



Leading Through Innovation



SOLID CARBIDE, HSS & HSS-E

CENTER DRILLS

ZENTRIERBOHRER

- For General Purpose
- Für allgemeine Anwendungen

SELECTION GUIDE



SERIES
TOOL MATERIAL
TYPE
SIZE MIN
SIZE MAX
PAGE

D5303	DV303	DV333
CARBIDE	HSS-E	HSS-E
FORM A	FORM A	FORM A
D1.0	D0.5	D1.6
D6.3	D6.3	D6.3
A298	A299	

SURFACE TREATMENT

Bright		
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SOLID CARBIDE, HSS & HSS-E
CENTER
DRILLS

For General Purpose



Please visit
globalyg1.com/mat
for material search

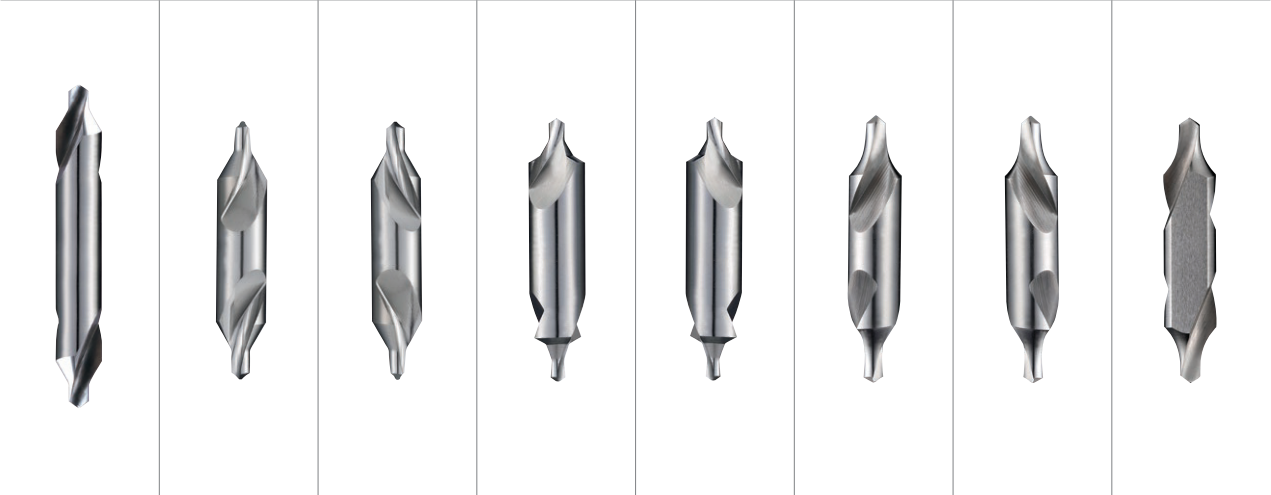
◎ : Excellent ○ : Good

Recommended cutting conditions : p.A305

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	Cutting Alloys, PB>1%		110				
	27		CuZn, CuSnZn (Brass)		90				
	28	(Bronze / Brass)	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		Ni or Co Based	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	D6.3	D6.3	D6.3	D8.0	D4.0	D6.3
A300	A301		A302		A303		A304

Bright							
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CARBIDE

HSS

i-ONE
DRILLS

i-DREAM
DRILLS

DREAM
DRILLS
-PRO

DREAM
DRILLS
X

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

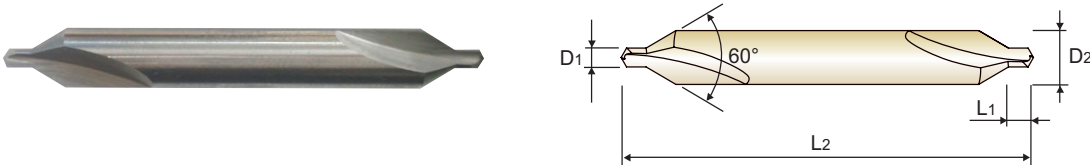
COUNTER
BORES



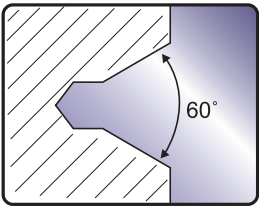
D5303 SERIES

CARBIDE, CENTER DRILLS / FORM A

- 🇩🇪 VOLLHARTMETALL, ZENTRIERBOHRER / FORM A
- 🇫🇷 Forets carbure à centrer / Forme A
- 🇮🇹 PUNTE A CENTRARE IN MD / FORMA A



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



ISO	P										M					K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel				
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	19	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				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
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	400Rm	1050Rm	550	630	400
Recommended																				

A298 phone:+82-32-526-0909, www.yg1.solutions, E-mail:yg1@yg1.solutions

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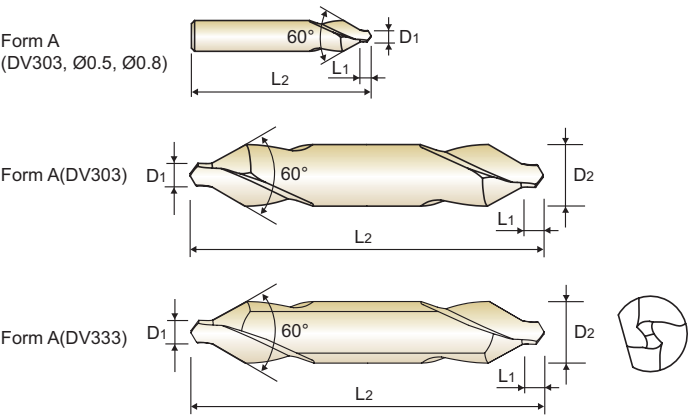


DV303 SERIES

DV333 SERIES

HSS-E, CENTER DRILLS / FORM A

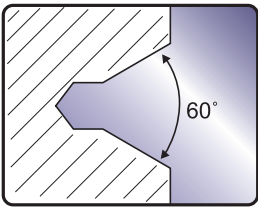
- 🇩🇪 HSS-EX, ZENTRIERBOHRER / FORM A
- 🇫🇷 Forets HSS-EX à centrer / Forme A
- 🇮🇹 PUNTE A CENTRARE PER TORNII IN HSS-EX / FORMA A



FORM A (60°) 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

► Under 1.0mm : Single End

FORM A (60°), FLAT Unit : mm				
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



ISO	P										M					K				
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel					Stainless steel				
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	19	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				
Material Description	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
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	400Rm	1050Rm	550	630	400
Recommended																				

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A299

CARBIDE

HSS

i-ONE
DRILLS

i-DREAM
DRILLS

DREAM
DRILLS
-PRO

DREAM
DRILLS
X

DREAM
DRILLS
-GENERAL

DREAM
DRILLS
-HIGH FEED

DREAM
DRILLS
-FLAT BOTTOM

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-INOX

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DRILLS
-ALU

DREAM
DRILLS
-MQL

DREAM DRILLS
for HIGH
HARDENED STEELS

GENERAL
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MULTI-1
DRILLS

HPD
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GOLD-P
DRILLS

SUPER-GP
DRILLS

STRAIGHT
SHANK
DRILLS

TAPER SHANK
DRILLS

NC-
SPOTTING
DRILLS

CENTER
DRILLS

SPADE
DRILLS

REAMERS

COUNTER
SINKS

COUNTER
BORES

CARBIDE

HSS

CENTER
DRILLS

DV334 SERIES

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 TORNII IN HSS-EX / FORMA A

Form A(DV334)

D₁

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HSS, CENTER DRILLS / FORM B

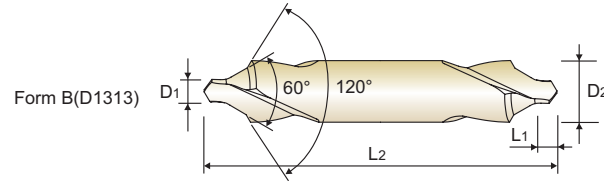
 HSS, ZENTRIERBOHRER / FORM B

 Forets HSS à centrer / Forme B

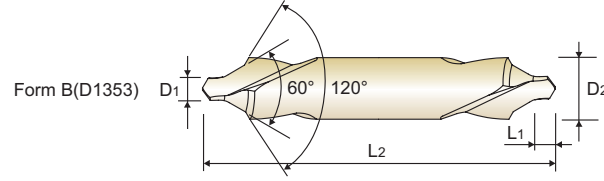
 PUNTE A CENTRARE PER TORNII IN HSS / FORMA B



Form B(D1313)



Form B(D1353)



DIN 333

HSS







Bright

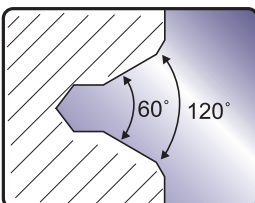


p.A305

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°)Unit : mm

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



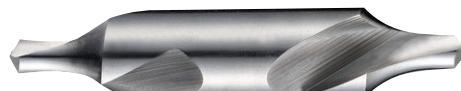
◎ : Excellent ○ : Good																														
ISO	P										M						K													
Material Description	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron									
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20										
HRc		13	25	28	32	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			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, CENTER DRILLS / FORM R

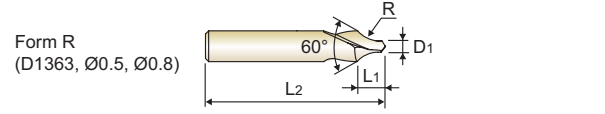
 HSS, ZENTRIERBOHRER / FORM R

 Forets HSS à centrer / Forme R

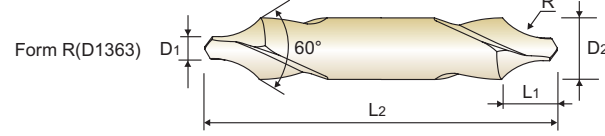
 PUNTE A CENTRARE PER TORNII IN HSS / FORMA R



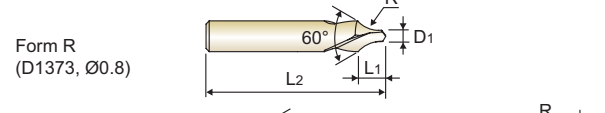
Form R (D1363, Ø0.5, Ø0.8)



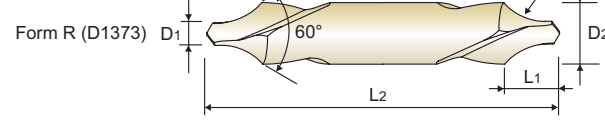
Form R(D1363)



Form R (D1373, Ø0.8)



Form R (D1373)



DIN 333

HSS







Bright



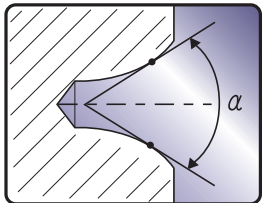
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FORM R					
EDP No.	Drill Diameter	Shank Diameter	Pilot Length (Include Radius)	Overall Length	Radius
	D1	D2	L1	L2	R
D1363005	0.5	3.15	2.12	25	1.25
D1363008	0.8	3.15	2.65	25	2
D1363010	1.0	3.15	3	31.5	2.5
D1363912	1.25	3.15	3.35	31.5	3.15
D1363016	1.6	4	4.25	35.5	4
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
D1373040	4.0	10	10.6	56	10

► Under 1.0mm : Single End



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	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	◎	◎	○			◎	○						○			◎	○	○		○									

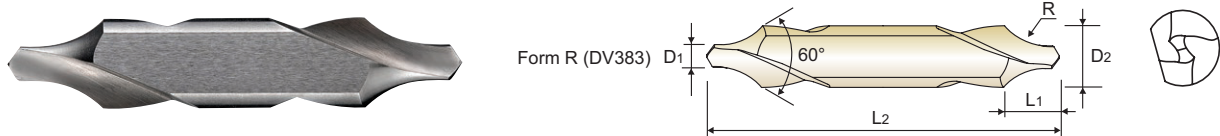
ISO	N										S										H			
Material Description	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)			Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel		Chilled Cast Iron		Hardened Cast Iron		
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41			
HRc											15	30	25	38	34			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																								



DV383 SERIES

HSS-E, CENTER DRILLS / FORM R

- HSS-EX, ZENTRIERBOHRER / FORM R
- Forets HSS-EX à centrér / Forme R
- PUNTE A CENTRARE PER TORNII IN HSS-EX / FORMA R



DIN 333

HSS-E

h8

k12

120°

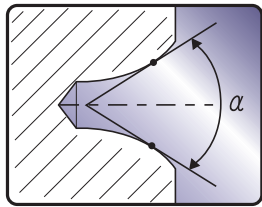
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FORM R / FLAT

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



ISO	P											M			K						◎ : Excellent ○ : Good	
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	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	36		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



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
P	6	Low alloy steel	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
	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
	16	Nodular cast iron	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	Malleable 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
K	19		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

Vc = m/min,
RPM = rev./min.
FEED = mm/rev.

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		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	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		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	0.09-0.15	0.12-0.18
	3		20	RPM	12730	25	RPM	7960	3980	2650	1990	1590	1330	990	800
P	6	Low alloy steel	25	RPM	15920	30	RPM	9550	4770	3180	2390	1910	1590	1190	950
				FEED	0.005-0.02		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	0.06-0.12	0.08-0.14
	7		25	RPM	15920	30	RPM	9550	4770	3180	2390	1910	1590	1190	950
				FEED	0.01-0.03		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	0.09-0.15	0.12-0.18
	15		15	RPM	9550	20	RPM	6370	3180	2120	1590	1270	1060	800	640
M	12	Stainless steel	8	RPM	5090	10	RPM	3180	1590	1060	800	640	530	400	320
				FEED	0.005-0.02		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	0.06-0.12	0.08-0.14
	15	Grey cast iron	30	RPM	19100	40	RPM	12730	6370	4240	3180	2550	2120	1590	1270
				FEED	0.01-0.03		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	0.09-0.15	0.12-0.18
	16	Nodular cast iron	25	RPM	15920	30	RPM	9550	4770	3180	2390	1910	1590	1190	950
K				FEED	0.005-0.02		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	0.06-0.12	0.08-0.14
	17	Malleable cast iron	30	RPM	19100	40	RPM	12730	6370	4240	3180	2550	2120	1590	1270
				FEED	0.01-0.03		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	0.09-0.15	0.12-0.18
	19		20	RPM	12730	25	RPM	7960	3980	2650	1990	1590	1330	990	800
				FEED	0.01-0.03		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	0.09-0.15	0.12-0.18

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-HIGH FEED

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DRILLS
-FLAT BOTTOM

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-INOX

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DRILLS
-ALU

DREAM
DRILLS
-MQL

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DRILLS

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DRILLS

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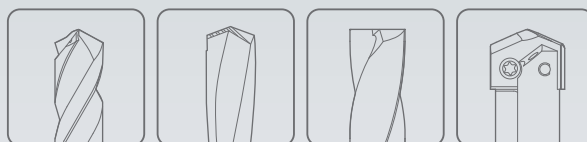
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