOLERANCE  
ISO TOLERANZ**

$\mu\text{m}=1/1000\text{mm}$

Diameter (mm)	1 - 3 from to	3 - 6 over to	6 - 10 over to	10 - 18 over to	18 - 30 over to	30 - 50 over to
Tolerance range in $\mu\text{m}$ / Toleranzwerte in $\mu\text{m}$						
<b>h6</b>	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16
<b>h7</b>	0 - 10	0 - 12	0 - 15	0 - 18	0 - 21	+0/-0.025
<b>h8</b>	0 - 14	0 - 18	0 - 22	0 - 27	0 - 33	+0/-0.039
<b>m7</b>	+ 12 + 2	+ 16 + 4	+ 21 + 6	+ 25 + 7	+ 29 + 8	+ 34 + 9

**15 TROUBLE SHOOTING IN DRILLING  
PROBLEME UND ABHILFE**

Occurrence of trouble	Cause of trouble	Countermeasures
<b>Drill will not enter work Bohrer dringt nicht durch werkstück</b>	1. Drill is dull. 2. Lip relief too small. 3. Too thick a web. 1. Bohrer ist stumpf 2. Hauptschneide ist zu klein 3. Kern ist zu dick	1. Grind lip relief sufficiently. 2. Grind web thinning. 3. Choose a drill with narrow web. 1. Schleifen der Hauptschneide 2. Kegeimantel schleifen 3. Bohrer mit engerem kern wählen
<b>Margin chipping Fasenbruch</b>	1. Oversized jig bushing. 1. Bohrbuchse ist zu ungleich.	1. Choose the suitable jig bushing for drill diameter 1. Den passenden Bohrbuchse wählen.
<b>Cutting lip breaks Bruch der Hauptschneide</b>	1. Lip relief too much. 2. Feed too heavy. 1. Zu große Entlastung der Hauptschneide 2. Vorschub zu stark	1. Grind lip relief sufficiently. 2. Decrease feed rate. 1. Schleifen der Hauptschneide 2. Vorschub verringern
<b>Tang breaks Bruch der Austrieblappen am kagelschaft</b>	1. Imperfect fit between taper shank and socket. 2. Burred or Badly worn sockets. 1. Befestigung zwischen Morsekegel und Aufnahme ungenügend 2. Verschleiß der Aufnahme	1. Clean the dirt or chips in sockets. 2. Change the worn sockets to new ones. 1. Schmutz oder Späne in der Aufnahme entfernen 2. Aufnahme wechseln

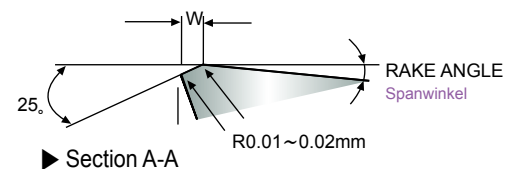
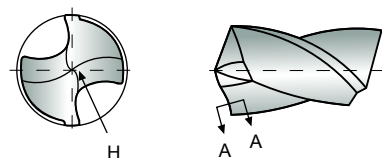
Occurrence of trouble	Cause of trouble	Countermeasures
<b>Drill breaks in brass Bohrer bricht in Messing</b>	1. Unsuitable drill 2. Flutes clogged with chips 1. Unpassender Bohrer 2. Schneiden durch Späne verstopft	1. Choose the suitable drill for work material. 1. Den passenden Bohrer wählen
<b>Chipping of drill center Brüche auf der Querschneide</b>	1. Lip relief too much. 2. Feed too heavy. 1. Zu große Entlastung der Hauptschneide 2. Vorschub zu stark	1. Grind lip relief sufficiently. 2. Decrease feed rate. 1. Schleifen der Hauptschneide 2. Vorschub verringern
<b>Hole oversize Übergröße des Lochs</b>	1. Unequal angle or length of cutting edges. 2. Loosen spindle. 1. Ungleicher Winkel oder Länge der Hauptschneiden 2. Lockere Spindel	1. Resharpener point, choose correct drills. 2. Tighten spindle sufficiently. 1. Nachschleifen der Bohrspitze, passenden Bohrer wählen 2. Spindel ausreichend befestigen
<b>Outer corners broken down. Brüche in der Schneidenecke</b>	1. Cutting speed too high. 2. Hard spots in work material. 3. Flutes clogged with chips. 4. Too wear of drills. 1. Schnittgeschwindigkeit zu hoch 2. Harte Flächen im Werkstück 3. Schneiden durch Späne verstopft 4. Verschleiß des Bohrers zu groß	1. Grind point to suit work material. 2. Decrease the feed rates. 3. Resharpener early before too wear. 1. Bohrspitze nachschleifen und ans Werkstück anpassen 2. Vorschub verringern 3. Nachschleifen vor zu groß em Verschleiß
<b>Large chip of one flute and small chip of other flute Ungleiche Späne auf den Schneiden</b>	1. Improperly ground point. 2. Only one lip doing all the cutting 1. Bohrspitze nicht richtig geschliffen 2. Nur eine Schneide bohrt	1. Properly grind point. 2. Grind point with same point angle and length of lip 3. Grind with small lip height. 1. Bohrspitze richtig schleifen 2. Bohrspitze mit dem gleichen Spitzenwinkel und Länge nachschleifen 3. Schleifen mit geringer Hauptschneidenhöhe
<b>Hole rough Grobes Loch</b>	1. Improperly ground point. 2. Unenough coolant supply 3. Too much feed. 4. Fixture not rigid. 1. Bohrspitze nicht richtig geschliffen 2. Ungenügende Kühlmittelzufuhr 3. Vorschub zu hoch 4. Befestigung nicht stabil	1. Properly grind point. 2. Supply coolant enough. 3. Decrease the feed rate. 4. Tighten the fixture or replace. 1. Bohrspitze richtig schleifen 2. Genügend Kühlmittel zuführen 3. Vorschub verringern 4. Befestigung stabilisieren oder erneuern

## 16 CHARACTERISTIC OF DREAM DRILLS MERKMALE VON DREAM BOHRER

- YG-1's Dream Drill Series are suitable for high speed and accurate drilling operations by special design and high quality.  
YG-1's DREAM Bohrer Serien sind durch ihre spezielle Konstruktion und höchste Genauigkeit geeignet zum Hochgeschwindigkeitsbohren und für genaue Bohrvorgänge.
- Good performance for Steels, Cast Irons, Tool steels, Alloy steels and Stainless steels.  
Gute Leistung bei Stählen, Grauguss, Werkzeugstählen, Stahllegierungen sowie bei Rost- und Säurebeständigen Stählen.
- Rapid chip evacuation and excellent chip breaking can be achieved by special designed cutting edges on point and chip breakers on leading edges.  
Schnelle Spanabfuhr und hervorragender Spanbruch durch speziell entwickelte Schneidengeometrien und Spanbrechern.
- High accuracy and stability.  
Hohe Genauigkeit und Stabilität.
- Longer tool life with TiAlN coating.  
Höhere Standzeiten mit TiAlN-Beschichtungen.
- Self-centering  
Selbstzentrierend

## 17 HONING GUIDE OF DREAM DRILLS HINWEIS ZUM HONEN VON DREAM BOHRER

### Dimension of Honing Abmessung beim Honen



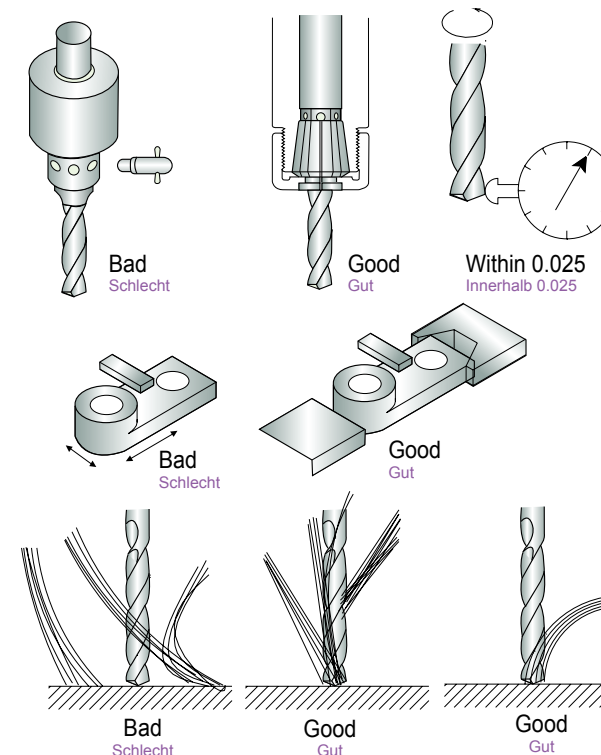
### Scraper Schaben



Work Material	Alloy Steels	Mild Steels	Cast Iron
W(mm)	0.15~0.2	0.1~0.15	0.03

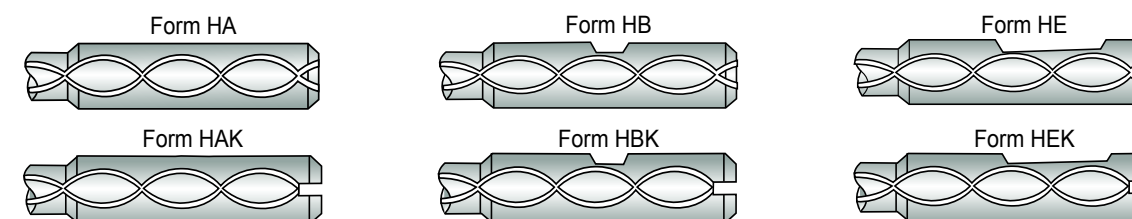
- ▶ The dimension W of stocked products is 0.1~0.15.  
Das Maß w ist bei lagerhaltigen Produkten 0.1~0.15.

## 18 USE OF DREAM DRILLS VERWENDUNG VON DREAM BOHRER



- ▶ Chucking with spring collet correctly.  
Richtiges Spannen mit Spannzangen.
- ▶ Radial run out at cutting lip must not exceed 0.025 mm.  
Radialer Rundlauf und der Schneidlippe darf nicht 0.025 überschreiten.
- ▶ Tighten clamp of work piece.  
Sicheres Spannen des Werkstückes.
- ▶ Supply coolant enough to the entrance of hole.  
Ausreichend Kühlmittelzufluss am Bohrloch.
- ▶ When using Dream Drills with Coolant holes, supply high pressure coolant.  
Beim Verwenden von DREAM BOHRER mit Kühlkanal wird Hochdruckkühlung benötigt.

## 19 SHANK TYPE DREAM DRILLS WITH COOLANT HOLES SCHAFTAUSFÜHRUNG DREAM BOHRER MIT KÜHLKANAL



- ▶ Shank Type of stocked products is Form HA.  
Schaftausführung von lagerhaltigen Produkten ist HA.
- ▶ Other shank types are available on your request.  
Andere Schaftausführungen können geliefert werden.

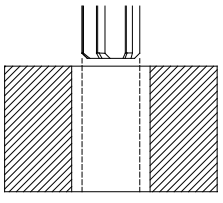
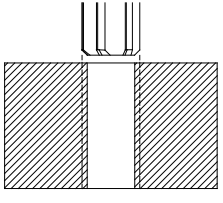


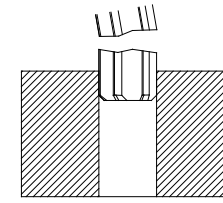
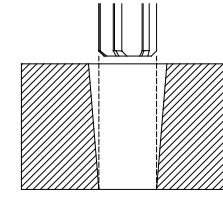
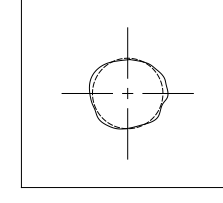
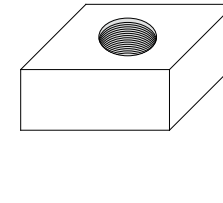
## 20 REAMING - ALLOWANCE REIBEN - AUFMASS

Unit : mm

Size Range Größenbereich	Up to Ø6	Ø6 ~ Ø10	Ø10 ~ Ø16	Ø16 ~ Ø25	Over Ø25
Removal Amount Zu entfernender Bereich	0.1 ~ 0.2	0.2 ~ 0.3	0.2 ~ 0.4	0.3 ~ 0.5	0.3 ~ 0.6

## 21 REAMING - TROUBLE SHOOTING REIBEN - FEHLERBEHEBUNG

Problem Problem	Cause Ursache
<p>Hole diameter too large Bohrungsdurchmesser zu groß</p> 	<ol style="list-style-type: none"> <li>Run out error of the machine spindle, the chuck, or the tool.</li> <li>Damaged adaptor.</li> <li>Cutting speed and feed too high.</li> <li>Build-up edges.</li> </ol> <ol style="list-style-type: none"> <li>Rundlauffehler der Maschinenspindel, des Spannfutters oder des Werkzeugs.</li> <li>Beschädigte Aufnahme.</li> <li>Zu hohe Schnittgeschwindigkeit und zu hoher Vorschub.</li> <li>Aufbauschniede</li> </ol>
<p>Hole diameter too small Bohrungsdurchmesser zu klein</p> 	<ol style="list-style-type: none"> <li>Wrong tool tolerance or the tool is worn out.</li> <li>Ductile material, that tightens after the reaming.</li> <li>Insufficient cooling, or to low oil concentration.</li> <li>Reaming stock is too little.</li> <li>Cutting speed and feed too low.</li> </ol> <ol style="list-style-type: none"> <li>Falsche Werkzeugtoleranz oder das Werkzeug ist verschlissen.</li> <li>Duktiles Material, das sich nach dem Reiben verfestigt.</li> <li>Unzureichende Kühlung, oder zu geringe Ölkonzentration.</li> <li>Das Reibaufmaß ist zu gering.</li> <li>Schnittgeschwindigkeit und Vorschub zu niedrig.</li> </ol>

Problem Problem	Cause Ursache
<p>Reamer jams or breaks Reibahle klemmt oder bricht</p> 	<ol style="list-style-type: none"> <li>Back taper is too small.</li> <li>Position to pilot hole incorrect.</li> <li>Pre-hole is too small.</li> <li>Cutting speed and feed too high.</li> </ol> <ol style="list-style-type: none"> <li>Die Verjüngung ist zu klein.</li> <li>Position zur Vorbohrung ist falsch.</li> <li>Die Vorbohrung ist zu klein.</li> <li>Schnittgeschwindigkeit und Vorschub zu hoch.</li> </ol>
<p>Hole tapered Bohrung kegelig</p> 	<ol style="list-style-type: none"> <li>Concentricity of pilot hole and reaming tool unsatisfactory.</li> <li>Positioning accuracy of pre-hole insufficient.</li> </ol> <ol style="list-style-type: none"> <li>Konzentrität der Vorbohrung und Reibwerkzeug unbefriedigend.</li> <li>Positioniergenauigkeit der Vorbohrung ungenügend.</li> </ol>
<p>Hole out of center or Chatter marks in hole Bohrung außerhalb der Mitte oder Rattermarken in der Bohrung</p> 	<ol style="list-style-type: none"> <li>Cutting speed and feed too low.</li> <li>Reaming tool running out of center.</li> <li>Reaming stock is too small.</li> </ol> <ol style="list-style-type: none"> <li>Schnittgeschwindigkeit und Vorschub zu niedrig.</li> <li>Reibwerkzeug läuft aus der Mitte.</li> <li>Das Reibaufmaß ist zu klein.</li> </ol>
<p>Feed marks in hole Vorschubspuren in der Bohrung</p> 	<ol style="list-style-type: none"> <li>Cutting speed and feed too low</li> <li>Build-up edges.</li> <li>Inadequate chip evacuation</li> <li>Insufficient lubrication.</li> </ol> <ol style="list-style-type: none"> <li>Schnittgeschwindigkeit und Vorschub zu niedrig</li> <li>Aufbauschniede.</li> <li>Unzureichender Späneabtransport</li> <li>Unzureichende Schmierung.</li> </ol>

# EDP No. INDEX

EDP No.	Page
C1109	A410
C1119	A411
C1132	A414
C1136	A412
C1139	A413
C3109	A410
C3119	A411
C3132	A414
C3136	A412
C3139	A413
CDRA03	A163
CDRA04	A166
D1100	A245
D1105	A233
D1106	A247
D1107	A224
D1121	A243
D1125	A238
D1205	A271
D1206	A274
D1209	A275
D1210	A276
D1303	A293
D1313	A294
D1343	A293
D1353	A294
D1363	A295
D1373	A295
D1GP125	A194
D1GP165	A197
D2104	A241
D2105	A227
D2107	A220
D2306	A283
D2307	A284
D2320	A285
D2321	A283
D2322	A284
D2323	A285
D4541	A173
D4542	A177
D5303	A290
D5306	A281
D5307	A281
D5320	A282
D5405	A155
D5407	A157
D5432	A131
D5433	A134
D5434	A137
DGN506	A68
DGN508	A71
DGN523	A62
DGN526	A65
DGR493	A101
DGR495	A103
DH404	A80
DH406	A88

EDP No.	Page
DH408	A91
DH421	A94
DH423	A82
DH424	A85
DH443	A82
DH444	A85
DH446	A88
DH448	A91
DH450	A112
DH451	A119
DH452	A122
DH453	A125
DH500	A151
DH510	A144
DH515	A145
DH520	A145
DHM10	A146
DHM15	A146
DHM20	A146
DHM25	A147
DHM30	A147
DJ543	A183
DJ544	A186
DL105	A230
DL109	A244
DL205	A270
DL504	A257
DL505	A255
DL507	A260
DL508	A251
DL509	A253
DL510	A249
DL608	A259
DLGP195	A200
DLGP506	A203
DPP447	A110
DSH105	A211
DT600	A258
DT692	A258
DT693	A258
DV303	A291
DV333	A291
DV334	A292
DV383	A296
EL950	A419
K1143	A386
K1153	A388
K2101	A390
K2102	A395
K2111	A392
K2112	A397
K2121	A394
K21B1	A399
K4101	A384
K4111	A385
Y101H	A24
Y121H	A25
Y141H	A26

EDP No.	Page
Y161H	A27
Y181H	A28
Y201H	A29
Y221H	A30
Y241H	A31
Y261H	A32
Y281H	A32
Y301H	A33
Y321H	A33
YA1A	A44
YA2C	A44
YB1A	A45
YB2C	A45
YC1A	A46
YC2C	A46
YD1A	A47
YD2C	A47
YE1A	A48
YE2C	A48
YF1A	A49
YF2C	A49
YG1A	A50
YG2C	A50
YH1A	A51
YH2C	A51
YI1A	A52
YI2C	A52
YJ1A	A53
YJ2C	A53