

YG MULTI-1 DRILLS

CDRA03 SERIES

HSS-PM, MULTI-1 DRILLS

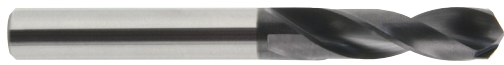
STUB

- 🇩🇪 HSS-PM MULTI-1 BOHRER
- 🇫🇷 Forets MULTI-1 HSS-PM Premium, série extra-courte
- 🇮🇹 PUNTA GAMBO CILINDRICO MULTI-1, HSS-PM

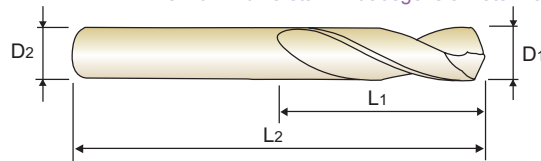
EXTRA KURZ
EXTRA-COURTE
EXTRA CORTA

- **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



HSS PM
30°
h6
h7
118°
135°
P.177

up to 1.9mm over 1.9mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
	D1	D2	L1	L2
TiAIN				
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
	D1	D2	L1	L2
TiAIN				
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

Unit : mm

► 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	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																					
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-PM, MULTI-1 DRILLS

STUB

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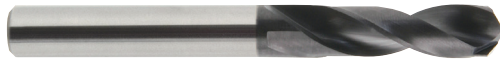
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EXTRA-COURTE
EXTRA CORTA

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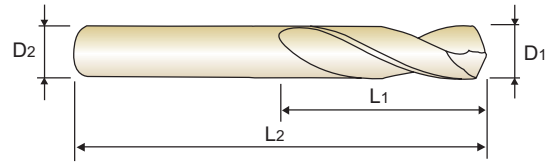
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Bohrergeometrie für optimale Spanabfuhr.
Premium Pulverstahl mit ausgezeichneter Zähigkeit.



up to 1.4mm over 1.4mm



HSS PM 30° h6 h7 118° 135° P.177

up to 1.9mm over 1.9mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
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

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
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

► NEXT PAGE

◎ : 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			
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	◎	◎	○	○												○					

Y/G MULTI-1 DRILLS

CDRA03 SERIES

HSS-PM, MULTI-1 DRILLS

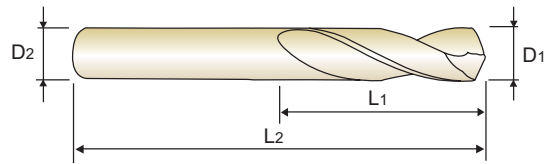
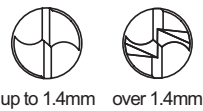
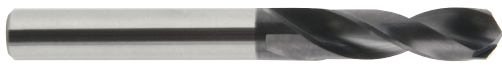
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HSS PM
30°
h6
h7
118°
135°
P.177

up to 1.9mm over 1.9mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
	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

Unit : mm

EDP No.	Drill Diameter	Shank Diameter	Flute Length	Overall Length
	D1	D2	L1	L2
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
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

◎ : 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			55	60	42	55
Recommended	◎	◎	○	○													○				

MULTI-1 DRILLS

RECOMMENDED CUTTING CONDITIONS EMPHOHLNE SCHNEIDPARAMETER

CDRA03, CDRA04 SERIES MULTI-1 DRILLS

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

ISO	VDI 3323	Material Description	Vc (m/min)	Parameter	Drill Diameter (mm)							
					2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1	Non-alloy steel	40	RPM	6370	4240	3180	2550	2120	1590	1270	1060
	FEED			0.03-0.06	0.08-0.12	0.09-0.15	0.12-0.18	0.14-0.20	0.18-0.24	0.18-0.28	0.20-0.30	
	2		RPM	5570	3710	2790	2230	1860	1390	1110	930	
	FEED		0.03-0.06	0.08-0.12	0.09-0.15	0.12-0.18	0.14-0.20	0.18-0.24	0.18-0.28	0.20-0.30		
	3		35	RPM	5570	3710	2790	2230	1860	1390	1110	930
	FEED			0.03-0.06	0.08-0.12	0.09-0.15	0.12-0.18	0.14-0.20	0.18-0.24	0.18-0.28	0.20-0.30	
	4											
	5											
	6	Low alloy steel	35	RPM	5570	3710	2790	2230	1860	1390	1110	930
	FEED			0.03-0.06	0.08-0.12	0.09-0.15	0.12-0.18	0.14-0.20	0.18-0.24	0.18-0.28	0.20-0.30	
	7		RPM	4770	3180	2390	1910	1590	1190	950	800	
FEED	0.03-0.05		0.06-0.10	0.07-0.13	0.10-0.16	0.12-0.18	0.14-0.20	0.14-0.24	0.16-0.26			
8												
9												
10	High alloyed steel, and tool steel											
11												
M	12	Stainless steel	20	RPM	3180	2120	1590	1270	1060	800	640	530
	FEED			0.03-0.07	0.05-0.09	0.06-0.12	0.09-0.15	0.12-0.18	0.18-0.24	0.20-0.30	0.26-0.36	
	14	RPM	2390	1590	1190	950	800	600	480	400		
K	15	Grey cast iron	40	RPM	6370	4240	3180	2550	2120	1590	1270	1060
	FEED			0.04-0.10	0.07-0.13	0.09-0.15	0.12-0.18	0.13-0.19	0.18-0.24	0.20-0.30	0.22-0.32	
	16											
	17	Nodular cast iron										
	18											
	19	Malleable cast iron										
20												
N	21	Aluminum-wrought alloy	90	RPM	14320	9550	7160	5730	4770	3580	2860	2390
	FEED			0.13-0.17	0.23-0.27	0.27-0.33	0.33-0.39	0.40-0.46	0.45-0.51	0.51-0.61	0.63-0.73	
	22	RPM	14320	9550	7160	5730	4770	3580	2860	2390		
	FEED	0.13-0.17	0.23-0.27	0.27-0.33	0.33-0.39	0.40-0.46	0.45-0.51	0.51-0.61	0.63-0.73			
	23	Aluminum-cast, alloyed	80	RPM	12730	8490	6370	5090	4240	3180	2550	2120
	FEED			0.13-0.17	0.23-0.27	0.27-0.33	0.33-0.39	0.40-0.46	0.45-0.51	0.51-0.61	0.63-0.73	
	24		RPM	11140	7430	5570	4460	3710	2790	2230	1860	
	FEED		0.10-0.14	0.15-0.19	0.20-0.26	0.24-0.30	0.28-0.34	0.30-0.36	0.34-0.44	0.36-0.46		
	25											
	26	Copper and Copper Alloys (Bronze / Brass)										
27												
28												
29	Non Metallic Materials											
30												
S	31	Heat Resistant Super Alloys										
	32											
	33											
	34											
	35											
	36	Titanium Alloys	5	RPM	800	530	400	320	270	200	160	130
	FEED			0.02-0.05	0.03-0.07	0.04-0.08	0.06-0.12	0.07-0.13	0.09-0.15	0.12-0.22	0.14-0.24	
H	38	Hardened steel										
	39											
	40	Chilled Cast Iron										
	41	Hardened Cast Iron										

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

171

174

SURFACE TREATMENT

TiAIN

HSS-PM MULTI-1 DRILLS

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



Please visit
globalyg1.com/mat
for material search

◎ : Excellent ○ : Good

Recommended cutting conditions : P.177



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	Cutting Alloys, PB>1%	110			
	27		(Bronze / 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	Chilled Cast Iron	Cast	400	42		
	41	Hardened Cast Iron	Hardened	550	55		