



Leading Through Innovation

SOLID CARBIDE, HSS & HSS-E

CENTER DRILLS

ZENTRIERBOHRER

- For General Purpose
- Für allgemeine Anwendungen

SELECTION GUIDE



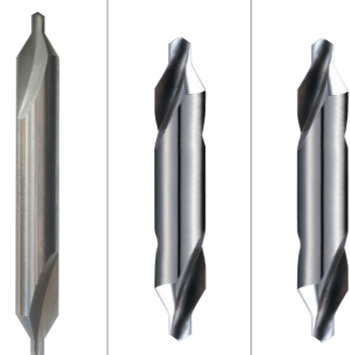
SERIES	D5303	DV303	DV333
TOOL MATERIAL	CARBIDE	HSS-E	HSS-E
TYPE	FORM A	FORM A	FORM A
SIZE MIN	D1.0	D0.5	D1.6
SIZE MAX	D6.3	D6.3	D6.3
PAGE	A290	A291	

SURFACE TREATMENT

Bright

SOLID CARBIDE, HSS & HSS-E CENTER DRILLS

For General Purpose



Please visit globalyg1.com/mat for material search

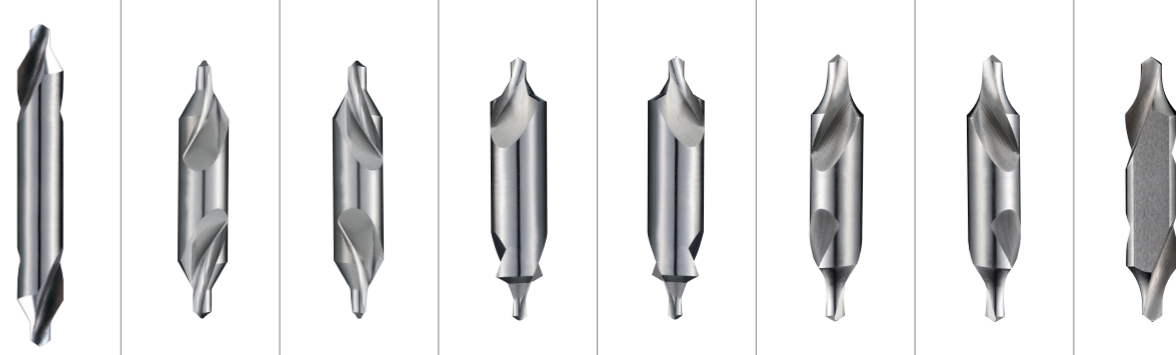
◎ : Excellent ○ : Good

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	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		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

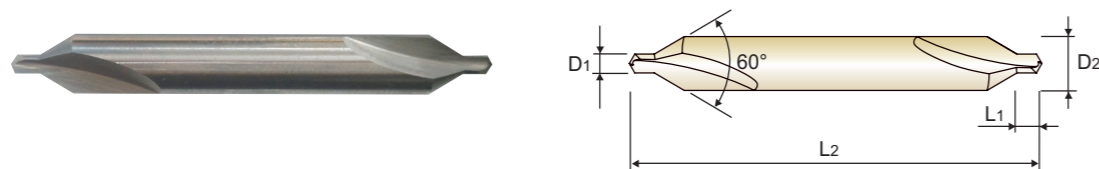
Bright



◎	◎	◎	◎	◎	◎	◎	◎	◎	1
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									4
									5
◎	◎	◎	◎	◎	◎	◎	◎	◎	6
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CARBIDE, CENTER DRILLS / FORM A

- VOLLHARTMETALL, ZENTRIERBOHRER / FORM A
- Forets carbure à centrer / Forme A
- PUNTE A CENTRARE IN MD / FORMA A



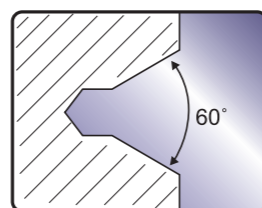
DIN 333 CARBIDE h8 k12 120° Bright p.A297

Plain Shank
Recommended ToolHolder: NC DRILL CHUCK & OTHER TOOL HOLDERS, ER COLLET CHUCK

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



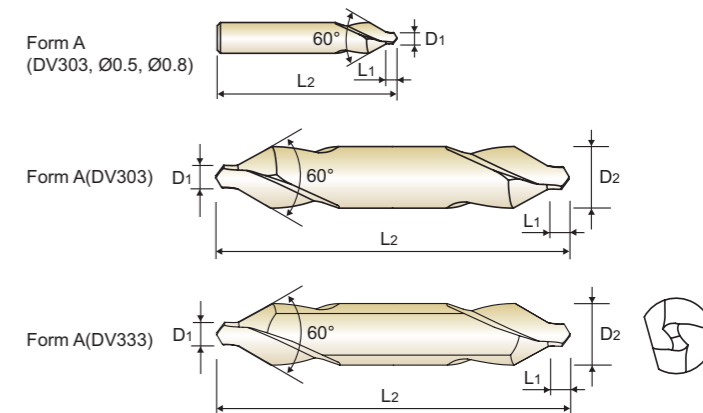
© : Excellent ○ : Good

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	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, 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
Recommended ToolHolder: NC DRILL CHUCK & OTHER TOOL HOLDERS, ER COLLET CHUCK

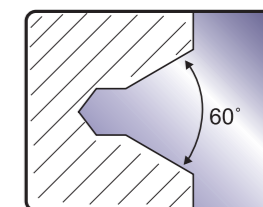
FORM A (60°)

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

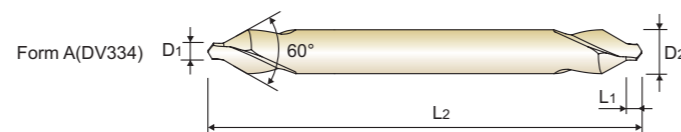
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ISO Material Description	P									M				K							
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron		
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
HRc	13	25	28	32	38	42	48	52	58	62	68	72	78	82	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, 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



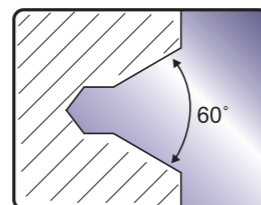
HSS-E h8 k12 120° Bright p.A297

Plain Shank
Recommended ToolHolder: NC DRILL CHUCK & OTHER TOOL HOLDERS, ER COLLET CHUCK

EXTRA LONG / FORM A (60°)

Unit : mm

EDP No.	Drill Diameter	Shank 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



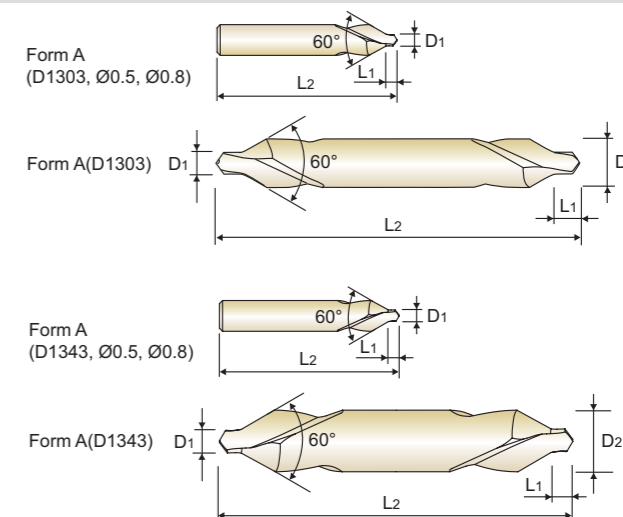
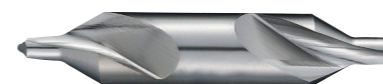
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ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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			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 A

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



DIN 333 HSS h8 k12 120° Bright p.A297

Plain Shank
Recommended ToolHolder: NC DRILL CHUCK & OTHER TOOL HOLDERS, ER COLLET CHUCK

FORM A (60°)

EDP No.	Drill Diameter	Shank 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

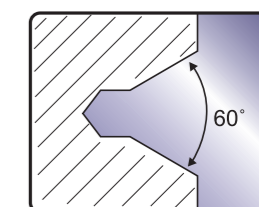
► Under 1.0mm : Single End

LEFT HELIX / FORM A (60°)

Unit : mm

EDP No.	Drill Diameter	Shank 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



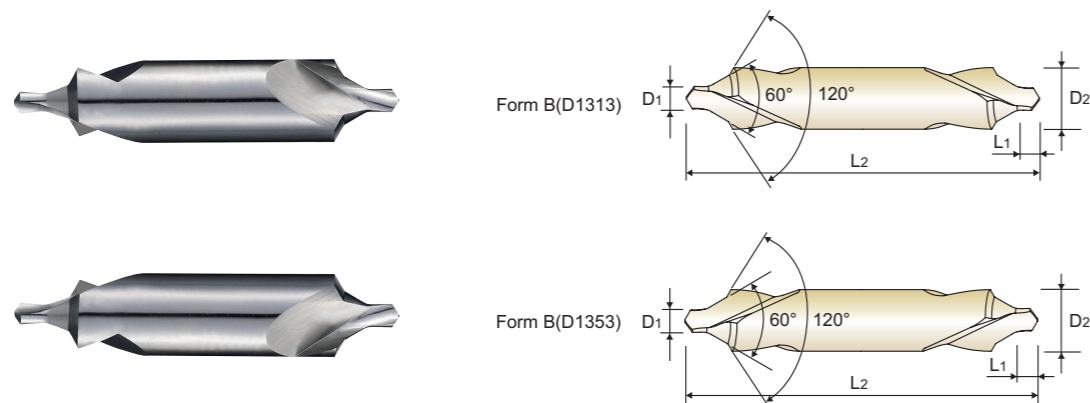
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ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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			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 B

- HSS, ZENTRIERBOHRER / FORM B
- Forets HSS à centrer / Forme B
- PUNTE A CENTRARE PER TORNII IN HSS / FORMA B



DIN 333 HSS h8 k12 120° Bright p.A297

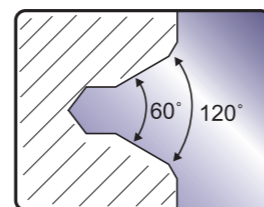
Plain Shank
Recommended Toolholder: NC DRILL CHUCK & OTHER TOOL HOLDERS, ER COLLET CHUCK

FORM B (60° + 120°)

EDP No.	Drill Diameter		Pilot Length L1	Overall Length L2
	D1	D2		
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		Pilot Length L1	Overall Length L2
	D1	D2		
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



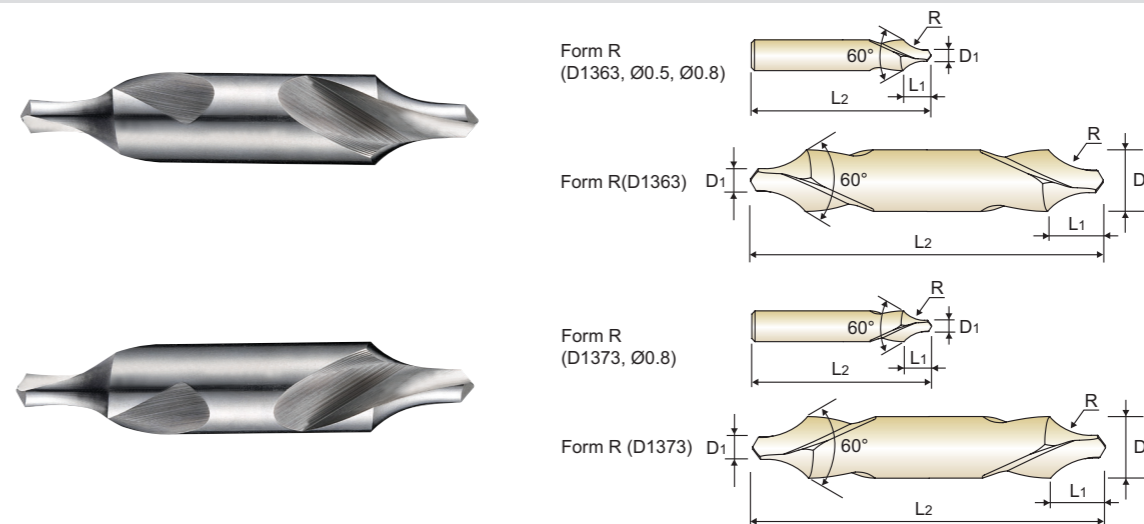
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ISO	P										M				K					
	Non-alloy steel					Low alloy steel					High alloyed steel, and tool steel				Stainless steel		Grey cast iron	Nodular cast iron		Malleable cast iron
Material Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
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	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	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



DIN 333 HSS h8 k12 120° Bright p.A297

Plain Shank
Recommended Toolholder: NC DRILL CHUCK & OTHER TOOL HOLDERS, ER COLLET CHUCK

FORM R

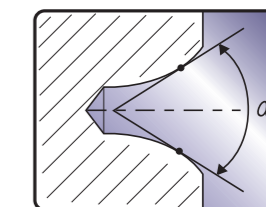
EDP No.	Drill Diameter		Pilot Length (Include Radius) L1	Overall Length L2	Radius R
	D1	D2			
D1363005	0.5	3.15	2.12	25	1.25
D1363008	0.8	3.15	2.65	25	2
D1363010	1.0	3.15	3	31.5	2.5
D1363912	1.25	3.15	3.35	31.5	3.15
D1363016	1.6	4	4.25	35.5	4
D1363020	2.0	5	5.3	40	5
D1363025	2.5	6.3	6.7	45	6.3
D1363931	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 Unit : mm

EDP No.	Drill Diameter		Pilot Length (Include Radius) L1	Overall Length L2	Radius R
	D1	D2			
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	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	◎	◎	○	○	○	◎	○	○	○	○	○	○	○	○	◎	○	○	○	○	○

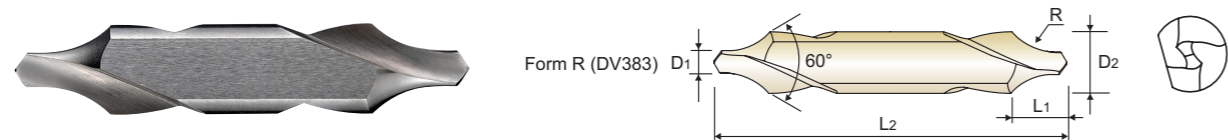
ISO	N							S							H						
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials		Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron		
Material Description	21	22	23	24	25	26	27	28	29	30	31	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	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	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 TORNI IN HSS-EX / FORMA R



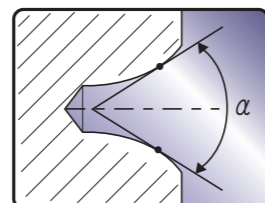
DIN 333 HSS-E h8 k12 120° Bright p.A297

Plain Shank
 Recommended ToolHolder: NC DRILL CHUCK & OTHER TOOL HOLDERS, ER COLLET CHUCK

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	13	25	28	32	10	29	32	38	15	15	23	10	180	260	160	250	130	230			
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
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
Recommended	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎



D5303 SERIES

CARBIDE, CENTER DRILLS

**RECOMMENDED CUTTING CONDITIONS
 EMPFOHLENE SCHNEIDKONDITIONEN**

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	
			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		
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	
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

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	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		
			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						
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					
16			Nodular cast iron	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		Malleable 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				
19	Malleable cast iron			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				