

NEW LOOK NEW RANGE!

SOLID CARBIDE METAL REMOVAL TOOLS

2021

Founded by the Nag Family, NMC Tools Private Limited takes pride in being an Indian Company with highly advanced and consistent manufacturing capabilities for a wide range of Solid Carbide Metal Cutting Tools.

New product development challenges us every day to improve our tools, optimize the combination between solid carbide grades, geometries, grinding technology and coatings in order to provide the best in class tools for Milling & Drilling applications.

Our tools with advanced coatings and cutting edges specially designed for High-Performance machining of all ISO Materials.

They are available in a broad range of types, lengths, and radii. They are ideal for both mass production and small-batch manufacturing, thanks to the outstanding performance delivered and universal applicability.



PRODUCTION



QUALITY



R & D



Following are the types of tools in offer :

- Endmills for Steels, Stainless Steels, Cast Irons & Super Alloys
- Endmills for Aluminiums and Copper
- Endmills for Hardened Materials
- Drills including Micro and Deep hole drills

QUALITY
CONSISTENCY
SERVICE



**WORLD CLASS
MANUFACTURING**

From India

We aim for excellence in **Manufacturing**

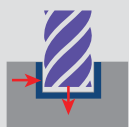
Introducing the all new and expanded range of endmills 'Supernox' Series.

New micrograin carbide endmills for universal application with coatings and cutting edges specifically designed for high-performance machining of all ISO materials.

It is available in a broad range of types, lengths and radii. They are the ideal tools for both mass production and small batch manufacturing, thanks to the outstanding performance delivered and the universal applicability.

- Range of 3, 4, 5, 6, 7 Fluted endmills with and without coolant holes and various end configurations
- Premium material grade, latest coatings and advanced geometries enable the tools to machine wide range of materials
- Multifunctional Tools: Capable to Slot, Profile, Ramp, Plunge with a single tool!

MULTIFUNCTIONAL



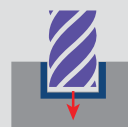
Slotting



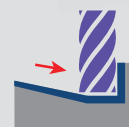
Side
Milling



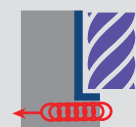
Helical
Milling



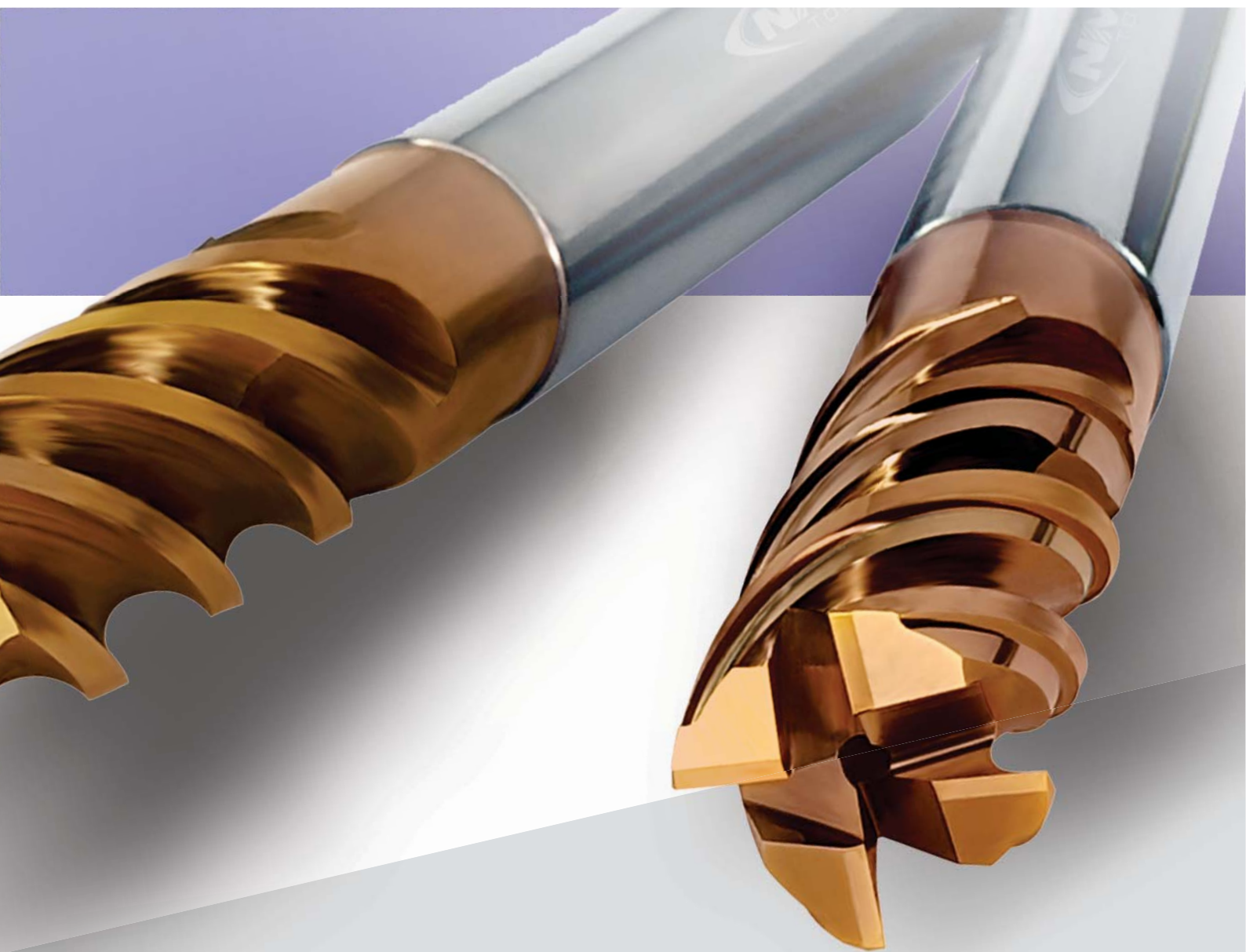
Drilling



Ramping



Trochoidal
Milling



All new **SUPERNOX** Series

904S: 4 FL Variable Mill, Corner Chamfer

904R: 4 FL Variable Mill, Corner Radius

904K: 4 FL Variable Mill, Corner Radius , IK

905S: 5 FL Variable Mill, Corner Chamfer

905H: 5 FL Variable Mill, Corner Radius, IK

935C: 5 FL Variable Mill with Chipsplitters, Corner Chamfer , IK

936C: 6 FL Variable Mill with Chipsplitters, Corner Chamfer , IK

937C: 7 FL Variable Mill with Chipsplitters, Corner Chamfer , IK

935H: 5 FL Variable Mill with Chipsplitters, Corner Radius, IK

100/110/120H: Roughing Profile Endmills, Corner Radius, IK

Providing the right tool **for the right application**

Wide range Applications

1

Low and High carbon Steels
Stainless steels
Aluminiums
Cast irons
Super Alloys
Hardened steels

\$ Machining Jackpot \$

2

Better Productivity
Higher feed rates at full depths
Roughing and finishing operations with the same tool

Various Configurations

3

Corner Radius
Corner Chamfer
Ball nose

Shank Forms

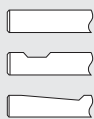
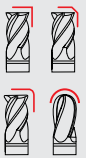
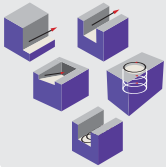
4

All tools with precision tolerance shanks
Weldon / Whistle Notch Shanks available on request

Various Axial Reach

5

Stub lengths for extra rigidity
Long reach with stub flute length for deep cavity machining
Long flute lengths for finishing passes



Corner Configurations:



Square



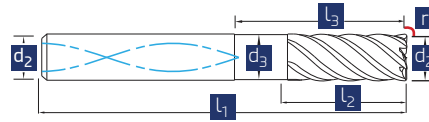
Corner Chamfer



Corner Radius



Ball Nose



d₁: Tool diameter

d₂: Shank Diameter

d₃: Diameter of the Recess Neck

L₁: Total length of the tool

L₂: Effective Cutting Length

L₃: Axial Cutting Reach

ccx45°: 45° Corner Chamfer

r: Corner Radius

z: Number of Flutes

Endmills & Drills



1 Flute



2 Flute



2 Flute



3 Flute



4 Flute



5 Flute



6 Flute



Without Coolant



With Coolant (IK)

Materials

P Steels

K Cast Irons

S Super Alloys

N Aluminiums

M Stainless Steels

H Hardened Steels

Application



Slotting



Side Milling



Helical Milling



Trochoidal Milling



Ramping



Drilling

Tools Lengths



S Stub



M Medium



L Long



XL Extra Long

Helix Angle



30°
Denotes the helix angle of Drills



140°±1°
Denotes Point angle of Drills



30°
Denotes the helix angle of Endmills

Shank Type



HA: Cylindrical Straight Shank



HB: Weldon Shank dimensions corresponding to DIN 6535 HB



HE: Whistle Notch dimensions corresponding to DIN 6535 HE

Coatings

AlCrN

Alcrona Coated

UNC

Uncoated

GX

GX Coated

HX

HX Coated

DX

DX Coated

PX

PX Coated

ALD

Aldura Coated



Endmills capable of Direct Drilling

TP

Technically Perfect Rating

VHM UF
















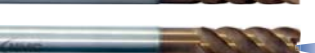





Ultra Fine Micro Grain Carbide 12% Co.




























VHM MG


















Micro Grain Carbide 10% Co.

























Hardness Conversion table





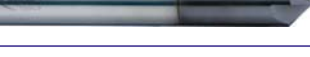




R _m (N/mm ²)	HV 10	HB	HRC	R _m (N/mm ²)	HV 10	HB	HRC
240	75	71	-	920	287	273	28
255	80	76	-	940	293	278	29
270	85	81	-	970	320	287	30
285	90	86	-	995	310	295	31
305	95	90	-	1020	317	301	32
320	100	95	-	1050	327	311	33
335	105	100	-	1080	336	319	34
350	110	105	-	1110	345	328	35
370	115	109	-	1140	355	337	36
385	120	114	-	1170	364	346	37
400	125	119	-	1200	373	354	38
415	130	124	-	1230	382	363	39
430	135	128	-	1260	392	372	40
450	140	133	-	1300	403	383	41
465	145	138	-	1330	413	393	42
480	150	143	-	1360	423	402	43
495	155	147	-	1400	434	413	44
510	160	152	-	1440	446	424	45
530	160	157	-	1480	458	435	46
545	170	162	-	1530	473	449	47
560	175	166	-	1570	484	460	48
575	180	171	-	1620	497	472	49
595	185	176	-	1680	514	488	50
610	190	180	-	1730	525	501	51
625	195	185	-	1790	544	517	52
640	200	190	-	1845	560	532	53
660	205	195	-	1910	578	549	54
675	210	199	-	1980	596	567	55
690	215	204	-	2050	615	584	56
705	220	209	-	2140	639	607	57
720	225	214	-	-	655	622	58
740	230	219	-	-	675	-	59
755	235	223	-	-	698	-	60
770	240	228	-	-	720	-	61
785	245	233	-	-	745	-	62
800	250	238	22	-	773	-	63
820	255	242	23	-	800	-	64
835	260	247	24	-	829	-	65
870	272	258	26	-	900	-	67
860	268	255	25	-	864	-	66
900	280	266	27	-	640	-	88












	Series	No. of Flutes	Helix	Index	Size Range	Lengths	Coating	Grade	Page No.
STEELS									
	ICE	4	35°/38°	≠	1.0-25.0	M/XL	AICrN	VHM MG	15
	ICE CR	4	35°/38°	≠	3.0-20.0	M	AICrN	VHM MG	16
	ICE BALL	4	35°/38°	≠	6.0-20.0	M	AICrN	VHM MG	18
	RHINO 0500	4	30°/32°	=	4.0-20.0	M	AICrN	VHM MG	19
INOX									
	ICE INOX	4	40°/41°	≠	1.0-25.0	M	AICrN	VHM MG	21
	RHINO INOX	4	39°/41°	=	4.0-20.0	M	AICrN	VHM MG	22
	MIRROR	6	42°/43°/44°	=	6.0-20.0	M/XL	AICrN	VHM MG	23
SUPERNOX									
	903-S	3	41°/42°/43°	≠	1.0-20.0	M	GX	VHM UF	26
	904-S	4	40°/42°	≠	4.0-20.0	M	GX	VHM UF	27
	904-R	4	40°/42°	≠	6.0-20.0	M	GX	VHM UF	28
	904-K	4	40°/42°	≠	6.0-20.0	M	GX	VHM UF	29
	904-H	4	38°	≠	6.0-20.0	M	GX	VHM UF	30
	RHINO-X	4	38°	≠	6.0-20.0	M	GX	VHM UF	32
	905-S	5	40°	≠	6.0-20.0	M	GX	VHM UF	35
	905-H	5	40°	≠	6.0-20.0	M	GX	VHM UF	37
	905-R	5	40°	≠	6.0-20.0	L/XL	GX	VHM UF	38
CHIPSPLITTERS									
	NTC	5	45°	≠	6.0-20.0	L/XL	AICrN	VHM MG	41
	NTC-SX	5	45°	≠	6.0-20.0	L/XL	GX	VHM UF	42
	SUPERNOX 935-H	5	40°/42°	≠	6.0-20.0	L/XL	GX	VHM UF	43
	SUPERNOX 935-C	4-7	40°/42°	≠	6.0-20.0	L/XL	GX	VHM UF	44
	SUPERNOX 934-H	4	38°	≠	6.0-20.0	3D	GX	VHM UF	45

Corner Config	P	M	K	S	H	N						
	HRC	N/mm ²	HB	N/mm ²	HRC		SLOTTING	SIDE MILLING	HELICAL MILLING	TRO-CHOIDAL	RAMPING	DRILLING
 45°	<45HRC	-	<390	-	-	-	●	●	●	●		
 CR 0.3 - 3.0	<45HRC	-	<390	-	-	-	●	●	●	●		
 180°	<45HRC	-	<390	-	-	-	●	●				
 45°	<45HRC	-	<390	-	-	-	●	●	●	●		
 45°	<35HRC	<1100	<300	-	-	-	●	●	●	●		
 45°	<35HRC	<1100	<300	-	-	-	●	●	●	●		
 45°	<30HRC	<900	<200	-	-	-		●				
 45°	<35HRC	<1100	<300	<1100	-	-	●	●	●		●	●
 45°	<35HRC	<1100	<300	<1100	-	-	●	●	●	●	●	●
 CR 0.1 - 3.0	<35HRC	<1100	<300	<1100	-	-	●	●	●	●	●	●
 45°	<35HRC	<1100	<300	<1100	-	-	●	●	●	●	●	●
 CR 0.1 - 4.0	<35HRC	<1100	<300	<1100	-	-	●	●	●	●	●	
 CR 0.1 - 4.0	<50HRC	<1400	<390	<1400	-	-	●	●	●	●	●	
 CR 0.3 - 5.0	<35HRC	<1100	<300	<1100	-	-	●	●	●	●	●	
 CR 0.1 - 0.2	<35HRC	<1100	<300	<1100	-	-	●	●	●	●	●	
 CR 1.0 - 5.0	<50HRC	<1400	<390	<1400	-	-		●	●	●		
 45°	<45HRC	-	<390	-	-	-				●		
 45°	<35HRC	<1100	<300	<1100	-	-				●		
 CR 0.1 - 0.6	<35HRC	<1100	<300	<1100	-	-				●		
 45°	<35HRC	<1100	<300	<1100	-	-				●		
 CR 0.1 - 0.2	<35HRC	<1100	<300	<1100	-	-				●		

	Series	No. of Flutes	Helix	Index	Size Range	Lengths	Coating	Grade	Page No.
ALUMINIUMS									
	RAZOR 1400	1	30°	=	1.5-12.00	M	UNC / HX	VHM MG	47
	RAZOR 1300	2	45°	=	3.0-20.0	M	UNC / HX	VHM MG	48
	RAZOR 1500	3	38°	≠	3.0-20.0	M	UNC / HX	VHM MG	49
	ALU-T	3	39°/40°/41°	≠	3.0-20.0	M	UNC / HX	VHM MG	50
	ALU-T- IK	3	39°/40°/41°	≠	6.0-20.0	M	UNC / HX	VHM MG	51
	ALU-X	3	38°/39°/41°	≠	4.0-20.0	M	UNC / HX	VHM MG	52
HARDENED STEELS									
	ROCKSTAR 2FL BALL	2	30°	=	2.0-12.0	S/L/XL	ALD / DX	VHM MG	54
	ROCKSTAR 4FL BALL	4	30°	=	2.0-12.0	S/L/XL	ALD / DX	VHM MG	55
	ROCKSTAR 4FL SQ	4	30°	=	2.0-12.0	S/L	ALD / DX	VHM MG	56
	ROCKSTAR 4FL CR	4	30°	=	2.0-12.0	S/L	ALD / DX	VHM MG	57
	SUPER ROCK	4	45°	≠	3.0-20.0	M	DX	VHM MG	58
	MIRROR- ROCK	6	55°	=	6.0-20.0	M	ALD / DX	VHM MG	59
MICRO MILLS									
	DIE & MOULD BALL	2	20°	=	1.00-6.00	-	ALD / DX	VHM MG	61
	DIE & MOULD SQ	2	20°	=	1.00-6.00	-	ALD / DX	VHM MG	68
	DIE & MOULD CR	2	20°	=	1.00-6.00	-	ALD / DX	VHM MG	73
	RIB PROCESS SQ	2	30°	=	0.8-4.0	-	AlCrN	VHM MG	81
	RIB PROCESS BALL	2	30°	=	0.6-4.0	-	AlCrN	VHM MG	82

Corner Config	P	M	K	S	H	N	SLOTING	SIDE MILLING	HELICAL MILLING	TRO-CHOIDAL	RAMPING	DRILLING
	HRC	N/mm ²	HB	N/mm ²	HRC							
 45°						<6% Si	●	●				
 45°						<6% Si	●	●	●			
 45°						<6% Si	●	●	●			
 CR 0.2 - 0.5						<6% Si	●	●	●	●	●	
 CR 0.2 - 0.5						<6% Si	●	●	●	●	●	
 CR 0.5 - 4.0						<6% Si	●	●	●	●	●	
 180°	-	-	-	-	<65HRC	-	●	●				
 180°	-	-	-	-	<65HRC	-	●	●				
 90°	-	-	-	-	<65HRC	-	●	●				
 CR 0.5 - 1.0	-	-	-	-	<65HRC	-	●	●				
 45°  0.2 - 0.5	-	-	-	-	<65HRC	-	●	●	●	●		
 CR 0.5 - 1.0	-	-	-	-	<65HRC	-		●				
 180°	-	-	-	-	<65HRC	-	●	●				
 90°	-	-	-	-	<65HRC	-	●	●				
 CR 0.1 - 0.50	-	-	-	-	<65HRC	-	●	●				
 90°	<50HRC	-	<390		-	-	●	●				
 180°	<50HRC	-	<390		-	-	●	●				

	Series	No. of Flutes	Helix	Index	Size Range	Lengths	Coating	Grade	Page No.
UNIVERSAL									
	2FL SQ	2	30°	=	1.0-20.0	M	AICrN	VHM MG	84
	2FL BALL	2	30°	=	1.0-20.0	M	AICrN	VHM MG	85
	4FL SQ	4	30°	=	1.0-20.0	M/L/X	AICrN	VHM MG	86
	4FL BALL	4	30°	=	1.0-20.0	M	AICrN	VHM MG	88
	RHINO 45°	3-8	45°	=	3.0-25.0	M	AICrN	VHM MG	89
	CHAMFER MILLS	3-4	0°	=	6.0-20.0	M	AICrN	VHM MG	90
DRILLS									
	DURONTO MICRO FX	2	30°	=	1.0-2.90	3xD-25xD	PX	VHM MG	92
	DURONTO	2	30°	=	3.0-20.0	3xD-8xD	AICrN	VHM MG	101
	DURONTO INOX	2	30°	=	3.0-20.0	3xD-5xD	AICrN	VHM MG	112
	DURONTO RX	2	30°	=	3.0-20.0	3xD-40xD	PX	VHM MG	117

Corner Config	P	M	K	S	H	N						
	HRC	N/mm ²	HB	N/mm ²	HRC		SLOTTING	SIDE MILLING	HELICAL MILLING	TRO-CHOIDAL	RAMPING	DRILLING
 90°	<45HRC	<900	<300	<900	-	-	●	●				
 180°	<45HRC	<900	<300	<900	-	-	●	●				
 90°	<45HRC	<900	<300	<900	-	-	●	●				
 180°	<45HRC	<900	<300	<900	-	-	●	●				
 45°	<45HRC	<900	<300	<900	-	-	●	●				
60°/90°/120°	<45HRC	<900	<300	<900	-	-	●	●				
-	<35HRC	<1100	<300	<1100	-	-						●
-	<45HRC	-	<390	-	-	-						●
-	<35HRC	<1100	<300	-	-	-						●
-	<35HRC	<1100	<300	<1100	-	-						●



STEELS SERIES

ICE MILLS

4 Flute 35°/38° Helix & Unequal
Pitch Endmills

RHINO 500

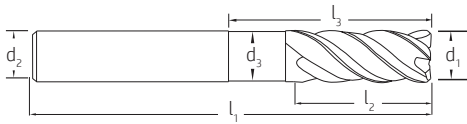
4 Flute 30°/32° Helix Roughing Profile
Endmills, Corner Chamfer



ICE MILL

4 Flute 35°/38° Helix & Unequal Pitch Endmills, Corner Chamfer

EMC 030



Technical Info. Page No. 130

Steels <45HRC	Stainless Steels -	Cast Irons <390 HB	Hardened Steels -	Titaniums -	Super Alloys -	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	Z	EDP No. HA	EDP No. HB
	tol.	h6	-0.2	±0.50	±0.50	±0.80	-0.05		AlCrN	AlCrN
1.00	-0.010	6	0.80	2.50	5	57	0.07	4	EMCA 0300M 0100	EMCA 0301M 0100
2.00	-0.020	6	1.80	5.00	10	57	0.10	4	EMCA 0300M 0200	EMCA 0301M 0200
3.00	-0.025	6	2.80	8.00	15	57	0.10	4	EMCA 0300M 0300	EMCA 0301M 0300
4.00	-0.025	6	3.80	11.00	17	57	0.15	4	EMCA 0300M 0400	EMCA 0301M 0400
5.00	-0.025	6	4.80	13.00	19	57	0.15	4	EMCA 0300M 0500	EMCA 0301M 0500
6.00	-0.025	6	5.80	13.00	21	57	0.20	4	EMCA 0300M 0600	EMCA 0301M 0600
8.00	-0.025	8	7.60	19.00	27	63	0.20	4	EMCA 0300M 0800	EMCA 0301M 0800
10.00	-0.035	10	9.50	22.00	32	72	0.30	4	EMCA 0300M 1000	EMCA 0301M 1000
12.00	-0.035	12	11.50	26.00	38	83	0.35	4	EMCA 0300M 1200	EMCA 0301M 1200
14.00	-0.035	14	13.50	26.00	38	83	0.35	4	EMCA 0300M 1400	EMCA 0301M 1400
16.00	-0.035	16	15.50	32.00	44	92	0.40	4	EMCA 0300M 1600	EMCA 0301M 1600
18.00	-0.035	18	17.50	32.00	44	92	0.40	4	EMCA 0300M 1800	EMCA 0301M 1800
20.00	-0.035	20	19.50	38.00	54	104	0.50	4	EMCA 0300M 2000	EMCA 0301M 2000
25.00	-0.035	25	24.50	45.00	65	121	0.60	4	EMCA 0300M 2500	EMCA 0301M 2500
6.0	-0.025	6	-	40.0	-	80	0.20	4	EMCA 0300X 0600	EMCA 0301X 0600
8.0	-0.025	8	-	50.0	-	100	0.20	4	EMCA 0300X 0800	EMCA 0301X 0800
10.0	-0.035	10	-	50.0	-	100	0.30	4	EMCA 0300X 1000	EMCA 0301X 1000
12.0	-0.035	12	-	80.0	-	150	0.35	4	EMCA 0300X 1200	EMCA 0301X 1200
16.0	-0.035	16	-	80.0	-	150	0.40	4	EMCA 0300X 1600	EMCA 0301X 1600
20.0	-0.035	20	-	80.0	-	150	0.50	4	EMCA 0300X 2000	EMCA 0301X 2000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

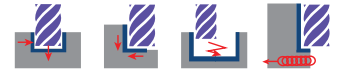
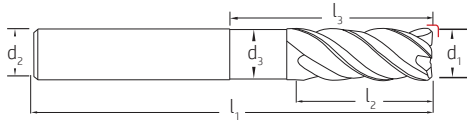
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. 130

Steels <45HRC	Stainless Steels -	Cast Irons <390 HB	Hardened Steels -	Titaniums -	Super Alloys -	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HB
									AlCrN	AlCrN
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015			
3.0	-0.025	6	2.8	8.0	15	57	0.30	4	EMRA 0300M 0300 030	EMRA 0301M 0300 030
3.0	-0.025	6	2.8	8.0	15	57	0.50	4	EMRA 0300M 0300 050	EMRA 0301M 0300 050
4.0	-0.025	6	3.8	11.0	17	57	0.30	4	EMRA 0300M 0400 030	EMRA 0301M 0400 030
4.0	-0.025	6	3.8	11.0	17	57	0.50	4	EMRA 0300M 0400 050	EMRA 0301M 0400 050
4.0	-0.025	6	3.8	11.0	17	57	1.00	4	EMRA 0300M 0400 100	EMRA 0301M 0400 100
5.0	-0.025	6	4.8	13.0	19	57	0.30	4	EMRA 0300M 0500 030	EMRA 0301M 0500 030
5.0	-0.025	6	4.8	13.0	19	57	0.50	4	EMRA 0300M 0500 050	EMRA 0301M 0500 050
5.0	-0.025	6	4.8	13.0	19	57	1.00	4	EMRA 0300M 0500 100	EMRA 0301M 0500 100
6.0	-0.025	6	5.8	13.0	21	57	0.20	4	EMRA 0300M 0600 020	EMRA 0301M 0600 020
6.0	-0.025	6	5.8	13.0	21	57	0.30	4	EMRA 0300M 0600 030	EMRA 0301M 0600 030
6.0	-0.025	6	5.8	13.0	21	57	0.50	4	EMRA 0300M 0600 050	EMRA 0301M 0600 050
6.0	-0.025	6	5.8	13.0	21	57	1.00	4	EMRA 0300M 0600 100	EMRA 0301M 0600 100
6.0	-0.025	6	5.8	13.0	21	57	2.00	4	EMRA 0300M 0600 200	EMRA 0301M 0600 200
8.0	-0.025	8	7.6	19.0	27	63	0.50	4	EMRA 0300M 0800 050	EMRA 0301M 0800 050
8.0	-0.025	8	7.6	19.0	27	63	1.00	4	EMRA 0300M 0800 100	EMRA 0301M 0800 100
8.0	-0.025	8	7.6	19.0	27	63	2.00	4	EMRA 0300M 0800 200	EMRA 0301M 0800 200
10.0	-0.035	10	9.5	22.0	32	72	0.50	4	EMRA 0300M 1000 050	EMRA 0301M 1000 050
10.0	-0.035	10	9.5	22.0	32	72	1.00	4	EMRA 0300M 1000 100	EMRA 0301M 1000 100

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

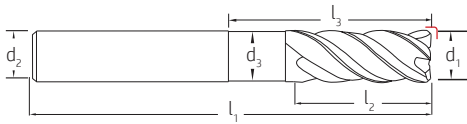
UNIVERSAL

DRILLS

ICE MILL

4 Flute 35°/38° Helix & Unequal Pitch Endmills, Corner Radius

EMR 030



Technical Info. Page No. 130

Steels <45HRC	Stainless Steels -	Cast Irons <390 HB	Hardened Steels -	Titaniums -	Super Alloys -	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015		AlCrN	AlCrN
10.0	-0.035	10	9.5	22.0	32	72	2.00	4	EMRA 0300M 1000 200	EMRA 0301M 1000 200
12.0	-0.035	12	11.5	26.0	38	83	0.50	4	EMRA 0300M 1200 050	EMRA 0301M 1200 050
12.0	-0.035	12	11.5	26.0	38	83	1.00	4	EMRA 0300M 1200 100	EMRA 0301M 1200 100
12.0	-0.035	12	11.5	26.0	38	83	2.00	4	EMRA 0300M 1200 200	EMRA 0301M 1200 200
16.0	-0.035	16	15.5	32.0	44	92	0.50	4	EMRA 0300M 1600 050	EMRA 0301M 1600 050
16.0	-0.035	16	15.5	32.0	44	92	1.00	4	EMRA 0300M 1600 100	EMRA 0301M 1600 100
16.0	-0.035	16	15.5	32.0	44	92	2.00	4	EMRA 0300M 1600 200	EMRA 0301M 1600 200
16.0	-0.035	16	15.5	32.0	44	92	3.00	4	EMRA 0300M 1600 300	EMRA 0301M 1600 300
20.0	-0.035	20	19.5	38.0	54	104	0.50	4	EMRA 0300M 2000 050	EMRA 0301M 2000 050
20.0	-0.035	20	19.5	38.0	54	104	1.00	4	EMRA 0300M 2000 100	EMRA 0301M 2000 100
20.0	-0.035	20	19.5	38.0	54	104	2.00	4	EMRA 0300M 2000 200	EMRA 0301M 2000 200
20.0	-0.035	20	19.5	38.0	54	104	3.00	4	EMRA 0300M 2000 300	EMRA 0301M 2000 300
25.0	-0.035	25	24.5	45.0	65	121	2.00	4	EMRA 0300M 2500 200	EMRA 0301M 2500 200
25.0	-0.035	25	24.5	45.0	65	121	3.00	4	EMRA 0300M 2500 300	EMRA 0301M 2500 300

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

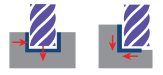
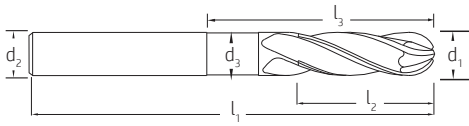
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **130**

Steels <45HRC	Stainless Steels -	Cast Irons <390 HB	Hardened Steels -	Titaniums -	Super Alloys -	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HB
									AlCrN	AlCrN
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015			
3.00	-0.025	6	2.80	8.00	15	57	1.50	4	EMBA 0300M 0300	EMBA 0301M 0300
4.00	-0.025	6	3.80	11.00	17	57	2.00	4	EMBA 0300M 0400	EMBA 0301M 0400
5.00	-0.025	6	4.80	13.00	19	57	2.50	4	EMBA 0300M 0500	EMBA 0301M 0500
6.00	-0.025	6	5.80	13.00	21	57	3.00	4	EMBA 0300M 0600	EMBA 0301M 0600
8.00	-0.025	8	7.60	19.00	27	63	4.00	4	EMBA 0300M 0800	EMBA 0301M 0800
10.00	-0.035	10	9.50	22.00	32	72	5.00	4	EMBA 0300M 1000	EMBA 0301M 1000
12.00	-0.035	12	11.50	26.00	38	83	6.00	4	EMBA 0300M 1200	EMBA 0301M 1200
16.00	-0.035	16	15.50	32.00	44	92	8.00	4	EMBA 0300M 1600	EMBA 0301M 1600
20.00	-0.035	20	19.50	38.00	54	104	10.00	4	EMBA 0300M 2000	EMBA 0301M 2000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

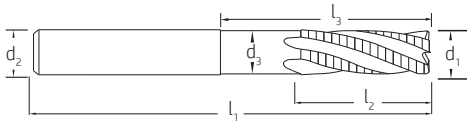
DRILLS

RHINO 0500

4 Flute 30°/32° Helix Roughing Profile Endmills, Corner Chamfer

EMC 050

TP



Technical Info. Page No. 131

Steels <45HRC	Stainless Steels -	Cast Irons <390 HB	Hardened Steels -	Titaniums -	Super Alloys -	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.2	±0.50	±0.50	±0.80	-0.05		AlCrN	AlCrN
4.0	-0.025	6	3.8	11.0	17	57	0.15	4	EMCA 0500M 0400	EMCA 0501M 0400
5.0	-0.025	6	4.8	13.0	19	57	0.15	4	EMCA 0500M 0500	EMCA 0501M 0500
6.0	-0.025	6	5.8	13.0	21	57	0.20	4	EMCA 0500M 0600	EMCA 0501M 0600
8.0	-0.025	8	7.6	19.0	27	63	0.20	4	EMCA 0500M 0800	EMCA 0501M 0800
10.0	-0.035	10	9.5	22.0	32	72	0.30	4	EMCA 0500M 1000	EMCA 0501M 1000
12.0	-0.035	12	11.5	26.0	38	83	0.35	4	EMCA 0500M 1200	EMCA 0501M 1200
16.0	-0.035	16	15.5	32.0	44	92	0.40	4	EMCA 0500M 1600	EMCA 0501M 1600
20.0	-0.035	20	19.5	38.0	54	104	0.50	4	EMCA 0500M 2000	EMCA 0501M 2000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

INOX SERIES

ICE INOX

4 Flute 40°/41° Helix & Unequal Pitch
Endmills, Corner Chamfer

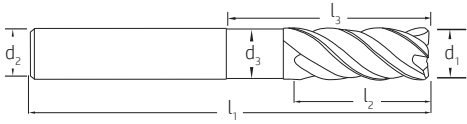
RHINO INOX

4 Flute 39°/41° Helix Roughing Profile
Endmills, Corner Chamfer

MIRROR MILL

6 Flute Variable Helix Finishing Endmills,
Corner Chamfer





Technical Info. Page No. **132**

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums -	Super Alloys -	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.2	±0.50	±0.50	±0.80	-0.05		AlCrN	AlCrN
1.0	-0.010	6	0.8	2.5	5	57	0.07	4	EMCA 0900M 0100	EMCA 0901M 0100
2.0	-0.020	6	1.8	5.0	10	57	0.10	4	EMCA 0900M 0200	EMCA 0901M 0200
3.0	-0.025	6	2.8	8.0	15	57	0.10	4	EMCA 0900M 0300	EMCA 0901M 0300
4.0	-0.025	6	3.8	11.0	17	57	0.15	4	EMCA 0900M 0400	EMCA 0901M 0400
5.0	-0.025	6	4.8	13.0	19	57	0.15	4	EMCA 0900M 0500	EMCA 0901M 0500
6.0	-0.025	6	5.8	13.0	21	57	0.20	4	EMCA 0900M 0600	EMCA 0901M 0600
8.0	-0.025	8	7.6	19.0	27	63	0.20	4	EMCA 0900M 0800	EMCA 0901M 0800
10.0	-0.035	10	9.5	22.0	32	72	0.30	4	EMCA 0900M 1000	EMCA 0901M 1000
12.0	-0.035	12	11.5	26.0	38	83	0.35	4	EMCA 0900M 1200	EMCA 0901M 1200
14.0	-0.035	14	13.5	26.0	38	83	0.35	4	EMCA 0900M 1400	EMCA 0901M 1400
16.0	-0.035	16	15.5	32.0	44	92	0.40	4	EMCA 0900M 1600	EMCA 0901M 1600
18.0	-0.035	18	17.5	32.0	44	92	0.40	4	EMCA 0900M 1800	EMCA 0901M 1800
20.0	-0.035	20	19.5	38.0	54	104	0.50	4	EMCA 0900M 2000	EMCA 0901M 2000
25.0	-0.035	25	24.5	45.0	65	121	0.60	4	EMCA 0900M 2500	EMCA 0901M 2500

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

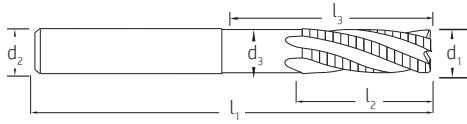
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **133**

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums -	Super Alloys -	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	Z	EDP No. HA	EDP No. HB
	tol.	h6	-0.2	±0.50	±0.50	±0.80	-0.05		AlCrN	AlCrN
4.0	-0.025	6	3.8	11.0	17	57	0.15	4	EMCA 1100M 0400	EMCA 1101M 0400
5.0	-0.025	6	4.8	13.0	19	57	0.15	4	EMCA 1100M 0500	EMCA 1101M 0500
6.0	-0.025	6	5.8	13.0	21	57	0.20	4	EMCA 1100M 0600	EMCA 1101M 0600
8.0	-0.025	8	7.6	19.0	27	63	0.20	4	EMCA 1100M 0800	EMCA 1101M 0800
10.0	-0.035	10	9.5	22.0	32	72	0.30	4	EMCA 1100M 1000	EMCA 1101M 1000
12.0	-0.035	12	11.5	26.0	38	83	0.35	4	EMCA 1100M 1200	EMCA 1101M 1200
14.0	-0.035	14	13.5	26.0	38	83	0.35	4	EMCA 1100M 1400	EMCA 1101M 1400
16.0	-0.035	16	15.5	32.0	44	92	0.40	4	EMCA 1100M 1600	EMCA 1101M 1600
18.0	-0.035	18	17.5	32.0	44	92	0.40	4	EMCA 1100M 1800	EMCA 1101M 1800
20.0	-0.035	20	19.5	38.0	54	104	0.50	4	EMCA 1100M 2000	EMCA 1101M 2000
25.0	-0.035	25	24.5	45.0	65	121	0.60	4	EMCA 1100M 2500	EMCA 1101M 2500

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

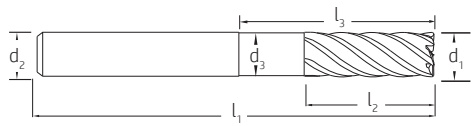
UNIVERSAL

DRILLS

MIRROR MILL

6 Flute Variable Helix Finishing Endmills, Corner Chamfer

EMC 070



Technical Info. Page No. 134

Steels <30HRC	Stainless Steels <900 N/mm ²	Cast Irons <200 HB	Hardened Steels -	Titaniums -	Super Alloys -	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.2	±0.50	±0.50	±0.80	-0.05		AlCrN	AlCrN
4.0	-0.025	6	3.8	11.0	17	57	0.15	6	EMCA 0700M 0400	EMCA 0701M 0400
5.0	-0.025	6	4.8	13.0	19	57	0.15	6	EMCA 0700M 0500	EMCA 0701M 0500
6.0	-0.025	6	5.8	13.0	21	57	0.20	6	EMCA 0700M 0600	EMCA 0701M 0600
8.0	-0.025	8	7.6	19.0	27	63	0.20	6	EMCA 0700M 0800	EMCA 0701M 0800
10.0	-0.035	10	9.5	22.0	32	72	0.30	6	EMCA 0700M 1000	EMCA 0701M 1000
12.0	-0.035	12	11.5	26.0	38	83	0.35	6	EMCA 0700M 1200	EMCA 0701M 1200
14.0	-0.035	14	13.5	26.0	38	83	0.35	6	EMCA 0700M 1400	EMCA 0701M 1400
16.0	-0.035	16	15.5	32.0	44	92	0.40	6	EMCA 0700M 1600	EMCA 0701M 1600
18.0	-0.035	18	17.5	32.0	44	92	0.40	6	EMCA 0700M 1800	EMCA 0701M 1800
20.0	-0.035	20	19.5	38.0	54	104	0.50	6	EMCA 0700M 2000	EMCA 0701M 2000
25.0	-0.035	25	24.5	45.0	65	121	0.60	6	EMCA 0700M 2500	EMCA 0701M 2500
6.0	-0.025	6		40.0		80	0.20	6	EMCA 0700X 0600	EMCA 0701X 0600
8.0	-0.025	8		50.0		100	0.20	6	EMCA 0700X 0800	EMCA 0701X 0800
10.0	-0.035	10		50.0		100	0.30	6	EMCA 0700X 1000	EMCA 0701X 1000
12.0	-0.035	12		80.0		150	0.35	6	EMCA 0700X 1200	EMCA 0701X 1200
16.0	-0.035	16		80.0		150	0.40	6	EMCA 0700X 1600	EMCA 0701X 1600
20.0	-0.035	20		80.0		150	0.50	6	EMCA 0700X 2000	EMCA 0701X 2000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

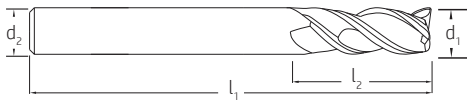
DRILLS



SUPERNOX SERIES

Multifunctional premium endmills with &
without internal coolant holes

P M K S



Technical Info. Page No. 135

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.2	±0.50	±0.50	±0.80	-0.05		GX	GX
1.0	-0.010	4		2.0		45	-	3	903SCT 0100	
1.1	-0.020	4		2.2		45	-	3	903SCT 0110	
1.2	-0.020	4		2.4		45	-	3	903SCT 0120	
1.3	-0.020	4		2.6		45	-	3	903SCT 0130	
1.4	-0.020	4		2.8		45	-	3	903SCT 0140	
1.5	-0.020	4		3.0		45	-	3	903SCT 0150	
1.6	-0.020	4		3.2		45	-	3	903SCT 0160	
1.7	-0.020	4		3.4		45	-	3	903SCT 0170	
1.8	-0.020	4		3.6		45	-	3	903SCT 0180	
1.9	-0.020	4		3.8		45	-	3	903SCT 0190	
2.0	-0.020	6		4.0		50	0.10	3	903SCT 0200	903SWT 0200
2.1	-0.025	6		4.2		50	0.10	3	903SCT 0210	903SWT 0210
2.2	-0.025	6		4.4		50	0.10	3	903SCT 0220	903SWT 0220
2.3	-0.025	6		4.6		50	0.10	3	903SCT 0230	903SWT 0230
2.4	-0.025	6		4.8		50	0.10	3	903SCT 0240	903SWT 0240
2.5	-0.025	6		5.0		50	0.10	3	903SCT 0250	903SWT 0250
2.6	-0.025	6		5.2		50	0.10	3	903SCT 0260	903SWT 0260
2.7	-0.025	6		5.4		50	0.10	3	903SCT 0270	903SWT 0270
2.8	-0.025	6		5.6		50	0.10	3	903SCT 0280	903SWT 0280
2.9	-0.025	6		5.8		50	0.10	3	903SCT 0290	903SWT 0290
3.0	-0.025	6		6.0		50	0.10	3	903SCT 0300	903SWT 0300
3.1	-0.025	6		7.0		50	0.15	3	903SCT 0310	903SWT 0310
3.2	-0.025	6		7.0		50	0.15	3	903SCT 0320	903SWT 0320
3.3	-0.025	6		7.0		50	0.15	3	903SCT 0330	903SWT 0330
3.4	-0.025	6		7.0		50	0.15	3	903SCT 0340	903SWT 0340

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

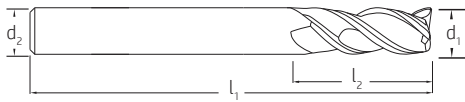
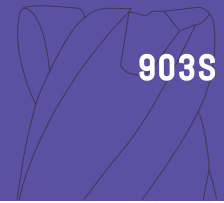
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **135**

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	z	EDP No.	
									HA	HB
	tol.	h6	-0.10	±0.50	±0.50	±0.80	-0.05		GX	GX
3.5	-0.025	6		8.0		50	0.15	3	903SCT 0350	903SWT 0350
3.6	-0.025	6		8.0		50	0.15	3	903SCT 0360	903SWT 0360
3.7	-0.025	6		8.0		50	0.15	3	903SCT 0370	903SWT 0370
3.8	-0.025	6		8.0		50	0.15	3	903SCT 0380	903SWT 0380
3.9	-0.025	6		8.0		50	0.15	3	903SCT 0390	903SWT 0390
4.0	-0.025	6		8.0		50	0.15	3	903SCT 0400	903SWT 0400
4.5	-0.025	6		10.0		50	0.15	3	903SCT 0450	903SWT 0450
5.0	-0.025	6		10.0		50	0.15	3	903SCT 0500	903SWT 0500
5.5	-0.025	6		13.0		50	0.20	3	903SCT 0550	903SWT 0550
6.0	-0.025	6		13.0		60	0.20	3	903SCT 0600	903SWT 0600
6.5	-0.025	8		13.0		60	0.20	3	903SCT 0650	903SWT 0650
7.0	-0.025	8		16.0		60	0.20	3	903SCT 0700	903SWT 0700
7.5	-0.025	8		16.0		60	0.20	3	903SCT 0750	903SWT 0750
8.0	-0.025	8		19.0		60	0.20	3	903SCT 0800	903SWT 0800
8.5	-0.035	10		19.0		70	0.30	3	903SCT 0850	903SWT 0850
9.0	-0.035	10		19.0		70	0.30	3	903SCT 0900	903SWT 0900
9.5	-0.035	10		19.0		70	0.30	3	903SCT 0950	903SWT 0950
10.0	-0.035	10		22.0		80	0.30	3	903SCT 1000	903SWT 1000
11.0	-0.035	12		22.0		80	0.35	3	903SCT 1100	903SWT 1100
12.0	-0.035	12		26.0		90	0.35	3	903SCT 1200	903SWT 1200
15.0	-0.035	16		26.0		110	0.40	3	903SCT 1500	903SWT 1500
16.0	-0.035	16		30.0		110	0.40	3	903SCT 1600	903SWT 1600
20.0	-0.035	20		32.0		140	0.50	3	903SCT 2000	903SWT 2000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

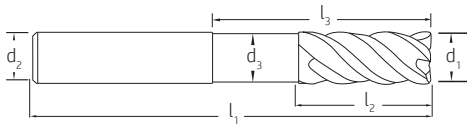
DRILLS

SUPERNOX

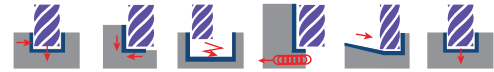
4 Flute 40°/42° Helix & Unequal Pitch Endmills, Corner Chamfer

904S

TP



MAX CUT



Technical Info. Page No. 136

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.10	±0.50	±0.50	±0.80	-0.05		AlCrN	GX
4.0	-0.025	6	3.8	11.0	18	57	0.15	4	904SCA 0400	904SCT 0400
5.0	-0.025	6	4.8	13.0	18	57	0.15	4	904SCA 0500	904SCT 0500
5.7	-0.025	6	5.5	13.0	20	57	0.20	4	904SCA 0570	904SCT 0570
6.0	-0.025	6	5.8	13.0	20	57	0.20	4	904SCA 0600	904SCT 0600
7.7	-0.025	8	7.5	19.0	26	63	0.20	4	904SCA 0770	904SCT 0770
8.0	-0.025	8	7.6	19.0	26	63	0.20	4	904SCA 0800	904SCT 0800
9.7	-0.035	10	9.4	22.0	31	72	0.30	4	904SCA 0970	904SCT 0970
10.0	-0.035	10	9.5	22.0	30	72	0.30	4	904SCA 1000	904SCT 1000
11.7	-0.035	12	11.2	26.0	35	83	0.35	4	904SCA 1170	904SCT 1170
12.0	-0.035	12	11.5	26.0	36	83	0.35	4	904SCA 1200	904SCT 1200
13.7	-0.035	14	13.2	26.0	35	83	0.35	4	904SCA 1370	904SCT 1370
14.0	-0.035	14	13.5	26.0	36	83	0.35	4	904SCA 1400	904SCT 1400
15.6	-0.035	16	15.1	32.0	41	92	0.40	4	904SCA 1560	904SCT 1560
16.0	-0.035	16	15.5	32.0	42	92	0.40	4	904SCA 1600	904SCT 1600
19.5	-0.035	20	19.0	38.0	51	104	0.50	4	904SCA 1950	904SCT 1950
20.0	-0.035	20	19.5	38.0	52	104	0.50	4	904SCA 2000	904SCT 2000

HB Weldon Shank available on request. Order Code for AlCrN Coated : 904SWA | Order Code for GX Coated: 904SWT

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

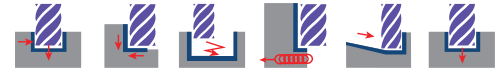
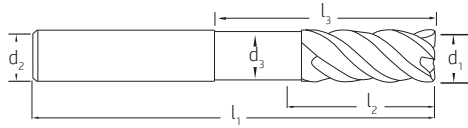
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. 136

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums -
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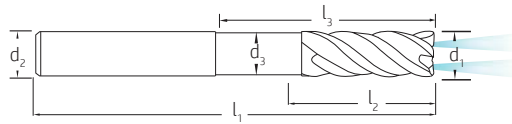
d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.10	±0.50	±0.50	±0.80	±0.015		AlCrN	GX
6.0	-0.025	6	5.8	13.0	21	57	0.10	4	904RCA 0600 010	904RCT 0600 010
6.0	-0.025	6	5.8	13.0	21	57	0.50	4	904RCA 0600 050	904RCT 0600 050
6.0	-0.025	6	5.8	13.0	21	57	1.00	4	904RCA 0600 100	904RCT 0600 100
6.0	-0.025	6	5.8	13.0	21	57	2.00	4	904RCA 0600 200	904RCT 0600 200
8.0	-0.025	8	7.6	19.0	27	63	0.15	4	904RCA 0800 015	904RCT 0800 015
8.0	-0.025	8	7.6	19.0	27	63	0.50	4	904RCA 0800 050	904RCT 0800 050
8.0	-0.025	8	7.6	19.0	27	63	1.00	4	904RCA 0800 100	904RCT 0800 100
8.0	-0.025	8	7.6	19.0	27	63	2.00	4	904RCA 0800 200	904RCT 0800 200
10.0	-0.035	10	9.5	22.0	32	72	0.20	4	904RCA 1000 020	904RCT 1000 020
10.0	-0.035	10	9.5	22.0	32	72	0.50	4	904RCA 1000 050	904RCT 1000 050
10.0	-0.035	10	9.5	22.0	32	72	1.00	4	904RCA 1000 100	904RCT 1000 100
10.0	-0.035	10	9.5	22.0	32	72	2.00	4	904RCA 1000 200	904RCT 1000 200
12.0	-0.035	12	11.5	26.0	38	83	0.20	4	904RCA 1200 020	904RCT 1200 020
12.0	-0.035	12	11.5	26.0	38	83	0.50	4	904RCA 1200 050	904RCT 1200 050
12.0	-0.035	12	11.5	26.0	38	83	1.00	4	904RCA 1200 100	904RCT 1200 100
12.0	-0.035	12	11.5	26.0	38	83	2.00	4	904RCA 1200 200	904RCT 1200 200
16.0	-0.035	16	15.5	32.0	44	92	0.50	4	904RCA 1600 050	904RCT 1600 050
16.0	-0.035	16	15.5	32.0	44	92	1.00	4	904RCA 1600 100	904RCT 1600 100
16.0	-0.035	16	15.5	32.0	44	92	2.00	4	904RCA 1600 200	904RCT 1600 200
16.0	-0.035	16	15.5	32.0	44	92	3.00	4	904RCA 1600 300	904RCT 1600 300
20.0	-0.035	20	19.5	38.0	54	104	0.50	4	904RCA 2000 050	904RCT 2000 050
20.0	-0.035	20	19.5	38.0	54	104	1.00	4	904RCA 2000 100	904RCT 2000 100
20.0	-0.035	20	19.5	38.0	54	104	2.00	4	904RCA 2000 200	904RCT 2000 200
20.0	-0.035	20	19.5	38.0	54	104	3.00	4	904RCA 2000 300	904RCT 2000 300

HB Weldon Shank available on request. Order Code for AlCrN Coated : 904RWA | Order Code for GX Coated: 90RWT

SUPERNOX

4 Flute 40°/42° Helix & Unequal Pitch Endmills, Corner Chamfer with Axial Coolant Holes

904K



Technical Info. Page No. 136

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	Z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	-0.05		AlCrN	GX
6.0	-0.025	6	5.8	13.0	20	57	0.20	4	904KCA 0600	904KCT 0600
7.7	-0.025	8	7.5	19.0	26	63	0.20	4	904KCA 0770	904KCT 0770
8.0	-0.025	8	7.6	19.0	26	63	0.20	4	904KCA 0800	904KCT 0800
9.7	-0.035	10	9.4	22.0	31	72	0.30	4	904KCA 0970	904KCT 0970
10.0	-0.035	10	9.5	22.0	30	72	0.30	4	904KCA 1000	904KCT 1000
11.7	-0.035	12	11.2	26.0	35	83	0.35	4	904KCA 1170	904KCT 1170
12.0	-0.035	12	11.5	26.0	36	83	0.35	4	904KCA 1200	904KCT 1200
13.7	-0.035	14	13.2	26.0	35	83	0.35	4	904KCA 1370	904KCT 1370
14.0	-0.035	14	13.5	26.0	36	83	0.35	4	904KCA 1400	904KCT 1400
15.6	-0.035	16	15.1	32.0	41	92	0.40	4	904KCA 1560	904KCT 1560
16.0	-0.035	16	15.5	32.0	42	92	0.40	4	904KCA 1600	904KCT 1600
19.5	-0.035	20	19.0	38.0	51	104	0.50	4	904KCA 1950	904KCT 1950
20.0	-0.035	20	19.5	38.0	52	104	0.50	4	904KCA 2000	904KCT 2000

HB Weldon Shank available on request. Order Code for AlCrN Coated : 904KWA | Order Code for GX Coated: 904KWT

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

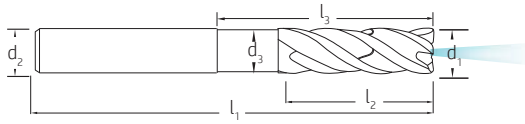
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **136**

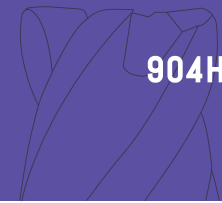
Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	<i>tol.</i>	<i>h6</i>	<i>-0.2</i>	<i>±0.50</i>	<i>±0.50</i>	<i>±0.80</i>	<i>±0.015</i>		AlCrN	GX
6.0	-0.025	6	5.8	13.0	21	57	0.10	4	904HCA 0600 010	904HCT 0600 010
6.0	-0.025	6	5.8	13.0	21	57	0.30	4	904HCA 0600 030	904HCT 0600 030
6.0	-0.025	6	5.8	13.0	21	57	0.50	4	904HCA 0600 050	904HCT 0600 050
6.0	-0.025	6	5.8	13.0	21	57	1.00	4	904HCA 0600 100	904HCT 0600 100
8.0	-0.025	8	7.6	19.0	26	63	0.15	4	904HCA 0800 015	904HCT 0800 015
8.0	-0.025	8	7.6	19.0	26	63	0.30	4	904HCA 0800 030	904HCT 0800 030
8.0	-0.025	8	7.6	19.0	26	63	0.50	4	904HCA 0800 050	904HCT 0800 050
8.0	-0.025	8	7.6	19.0	26	63	1.00	4	904HCA 0800 100	904HCT 0800 100
8.0	-0.025	8	7.6	19.0	26	63	1.50	4	904HCA 0800 150	904HCT 0800 150
8.0	-0.025	8	7.6	19.0	26	63	2.00	4	904HCA 0800 200	904HCT 0800 200
10.0	-0.035	10	9.5	22.0	31	72	0.20	4	904HCA 1000 020	904HCT 1000 020
10.0	-0.035	10	9.5	22.0	31	72	0.30	4	904HCA 1000 030	904HCT 1000 030
10.0	-0.035	10	9.5	22.0	31	72	0.50	4	904HCA 1000 050	904HCT 1000 050
10.0	-0.035	10	9.5	22.0	31	72	1.00	4	904HCA 1000 100	904HCT 1000 100
10.0	-0.035	10	9.5	22.0	31	72	1.50	4	904HCA 1000 150	904HCT 1000 150
10.0	-0.035	10	9.5	22.0	31	72	2.00	4	904HCA 1000 200	904HCT 1000 200
12.0	-0.035	12	11.5	26.0	37	83	0.20	4	904HCA 1200 020	904HCT 1200 020
12.0	-0.035	12	11.5	26.0	37	83	0.30	4	904HCA 1200 030	904HCT 1200 030
12.0	-0.035	12	11.5	26.0	37	83	0.50	4	904HCA 1200 050	904HCT 1200 050
12.0	-0.035	12	11.5	26.0	37	83	1.00	4	904HCA 1200 100	904HCT 1200 100
12.0	-0.035	12	11.5	26.0	37	83	1.50	4	904HCA 1200 150	904HCT 1200 150
12.0	-0.035	12	11.5	26.0	37	83	2.00	4	904HCA 1200 200	904HCT 1200 200
12.0	-0.035	12	11.5	26.0	37	83	2.50	4	904HCA 1200 250	904HCT 1200 250
12.0	-0.035	12	11.5	26.0	37	83	3.00	4	904HCA 1200 300	904HCT 1200 300

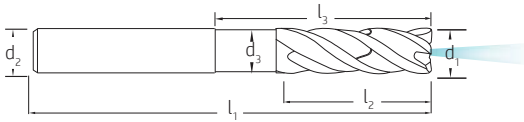
HB Weldon Shank available on request. Order Code for AlCrN Coated : 904HWA | Order Code for GX Coated: 904HWT

SUPERNOX

4 Flute 38° Helix & Unequal Pitch Endmills, Corner Radius Cup Centre with Axial Coolant Hole



TP



Technical Info. Page No. 146

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015		AlCrN	GX
12.0	-0.035	12	11.5	26.0	37	83	4.00	4	904HCA 1200 400	904HCT 1200 400
16.0	-0.035	16	15.5	32.0	43	92	0.20	4	904HCA 1600 020	904HCT 1600 020
16.0	-0.035	16	15.5	32.0	43	92	0.50	4	904HCA 1600 050	904HCT 1600 050
16.0	-0.035	16	15.5	32.0	43	92	1.00	4	904HCA 1600 100	904HCT 1600 100
16.0	-0.035	16	15.5	32.0	43	92	1.50	4	904HCA 1600 150	904HCT 1600 150
16.0	-0.035	16	15.5	32.0	43	92	2.00	4	904HCA 1600 200	904HCT 1600 200
16.0	-0.035	16	15.5	32.0	43	92	2.50	4	904HCA 1600 250	904HCT 1600 250
16.0	-0.035	16	15.5	32.0	43	92	3.00	4	904HCA 1600 300	904HCT 1600 300
16.0	-0.035	16	15.5	32.0	43	92	4.00	4	904HCA 1600 400	904HCT 1600 400
20.0	-0.035	20	19.5	40.0	53	104	0.20	4	904HCA 2000 020	904HCT 2000 020
20.0	-0.035	20	19.5	40.0	53	104	0.50	4	904HCA 2000 050	904HCT 2000 050
20.0	-0.035	20	19.5	40.0	53	104	1.00	4	904HCA 2000 100	904HCT 2000 100
20.0	-0.035	20	19.5	40.0	53	104	1.50	4	904HCA 2000 150	904HCT 2000 150
20.0	-0.035	20	19.5	40.0	53	104	2.00	4	904HCA 2000 200	904HCT 2000 200
20.0	-0.035	20	19.5	40.0	53	104	2.50	4	904HCA 2000 250	904HCT 2000 250
20.0	-0.035	20	19.5	40.0	53	104	3.00	4	904HCA 2000 300	904HCT 2000 300
20.0	-0.035	20	19.5	40.0	53	104	4.00	4	904HCA 2000 400	904HCT 2000 400

HB Weldon Shank available on request. Order Code for AlCrN Coated : 904HWA | Order Code for GX Coated: 904HWT

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

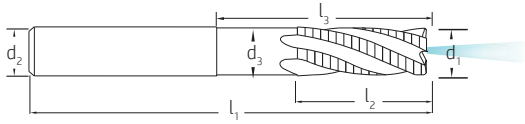
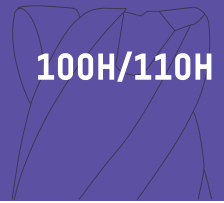
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **137**

Steels <50HRC	Stainless Steels <1400 N/mm ²	Cast Irons <390 HB	Hardened Steels -	Titaniums <1400 N/mm ²	Super Alloys <1400 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015		AlCrN	GX
6.0	-0.025	6	5.8	10.0	16	54	0.10	4	100HCA 0600 010	100HCT 0600 010
8.0	-0.025	8	7.6	12.0	20	58	0.15	4	100HCA 0800 015	100HCT 0800 015
10.0	-0.035	10	9.5	14.0	24	66	0.20	4	100HCA 1000 020	100HCT 1000 020
12.0	-0.035	12	11.5	16.0	26	73	0.20	4	100HCA 1200 020	100HCT 1200 020
16.0	-0.035	16	15.5	22.0	32	82	0.20	4	100HCA 1600 020	100HCT 1600 020
20.0	-0.035	20	19.5	26.0	40	92	0.20	4	100HCA 2000 020	100HCT 2000 020
12.0	-0.035	12	11.5	16.0	26	73	2.50	4	100HCA 1200 250	100HCT 1200 250
12.0	-0.035	12	11.5	16.0	26	73	3.00	4	100HCA 1200 300	100HCT 1200 300
12.0	-0.035	12	11.5	16.0	26	73	4.00	4	100HCA 1200 400	100HCT 1200 400
16.0	-0.035	16	15.5	22.0	32	82	2.50	4	100HCA 1600 250	100HCT 1600 250
16.0	-0.035	16	15.5	22.0	32	82	3.00	4	100HCA 1600 300	100HCT 1600 300
16.0	-0.035	16	15.5	22.0	32	82	4.00	4	100HCA 1600 400	100HCT 1600 400
20.0	-0.035	20	19.5	26.0	40	92	2.50	4	100HCA 2000 250	100HCT 2000 250
20.0	-0.035	20	19.5	26.0	40	92	3.00	4	100HCA 2000 300	100HCT 2000 300
20.0	-0.035	20	19.5	26.0	40	92	4.00	4	100HCA 2000 400	100HCT 2000 400
6.0	-0.025	6	5.8	13.0	21	57	0.10	4	110HCA 0600 010	110HCT 0600 010
8.0	-0.025	8	7.6	19.0	26	63	0.15	4	110HCA 0800 015	110HCT 0800 015
10.0	-0.035	10	9.5	22.0	31	72	0.20	4	110HCA 1000 020	110HCT 1000 020
12.0	-0.035	12	11.5	26.0	37	83	0.20	4	110HCA 1200 020	110HCT 1200 020
16.0	-0.035	16	15.5	32.0	43	92	0.20	4	110HCA 1600 020	110HCT 1600 020
20.0	-0.035	20	19.5	40.0	53	104	0.20	4	110HCA 2000 020	110HCT 2000 020

HB Weldon Shank available on request. Order Code for AlCrN Coated : 110HWA | Order Code for GX Coated: 110HWT

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

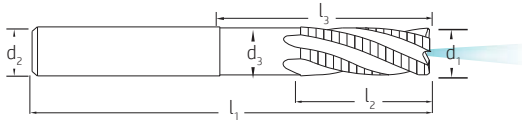
UNIVERSAL

DRILLS

RHINO-X

4 Flute 38° Helix & Unequal Pitch Roughing Profile Endmills, Corner Radius Cup Centre with Axial Coolant Hole

110H/120H



Technical Info. Page No. 136

Steels <50HRC	Stainless Steels <1400 N/mm ²	Cast Irons <390 HB	Hardened Steels -	Titaniums <1400 N/mm ²	Super Alloys <1400 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015		AlCrN	GX
12.0	-0.035	12	11.5	26.0	35	83	2.50	4	110HCA 1200 250	110HCT 1200 250
12.0	-0.035	12	11.5	26.0	35	83	3.00	4	110HCA 1200 300	110HCT 1200 300
12.0	-0.035	12	11.5	26.0	35	83	4.00	4	110HCA 1200 400	110HCT 1200 400
16.0	-0.035	16	15.5	32.0	40	92	2.50	4	110HCA 1600 250	110HCT 1600 250
16.0	-0.035	16	15.5	32.0	40	92	3.00	4	110HCA 1600 300	110HCT 1600 300
16.0	-0.035	16	15.5	32.0	40	92	4.00	4	110HCA 1600 400	110HCT 1600 400
20.0	-0.035	20	19.5	38.0	50	104	2.50	4	110HCA 2000 250	110HCT 2000 250
20.0	-0.035	20	19.5	38.0	50	104	3.00	4	110HCA 2000 300	110HCT 2000 300
20.0	-0.035	20	19.5	38.0	50	104	4.00	4	110HCA 2000 400	110HCT 2000 400
6.0	-0.025	6	5.8	13.0	25	62	0.10	4	120HCA 0600 010	120HCT 0600 010
8.0	-0.025	8	7.6	19.0	30	68	0.15	4	120HCA 0800 015	120HCT 0800 015
10.0	-0.035	10	9.5	22.0	35	80	0.20	4	120HCA 1000 020	120HCT 1000 020
12.0	-0.035	12	11.5	26.0	45	93	0.20	4	120HCA 1200 020	120HCT 1200 020
16.0	-0.035	16	15.5	32.0	55	108	0.20	4	120HCA 1600 020	120HCT 1600 020
20.0	-0.035	20	19.5	38.0	70	126	0.20	4	120HCA 2000 020	120HCT 2000 020
6.0	-0.025	6	5.8	13.0	25	62	0.50	4	120HCA 0600 050	120HCT 0600 050
6.0	-0.025	6	5.8	13.0	25	62	1.00	4	120HCA 0600 100	120HCT 0600 100
8.0	-0.025	8	7.6	19.0	30	68	1.00	4	120HCA 0800 100	120HCT 0800 100
8.0	-0.025	8	7.6	19.0	30	68	2.00	4	120HCA 0800 200	120HCT 0800 200
10.0	-0.035	10	9.5	22.0	35	80	2.00	4	120HCA 1000 200	120HCT 1000 200

HB Weldon Shank available on request. Order Code for AlCrN Coated : 120HWWA | Order Code for GX Coated: 120HWT

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

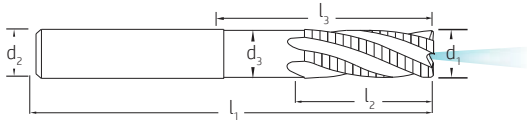
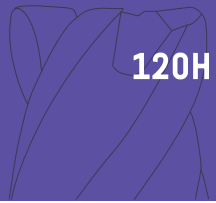
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **137**

Steels <50HRC	Stainless Steels <1400 N/mm ²	Cast Irons <390 HB	Hardened Steels -	Titaniums <1400 N/mm ²	Super Alloys <1400 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.10	±0.50	±0.50	±0.80	±0.015		AlCrN	GX
10.0	-0.035	10	9.5	22.0	35	80	2.50	4	120HCA 1000 250	120HCT 1000 250
12.0	-0.035	12	11.5	26.0	45	93	2.00	4	120HCA 1200 200	120HCT 1200 200
12.0	-0.035	12	11.5	26.0	45	93	2.50	4	120HCA 1200 250	120HCT 1200 250
12.0	-0.035	12	11.5	26.0	45	93	3.00	4	120HCA 1200 300	120HCT 1200 300
12.0	-0.035	12	11.5	26.0	45	93	4.00	4	120HCA 1200 400	120HCT 1200 400
16.0	-0.035	16	15.5	32.0	55	108	2.00	4	120HCA 1600 200	120HCT 1600 200
16.0	-0.035	16	15.5	32.0	55	108	2.50	4	120HCA 1600 250	120HCT 1600 250
16.0	-0.035	16	15.5	32.0	55	108	3.00	4	120HCA 1600 300	120HCT 1600 300
16.0	-0.035	16	15.5	32.0	55	108	4.00	4	120HCA 1600 400	120HCT 1600 400
20.0	-0.035	20	19.5	38.0	70	126	2.00	4	120HCA 2000 200	120HCT 2000 200
20.0	-0.035	20	19.5	38.0	70	126	2.50	4	120HCA 2000 250	120HCT 2000 250
20.0	-0.035	20	19.5	38.0	70	126	3.00	4	120HCA 2000 300	120HCT 2000 300
20.0	-0.035	20	19.5	38.0	70	126	4.00	4	120HCA 2000 400	120HCT 2000 400

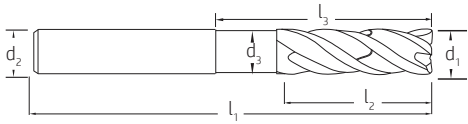
HB Weldon Shank available on request. Order Code for AlCrN Coated : 120HWA | Order Code for GX Coated: 120HWT

- STEELS
- INOX
- SUPERNOX
- CHIPSPLITTERS
- Aluminiums
- ROCKSTARS
- MICRO MILLS
- UNIVERSAL
- DRILLS

SUPERNOX

5 Flute 40° Helix & Unequal Pitch Endmills, Corner Radius Cup Centre

905S



Technical Info. Page No. 138

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015		AlCrN	GX
6.0	-0.025	6	5.8	13.0	21	57	0.30	5	905SCA 0600 030	905SCT 0600 030
6.0	-0.025	6	5.8	13.0	21	57	0.50	5	905SCA 0600 050	905SCT 0600 050
6.0	-0.025	6	5.8	13.0	21	57	1.00	5	905SCA 0600 100	905SCT 0600 100
6.0	-0.025	6	5.8	13.0	21	57	1.50	5	905SCA 0600 150	905SCT 0600 150
8.0	-0.025	8	7.6	19.0	26	63	0.50	5	905SCA 0800 050	905SCT 0800 050
8.0	-0.025	8	7.6	19.0	26	63	1.00	5	905SCA 0800 100	905SCT 0800 100
8.0	-0.025	8	7.6	19.0	26	63	1.50	5	905SCA 0800 150	905SCT 0800 150
8.0	-0.025	8	7.6	19.0	26	63	2.00	5	905SCA 0800 200	905SCT 0800 200
10.0	-0.035	10	9.5	22.0	31	72	0.50	5	905SCA 1000 050	905SCT 1000 050
10.0	-0.035	10	9.5	22.0	31	72	1.00	5	905SCA 1000 100	905SCT 1000 100
10.0	-0.035	10	9.5	22.0	31	72	1.50	5	905SCA 1000 150	905SCT 1000 150
10.0	-0.035	10	9.5	22.0	31	72	2.00	5	905SCA 1000 200	905SCT 1000 200
10.0	-0.035	10	9.5	22.0	31	72	2.50	5	905SCA 1000 250	905SCT 1000 250
12.0	-0.035	12	11.5	26.0	37	83	0.50	5	905SCA 1200 050	905SCT 1200 050
12.0	-0.035	12	11.5	26.0	37	83	0.80	5	905SCA 1200 076	905SCT 1200 076
12.0	-0.035	12	11.5	26.0	37	83	1.00	5	905SCA 1200 100	905SCT 1200 100
12.0	-0.035	12	11.5	26.0	37	83	1.50	5	905SCA 1200 150	905SCT 1200 150
12.0	-0.035	12	11.5	26.0	37	83	2.00	5	905SCA 1200 200	905SCT 1200 200
12.0	-0.035	12	11.5	26.0	37	83	2.50	5	905SCA 1200 250	905SCT 1200 250
12.0	-0.035	12	11.5	26.0	37	83	3.00	5	905SCA 1200 300	905SCT 1200 300
16.0	-0.035	16	15.5	35.0	43	92	1.00	5	905SCA 1600 100	905SCT 1600 100
16.0	-0.035	16	15.5	35.0	43	92	1.50	5	905SCA 1600 150	905SCT 1600 150
16.0	-0.035	16	15.5	35.0	43	92	2.00	5	905SCA 1600 200	905SCT 1600 200

HB Weldon Shank available on request. Order Code for AlCrN Coated : 905SWA | Order Code for GX Coated: 905SWT

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

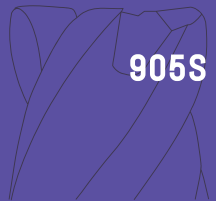
Aluminiums

ROCKSTARS

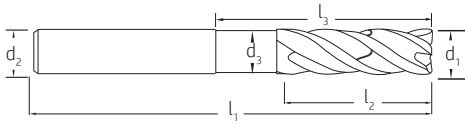
MICRO MILLS

UNIVERSAL

DRILLS



STEELS



INOX

Technical Info. Page No. 138

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums -
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SUPERNOX

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015		AlCrN	GX
16.0	-0.035	16	15.5	35.0	43	92	2.50	5	905SCA 1600 250	905SCT 1600 250
16.0	-0.035	16	15.5	35.0	43	92	3.00	5	905SCA 1600 300	905SCT 1600 300
16.0	-0.035	16	15.5	35.0	43	92	4.00	5	905SCA 1600 400	905SCT 1600 400
20.0	-0.035	20	19.5	45.0	53	104	1.00	5	905SCA 2000 100	905SCT 2000 100
20.0	-0.035	20	19.5	45.0	53	104	1.50	5	905SCA 2000 150	905SCT 2000 150
20.0	-0.035	20	19.5	45.0	53	104	2.00	5	905SCA 2000 200	905SCT 2000 200
20.0	-0.035	20	19.5	45.0	53	104	2.50	5	905SCA 2000 250	905SCT 2000 250
20.0	-0.035	20	19.5	45.0	53	104	3.00	5	905SCA 2000 300	905SCT 2000 300
20.0	-0.035	20	19.5	45.0	53	104	4.00	5	905SCA 2000 400	905SCT 2000 400
20.0	-0.035	20	19.5	45.0	53	104	5.00	5	905SCA 2000 500	905SCT 2000 500

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

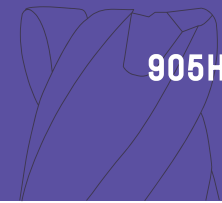
UNIVERSAL

DRILLS

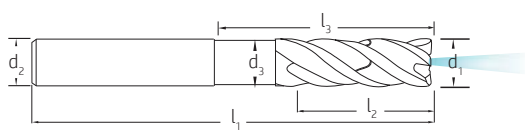
HB Weldon Shank available on request. Order Code for AlCrN Coated : 905SWA | Order Code for GX Coated: 905SWT

SUPERNOX

5 Flute 40° Helix & Unequal Endmills, Micro Corner Radius Cup Centre with Axial Coolant Hole



905H



Technical Info. Page No. 138

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015		AlCrN	GX
6.00	-0.025	6	5.80	13.00	21	57	0.10	5	905HCA 0600 010	905HCT 0600 010
8.00	-0.025	8	7.60	19.00	26	63	0.15	5	905HCA 0800 015	905HCT 0800 015
10.00	-0.035	10	9.50	22.00	31	72	0.20	5	905HCA 1000 020	905HCT 1000 020
12.00	-0.035	12	11.50	26.00	37	83	0.20	5	905HCA 1200 020	905HCT 1200 020
14.00	-0.035	14	13.50	26.00	37	83	0.20	5	905HCA 1400 020	905HCT 1400 020
16.00	-0.035	16	15.50	32.00	43	92	0.20	5	905HCA 1600 020	905HCT 1600 020
20.00	-0.035	20	19.50	40.00	53	104	0.20	5	905HCA 2000 020	905HCT 2000 020

HB Weldon Shank available on request. Order Code for AlCrN Coated : 905HWA | Order Code for GX Coated: 905HWT

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

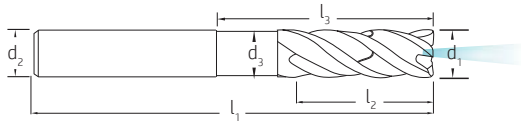
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **139**

Steels <50HRC	Stainless Steels <1400 N/mm ²	Cast Irons <390 HB	Hardened Steels -	Titaniums <1400 N/mm ²	Super Alloys <1400 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015		AlCrN	GX
12.0	-0.035	12	11.5	40.0	51	96	-	5	905RCA 1200	905RCT 1200
12.0	-0.035	12	11.5	50.0	65	110	-	5	905RCA 1201	905RCT 1201
12.0	-0.035	12	11.5	40.0	51	96	1.00	5	905RCA 1200 100	905RCT 1200 100
12.0	-0.035	12	11.5	50.0	65	110	1.00	5	905RCA 1201 100	905RCT 1201 100
12.0	-0.035	12	11.5	40.0	51	96	1.50	5	905RCA 1200 150	905RCT 1200 150
12.0	-0.035	12	11.5	50.0	65	110	1.50	5	905RCA 1201 150	905RCT 1201 150
12.0	-0.035	12	11.5	40.0	51	96	2.00	5	905RCA 1200 200	905RCT 1200 200
12.0	-0.035	12	11.5	50.0	65	110	2.00	5	905RCA 1201 200	905RCT 1201 200
12.0	-0.035	12	11.5	40.0	51	96	2.50	5	905RCA 1200 250	905RCT 1200 250
12.0	-0.035	12	11.5	50.0	65	110	2.50	5	905RCA 1201 250	905RCT 1201 250
12.0	-0.035	12	11.5	40.0	51	96	3.00	5	905RCA 1200 300	905RCT 1200 300
12.0	-0.035	12	11.5	50.0	65	110	3.00	5	905RCA 1201 300	905RCT 1201 300
12.0	-0.035	12	11.5	40.0	51	96	4.00	5	905RCA 1200 400	905RCT 1200 400
12.0	-0.035	12	11.5	50.0	65	110	4.00	5	905RCA 1201 400	905RCT 1201 400
16.0	-0.035	16	15.5	52.0	57	105	-	5	905RCA 1600	905RCT 1600
16.0	-0.035	16	15.5	66.0	82	130	-	5	905RCA 1601	905RCT 1601
16.0	-0.035	16	15.5	52.0	57	105	1.00	5	905RCA 1600 100	905RCT 1600 100
16.0	-0.035	16	15.5	66.0	82	130	1.00	5	905RCA 1601 100	905RCT 1601 100
16.0	-0.035	16	15.5	52.0	57	105	1.50	5	905RCA 1600 150	905RCT 1600 150
16.0	-0.035	16	15.5	66.0	82	130	1.50	5	905RCA 1601 150	905RCT 1601 150
16.0	-0.035	16	15.5	52.0	57	105	2.00	5	905RCA 1600 200	905RCT 1600 200
16.0	-0.035	16	15.5	66.0	82	130	2.00	5	905RCA 1601 200	905RCT 1601 200

HB Weldon Shank available on request. Order Code for AlCrN Coated : 905RWA | Order Code for GX Coated: 905RWT

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

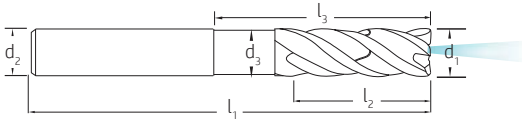
UNIVERSAL

DRILLS

SUPERNOX

5 Flute 40° Helix & Unequal Pitch Endmills, Corner Radius Cup Centre with Axial Coolant Hole

905R



Technical Info. Page No. 139

Steels <50HRC	Stainless Steels <1400 N/mm ²	Cast Irons <390 HB	Hardened Steels -	Titaniums <1400 N/mm ²	Super Alloys <1400 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015		AICrN	GX
16.0	-0.035	16	15.5	52.0	57	105	2.50	5	905RCA 1600 250	905RCT 1600 250
16.0	-0.035	16	15.5	66.0	82	130	2.50	5	905RCA 1601 250	905RCT 1601 250
16.0	-0.035	16	15.5	52.0	57	105	3.00	5	905RCA 1600 300	905RCT 1600 300
16.0	-0.035	16	15.5	66.0	82	130	3.00	5	905RCA 1601 300	905RCT 1601 300
16.0	-0.035	16	15.5	52.0	57	105	4.00	5	905RCA 1600 400	905RCT 1600 400
16.0	-0.035	16	15.5	66.0	82	130	4.00	5	905RCA 1601 400	905RCT 1601 400
20.0	-0.035	20	19.5	64.0	80	140	-	5	905RCA 2000	905RCT 2000
20.0	-0.035	20	19.5	82.0	100	160	-	5	905RCA 2001	905RCT 2001
20.0	-0.035	20	19.5	64.0	80	140	1.00	5	905RCA 2000 100	905RCT 2000 100
20.0	-0.035	20	19.5	82.0	100	160	1.00	5	905RCA 2001 100	905RCT 2001 100
20.0	-0.035	20	19.5	64.0	80	140	1.50	5	905RCA 2000 150	905RCT 2000 150
20.0	-0.035	20	19.5	82.0	100	160	1.50	5	905RCA 2001 150	905RCT 2001 150
20.0	-0.035	20	19.5	64.0	80	140	2.00	5	905RCA 2000 200	905RCT 2000 200
20.0	-0.035	20	19.5	82.0	100	160	2.00	5	905RCA 2001 200	905RCT 2001 200
20.0	-0.035	20	19.5	64.0	80	140	2.50	5	905RCA 2000 250	905RCT 2000 250
20.0	-0.035	20	19.5	82.0	100	160	2.50	5	905RCA 2001 250	905RCT 2001 250
20.0	-0.035	20	19.5	64.0	80	140	3.00	5	905RCA 2000 300	905RCT 2000 300
20.0	-0.035	20	19.5	82.0	100	160	3.00	5	905RCA 2001 300	905RCT 2001 300
20.0	-0.035	20	19.5	64.0	80	140	4.00	5	905RCA 2000 400	905RCT 2000 400
20.0	-0.035	20	19.5	82.0	100	160	4.00	5	905RCA 2001 400	905RCT 2001 400
20.0	-0.035	20	19.5	64.0	80	140	5.00	5	905RCA 2000 500	905RCT 2000 500
20.0	-0.035	20	19.5	82.0	100	160	5.00	5	905RCA 2001 200	905RCT 2001 200

HB Weldon Shank available on request. Order Code for AICrN Coated : 905RWA | Order Code for GX Coated: 905RWT

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

CHIPSPLITTER SERIES

NTC MILLS

5 Flute 40° Helix & Unequal Pitch Endmills Centre
Cut, Corner Chamfer, with Chipsplitters

NTC-SX MILLS

5 Flute 45° Helix & Unequal Pitch Endmills,
Cup Centre, Corner Chamfer, with Chipsplitters

SUPERNOX 935H-955H

5 Flute 45° Helix & Unequal Pitch Endmills, Cup
Centre, Micro Corner Radius,
with Chipsplitters and Axial Coolant Hole

SUPERNOX 934C-955C

4,5,6,7 Flute 40°/42° Helix & Unequal Pitch
Endmills , Cup Centre, Corner Chamfer with
Chipsplitters and Axial Coolant Hole

SUPERNOX 934H

4 Flute 38° Helix & Unequal Pitch Endmills with
Cup Centre, Micro Corner Radius with Chipsplitters
and with Axial Coolant Hole

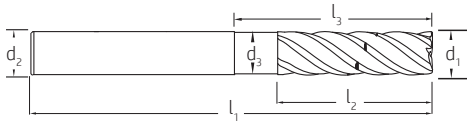
P M K S



NTC MILL

5 Flute 40° Helix & Unequal Pitch Endmills with Chipsplitters
Corner Chamfer

NTC 031
NTC 041
NTC 051



Technical Info. Page No. 140

Steels <45HRC	Stainless Steels -	Cast Irons <390 HB	Hardened Steels -	Titaniums -	Super Alloys -	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.2	±0.50	±0.50	±0.80	-0.05		AlCrN	AlCrN

3xd

6.0	-0.025	6	5.8	18.0	25	62	0.20	5	NTCA 0310P 0600	NTCA 0311P 0600
8.0	-0.025	8	7.6	24.0	30	68	0.20	5	NTCA 0310P 0800	NTCA 0311P 0800
10.0	-0.035	10	9.5	30.0	35	80	0.30	5	NTCA 0310P 1000	NTCA 0311P 1000
12.0	-0.035	12	11.5	36.0	45	93	0.35	5	NTCA 0310P 1200	NTCA 0311P 1200
16.0	-0.035	16	15.5	48.0	55	108	0.40	5	NTCA 0310P 1600	NTCA 0311P 1600
20.0	-0.035	20	19.5	60.0	70	126	0.50	5	NTCA 0310P 2000	NTCA 0311P 2000

4xd

6.0	-0.025	6	5.8	24.0	29	70	0.20	5	NTCA 0410P 0600	NTCA 0411P 0600
8.0	-0.025	8	7.6	32.0	37	79	0.20	5	NTCA 0410P 0800	NTCA 0411P 0800
10.0	-0.035	10	9.5	40.0	45	90	0.30	5	NTCA 0410P 1000	NTCA 0411P 1000
12.0	-0.035	12	11.5	48.0	53	97	0.35	5	NTCA 0410P 1200	NTCA 0411P 1200
16.0	-0.035	16	15.5	64.0	69	129	0.40	5	NTCA 0410P 1600	NTCA 0411P 1600
20.0	-0.035	20	19.5	80.0	85	151	0.50	5	NTCA 0410P 2000	NTCA 0411P 2000

5xd

6.0	-0.025	6	5.8	30.0	35	78	0.20	5	NTCA 0510P 0600	NTCA 0511P 0600
8.0	-0.025	8	7.6	40.0	45	90	0.20	5	NTCA 0510P 0800	NTCA 0511P 0800
10.0	-0.035	10	9.5	50.0	55	100	0.30	5	NTCA 0510P 1000	NTCA 0511P 1000
12.0	-0.035	12	11.5	60.0	65	120	0.35	5	NTCA 0510P 1200	NTCA 0511P 1200
16.0	-0.035	16	15.5	80.0	85	149	0.40	5	NTCA 0510P 1600	NTCA 0511P 1600
20.0	-0.035	20	19.5	100.0	105	175	0.50	5	NTCA 0510P 2000	NTCA 0511P 2000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

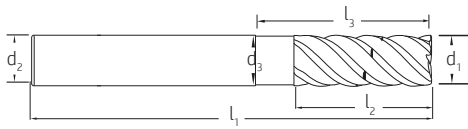
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **141**

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	z	EDP No. HA	EDP No. HA
tol.		h6	-0.2	±0.50	±0.50	±0.80	-0.05		AICrN	GX

3xd										
6.0	-0.025	6	5.8	18.0	25	62	0.20	5	NSXA 0310P 0600	NSXT 0310P 0600
8.0	-0.025	8	7.6	24.0	30	68	0.20	5	NSXA 0310P 0800	NSXT 0310P 0800
10.0	-0.035	10	9.5	30.0	35	80	0.30	5	NSXA 0310P 1000	NSXT 0310P 1000
12.0	-0.035	12	11.5	36.0	45	93	0.35	5	NSXA 0310P 1200	NSXT 0310P 1200
16.0	-0.035	16	15.5	48.0	55	108	0.40	5	NSXA 0310P 1600	NSXT 0310P 1600
20.0	-0.035	20	19.5	60.0	70	126	0.50	5	NSXA 0310P 2000	NSXT 0310P 2000

4xd										
6.0	-0.025	6	5.8	24.0	29	70	0.20	5	NSXA 0410P 0600	NSXT 0410P 0600
8.0	-0.025	8	7.6	32.0	37	79	0.20	5	NSXA 0410P 0800	NSXT 0410P 0800
10.0	-0.035	10	9.5	40.0	45	90	0.30	5	NSXA 0410P 1000	NSXT 0410P 1000
12.0	-0.035	12	11.5	48.0	53	97	0.35	5	NSXA 0410P 1200	NSXT 0410P 1200
16.0	-0.035	16	15.5	64.0	69	129	0.40	5	NSXA 0410P 1600	NSXT 0410P 1600
20.0	-0.035	20	19.5	80.0	85	151	0.50	5	NSXA 0410P 2000	NSXT 0410P 2000

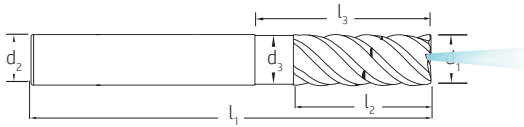
5xd										
6.0	-0.025	6	5.8	30.0	35	78	0.20	5	NSXA 0510P 0600	NSXT 0510P 0600
8.0	-0.025	8	7.6	40.0	45	90	0.20	5	NSXA 0510P 0800	NSXT 0510P 0800
10.0	-0.035	10	9.5	50.0	55	100	0.30	5	NSXA 0510P 1000	NSXT 0510P 1000
12.0	-0.035	12	11.5	60.0	65	120	0.35	5	NSXA 0510P 1200	NSXT 0510P 1200
16.0	-0.035	16	15.5	80.0	85	149	0.40	5	NSXA 0510P 1600	NSXT 0510P 1600
20.0	-0.035	20	19.5	100.0	105	175	0.50	5	NSXA 0510P 2000	NSXT 0510P 2000

HB Weldon Shank available on request. Order Code for AICrN Coated : NSXA 0311P | Order Code for GX Coated: NSXT 0311P

SUPERNOX 935H-955H

5 Flute 45° Helix & Unequal Pitch Endmills, Cup Centre, Micro Corner Radius, with Chipsplitters and Axial Coolant Hole

935H
945H
955H



Technical Info. Page No. 142

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
tol.		h6	-0.2	±0.50	±0.50	±0.80	±0.015		AlCrN	GX

3xd

6.0	-0.025	6	5.8	18.0	25	62	0.10	5	935HCA 0600	935HCT 0600
8.0	-0.025	8	7.6	24.0	30	68	0.15	5	935HCA 0800	935HCT 0800
10.0	-0.035	10	9.5	30.0	35	80	0.20	5	935HCA 1000	935HCT 1000
12.0	-0.035	12	11.5	36.0	45	93	0.20	5	935HCA 1200	935HCT 1200
16.0	-0.035	16	15.5	48.0	55	108	0.20	5	935HCA 1600	935HCT 1600
20.0	-0.035	20	19.5	60.0	70	126	0.20	5	935HCA 2000	935HCT 2000

4xd

6.0	-0.025	6	5.8	24.0	29	70	0.15	5	945HCA 0600	945HCT 0600
8.0	-0.025	8	7.6	32.0	37	79	0.15	5	945HCA 0800	945HCT 0800
10.0	-0.035	10	9.5	40.0	45	90	0.20	5	945HCA 1000	945HCT 1000
12.0	-0.035	12	11.5	48.0	53	97	0.20	5	945HCA 1200	945HCT 1200
16.0	-0.035	16	15.5	64.0	69	129	0.35	5	945HCA 1600	945HCT 1600
20.0	-0.035	20	19.5	80.0	85	151	0.60	5	945HCA 2000	945HCT 2000

5xd

6.0	-0.025	6	5.8	30.0	35	78	0.15	5	955HCA 0600	955HCT 0600
8.0	-0.025	8	7.6	40.0	45	90	0.15	5	955HCA 0800	955HCT 0800
10.0	-0.035	10	9.5	50.0	55	100	0.20	5	955HCA 1000	955HCT 1000
12.0	-0.035	12	11.5	60.0	65	120	0.20	5	955HCA 1200	955HCT 1200
16.0	-0.035	16	15.5	80.0	85	149	0.35	5	955HCA 1600	955HCT 1600
20.0	-0.035	20	19.5	100.0	105	175	0.60	5	955HCA 2000	955HCT 2000

HB Weldon Shank available on request. Order Code for AlCrN Coated : 935HWA | Order Code for GX Coated: 935HWT

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

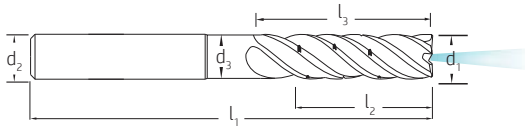
UNIVERSAL

DRILLS

SUPERNOX 934C-955C

4,5,6,7 Flute 40°/42° Helix & Unequal Pitch Endmills, Cup Centre, Corner Chamfer with Chipsplitters and Axial Coolant Hole

934C, 935C, 936C, 937C
944C, 945C, 946C, 947C
955C



STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

Technical Info. Page No. **142**

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	-0.05		AICrN	GX

3xd

6.0	-0.025	6	5.8	18.0	26	62	0.12	4	934CCA 0600	934CCT 0600
8.0	-0.025	8	7.6	24.0	32	68	0.12	5	935CCA 0800	935CCT 0800
10.0	-0.035	10	9.5	30.0	40	80	0.20	5	935CCA 1000	935CCT 1000
10.0	-0.035	10	9.5	30.0	40	80	0.20	6	936CCA 1000	936CCT 1000
12.0	-0.035	12	11.5	36.0	48	93	0.20	5	935CCA 1200	935CCT 1200
12.0	-0.035	12	11.5	36.0	48	93	0.20	6	936CCA 1200	936CCT 1200
16.0	-0.035	16	15.5	48.0	64	108	0.20	5	935CCA 1600	935CCT 1600
16.0	-0.035	16	15.5	48.0	64	108	0.20	7	937CCA 1600	937CCT 1600
20.0	-0.035	20	19.5	60.0	80	126	0.30	5	935CCA 2000	935CCT 2000
20.0	-0.035	20	19.5	60.0	80	126	0.30	7	937CCA 2000	937CCT 2000

4xd

6.0	-0.025	6	5.8	24.0	32	68	0.12	4	944CCA 0600	944CCT 0600
8.0	-0.025	8	7.6	32.0	44	80	0.12	5	945CCA 0800	945CCT 0800
10.0	-0.035	10	9.5	40.0	55	95	0.20	5	945CCA 1000	945CCT 1000
10.0	-0.035	10	9.5	40.0	55	95	0.20	6	946CCA 1000	946CCT 1000
12.0	-0.035	12	11.5	48.0	62	107	0.20	5	945CCA 1200	945CCT 1200
12.0	-0.035	12	11.5	48.0	62	107	0.20	6	946CCA 1201	946CCT 1201
16.0	-0.035	16	15.5	64.0	80	128	0.20	5	945CCA 1600	945CCT 1600
16.0	-0.035	16	15.5	64.0	80	128	0.20	7	947CCA 1600	947CCT 1600
20.0	-0.035	20	19.5	80.0	100	150	0.30	5	945CCA 2000	945CCT 2000
20.0	-0.035	20	19.5	80.0	100	150	0.30	7	947CCA 2000	947CCT 2000

5xd

10.0	-0.035	10	9.5	50.0	65	105	0.20	5	955CCA 1000	955CCT 1000
12.0	-0.035	12	11.5	60.0	73	118	0.20	5	955CCA 1200	955CCT 1200
16.0	-0.035	16	15.5	80.0	94	142	0.20	5	955CCA 1600	955CCT 1600
20.0	-0.035	20	19.5	100.0	113	163	0.30	5	955CCA 2000	955CCT 2000

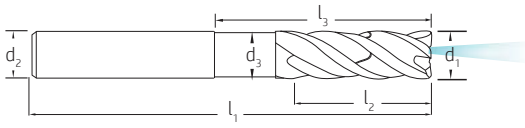
HB Weldon Shank available on request. Order Code for AICrN Coated : 935CWA | Order Code for GX Coated: 935CWT

SUPERNOX

4 Flute 38° Helix & Unequal Pitch Endmills with Chipsplitters, Micro Corner Radius, Cup Centre with Axial Coolant Hole



TP



Technical Info. Page No. 142

Steels <35HRC	Stainless Steels <1100 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <1100 N/mm ²	Super Alloys <1100 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015		AlCrN	GX
6.0	-0.025	6	5.8	18.0	25	62	0.10	4	934HCA 0600	934HCT 0600
8.0	-0.025	8	7.6	24.0	30	68	0.15	4	934HCA 0800	934HCT 0800
10.0	-0.035	10	9.5	30.0	35	80	0.20	4	934HCA 1000	934HCT 1000
12.0	-0.035	12	11.5	36.0	45	93	0.20	4	934HCA 1200	934HCT 1200
16.0	-0.035	16	15.5	48.0	55	108	0.20	4	934HCA 1600	934HCT 1600
20.0	-0.035	20	19.5	60.0	70	126	0.20	4	934HCA 2000	934HCT 2000

HB Weldon Shank available on request. Order Code for AlCrN Coated : 934HWA | Order Code for GX Coated: 934HWT

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

ALUMINIUM SERIES

RAZOR MILLS

- 1 30° Helix Flute Endmills with Corner Chamfer
- 2 Flute 45° Helix Endmills with Corner Chamfer
- 3 Flute 38° Helix Endmills with Corner Chamfer

ALU-T, ALU-T IK

- 3 Flute Variable Helix & Unequal Pitch Endmills,
Micro Corner Radius

ALU-X

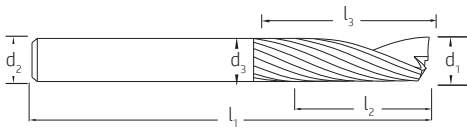
- 3 Flute Variable Helix & Unequal Pitch Endmills
with Mirror Polished Flutes, Corner Radius

N

RAZOR 1400

1 Flute Endmills with Corner Chamfer

EMC 140



Technical Info. Page No. 143

Steels	Stainless Steels	Cast Irons	Hardened Steels	Titaniums	Super Alloys	Aluminiums <6% Si
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	-0.05		Uncoated	HX
1.50	-0.025	6	-	4.50	-	40	0.03	1	EMSU 1400M 0150	EMSH 1400M 0150
2.00	-0.025	6	-	6.00	-	40	0.04	1	EMSU 1400M 0200	EMSH 1400M 0200
3.00	-0.025	6	-	9.50	-	40	0.06	1	EMSU 1400M 0300	EMSH 1400M 0300
4.00	-0.025	6	-	12.00	-	40	0.08	1	EMSU 1400M 0400	EMSH 1400M 0400
5.00	-0.025	6	-	13.00	-	40	0.10	1	EMSU 1400M 0500	EMSH 1400M 0500
6.00	-0.025	6	-	15.00	-	40	0.12	1	EMSU 1400M 0600	EMSH 1400M 0600
8.00	-0.025	8	-	22.00	-	60	0.16	1	EMSU 1400M 0800	EMSH 1400M 0800
10.00	-0.035	10	-	30.00	-	75	0.20	1	EMSU 1400M 1000	EMSH 1400M 1000
12.00	-0.035	12	-	35.00	-	75	0.24	1	EMSU 1400M 1200	EMSH 1400M 1200

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

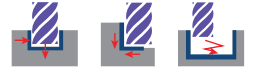
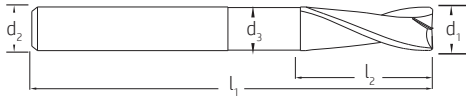
MICRO MILLS

UNIVERSAL

DRILLS



STEELS



INOX

Technical Info. Page No. **143**

Steels	Stainless Steels	Cast Irons	Hardened Steels	Titaniums	Super Alloys	Aluminiums <6% Si
-	-	-	-	-	-	-

SUPERNOX

d_1	d_1	d_2	d_3	l_2	l_3	l_1	CCx45°	Z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	-0.05		Uncoated	HX
3.00	-0.025	6	2.80	7.00	15	57	0.10	2	EMCU 1300M 0300	EMCH 1300M 0300
4.00	-0.025	6	3.80	8.00	17	57	0.15	2	EMCU 1300M 0400	EMCH 1300M 0400
5.00	-0.025	6	4.80	10.00	19	57	0.15	2	EMCU 1300M 0500	EMCH 1300M 0500
6.00	-0.025	6	5.80	10.00	21	57	0.20	2	EMCU 1300M 0600	EMCH 1300M 0600
8.00	-0.025	8	7.60	16.00	27	63	0.20	2	EMCU 1300M 0800	EMCH 1300M 0800
10.00	-0.035	10	9.50	19.00	32	72	0.30	2	EMCU 1300M 1000	EMCH 1300M 1000
12.00	-0.035	12	11.50	22.00	38	83	0.35	2	EMCU 1300M 1200	EMCH 1300M 1200
16.00	-0.035	16	15.50	26.00	44	92	0.40	2	EMCU 1300M 1600	EMCH 1300M 1600
20.00	-0.035	20	19.50	32.00	54	104	0.50	2	EMCU 1300M 2000	EMCH 1300M 2000

CHIPSPLITTERS

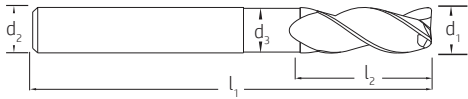
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. 143

Steels	Stainless Steels	Cast Irons	Hardened Steels	Titaniums	Super Alloys	Aluminiums <6% Si
--------	------------------	------------	-----------------	-----------	--------------	----------------------

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	-0.05		Uncoated	HX
3.0	-0.002 -0.008	6	2.8	6.0	15	57	0.10	3	EMCU 1500M 0300	EMCH 1500M 0300
4.0	-0.002 -0.008	6	3.8	8.0	17	57	0.15	3	EMCU 1500M 0400	EMCH 1500M 0400
5.0	-0.002 -0.008	6	4.8	10.0	19	57	0.15	3	EMCU 1500M 0500	EMCH 1500M 0500
6.0	-0.002 -0.008	6	5.8	12.0	21	57	0.20	3	EMCU 1500M 0600	EMCH 1500M 0600
8.0	-0.002 -0.009	8	7.6	16.0	27	63	0.20	3	EMCU 1500M 0800	EMCH 1500M 0800
10.0	-0.002 -0.009	10	9.5	20.0	32	72	0.30	3	EMCU 1500M 1000	EMCH 1500M 1000
12.0	-0.002 -0.011	12	11.5	24.0	38	83	0.35	3	EMCU 1500M 1200	EMCH 1500M 1200
16.0	-0.002 -0.011	16	15.5	32.0	44	92	0.40	3	EMCU 1500M 1600	EMCH 1500M 1600
20.0	-0.002 -0.013	20	19.5	40.0	54	104	0.50	3	EMCU 1500M 2000	EMCH 1500M 2000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

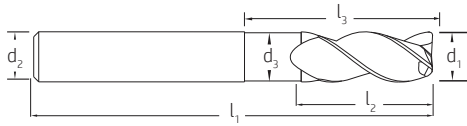
MICRO MILLS

UNIVERSAL

DRILLS



STEELS



INOX

Technical Info. Page No. **143**

Steels	Stainless Steels	Cast Irons	Hardened Steels	Titaniums	Super Alloys	Aluminiums <6% Si
-	-	-	-	-	-	-

SUPERNOX

d_1	d_1	d_2	d_3	l_2	l_3	l_1	r	z	EDP No. HA	EDP No. HA
	<i>tol.</i>	<i>h6</i>	<i>-0.2</i>	<i>±0.50</i>	<i>±0.50</i>	<i>±0.80</i>	<i>±0.015</i>		Uncoated	HX
3.0	-0.025	6	2.8	8.0	15	57	0.20	3	EMRU ALTS 0300 020	EMRH ALTS 0300 020
4.0	-0.025	6	3.8	10.0	16	57	0.20	3	EMRU ALTS 0400 020	EMRH ALTS 0400 020
5.0	-0.025	6	4.8	12.0	20	57	0.20	3	EMRU ALTS 0500 020	EMRH ALTS 0500 020
6.0	-0.025	6	5.8	14.0	20	57	0.20	3	EMRU ALTS 0600 020	EMRH ALTS 0600 020
8.0	-0.025	8	7.6	16.0	24	63	0.20	3	EMRU ALTS 0800 020	EMRH ALTS 0800 020
10.0	-0.035	10	9.5	20.0	30	72	0.20	3	EMRU ALTS 1000 020	EMRH ALTS 1000 020
12.0	-0.035	12	11.5	24.0	36	83	0.20	3	EMRU ALTS 1200 020	EMRH ALTS 1200 020
16.0	-0.035	16	15.5	36.0	48	92	0.50	3	EMRU ALTS 1600 050	EMRH ALTS 1600 050

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

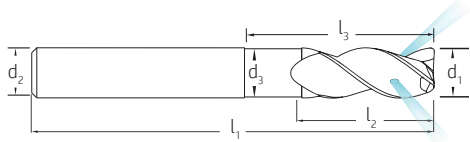
UNIVERSAL

DRILLS

ALU-T IK

3 Flute Variable Helix & Unequal Pitch Endmill, Micro Corner Radius with Lateral Coolant Holes

EMR ALTK



Technical Info. Page No. 143

Steels	Stainless Steels	Cast Irons	Hardened Steels	Titaniums	Super Alloys	Aluminiums <6% Si
--------	------------------	------------	-----------------	-----------	--------------	----------------------

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.2	±0.50	±0.50	±0.80	±0.015		Uncoated	HX
6.0	-0.025	6	5.8	9.0	18	57	0.20	3	EMRU ALTK 0600 020	EMRH ALTK 0600 020
6.0	-0.025	6	5.8	9.0	30	65	0.20	3	EMRU ALTK 0601 020	EMRH ALTK 0601 020
6.0	-0.025	6	5.8	14.0	24	60	0.20	3	EMRU ALTK 0602 020	EMRH ALTK 0602 020
8.0	-0.025	8	7.6	12.0	24	63	0.20	3	EMRU ALTK 0800 020	EMRH ALTK 0800 020
8.0	-0.025	8	7.6	12.0	40	79	0.20	3	EMRU ALTK 0801 020	EMRH ALTK 0801 020
8.0	-0.025	8	7.6	18.0	32	68	0.20	3	EMRU ALTK 0802 020	EMRH ALTK 0802 020
10.0	-0.035	10	9.5	15.0	30	72	0.20	3	EMRU ALTK 1000 020	EMRH ALTK 1000 020
10.0	-0.035	10	9.5	15.0	50	92	0.20	3	EMRU ALTK 1001 020	EMRH ALTK 1001 020
10.0	-0.035	10	9.5	22.0	40	80	0.20	3	EMRU ALTK 1002 020	EMRH ALTK 1002 020
12.0	-0.035	12	11.5	18.0	36	83	0.20	3	EMRU ALTK 1200 020	EMRH ALTK 1200 020
12.0	-0.035	12	11.5	26.0	48	93	0.20	3	EMRU ALTK 1202 020	EMRH ALTK 1202 020
12.0	-0.035	12	11.5	18.0	60	100	0.20	3	EMRU ALTK 1201 020	EMRH ALTK 1201 020
16.0	-0.035	16	15.5	24.0	48	92	0.50	3	EMRU ALTK 1600 020	EMRH ALTK 1600 020
16.0	-0.035	16	15.5	34.0	64	115	0.50	3	EMRU ALTK 1602 020	EMRH ALTK 1602 020
16.0	-0.035	16	15.5	24.0	80	128	0.50	3	EMRU ALTK 1601 020	EMRH ALTK 1601 020
20.0	-0.035	20	19.5	30.0	60	110	0.50	3	EMRU ALTK 2001 020	EMRH ALTK 2001 020
20.0	-0.035	20	19.5	30.0	100	150	0.50	3	EMRU ALTK 2000 020	EMRH ALTK 2000 020
20.0	-0.035	20	19.5	42.0	80	130	0.50	3	EMRU ALTK 2002 020	EMRH ALTK 2002 020

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

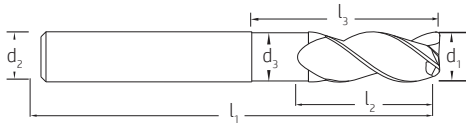
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **143**

Steels	Stainless Steels	Cast Irons	Hardened Steels	Titaniums	Super Alloys	Aluminiums <6% Si
-	-	-	-	-	-	-

d_1	d_1	d_2	d_3	l_2	l_3	l_1	r	z	EDP No. HA	EDP No. HA
	<i>tol.</i>	<i>h6</i>	<i>-0.2</i>	<i>±0.50</i>	<i>±0.50</i>	<i>±0.80</i>	<i>±0.015</i>		Uncoated	HX
4.0	-0.002 -0.008	6	3.8	5.0	5	54	1.00	3	EMRU 1510M 0400 100	EMRH 1510M 0400 100
5.0	-0.002 -0.008	6	4.8	6.0	6	54	1.00	3	EMRU 1510M 0500 100	EMRH 1510M 0500 100
6.0	-0.002 -0.008	6	5.8	7.0	18	54	0.50	3	EMRU 1510M 0600 050	EMRH 1510M 0600 050
10.0	-0.002 -0.009	10	9.5	11.0	30	72	0.50	3	EMRU 1510M 1000 050	EMRH 1510M 1000 050
10.0	-0.002 -0.009	10	9.5	11.0	30	72	1.00	3	EMRU 1510M 1000 100	EMRH 1510M 1000 100
10.0	-0.002 -0.009	10	9.5	11.0	30	72	1.50	3	EMRU 1510M 1000 150	EMRH 1510M 1000 150
10.0	-0.002 -0.009	10	9.5	11.0	30	72	2.00	3	EMRU 1510M 1000 200	EMRH 1510M 1000 200
10.0	-0.002 -0.009	10	9.5	11.0	30	72	2.50	3	EMRU 1510M 1000 250	EMRH 1510M 1000 250
12.0	-0.002 -0.011	12	11.5	13.0	36	83	0.50	3	EMRU 1510M 1200 050	EMRH 1510M 1200 050
12.0	-0.002 -0.011	12	11.5	13.0	36	83	1.00	3	EMRU 1510M 1200 100	EMRH 1510M 1200 100
12.0	-0.002 -0.011	12	11.5	13.0	36	83	1.50	3	EMRU 1510M 1200 150	EMRH 1510M 1200 150
12.0	-0.002 -0.011	12	11.5	13.0	36	83	2.00	3	EMRU 1510M 1200 200	EMRH 1510M 1200 200
12.0	-0.002 -0.011	12	11.5	13.0	36	83	2.50	3	EMRU 1510M 1200 250	EMRH 1510M 1200 250
16.0	-0.002 -0.011	16	15.5	17.0	48	97	1.00	3	EMRU 1510M 1600 100	EMRH 1510M 1600 100
16.0	-0.002 -0.011	16	15.5	17.0	48	97	2.50	3	EMRU 1510M 1600 250	EMRH 1510M 1600 250
16.0	-0.002 -0.006	16	15.5	17.0	48	97	4.00	3	EMRU 1510M 1600 400	EMRH 1510M 1600 400
20.0	-0.002 -0.013	20	19.5	21.0	60	111	2.50	3	EMRU 1510M 2000 250	EMRH 1510M 2000 250
20.0	-0.002 -0.013	20	19.5	21.0	60	111	4.00	3	EMRU 1510M 2000 400	EMRH 1510M 2000 400

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



HARDENED SERIES

ROCKSTAR

2, 4 Flute 30° Helix Square & Ball

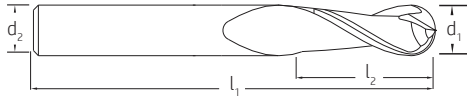
MIRRORROCK

6 FL 55° Helix Endmill with Corner Radius

SUPERROCK

4 FL 45° Helix & Unequal Pitch Endmills,
Corner Radius

H

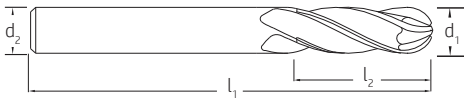


Technical Info. Page No. **144**

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	z	EDP No. HA	
								ALD	DX
	tol.	h6	-0.1	±0.50	±0.50	±0.80			
2.0	-0.020	6		4.0		50	2	EMBD 2100S 0200	EMBX 2100S 0200
3.0	-0.025	6		6.0		50	2	EMBD 2100S 0300	EMBX 2100S 0300
4.0	-0.025	6		8.0		50	2	EMBD 2100S 0400	EMBX 2100S 0400
5.0	-0.025	6		10.0		50	2	EMBD 2100S 0500	EMBX 2100S 0500
6.0	-0.025	6		12.0		50	2	EMBD 2100S 0600	EMBX 2100S 0600
8.0	-0.025	8		16.0		60	2	EMBD 2100S 0800	EMBX 2100S 0800
10.0	-0.035	10		20.0		75	2	EMBD 2100S 1000	EMBX 2100S 1000
12.0	-0.035	12		24.0		75	2	EMBD 2100S 1200	EMBX 2100S 1200
2.0	-0.020	6		4.0		75	2	EMBD 2100L 0200	EMBX 2100L 0200
3.0	-0.025	6		6.0		75	2	EMBD 2100L 0300	EMBX 2100L 0300
4.0	-0.025	6		8.0		75	2	EMBD 2100L 0400	EMBX 2100L 0400
5.0	-0.025	6		10.0		75	2	EMBD 2100L 0500	EMBX 2100L 0500
6.0	-0.025	6		12.0		75	2	EMBD 2100L 0600	EMBX 2100L 0600
8.0	-0.025	8		16.0		75	2	EMBD 2100L 0800	EMBX 2100L 0800
10.0	-0.035	10		20.0		100	2	EMBD 2100L 1000	EMBX 2100L 1000
12.0	-0.035	12		24.0		100	2	EMBD 2100L 1200	EMBX 2100L 1200
2.0	-0.020	6		4.0		100	2	EMBD 2100X 0200	EMBX 2100X 0200
3.0	-0.025	6		6.0		100	2	EMBD 2100X 0300	EMBX 2100X 0300
4.0	-0.025	6		8.0		100	2	EMBD 2100X 0400	EMBX 2100X 0400
5.0	-0.025	6		10.0		100	2	EMBD 2100X 0500	EMBX 2100X 0500
6.0	-0.025	6		12.0		100	2	EMBD 2100X 0600	EMBX 2100X 0600
8.0	-0.025	8		16.0		100	2	EMBD 2100X 0800	EMBX 2100X 0800

HB Weldon Shank available on request. Order Code for ALD Coated : EMBD 2101 | Order Code for DX Coated: EMBX 2101



Technical Info. Page No. **144**

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
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d_1	d_1	d_2	d_3	l_2	l_3	l_1	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.1	± 0.50	± 0.50	± 0.80		ALD	DX
2.0	-0.020	6		4.0		50	4	EMBD 4100S 0200	EMBX 4100S 0200
3.0	-0.025	6		6.0		50	4	EMBD 4100S 0300	EMBX 4100S 0300
4.0	-0.025	6		8.0		50	4	EMBD 4100S 0400	EMBX 4100S 0400
5.0	-0.025	6		10.0		50	4	EMBD 4100S 0500	EMBX 4100S 0500
6.0	-0.025	6		12.0		50	4	EMBD 4100S 0600	EMBX 4100S 0600
8.0	-0.025	8		16.0		60	4	EMBD 4100S 0800	EMBX 4100S 0800
10.0	-0.035	10		20.0		75	4	EMBD 4100S 1000	EMBX 4100S 1000
12.0	-0.035	12		24.0		75	4	EMBD 4100S 1200	EMBX 4100S 1200
2.0	-0.020	6		4.0		75	4	EMBD 4100L 0200	EMBX 4100L 0200
3.0	-0.025	6		6.0		75	4	EMBD 4100L 0300	EMBX 4100L 0300
4.0	-0.025	6		8.0		75	4	EMBD 4100L 0400	EMBX 4100L 0400
5.0	-0.025	6		10.0		75	4	EMBD 4100L 0500	EMBX 4100L 0500
6.0	-0.025	6		12.0		75	4	EMBD 4100L 0600	EMBX 4100L 0600
8.0	-0.025	8		16.0		75	4	EMBD 4100L 0800	EMBX 4100L 0800
10.0	-0.035	10		20.0		100	4	EMBD 4100L 1000	EMBX 4100L 1000
12.0	-0.035	12		24.0		100	4	EMBD 4100L 1200	EMBX 4100L 1200
2.0	-0.020	6		4.0		100	4	EMBD 4100X 0200	EMBX 4100X 0200
3.0	-0.025	6		6.0		100	4	EMBD 4100X 0300	EMBX 4100X 0300
4.0	-0.025	6		8.0		100	4	EMBD 4100X 0400	EMBX 4100X 0400
5.0	-0.025	6		10.0		100	4	EMBD 4100X 0500	EMBX 4100X 0500
6.0	-0.025	6		12.0		100	4	EMBD 4100X 0600	EMBX 4100X 0600
8.0	-0.025	8		16.0		100	4	EMBD 4100X 0800	EMBX 4100X 0800

HB Weldon Shank available on request. Order Code for ALD Coated : EMBD 4101 | Order Code for DX Coated: EMBX 4101

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

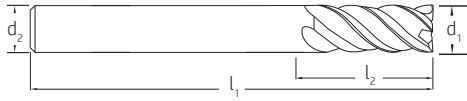
MICRO MILLS

UNIVERSAL

DRILLS



STEELS



INOX

Technical Info. Page No. **144**

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

SUPERNOX

d_1	d_1	d_2	d_3	l_2	l_3	l_1	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.1	± 0.50	± 0.50	± 0.80		ALD	DX

CHIPSPLITTERS

1.0	-0.025	6		9.0		50	4	EMSD 4100S 0100	EMSX 4100S 0100
2.0	-0.025	6		9.0		50	4	EMSD 4100S 0200	EMSX 4100S 0200
3.0	-0.025	6		9.0		50	4	EMSD 4100S 0300	EMSX 4100S 0300
4.0	-0.025	6		14.0		50	4	EMSD 4100S 0400	EMSX 4100S 0400
5.0	-0.025	6		15.0		50	4	EMSD 4100S 0500	EMSX 4100S 0500
6.0	-0.025	6		17.0		50	4	EMSD 4100S 0600	EMSX 4100S 0600
8.0	-0.025	8		20.0		60	4	EMSD 4100S 0800	EMSX 4100S 0800
10.0	-0.035	10		25.0		75	4	EMSD 4100S 1000	EMSX 4100S 1000
12.0	-0.035	12		30.0		75	4	EMSD 4100S 1200	EMSX 4100S 1200

Aluminiums

ROCKSTARS

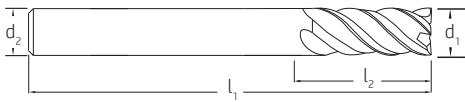
4.0	-0.025	6		20.0		75	4	EMSD 4100L 0400	EMSX 4100L 0400
5.0	-0.025	6		20.0		75	4	EMSD 4100L 0500	EMSX 4100L 0500
6.0	-0.025	6		30.0		75	4	EMSD 4100L 0600	EMSX 4100L 0600
8.0	-0.025	8		35.0		100	4	EMSD 4100L 0800	EMSX 4100L 0800
10.0	-0.035	10		40.0		100	4	EMSD 4100L 1000	EMSX 4100L 1000
12.0	-0.035	12		50.0		100	4	EMSD 4100L 1200	EMSX 4100L 1200

MICRO MILLS

HB Weldon Shank available on request. Order Code for ALD Coated : EMSD 4101 | Order Code for DX Coated: EMSX 4101

UNIVERSAL

DRILLS



Technical Info. Page No. **144**

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015		ALD	DX
6.0	-0.025	6		8.0		50	0.50	4	EMRD 4100S 0600 050	EMRX 4100S 0600 050
6.0	-0.025	6		8.0		50	1.00	4	EMRD 4100S 0600 100	EMRX 4100S 0600 100
8.0	-0.025	8		10.0		60	0.50	4	EMRD 4100S 0800 050	EMRX 4100S 0800 050
8.0	-0.025	8		10.0		60	1.00	4	EMRD 4100S 0800 100	EMRX 4100S 0800 100
10.0	-0.035	10		12.0		75	0.50	4	EMRD 4100S 1000 050	EMRX 4100S 1000 050
10.0	-0.035	10		12.0		75	1.00	4	EMRD 4100S 1000 100	EMRX 4100S 1000 100
12.0	-0.035	12		15.0		75	0.50	4	EMRD 4100S 1200 050	EMRX 4100S 1200 050
12.0	-0.035	12		15.0		75	1.00	4	EMRD 4100S 1200 100	EMRX 4100S 1200 100
6.0	-0.025	6		8.0		100	0.50	4	EMRD 4100L 0600 050	EMRX 4100L 0600 050
6.0	-0.025	6		8.0		100	1.00	4	EMRD 4100L 0600 100	EMRX 4100L 0600 100
8.0	-0.025	8		10.0		100	0.50	4	EMRD 4100L 0800 050	EMRX 4100L 0800 050
8.0	-0.025	8		10.0		100	1.00	4	EMRD 4100L 0800 100	EMRX 4100L 0800 100
10.0	-0.035	10		12.0		100	0.50	4	EMRD 4100L 1000 050	EMRX 4100L 1000 050
10.0	-0.035	10		12.0		100	1.00	4	EMRD 4100L 1000 100	EMRX 4100L 1000 100
12.0	-0.035	12		15.0		100	0.50	4	EMRD 4100L 1200 050	EMRX 4100L 1200 050
12.0	-0.035	12		15.0		100	1.00	4	EMRD 4100L 1200 100	EMRX 4100L 1200 100

HB Weldon Shank available on request. Order Code for ALD Coated : EMRD 4101 | Order Code for DX Coated: EMRX 4101

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

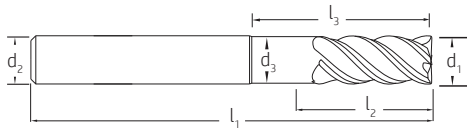
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. 144

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015		DX	DX
3.00	-0.025	6	2.80	8.00	15	57	0.50	4	445CX 0300 050	445WX 0300 050
4.00	-0.025	6	3.80	11.00	17	57	0.50	4	445CX 0400 050	445WX 0400 050
5.00	-0.025	6	4.80	13.00	19	57	0.50	4	445CX 0500 050	445WX 0500 050
6.00	-0.025	6	5.80	13.00	21	57	0.50	4	445CX 0600 050	445WX 0600 050
8.00	-0.025	8	7.60	19.00	27	63	0.50	4	445CX 0800 050	445WX 0800 050
10.00	-0.035	10	9.50	22.00	32	72	0.50	4	445CX 1000 050	445WX 1000 050
12.00	-0.035	12	11.50	26.00	38	83	0.50	4	445CX 1200 050	445WX 1200 050
16.00	-0.035	16	15.50	32.00	44	92	0.50	4	445CX 1600 050	445WX 1600 050
20.00	-0.035	20	19.50	38.00	54	104	0.50	4	445CX 2000 050	445WX 2000 050

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.1	±0.50	±0.50	±0.80	-0.05		DX	DX
3.0	-0.025	6	2.8	12.0	17	57	0.10	4	445CX 0300	445WX 0300
4.0	-0.025	6	3.8	13.0	18	57	0.10	4	445CX 0400	445WX 0400
5.0	-0.025	6	4.8	15.0	20	57	0.10	4	445CX 0500	445WX 0500
6.0	-0.025	6	5.8	16.0	21	57	0.10	4	445CX 0600	445WX 0600
8.0	-0.025	8	7.6	19.0	24	63	0.10	4	445CX 0800	445WX 0800
10.0	-0.035	10	9.5	25.0	30	72	0.10	4	445CX 1000	445WX 1000
12.0	-0.035	12	11.5	28.0	33	83	0.10	4	445CX 1200	445WX 1200
16.0	-0.035	16	15.5	36.0	41	92	0.10	4	445CX 1600	445WX 1600
20.0	-0.035	20	19.5	41.0	46	104	0.10	4	445CX 2000	445WX 2000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

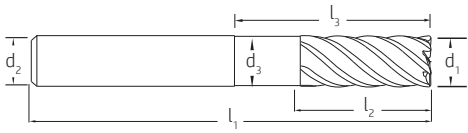
DRILLS

MIRROR-ROCK

6 Flute 55° Helix Endmill with Corner Radius

EMR 610

TP



Technical Info. Page No. 144

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	z	EDP No. HA	EDP No. HA
	tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015		ALD	DX
6.0	-0.025	6	5.8	13.0	21	57	0.50	6	EMRD 6100M 0600 050	EMRX 6100M 0600 050
8.0	-0.025	8	7.6	19.0	27	63	0.50	6	EMRD 6100M 0800 050	EMRX 6100M 0800 050
10.0	-0.035	10	9.5	22.0	32	72	0.50	6	EMRD 6100M 1000 050	EMRX 6100M 1000 050
12.0	-0.035	12	11.5	26.0	38	83	0.50	6	EMRD 6100M 1200 050	EMRX 6100M 1200 050
16.0	-0.035	16	15.5	32.0	44	92	1.00	6	EMRD 6100M 1600 100	EMRX 6100M 1600 100
20.0	-0.035	20	19.5	38.0	54	104	1.00	6	EMRD 6100M 2000 100	EMRX 6100M 2000 100

HB Weldon Shank available on request. Order Code for ALD Coated : EMRD 6101 | Order Code for DX Coated: EMRX 6101

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



DIE & MOULD SERIES

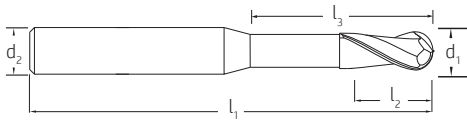
2 Flute endmills with deep reach for
hardened steels - Square-end, Ballnose
and Corner Radius



DIE & MOULD

2 Flute Ballnose Endmill with Neck

EMB 265



Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	EDP No. HA
	tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015	ALD	DX
1.00	-0.020	4	0.95	1.00	02	45	0.50	EMBD 265 0100 04045 02 000	EMBX 265 0100 04045 02 000
1.00	-0.020	6	0.95	1.00	02	50	0.50	EMBD 265 0100 06050 02 000	EMBX 265 0100 06050 02 000
1.00	-0.020	4	0.95	1.00	03	50	0.50	EMBD 265 0100 04050 03 000	EMBX 265 0100 04050 03 000
1.00	-0.020	6	0.95	1.00	03	50	0.50	EMBD 265 0100 06050 03 000	EMBX 265 0100 06050 03 000
1.00	-0.020	4	0.95	1.00	04	50	0.50	EMBD 265 0100 04050 04 000	EMBX 265 0100 04050 04 000
1.00	-0.020	6	0.95	1.00	04	50	0.50	EMBD 265 0100 06050 04 000	EMBX 265 0100 06050 04 000
1.00	-0.020	4	0.95	1.00	05	50	0.50	EMBD 265 0100 04050 05 000	EMBX 265 0100 04050 05 000
1.00	-0.020	6	0.95	1.00	05	50	0.50	EMBD 265 0100 06050 05 000	EMBX 265 0100 06050 05 000
1.00	-0.020	4	0.95	1.00	06	50	0.50	EMBD 265 0100 04050 06 000	EMBX 265 0100 04050 06 000
1.00	-0.020	6	0.95	1.00	06	50	0.50	EMBD 265 0100 06050 06 000	EMBX 265 0100 06050 06 000
1.00	-0.020	4	0.95	1.00	08	50	0.50	EMBD 265 0100 04050 08 000	EMBX 265 0100 04050 08 000
1.00	-0.020	6	0.95	1.00	08	50	0.50	EMBD 265 0100 06050 08 000	EMBX 265 0100 06050 08 000
1.00	-0.020	4	0.95	1.00	10	50	0.50	EMBD 265 0100 04050 10 000	EMBX 265 0100 04050 10 000
1.00	-0.020	6	0.95	1.00	10	50	0.50	EMBD 265 0100 06050 10 000	EMBX 265 0100 06050 10 000
1.00	-0.020	4	0.95	1.00	12	50	0.50	EMBD 265 0100 04050 12 000	EMBX 265 0100 04050 12 000
1.00	-0.020	6	0.95	1.00	12	50	0.50	EMBD 265 0100 06050 12 000	EMBX 265 0100 06050 12 000
1.00	-0.020	4	0.95	1.00	14	50	0.50	EMBD 265 0100 04050 14 000	EMBX 265 0100 04050 14 000
1.00	-0.020	6	0.95	1.00	14	50	0.50	EMBD 265 0100 06050 14 000	EMBX 265 0100 06050 14 000
1.00	-0.020	4	0.95	1.00	16	50	0.50	EMBD 265 0100 04050 16 000	EMBX 265 0100 04050 16 000
1.00	-0.020	6	0.95	1.00	16	50	0.50	EMBD 265 0100 06050 16 000	EMBX 265 0100 06050 16 000
1.00	-0.020	4	0.95	1.00	18	50	0.50	EMBD 265 0100 04050 18 000	EMBX 265 0100 04050 18 000
1.00	-0.020	6	0.95	1.00	18	60	0.50	EMBD 265 0100 06060 18 000	EMBX 265 0100 06060 18 000
1.00	-0.020	4	0.95	1.00	20	50	0.50	EMBD 265 0100 04050 20 000	EMBX 265 0100 04050 20 000
1.00	-0.020	6	0.95	1.00	20	60	0.50	EMBD 265 0100 06060 20 000	EMBX 265 0100 06060 20 000
1.00	-0.020	4	0.95	1.00	22	60	0.50	EMBD 265 0100 04060 22 000	EMBX 265 0100 04060 22 000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

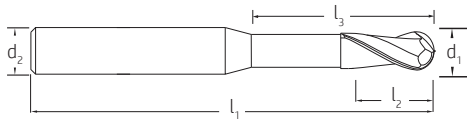
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

Technical Info. Page No. 146

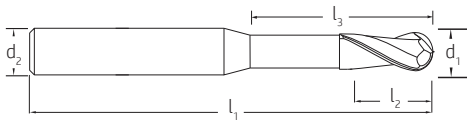
Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d_1	d_1	d_2	d_3	l_2	l_3	l_1	r	EDP No. HA	EDP No. HA
tol.	h6	-0.1	± 0.50	± 0.50	± 0.80	± 0.015		ALD	DX
1.00	-0.020	6	0.95	1.00	22	60	0.50	EMBD 265 0100 06060 22 000	EMBX 265 0100 06060 22 000
1.00	-0.020	4	0.95	1.00	25	60	0.50	EMBD 265 0100 04060 25 000	EMBX 265 0100 04060 25 000
1.20	-0.020	6	1.10	1.20	04	60	0.60	EMBD 265 0120 06060 04 000	EMBX 265 0120 06060 04 000
1.20	-0.020	4	1.10	1.20	04	50	0.60	EMBD 265 0120 04050 04 000	EMBX 265 0120 04050 04 000
1.20	-0.020	6	1.10	1.20	06	50	0.60	EMBD 265 0120 06050 06 000	EMBX 265 0120 06050 06 000
1.20	-0.020	4	1.10	1.20	06	50	0.60	EMBD 265 0120 04050 06 000	EMBX 265 0120 04050 06 000
1.20	-0.020	6	1.10	1.20	08	50	0.60	EMBD 265 0120 06050 08 000	EMBX 265 0120 06050 08 000
1.20	-0.020	4	1.10	1.20	08	50	0.60	EMBD 265 0120 04050 08 000	EMBX 265 0120 04050 08 000
1.20	-0.020	6	1.10	1.20	10	50	0.60	EMBD 265 0120 06050 10 000	EMBX 265 0120 06050 10 000
1.20	-0.020	4	1.10	1.20	10	50	0.60	EMBD 265 0120 04050 10 000	EMBX 265 0120 04050 10 000
1.20	-0.020	6	1.10	1.20	12	50	0.60	EMBD 265 0120 06050 12 000	EMBX 265 0120 06050 12 000
1.20	-0.020	4	1.10	1.20	12	50	0.60	EMBD 265 0120 04050 12 000	EMBX 265 0120 04050 12 000
1.20	-0.020	6	1.10	1.20	16	50	0.60	EMBD 265 0120 06050 16 000	EMBX 265 0120 06050 16 000
1.20	-0.020	4	1.10	1.20	16	60	0.60	EMBD 265 0120 04060 16 000	EMBX 265 0120 04060 16 000
1.20	-0.020	6	1.10	1.20	20	50	0.60	EMBD 265 0120 06050 20 000	EMBX 265 0120 06050 20 000
1.20	-0.020	4	1.10	1.20	20	60	0.60	EMBD 265 0120 04060 20 000	EMBX 265 0120 04060 20 000
1.20	-0.020	6	1.10	1.20	24	60	0.60	EMBD 265 0120 06060 24 000	EMBX 265 0120 06060 24 000
1.20	-0.020	4	1.10	1.20	24	65	0.60	EMBD 265 0120 04065 24 000	EMBX 265 0120 04065 24 000
140	-0.020	4	1.30	140	06	50	0.70	EMBD 265 0140 04050 06 000	EMBX 265 0140 04050 06 000
140	-0.020	4	1.30	140	08	50	0.70	EMBD 265 0140 04050 08 000	EMBX 265 0140 04050 08 000
140	-0.020	4	1.30	140	12	50	0.70	EMBD 265 0140 04050 12 000	EMBX 265 0140 04050 12 000
140	-0.020	4	1.30	140	16	50	0.70	EMBD 265 0140 04050 16 000	EMBX 265 0140 04050 16 000
150	-0.020	4	140	150	03	50	0.75	EMBD 265 0150 04050 03 000	EMBX 265 0150 04050 03 000
150	-0.020	6	140	150	03	50	0.75	EMBD 265 0150 06050 03 000	EMBX 265 0150 06050 03 000
150	-0.020	4	140	150	04	50	0.75	EMBD 265 0150 04050 04 000	EMBX 265 0150 04050 04 000

DIE & MOULD

2 Flute Ballnose Endmill with Neck

EMB 265



Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	EDP No. HA
tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015		ALD	DX
1.50	-0.020	6	140	1.50	04	50	0.75	EMBD 265 0150 06050 04 000	EMBX 265 0150 06050 04 000
1.50	-0.020	4	140	1.50	06	50	0.75	EMBD 265 0150 04050 06 000	EMBX 265 0150 04050 06 000
1.50	-0.020	6	140	1.50	06	50	0.75	EMBD 265 0150 06050 06 000	EMBX 265 0150 06050 06 000
1.50	-0.020	4	140	1.50	08	50	0.75	EMBD 265 0150 04050 08 000	EMBX 265 0150 04050 08 000
1.50	-0.020	6	140	1.50	08	50	0.75	EMBD 265 0150 06050 08 000	EMBX 265 0150 06050 08 000
1.50	-0.020	4	140	1.50	10	50	0.75	EMBD 265 0150 04050 10 000	EMBX 265 0150 04050 10 000
1.50	-0.020	6	140	1.50	10	50	0.75	EMBD 265 0150 06050 10 000	EMBX 265 0150 06050 10 000
1.50	-0.020	4	140	1.50	12	50	0.75	EMBD 265 0150 04050 12 000	EMBX 265 0150 04050 12 000
1.50	-0.020	6	140	1.50	12	50	0.75	EMBD 265 0150 06050 12 000	EMBX 265 0150 06050 12 000
1.50	-0.020	4	140	1.50	14	50	0.75	EMBD 265 0150 04050 14 000	EMBX 265 0150 04050 14 000
1.50	-0.020	6	140	1.50	14	50	0.75	EMBD 265 0150 06050 14 000	EMBX 265 0150 06050 14 000
1.50	-0.020	4	140	1.50	16	50	0.75	EMBD 265 0150 04050 16 000	EMBX 265 0150 04050 16 000
1.50	-0.020	6	140	1.50	16	60	0.75	EMBD 265 0150 06060 16 000	EMBX 265 0150 06060 16 000
1.50	-0.020	4	140	1.50	18	50	0.75	EMBD 265 0150 04050 18 000	EMBX 265 0150 04050 18 000
1.50	-0.020	6	140	1.50	18	60	0.75	EMBD 265 0150 06060 18 000	EMBX 265 0150 06060 18 000
1.50	-0.020	4	140	1.50	20	50	0.75	EMBD 265 0150 04050 20 000	EMBX 265 0150 04050 20 000
1.50	-0.020	6	140	1.50	20	60	0.75	EMBD 265 0150 06060 20 000	EMBX 265 0150 06060 20 000
1.50	-0.020	4	140	1.50	22	60	0.75	EMBD 265 0150 04060 22 000	EMBX 265 0150 04060 22 000
1.50	-0.020	6	140	1.50	22	65	0.75	EMBD 265 0150 06065 22 000	EMBX 265 0150 06065 22 000
1.50	-0.020	4	140	1.50	25	60	0.75	EMBD 265 0150 04060 25 000	EMBX 265 0150 04060 25 000
1.50	-0.020	6	140	1.50	25	65	0.75	EMBD 265 0150 06065 25 000	EMBX 265 0150 06065 25 000
1.50	-0.020	4	140	1.50	30	70	0.75	EMBD 265 0150 04070 30 000	EMBX 265 0150 04070 30 000
1.50	-0.020	6	140	1.50	30	70	0.75	EMBD 265 0150 06070 30 000	EMBX 265 0150 06070 30 000
1.50	-0.020	6	140	1.50	35	70	0.75	EMBD 265 0150 06070 35 000	EMBX 265 0150 06070 35 000
1.60	-0.020	4	150	1.60	06	50	0.80	EMBD 265 0160 04050 06 000	EMBX 265 0160 04050 06 000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

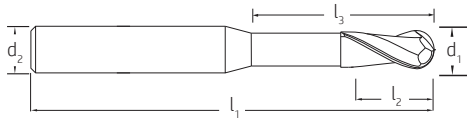
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



STEELS



INOX

Technical Info. Page No. **146**

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

SUPERNOX

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	EDP No. HA
----------------	----------------	----------------	----------------	----------------	----------------	----------------	---	------------	------------

	tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015	ALD	DX
1.60	-0.020	4	1.50	1.60	08	50	0.80	EMBD 265 0160 04050 08 000	EMBX 265 0160 04050 08 000
1.60	-0.020	4	1.50	1.60	12	50	0.80	EMBD 265 0160 04050 12 000	EMBX 265 0160 04050 12 000
1.60	-0.020	4	1.50	1.60	16	50	0.80	EMBD 265 0160 04050 16 000	EMBX 265 0160 04050 16 000
1.60	-0.020	4	1.50	1.60	20	50	0.80	EMBD 265 0160 04050 20 000	EMBX 265 0160 04050 20 000
1.80	-0.020	4	1.70	1.80	06	50	0.90	EMBD 265 0180 04050 06 000	EMBX 265 0180 04050 06 000
1.80	-0.020	4	1.70	1.80	08	50	0.90	EMBD 265 0180 04050 08 000	EMBX 265 0180 04050 08 000
1.80	-0.020	4	1.70	1.80	12	50	0.90	EMBD 265 0180 04050 12 000	EMBX 265 0180 04050 12 000
1.80	-0.020	4	1.70	1.80	16	50	0.90	EMBD 265 0180 04050 16 000	EMBX 265 0180 04050 16 000
1.80	-0.020	4	1.70	1.80	20	50	0.90	EMBD 265 0180 04050 20 000	EMBX 265 0180 04050 20 000
2.00	-0.020	4	1.90	2.00	04	50	1.00	EMBD 265 0200 04050 04 000	EMBX 265 0200 04050 04 000
2.00	-0.020	6	1.90	2.00	04	50	1.00	EMBD 265 0200 06050 04 000	EMBX 265 0200 06050 04 000
2.00	-0.020	4	1.90	2.00	06	50	1.00	EMBD 265 0200 04050 06 000	EMBX 265 0200 04050 06 000
2.00	-0.020	6	1.90	2.00	06	50	1.00	EMBD 265 0200 06050 06 000	EMBX 265 0200 06050 06 000
2.00	-0.020	6	1.90	2.00	08	50	1.00	EMBD 265 0200 06050 08 000	EMBX 265 0200 06050 08 000
2.00	-0.020	4	1.90	2.00	08	50	1.00	EMBD 265 0200 04050 08 000	EMBX 265 0200 04050 08 000
2.00	-0.020	6	1.90	2.00	10	50	1.00	EMBD 265 0200 06050 10 000	EMBX 265 0200 06050 10 000
2.00	-0.020	4	1.90	2.00	10	50	1.00	EMBD 265 0200 04050 10 000	EMBX 265 0200 04050 10 000
2.00	-0.020	6	1.90	2.00	12	50	1.00	EMBD 265 0200 06050 12 000	EMBX 265 0200 06050 12 000
2.00	-0.020	4	1.90	2.00	12	50	1.00	EMBD 265 0200 04050 12 000	EMBX 265 0200 04050 12 000
2.00	-0.020	6	1.90	2.00	14	50	1.00	EMBD 265 0200 06050 14 000	EMBX 265 0200 06050 14 000
2.00	-0.020	4	1.90	2.00	14	50	1.00	EMBD 265 0200 04050 14 000	EMBX 265 0200 04050 14 000
2.00	-0.020	6	1.90	2.00	16	50	1.00	EMBD 265 0200 06050 16 000	EMBX 265 0200 06050 16 000
2.00	-0.020	4	1.90	2.00	16	50	1.00	EMBD 265 0200 04050 16 000	EMBX 265 0200 04050 16 000
2.00	-0.020	6	1.90	2.00	18	60	1.00	EMBD 265 0200 06060 18 000	EMBX 265 0200 06060 18 000
2.00	-0.020	4	1.90	2.00	18	50	1.00	EMBD 265 0200 04050 18 000	EMBX 265 0200 04050 18 000

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

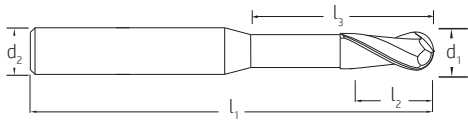
UNIVERSAL

DRILLS

DIE & MOULD

2 Flute Ballnose Endmill with Neck

EMB 265



Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	EDP No. HA
tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015	ALD	DX	
2.00	-0.020	6	1.90	2.00	20	60	1.00	EMBD 265 0200 06060 20 000	EMBX 265 0200 06060 20 000
2.00	-0.020	4	1.90	2.00	20	50	1.00	EMBD 265 0200 04050 20 000	EMBX 265 0200 04050 20 000
2.00	-0.020	6	1.90	2.00	22	60	1.00	EMBD 265 0200 06060 22 000	EMBX 265 0200 06060 22 000
2.00	-0.020	4	1.90	2.00	22	65	1.00	EMBD 265 0200 04065 22 000	EMBX 265 0200 04065 22 000
2.00	-0.020	6	1.90	2.00	25	60	1.00	EMBD 265 0200 06060 25 000	EMBX 265 0200 06060 25 000
2.00	-0.020	4	1.90	2.00	25	65	1.00	EMBD 265 0200 04065 25 000	EMBX 265 0200 04065 25 000
2.00	-0.020	6	1.90	2.00	30	70	1.00	EMBD 265 0200 06070 30 000	EMBX 265 0200 06070 30 000
2.00	-0.020	4	1.90	2.00	30	70	1.00	EMBD 265 0200 04070 30 000	EMBX 265 0200 04070 30 000
2.00	-0.020	6	1.90	2.00	35	70	1.00	EMBD 265 0200 06070 35 000	EMBX 265 0200 06070 35 000
2.00	-0.020	4	1.90	2.00	35	75	1.00	EMBD 265 0200 04075 35 000	EMBX 265 0200 04075 35 000
2.00	-0.020	6	1.90	2.00	40	80	1.00	EMBD 265 0200 06080 40 000	EMBX 265 0200 06080 40 000
2.00	-0.020	4	1.90	2.00	40	80	1.00	EMBD 265 0200 04080 40 000	EMBX 265 0200 04080 40 000
2.00	-0.020	6	1.90	2.00	45	80	1.00	EMBD 265 0200 06080 45 000	EMBX 265 0200 06080 45 000
2.50	-0.020	4	2.40	2.50	08	50	1.25	EMBD 265 0250 04050 08 000	EMBX 265 0250 04050 08 000
2.50	-0.020	4	2.40	2.50	10	50	1.25	EMBD 265 0250 04050 10 000	EMBX 265 0250 04050 10 000
2.50	-0.020	4	2.40	2.50	12	50	1.25	EMBD 265 0250 04050 12 000	EMBX 265 0250 04050 12 000
2.50	-0.020	4	2.40	2.50	16	50	1.25	EMBD 265 0250 04050 16 000	EMBX 265 0250 04050 16 000
2.50	-0.020	4	2.40	2.50	20	60	1.25	EMBD 265 0250 04060 20 000	EMBX 265 0250 04060 20 000
2.50	-0.020	4	2.40	2.50	25	60	1.25	EMBD 265 0250 04060 25 000	EMBX 265 0250 04060 25 000
2.50	-0.020	4	2.40	2.50	30	70	1.25	EMBD 265 0250 04070 30 000	EMBX 265 0250 04070 30 000
2.50	-0.020	4	2.40	2.50	35	70	1.25	EMBD 265 0250 04070 35 000	EMBX 265 0250 04070 35 000
3.00	-0.020	6	2.80	3.00	06	50	1.50	EMBD 265 0300 06050 06 000	EMBX 265 0300 06050 06 000
3.00	-0.020	6	2.80	3.00	08	50	1.50	EMBD 265 0300 06050 08 000	EMBX 265 0300 06050 08 000
3.00	-0.020	6	2.80	3.00	10	50	1.50	EMBD 265 0300 06050 10 000	EMBX 265 0300 06050 10 000
3.00	-0.020	6	2.80	3.00	12	50	1.50	EMBD 265 0300 06050 12 000	EMBX 265 0300 06050 12 000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

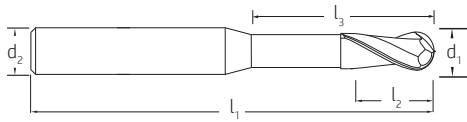
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



STEELS



INOX

Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

SUPERNOX

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	EDP No. HA
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tol.		h6	-0.1	±0.50	±0.50	±0.80	±0.015	ALD	DX
3.00	-0.020	6	2.80	3.00	16	60	1.50	EMBD 265 0300 06060 16 000	EMBX 265 0300 06060 16 000
3.00	-0.020	6	2.80	3.00	20	60	1.50	EMBD 265 0300 06060 20 000	EMBX 265 0300 06060 20 000
3.00	-0.020	6	2.80	3.00	25	65	1.50	EMBD 265 0300 06065 25 000	EMBX 265 0300 06065 25 000
3.00	-0.020	6	2.80	3.00	30	70	1.50	EMBD 265 0300 06070 30 000	EMBX 265 0300 06070 30 000
3.00	-0.020	6	2.80	3.00	35	75	1.50	EMBD 265 0300 06075 35 000	EMBX 265 0300 06075 35 000
3.00	-0.020	6	2.80	3.00	40	80	1.50	EMBD 265 0300 06080 40 000	EMBX 265 0300 06080 40 000
3.00	-0.020	6	2.80	3.00	45	90	1.50	EMBD 265 0300 06090 45 000	EMBX 265 0300 06090 45 000
3.00	-0.020	6	2.80	3.00	50	100	1.50	EMBD 265 0300 06100 50 000	EMBX 265 0300 06100 50 000
3.00	-0.020	6	2.80	3.00	60	100	1.50	EMBD 265 0300 06100 60 000	EMBX 265 0300 06100 60 000
4.00	-0.020	6	3.80	4.00	08	50	2.00	EMBD 265 0400 06050 08 000	EMBX 265 0400 06050 08 000
4.00	-0.020	6	3.80	4.00	10	50	2.00	EMBD 265 0400 06050 10 000	EMBX 265 0400 06050 10 000
4.00	-0.020	6	3.80	4.00	12	50	2.00	EMBD 265 0400 06050 12 000	EMBX 265 0400 06050 12 000
4.00	-0.020	6	3.80	4.00	16	60	2.00	EMBD 265 0400 06060 16 000	EMBX 265 0400 06060 16 000
4.00	-0.020	6	3.80	4.00	20	60	2.00	EMBD 265 0400 06060 20 000	EMBX 265 0400 06060 20 000
4.00	-0.020	6	3.80	4.00	25	65	2.00	EMBD 265 0400 06065 25 000	EMBX 265 0400 06065 25 000
4.00	-0.020	6	3.80	4.00	30	70	2.00	EMBD 265 0400 06070 30 000	EMBX 265 0400 06070 30 000
4.00	-0.020	6	3.80	4.00	35	75	2.00	EMBD 265 0400 06075 35 000	EMBX 265 0400 06075 35 000
4.00	-0.020	6	3.80	4.00	40	80	2.00	EMBD 265 0400 06080 40 000	EMBX 265 0400 06080 40 000
4.00	-0.020	6	3.80	4.00	45	90	2.00	EMBD 265 0400 06090 45 000	EMBX 265 0400 06090 45 000
4.00	-0.020	6	3.80	4.00	50	100	2.00	EMBD 265 0400 06100 50 000	EMBX 265 0400 06100 50 000
4.00	-0.020	6	3.80	4.00	55	100	2.00	EMBD 265 0400 06100 55 000	EMBX 265 0400 06100 55 000
4.00	-0.020	6	3.80	4.00	60	100	2.00	EMBD 265 0400 06100 60 000	EMBX 265 0400 06100 60 000
5.00	-0.020	6	4.80	5.00	15	60	2.50	EMBD 265 0500 06060 15 000	EMBX 265 0500 06060 15 000
5.00	-0.020	6	4.80	5.00	20	60	2.50	EMBD 265 0500 06060 20 000	EMBX 265 0500 06060 20 000
5.00	-0.020	6	4.80	5.00	25	70	2.50	EMBD 265 0500 06070 25 000	EMBX 265 0500 06070 25 000

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

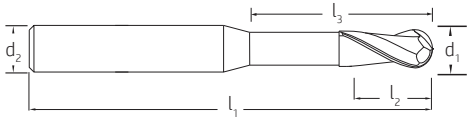
DRILLS

DIE & MOULD

2 Flute Ballnose Endmill with Neck

EMB 265

TP



Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	EDP No. HA
tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015		ALD	DX
5.00	-0.020	6	4.80	5.00	30	75	2.50	EMBD 265 0500 06075 30 000	EMBX 265 0500 06075 30 000
5.00	-0.020	6	4.80	5.00	40	80	2.50	EMBD 265 0500 06080 40 000	EMBX 265 0500 06080 40 000
5.00	-0.020	6	4.80	5.00	45	90	2.50	EMBD 265 0500 06090 45 000	EMBX 265 0500 06090 45 000
5.00	-0.020	6	4.80	5.00	50	100	2.50	EMBD 265 0500 06100 50 000	EMBX 265 0500 06100 50 000
5.00	-0.020	6	4.80	5.00	60	100	2.50	EMBD 265 0500 06100 60 000	EMBX 265 0500 06100 60 000
6.00	-0.020	6	5.80	6.00	15	55	3.00	EMBD 265 0600 06055 15 000	EMBX 265 0600 06055 15 000
6.00	-0.020	6	5.80	6.00	30	110	3.00	EMBD 265 0600 06110 30 000	EMBX 265 0600 06110 30 000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

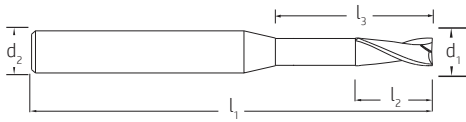
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

Technical Info. Page No. 146

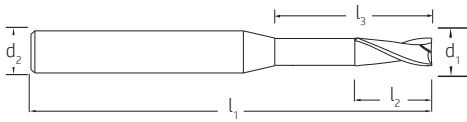
Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	EDP No. HA	EDP No. HA
tol.	h6	-0.1	±0.50	±0.50	±0.80		ALD	DX
1.00	-0.020	4	0.95	1.00	02	45	EMSD 265 0100 04045 02 000	EMSX 265 0100 04045 02 000
1.00	-0.020	4	0.95	1.00	03	45	EMSD 265 0100 04045 03 000	EMSX 265 0100 04045 03 000
1.00	-0.020	4	0.95	1.00	04	45	EMSD 265 0100 04045 04 000	EMSX 265 0100 04045 04 000
1.00	-0.020	4	0.95	1.00	05	45	EMSD 265 0100 04045 05 000	EMSX 265 0100 04045 05 000
1.00	-0.020	4	0.95	1.00	06	45	EMSD 265 0100 04045 06 000	EMSX 265 0100 04045 06 000
1.00	-0.020	4	0.95	1.00	08	45	EMSD 265 0100 04045 08 000	EMSX 265 0100 04045 08 000
1.00	-0.020	4	0.95	1.00	10	45	EMSD 265 0100 04045 10 000	EMSX 265 0100 04045 10 000
1.00	-0.020	4	0.95	1.00	12	45	EMSD 265 0100 04045 12 000	EMSX 265 0100 04045 12 000
1.00	-0.020	4	0.95	1.00	14	45	EMSD 265 0100 04045 14 000	EMSX 265 0100 04045 14 000
1.00	-0.020	4	0.95	1.00	16	50	EMSD 265 0100 04050 16 000	EMSX 265 0100 04050 16 000
1.00	-0.020	4	0.95	1.00	18	50	EMSD 265 0100 04050 18 000	EMSX 265 0100 04050 18 000
1.00	-0.020	4	0.95	1.00	20	50	EMSD 265 0100 04050 20 000	EMSX 265 0100 04050 20 000
1.00	-0.020	4	0.95	1.00	25	60	EMSD 265 0100 04060 25 000	EMSX 265 0100 04060 25 000
1.00	-0.020	4	0.95	1.00	30	70	EMSD 265 0100 04070 30 000	EMSX 265 0100 04070 30 000
1.20	-0.020	4	1.10	1.20	04	45	EMSD 265 0120 04045 04 000	EMSX 265 0120 04045 04 000
1.20	-0.020	4	1.10	1.20	06	45	EMSD 265 0120 04045 06 000	EMSX 265 0120 04045 06 000
1.20	-0.020	4	1.10	1.20	08	45	EMSD 265 0120 04045 08 000	EMSX 265 0120 04045 08 000
1.20	-0.020	4	1.10	1.20	10	45	EMSD 265 0120 04045 10 000	EMSX 265 0120 04045 10 000
1.20	-0.020	4	1.10	1.20	12	45	EMSD 265 0120 04045 12 000	EMSX 265 0120 04045 12 000
1.20	-0.020	4	1.10	1.20	16	50	EMSD 265 0120 04050 16 000	EMSX 265 0120 04050 16 000
1.20	-0.020	4	1.10	1.20	20	50	EMSD 265 0120 04050 20 000	EMSX 265 0120 04050 20 000
1.20	-0.020	4	1.10	1.20	25	60	EMSD 265 0120 04060 25 000	EMSX 265 0120 04060 25 000
1.20	-0.020	4	1.10	1.20	30	70	EMSD 265 0120 04070 30 000	EMSX 265 0120 04070 30 000
1.40	-0.020	4	1.30	1.40	06	45	EMSD 265 0140 04045 06 000	EMSX 265 0140 04045 06 000
1.40	-0.020	4	1.30	1.40	08	45	EMSD 265 0140 04045 08 000	EMSX 265 0140 04045 08 000
1.40	-0.020	4	1.30	1.40	10	45	EMSD 265 0140 04045 10 000	EMSX 265 0140 04045 10 000

DIE & MOULD

2 Flute Square Endmill with Neck

EMS 265



Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	EDP No. HA	EDP No. HA
tol.	h6	-0.1	±0.50	±0.50	±0.80		ALD	DX
140	-0.020	4	1.30	140	14	45	EMSD 265 0140 04045 14 000	EMSD 265 0140 04045 14 000
140	-0.020	4	1.30	140	16	50	EMSD 265 0140 04050 16 000	EMSD 265 0140 04050 16 000
140	-0.020	4	1.30	140	20	50	EMSD 265 0140 04050 20 000	EMSD 265 0140 04050 20 000
1.50	-0.020	4	1.40	1.50	04	45	EMSD 265 0150 04045 04 000	EMSD 265 0150 04045 04 000
1.50	-0.020	4	1.40	1.50	06	45	EMSD 265 0150 04045 06 000	EMSD 265 0150 04045 06 000
1.50	-0.020	4	1.40	1.50	08	45	EMSD 265 0150 04045 08 000	EMSD 265 0150 04045 08 000
1.50	-0.020	4	1.40	1.50	10	45	EMSD 265 0150 04045 10 000	EMSD 265 0150 04045 10 000
1.50	-0.020	4	1.40	1.50	12	45	EMSD 265 0150 04045 12 000	EMSD 265 0150 04045 12 000
1.50	-0.020	4	1.40	1.50	12	50	EMSD 265 0150 04050 12 000	EMSD 265 0150 04050 12 000
1.50	-0.020	4	1.40	1.50	14	50	EMSD 265 0150 04050 14 000	EMSD 265 0150 04050 14 000
1.50	-0.020	4	1.40	1.50	16	50	EMSD 265 0150 04050 16 000	EMSD 265 0150 04050 16 000
1.50	-0.020	4	1.40	1.50	18	50	EMSD 265 0150 04050 18 000	EMSD 265 0150 04050 18 000
1.50	-0.020	4	1.40	1.50	20	50	EMSD 265 0150 04050 20 000	EMSD 265 0150 04050 20 000
1.50	-0.020	4	1.40	1.50	25	60	EMSD 265 0150 04060 25 000	EMSD 265 0150 04060 25 000
1.50	-0.020	4	1.40	1.50	30	70	EMSD 265 0150 04070 30 000	EMSD 265 0150 04070 30 000
1.60	-0.020	4	1.50	1.60	10	45	EMSD 265 0160 04045 10 000	EMSD 265 0160 04045 10 000
1.60	-0.020	4	1.50	1.60	14	45	EMSD 265 0160 04045 14 000	EMSD 265 0160 04045 14 000
1.60	-0.020	4	1.50	1.60	18	60	EMSD 265 0160 04060 18 000	EMSD 265 0160 04060 18 000
1.80	-0.020	4	1.70	1.80	10	45	EMSD 265 0180 04045 10 000	EMSD 265 0180 04045 10 000
1.80	-0.020	4	1.70	1.80	14	45	EMSD 265 0180 04045 14 000	EMSD 265 0180 04045 14 000
1.80	-0.020	4	1.70	1.80	18	50	EMSD 265 0180 04050 18 000	EMSD 265 0180 04050 18 000
2.00	-0.020	4	1.90	2.00	04	45	EMSD 265 0200 04045 04 000	EMSD 265 0200 04045 04 000
2.00	-0.020	4	1.90	2.00	06	45	EMSD 265 0200 04045 06 000	EMSD 265 0200 04045 06 000
2.00	-0.020	4	1.90	2.00	08	45	EMSD 265 0200 04045 08 000	EMSD 265 0200 04045 08 000
2.00	-0.020	4	1.90	2.00	10	45	EMSD 265 0200 04045 10 000	EMSD 265 0200 04045 10 000
2.00	-0.020	4	1.90	2.00	12	45	EMSD 265 0200 04045 12 000	EMSD 265 0200 04045 12 000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

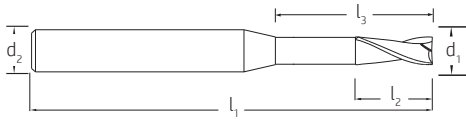
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



STEELS



INOX

Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

SUPERNOX

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	EDP No. HA	EDP No. HA
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	tol	h6	-0.1	±0.50	±0.50	±0.80	ALD	DX
2.00	-0.020	4	1.90	2.00	14	45	EMSD 265 0200 04045 14 000	EMSX 265 0200 04045 14 000
2.00	-0.020	4	1.90	2.00	16	50	EMSD 265 0200 04050 16 000	EMSX 265 0200 04050 16 000
2.00	-0.020	4	1.90	2.00	18	50	EMSD 265 0200 04050 18 000	EMSX 265 0200 04050 18 000
2.00	-0.020	4	1.90	2.00	20	50	EMSD 265 0200 04050 20 000	EMSX 265 0200 04050 20 000
2.00	-0.020	4	1.90	2.00	22	60	EMSD 265 0200 04060 22 000	EMSX 265 0200 04060 22 000
2.00	-0.020	4	1.90	2.00	25	60	EMSD 265 0200 04060 25 000	EMSX 265 0200 04060 25 000
2.00	-0.020	4	1.90	2.00	30	60	EMSD 265 0200 04060 30 000	EMSX 265 0200 04060 30 000
2.00	-0.020	4	1.90	2.00	35	70	EMSD 265 0200 04070 35 000	EMSX 265 0200 04070 35 000
2.00	-0.020	4	1.90	2.00	40	80	EMSD 265 0200 04080 40 000	EMSX 265 0200 04080 40 000
2.00	-0.020	4	1.90	2.00	45	80	EMSD 265 0200 04080 45 000	EMSX 265 0200 04080 45 000
2.00	-0.020	4	1.90	2.00	50	90	EMSD 265 0200 04090 50 000	EMSX 265 0200 04090 50 000
2.50	-0.020	4	2.40	2.50	08	45	EMSD 265 0250 04045 08 000	EMSX 265 0250 04045 08 000
2.50	-0.020	4	2.40	2.50	10	45	EMSD 265 0250 04045 10 000	EMSX 265 0250 04045 10 000
2.50	-0.020	4	2.40	2.50	12	45	EMSD 265 0250 04045 12 000	EMSX 265 0250 04045 12 000
2.50	-0.020	4	2.40	2.50	16	50	EMSD 265 0250 04050 16 000	EMSX 265 0250 04050 16 000
2.50	-0.020	4	2.40	2.50	20	50	EMSD 265 0250 04050 20 000	EMSX 265 0250 04050 20 000
2.50	-0.020	4	2.40	2.50	25	60	EMSD 265 0250 04060 25 000	EMSX 265 0250 04060 25 000
2.50	-0.020	4	2.40	2.50	30	70	EMSD 265 0250 04070 30 000	EMSX 265 0250 04070 30 000
2.50	-0.020	4	2.40	2.50	35	70	EMSD 265 0250 04070 35 000	EMSX 265 0250 04070 35 000
2.50	-0.020	4	2.40	2.50	40	80	EMSD 265 0250 04080 40 000	EMSX 265 0250 04080 40 000
2.50	-0.020	4	2.40	2.50	50	90	EMSD 265 0250 04090 50 000	EMSX 265 0250 04090 50 000
3.00	-0.020	6	2.80	3.00	06	45	EMSD 265 0300 06045 06 000	EMSX 265 0300 06045 06 000
3.00	-0.020	6	2.80	3.00	08	45	EMSD 265 0300 06045 08 000	EMSX 265 0300 06045 08 000
3.00	-0.020	6	2.80	3.00	10	45	EMSD 265 0300 06045 10 000	EMSX 265 0300 06045 10 000
3.00	-0.020	6	2.80	3.00	12	50	EMSD 265 0300 06050 12 000	EMSX 265 0300 06050 12 000
3.00	-0.020	6	2.80	3.00	16	55	EMSD 265 0300 06055 16 000	EMSX 265 0300 06055 16 000

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

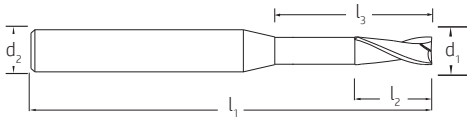
UNIVERSAL

DRILLS

DIE & MOULD

2 Flute Square Endmill with Neck

EMS 265



Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	EDP No. HA	EDP No. HA
	tol.	h6	-0.1	±0.50	±0.50	±0.80	ALD	DX
3.00	-0.020	6	2.80	3.00	20	60	EMSD 265 0300 06060 20 000	EMSX 265 0300 06060 20 000
3.00	-0.020	6	2.80	3.00	25	65	EMSD 265 0300 06065 25 000	EMSX 265 0300 06065 25 000
3.00	-0.020	6	2.80	3.00	30	70	EMSD 265 0300 06070 30 000	EMSX 265 0300 06070 30 000
3.00	-0.020	6	2.80	3.00	35	75	EMSD 265 0300 06075 35 000	EMSX 265 0300 06075 35 000
3.00	-0.020	6	2.80	3.00	40	80	EMSD 265 0300 06080 40 000	EMSX 265 0300 06080 40 000
3.00	-0.020	6	2.80	3.00	45	90	EMSD 265 0300 06090 45 000	EMSX 265 0300 06090 45 000
3.00	-0.020	6	2.80	3.00	50	100	EMSD 265 0300 06100 50 000	EMSX 265 0300 06100 50 000
3.00	-0.020	6	2.80	3.00	60	100	EMSD 265 0300 06100 60 000	EMSX 265 0300 06100 60 000
4.00	-0.020	6	3.80	4.00	08	50	EMSD 265 0400 06050 08 000	EMSX 265 0400 06050 08 000
4.00	-0.020	6	3.80	4.00	10	50	EMSD 265 0400 06050 10 000	EMSX 265 0400 06050 10 000
4.00	-0.020	6	3.80	4.00	12	50	EMSD 265 0400 06050 12 000	EMSX 265 0400 06050 12 000
4.00	-0.020	6	3.80	4.00	16	55	EMSD 265 0400 06055 16 000	EMSX 265 0400 06055 16 000
4.00	-0.020	6	3.80	4.00	20	60	EMSD 265 0400 06060 20 000	EMSX 265 0400 06060 20 000
4.00	-0.020	6	3.80	4.00	25	65	EMSD 265 0400 06065 25 000	EMSX 265 0400 06065 25 000
4.00	-0.020	6	3.80	4.00	30	70	EMSD 265 0400 06070 30 000	EMSX 265 0400 06070 30 000
4.00	-0.020	6	3.80	4.00	35	75	EMSD 265 0400 06075 35 000	EMSX 265 0400 06075 35 000
4.00	-0.020	6	3.80	4.00	40	80	EMSD 265 0400 06080 40 000	EMSX 265 0400 06080 40 000
4.00	-0.020	6	3.80	4.00	45	90	EMSD 265 0400 06090 45 000	EMSX 265 0400 06090 45 000
4.00	-0.020	6	3.80	4.00	50	100	EMSD 265 0400 06100 50 000	EMSX 265 0400 06100 50 000
4.00	-0.020	6	3.80	4.00	55	100	EMSD 265 0400 06100 55 000	EMSX 265 0400 06100 55 000
4.00	-0.020	6	3.80	4.00	60	100	EMSD 265 0400 06100 60 000	EMSX 265 0400 06100 60 000
5.00	-0.020	6	4.80	5.00	16	55	EMSD 265 0500 06055 16 000	EMSX 265 0500 06055 16 000
5.00	-0.020	6	4.80	5.00	20	60	EMSD 265 0500 06060 20 000	EMSX 265 0500 06060 20 000
5.00	-0.020	6	4.80	5.00	25	65	EMSD 265 0500 06065 25 000	EMSX 265 0500 06065 25 000
5.00	-0.020	6	4.80	5.00	30	70	EMSD 265 0500 06070 30 000	EMSX 265 0500 06070 30 000
5.00	-0.020	6	4.80	5.00	35	75	EMSD 265 0500 06075 35 000	EMSX 265 0500 06075 35 000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

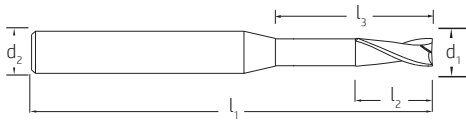
MICRO MILLS

UNIVERSAL

DRILLS



STEELS



INOX

Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

SUPERNOX

d_1	d_1	d_2	d_3	l_2	l_3	l_1	EDP No. HA	EDP No. HA
	tol.	h6	-0.1	± 0.50	± 0.50	± 0.80	ALD	DX
5.00	-0.020	6	4.80	5.00	40	80	EMSD 265 0500 06080 40 000	EMSX 265 0500 06080 40 000
5.00	-0.020	6	4.80	5.00	50	100	EMSD 265 0500 06100 50 000	EMSX 265 0500 06100 50 000
5.00	-0.020	6	4.80	5.00	60	100	EMSD 265 0500 06100 60 000	EMSX 265 0500 06100 60 000
6.00	-0.020	6	5.80	6.00	20	60	EMSD 265 0600 06060 20 000	EMSX 265 0600 06060 20 000
6.00	-0.020	6	5.80	6.00	30	75	EMSD 265 0600 06075 30 000	EMSX 265 0600 06075 30 000
6.00	-0.020	6	5.80	6.00	40	80	EMSD 265 0600 06080 40 000	EMSX 265 0600 06080 40 000
6.00	-0.020	6	5.80	6.00	50	90	EMSD 265 0600 06090 50 000	EMSX 265 0600 06090 50 000
6.00	-0.020	6	5.80	6.00	60	110	EMSD 265 0600 06110 60 000	EMSX 265 0600 06110 60 000

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

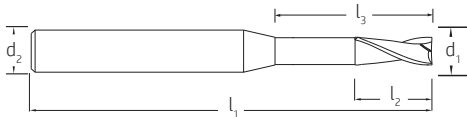
UNIVERSAL

DRILLS

DIE & MOULD

2 Flute Corner Radius Endmill with Neck

EMR 265



Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	EDP No. HA
	tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015	ALD	DX
1.00	-0.020	4	0.95	1.00	02	45	0.10	EMRD 265 0100 04045 02 010	EMRX 265 0100 04045 02 010
1.00	-0.020	4	0.95	1.00	03	45	0.10	EMRD 265 0100 04045 03 010	EMRX 265 0100 04045 03 010
1.00	-0.020	4	0.95	1.00	04	45	0.10	EMRD 265 0100 04045 04 010	EMRX 265 0100 04045 04 010
1.00	-0.020	4	0.95	1.00	05	45	0.10	EMRD 265 0100 04045 05 010	EMRX 265 0100 04045 05 010
1.00	-0.020	4	0.95	1.00	06	45	0.10	EMRD 265 0100 04045 06 010	EMRX 265 0100 04045 06 010
1.00	-0.020	4	0.95	1.00	08	45	0.10	EMRD 265 0100 04045 08 010	EMRX 265 0100 04045 08 010
1.00	-0.020	4	0.95	1.00	10	45	0.10	EMRD 265 0100 04045 10 010	EMRX 265 0100 04045 10 010
1.00	-0.020	4	0.95	1.00	12	45	0.10	EMRD 265 0100 04045 12 010	EMRX 265 0100 04045 12 010
1.00	-0.020	4	0.95	1.00	14	45	0.10	EMRD 265 0100 04045 14 010	EMRX 265 0100 04045 14 010
1.00	-0.020	4	0.95	1.00	16	50	0.10	EMRD 265 0100 04050 16 010	EMRX 265 0100 04050 16 010
1.00	-0.020	4	0.95	1.00	18	50	0.10	EMRD 265 0100 04050 18 010	EMRX 265 0100 04050 18 010
1.00	-0.020	4	0.95	1.00	20	50	0.10	EMRD 265 0100 04050 20 010	EMRX 265 0100 04050 20 010
1.00	-0.020	4	0.95	1.00	25	60	0.10	EMRD 265 0100 04060 25 010	EMRX 265 0100 04060 25 010
1.00	-0.020	4	0.95	1.00	30	70	0.10	EMRD 265 0100 04070 30 010	EMRX 265 0100 04070 30 010
1.20	-0.020	4	1.10	1.20	04	45	0.10	EMRD 265 0120 04045 04 010	EMRX 265 0120 04045 04 010
1.20	-0.020	4	1.10	1.20	06	45	0.10	EMRD 265 0120 04045 06 010	EMRX 265 0120 04045 06 010
1.20	-0.020	4	1.10	1.20	08	45	0.10	EMRD 265 0120 04045 08 010	EMRX 265 0120 04045 08 010
1.20	-0.020	4	1.10	1.20	10	45	0.10	EMRD 265 0120 04045 10 010	EMRX 265 0120 04045 10 010
1.20	-0.020	4	1.10	1.20	12	45	0.10	EMRD 265 0120 04045 12 010	EMRX 265 0120 04045 12 010
1.20	-0.020	4	1.10	1.20	16	50	0.10	EMRD 265 0120 04050 16 010	EMRX 265 0120 04050 16 010
1.20	-0.020	4	1.10	1.20	20	50	0.10	EMRD 265 0120 04050 20 010	EMRX 265 0120 04050 20 010
1.20	-0.020	4	1.10	1.20	25	60	0.10	EMRD 265 0120 04060 25 010	EMRX 265 0120 04060 25 010
1.20	-0.020	4	1.10	1.20	30	70	0.10	EMRD 265 0120 04070 30 010	EMRX 265 0120 04070 30 010

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

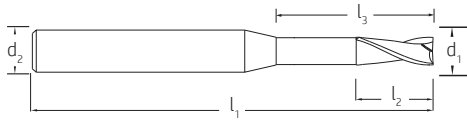
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **146**

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	
								ALD	DX
	tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015		
140	-0.020	4	1.30	140	06	45	0.10	EMRD 265 0140 04045 06 010	EMRX 265 0140 04045 06 010
140	-0.020	4	1.30	140	08	45	0.10	EMRD 265 0140 04045 08 010	EMRX 265 0140 04045 08 010
140	-0.020	4	1.30	140	10	45	0.10	EMRD 265 0140 04045 10 010	EMRX 265 0140 04045 10 010
140	-0.020	4	1.30	140	14	45	0.10	EMRD 265 0140 04045 14 010	EMRX 265 0140 04045 14 010
140	-0.020	4	1.30	140	16	50	0.10	EMRD 265 0140 04050 16 010	EMRX 265 0140 04050 16 010
140	-0.020	4	1.30	140	20	50	0.10	EMRD 265 0140 04050 20 010	EMRX 265 0140 04050 20 010
150	-0.020	4	1.40	150	04	45	0.10	EMRD 265 0150 04045 04 010	EMRX 265 0150 04045 04 010
150	-0.020	4	1.40	150	06	45	0.10	EMRD 265 0150 04045 06 010	EMRX 265 0150 04045 06 010
150	-0.020	4	1.40	150	06	45	0.50	EMRD 265 0150 04045 06 050	EMRX 265 0150 04045 06 050
150	-0.020	4	1.40	150	08	45	0.10	EMRD 265 0150 04045 08 010	EMRX 265 0150 04045 08 010
150	-0.020	4	1.40	150	08	45	0.50	EMRD 265 0150 04045 08 050	EMRX 265 0150 04045 08 050
150	-0.020	4	1.40	150	10	45	0.10	EMRD 265 0150 04045 10 010	EMRX 265 0150 04045 10 010
150	-0.020	4	1.40	150	12	45	0.10	EMRD 265 0150 04045 12 010	EMRX 265 0150 04045 12 010
150	-0.020	4	1.40	150	14	50	0.10	EMRD 265 0150 04050 14 010	EMRX 265 0150 04050 14 010
150	-0.020	4	1.40	150	16	50	0.10	EMRD 265 0150 04050 16 010	EMRX 265 0150 04050 16 010
150	-0.020	4	1.40	150	18	50	0.10	EMRD 265 0150 04050 18 010	EMRX 265 0150 04050 18 010
150	-0.020	4	1.40	150	20	50	0.10	EMRD 265 0150 04050 20 010	EMRX 265 0150 04050 20 010
150	-0.020	4	1.40	150	25	60	0.10	EMRD 265 0150 04060 25 010	EMRX 265 0150 04060 25 010
150	-0.020	4	1.40	150	30	70	0.10	EMRD 265 0150 04070 30 010	EMRX 265 0150 04070 30 010
160	-0.020	4	1.50	160	10	45	0.10	EMRD 265 0160 04045 10 010	EMRX 265 0160 04045 10 010
160	-0.020	4	1.50	160	14	45	0.10	EMRD 265 0160 04045 14 010	EMRX 265 0160 04045 14 010
160	-0.020	4	1.50	160	18	60	0.10	EMRD 265 0160 04060 18 010	EMRX 265 0160 04060 18 010
180	-0.020	4	1.70	180	10	45	0.10	EMRD 265 0180 04045 10 010	EMRX 265 0180 04045 10 010

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

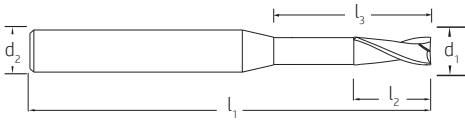
UNIVERSAL

DRILLS

DIE & MOULD

2 Flute Corner Radius Endmill with Neck

EMR 265



Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	EDP No. HA
tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.075		ALD	DX
1.80	-0.020	4	1.70	1.80	14	45	0.10	EMRD 265 0180 04045 14 010	EMRX 265 0180 04045 14 010
1.80	-0.020	4	1.70	1.80	18	50	0.10	EMRD 265 0180 04050 18 010	EMRX 265 0180 04050 18 010
2.00	-0.020	4	1.90	2.00	04	45	0.10	EMRD 265 0200 04045 04 010	EMRX 265 0200 04045 04 010
2.00	-0.020	4	1.90	2.00	06	45	0.10	EMRD 265 0200 04045 06 010	EMRX 265 0200 04045 06 010
2.00	-0.020	4	1.90	2.00	06	45	0.50	EMRD 265 0200 04045 06 050	EMRX 265 0200 04045 06 050
2.00	-0.020	4	1.90	2.00	08	45	0.10	EMRD 265 0200 04045 08 010	EMRX 265 0200 04045 08 010
2.00	-0.020	4	1.90	2.00	08	45	0.50	EMRD 265 0200 04045 08 050	EMRX 265 0200 04045 08 050
2.00	-0.020	4	1.90	2.00	10	45	0.10	EMRD 265 0200 04045 10 010	EMRX 265 0200 04045 10 010
2.00	-0.020	4	1.90	2.00	12	45	0.10	EMRD 265 0200 04045 12 010	EMRX 265 0200 04045 12 010
2.00	-0.020	4	1.90	2.00	14	45	0.10	EMRD 265 0200 04045 14 010	EMRX 265 0200 04045 14 010
2.00	-0.020	4	1.90	2.00	16	50	0.10	EMRD 265 0200 04050 16 010	EMRX 265 0200 04050 16 010
2.00	-0.020	4	1.90	2.00	18	50	0.10	EMRD 265 0200 04050 18 010	EMRX 265 0200 04050 18 010
2.00	-0.020	4	1.90	2.00	20	50	0.10	EMRD 265 0200 04050 20 010	EMRX 265 0200 04050 20 010
2.00	-0.020	4	1.90	2.00	22	60	0.10	EMRD 265 0200 04060 22 010	EMRX 265 0200 04060 22 010
2.00	-0.020	4	1.90	2.00	25	60	0.10	EMRD 265 0200 04060 25 010	EMRX 265 0200 04060 25 010
2.00	-0.020	4	1.90	2.00	30	60	0.10	EMRD 265 0200 04060 30 010	EMRX 265 0200 04060 30 010
2.00	-0.020	4	1.90	2.00	35	70	0.10	EMRD 265 0200 04070 35 010	EMRX 265 0200 04070 35 010
2.00	-0.020	4	1.90	2.00	40	80	0.10	EMRD 265 0200 04080 40 010	EMRX 265 0200 04080 40 010
2.00	-0.020	4	1.90	2.00	45	80	0.10	EMRD 265 0200 04080 45 010	EMRX 265 0200 04080 45 010
2.00	-0.020	4	1.90	2.00	50	90	0.10	EMRD 265 0200 04090 50 010	EMRX 265 0200 04090 50 010
2.50	-0.020	4	2.40	2.50	08	45	0.10	EMRD 265 0250 04045 08 010	EMRX 265 0250 04045 08 010
2.50	-0.020	4	2.40	2.50	10	45	0.10	EMRD 265 0250 04045 10 010	EMRX 265 0250 04045 10 010
2.50	-0.020	4	2.40	2.50	12	45	0.10	EMRD 265 0250 04045 12 010	EMRX 265 0250 04045 12 010

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

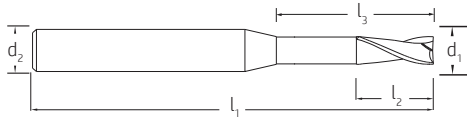
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **146**

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	
								ALD	DX
	tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015		
2.50	-0.020	4	240	2.50	16	50	0.10	EMRD 265 0250 04050 16 010	EMRX 265 0250 04050 16 010
2.50	-0.020	4	240	2.50	20	50	0.10	EMRD 265 0250 04050 20 010	EMRX 265 0250 04050 20 010
2.50	-0.020	4	240	2.50	25	60	0.10	EMRD 265 0250 04060 25 010	EMRX 265 0250 04060 25 010
2.50	-0.020	4	240	2.50	30	70	0.10	EMRD 265 0250 04070 30 010	EMRX 265 0250 04070 30 010
2.50	-0.020	4	240	2.50	35	70	0.10	EMRD 265 0250 04070 35 010	EMRX 265 0250 04070 35 010
2.50	-0.020	4	240	2.50	40	80	0.10	EMRD 265 0250 04080 40 010	EMRX 265 0250 04080 40 010
2.50	-0.020	4	240	2.50	50	90	0.10	EMRD 265 0250 04090 50 010	EMRX 265 0250 04090 50 010
3.00	-0.020	6	280	3.00	06	45	0.30	EMRD 265 0300 06045 06 030	EMRX 265 0300 06045 06 030
3.00	-0.020	6	280	3.00	08	45	0.50	EMRD 265 0300 06045 08 050	EMRX 265 0300 06045 08 050
3.00	-0.020	6	280	3.00	10	45	0.30	EMRD 265 0300 06045 10 030	EMRX 265 0300 06045 10 030
3.00	-0.020	6	280	3.00	10	45	0.50	EMRD 265 0300 06045 10 050	EMRX 265 0300 06045 10 050
3.00	-0.020	6	280	3.00	12	50	0.30	EMRD 265 0300 06050 12 030	EMRX 265 0300 06050 12 030
3.00	-0.020	6	280	3.00	12	50	0.50	EMRD 265 0300 06050 12 050	EMRX 265 0300 06050 12 050
3.00	-0.020	6	280	3.00	16	55	0.30	EMRD 265 0300 06055 16 030	EMRX 265 0300 06055 16 030
3.00	-0.020	6	280	3.00	16	55	0.50	EMRD 265 0300 06055 16 050	EMRX 265 0300 06055 16 050
3.00	-0.020	6	280	3.00	20	60	0.30	EMRD 265 0300 06060 20 030	EMRX 265 0300 06060 20 030
3.00	-0.020	6	280	3.00	20	60	0.50	EMRD 265 0300 06060 20 050	EMRX 265 0300 06060 20 050
3.00	-0.020	6	280	3.00	25	65	0.30	EMRD 265 0300 06065 25 030	EMRX 265 0300 06065 25 030
3.00	-0.020	6	280	3.00	25	65	0.50	EMRD 265 0300 06065 25 050	EMRX 265 0300 06065 25 050
3.00	-0.020	6	280	3.00	30	70	0.30	EMRD 265 0300 06070 30 030	EMRX 265 0300 06070 30 030
3.00	-0.020	6	280	3.00	30	70	0.50	EMRD 265 0300 06070 30 050	EMRX 265 0300 06070 30 050
3.00	-0.020	6	280	3.00	35	75	0.30	EMRD 265 0300 06075 35 030	EMRX 265 0300 06075 35 030
3.00	-0.020	6	280	3.00	35	75	0.50	EMRD 265 0300 06075 35 050	EMRX 265 0300 06075 35 050

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

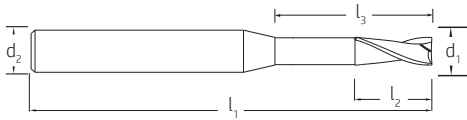
UNIVERSAL

DRILLS

DIE & MOULD

2 Flute Corner Radius Endmill with Neck

EMR 265



Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	EDP No. HA
tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015		ALD	DX
3.00	-0.020	6	2.80	3.00	40	80	0.30	EMRD 265 0300 06080 40 030	EMRX 265 0300 06080 40 030
3.00	-0.020	6	2.80	3.00	40	80	0.50	EMRD 265 0300 06080 40 050	EMRX 265 0300 06080 40 050
3.00	-0.020	6	2.80	3.00	45	90	0.30	EMRD 265 0300 06090 45 030	EMRX 265 0300 06090 45 030
3.00	-0.020	6	2.80	3.00	45	90	0.50	EMRD 265 0300 06090 45 050	EMRX 265 0300 06090 45 050
3.00	-0.020	6	2.80	3.00	50	100	0.30	EMRD 265 0300 06100 50 030	EMRX 265 0300 06100 50 030
3.00	-0.020	6	2.80	3.00	50	100	0.50	EMRD 265 0300 06100 50 050	EMRX 265 0300 06100 50 050
3.00	-0.020	6	2.80	3.00	60	100	0.30	EMRD 265 0300 06100 60 030	EMRX 265 0300 06100 60 030
3.00	-0.020	6	2.80	3.00	60	100	0.50	EMRD 265 0300 06100 60 050	EMRX 265 0300 06100 60 050
4.00	-0.020	6	3.80	4.00	08	50	0.30	EMRD 265 0400 06050 08 030	EMRX 265 0400 06050 08 030
4.00	-0.020	6	3.80	4.00	08	50	0.50	EMRD 265 0400 06050 08 050	EMRX 265 0400 06050 08 050
4.00	-0.020	6	3.80	4.00	10	50	0.30	EMRD 265 0400 06050 10 030	EMRX 265 0400 06050 10 030
4.00	-0.020	6	3.80	4.00	10	50	0.50	EMRD 265 0400 06050 10 050	EMRX 265 0400 06050 10 050
4.00	-0.020	6	3.80	4.00	12	50	0.30	EMRD 265 0400 06050 12 030	EMRX 265 0400 06050 12 030
4.00	-0.020	6	3.80	4.00	12	50	0.50	EMRD 265 0400 06050 12 050	EMRX 265 0400 06050 12 050
4.00	-0.020	6	3.80	4.00	16	55	0.30	EMRD 265 0400 06055 16 030	EMRX 265 0400 06055 16 030
4.00	-0.020	6	3.80	4.00	16	55	0.50	EMRD 265 0400 06055 16 050	EMRX 265 0400 06055 16 050
4.00	-0.020	6	3.80	4.00	20	60	0.30	EMRD 265 0400 06060 20 030	EMRX 265 0400 06060 20 030
4.00	-0.020	6	3.80	4.00	20	60	0.50	EMRD 265 0400 06060 20 050	EMRX 265 0400 06060 20 050
4.00	-0.020	6	3.80	4.00	25	65	0.30	EMRD 265 0400 06065 25 030	EMRX 265 0400 06065 25 030
4.00	-0.020	6	3.80	4.00	25	65	0.50	EMRD 265 0400 06065 25 050	EMRX 265 0400 06065 25 050
4.00	-0.020	6	3.80	4.00	30	70	0.30	EMRD 265 0400 06070 30 030	EMRX 265 0400 06070 30 030
4.00	-0.020	6	3.80	4.00	30	70	0.50	EMRD 265 0400 06070 30 050	EMRX 265 0400 06070 30 050
4.00	-0.020	6	3.80	4.00	35	75	0.30	EMRD 265 0400 06075 35 030	EMRX 265 0400 06075 35 030
4.00	-0.020	6	3.80	4.00	35	75	0.50	EMRD 265 0400 06075 35 050	EMRX 265 0400 06075 35 050

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

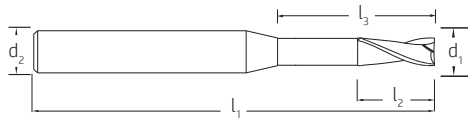
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **146**

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

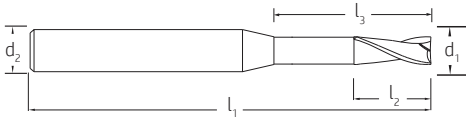
d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	
								ALD	DX
	tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015		
4.00	-0.020	6	3.80	4.00	40	80	0.30	EMRD 265 0400 06080 40 030	EMRX 265 0400 06080 40 030
4.00	-0.020	6	3.80	4.00	40	80	0.50	EMRD 265 0400 06080 40 050	EMRX 265 0400 06080 40 050
4.00	-0.020	6	3.80	4.00	45	90	0.30	EMRD 265 0400 06090 45 030	EMRX 265 0400 06090 45 030
4.00	-0.020	6	3.80	4.00	45	90	0.50	EMRD 265 0400 06090 45 050	EMRX 265 0400 06090 45 050
4.00	-0.020	6	3.80	4.00	50	100	0.30	EMRD 265 0400 06100 50 030	EMRX 265 0400 06100 50 030
4.00	-0.020	6	3.80	4.00	50	100	0.50	EMRD 265 0400 06100 50 050	EMRX 265 0400 06100 50 050
4.00	-0.020	6	3.80	4.00	55	100	0.30	EMRD 265 0400 06100 55 030	EMRX 265 0400 06100 55 030
4.00	-0.020	6	3.80	4.00	55	100	0.50	EMRD 265 0400 06100 55 050	EMRX 265 0400 06100 55 050
4.00	-0.020	6	3.80	4.00	60	100	0.30	EMRD 265 0400 06100 60 030	EMRX 265 0400 06100 60 030
4.00	-0.020	6	3.80	4.00	60	100	0.50	EMRD 265 0400 06100 60 050	EMRX 265 0400 06100 60 050
5.00	-0.020	6	4.80	5.00	16	55	0.30	EMRD 265 0500 06055 16 030	EMRX 265 0500 06055 16 030
5.00	-0.020	6	4.80	5.00	16	55	0.50	EMRD 265 0500 06055 16 050	EMRX 265 0500 06055 16 050
5.00	-0.020	6	4.80	5.00	20	60	0.30	EMRD 265 0500 06060 20 030	EMRX 265 0500 06060 20 030
5.00	-0.020	6	4.80	5.00	20	60	0.50	EMRD 265 0500 06060 20 050	EMRX 265 0500 06060 20 050
5.00	-0.020	6	4.80	5.00	25	65	0.30	EMRD 265 0500 06065 25 030	EMRX 265 0500 06065 25 030
5.00	-0.020	6	4.80	5.00	25	65	0.50	EMRD 265 0500 06065 25 050	EMRX 265 0500 06065 25 050
5.00	-0.020	6	4.80	5.00	30	70	0.30	EMRD 265 0500 06070 30 030	EMRX 265 0500 06070 30 030
5.00	-0.020	6	4.80	5.00	30	70	0.50	EMRD 265 0500 06070 30 050	EMRX 265 0500 06070 30 050
5.00	-0.020	6	4.80	5.00	35	75	0.30	EMRD 265 0500 06075 35 030	EMRX 265 0500 06075 35 030
5.00	-0.020	6	4.80	5.00	35	75	0.50	EMRD 265 0500 06075 35 050	EMRX 265 0500 06075 35 050
5.00	-0.020	6	4.80	5.00	40	80	0.30	EMRD 265 0500 06080 40 030	EMRX 265 0500 06080 40 030
5.00	-0.020	6	4.80	5.00	40	80	0.50	EMRD 265 0500 06080 40 050	EMRX 265 0500 06080 40 050
5.00	-0.020	6	4.80	5.00	50	100	0.30	EMRD 265 0500 06100 50 030	EMRX 265 0500 06100 50 030
5.00	-0.020	6	4.80	5.00	50	100	0.50	EMRD 265 0500 06100 50 050	EMRX 265 0500 06100 50 050

DIE & MOULD

2 Flute Corner Radius Endmill with Neck

EMR 265

TP



Technical Info. Page No. 146

Steels	Stainless Steels	Cast Irons	Hardened Steels <65HRC	Titaniums	Super Alloys	Aluminiums
-	-	-	-	-	-	-

d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	r	EDP No. HA	EDP No. HA
	tol.	h6	-0.1	±0.50	±0.50	±0.80	±0.015	ALD	DX
5.00	-0.020	6	4.80	5.00	60	100	0.30	EMRD 265 0500 06100 60 030	EMRX 265 0500 06100 60 030
5.00	-0.020	6	4.80	5.00	60	100	0.50	EMRD 265 0500 06100 60 050	EMRX 265 0500 06100 60 050
6.00	-0.020	6	5.80	6.00	20	60	0.30	EMRD 265 0600 06060 20 030	EMRX 265 0600 06060 20 030
6.00	-0.020	6	5.80	6.00	20	60	0.50	EMRD 265 0600 06060 20 050	EMRX 265 0600 06060 20 050
6.00	-0.020	6	5.80	6.00	30	75	0.30	EMRD 265 0600 06075 30 030	EMRX 265 0600 06075 30 030
6.00	-0.020	6	5.80	6.00	30	75	0.50	EMRD 265 0600 06075 30 050	EMRX 265 0600 06075 30 050
6.00	-0.020	6	5.80	6.00	40	80	0.30	EMRD 265 0600 06080 40 030	EMRX 265 0600 06080 40 030
6.00	-0.020	6	5.80	6.00	40	80	0.50	EMRD 265 0600 06080 40 050	EMRX 265 0600 06080 40 050
6.00	-0.020	6	5.80	6.00	50	90	0.30	EMRD 265 0600 06090 50 030	EMRX 265 0600 06090 50 030
6.00	-0.020	6	5.80	6.00	50	90	0.50	EMRD 265 0600 06090 50 050	EMRX 265 0600 06090 50 050
6.00	-0.020	6	5.80	6.00	60	110	0.30	EMRD 265 0600 06110 60 030	EMRX 265 0600 06110 60 030
6.00	-0.020	6	5.80	6.00	60	110	0.50	EMRD 265 0600 06110 60 050	EMRX 265 0600 06110 60 050

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



RIB PROCESSING

2 Flute Square & Ballnose Endmills
with Long Reach for Ribs

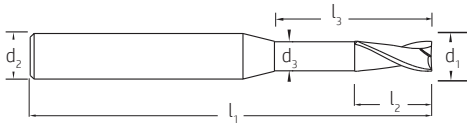


RIB PROCESSING

2 Flute Square Endmills with Long Reach

EMS 586

TP



Technical Info. Page No. 145

Steels <50HRC	Stainless Steels -	Cast Irons <390 HB	Hardened Steels -	Titaniums -	Super Alloys -	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.2	±0.50	±0.50	±0.80		AlCrN	AlCrN
0.80	-0.020	4	0.75	1.20	06	45	2	EMSA 586 0080 04045 06	-
0.80	-0.020	4	0.75	1.50	08	45	2	EMSA 586 0080 04045 08	-
1.00	-0.020	4	0.97	1.50	06	45	2	EMSA 586 0100 04045 06	-
1.00	-0.020	4	0.95	1.50	08	45	2	EMSA 586 0100 04045 08	-
1.00	-0.020	4	0.95	1.50	10	45	2	EMSA 586 0100 04045 10	-
1.20	-0.020	4	1.15	1.80	08	45	2	EMSA 586 0120 04045 08	-
1.20	-0.020	4	0.93	1.80	12	45	2	EMSA 586 0120 04045 12	-
1.40	-0.020	4	1.13	2.10	12	45	2	EMSA 586 0140 04045 12	-
1.50	-0.020	4	1.33	2.30	06	45	2	EMSA 586 0150 04045 06	-
1.50	-0.020	4	1.45	2.30	08	45	2	EMSA 586 0150 04045 08	-
1.50	-0.020	4	1.45	2.30	10	45	2	EMSA 586 0150 04045 10	-
1.50	-0.020	4	1.43	2.30	12	45	2	EMSA 586 0150 04045 12	-
1.60	-0.020	4	1.41	2.40	16	45	2	EMSA 586 0160 04045 16	-
1.80	-0.020	4	1.53	2.70	12	45	2	EMSA 586 0180 04045 12	-
2.00	-0.020	4	1.93	3.00	12	50	2	EMSA 586 0200 04050 12	-
2.00	-0.020	4	1.93	3.00	16	50	2	EMSA 586 0200 04050 16	-
2.50	-0.020	4	2.40	3.70	12	45	2	EMSA 586 0250 0404512	-
2.50	-0.020	4	2.40	3.70	16	55	2	EMSA 586 0250 04055 16	-
3.00	-0.020	6	2.85	4.50	14	50	2	EMSA 586 0300 06055 14	EMSA 587 0300 06055 14
3.00	-0.020	6	2.40	4.50	16	55	2	EMSA 586 0300 06050 16	EMSA 587 0300 06050 16
3.00	-0.020	6	2.85	4.50	18	55	2	EMSA 586 0300 06055 18	EMSA 587 0300 06055 18

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

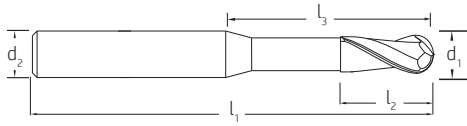
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **145**

Steels <50 HRC	Stainless Steels -	Cast Irons <390 HB	Hardened Steels -	Titaniums -	Super Alloys -	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	z	EDP No. HA		EDP No. HB	
								AlCrN		AlCrN	
	tol.	h6	-0.2	±0.50	±0.50	±0.80					
0.60	-0.020	4	0.55	0.90	06	35	2	EMBA 586 0060 03035 06		-	
0.80	-0.020	4	0.75	1.20	06	45	2	EMBA 586 0080 04045 06		-	
0.80	-0.020	4	0.75	1.20	08	45	2	EMBA 586 0080 04045 08		-	
1.00	-0.020	4	0.97	1.50	06	45	2	EMBA 586 0100 04045 06		-	
1.00	-0.020	4	0.95	1.50	08	45	2	EMBA 586 0100 04045 08		-	
1.00	-0.020	4	0.93	1.50	12	45	2	EMBA 586 0100 04045 12		-	
1.20	-0.020	4	1.15	1.80	08	45	2	EMBA 586 0120 04045 08		-	
1.20	-0.020	4	1.13	1.80	12	45	2	EMBA 586 0120 04045 12		-	
1.40	-0.020	4	1.33	2.10	12	45	2	EMBA 586 0140 04045 12		-	
1.50	-0.020	4	1.45	2.30	08	45	2	EMBA 586 0150 04045 08		-	
1.50	-0.020	4	1.43	2.30	12	45	2	EMBA 586 0150 04045 12		-	
1.50	-0.020	4	1.41	2.30	16	50	2	EMBA 586 0150 04050 16		-	
1.60	-0.020	4	1.51	2.40	16	50	2	EMBA 586 0160 04050 16		-	
1.80	-0.020	4	1.71	2.70	16	50	2	EMBA 586 0180 04050 16		-	
2.00	-0.020	4	1.95	3.00	08	45	2	EMBA 586 0200 04045 08		-	
2.00	-0.020	4	1.95	3.00	10	45	2	EMBA 586 0200 04045 10		-	
2.00	-0.020	4	1.91	3.00	16	50	2	EMBA 586 0200 04050 16		-	
2.00	-0.020	4	1.89	3.00	20	55	2	EMBA 586 0200 04055 20		-	
3.00	-0.020	6	2.85	4.50	16	55	2	EMBA 586 0300 06055 16		EMBA 587 0300 06055 16	
3.00	-0.020	6	2.85	4.50	20	60	2	EMBA 586 0300 06060 20		EMBA 587 0300 06060 20	
4.00	-0.025	6	3.85	6.00	16	60	2	EMBA 586 0400 06060 16		EMBA 587 0400 06060 16	
4.00	-0.025	6	3.85	6.00	20	65	2	EMBA 586 0400 06065 20		EMBA 587 0400 06065 20	

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



UNIVERSAL SERIES

2/4 FLUTE 30°

Square and Ballnose Endmills

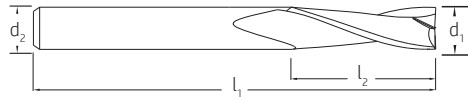
RHINO 45°

45° Helix Roughers with Corner Chamfer

CHAMFER MILLS

60°/90°/120° Chamfer Mills

P M K S



Technical Info. Page No. **148**

Steels <45 HRC	Stainless Steels <900 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <900 N/mm ²	Super Alloys <900 N/mm ²	Aluminiums -			
d₁	d₁	d₂	d₃	l₂	l₃	l₁	z	EDP No. HA	EDP No. HB
<i>tol.</i>	<i>h6</i>	<i>-0.1</i>	<i>±0.50</i>	<i>±0.50</i>	<i>±0.80</i>			AlCrN	AlCrN
1.0	-0.010	3		4.0		38	2	EMSA 2300M 0100	
1.5	-0.020	3		4.5		38	2	EMSA 2300M 0150	
2.0	-0.020	3		6.0		38	2	EMSA 2300M 0200	
2.5	-0.025	3		9.5		38	2	EMSA 2300M 0250	
3.0	-0.025	3		12.0		38	2	EMSA 2300M 0300	
3.5	-0.025	4		12.0		50	2	EMSA 2300M 0350	
4.0	-0.025	4		14.0		50	2	EMSA 2300M 0400	
4.5	-0.025	6		16.0		50	2	EMSA 2300M 0450	EMSA 2301M 0450
5.0	-0.025	6		16.0		50	2	EMSA 2300M 0500	EMSA 2301M 0500
6.0	-0.025	6		19.0		50	2	EMSA 2300M 0600	EMSA 2301M 0600
7.0	-0.025	8		19.0		63	2	EMSA 2300M 0700	EMSA 2301M 0700
8.0	-0.025	8		20.0		63	2	EMSA 2300M 0800	EMSA 2301M 0800
9.0	-0.035	10		22.0		75	2	EMSA 2300M 0900	EMSA 2301M 0900
10.0	-0.035	10		22.0		75	2	EMSA 2300M 1000	EMSA 2301M 1000
11.0	-0.035	12		25.0		75	2	EMSA 2300M 1100	EMSA 2301M 1100
12.0	-0.035	12		25.0		75	2	EMSA 2300M 1200	EMSA 2301M 1200
14.0	-0.035	14		32.0		89	2	EMSA 2300M 1400	EMSA 2301M 1400
16.0	-0.035	16		32.0		89	2	EMSA 2300M 1600	EMSA 2301M 1600
18.0	-0.035	18		38.0		100	2	EMSA 2300M 1800	EMSA 2301M 1800
20.0	-0.035	20		38.0		100	2	EMSA 2300M 2000	EMSA 2301M 2000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

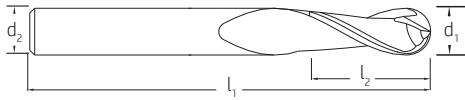
DRILLS

UNIVERSAL

2 Flute 30° Helix Ballnose Endmills

EMB 230

TP



Technical Info. Page No. 148

Steels <45 HRC	Stainless Steels <900 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <900 N/mm ²	Super Alloys <900 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.1	±0.50	±0.50	±0.80		AlCrN	AlCrN
1.0	-0.010	3		4.0		38	2	EMBA 2300M 0100	
1.5	-0.020	3		4.5		38	2	EMBA 2300M 0150	
2.0	-0.020	3		6.0		38	2	EMBA 2300M 0200	
2.5	-0.025	3		9.5		38	2	EMBA 2300M 0250	
3.0	-0.025	3		12.0		38	2	EMBA 2300M 0300	
3.5	-0.025	4		12.0		50	2	EMBA 2300M 0350	
4.0	-0.025	4		14.0		50	2	EMBA 2300M 0400	
4.5	-0.025	6		16.0		50	2	EMBA 2300M 0450	EMBA 2301M 0450
5.0	-0.025	6		16.0		50	2	EMBA 2300M 0500	EMBA 2301M 0500
6.0	-0.025	6		19.0		50	2	EMBA 2300M 0600	EMBA 2301M 0600
7.0	-0.025	8		19.0		63	2	EMBA 2300M 0700	EMBA 2301M 0700
8.0	-0.025	8		20.0		63	2	EMBA 2300M 0800	EMBA 2301M 0800
9.0	-0.035	10		22.0		75	2	EMBA 2300M 0900	EMBA 2301M 0900
10.0	-0.035	10		22.0		75	2	EMBA 2300M 1000	EMBA 2301M 1000
11.0	-0.035	12		25.0		75	2	EMBA 2300M 1100	EMBA 2301M 1100
12.0	-0.035	12		25.0		75	2	EMBA 2300M 1200	EMBA 2301M 1200
14.0	-0.035	14		32.0		89	2	EMBA 2300M 1400	EMBA 2301M 1400
16.0	-0.035	16		32.0		89	2	EMBA 2300M 1600	EMBA 2301M 1600
18.0	-0.035	18		38.0		100	2	EMBA 2300M 1800	EMBA 2301M 1800
20.0	-0.035	20		38.0		100	2	EMBA 2300M 2000	EMBA 2301M 2000

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

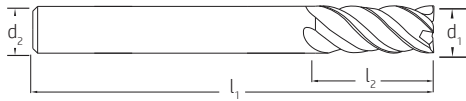
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



Technical Info. Page No. **148**

Steels <45 HRC	Stainless Steels <900 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <900 N/mm ²	Super Alloys <900 N/mm ²	Aluminiums
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	z	EDP No. HA	EDP No. HB
								AlCrN	AlCrN
	tol	h6	-0.1	±0.50	±0.50	±0.80		AlCrN	AlCrN
1.0	-0.010	3		4.0		38	4	EMSA 4300M 0100	
1.5	-0.020	3		4.5		38	4	EMSA 4300M 0150	
2.0	-0.020	3		6.0		38	4	EMSA 4300M 0200	
2.5	-0.025	3		9.5		38	4	EMSA 4300M 0250	
3.0	-0.025	3		12.0		38	4	EMSA 4300M 0300	
3.5	-0.025	4		12.0		50	4	EMSA 4300M 0350	
4.0	-0.025	4		14.0		50	4	EMSA 4300M 0400	
4.5	-0.025	6		16.0		50	4	EMSA 4300M 0450	EMSA 4301M 0450
5.0	-0.025	6		16.0		50	4	EMSA 4300M 0500	EMSA 4301M 0500
6.0	-0.025	6		19.0		50	4	EMSA 4300M 0600	EMSA 4301M 0600
7.0	-0.025	8		19.0		63	4	EMSA 4300M 0700	EMSA 4301M 0700
8.0	-0.025	8		20.0		63	4	EMSA 4300M 0800	EMSA 4301M 0800
9.0	-0.035	10		22.0		75	4	EMSA 4300M 0900	EMSA 4301M 0900
10.0	-0.035	10		22.0		75	4	EMSA 4300M 1000	EMSA 4301M 1000
11.0	-0.035	12		25.0		75	4	EMSA 4300M 1100	EMSA 4301M 1100
12.0	-0.035	12		25.0		75	4	EMSA 4300M 1200	EMSA 4301M 1200
14.0	-0.035	14		32.0		89	4	EMSA 4300M 1400	EMSA 4301M 1400
16.0	-0.035	16		32.0		89	4	EMSA 4300M 1600	EMSA 4301M 1600
18.0	-0.035	18		38.0		100	4	EMSA 4300M 1800	EMSA 4301M 1800
20.0	-0.035	20		38.0		100	4	EMSA 4300M 2000	EMSA 4301M 2000
25.0	-0.035	25		45.0		100	4	EMSA 4300M 2500	EMSA 4301M 2500

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

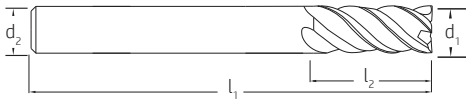
DRILLS

UNIVERSAL

4 Flute 30° Helix Square Endmills

EMS 431

TP



Technical Info. Page No. 148

Steels <45 HRC	Stainless Steels <900 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <900 N/mm ²	Super Alloys <900 N/mm ²	Aluminiums
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.1	±0.50	±0.50	±0.80		AlCrN	AlCrN
2.0	-0.020	4		9.0		75	4	EMSA 4310L 0200	
3.0	-0.025	4		12.0		75	4	EMSA 4310L 0300	
4.0	-0.025	4		16.0		75	4	EMSA 4310L 0400	
5.0	-0.025	6		20.0		75	4	EMSA 4310L 0500	EMSA 4311L 0500
6.0	-0.025	6		20.0		75	4	EMSA 4310L 0600	EMSA 4311L 0600
8.0	-0.025	8		20.0		100	4	EMSA 4310L 0800	EMSA 4311L 0800
10.0	-0.035	10		25.0		100	4	EMSA 4310L 1000	EMSA 4311L 1000
12.0	-0.035	12		30.0		100	4	EMSA 4310L 1200	EMSA 4311L 1200
16.0	-0.035	16		75.0		150	4	EMSA 4310L 1600	EMSA 4311L 1600
20.0	-0.035	20		75.0		150	4	EMSA 4310L 2000	EMSA 4311L 2000
2.0	-0.020	4		9.0		100	4	EMSA 4310X 0200	
3.0	-0.025	4		12.0		100	4	EMSA 4310X 0300	
4.0	-0.025	4		16.0		100	4	EMSA 4310X 0400	
5.0	-0.025	6		20.0		100	4	EMSA 4310X 0500	EMSA 4311X 0500
6.0	-0.025	6		20.0		100	4	EMSA 4310X 0600	EMSA 4311X 0600
8.0	-0.025	8		20.0		120	4	EMSA 4310X 0800	EMSA 4311X 0800
10.0	-0.035	10		25.0		120	4	EMSA 4310X 1000	EMSA 4311X 1000
12.0	-0.035	12		30.0		120	4	EMSA 4310X 1200	EMSA 4311X 1200
3.0	-0.025	3		40.0		100	4	EMSA 4300X 0300	
4.0	-0.025	4		40.0		100	4	EMSA 4300X 0400	
5.0	-0.025	5		40.0		100	4	EMSA 4300X 0500	
6.0	-0.025	6		50.0		100	4	EMSA 4300X 0600	EMSA 4301X 0600
8.0	-0.025	8		50.0		100	4	EMSA 4300X 0800	EMSA 4301X 0800
10.0	-0.035	10		75.0		150	4	EMSA 4300X 1000	EMSA 4301X 1000
12.0	-0.035	12		75.0		150	4	EMSA 4300X 1200	EMSA 4301X 1200

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

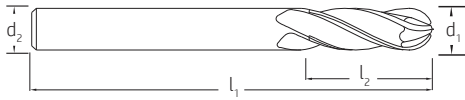
Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

Technical Info. Page No. 148

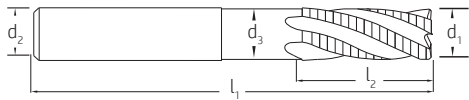
Steels <45 HRC	Stainless Steels <900 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <900 N/mm ²	Super Alloys <900 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	z	EDP No. HA	EDP No. HB
	tol.	h6	-0.1	±0.50	±0.50	±0.80		AlCrN	AlCrN
1.0	-0.010	3		4.0		38	4	EMBA 4300M 0100	
1.5	-0.020	3		4.5		38	4	EMBA 4300M 0150	
2.0	-0.020	3		6.0		38	4	EMBA 4300M 0200	
2.5	-0.025	3		9.5		38	4	EMBA 4300M 0250	
3.0	-0.025	3		12.0		38	4	EMBA 4300M 0300	
3.5	-0.025	4		12.0		50	4	EMBA 4300M 0350	
4.0	-0.025	4		14.0		50	4	EMBA 4300M 0400	
4.5	-0.025	6		16.0		50	4	EMBA 4300M 0450	EMBA 4301M 0450
5.0	-0.025	6		16.0		50	4	EMBA 4300M 0500	EMBA 4301M 0500
6.0	-0.025	6		19.0		50	4	EMBA 4300M 0600	EMBA 4301M 0600
7.0	-0.025	8		19.0		63	4	EMBA 4300M 0700	EMBA 4301M 0700
8.0	-0.025	8		20.0		63	4	EMBA 4300M 0800	EMBA 4301M 0800
9.0	-0.035	10		22.0		75	4	EMBA 4300M 0900	EMBA 4301M 0900
10.0	-0.035	10		22.0		75	4	EMBA 4300M 1000	EMBA 4301M 1000
11.0	-0.035	12		25.0		75	4	EMBA 4300M 1100	EMBA 4301M 1100
12.0	-0.035	12		25.0		75	4	EMBA 4300M 1200	EMBA 4301M 1200
14.0	-0.035	14		32.0		89	4	EMBA 4300M 1400	EMBA 4301M 1400
16.0	-0.035	16		32.0		89	4	EMBA 4300M 1600	EMBA 4301M 1600
18.0	-0.035	18		38.0		100	4	EMBA 4300M 1800	EMBA 4301M 1800
20.0	-0.035	20		38.0		100	4	EMBA 4300M 2000	EMBA 4301M 2000
25.0	-0.035	25		38.0		100	4	EMBA 4300M 2500	EMBA 4301M 2500

RHINO 45°

45° Helix Roughing Profile Endmills

EMC 780



Technical Info. Page No. 149

Steels <45 HRC	Stainless Steels <900 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <900 N/mm ²	Super Alloys <900 N/mm ²	Aluminiums -
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d ₁	d ₁	d ₂	d ₃	l ₂	l ₃	l ₁	CCx45°	Z	EDP No. HA	EDP No. HB
tol.		h6	-0.1	±0.50	±0.50	±0.80	-0.05		AlCrN	AlCrN
3.0	-0.025	6	2.8	8.0	15	57	0.10	3	EMCA 7800M 0300	EMCA 7801M 0300
4.0	-0.025	6	3.8	11.0	17	57	0.15	4	EMCA 7800M 0400	EMCA 7801M 0400
5.0	-0.025	6	4.8	13.0	19	57	0.15	4	EMCA 7800M 0500	EMCA 7801M 0500
6.0	-0.025	6	5.8	13.0	21	57	0.20	4	EMCA 7800M 0600	EMCA 7801M 0600
8.0	-0.025	8	7.6	19.0	27	63	0.20	4	EMCA 7800M 0800	EMCA 7801M 0800
10.0	-0.035	10	9.5	22.0	32	72	0.30	4	EMCA 7800M 1000	EMCA 7801M 1000
12.0	-0.035	12	11.5	26.0	38	83	0.35	4	EMCA 7800M 1200	EMCA 7801M 1200
16.0	-0.035	16	15.5	32.0	44	92	0.40	5	EMCA 7800M 1600	EMCA 7801M 1600
20.0	-0.035	20	19.5	38.0	54	104	0.50	6	EMCA 7800M 2000	EMCA 7801M 2000
25.0	-0.035	25	24.5	45.0	65	121	0.60	8	EMCA 7800M 2500	EMCA 7801M 2500

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

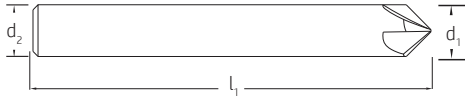
MICRO MILLS

UNIVERSAL

DRILLS



STEELS



INOX

Technical Info. Page No. **148**

SUPERNOX

CHIPSPLITTERS

Aluminiums

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

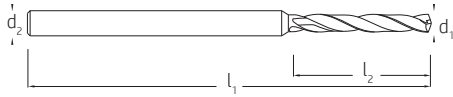
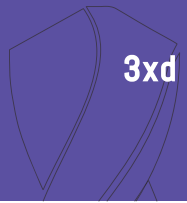
Steels <45 HRC	Stainless Steels <900 N/mm ²	Cast Irons <300 HB	Hardened Steels -	Titaniums <900 N/mm ²	Super Alloys <900 N/mm ²	Aluminiums -		
d ₁	d ₁	d ₂	l ₂	l ₁	Point	z	EDP No. HA	EDP No. HB
	tol.	h6	±0.50	±0.80			AlCrN	AlCrN
3.0	-0.025	3	-	38	60°	4	EMDA 0602 0300	
4.0	-0.025	4	-	54	60°	4	EMDA 0602 0400	
6.0	-0.025	6	-	57	60°	4	EMDA 0602 0600	EMDA 0612 0600
8.0	-0.025	8	-	63	60°	4	EMDA 0602 0800	EMDA 0612 0800
10.0	-0.035	10	-	72	60°	4	EMDA 0602 1000	EMDA 0612 1000
12.0	-0.035	12	-	83	60°	4	EMDA 0602 1200	EMDA 0612 1200
16.0	-0.035	16	-	92	60°	4	EMDA 0602 1600	EMDA 0612 1600
20.0	-0.035	20	-	104	60°	4	EMDA 0602 2000	EMDA 0612 2000
1.0	-0.025	3	-	38	90°	3	EMDA 0902 0100	
2.0	-0.025	3	-	38	90°	3	EMDA 0902 0200	
3.0	-0.025	3	-	38	90°	4	EMDA 0902 0300	
4.0	-0.025	4	-	54	90°	4	EMDA 0902 0400	
6.0	-0.025	6	-	57	90°	4	EMDA 0902 0600	EMDA 0912 0600
8.0	-0.025	8	-	63	90°	4	EMDA 0902 0800	EMDA 0912 0800
10.0	-0.035	10	-	72	90°	4	EMDA 0902 1000	EMDA 0912 1000
12.0	-0.035	12	-	83	90°	4	EMDA 0902 1200	EMDA 0912 1200
16.0	-0.035	16	-	92	90°	4	EMDA 0902 1600	EMDA 0912 1600
20.0	-0.035	20	-	104	90°	4	EMDA 0902 2000	EMDA 0912 2000
3.0	-0.025	3	-	38	120°	4	EMDA 1202 0300	
4.0	-0.025	4	-	54	120°	4	EMDA 1202 0400	
6.0	-0.025	6	-	57	120°	4	EMDA 1202 0600	EMDA 1212 0600
8.0	-0.025	8	-	63	120°	4	EMDA 1202 0800	EMDA 1212 0800
10.0	-0.035	10	-	72	120°	4	EMDA 1202 1000	EMDA 1212 1000
12.0	-0.035	12	-	83	120°	4	EMDA 1202 1200	EMDA 1212 1200
16.0	-0.035	16	-	92	120°	4	EMDA 1202 1600	EMDA 1212 1600
20.0	-0.035	20	-	104	120°	4	EMDA 1202 2000	EMDA 1212 2000



DURONTO MICRO FX

3xd to 25xd Micro drills with and without
Internal Coolant holes - Universal application

P M K S N



STEELS

INOX

SUPERNOX

CHIPSPLITTERS

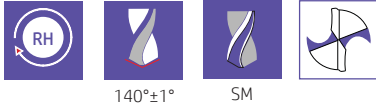
ALUMINIUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



M M K S
 <35HRC <1100 N/mm² <300 HB <1100 N/mm²



Technical Info. Page No. 150

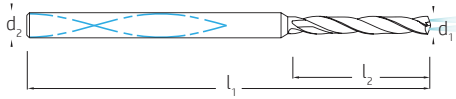
d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
1.00	3	7.0	35	DFMP 0310 0100
1.10	3	7.0	35	DFMP 0310 0110
1.20	3	8.0	35	DFMP 0310 0120
1.30	3	8.0	35	DFMP 0310 0130
1.40	3	9.0	35	DFMP 0310 0140
1.50	3	9.0	40	DFMP 0310 0150
1.60	3	10.0	40	DFMP 0310 0160
1.70	3	10.0	40	DFMP 0310 0170
1.80	3	11.0	40	DFMP 0310 0180
1.90	3	11.0	40	DFMP 0310 0190

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.00	3	13.0	45	DFMP 0310 0200
2.10	3	13.0	45	DFMP 0310 0210
2.20	3	13.0	45	DFMP 0310 0220
2.30	3	13.0	45	DFMP 0310 0230
2.40	3	15.0	45	DFMP 0310 0240
2.50	3	15.0	50	DFMP 0310 0250
2.60	3	15.0	50	DFMP 0310 0260
2.70	3	17.0	50	DFMP 0310 0270
2.80	3	17.0	50	DFMP 0310 0280
2.90	3	17.0	50	DFMP 0310 0290

DURONTO-MICRO FX

3xd With Internal Spiral Coolant Holes

3xd IK



140°±1°



SM



M <35HRC
 M <1100 N/mm²
 K <300 HB
 S <1100 N/mm²



Technical Info. Page No. 150

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.20	3	8.6	55	DFMP 0320 0220
2.25	3	8.8	55	DFMP 0320 0225
2.30	3	9.0	55	DFMP 0320 0230
2.35	3	9.2	55	DFMP 0320 0235
2.40	3	9.4	55	DFMP 0320 0240
2.45	3	9.6	55	DFMP 0320 0245
2.50	3	9.8	55	DFMP 0320 0250
2.55	3	10.0	55	DFMP 0320 0255

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.60	3	10.2	55	DFMP 0320 0260
2.65	3	10.4	55	DFMP 0320 0265
2.70	3	10.6	55	DFMP 0320 0270
2.75	3	10.8	55	DFMP 0320 0275
2.80	3	11.0	55	DFMP 0320 0280
2.85	3	11.2	55	DFMP 0320 0285
2.90	3	11.4	55	DFMP 0320 0290

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

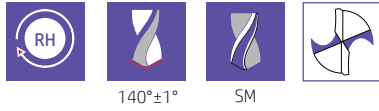
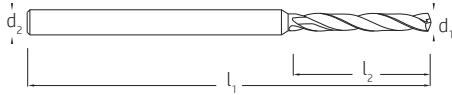
ALUMINIUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



M <35HRC
 M <1100 N/mm²
 K <300 HB
 S <1100 N/mm²



Technical Info. Page No. 150

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

ALUMINIUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
040	3	3.6	38	DFMP 0510 0040
045	3	3.8	38	DFMP 0510 0045
050	3	4.0	38	DFMP 0510 0050
055	3	4.6	38	DFMP 0510 0055
060	3	4.8	38	DFMP 0510 0060
065	3	5.0	38	DFMP 0510 0065
070	3	6.0	38	DFMP 0510 0070
075	3	6.2	38	DFMP 0510 0075
080	3	6.4	38	DFMP 0510 0080
085	3	6.7	38	DFMP 0510 0085
090	3	7.0	38	DFMP 0510 0090
095	3	7.3	38	DFMP 0510 0095
1.00	3	7.5	38	DFMP 0510 0100
1.05	3	7.8	38	DFMP 0510 0105
1.10	3	8.0	38	DFMP 0510 0110
1.15	3	8.3	38	DFMP 0510 0115
1.20	3	8.5	38	DFMP 0510 0120
1.25	3	8.8	38	DFMP 0510 0125
1.30	3	9.0	38	DFMP 0510 0130
1.35	3	9.5	38	DFMP 0510 0135
140	3	10.0	38	DFMP 0510 0140
145	3	10.5	38	DFMP 0510 0145
150	3	11.0	38	DFMP 0510 0150
155	3	11.3	38	DFMP 0510 0155
160	3	11.5	38	DFMP 0510 0160
165	3	11.8	38	DFMP 0510 0165

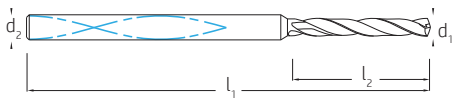
d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
1.70	3	12.0	38	DFMP 0510 0170
1.75	3	12.3	38	DFMP 0510 0175
1.80	3	12.5	38	DFMP 0510 0180
1.85	3	12.8	38	DFMP 0510 0185
1.90	3	13.0	38	DFMP 0510 0190
1.95	3	13.5	38	DFMP 0510 0195
2.00	3	14.0	46	DFMP 0510 0200
2.05	3	14.5	46	DFMP 0510 0205
2.10	3	15.0	46	DFMP 0510 0210
2.15	3	15.5	46	DFMP 0510 0215
2.20	3	16.0	46	DFMP 0510 0220
2.25	3	16.5	46	DFMP 0510 0225
2.30	3	17.0	46	DFMP 0510 0230
2.35	3	17.5	46	DFMP 0510 0235
240	3	18.0	46	DFMP 0510 0240
245	3	18.5	46	DFMP 0510 0245
250	3	19.0	46	DFMP 0510 0250
2.55	3	19.5	50	DFMP 0510 0255
2.60	3	20.0	50	DFMP 0510 0260
2.65	3	20.5	50	DFMP 0510 0265
2.70	3	21.0	50	DFMP 0510 0270
2.75	3	21.5	50	DFMP 0510 0275
2.80	3	22.0	50	DFMP 0510 0280
2.85	3	22.5	50	DFMP 0510 0285
2.90	3	23.0	50	DFMP 0510 0290

DURONTO-MICRO FX

5xd With Internal Spiral Coolant Holes

5xd IK

TP



140°±1°



SM



M

<35HRC

M

<1100 N/mm²

K

<300 HB

S

<1100 N/mm²



Technical Info. Page No. 150

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.20	3	14.3	55	DFMP 0520 0220
2.25	3	14.6	55	DFMP 0520 0225
2.30	3	15.0	55	DFMP 0520 0230
2.35	3	15.3	55	DFMP 0520 0235
2.40	3	15.6	55	DFMP 0520 0240
2.45	3	15.9	55	DFMP 0520 0245
2.50	3	16.3	55	DFMP 0520 0250
2.55	3	16.6	55	DFMP 0520 0255

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.60	3	16.9	55	DFMP 0520 0260
2.65	3	17.2	55	DFMP 0520 0265
2.70	3	17.6	55	DFMP 0520 0270
2.75	3	17.9	55	DFMP 0520 0275
2.80	3	18.2	55	DFMP 0520 0280
2.85	3	18.5	55	DFMP 0520 0285
2.90	3	18.9	55	DFMP 0520 0290
2.95	3	19.2	55	DFMP 0520 0295

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

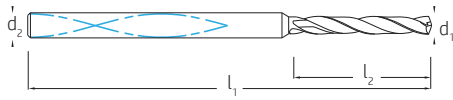
ALUMINIUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



STEELS

INOX

SUPERNOX

CHIPSPLITTERS

ALUMINIUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



140°±1°

SM

M

<35HRC

M

<1100 N/mm²

K

<300 HB

S

<1100 N/mm²



Technical Info. Page No. 150

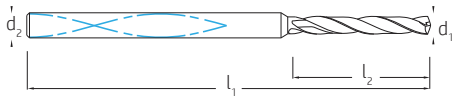
d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.20	3	20.9	60	DFMP 0820 0220
2.25	3	21.4	60	DFMP 0820 0225
2.30	3	21.9	60	DFMP 0820 0230
2.35	3	22.3	60	DFMP 0820 0235
2.40	3	22.8	60	DFMP 0820 0240
2.45	3	23.3	60	DFMP 0820 0245
2.50	3	23.8	60	DFMP 0820 0250
2.55	3	24.2	60	DFMP 0820 0255

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.60	3	24.7	60	DFMP 0820 0260
2.65	3	25.2	60	DFMP 0820 0265
2.70	3	25.7	60	DFMP 0820 0270
2.75	3	26.1	60	DFMP 0820 0275
2.80	3	26.6	60	DFMP 0820 0280
2.85	3	27.1	60	DFMP 0820 0285
2.90	3	27.6	60	DFMP 0820 0290
2.95	3	28.0	60	DFMP 0820 0295

DURONTO-MICRO FX

12xd With Internal Spiral Coolant Holes

12xd IK



140°±1°



SM



M

<35HRC

M

<1100 N/mm²

K

<300 HB

S

<1100 N/mm²



Technical Info. Page No. 150

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.20	3	29.7	65	DFMP 1220 0220
2.25	3	30.4	65	DFMP 1220 0225
2.30	3	31.1	65	DFMP 1220 0230
2.35	3	31.7	75	DFMP 1220 0235
2.40	3	32.4	75	DFMP 1220 0240
2.45	3	33.1	75	DFMP 1220 0245
2.50	3	33.8	75	DFMP 1220 0250
2.55	3	34.4	75	DFMP 1220 0255

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.60	3	35.1	75	DFMP 1220 0260
2.65	3	35.8	75	DFMP 1220 0265
2.70	3	36.5	75	DFMP 1220 0270
2.75	3	37.1	75	DFMP 1220 0275
2.80	3	37.8	75	DFMP 1220 0280
2.85	3	38.5	75	DFMP 1220 0285
2.90	3	39.2	75	DFMP 1220 0290

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

ALUMINIUMS

ROCKSTARS

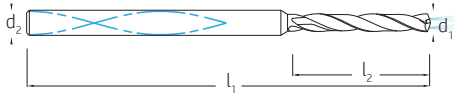
MICRO MILLS

UNIVERSAL

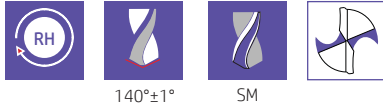
DRILLS



STEELS



INOX



M <35HRC M <1100 N/mm² K <300 HB S <1100 N/mm²



Technical Info. Page No. 150

SUPERNOX

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.20	3	50.6	90	DFMP 2020 0220
2.30	3	52.9	92	DFMP 2020 0230
2.40	3	55.2	94	DFMP 2020 0240
2.50	3	57.5	96	DFMP 2020 0250

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.60	3	59.8	99	DFMP 2020 0260
2.70	3	62.1	101	DFMP 2020 0270
2.80	3	64.4	103	DFMP 2020 0280
2.90	3	66.7	105	DFMP 2020 0290

CHIPSPLITTERS

ALUMINIUMS

ROCKSTARS

MICRO MILLS

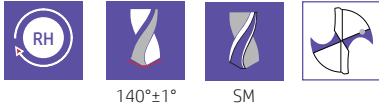
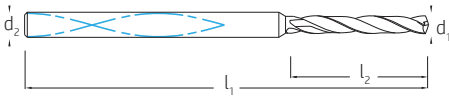
UNIVERSAL

DRILLS

DURONTO-MICRO FX

25xd With Internal Spiral Coolant Holes

25xd IK



M <35HRC
 M <1100 N/mm²
 K <300 HB
 S <1100 N/mm²



Technical Info. Page No. 150

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.20	3	72.6	112	DFMP 2520 0220
2.30	3	75.9	115	DFMP 2520 0230
2.40	3	79.2	118	DFMP 2520 0240
2.50	3	82.5	121	DFMP 2520 0250

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
2.60	3	85.8	125	DFMP 2520 0260
2.70	3	89.1	128	DFMP 2520 0270
2.80	3	92.4	131	DFMP 2520 0280
2.90	3	95.7	134	DFMP 2520 0290

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

ALUMINIUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

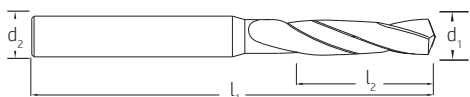
DRILLS



DURONTO DRILLS

3xd and 5xd with and without Internal Coolant
Holes for Steels and Cast Irons





Technical Info. Page No. 151

d ₁	d ₂	L ₂	L ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AICrN
3.00	6	20	62	DDDA 0310 0300
3.10	6	20	62	DDDA 0310 0310
3.20	6	20	62	DDDA 0310 0320
3.30	6	20	62	DDDA 0310 0330
3.40	6	20	62	DDDA 0310 0340
3.50	6	20	62	DDDA 0310 0350
3.60	6	20	62	DDDA 0310 0360
3.70	6	20	62	DDDA 0310 0370
3.80	6	24	66	DDDA 0310 0380
3.90	6	24	66	DDDA 0310 0390
4.00	6	24	66	DDDA 0310 0400
4.10	6	24	66	DDDA 0310 0410
4.20	6	24	66	DDDA 0310 0420
4.30	6	24	66	DDDA 0310 0430
4.40	6	24	66	DDDA 0310 0440
4.50	6	24	66	DDDA 0310 0450
4.60	6	24	66	DDDA 0310 0460
4.70	6	24	66	DDDA 0310 0470
4.80	6	28	66	DDDA 0310 0480
4.90	6	28	66	DDDA 0310 0490
5.00	6	28	66	DDDA 0310 0500
5.10	6	28	66	DDDA 0310 0510
5.20	6	28	66	DDDA 0310 0520
5.30	6	28	66	DDDA 0310 0530
5.40	6	28	66	DDDA 0310 0540
5.50	6	28	66	DDDA 0310 0550
5.60	6	28	66	DDDA 0310 0560

d ₁	d ₂	L ₂	L ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AICrN
5.70	6	28	66	DDDA 0310 0570
5.80	6	28	66	DDDA 0310 0580
5.90	6	28	66	DDDA 0310 0590
6.00	6	28	66	DDDA 0310 0600
6.10	8	34	79	DDDA 0310 0610
6.20	8	34	79	DDDA 0310 0620
6.30	8	34	79	DDDA 0310 0630
6.40	8	34	79	DDDA 0310 0640
6.50	8	34	79	DDDA 0310 0650
6.60	8	34	79	DDDA 0310 0660
6.70	8	34	79	DDDA 0310 0670
6.80	8	34	79	DDDA 0310 0680
6.90	8	34	79	DDDA 0310 0690
7.00	8	34	79	DDDA 0310 0700
7.10	8	41	79	DDDA 0310 0710
7.20	8	41	79	DDDA 0310 0720
7.30	8	41	79	DDDA 0310 0730
7.40	8	41	79	DDDA 0310 0740
7.50	8	41	79	DDDA 0310 0750
7.60	8	41	79	DDDA 0310 0760
7.70	8	41	79	DDDA 0310 0770
7.80	8	41	79	DDDA 0310 0780
7.90	8	41	79	DDDA 0310 0790
8.00	8	41	79	DDDA 0310 0800
8.10	10	47	89	DDDA 0310 0810
8.20	10	47	89	DDDA 0310 0820
8.30	10	47	89	DDDA 0310 0830

*Order Code for HB Shank, AICrN Coated: DDDA 0311 | Order Code for HE Shank, AICrN Coated: DDDA 0312

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

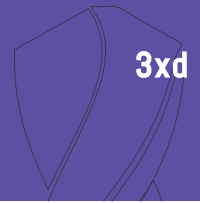
ALUMINUMS

ROCKSTARS

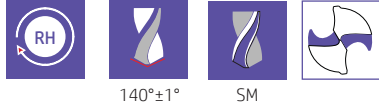
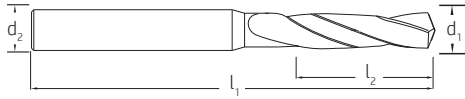
MICRO MILLS

UNIVERSAL

DRILLS



STEELS



M <45HRC
K <390 HB



Technical Info. Page No. **151**

INOX

d_1 (m7)	d_2 (h6)	l_2 ±0.50	l_1 ±0.80	EDP No. HA AlCrN
8.40	10	47	89	DDDA 0310 0840
8.50	10	47	89	DDDA 0310 0850
8.60	10	47	89	DDDA 0310 0860
8.70	10	47	89	DDDA 0310 0870
8.80	10	47	89	DDDA 0310 0880
8.90	10	47	89	DDDA 0310 0890
9.00	10	47	89	DDDA 0310 0900
9.10	10	47	89	DDDA 0310 0910
9.20	10	47	89	DDDA 0310 0920
9.30	10	47	89	DDDA 0310 0930
9.40	10	47	89	DDDA 0310 0940
9.50	10	47	89	DDDA 0310 0950
9.60	10	47	89	DDDA 0310 0960
9.70	10	47	89	DDDA 0310 0970
9.80	10	47	89	DDDA 0310 0980
9.90	10	47	89	DDDA 0310 0990
10.00	10	47	89	DDDA 0310 1000
10.10	12	55	102	DDDA 0310 1010
10.20	12	55	102	DDDA 0310 1020
10.30	12	55	102	DDDA 0310 1030
10.40	12	55	102	DDDA 0310 1040
10.50	12	55	102	DDDA 0310 1050
10.60	12	55	102	DDDA 0310 1060
10.70	12	55	102	DDDA 0310 1070
10.80	12	55	102	DDDA 0310 1080
10.90	12	55	102	DDDA 0310 1090
11.00	12	55	102	DDDA 0310 1100

d_1 (m7)	d_2 (h6)	l_2 ±0.50	l_1 ±0.80	EDP No. HA AlCrN
11.10	12	55	102	DDDA 0310 1110
11.20	12	55	102	DDDA 0310 1120
11.30	12	55	102	DDDA 0310 1130
11.40	12	55	102	DDDA 0310 1140
11.50	12	55	102	DDDA 0310 1150
11.60	12	55	102	DDDA 0310 1160
11.70	12	55	102	DDDA 0310 1170
11.80	12	55	102	DDDA 0310 1180
11.90	12	55	102	DDDA 0310 1190
12.00	12	55	102	DDDA 0310 1200
12.50	14	60	107	DDDA 0310 1250
12.70	14	60	107	DDDA 0310 1270
13.00	14	60	107	DDDA 0310 1300
13.50	14	60	107	DDDA 0310 1350
14.00	14	60	107	DDDA 0310 1400
14.50	16	65	115	DDDA 0310 1450
15.00	16	65	115	DDDA 0310 1500
15.50	16	65	115	DDDA 0310 1550
16.00	16	65	115	DDDA 0310 1600
16.50	18	73	123	DDDA 0310 1650
17.00	18	73	123	DDDA 0310 1700
17.50	18	73	123	DDDA 0310 1750
18.00	18	73	123	DDDA 0310 1800
18.50	20	79	131	DDDA 0310 1850
19.00	20	79	131	DDDA 0310 1900
19.50	20	79	131	DDDA 0310 1950
20.00	20	79	131	DDDA 0310 2000

SUPERNOX

CHIPSPLITTERS

ALUMINUMS

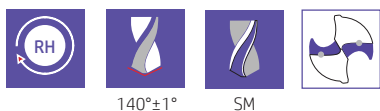
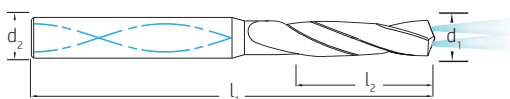
ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

*Order Code for HB Shank, AlCrN Coated: DDDA 0311 | Order Code for HE Shank, AlCrN Coated: DDDA 0312



M <45HRC
K <390 HB



Technical Info. Page No. **151**

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
3.00	6	20	62	DDDA 0320 0300
3.10	6	20	62	DDDA 0320 0310
3.20	6	20	62	DDDA 0320 0320
3.30	6	20	62	DDDA 0320 0330
3.40	6	20	62	DDDA 0320 0340
3.50	6	20	62	DDDA 0320 0350
3.60	6	20	62	DDDA 0320 0360
3.70	6	20	62	DDDA 0320 0370
3.80	6	24	66	DDDA 0320 0380
3.90	6	24	66	DDDA 0320 0390
4.00	6	24	66	DDDA 0320 0400
4.10	6	24	66	DDDA 0320 0410
4.20	6	24	66	DDDA 0320 0420
4.30	6	24	66	DDDA 0320 0430
4.40	6	24	66	DDDA 0320 0440
4.50	6	24	66	DDDA 0320 0450
4.60	6	24	66	DDDA 0320 0460
4.70	6	24	66	DDDA 0320 0470
4.80	6	28	66	DDDA 0320 0480
4.90	6	28	66	DDDA 0320 0490
5.00	6	28	66	DDDA 0320 0500
5.10	6	28	66	DDDA 0320 0510
5.20	6	28	66	DDDA 0320 0520
5.30	6	28	66	DDDA 0320 0530
5.40	6	28	66	DDDA 0320 0540
5.50	6	28	66	DDDA 0320 0550
5.60	6	28	66	DDDA 0320 0560

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
5.70	6	28	66	DDDA 0320 0570
5.80	6	28	66	DDDA 0320 0580
5.90	6	28	66	DDDA 0320 0590
6.00	6	28	66	DDDA 0320 0600
6.10	8	34	79	DDDA 0320 0610
6.20	8	34	79	DDDA 0320 0620
6.30	8	34	79	DDDA 0320 0630
6.40	8	34	79	DDDA 0320 0640
6.50	8	34	79	DDDA 0320 0650
6.60	8	34	79	DDDA 0320 0660
6.70	8	34	79	DDDA 0320 0670
6.80	8	34	79	DDDA 0320 0680
6.90	8	34	79	DDDA 0320 0690
7.00	8	34	79	DDDA 0320 0700
7.10	8	41	79	DDDA 0320 0710
7.20	8	41	79	DDDA 0320 0720
7.30	8	41	79	DDDA 0320 0730
7.40	8	41	79	DDDA 0320 0740
7.50	8	41	79	DDDA 0320 0750
7.60	8	41	79	DDDA 0320 0760
7.70	8	41	79	DDDA 0320 0770
7.80	8	41	79	DDDA 0320 0780
7.90	8	41	79	DDDA 0320 0790
8.00	8	41	79	DDDA 0320 0800
8.10	10	47	89	DDDA 0320 0810
8.20	10	47	89	DDDA 0320 0820
8.30	10	47	89	DDDA 0320 0830

*Order Code for HB Shank, AlCrN Coated: DDDA 0321 | Order Code for HE Shank, AlCrN Coated: DDDA 0322

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

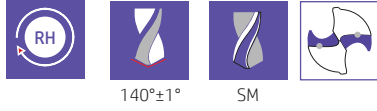
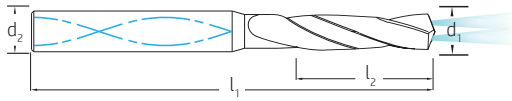
ALUMINUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



M <45HRC
K <390 HB



Technical Info. Page No. 151

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
840	10	47	89	DDDA 0320 0840
8.50	10	47	89	DDDA 0320 0850
8.60	10	47	89	DDDA 0320 0860
8.70	10	47	89	DDDA 0320 0870
8.80	10	47	89	DDDA 0320 0880
8.90	10	47	89	DDDA 0320 0890
9.00	10	47	89	DDDA 0320 0900
9.10	10	47	89	DDDA 0320 0910
9.20	10	47	89	DDDA 0320 0920
9.30	10	47	89	DDDA 0320 0930
9.40	10	47	89	DDDA 0320 0940
9.50	10	47	89	DDDA 0320 0950
9.60	10	47	89	DDDA 0320 0960
9.70	10	47	89	DDDA 0320 0970
9.80	10	47	89	DDDA 0320 0980
9.90	10	47	89	DDDA 0320 0990
10.00	10	47	89	DDDA 0320 1000
10.10	12	55	102	DDDA 0320 1010
10.20	12	55	102	DDDA 0320 1020
10.30	12	55	102	DDDA 0320 1030
10.40	12	55	102	DDDA 0320 1040
10.50	12	55	102	DDDA 0320 1050
10.60	12	55	102	DDDA 0320 1060
10.70	12	55	102	DDDA 0320 1070
10.80	12	55	102	DDDA 0320 1080
10.90	12	55	102	DDDA 0320 1090
11.00	12	55	102	DDDA 0320 1100

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
11.10	12	55	102	DDDA 0320 1110
11.20	12	55	102	DDDA 0320 1120
11.30	12	55	102	DDDA 0320 1130
11.40	12	55	102	DDDA 0320 1140
11.50	12	55	102	DDDA 0320 1150
11.60	12	55	102	DDDA 0320 1160
11.70	12	55	102	DDDA 0320 1170
11.80	12	55	102	DDDA 0320 1180
11.90	12	55	102	DDDA 0320 1190
12.00	12	55	102	DDDA 0320 1200
12.50	14	60	107	DDDA 0320 1250
12.70	14	60	107	DDDA 0320 1270
13.00	14	60	107	DDDA 0320 1300
13.50	14	60	107	DDDA 0320 1350
14.00	14	60	107	DDDA 0320 1400
14.50	16	65	115	DDDA 0320 1450
15.00	16	65	115	DDDA 0320 1500
15.50	16	65	115	DDDA 0320 1550
16.00	16	65	115	DDDA 0320 1600
16.50	18	73	123	DDDA 0320 1650
17.00	18	73	123	DDDA 0320 1700
17.50	18	73	123	DDDA 0320 1750
18.00	18	73	123	DDDA 0320 1800
19.00	20	79	131	DDDA 0320 1900
19.50	20	79	131	DDDA 0320 1950
20.00	20	79	131	DDDA 0320 2000

*Order Code for HB Shank, AlCrN Coated: DDDA 0321 | Order Code for HE Shank, AlCrN Coated: DDDA 0322

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

ALUMINUMS

ROCKSTARS

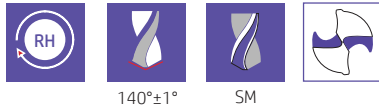
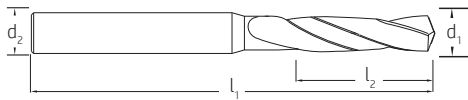
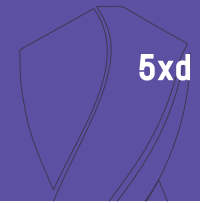
MICRO MILLS

UNIVERSAL

DRILLS

DURONTO

5xd Without Internal Spiral Coolant Holes



M <45HRC
K <390 HB



Technical Info. Page No. 151

d ₁	d ₂	L ₂	L ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
3.00	6	28	66	DDDA 0510 0300
3.10	6	28	66	DDDA 0510 0310
3.20	6	28	66	DDDA 0510 0320
3.30	6	28	66	DDDA 0510 0330
3.40	6	28	66	DDDA 0510 0340
3.50	6	28	66	DDDA 0510 0350
3.60	6	28	66	DDDA 0510 0360
3.70	6	28	66	DDDA 0510 0370
3.80	6	36	74	DDDA 0510 0380
3.90	6	36	74	DDDA 0510 0390
4.00	6	36	74	DDDA 0510 0400
4.10	6	36	74	DDDA 0510 0410
4.20	6	36	74	DDDA 0510 0420
4.30	6	36	74	DDDA 0510 0430
4.40	6	36	74	DDDA 0510 0440
4.50	6	36	74	DDDA 0510 0450
4.60	6	36	74	DDDA 0510 0460
4.70	6	36	74	DDDA 0510 0470
4.80	6	44	82	DDDA 0510 0480
4.90	6	44	82	DDDA 0510 0490
5.00	6	44	82	DDDA 0510 0500
5.10	6	44	82	DDDA 0510 0510
5.20	6	44	82	DDDA 0510 0520
5.30	6	44	82	DDDA 0510 0530
5.40	6	44	82	DDDA 0510 0540
5.50	6	44	82	DDDA 0510 0550
5.60	6	44	82	DDDA 0510 0560

d ₁	d ₂	L ₂	L ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
5.70	6	44	82	DDDA 0510 0570
5.80	6	44	82	DDDA 0510 0580
5.90	6	44	82	DDDA 0510 0590
6.00	6	44	82	DDDA 0510 0600
6.10	8	53	91	DDDA 0510 0610
6.20	8	53	91	DDDA 0510 0620
6.30	8	53	91	DDDA 0510 0630
6.40	8	53	91	DDDA 0510 0640
6.50	8	53	91	DDDA 0510 0650
6.60	8	53	91	DDDA 0510 0660
6.70	8	53	91	DDDA 0510 0670
6.80	8	53	91	DDDA 0510 0680
6.90	8	53	91	DDDA 0510 0690
7.00	8	53	91	DDDA 0510 0700
7.10	8	53	91	DDDA 0510 0710
7.20	8	53	91	DDDA 0510 0720
7.30	8	53	91	DDDA 0510 0730
7.40	8	53	91	DDDA 0510 0740
7.50	8	53	91	DDDA 0510 0750
7.60	8	53	91	DDDA 0510 0760
7.70	8	53	91	DDDA 0510 0770
7.80	8	53	91	DDDA 0510 0780
7.90	8	53	91	DDDA 0510 0790
8.00	8	53	91	DDDA 0510 0800
8.10	10	61	103	DDDA 0510 0810
8.20	10	61	103	DDDA 0510 0820
8.30	10	61	103	DDDA 0510 0830

*Order Code for HB Shank, AlCrN Coated: DDDA 0511 | Order Code for HE Shank, AlCrN Coated: DDDA 0512

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

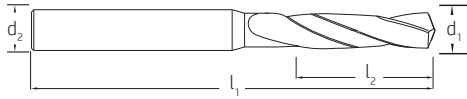
ALUMINUMS

ROCKSTARS

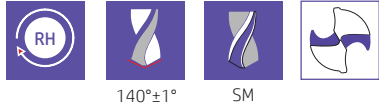
MICRO MILLS

UNIVERSAL

DRILLS



STEELS



M <45HRC
K <390 HB



Technical Info. Page No. 151

INOX

d_1 (m7)	d_2 (h6)	l_2 ± 0.50	l_1 ± 0.80	EDP No. HA AlCrN
840	10	61	103	DDDA 0510 0840
8.50	10	61	103	DDDA 0510 0850
8.60	10	61	103	DDDA 0510 0860
8.70	10	61	103	DDDA 0510 0870
8.80	10	61	103	DDDA 0510 0880
8.90	10	61	103	DDDA 0510 0890
9.00	10	61	103	DDDA 0510 0900
9.10	10	61	103	DDDA 0510 0910
9.20	10	61	103	DDDA 0510 0920
9.30	10	61	103	DDDA 0510 0930
940	10	61	103	DDDA 0510 0940
9.50	10	61	103	DDDA 0510 0950
9.60	10	61	103	DDDA 0510 0960
9.70	10	61	103	DDDA 0510 0970
9.80	10	61	103	DDDA 0510 0980
9.90	10	61	103	DDDA 0510 0990
10.00	10	61	103	DDDA 0510 1000
10.10	12	71	118	DDDA 0510 1010
10.20	12	71	118	DDDA 0510 1020
10.30	12	71	118	DDDA 0510 1030
1040	12	71	118	DDDA 0510 1040
10.50	12	71	118	DDDA 0510 1050
10.60	12	71	118	DDDA 0510 1060
10.70	12	71	118	DDDA 0510 1070
10.80	12	71	118	DDDA 0510 1080
10.90	12	71	118	DDDA 0510 1090
11.00	12	71	118	DDDA 0510 1100

d_1 (m7)	d_2 (h6)	l_2 ± 0.50	l_1 ± 0.80	EDP No. HA AlCrN
11.10	12	71	118	DDDA 0510 1110
11.20	12	71	118	DDDA 0510 1120
11.30	12	71	118	DDDA 0510 1130
1140	12	71	118	DDDA 0510 1140
11.50	12	71	118	DDDA 0510 1150
11.60	12	71	118	DDDA 0510 1160
11.70	12	71	118	DDDA 0510 1170
11.80	12	71	118	DDDA 0510 1180
11.90	12	71	118	DDDA 0510 1190
12.00	12	71	118	DDDA 0510 1200
12.50	14	77	124	DDDA 0510 1250
12.70	14	77	124	DDDA 0510 1270
13.00	14	77	124	DDDA 0510 1300
13.50	14	77	124	DDDA 0510 1350
14.00	14	77	124	DDDA 0510 1400
14.50	16	83	133	DDDA 0510 1450
15.00	16	83	133	DDDA 0510 1500
15.50	16	83	133	DDDA 0510 1550
16.00	16	83	133	DDDA 0510 1600
16.50	18	93	143	DDDA 0510 1650
17.00	18	93	143	DDDA 0510 1700
17.50	18	93	143	DDDA 0510 1750
18.00	18	93	143	DDDA 0510 1800
18.50	20	101	153	DDDA 0510 1850
19.00	20	101	153	DDDA 0510 1900
19.50	20	101	153	DDDA 0510 1950
20.00	20	101	153	DDDA 0510 2000

SUPERNOX

CHIPSPLITTERS

ALUMINUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

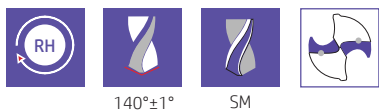
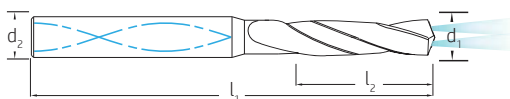
DRILLS

*Order Code for HB Shank, AlCrN Coated: DDDA 0511 | Order Code for HE Shank, AlCrN Coated: DDDA 0512

DURONTO

5xd With Internal Spiral Coolant Holes

5xd IK



M <45HRC
K <390 HB



Technical Info. Page No. 151

d ₁	d ₂	L ₂	L ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
3.00	6	28	66	DDDA 0520 0300
3.10	6	28	66	DDDA 0520 0310
3.20	6	28	66	DDDA 0520 0320
3.30	6	28	66	DDDA 0520 0330
3.40	6	28	66	DDDA 0520 0340
3.50	6	28	66	DDDA 0520 0350
3.60	6	28	66	DDDA 0520 0360
3.70	6	28	66	DDDA 0520 0370
3.80	6	36	74	DDDA 0520 0380
3.90	6	36	74	DDDA 0520 0390
4.00	6	36	74	DDDA 0520 0400
4.10	6	36	74	DDDA 0520 0410
4.20	6	36	74	DDDA 0520 0420
4.30	6	36	74	DDDA 0520 0430
4.40	6	36	74	DDDA 0520 0440
4.50	6	36	74	DDDA 0520 0450
4.60	6	36	74	DDDA 0520 0460
4.70	6	36	74	DDDA 0520 0470
4.80	6	44	82	DDDA 0520 0480
4.90	6	44	82	DDDA 0520 0490
5.00	6	44	82	DDDA 0520 0500
5.10	6	44	82	DDDA 0520 0510
5.20	6	44	82	DDDA 0520 0520
5.30	6	44	82	DDDA 0520 0530
5.40	6	44	82	DDDA 0520 0540
5.50	6	44	82	DDDA 0520 0550
5.60	6	44	82	DDDA 0520 0560

d ₁	d ₂	L ₂	L ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
5.70	6	44	82	DDDA 0520 0570
5.80	6	44	82	DDDA 0520 0580
5.90	6	44	82	DDDA 0520 0590
6.00	6	44	82	DDDA 0520 0600
6.10	8	53	91	DDDA 0520 0610
6.20	8	53	91	DDDA 0520 0620
6.30	8	53	91	DDDA 0520 0630
6.40	8	53	91	DDDA 0520 0640
6.50	8	53	91	DDDA 0520 0650
6.60	8	53	91	DDDA 0520 0660
6.70	8	53	91	DDDA 0520 0670
6.80	8	53	91	DDDA 0520 0680
6.90	8	53	91	DDDA 0520 0690
7.00	8	53	91	DDDA 0520 0700
7.10	8	53	91	DDDA 0520 0710
7.20	8	53	91	DDDA 0520 0720
7.30	8	53	91	DDDA 0520 0730
7.40	8	53	91	DDDA 0520 0740
7.50	8	53	91	DDDA 0520 0750
7.60	8	53	91	DDDA 0520 0760
7.70	8	53	91	DDDA 0520 0770
7.80	8	53	91	DDDA 0520 0780
7.90	8	53	91	DDDA 0520 0790
8.00	8	53	91	DDDA 0520 0800
8.10	10	61	103	DDDA 0520 0810
8.20	10	61	103	DDDA 0520 0820
8.30	10	61	103	DDDA 0520 0830

*Order Code for HB Shank, AlCrN Coated: DDDA 0521 | Order Code for HE Shank, AlCrN Coated: DDDA 0522

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

ALUMINUMS

ROCKSTARS

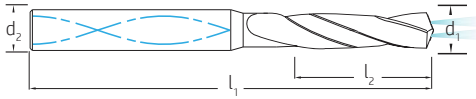
MICRO MILLS

UNIVERSAL

DRILLS



STEELS



140°±1°

SM

M

<45HRC

K

<390 HB



INOX

Technical Info. Page No. **151**

SUPERNOX

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
840	10	61	103	DDDA 0520 0840
8.50	10	61	103	DDDA 0520 0850
8.60	10	61	103	DDDA 0520 0860
8.70	10	61	103	DDDA 0520 0870
8.80	10	61	103	DDDA 0520 0880
8.90	10	61	103	DDDA 0520 0890
9.00	10	61	103	DDDA 0520 0900
9.10	10	61	103	DDDA 0520 0910
9.20	10	61	103	DDDA 0520 0920
9.30	10	61	103	DDDA 0520 0930
9.40	10	61	103	DDDA 0520 0940
9.50	10	61	103	DDDA 0520 0950
9.60	10	61	103	DDDA 0520 0960
9.70	10	61	103	DDDA 0520 0970
9.80	10	61	103	DDDA 0520 0980
9.90	10	61	103	DDDA 0520 0990
10.00	10	61	103	DDDA 0520 1000
10.10	12	71	118	DDDA 0520 1010
10.20	12	71	118	DDDA 0520 1020
10.30	12	71	118	DDDA 0520 1030
10.40	12	71	118	DDDA 0520 1040
10.50	12	71	118	DDDA 0520 1050
10.60	12	71	118	DDDA 0520 1060
10.70	12	71	118	DDDA 0520 1070
10.80	12	71	118	DDDA 0520 1080
10.90	12	71	118	DDDA 0520 1090
11.00	12	71	118	DDDA 0520 1100

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
11.10	12	71	118	DDDA 0520 1110
11.20	12	71	118	DDDA 0520 1120
11.30	12	71	118	DDDA 0520 1130
11.40	12	71	118	DDDA 0520 1140
11.50	12	71	118	DDDA 0520 1150
11.60	12	71	118	DDDA 0520 1160
11.70	12	71	118	DDDA 0520 1170
11.80	12	71	118	DDDA 0520 1180
11.90	12	71	118	DDDA 0520 1190
12.00	12	71	118	DDDA 0520 1200
12.50	14	77	124	DDDA 0520 1250
12.70	14	77	124	DDDA 0520 1270
13.00	14	77	124	DDDA 0520 1300
13.50	14	77	124	DDDA 0520 1350
14.00	14	77	124	DDDA 0520 1400
14.50	16	83	133	DDDA 0520 1450
15.00	16	83	133	DDDA 0520 1500
15.50	16	83	133	DDDA 0520 1550
16.00	16	83	133	DDDA 0520 1600
17.00	18	93	143	DDDA 0520 1700
17.50	18	93	143	DDDA 0520 1750
18.00	18	93	143	DDDA 0520 1800
18.50	20	101	153	DDDA 0520 1850
19.00	20	101	153	DDDA 0520 1900
19.50	20	101	153	DDDA 0520 1950
20.00	20	101	153	DDDA 0520 2000

CHIPSPLITTERS

ALUMINIUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

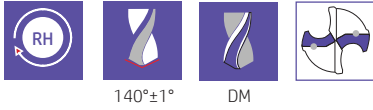
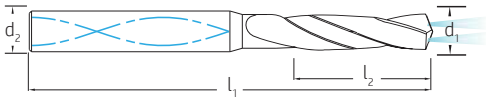
DRILLS

*Order Code for HB Shank, AlCrN Coated: DDDA 0521 | Order Code for HE Shank, AlCrN Coated: DDDA 0522

DURONTO DRILL

8xd With Internal Spiral Coolant Holes

8xd IK



M <45HRC
K <390 HB



Technical Info. Page No. 151

d ₁ (m7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA AlCrN
3.00	6	34	72	DDDA 0820 0300
3.10	6	34	72	DDDA 0820 0310
3.20	6	34	72	DDDA 0820 0320
3.30	6	34	72	DDDA 0820 0330
3.40	6	34	72	DDDA 0820 0340
3.50	6	34	72	DDDA 0820 0350
3.60	6	34	72	DDDA 0820 0360
3.70	6	34	72	DDDA 0820 0370
3.80	6	43	81	DDDA 0820 0380
3.90	6	43	81	DDDA 0820 0390
4.00	6	43	81	DDDA 0820 0400
4.10	6	43	81	DDDA 0820 0410
4.20	6	43	81	DDDA 0820 0420
4.30	6	43	81	DDDA 0820 0430
4.40	6	43	81	DDDA 0820 0440
4.50	6	43	81	DDDA 0820 0450
4.60	6	43	81	DDDA 0820 0460
4.70	6	43	81	DDDA 0820 0470
4.80	6	57	95	DDDA 0820 0480
4.90	6	57	95	DDDA 0820 0490
5.00	6	57	95	DDDA 0820 0500
5.10	6	57	95	DDDA 0820 0510
5.20	6	57	95	DDDA 0820 0520
5.30	6	57	95	DDDA 0820 0530
5.40	6	57	95	DDDA 0820 0540
5.50	6	57	95	DDDA 0820 0550
5.60	6	57	95	DDDA 0820 0560

d ₁ (m7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA AlCrN
5.70	6	57	95	DDDA 0820 0570
5.80	6	57	95	DDDA 0820 0580
5.90	6	57	95	DDDA 0820 0590
6.00	6	57	95	DDDA 0820 0600
6.10	8	76	114	DDDA 0820 0610
6.20	8	76	114	DDDA 0820 0620
6.30	8	76	114	DDDA 0820 0630
6.40	8	76	114	DDDA 0820 0640
6.50	8	76	114	DDDA 0820 0650
6.60	8	76	114	DDDA 0820 0660
6.70	8	76	114	DDDA 0820 0670
6.80	8	76	114	DDDA 0820 0680
6.90	8	76	114	DDDA 0820 0690
7.00	8	76	114	DDDA 0820 0700
7.10	8	76	114	DDDA 0820 0710
7.20	8	76	114	DDDA 0820 0720
7.30	8	76	114	DDDA 0820 0730
7.40	8	76	114	DDDA 0820 0740
7.50	8	76	114	DDDA 0820 0750
7.60	8	76	114	DDDA 0820 0760
7.70	8	76	114	DDDA 0820 0770
7.80	8	76	114	DDDA 0820 0780
7.90	8	76	114	DDDA 0820 0790
8.00	8	76	114	DDDA 0820 0800
8.10	10	95	142	DDDA 0820 0810
8.20	10	95	142	DDDA 0820 0820
8.30	10	95	142	DDDA 0820 0830

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

ALUMINUMS

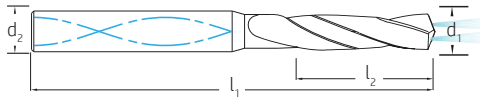
ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

*Order Code for HB Shank, AlCrN Coated: DDDA 0821 | Order Code for HE Shank, AlCrN Coated: DDDA 0822



STEELS

INOX

SUPERNOX

CHIPSPLITTERS

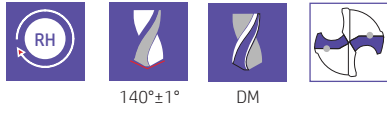
ALUMINUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



M <45HRC
K <390 HB



Technical Info. Page No. 151

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
840	10	95	142	DDDA 0820 0840
8.50	10	95	142	DDDA 0820 0850
8.60	10	95	142	DDDA 0820 0860
8.70	10	95	142	DDDA 0820 0870
8.80	10	95	142	DDDA 0820 0880
8.90	10	95	142	DDDA 0820 0890
9.00	10	95	142	DDDA 0820 0900
9.10	10	95	142	DDDA 0820 0910
9.20	10	95	142	DDDA 0820 0920
9.30	10	95	142	DDDA 0820 0930
9.40	10	95	142	DDDA 0820 0940
9.50	10	95	142	DDDA 0820 0950
9.60	10	95	142	DDDA 0820 0960
9.80	10	95	142	DDDA 0820 0980
9.90	10	95	142	DDDA 0820 0990
10.00	10	95	142	DDDA 0820 1000
10.10	12	114	162	DDDA 0820 1010
10.20	12	114	162	DDDA 0820 1020
10.30	12	114	162	DDDA 0820 1030

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
10.32	12	114	162	DDDA 0820 1032
10.40	12	114	162	DDDA 0820 1040
10.50	12	114	162	DDDA 0820 1050
10.60	12	114	162	DDDA 0820 1060
10.70	12	114	162	DDDA 0820 1070
10.80	12	114	162	DDDA 0820 1080
10.90	12	114	162	DDDA 0820 1090
11.00	12	114	162	DDDA 0820 1100
11.10	12	114	162	DDDA 0820 1110
11.20	12	114	162	DDDA 0820 1120
11.30	12	114	162	DDDA 0820 1130
11.40	12	114	162	DDDA 0820 1140
11.50	12	114	162	DDDA 0820 1150
11.60	12	114	162	DDDA 0820 1160
11.70	12	114	162	DDDA 0820 1170
11.80	12	114	162	DDDA 0820 1180
11.90	12	114	162	DDDA 0820 1190
12.00	12	114	162	DDDA 0820 1200

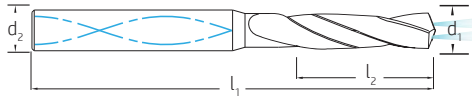
*Order Code for HB Shank, AlCrN Coated: DDDA 0821 | Order Code for HE Shank, AlCrN Coated: DDDA 0822



DURONTO INOX

3xd and 5xd with Internal Coolant Holes for
Stainless Steels, Steels





M <35HRC
 M <1100 N/mm²
 K <300 HB



Technical Info. Page No. **152**

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
3.00	6	20	62	DDIA 0320 0300
3.10	6	20	62	DDIA 0320 0310
3.20	6	20	62	DDIA 0320 0320
3.30	6	20	62	DDIA 0320 0330
3.40	6	20	62	DDIA 0320 0340
3.50	6	20	62	DDIA 0320 0350
3.60	6	20	62	DDIA 0320 0360
3.70	6	20	62	DDIA 0320 0370
3.80	6	24	66	DDIA 0320 0380
3.90	6	24	66	DDIA 0320 0390
4.00	6	24	66	DDIA 0320 0400
4.10	6	24	66	DDIA 0320 0410
4.20	6	24	66	DDIA 0320 0420
4.30	6	24	66	DDIA 0320 0430
4.40	6	24	66	DDIA 0320 0440
4.50	6	24	66	DDIA 0320 0450
4.60	6	24	66	DDIA 0320 0460
4.70	6	24	66	DDIA 0320 0470
4.80	6	28	66	DDIA 0320 0480
4.90	6	28	66	DDIA 0320 0490
5.00	6	28	66	DDIA 0320 0500
5.10	6	28	66	DDIA 0320 0510
5.20	6	28	66	DDIA 0320 0520
5.30	6	28	66	DDIA 0320 0530
5.40	6	28	66	DDIA 0320 0540
5.50	6	28	66	DDIA 0320 0550
5.60	6	28	66	DDIA 0320 0560

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
5.70	6	28	66	DDIA 0320 0570
5.80	6	28	66	DDIA 0320 0580
5.90	6	28	66	DDIA 0320 0590
6.00	6	28	66	DDIA 0320 0600
6.10	8	34	79	DDIA 0320 0610
6.20	8	34	79	DDIA 0320 0620
6.30	8	34	79	DDIA 0320 0630
6.40	8	34	79	DDIA 0320 0640
6.50	8	34	79	DDIA 0320 0650
6.60	8	34	79	DDIA 0320 0660
6.70	8	34	79	DDIA 0320 0670
6.80	8	34	79	DDIA 0320 0680
6.90	8	34	79	DDIA 0320 0690
7.00	8	34	79	DDIA 0320 0700
7.10	8	41	79	DDIA 0320 0710
7.20	8	41	79	DDIA 0320 0720
7.30	8	41	79	DDIA 0320 0730
7.40	8	41	79	DDIA 0320 0740
7.50	8	41	79	DDIA 0320 0750
7.60	8	41	79	DDIA 0320 0760
7.70	8	41	79	DDIA 0320 0770
7.80	8	41	79	DDIA 0320 0780
7.90	8	41	79	DDIA 0320 0790
8.00	8	41	79	DDIA 0320 0800
8.10	10	47	89	DDIA 0320 0810
8.20	10	47	89	DDIA 0320 0820
8.30	10	47	89	DDIA 0320 0830

*Order Code for HB Shank, AlCrN Coated: DDIA 0321 | Order Code for HE Shank, AlCrN Coated: DDIA 0322

STEELS

INOX

SUPERNOX

CHIPSPITTERS

ALUMINIUMS

ROCKSTARS

MICRO MILLS

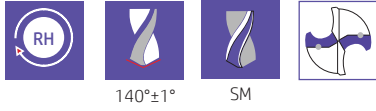
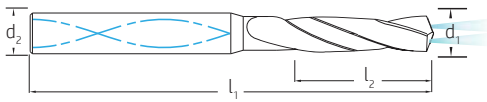
UNIVERSAL

DRILLS

DURONTO-INOX

3xd With Internal Spiral Coolant Holes

3xd IK



M <35HRC M <1100 N/mm² K <300 HB



Technical Info. Page No. 152

d ₁	d ₂	L ₂	L ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
840	10	47	89	DDIA 0320 0840
8.50	10	47	89	DDIA 0320 0850
8.60	10	47	89	DDIA 0320 0860
8.70	10	47	89	DDIA 0320 0870
8.80	10	47	89	DDIA 0320 0880
8.90	10	47	89	DDIA 0320 0890
9.00	10	47	89	DDIA 0320 0900
9.10	10	47	89	DDIA 0320 0910
9.20	10	47	89	DDIA 0320 0920
9.30	10	47	89	DDIA 0320 0930
940	10	47	89	DDIA 0320 0940
9.50	10	47	89	DDIA 0320 0950
9.60	10	47	89	DDIA 0320 0960
9.70	10	47	89	DDIA 0320 0970
9.80	10	47	89	DDIA 0320 0980
9.90	10	47	89	DDIA 0320 0990
10.00	10	47	89	DDIA 0320 1000
10.10	12	55	102	DDIA 0320 1010
10.20	12	55	102	DDIA 0320 1020
10.30	12	55	102	DDIA 0320 1030
1040	12	55	102	DDIA 0320 1040
10.50	12	55	102	DDIA 0320 1050
10.60	12	55	102	DDIA 0320 1060
10.70	12	55	102	DDIA 0320 1070
10.80	12	55	102	DDIA 0320 1080
10.90	12	55	102	DDIA 0320 1090
11.00	12	55	102	DDIA 0320 1100

d ₁	d ₂	L ₂	L ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
11.10	12	55	102	DDIA 0320 1110
11.20	12	55	102	DDIA 0320 1120
11.30	12	55	102	DDIA 0320 1130
1140	12	55	102	DDIA 0320 1140
11.50	12	55	102	DDIA 0320 1150
11.60	12	55	102	DDIA 0320 1160
11.70	12	55	102	DDIA 0320 1170
11.80	12	55	102	DDIA 0320 1180
11.90	12	55	102	DDIA 0320 1190
12.00	12	55	102	DDIA 0320 1200
12.50	14	60	107	DDIA 0320 1250
12.70	14	60	107	DDIA 0320 1270
13.00	14	60	107	DDIA 0320 1300
13.50	14	60	107	DDIA 0320 1350
14.00	14	60	107	DDIA 0320 1400
14.50	16	65	115	DDIA 0320 1450
15.00	16	65	115	DDIA 0320 1500
15.50	16	65	115	DDIA 0320 1550
16.00	16	65	115	DDIA 0320 1600
16.50	18	73	123	DDIA 0320 1650
17.00	18	73	123	DDIA 0320 1700
17.50	18	73	123	DDIA 0320 1750
18.00	18	73	123	DDIA 0320 1800
19.00	20	79	131	DDIA 0320 1900
19.50	20	79	131	DDIA 0320 1950
20.00	20	79	131	DDIA 0320 2000

*Order Code for HB Shank, AlCrN Coated: DDIA 0321 | Order Code for HE Shank, AlCrN Coated: DDIA 0322

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

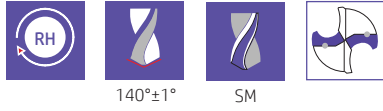
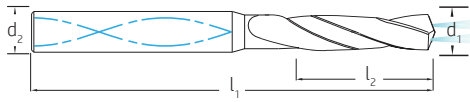
ALUMINIUM

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



M <35HRC
 M <1100 N/mm²
 K <300 HB



Technical Info. Page No. **152**

d ₁ (m7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA AlCrN
3.00	6	28	66	DDIA 0520 0300
3.10	6	28	66	DDIA 0520 0310
3.20	6	28	66	DDIA 0520 0320
3.30	6	28	66	DDIA 0520 0330
3.40	6	28	66	DDIA 0520 0340
3.50	6	28	66	DDIA 0520 0350
3.60	6	28	66	DDIA 0520 0360
3.70	6	28	66	DDIA 0520 0370
3.80	6	36	74	DDIA 0520 0380
3.90	6	36	74	DDIA 0520 0390
4.00	6	36	74	DDIA 0520 0400
4.10	6	36	74	DDIA 0520 0410
4.20	6	36	74	DDIA 0520 0420
4.30	6	36	74	DDIA 0520 0430
4.40	6	36	74	DDIA 0520 0440
4.50	6	36	74	DDIA 0520 0450
4.60	6	36	74	DDIA 0520 0460
4.70	6	36	74	DDIA 0520 0470
4.80	6	44	82	DDIA 0520 0480
4.90	6	44	82	DDIA 0520 0490
5.00	6	44	82	DDIA 0520 0500
5.10	6	44	82	DDIA 0520 0510
5.20	6	44	82	DDIA 0520 0520
5.30	6	44	82	DDIA 0520 0530
5.40	6	44	82	DDIA 0520 0540
5.50	6	44	82	DDIA 0520 0550
5.60	6	44	82	DDIA 0520 0560

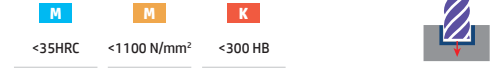
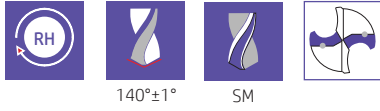
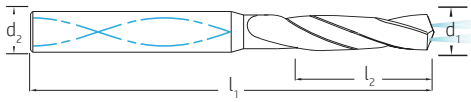
d ₁ (m7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA AlCrN
5.70	6	44	82	DDIA 0520 0570
5.80	6	44	82	DDIA 0520 0580
5.90	6	44	82	DDIA 0520 0590
6.00	6	44	82	DDIA 0520 0600
6.10	8	53	91	DDIA 0520 0610
6.20	8	53	91	DDIA 0520 0620
6.30	8	53	91	DDIA 0520 0630
6.40	8	53	91	DDIA 0520 0640
6.50	8	53	91	DDIA 0520 0650
6.60	8	53	91	DDIA 0520 0660
6.70	8	53	91	DDIA 0520 0670
6.80	8	53	91	DDIA 0520 0680
6.90	8	53	91	DDIA 0520 0690
7.00	8	53	91	DDIA 0520 0700
7.10	8	53	91	DDIA 0520 0710
7.20	8	53	91	DDIA 0520 0720
7.30	8	53	91	DDIA 0520 0730
7.40	8	53	91	DDIA 0520 0740
7.50	8	53	91	DDIA 0520 0750
7.60	8	53	91	DDIA 0520 0760
7.70	8	53	91	DDIA 0520 0770
7.80	8	53	91	DDIA 0520 0780
7.90	8	53	91	DDIA 0520 0790
8.00	8	53	91	DDIA 0520 0800
8.10	10	61	103	DDIA 0520 0810
8.20	10	61	103	DDIA 0520 0820
8.30	10	61	103	DDIA 0520 0830

*Order Code for HB Shank, AlCrN Coated: DDIA 0521 | Order Code for HE Shank, AlCrN Coated: DDIA 0522

DURONTO-INOX

5xd With Internal Spiral Coolant Holes

5xd IK



Technical Info. Page No. 152

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
840	10	61	103	DDIA 0520 0840
8.50	10	61	103	DDIA 0520 0850
8.60	10	61	103	DDIA 0520 0860
8.70	10	61	103	DDIA 0520 0870
8.80	10	61	103	DDIA 0520 0880
8.90	10	61	103	DDIA 0520 0890
9.00	10	61	103	DDIA 0520 0900
9.10	10	61	103	DDIA 0520 0910
9.20	10	61	103	DDIA 0520 0920
9.30	10	61	103	DDIA 0520 0930
940	10	61	103	DDIA 0520 0940
9.50	10	61	103	DDIA 0520 0950
9.60	10	61	103	DDIA 0520 0960
9.70	10	61	103	DDIA 0520 0970
9.80	10	61	103	DDIA 0520 0980
9.90	10	61	103	DDIA 0520 0990
10.00	10	61	103	DDIA 0520 1000
10.10	12	71	118	DDIA 0520 1010
10.20	12	71	118	DDIA 0520 1020
10.30	12	71	118	DDIA 0520 1030
1040	12	71	118	DDIA 0520 1040
10.50	12	71	118	DDIA 0520 1050
10.60	12	71	118	DDIA 0520 1060
10.70	12	71	118	DDIA 0520 1070
10.80	12	71	118	DDIA 0520 1080
10.90	12	71	118	DDIA 0520 1090
11.00	12	71	118	DDIA 0520 1100

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	AlCrN
11.10	12	71	118	DDIA 0520 1110
11.20	12	71	118	DDIA 0520 1120
11.30	12	71	118	DDIA 0520 1130
1140	12	71	118	DDIA 0520 1140
11.50	12	71	118	DDIA 0520 1150
11.60	12	71	118	DDIA 0520 1160
11.70	12	71	118	DDIA 0520 1170
11.80	12	71	118	DDIA 0520 1180
11.90	12	71	118	DDIA 0520 1190
12.00	12	71	118	DDIA 0520 1200
12.50	14	77	124	DDIA 0520 1250
12.70	14	77	124	DDIA 0520 1270
13.00	14	77	124	DDIA 0520 1300
13.50	14	77	124	DDIA 0520 1350
14.00	14	77	124	DDIA 0520 1400
14.50	16	83	133	DDIA 0520 1450
15.00	16	83	133	DDIA 0520 1500
15.50	16	83	133	DDIA 0520 1550
16.00	16	83	133	DDIA 0520 1600
17.00	18	93	143	DDIA 0520 1700
17.50	18	93	143	DDIA 0520 1750
18.00	18	93	143	DDIA 0520 1800
18.50	20	101	153	DDIA 0520 1850
19.00	20	101	153	DDIA 0520 1900
19.50	20	101	153	DDIA 0520 1950
20.00	20	101	153	DDIA 0520 2000

*Order Code for HB Shank, AlCrN Coated: DDIA 0521 | Order Code for HE Shank, AlCrN Coated: DDIA 0522

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

ALUMINIUM

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



DURONTO RX

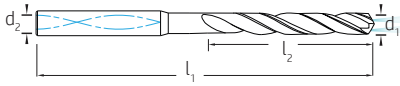
3xd to 40xd Double margin drills with
Internal Coolant holes - Universal application

P M K S

DURONTO-RX

3xd With Internal Spiral Coolant Holes

3xd IK



140°±1°



SM



M <35HRC
 M <1100 N/mm²
 K <300 HB
 S <1100 N/mm²



Technical Info. Page No. 153

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
3.00	6	20	62	DRX2 0320 0300
3.10	6	20	62	DRX2 0320 0310
3.20	6	20	62	DRX2 0320 0320
3.30	6	20	62	DRX2 0320 0330
3.40	6	20	62	DRX2 0320 0340
3.50	6	20	62	DRX2 0320 0350
3.60	6	20	62	DRX2 0320 0360
3.70	6	20	62	DRX2 0320 0370
3.80	6	24	66	DRX2 0320 0380
3.90	6	24	66	DRX2 0320 0390
4.00	6	24	66	DRX2 0320 0400
4.10	6	24	66	DRX2 0320 0410
4.20	6	24	66	DRX2 0320 0420
4.30	6	24	66	DRX2 0320 0430
4.40	6	24	66	DRX2 0320 0440
4.50	6	24	66	DRX2 0320 0450
4.60	6	24	66	DRX2 0320 0460
4.70	6	24	66	DRX2 0320 0470
4.80	6	28	66	DRX2 0320 0480
4.90	6	28	66	DRX2 0320 0490
5.00	6	28	66	DRX2 0320 0500
5.10	6	28	66	DRX2 0320 0510
5.20	6	28	66	DRX2 0320 0520
5.30	6	28	66	DRX2 0320 0530
5.40	6	28	66	DRX2 0320 0540
5.50	6	28	66	DRX2 0320 0550
5.60	6	28	66	DRX2 0320 0560

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
5.70	6	28	66	DRX2 0320 0570
5.80	6	28	66	DRX2 0320 0580
5.90	6	28	66	DRX2 0320 0590
6.00	6	28	66	DRX2 0320 0600
6.10	8	34	79	DRX2 0320 0610
6.20	8	34	79	DRX2 0320 0620
6.30	8	34	79	DRX2 0320 0630
6.40	8	34	79	DRX2 0320 0640
6.50	8	34	79	DRX2 0320 0650
6.60	8	34	79	DRX2 0320 0660
6.70	8	34	79	DRX2 0320 0670
6.80	8	34	79	DRX2 0320 0680
6.90	8	34	79	DRX2 0320 0690
7.00	8	34	79	DRX2 0320 0700
7.10	8	41	79	DRX2 0320 0710
7.20	8	41	79	DRX2 0320 0720
7.30	8	41	79	DRX2 0320 0730
7.40	8	41	79	DRX2 0320 0740
7.50	8	41	79	DRX2 0320 0750
7.60	8	41	79	DRX2 0320 0760
7.70	8	41	79	DRX2 0320 0770
7.80	8	41	79	DRX2 0320 0780
7.90	8	41	79	DRX2 0320 0790
8.00	8	41	79	DRX2 0320 0800
8.10	10	47	89	DRX2 0320 0810
8.20	10	47	89	DRX2 0320 0820
8.30	10	47	89	DRX2 0320 0830

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

ALUMINIUMS

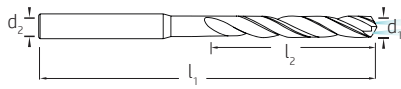
ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

*Order Code for HB Shank, PX Coated: DRX2 0321 | Order Code for HE Shank, PX Coated: DRX2 0322



STEELS

INOX

SUPERINOX

CHIPSPLITTERS

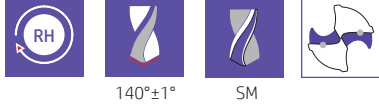
ALUMINIUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



M <35HRC M <1100 N/mm² K <300 HB S <1100 N/mm²



Technical Info. Page No. 153

d ₁ (m7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA PX
840	10	47	89	DRX2 0320 0840
8.50	10	47	89	DRX2 0320 0850
8.60	10	47	89	DRX2 0320 0860
8.70	10	47	89	DRX2 0320 0870
8.80	10	47	89	DRX2 0320 0880
8.90	10	47	89	DRX2 0320 0890
9.00	10	47	89	DRX2 0320 0900
9.10	10	47	89	DRX2 0320 0910
9.20	10	47	89	DRX2 0320 0920
9.30	10	47	89	DRX2 0320 0930
9.40	10	47	89	DRX2 0320 0940
9.50	10	47	89	DRX2 0320 0950
9.60	10	47	89	DRX2 0320 0960
9.70	10	47	89	DRX2 0320 0970
9.80	10	47	89	DRX2 0320 0980
9.90	10	47	89	DRX2 0320 0990
10.00	10	47	89	DRX2 0320 1000
10.10	12	55	102	DRX2 0320 1010
10.20	12	55	102	DRX2 0320 1020
10.30	12	55	102	DRX2 0320 1030
10.40	12	55	102	DRX2 0320 1040
10.50	12	55	102	DRX2 0320 1050
10.60	12	55	102	DRX2 0320 1060
10.70	12	55	102	DRX2 0320 1070
10.80	12	55	102	DRX2 0320 1080
10.90	12	55	102	DRX2 0320 1090
11.00	12	55	102	DRX2 0320 1100

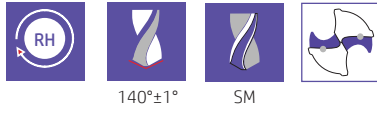
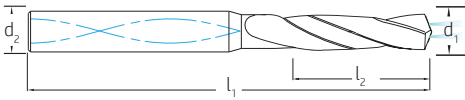
d ₁ (m7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA PX
11.10	12	55	102	DRX2 0320 1110
11.20	12	55	102	DRX2 0320 1120
11.30	12	55	102	DRX2 0320 1130
11.40	12	55	102	DRX2 0320 1140
11.50	12	55	102	DRX2 0320 1150
11.60	12	55	102	DRX2 0320 1160
11.70	12	55	102	DRX2 0320 1170
11.80	12	55	102	DRX2 0320 1180
11.90	12	55	102	DRX2 0320 1190
12.00	12	55	102	DRX2 0320 1200
12.50	14	60	107	DRX2 0320 1250
12.70	14	60	107	DRX2 0320 1270
13.00	14	60	107	DRX2 0320 1300
13.50	14	60	107	DRX2 0320 1350
14.00	14	60	107	DRX2 0320 1400
14.50	16	65	115	DRX2 0320 1450
15.00	16	65	115	DRX2 0320 1500
15.50	16	65	115	DRX2 0320 1550
16.00	16	65	115	DRX2 0320 1600
16.50	18	73	123	DRX2 0320 1650
17.00	18	73	123	DRX2 0320 1700
17.50	18	73	123	DRX2 0320 1750
18.00	18	73	123	DRX2 0320 1800
19.00	20	79	131	DRX2 0320 1900
19.50	20	79	131	DRX2 0320 1950
20.00	20	79	131	DRX2 0320 2000

*Order Code for HB Shank, PX Coated: DRX2 0321 | Order Code for HE Shank, PX Coated: DRX2 0322

DURONTO-RX

5xd With Internal Spiral Coolant Holes

5xd IK



M <35HRC M <1100 N/mm² K <300 HB S <1100 N/mm²



Technical Info. Page No. 153

d ₁ (m7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA PX
3.00	6	28	66	DRX2 0520 0300
3.10	6	28	66	DRX2 0520 0310
3.20	6	28	66	DRX2 0520 0320
3.30	6	28	66	DRX2 0520 0330
3.40	6	28	66	DRX2 0520 0340
3.50	6	28	66	DRX2 0520 0350
3.60	6	28	66	DRX2 0520 0360
3.70	6	28	66	DRX2 0520 0370
3.80	6	36	74	DRX2 0520 0380
3.90	6	36	74	DRX2 0520 0390
4.00	6	36	74	DRX2 0520 0400
4.10	6	36	74	DRX2 0520 0410
4.20	6	36	74	DRX2 0520 0420
4.30	6	36	74	DRX2 0520 0430
4.40	6	36	74	DRX2 0520 0440
4.50	6	36	74	DRX2 0520 0450
4.60	6	36	74	DRX2 0520 0460
4.70	6	36	74	DRX2 0520 0470
4.80	6	44	82	DRX2 0520 0480
4.90	6	44	82	DRX2 0520 0490
5.00	6	44	82	DRX2 0520 0500
5.10	6	44	82	DRX2 0520 0510
5.20	6	44	82	DRX2 0520 0520
5.30	6	44	82	DRX2 0520 0530
5.40	6	44	82	DRX2 0520 0540
5.50	6	44	82	DRX2 0520 0550
5.60	6	44	82	DRX2 0520 0560

d ₁ (m7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA PX
5.70	6	44	82	DRX2 0520 0570
5.80	6	44	82	DRX2 0520 0580
5.90	6	44	82	DRX2 0520 0590
6.00	6	44	82	DRX2 0520 0600
6.10	8	53	91	DRX2 0520 0610
6.20	8	53	91	DRX2 0520 0620
6.30	8	53	91	DRX2 0520 0630
6.40	8	53	91	DRX2 0520 0640
6.50	8	53	91	DRX2 0520 0650
6.60	8	53	91	DRX2 0520 0660
6.70	8	53	91	DRX2 0520 0670
6.80	8	53	91	DRX2 0520 0680
6.90	8	53	91	DRX2 0520 0690
7.00	8	53	91	DRX2 0520 0700
7.10	8	53	91	DRX2 0520 0710
7.20	8	53	91	DRX2 0520 0720
7.30	8	53	91	DRX2 0520 0730
7.40	8	53	91	DRX2 0520 0740
7.50	8	53	91	DRX2 0520 0750
7.60	8	53	91	DRX2 0520 0760
7.70	8	53	91	DRX2 0520 0770
7.80	8	53	91	DRX2 0520 0780
7.90	8	53	91	DRX2 0520 0790
8.00	8	53	91	DRX2 0520 0800
8.10	10	61	103	DRX2 0520 0810
8.20	10	61	103	DRX2 0520 0820
8.30	10	61	103	DRX2 0520 0830

*Order Code for HB Shank, PX Coated: DRX2 0521 | Order Code for HE Shank, PX Coated: DRX2 0522

STEELS

INOX

SUPERINOX

CHIPSPLITTERS

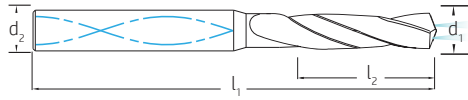
ALUMINIUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



STEELS

INOX

SUPERINOX

CHIPSPLITTERS

ALUMINIUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



140°±1°

SM

M

<35HRC

M

<1100 N/mm²

K

<300 HB

S

<1100 N/mm²



Technical Info. Page No. **153**

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
8.40	10	61	103	DRX2 0520 0840
8.50	10	61	103	DRX2 0520 0850
8.60	10	61	103	DRX2 0520 0860
8.70	10	61	103	DRX2 0520 0870
8.80	10	61	103	DRX2 0520 0880
8.90	10	61	103	DRX2 0520 0890
9.00	10	61	103	DRX2 0520 0900
9.10	10	61	103	DRX2 0520 0910
9.20	10	61	103	DRX2 0520 0920
9.30	10	61	103	DRX2 0520 0930
9.40	10	61	103	DRX2 0520 0940
9.50	10	61	103	DRX2 0520 0950
9.60	10	61	103	DRX2 0520 0960
9.70	10	61	103	DRX2 0520 0970
9.80	10	61	103	DRX2 0520 0980
9.90	10	61	103	DRX2 0520 0990
10.00	10	61	103	DRX2 0520 1000
10.10	12	71	118	DRX2 0520 1010
10.20	12	71	118	DRX2 0520 1020
10.30	12	71	118	DRX2 0520 1030
10.40	12	71	118	DRX2 0520 1040
10.50	12	71	118	DRX2 0520 1050
10.60	12	71	118	DRX2 0520 1060
10.70	12	71	118	DRX2 0520 1070
10.80	12	71	118	DRX2 0520 1080
10.90	12	71	118	DRX2 0520 1090
11.00	12	71	118	DRX2 0520 1100

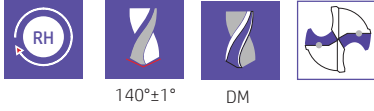
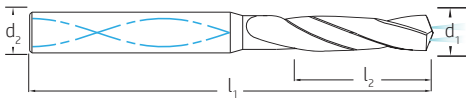
d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
11.10	12	71	118	DRX2 0520 1110
11.20	12	71	118	DRX2 0520 1120
11.30	12	71	118	DRX2 0520 1130
11.40	12	71	118	DRX2 0520 1140
11.50	12	71	118	DRX2 0520 1150
11.60	12	71	118	DRX2 0520 1160
11.70	12	71	118	DRX2 0520 1170
11.80	12	71	118	DRX2 0520 1180
11.90	12	71	118	DRX2 0520 1190
12.00	12	71	118	DRX2 0520 1200
12.50	14	77	124	DRX2 0520 1250
12.70	14	77	124	DRX2 0520 1270
13.00	14	77	124	DRX2 0520 1300
13.50	14	77	124	DRX2 0520 1350
14.00	14	77	124	DRX2 0520 1400
14.50	16	83	133	DRX2 0520 1450
15.00	16	83	133	DRX2 0520 1500
15.50	16	83	133	DRX2 0520 1550
16.00	16	83	133	DRX2 0520 1600
17.00	18	93	143	DRX2 0520 1700
17.50	18	93	143	DRX2 0520 1750
18.00	18	93	143	DRX2 0520 1800
18.50	20	101	153	DRX2 0520 1850
19.00	20	101	153	DRX2 0520 1900
19.50	20	101	153	DRX2 0520 1950
20.00	20	101	153	DRX2 0520 2000

*Order Code for HB Shank, PX Coated: DRX2 0521 | Order Code for HE Shank, PX Coated: DRX2 0522

DURONTO-RX

8xd With Internal Spiral Coolant Holes

8xd IK



M <35HRC M <1100 N/mm² K <300 HB S <1100 N/mm²



Technical Info. Page No. 153

d ₁ (m7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA PX
3.00	6	34	72	DRX2 0820 0300
3.10	6	34	72	DRX2 0820 0310
3.20	6	34	72	DRX2 0820 0320
3.30	6	34	72	DRX2 0820 0330
3.40	6	34	72	DRX2 0820 0340
3.50	6	34	72	DRX2 0820 0350
3.60	6	34	72	DRX2 0820 0360
3.70	6	34	72	DRX2 0820 0370
3.80	6	43	81	DRX2 0820 0380
3.90	6	43	81	DRX2 0820 0390
4.00	6	43	81	DRX2 0820 0400
4.10	6	43	81	DRX2 0820 0410
4.20	6	43	81	DRX2 0820 0420
4.30	6	43	81	DRX2 0820 0430
4.40	6	43	81	DRX2 0820 0440
4.50	6	43	81	DRX2 0820 0450
4.60	6	43	81	DRX2 0820 0460
4.70	6	43	81	DRX2 0820 0470
4.80	6	57	95	DRX2 0820 0480
4.90	6	57	95	DRX2 0820 0490
5.00	6	57	95	DRX2 0820 0500
5.10	6	57	95	DRX2 0820 0510
5.20	6	57	95	DRX2 0820 0520
5.30	6	57	95	DRX2 0820 0530
5.40	6	57	95	DRX2 0820 0540
5.50	6	57	95	DRX2 0820 0550

d ₁ (m7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA PX
5.60	6	57	95	DRX2 0820 0560
5.70	6	57	95	DRX2 0820 0570
5.80	6	57	95	DRX2 0820 0580
5.90	6	57	95	DRX2 0820 0590
6.00	6	57	95	DRX2 0820 0600
6.10	8	76	114	DRX2 0820 0610
6.20	8	76	114	DRX2 0820 0620
6.30	8	76	114	DRX2 0820 0630
6.40	8	76	114	DRX2 0820 0640
6.50	8	76	114	DRX2 0820 0650
6.60	8	76	114	DRX2 0820 0660
6.70	8	76	114	DRX2 0820 0670
6.80	8	76	114	DRX2 0820 0680
6.90	8	76	114	DRX2 0820 0690
7.00	8	76	114	DRX2 0820 0700
7.10	8	76	114	DRX2 0820 0710
7.20	8	76	114	DRX2 0820 0720
7.30	8	76	114	DRX2 0820 0730
7.40	8	76	114	DRX2 0820 0740
7.50	8	76	114	DRX2 0820 0750
7.60	8	76	114	DRX2 0820 0760
7.70	8	76	114	DRX2 0820 0770
7.80	8	76	114	DRX2 0820 0780
7.90	8	76	114	DRX2 0820 0790
8.00	8	76	114	DRX2 0820 0800
8.10	10	95	142	DRX2 0820 0810

*Order Code for HB Shank, PX Coated: DRX2 0821 | Order Code for HE Shank, PX Coated: DRX2 0822

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

ALUMINUMS

ROCKSTARS

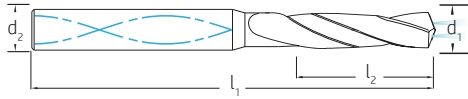
MICRO MILLS

UNIVERSAL

DRILLS



STEELS



INOX



140°±1°

DM

M

<35HRC

M

<1100 N/mm²

K

<300 HB

S

<1100 N/mm²



Technical Info. Page No. 153

SUPERINOX

CHIPSPLITTERS

ALUMINIUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
8.20	10	95	142	DRX2 0820 0820
8.30	10	95	142	DRX2 0820 0830
8.40	10	95	142	DRX2 0820 0840
8.50	10	95	142	DRX2 0820 0850
8.60	10	95	142	DRX2 0820 0860
8.70	10	95	142	DRX2 0820 0870
8.80	10	95	142	DRX2 0820 0880
8.90	10	95	142	DRX2 0820 0890
9.00	10	95	142	DRX2 0820 0900
9.10	10	95	142	DRX2 0820 0910
9.20	10	95	142	DRX2 0820 0920
9.30	10	95	142	DRX2 0820 0930
9.40	10	95	142	DRX2 0820 0940
9.50	10	95	142	DRX2 0820 0950
9.60	10	95	142	DRX2 0820 0960
9.80	10	95	142	DRX2 0820 0980
9.90	10	95	142	DRX2 0820 0990
10.00	10	95	142	DRX2 0820 1000
10.10	12	114	162	DRX2 0820 1010
10.20	12	114	162	DRX2 0820 1020

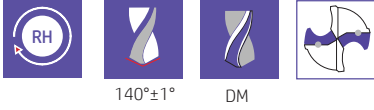
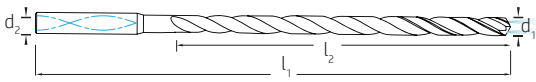
d ₁	d ₂	l ₂	l ₁	EDP No. HA
(m7)	(h6)	±0.50	±0.80	PX
10.30	12	114	162	DRX2 0820 1030
10.32	12	114	162	DRX2 0820 1032
10.40	12	114	162	DRX2 0820 1040
10.50	12	114	162	DRX2 0820 1050
10.60	12	114	162	DRX2 0820 1060
10.70	12	114	162	DRX2 0820 1070
10.80	12	114	162	DRX2 0820 1080
10.90	12	114	162	DRX2 0820 1090
11.00	12	114	162	DRX2 0820 1100
11.10	12	114	162	DRX2 0820 1110
11.20	12	114	162	DRX2 0820 1120
11.30	12	114	162	DRX2 0820 1130
11.40	12	114	162	DRX2 0820 1140
11.50	12	114	162	DRX2 0820 1150
11.60	12	114	162	DRX2 0820 1160
11.70	12	114	162	DRX2 0820 1170
11.80	12	114	162	DRX2 0820 1180
11.90	12	114	162	DRX2 0820 1190
12.00	12	114	162	DRX2 0820 1200

*Order Code for HB Shank, PX Coated: DRX2 0821 | Order Code for HE Shank, PX Coated: DRX2 0822

DURONTO-RX

12xd With Internal Spiral Coolant Holes

12xd IK



M <35HRC **M** <1100 N/mm² **K** <300 HB **S** <1100 N/mm²



Technical Info. Page No. **153**

d ₁ (h7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA PX
3.00	6	46	86	DRX2 1220 0300
3.10	6	54	94	DRX2 1220 0310
3.20	6	54	94	DRX2 1220 0320
3.30	6	54	94	DRX2 1220 0330
3.40	6	54	94	DRX2 1220 0340
3.50	6	54	94	DRX2 1220 0350
3.60	6	61	101	DRX2 1220 0360
3.70	6	61	101	DRX2 1220 0370
3.80	6	61	101	DRX2 1220 0380
3.90	6	61	101	DRX2 1220 0390
4.00	6	61	101	DRX2 1220 0400
4.10	6	69	109	DRX2 1220 0410
4.20	6	69	109	DRX2 1220 0420
4.30	6	69	109	DRX2 1220 0430
4.40	6	69	109	DRX2 1220 0440
4.50	6	69	109	DRX2 1220 0450
4.60	6	76	116	DRX2 1220 0460
4.70	6	76	116	DRX2 1220 0470
4.80	6	76	116	DRX2 1220 0480
4.90	6	76	116	DRX2 1220 0490
5.00	6	76	116	DRX2 1220 0500
5.10	6	84	124	DRX2 1220 0510

d ₁ (h7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA PX
5.20	6	84	124	DRX2 1220 0520
5.30	6	84	124	DRX2 1220 0530
5.40	6	84	124	DRX2 1220 0540
5.50	6	84	124	DRX2 1220 0550
5.60	6	91	131	DRX2 1220 0560
5.70	6	91	131	DRX2 1220 0570
5.80	6	91	131	DRX2 1220 0580
5.90	6	91	131	DRX2 1220 0590
6.00	6	91	131	DRX2 1220 0600
6.50	8	99	139	DRX2 1220 0650
7.00	8	106	146	DRX2 1220 0700
7.50	8	114	154	DRX2 1220 0750
8.00	8	121	161	DRX2 1220 0800
8.50	10	129	173	DRX2 1220 0850
9.00	10	136	180	DRX2 1220 0900
9.50	10	145	189	DRX2 1220 0950
10.00	10	152	196	DRX2 1220 1000
10.50	12	160	209	DRX2 1220 1050
11.00	12	167	216	DRX2 1220 1100
11.50	12	175	224	DRX2 1220 1150
12.00	12	182	231	DRX2 1220 1200

*Order Code for HB Shank, PX Coated: DRX2 1221 | Order Code for HE Shank, PX Coated: DRX2 1222

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

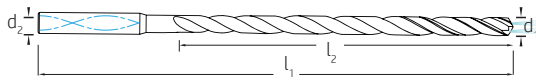
ALUMINUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



STEELS

INOX

SUPERINOX

CHIPSPLITTERS

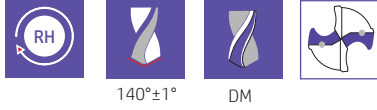
ALUMINIUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



M <35HRC
 M <1100 N/mm²
 K <300 HB
 S <1100 N/mm²



Technical Info. Page No. **153**

d ₁ (h7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA PX
3.00	6	55	95	DRX2 1520 0300
3.10	6	64	104	DRX2 1520 0310
3.20	6	64	104	DRX2 1520 0320
3.30	6	64	104	DRX2 1520 0330
3.40	6	64	104	DRX2 1520 0340
3.50	6	64	104	DRX2 1520 0350
3.60	6	73	113	DRX2 1520 0360
3.70	6	73	113	DRX2 1520 0370
3.80	6	73	113	DRX2 1520 0380
3.90	6	73	113	DRX2 1520 0390
4.00	6	73	113	DRX2 1520 0400
4.10	6	82	122	DRX2 1520 0410
4.20	6	82	122	DRX2 1520 0420
4.30	6	82	122	DRX2 1520 0430
4.40	6	82	122	DRX2 1520 0440
4.50	6	82	122	DRX2 1520 0450
4.60	6	91	131	DRX2 1520 0460
4.70	6	91	131	DRX2 1520 0470
4.80	6	91	131	DRX2 1520 0480
4.90	6	91	131	DRX2 1520 0490

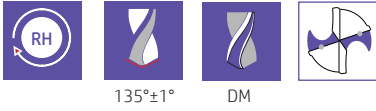
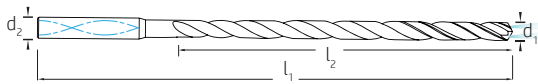
d ₁ (h7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA PX
5.00	6	91	131	DRX2 1520 0500
5.10	6	100	140	DRX2 1520 0510
5.20	6	100	140	DRX2 1520 0520
5.30	6	100	140	DRX2 1520 0530
5.40	6	100	140	DRX2 1520 0540
5.50	6	100	140	DRX2 1520 0550
5.60	6	109	149	DRX2 1520 0560
5.70	6	109	149	DRX2 1520 0570
5.80	6	109	149	DRX2 1520 0580
5.90	6	109	149	DRX2 1520 0590
6.00	6	109	149	DRX2 1520 0600
6.50	8	118	158	DRX2 1520 0650
7.00	8	127	167	DRX2 1520 0700
7.50	8	136	176	DRX2 1520 0750
8.00	8	145	185	DRX2 1520 0800
8.50	10	154	198	DRX2 1520 0850
9.00	10	163	207	DRX2 1520 0900
9.50	10	173	217	DRX2 1520 0950
10.00	10	182	226	DRX2 1520 1000

*Order Code for HB Shank, PX Coated: DRX2 1521 | Order Code for HE Shank, PX Coated: DRX2 1522

DURONTO-RX

20xd With Internal Spiral Coolant Holes

20xd IK



M <35HRC M <1100 N/mm² K <300 HB S <1100 N/mm²



Technical Info. Page No. 153

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(h7)	(h6)	±0.50	±0.80	PX
3.00	6	70	110	DRX2 2020 0300
3.10	6	82	122	DRX2 2020 0310
3.20	6	82	122	DRX2 2020 0320
3.30	6	82	122	DRX2 2020 0330
3.40	6	82	122	DRX2 2020 0340
3.50	6	82	122	DRX2 2020 0350
3.60	6	93	133	DRX2 2020 0360
3.70	6	93	133	DRX2 2020 0370
3.80	6	93	133	DRX2 2020 0380
3.90	6	93	133	DRX2 2020 0390
4.00	6	93	133	DRX2 2020 0400
4.10	6	105	145	DRX2 2020 0410
4.20	6	105	145	DRX2 2020 0420
4.30	6	105	145	DRX2 2020 0430
4.40	6	105	145	DRX2 2020 0440
4.50	6	105	145	DRX2 2020 0450
4.60	6	116	156	DRX2 2020 0460
4.70	6	116	156	DRX2 2020 0470

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(h7)	(h6)	±0.50	±0.80	PX
4.80	6	116	156	DRX2 2020 0480
4.90	6	116	156	DRX2 2020 0490
5.00	6	116	156	DRX2 2020 0500
5.10	6	128	168	DRX2 2020 0510
5.20	6	128	168	DRX2 2020 0520
5.30	6	128	168	DRX2 2020 0530
5.40	6	128	168	DRX2 2020 0540
5.50	6	128	168	DRX2 2020 0550
5.60	6	139	179	DRX2 2020 0560
5.70	6	139	179	DRX2 2020 0570
5.80	6	139	179	DRX2 2020 0580
5.90	6	139	179	DRX2 2020 0590
6.00	6	139	179	DRX2 2020 0600
6.50	8	151	191	DRX2 2020 0650
7.00	8	162	202	DRX2 2020 0700
7.50	8	174	214	DRX2 2020 0750
8.00	8	185	225	DRX2 2020 0800

*Order Code for HB Shank, PX Coated: DRX2 2021 | Order Code for HE Shank, PX Coated: DRX2 2022

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

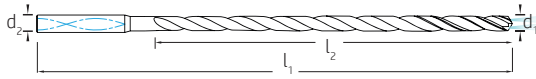
ALUMINUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



STEELS

INOX

SUPERINOX

CHIPSPLITTERS

ALUMINUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



M <35HRC
 M <1100 N/mm²
 K <300 HB
 S <1100 N/mm²



Technical Info. Page No. **153**

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(h7)	(h6)	±0.50	±0.80	PX
3.00	6	85	125	DRX2 2520 0300
3.10	6	99	139	DRX2 2520 0310
3.20	6	99	139	DRX2 2520 0320
3.30	6	99	139	DRX2 2520 0330
3.40	6	99	139	DRX2 2520 0340
3.50	6	99	139	DRX2 2520 0350
3.60	6	113	153	DRX2 2520 0360
3.70	6	113	153	DRX2 2520 0370
3.80	6	113	153	DRX2 2520 0380
3.90	6	113	153	DRX2 2520 0390
4.00	6	113	153	DRX2 2520 0400
4.10	6	127	167	DRX2 2520 0410
4.20	6	127	167	DRX2 2520 0420
4.30	6	127	167	DRX2 2520 0430
4.40	6	127	167	DRX2 2520 0440
4.50	6	127	167	DRX2 2520 0450

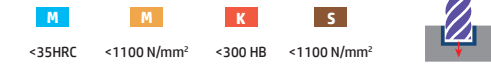
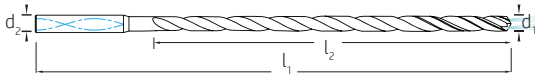
d ₁	d ₂	l ₂	l ₁	EDP No. HA
(h7)	(h6)	±0.50	±0.80	PX
4.60	6	141	181	DRX2 2520 0460
4.70	6	141	181	DRX2 2520 0470
4.80	6	141	181	DRX2 2520 0480
4.90	6	141	181	DRX2 2520 0490
5.00	6	141	181	DRX2 2520 0500
5.10	6	155	195	DRX2 2520 0510
5.20	6	155	195	DRX2 2520 0520
5.30	6	155	195	DRX2 2520 0530
5.40	6	155	195	DRX2 2520 0540
5.50	6	155	195	DRX2 2520 0550
5.60	6	169	209	DRX2 2520 0560
5.70	6	169	209	DRX2 2520 0570
5.80	6	169	209	DRX2 2520 0580
5.90	6	169	209	DRX2 2520 0590
6.00	6	169	209	DRX2 2520 0600

*Order Code for HB Shank, PX Coated: DRX2 2521 | Order Code for HE Shank, PX Coated: DRX2 2522

DURONTO-RX

30xd With Internal Spiral Coolant Holes

30xd IK



Technical Info. Page No. 153

d ₁ (h7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA PX
3.00	6	100	140	DRX2 3020 0300
3.10	6	117	157	DRX2 3020 0310
3.20	6	117	157	DRX2 3020 0320
3.30	6	117	157	DRX2 3020 0330
3.40	6	117	157	DRX2 3020 0340
3.50	6	117	157	DRX2 3020 0350
3.60	6	133	173	DRX2 3020 0360
3.70	6	133	173	DRX2 3020 0370
3.80	6	133	173	DRX2 3020 0380
3.90	6	133	173	DRX2 3020 0390
4.00	6	133	173	DRX2 3020 0400
4.10	6	150	190	DRX2 3020 0410
4.20	6	150	190	DRX2 3020 0420
4.30	6	150	190	DRX2 3020 0430
4.40	6	150	190	DRX2 3020 0440
4.50	6	150	190	DRX2 3020 0450

d ₁ (h7)	d ₂ (h6)	l ₂ ±0.50	l ₁ ±0.80	EDP No. HA PX
4.60	6	166	206	DRX2 3020 0460
4.70	6	166	206	DRX2 3020 0470
4.80	6	166	206	DRX2 3020 0480
4.90	6	166	206	DRX2 3020 0490
5.00	6	166	206	DRX2 3020 0500
5.10	6	183	223	DRX2 3020 0510
5.20	6	183	223	DRX2 3020 0520
5.30	6	183	223	DRX2 3020 0530
5.40	6	183	223	DRX2 3020 0540
5.50	6	183	223	DRX2 3020 0550
5.60	6	199	239	DRX2 3020 0560
5.70	6	199	239	DRX2 3020 0570
5.80	6	199	239	DRX2 3020 0580
5.90	6	199	239	DRX2 3020 0590
6.00	6	199	239	DRX2 3020 0600

*Order Code for HB Shank, PX Coated: DRX2 2021 | Order Code for HE Shank, PX Coated: DRX2 3022

STEELS

INOX

SUPERNOX

CHIPSPLITTERS

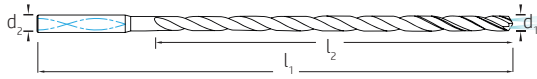
ALUMINUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



STEELS

INOX

SUPERINOX

CHIPSPLITTERS

ALUMINUMS

ROCKSTARS

MICRO MILLS

UNIVERSAL

DRILLS



M <35HRC
 M <1100 N/mm²
 K <300 HB
 S <1100 N/mm²



Technical Info. Page No. **153**

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(h7)	(h6)	±0.50	±0.80	PX
3.00	6	131	174	DRX2 4020 0300
3.10	6	141	191	DRX2 4020 0310
3.20	6	141	191	DRX2 4020 0320
3.30	6	151	191	DRX2 4020 0330
3.40	6	151	191	DRX2 4020 0340
3.50	6	151	191	DRX2 4020 0350

d ₁	d ₂	l ₂	l ₁	EDP No. HA
(h7)	(h6)	±0.50	±0.80	PX
3.60	6	163	213	DRX2 4020 0360
3.70	6	163	213	DRX2 4020 0370
3.80	6	173	213	DRX2 4020 0380
3.90	6	173	213	DRX2 4020 0390
4.00	6	173	213	DRX2 4020 0400

*Order Code for HB Shank, PX Coated: DRX2 4021 | Order Code for HE Shank, PX Coated: DRX2 4022

Formulae

Calculation of the spindle speed in [min⁻¹]

$$n = \frac{V_c \times 1000}{\pi \times D} \quad \text{Example} \quad n = \frac{(224 \times 1000)}{(3.1415 \times 12)} = 5942 \text{ min}^{-1}$$

Calculation of the cutting speed in [m/min]

$$V_c = \frac{\pi \times D \times n}{1000} \quad \text{Example} \quad V_c = \frac{(3.1415 \times 12 \times 5941.96)}{1000} = 224 \text{ m/min}$$

Calculation of the feedrate in [mm/min]

$$V_f = n \times z \times f_z \quad \text{Example} \quad V_f = 5941.96 \times 4 \times 0.134 = 3185 \text{ mm/min}$$

Calculation of the tooth feed in [mm/tooth]

$$f_z = \frac{V_f}{n \times z} \quad \text{Example} \quad f_z = \frac{3184.89}{(5941.96 \times 4)} = 0.134 \text{ mm/tooth}$$

Calculation of the feed per revolution in [mm/rev]

$$f_n = z \times f_z \quad \text{Example} \quad f_n = 4 \times 0.134 = 0.536 \text{ mm/U}$$

$$f_n = \frac{V_f}{n} \quad \text{Example} \quad f_n = \frac{3184.89}{5941.96} = 0.536 \text{ mm/U}$$

Calculation of the cutting volume in [cm³/min]

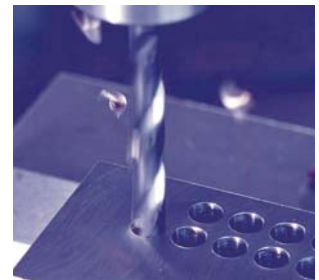
$$Q = \frac{a_e \times a_p \times V_f}{1000} \quad \text{Example} \quad Q = \frac{(1.5 \times 18 \times 3184.89)}{1000} = 85.992 \text{ cm}^3/\text{min}$$

Calculation of the average chip thickness [mm]

$$h_m = f_z \times \sqrt{\frac{a_e}{D}} \quad \text{Example} \quad h_m = 0.134 \times \sqrt{\frac{1.5}{12}} = 0.047 \text{ mm}$$

Calculation of the required machine power in [kW]

$$P = \frac{a_e \times a_p \times V_f}{18000} \quad \text{Example} \quad P = \frac{(1.5 \times 18 \times 3184.89)}{18000} = 4.777 \text{ kW}$$



Coatings

Types	AlCrN	ALD	GX	DX	PX	HX
Chemical Material	AlCrN Base	TiAlN base	AlTiSiN Based	AlTiN/TiSiXN	AlTiN-based	ta-C
Coating hardness HIT[GPa]*	36 +/-3	34 +/- 3	38 +/-5	37 ±3	35 +/--3	50-60
Max. Service temperature (°C)	1100°	>1100°	1000°	1000°	1000°	500°
Application	Steels up to 52 HRC	Steels 45-60HRC	Steels up to 65 HRC	Steels 56 - 72 HRC	Deep-hole drills	Aluminium and aluminium alloys with up to 14% Si
	Cast iron		Stainless Steels		Step drills	
	Stainless Steels		Super Alloys	Super Alloys	As well as all standard drills	

MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	fz (mm/z) Ø									
SLOTTING						3	4	5	6	8	10	12	14	16	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	1	120-150	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.100
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	1	80-100	0.110	0.015	0.019	0.022	0.028	0.034	0.039	0.044	0.049	0.059
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	≤ 1	1	80-100	0.011	0.014	0.018	0.021	0.028	0.035	0.042	0.049	0.056	0.070
M	Stainless Steel : Easy To Machine	<750 N/mm ²													
	Stainless Steel : Difficult To Machine	<950 N/mm ²													
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	1	80-120	0.110	0.015	0.019	0.022	0.028	0.034	0.039	0.044	0.049	0.059
N	Aluminium, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²													
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	0.5	1	30-40	0.009	0.012	0.012	0.017	0.022	0.026	0.030	0.034	0.038	0.046
SIDE MILLING															
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	0.3	150-180	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.100
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	0.3	100-150	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.056	0.064	0.080
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²													
M	Stainless Steel : Easy To Machine	<750 N/mm ²													
	Stainless Steel : Difficult To Machine	<950 N/mm ²													
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	0.3	100-150	0.014	0.018	0.022	0.026	0.034	0.041	0.047	0.052	0.058	0.071
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²													
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	1	0.3	40-45	0.017	0.022	0.027	0.032	0.042	0.050	0.057	0.064	0.064	0.078
RAMPING															
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²													
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²													
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²													
M	Stainless Steel : Easy To Machine	<750 N/mm ²													
	Stainless Steel : Difficult To Machine	<950 N/mm ²													
K	Cast Irons, Grey, Spher., Malleable	<300 HB													
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²													
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²													
HELICAL MILLING															
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	5°	0.3	120	0.010	0.012	0.015	0.018	0.024	0.030	0.032	0.035	0.040	0.048
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	4°	0.3	80	0.009	0.011	0.014	0.016	0.021	0.026	0.029	0.033	0.037	0.045
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	3°	0.3	70	0.010	0.012	0.015	0.018	0.024	0.030	0.032	0.035	0.040	0.048
M	Stainless Steel : Easy To Machine	<750 N/mm ²													
	Stainless Steel : Difficult To Machine	<950 N/mm ²													
K	Cast Irons, Grey, Spher., Malleable	<300 HB													
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²													
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²													
DRILLING															
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²													
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²													
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²													
M	Stainless Steel : Easy To Machine	<750 N/mm ²													
	Stainless Steel : Difficult To Machine	<950 N/mm ²													
K	Cast Irons, Grey, Spher., Malleable	<300 HB													
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²													
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²													
TROCHOIDAL MILLING															
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	2	0.1	200				0.061	0.079	0.095	0.108	0.122	0.135	0.164
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	2	0.1	130				0.055	0.071	0.085	0.097	0.109	0.122	0.148
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	2	0.1	80				0.049	0.063	0.076	0.086	0.097	0.108	0.131
M	Stainless Steel : Easy To Machine	<750 N/mm ²													
	Stainless Steel : Difficult To Machine	<950 N/mm ²													
K	Cast Irons, Grey, Spher., Malleable	<300 HB	2	0.1	130				0.055	0.071	0.085	0.097	0.109	0.122	0.148
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²													
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	1.5	0.1	50				0.067	0.087	0.104	0.119	0.134	0.149	0.181

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	fz (mm/z) Ø							
SLOTTING						4	5	6	8	10	12	16	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	1	110	0.014	0.018	0.026	0.034	0.041	0.047	0.058	0.071
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	1	70	0.013	0.016	0.024	0.031	0.037	0.042	0.052	0.064
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1	1	50	0.010	0.013	0.020	0.026	0.031	0.035	0.044	0.053
M	Stainless Steel : Easy To Machine	<750 N/mm ²											
	Stainless Steel : Difficult To Machine	<950 N/mm ²	0.5	1	50	0.010	0.013	0.020	0.026	0.031	0.035	0.044	0.053
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	1	70	0.013	0.016	0.024	0.031	0.037	0.042	0.052	0.064
N	Aluminiums, Aluminiums Alloys	<6% Si											
S	Titanium , Titanium Alloys	<1100N/mm ²											
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	0.5	1	30	0.012	0.015	0.018	0.024	0.029	0.033	0.041	0.050
SIDE MILLING													
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1.5	0.5	130	0.020	0.025	0.031	0.041	0.049	0.056	0.070	0.085
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1.5	0.5	90	0.020	0.025	0.028	0.037	0.044	0.050	0.063	0.077
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1.2	0.3	60	0.016	0.020	0.025	0.033	0.039	0.045	0.056	0.068
M	Stainless Steel : Easy To Machine	<750 N/mm ²											
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1.2	0.3	60	0.016	0.020	0.025	0.033	0.039	0.045	0.056	0.068
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1.5	0.5	90	0.020	0.025	0.028	0.037	0.044	0.050	0.063	0.077
N	Aluminiums, Aluminiums Alloys	<6% Si											
S	Titanium , Titanium Alloys	<1100N/mm ²											
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	1.2	0.3	40	0.024	0.030	0.035	0.045	0.054	0.062	0.077	0.094
RAMPING													
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²											
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²											
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²											
M	Stainless Steel : Easy To Machine	<750 N/mm ²											
	Stainless Steel : Difficult To Machine	<950 N/mm ²											
K	Cast Irons, Grey, Spher., Malleable	<300 HB											
N	Aluminiums, Aluminiums Alloys	<6% Si											
S	Titanium , Titanium Alloys	<1100N/mm ²											
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²											
HELICAL MILLING													
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	7°	04	110	0.012	0.015	0.018	0.024	0.029	0.033	0.041	0.050
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	5°	04	70	0.011	0.014	0.017	0.022	0.027	0.031	0.038	0.046
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	3°	04	50	0.010	0.013	0.016	0.020	0.025	0.028	0.035	0.043
M	Stainless Steel : Easy To Machine	<750 N/mm ²											
	Stainless Steel : Difficult To Machine	<950 N/mm ²	3°	04	50	0.010	0.013	0.016	0.020	0.025	0.028	0.035	0.043
K	Cast Irons, Grey, Spher., Malleable	<300 HB	5°	04	70	0.011	0.014	0.017	0.022	0.027	0.031	0.038	0.046
N	Aluminiums, Aluminiums Alloys	<6% Si											
S	Titanium , Titanium Alloys	<1100N/mm ²											
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²											
DRILLING													
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²											
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²											
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²											
M	Stainless Steel : Easy To Machine	<750 N/mm ²											
	Stainless Steel : Difficult To Machine	<950 N/mm ²											
K	Cast Irons, Grey, Spher., Malleable	<300 HB											
N	Aluminiums, Aluminiums Alloys	<6% Si											
S	Titanium , Titanium Alloys	<1100N/mm ²											
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²											
TROCCHOIDAL MILLING													
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	2	0.1	160	0.044	0.055	0.066	0.085	0.102	0.117	0.146	0.177
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	2	0.1	110	0.039	0.049	0.059	0.077	0.092	0.105	0.131	0.160
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1.5	0.05	80	0.036	0.045	0.052	0.068	0.082	0.093	0.117	0.142
M	Stainless Steel : Easy To Machine	<750 N/mm ²											
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1.5	0.05	80	0.036	0.045	0.052	0.068	0.082	0.093	0.117	0.142
K	Cast Irons, Grey, Spher., Malleable	<300 HB	2	0.1	110	0.039	0.049	0.059	0.077	0.092	0.105	0.131	0.160
N	Aluminiums, Aluminiums Alloys	<6% Si											
S	Titanium , Titanium Alloys	<1100N/mm ²											
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	1.5	0.05	50	0.048	0.060	0.072	0.094	0.112	0.128	0.016	0.195

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL	Hardness	ap max xD	ae max xD	Vc (m/min)	fz (mm/z) Ø										
					3	4	5	6	8	10	12	16	18	20	
SLOTTING															
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	1	130-150	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.100
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	1	90-110	0.110	0.015	0.019	0.022	0.028	0.034	0.039	0.044	0.049	0.059
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	≤ 1	1	90-110	0.011	0.014	0.018	0.021	0.028	0.035	0.042	0.049	0.056	0.070
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1	1	70-90	0.110	0.015	0.019	0.022	0.028	0.034	0.039	0.044	0.049	0.059
	Stainless Steel : Difficult To Machine	<950 N/mm ²	0.5	1	50-70	0.009	0.012	0.012	0.017	0.022	0.026	0.030	0.034	0.038	0.046
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	1	90-130	0.110	0.015	0.019	0.022	0.028	0.034	0.039	0.044	0.049	0.059
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²	0.5	1	30-50	0.009	0.012	0.012	0.017	0.022	0.026	0.030	0.034	0.038	0.046
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²													
SIDE MILLING															
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	0.3	150-180	0.015	0.020	0.025	0.030	0.040	0.050	0.060	0.070	0.080	0.100
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	0.3	120-150	0.012	0.016	0.020	0.024	0.032	0.040	0.048	0.056	0.064	0.080
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²													
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1.5	0.5	90-110	0.014	0.018	0.022	0.026	0.034	0.041	0.047	0.052	0.058	0.071
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1.2	0.3	60-80	0.012	0.016	0.020	0.023	0.030	0.036	0.041	0.047	0.052	0.063
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	0.3	120-150	0.014	0.018	0.022	0.026	0.034	0.041	0.047	0.052	0.058	0.071
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²	1	0.3	40-50	0.017	0.022	0.027	0.032	0.042	0.050	0.057	0.064	0.064	0.078
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²													
RAMPING															
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²													
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²													
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²													
M	Stainless Steel : Easy To Machine	<750 N/mm ²													
	Stainless Steel : Difficult To Machine	<950 N/mm ²													
K	Cast Irons, Grey, Spher., Malleable	<300 HB													
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²													
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²													
HELICAL MILLING															
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	5°	0.3	130	0.010	0.012	0.015	0.018	0.024	0.030	0.032	0.035	0.040	0.048
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	4°	0.3	90	0.009	0.011	0.014	0.016	0.021	0.026	0.029	0.033	0.037	0.045
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²													
M	Stainless Steel : Easy To Machine	<750 N/mm ²	4°	0.4	90	0.009	0.011	0.014	0.016	0.021	0.026	0.029	0.033	0.037	0.045
	Stainless Steel : Difficult To Machine	<950 N/mm ²	3°	0.4	70	0.008	0.010	0.012	0.015	0.019	0.023	0.026	0.029	0.036	0.039
K	Cast Irons, Grey, Spher., Malleable	<300 HB													
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²													
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²													
DRILLING															
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²													
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²													
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²													
M	Stainless Steel : Easy To Machine	<750 N/mm ²													
	Stainless Steel : Difficult To Machine	<950 N/mm ²													
K	Cast Irons, Grey, Spher., Malleable	<300 HB													
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²													
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²													
TROCHOIDAL MILLING															
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	2	0.1	220				0.061	0.079	0.095	0.108	0.122	0.135	0.164
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	2	0.1	150				0.055	0.071	0.085	0.097	0.109	0.122	0.148
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	2	0.1	100				0.049	0.063	0.076	0.086	0.097	0.108	0.131
M	Stainless Steel : Easy To Machine	<750 N/mm ²													
	Stainless Steel : Difficult To Machine	<950 N/mm ²													
K	Cast Irons, Grey, Spher., Malleable	<300 HB	2	0.1	150				0.055	0.071	0.085	0.097	0.109	0.122	0.148
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²	1.5	0.1	70				0.067	0.087	0.104	0.119	0.134	0.149	0.181
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²													

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MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	4	5	6	fz (mm/z) Ø				
SLOTTING									8	10	12	16	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	1	130	0.014	0.018	0.026	0.034	0.041	0.047	0.058	0.071
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	1	90	0.013	0.016	0.024	0.031	0.037	0.042	0.052	0.064
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1	1	70	0.010	0.013	0.020	0.026	0.031	0.035	0.044	0.053
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1	1	90	0.013	0.016	0.024	0.031	0.037	0.042	0.052	0.064
	Stainless Steel : Difficult To Machine	<950 N/mm ²	0.5	1	70	0.010	0.013	0.020	0.026	0.031	0.035	0.044	0.053
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	1	90	0.013	0.016	0.024	0.031	0.037	0.042	0.052	0.064
N	Aluminiums, Aluminiums Alloys	<6% Si											
S	Titanium , Titanium Alloys	<1100N/mm ²	0.5	1	50	0.012	0.015	0.018	0.024	0.029	0.033	0.041	0.050
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²											
SIDE MILLING													
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1.5	0.5	150	0.020	0.025	0.031	0.041	0.049	0.056	0.070	0.085
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1.5	0.5	110	0.020	0.025	0.028	0.037	0.044	0.050	0.063	0.077
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1.2	0.3	80	0.016	0.020	0.025	0.033	0.039	0.045	0.056	0.068
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1.5	0.5	110	0.020	0.025	0.028	0.037	0.044	0.050	0.063	0.077
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1.2	0.3	80	0.016	0.020	0.025	0.033	0.039	0.045	0.056	0.068
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1.5	0.5	110	0.020	0.025	0.028	0.037	0.044	0.050	0.063	0.077
N	Aluminiums, Aluminiums Alloys	<6% Si											
S	Titanium , Titanium Alloys	<1100N/mm ²											
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	1.2	0.3	40	0.024	0.030	0.035	0.045	0.054	0.062	0.077	0.094
RAMPING													
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²											
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²											
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²											
M	Stainless Steel : Easy To Machine	<750 N/mm ²											
	Stainless Steel : Difficult To Machine	<950 N/mm ²											
K	Cast Irons, Grey, Spher., Malleable	<300 HB											
N	Aluminiums, Aluminiums Alloys	<6% Si											
S	Titanium , Titanium Alloys	<1100N/mm ²											
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²											
HELICAL MILLING													
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	7°	0.4	130	0.012	0.015	0.018	0.024	0.029	0.033	0.041	0.050
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	5°	0.4	90	0.011	0.014	0.017	0.022	0.027	0.031	0.038	0.046
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	3°	0.4	70	0.010	0.013	0.016	0.020	0.025	0.028	0.035	0.043
M	Stainless Steel : Easy To Machine	<750 N/mm ²	5°	0.4	90	0.011	0.014	0.017	0.022	0.027	0.031	0.038	0.046
	Stainless Steel : Difficult To Machine	<950 N/mm ²	3°	0.4	70	0.010	0.013	0.016	0.020	0.025	0.028	0.035	0.043
K	Cast Irons, Grey, Spher., Malleable	<300 HB	5°	0.4	70	0.011	0.014	0.017	0.022	0.027	0.031	0.038	0.046
N	Aluminiums, Aluminiums Alloys	<6% Si											
S	Titanium , Titanium Alloys	<1100N/mm ²											
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	3°	0.4	40	0.010	0.013	0.015	0.019	0.023	0.026	0.033	0.400
DRILLING													
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²											
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²											
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²											
M	Stainless Steel : Easy To Machine	<750 N/mm ²											
	Stainless Steel : Difficult To Machine	<950 N/mm ²											
K	Cast Irons, Grey, Spher., Malleable	<300 HB											
N	Aluminiums, Aluminiums Alloys	<6% Si											
S	Titanium , Titanium Alloys	<1100N/mm ²											
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²											
TROCHOIDAL MILLING													
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	2	0.1	200	0.044	0.055	0.066	0.085	0.102	0.117	0.146	0.177
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	2	0.1	130	0.039	0.049	0.059	0.077	0.092	0.105	0.131	0.160
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1.5	0.05	100	0.036	0.045	0.052	0.068	0.082	0.093	0.117	0.142
M	Stainless Steel : Easy To Machine	<750 N/mm ²	2	0.1	130	0.039	0.049	0.059	0.077	0.092	0.105	0.131	0.160
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1.5	0.05	100	0.036	0.045	0.052	0.068	0.082	0.093	0.117	0.142
K	Cast Irons, Grey, Spher., Malleable	<300 HB	2	0.1	130	0.039	0.049	0.059	0.077	0.092	0.105	0.131	0.160
N	Aluminiums, Aluminiums Alloys	<6% Si											
S	Titanium , Titanium Alloys	<1100N/mm ²											
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	1.5	0.05	60	0.048	0.060	0.072	0.094	0.112	0.128	0.016	0.195

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	6	8	10	fz (mm/z) Ø		
SLOTTING									12	14	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²									
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									
SIDE MILLING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	<2	<0.05	176-263	0.048	0.081	0.101	0.121	0.142	0.158
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	<2	<0.05	119-179	0.036	0.061	0.077	0.092	0.107	0.119
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²	<2	<0.05	96-117	0.029	0.049	0.061	0.073	0.086	0.096
	Stainless Steel : Difficult To Machine	<950 N/mm ²	<2	<0.05	89-109	0.029	0.049	0.061	0.073	0.086	0.096
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²	<2	<0.05	68-102	0.023	0.033	0.049	0.059	0.068	0.077
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									
RAMPING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²									
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									
HELICAL MILLING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²									
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									
DRILLING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²									
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									
TROCROIDAL MILLING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²									
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	fz (mm/z) Ø						
SLOTTING						3	6	8	10	12	16	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	1	100-160	0.012	0.029	0.049	0.061	0.074	0.100	0.108
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	1	60-90	0.010	0.022	0.036	0.045	0.055	0.074	0.080
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²										
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1	1	90-120	0.009	0.024	0.041	0.051	0.060	0.076	0.085
	Stainless Steel : Difficult To Machine	<950 N/mm ²	0.3	1	60-90	0.007	0.019	0.032	0.040	0.048	0.064	0.069
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	1	60-90	0.010	0.022	0.036	0.045	0.055	0.074	0.080
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	0.3	1	40-60	0.007	0.019	0.032	0.040	0.048	0.064	0.069
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	0.3	1	12-20	0.008	0.026	0.045	0.056	0.067	0.090	0.096
SIDE MILLING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	0.3	130-200	0.012	0.029	0.049	0.061	0.074	0.100	0.107
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	0.3	70-120	0.010	0.022	0.036	0.045	0.055	0.074	0.080
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²										
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1	0.3	120-180	0.009	0.024	0.041	0.051	0.060	0.079	0.085
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1	0.3	70-110	0.007	0.019	0.032	0.040	0.048	0.064	0.069
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	0.3	80-120	0.007	0.019	0.034	0.043	0.050	0.067	0.072
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	1	<0.3	50-70	0.007	0.019	0.032	0.040	0.048	0.064	0.069
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	1	<0.3	15-23	0.005	0.012	0.019	0.024	0.029	0.038	0.043
RAMPING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²										
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²										
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²										
M	Stainless Steel : Easy To Machine	<750 N/mm ²										
	Stainless Steel : Difficult To Machine	<950 N/mm ²										
K	Cast Irons, Grey, Spher., Malleable	<300 HB										
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²										
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²										
HELICAL MILLING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²										
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²										
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²										
M	Stainless Steel : Easy To Machine	<750 N/mm ²										
	Stainless Steel : Difficult To Machine	<950 N/mm ²										
K	Cast Irons, Grey, Spher., Malleable	<300 HB										
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²										
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²										
DRILLING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²										
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²										
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²										
M	Stainless Steel : Easy To Machine	<750 N/mm ²										
	Stainless Steel : Difficult To Machine	<950 N/mm ²										
K	Cast Irons, Grey, Spher., Malleable	<300 HB										
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²										
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²										
TROCHOIDAL MILLING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²										
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²										
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²										
M	Stainless Steel : Easy To Machine	<750 N/mm ²										
	Stainless Steel : Difficult To Machine	<950 N/mm ²										
K	Cast Irons, Grey, Spher., Malleable	<300 HB										
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²										
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²										

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	6	8	10	fz (mm/z) Ø			
SLOTTING									12	14	16	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	1	130-150	0.030	0.040	0.050	0.060	0.070	0.080	0.100
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	1	90-110	0.022	0.028	0.034	0.039	0.044	0.049	0.059
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	≤ 1	1	50-70	0.018	0.024	0.029	0.032	0.036	0.041	0.049
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1	1	70-90	0.022	0.028	0.034	0.039	0.044	0.049	0.059
	Stainless Steel : Difficult To Machine	<950 N/mm ²	0.5	1	50-70	0.017	0.022	0.026	0.030	0.034	0.038	0.046
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	1	90-130	0.022	0.028	0.034	0.039	0.044	0.049	0.059
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	0.5	1	30-50	0.017	0.022	0.026	0.030	0.034	0.038	0.046
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	0.5	1	30-50	0.017	0.022	0.026	0.030	0.034	0.038	0.046
SIDE MILLING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	0.3	150-180	0.030	0.040	0.050	0.060	0.070	0.080	0.100
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	0.3	120-150	0.024	0.032	0.040	0.048	0.056	0.064	0.080
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1	0.3	60-80	0.023	0.030	0.036	0.041	0.047	0.052	0.063
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1.5	0.5	90-110	0.026	0.034	0.041	0.047	0.052	0.058	0.071
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1.2	0.3	60-80	0.023	0.030	0.036	0.041	0.047	0.052	0.063
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	0.3	120-150	0.026	0.034	0.041	0.047	0.052	0.058	0.071
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	1	0.3	40-50	0.032	0.042	0.050	0.057	0.064	0.064	0.078
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	1	0.3	40-50	0.032	0.042	0.050	0.057	0.064	0.064	0.078
RAMPING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	45°	1	100-120	0.019	0.021	0.024	0.028	0.032	0.035	0.043
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	15°	1	55-75	0.017	0.023	0.023	0.026	0.029	0.032	0.039
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²										
M	Stainless Steel : Easy To Machine	<750 N/mm ²	10°	1	60-80	0.018	0.023	0.028	0.032	0.036	0.040	0.048
	Stainless Steel : Difficult To Machine	<950 N/mm ²	5°	1	45-65	0.017	0.022	0.026	0.030	0.034	0.038	0.046
K	Cast Irons, Grey, Spher., Malleable	<300 HB	15°	1	60-80	0.018	0.023	0.028	0.032	0.036	0.040	0.048
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	5°	1	30-40	0.023	0.030	0.036	0.042	0.047	0.052	0.063
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	5°	1	30-40	0.023	0.030	0.036	0.042	0.047	0.052	0.063
HELICAL MILLING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	5°	0.3	110-130	0.018	0.024	0.030	0.032	0.035	0.040	0.048
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	4°	0.3	70-90	0.016	0.021	0.026	0.029	0.033	0.037	0.045
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	3°	0.3	50-70	0.015	0.019	0.023	0.026	0.029	0.032	0.039
M	Stainless Steel : Easy To Machine	<750 N/mm ²	4°	0.4	70-90	0.016	0.021	0.026	0.029	0.033	0.037	0.045
	Stainless Steel : Difficult To Machine	<950 N/mm ²	3°	0.4	70-90	0.015	0.019	0.023	0.026	0.029	0.036	0.039
K	Cast Irons, Grey, Spher., Malleable	<300 HB	4°	0.4	70-90	0.016	0.021	0.026	0.029	0.033	0.037	0.045
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	3°	0.4	30-50	0.014	0.019	0.021	0.024	0.027	0.030	0.037
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	3°	0.4	30-50	0.014	0.019	0.021	0.024	0.027	0.030	0.037
DRILLING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	1	85-105	0.012	0.016	0.019	0.022	0.024	0.027	0.033
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	1	55-75	0.011	0.014	0.017	0.019	0.022	0.024	0.030
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²										
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1	1	55-75	0.011	0.014	0.017	0.019	0.022	0.024	0.030
	Stainless Steel : Difficult To Machine	<950 N/mm ²										
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	1	55-75	0.011	0.014	0.017	0.019	0.022	0.024	0.030
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	0.5	1	20-40	0.013	0.017	0.021	0.024	0.027	0.030	0.036
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²										
TROCHOIDAL MILLING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	2	0.1	160-200	0.061	0.079	0.095	0.108	0.122	0.135	0.164
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	2	0.1	110-130	0.055	0.071	0.085	0.097	0.109	0.122	0.148
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	2	0.1	80-100	0.049	0.063	0.076	0.086	0.097	0.108	0.131
M	Stainless Steel : Easy To Machine	<750 N/mm ²	2	0.1	110-130	0.055	0.071	0.085	0.097	0.109	0.122	0.148
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1.5	0.1	80-100	0.049	0.063	0.076	0.086	0.097	0.108	0.131
K	Cast Irons, Grey, Spher., Malleable	<300 HB	2	0.1	150	0.055	0.071	0.085	0.097	0.109	0.122	0.148
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	1.5	0.05	50-70	0.067	0.087	0.104	0.119	0.134	0.149	0.181
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	1.5	0.05	50-70	0.067	0.087	0.104	0.119	0.134	0.149	0.181

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	6	8	fz (mm/z) Ø			
SLOTTING								10	12	16	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	1	80	0.030	0.040	0.050	0.055	0.055	0.060
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1	1	60	0.030	0.040	0.050	0.055	0.055	0.060
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1	1	50	0.025	0.030	0.040	0.045	0.045	0.050
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	1	80	0.030	0.040	0.050	0.055	0.055	0.060
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²	0.5	1	35	0.025	0.030	0.040	0.045	0.045	0.050
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	0.5	1	25-35	0.025	0.030	0.040	0.045	0.045	0.050
SIDE MILLING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	0.3	130	0.030	0.040	0.050	0.055	0.055	0.060
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1	0.3	80	0.030	0.040	0.050	0.055	0.055	0.060
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1	0.3	60	0.025	0.030	0.040	0.045	0.045	0.050
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	0.3	130	0.030	0.040	0.050	0.055	0.055	0.060
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²	1	0.2	45	0.025	0.030	0.040	0.045	0.045	0.050
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	1	0.2	35	0.025	0.030	0.040	0.045	0.045	0.050
RAMPING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	10°	1	150	0.030	0.040	0.050	0.055	0.055	0.060
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	10°	1	80	0.030	0.040	0.050	0.055	0.055	0.060
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²	7°	1	50	0.025	0.030	0.040	0.045	0.045	0.050
K	Cast Irons, Grey, Spher., Malleable	<300 HB	10°	1	150	0.030	0.040	0.050	0.055	0.055	0.060
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²	5°	1	35	0.025	0.030	0.040	0.045	0.045	0.050
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	5°	1	35	0.025	0.030	0.040	0.045	0.045	0.050
HELICAL MILLING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²									
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									
DRILLING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²									
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									
TROCHOIDAL MILLING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²									
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	6	8	fz (mm/z) Ø				
SLOTTING								10	12	16	18	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	1	130-150	0.030	0.040	0.050	0.060	0.070	0.080	0.100
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	1	90-110	0.022	0.028	0.034	0.039	0.044	0.049	0.059
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	≤ 1	1	50-70	0.018	0.024	0.029	0.032	0.036	0.041	0.049
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1	1	70-90	0.022	0.028	0.034	0.039	0.044	0.049	0.059
	Stainless Steel : Difficult To Machine	<950 N/mm ²	0.5	1	50-70	0.017	0.022	0.026	0.030	0.034	0.038	0.046
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	1	90-130	0.022	0.028	0.034	0.039	0.044	0.049	0.059
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	0.5	1	30-50	0.017	0.022	0.026	0.030	0.034	0.038	0.046
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	0.5	1	30-50	0.017	0.022	0.026	0.030	0.034	0.038	0.046
SIDE MILLING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	0.3	150-180	0.030	0.040	0.050	0.060	0.070	0.080	0.100
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	0.3	120-150	0.024	0.032	0.040	0.048	0.056	0.064	0.080
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1	0.3	60-80	0.023	0.030	0.036	0.041	0.047	0.052	0.063
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1.5	0.5	90-110	0.026	0.034	0.041	0.047	0.052	0.058	0.071
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1.2	0.3	60-80	0.023	0.030	0.036	0.041	0.047	0.052	0.063
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	0.3	120-150	0.026	0.034	0.041	0.047	0.052	0.058	0.071
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	1	0.3	40-50	0.032	0.042	0.050	0.057	0.064	0.064	0.078
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	1	0.3	40-50	0.032	0.042	0.050	0.057	0.064	0.064	0.078
RAMPING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	10°	1	100-120	0.019	0.021	0.024	0.028	0.032	0.035	0.043
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	10°	1	55-75	0.017	0.023	0.023	0.026	0.029	0.032	0.039
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²										
M	Stainless Steel : Easy To Machine	<750 N/mm ²	10°	1	60-80	0.018	0.023	0.028	0.032	0.036	0.040	0.048
	Stainless Steel : Difficult To Machine	<950 N/mm ²	5°	1	45-65	0.017	0.022	0.026	0.030	0.034	0.038	0.046
K	Cast Irons, Grey, Spher., Malleable	<300 HB	10°	1	60-80	0.018	0.023	0.028	0.032	0.036	0.040	0.048
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	5°	1	30-40	0.023	0.030	0.036	0.042	0.047	0.052	0.063
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	5°	1	30-40	0.023	0.030	0.036	0.042	0.047	0.052	0.063
HELICAL MILLING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	5°	0.3	110-130	0.018	0.024	0.030	0.032	0.035	0.040	0.048
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	4°	0.3	70-90	0.016	0.021	0.026	0.029	0.033	0.037	0.045
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	3°	0.3	50-70	0.015	0.019	0.023	0.026	0.029	0.032	0.039
M	Stainless Steel : Easy To Machine	<750 N/mm ²	4°	0.4	70-90	0.016	0.021	0.026	0.029	0.033	0.037	0.045
	Stainless Steel : Difficult To Machine	<950 N/mm ²	3°	0.4	70-90	0.015	0.019	0.023	0.026	0.029	0.036	0.039
K	Cast Irons, Grey, Spher., Malleable	<300 HB	4°	0.4	70-90	0.016	0.021	0.026	0.029	0.033	0.037	0.045
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	3°	0.4	30-50	0.014	0.019	0.021	0.024	0.027	0.030	0.037
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	3°	0.4	30-50	0.014	0.019	0.021	0.024	0.027	0.030	0.037
DRILLING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²										
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²										
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²										
M	Stainless Steel : Easy To Machine	<750 N/mm ²										
	Stainless Steel : Difficult To Machine	<950 N/mm ²										
K	Cast Irons, Grey, Spher., Malleable	<300 HB										
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²										
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²										
TROCHOIDAL MILLING												
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	2	0.1	160-200	0.061	0.079	0.095	0.108	0.122	0.135	0.164
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	2	0.1	110-130	0.055	0.071	0.085	0.097	0.109	0.122	0.148
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	2	0.1	80-100	0.049	0.063	0.076	0.086	0.097	0.108	0.131
M	Stainless Steel : Easy To Machine	<750 N/mm ²	2	0.1	110-130	0.055	0.071	0.085	0.097	0.109	0.122	0.148
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1.5	0.1	80-100	0.049	0.063	0.076	0.086	0.097	0.108	0.131
K	Cast Irons, Grey, Spher., Malleable	<300 HB	2	0.1	150	0.055	0.071	0.085	0.097	0.109	0.122	0.148
N	Aluminiums, Aluminiums Alloys	<6% Si										
S	Titanium , Titanium Alloys	<1100N/mm ²	1.5	0.05	50-70	0.067	0.087	0.104	0.119	0.134	0.149	0.181
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	1.5	0.05	50-70	0.067	0.087	0.104	0.119	0.134	0.149	0.181

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	fz (mm/z) Ø					
SLOTTING						6	8	10	12	16	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²									
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									
SIDE MILLING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	3	0.25	40	0.028	0.036	0.045	0.055	0.070	0.085
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²	3	0.25	60	0.038	0.050	0.060	0.072	0.095	0.120
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²	3	0.25	40	0.028	0.036	0.045	0.055	0.070	0.085
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	3	0.25	40	0.028	0.036	0.045	0.055	0.070	0.085
RAMPING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²									
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									
HELICAL MILLING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²									
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									
DRILLING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²									
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²									
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²									
TROCROIDAL MILLING											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²									
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²									
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	3	0.05	50	0.018	0.025	0.032	0.038	0.050	0.060
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²	3	0.05	80	0.030	0.040	0.050	0.060	0.080	0.110
K	Cast Irons, Grey, Spher., Malleable	<300 HB									
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²	3	0.05	50	0.018	0.025	0.032	0.038	0.050	0.060
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	3	0.05	50	0.018	0.025	0.032	0.038	0.050	0.060

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MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	6	8	fz (mm/z) Ø			
TROCHOIDAL MILLING [NTC 0310P] [3xD]								10	12	16	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	3	0.03-0.14	240-400	0.038-0.081	0.050-0.108	0.070-0.150	0.083-0.177	0.101-0.216	0.126-0.270
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	3	0.03-0.14	210-350	0.038-0.081	0.050-0.108	0.063-0.135	0.070-0.150	0.076-0.162	0.101-0.216
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	3	0.03-0.14	240-400	0.032-0.069	0.045-0.146	0.063-0.135	0.076-0.162	0.088-0.189	0.113-0.243
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²	3	0.03-0.14	120-200	0.038-0.081	0.050-0.108	0.063-0.135	0.078-0.168	0.088-0.189	0.101-0.216
K	Cast Irons, Grey, Spher., Malleable	<300 HB	3	0.03-0.14	210-350	0.038-0.081	0.050-0.108	0.063-0.135	0.070-0.150	0.076-0.162	0.101-0.216
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	3	0.03-0.14	98-163	0.038-0.081	0.050-0.108	0.063-0.135	0.076-0.162	0.083-0.177	0.101-0.216
TROCHOIDAL MILLING [NTC 0410P] [4xD]											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	4	0.03-0.14	182-396	0.045-0.090	0.063-0.126	0.078-0.157	0.095-0.190	0.113-0.227	0.139-0.284
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	4	0.03-0.14	154-336	0.038-0.076	0.050-0.101	0.063-0.126	0.070-0.140	0.076-0.151	0.101-0.205
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	4	0.03-0.14	176-384	0.032-0.064	0.045-0.090	0.063-0.126	0.076-0.151	0.088-0.176	0.113-0.231
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²	4	0.03-0.14	88-192	0.038-0.076	0.050-0.101	0.063-0.126	0.078-0.157	0.088-0.176	0.101-0.205
K	Cast Irons, Grey, Spher., Malleable	<300 HB	4	0.03-0.14	154-336	0.038-0.076	0.050-0.101	0.063-0.126	0.070-0.140	0.076-0.151	0.101-0.205
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	4	0.03-0.14	72-156	0.032-0.064	0.045-0.090	0.057-0.115	0.063-0.126	0.083-0.165	0.101-0.205
TROCHOIDAL MILLING [NTC 0510P] [5xD]											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	5	0.03-0.14	182-396	0.045-0.090	0.063-0.126	0.078-0.157	0.095-0.190	0.113-0.227	0.139-0.284
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	5	0.03-0.14	154-336	0.038-0.076	0.050-0.101	0.063-0.126	0.070-0.140	0.076-0.151	0.101-0.205
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	5	0.03-0.14	176-384	0.032-0.064	0.045-0.090	0.063-0.126	0.076-0.151	0.088-0.176	0.113-0.231
M	Stainless Steel : Easy To Machine	<750 N/mm ²									
	Stainless Steel : Difficult To Machine	<950 N/mm ²	5	0.03-0.14	88-192	0.038-0.076	0.050-0.101	0.063-0.126	0.078-0.157	0.088-0.176	0.101-0.205
K	Cast Irons, Grey, Spher., Malleable	<300 HB	5	0.03-0.14	154-336	0.038-0.076	0.050-0.101	0.063-0.126	0.070-0.140	0.076-0.151	0.101-0.205
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²									
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	5	0.03-0.14	72-156	0.032-0.064	0.045-0.090	0.057-0.115	0.063-0.126	0.083-0.165	0.101-0.205

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	fz (mm/z) Ø					
TROCHOIDAL MILLING [NTC-SX 0310P] [3xD]						6	8	10	12	16	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	3	0.03-0.14	240-400	0.038-0.081	0.050-0.108	0.070-0.150	0.083-0.177	0.101-0.216	0.126-0.270
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	3	0.03-0.14	210-350	0.038-0.081	0.050-0.108	0.063-0.135	0.070-0.150	0.076-0.162	0.101-0.216
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	3	0.03-0.14	240-400	0.032-0.069	0.045-0.146	0.063-0.135	0.076-0.162	0.088-0.189	0.113-0.243
M	Stainless Steel : Easy To Machine	<750 N/mm ²	3	0.03-0.14	165-275	0.038-0.081	0.050-0.108	0.063-0.135	0.076-0.162	0.088-0.189	0.101-0.216
	Stainless Steel : Difficult To Machine	<950 N/mm ²	3	0.03-0.14	120-200	0.038-0.081	0.050-0.108	0.063-0.135	0.078-0.168	0.088-0.189	0.101-0.216
K	Cast Irons, Grey, Spher., Malleable	<300 HB	3	0.03-0.14	210-350	0.038-0.081	0.050-0.108	0.063-0.135	0.070-0.150	0.076-0.162	0.101-0.216
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²	3	0.03-0.14	90-150	0.038-0.081	0.050-0.108	0.063-0.135	0.076-0.162	0.088-0.189	0.113-0.243
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	3	0.03-0.14	98-163	0.038-0.081	0.050-0.108	0.063-0.135	0.076-0.162	0.083-0.177	0.101-0.216
TROCHOIDAL MILLING [NTC-SX 0410P] [4xD]											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	4	0.03-0.14	182-396	0.045-0.090	0.063-0.126	0.078-0.157	0.095-0.190	0.113-0.227	0.139-0.284
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	4	0.03-0.14	154-336	0.038-0.076	0.050-0.101	0.063-0.126	0.070-0.140	0.076-0.151	0.101-0.205
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	4	0.03-0.14	176-384	0.032-0.064	0.045-0.090	0.063-0.126	0.076-0.151	0.088-0.176	0.113-0.231
M	Stainless Steel : Easy To Machine	<750 N/mm ²	4	0.03-0.14	105-228	0.038-0.076	0.050-0.101	0.063-0.126	0.076-0.151	0.088-0.176	0.101-0.205
	Stainless Steel : Difficult To Machine	<950 N/mm ²	4	0.03-0.14	88-192	0.038-0.076	0.050-0.101	0.063-0.126	0.078-0.157	0.088-0.176	0.101-0.205
K	Cast Irons, Grey, Spher., Malleable	<300 HB	4	0.03-0.14	154-336	0.038-0.076	0.050-0.101	0.063-0.126	0.070-0.140	0.076-0.151	0.101-0.205
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²	4	0.03-0.14	66-144	0.038-0.076	0.050-0.101	0.063-0.126	0.076-0.151	0.088-0.176	0.113-0.231
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	4	0.03-0.14	72-156	0.032-0.064	0.045-0.090	0.057-0.115	0.063-0.126	0.083-0.165	0.101-0.205
TROCHOIDAL MILLING [NTC-SX 0510P] [5xD]											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	5	0.03-0.14	182-396	0.045-0.090	0.063-0.126	0.078-0.157	0.095-0.190	0.113-0.227	0.139-0.284
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	5	0.03-0.14	154-336	0.038-0.076	0.050-0.101	0.063-0.126	0.070-0.140	0.076-0.151	0.101-0.205
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	5	0.03-0.14	176-384	0.032-0.064	0.045-0.090	0.063-0.126	0.076-0.151	0.088-0.176	0.113-0.231
M	Stainless Steel : Easy To Machine	<750 N/mm ²	5	0.03-0.14	105-228	0.038-0.076	0.050-0.101	0.063-0.126	0.076-0.151	0.088-0.176	0.101-0.205
	Stainless Steel : Difficult To Machine	<950 N/mm ²	5	0.03-0.14	88-192	0.038-0.076	0.050-0.101	0.063-0.126	0.078-0.157	0.088-0.176	0.101-0.205
K	Cast Irons, Grey, Spher., Malleable	<300 HB	5	0.03-0.14	154-336	0.038-0.076	0.050-0.101	0.063-0.126	0.070-0.140	0.076-0.151	0.101-0.205
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²	5	0.03-0.14	66-144	0.038-0.076	0.050-0.101	0.063-0.126	0.076-0.151	0.088-0.176	0.113-0.231
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	5	0.03-0.14	72-156	0.032-0.064	0.045-0.090	0.057-0.115	0.063-0.126	0.083-0.165	0.101-0.205

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL	Hardness	ap max		Vc (m/min)	6	8	fz (mm/z) Ø				
		xD	xD				10	12	16	20	
TROCHOIDAL MILLING [3xD] 934-H, 935-H											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	3	0.03-0.14	240-400	0.038-0.081	0.050-0.108	0.070-0.150	0.083-0.177	0.101-0.216	0.126-0.270
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	3	0.03-0.14	210-350	0.038-0.081	0.050-0.108	0.063-0.135	0.070-0.150	0.076-0.162	0.101-0.216
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	3	0.03-0.14	240-400	0.032-0.069	0.045-0.146	0.063-0.135	0.076-0.162	0.088-0.189	0.113-0.243
M	Stainless Steel : Easy To Machine	<750 N/mm ²	3	0.03-0.14	165-275	0.038-0.081	0.050-0.108	0.063-0.135	0.076-0.162	0.088-0.189	0.101-0.216
	Stainless Steel : Difficult To Machine	<950 N/mm ²	3	0.03-0.14	120-200	0.038-0.081	0.050-0.108	0.063-0.135	0.078-0.168	0.088-0.189	0.101-0.216
K	Cast Irons, Grey, Spher., Malleable	<300 HB	3	0.03-0.14	210-350	0.038-0.081	0.050-0.108	0.063-0.135	0.070-0.150	0.076-0.162	0.101-0.216
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²	3	0.03-0.14	90-150	0.038-0.081	0.050-0.108	0.063-0.135	0.076-0.162	0.088-0.189	0.113-0.243
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	3	0.03-0.14	98-163	0.038-0.081	0.050-0.108	0.063-0.135	0.076-0.162	0.083-0.177	0.101-0.216
TROCHOIDAL MILLING [3xD] 945-H											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	4	0.03-0.14	182-396	0.045-0.090	0.063-0.126	0.078-0.157	0.095-0.190	0.113-0.227	0.139-0.284
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	4	0.03-0.14	154-336	0.038-0.076	0.050-0.101	0.063-0.126	0.070-0.140	0.076-0.151	0.101-0.205
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	4	0.03-0.14	176-384	0.032-0.064	0.045-0.090	0.063-0.126	0.076-0.151	0.088-0.176	0.113-0.231
M	Stainless Steel : Easy To Machine	<750 N/mm ²	4	0.03-0.14	105-228	0.038-0.076	0.050-0.101	0.063-0.126	0.076-0.151	0.088-0.176	0.101-0.205
	Stainless Steel : Difficult To Machine	<950 N/mm ²	4	0.03-0.14	88-192	0.038-0.076	0.050-0.101	0.063-0.126	0.078-0.157	0.088-0.176	0.101-0.205
K	Cast Irons, Grey, Spher., Malleable	<300 HB	4	0.03-0.14	154-336	0.038-0.076	0.050-0.101	0.063-0.126	0.070-0.140	0.076-0.151	0.101-0.205
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²	4	0.03-0.14	66-144	0.038-0.076	0.050-0.101	0.063-0.126	0.076-0.151	0.088-0.176	0.113-0.231
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	4	0.03-0.14	72-156	0.032-0.064	0.045-0.090	0.057-0.115	0.063-0.126	0.083-0.165	0.101-0.205
TROCHOIDAL MILLING [3xD] 955-H											
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	5	0.03-0.14	182-396	0.045-0.090	0.063-0.126	0.078-0.157	0.095-0.190	0.113-0.227	0.139-0.284
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	5	0.03-0.14	154-336	0.038-0.076	0.050-0.101	0.063-0.126	0.070-0.140	0.076-0.151	0.101-0.205
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	5	0.03-0.14	176-384	0.032-0.064	0.045-0.090	0.063-0.126	0.076-0.151	0.088-0.176	0.113-0.231
M	Stainless Steel : Easy To Machine	<750 N/mm ²	5	0.03-0.14	105-228	0.038-0.076	0.050-0.101	0.063-0.126	0.076-0.151	0.088-0.176	0.101-0.205
	Stainless Steel : Difficult To Machine	<950 N/mm ²	5	0.03-0.14	88-192	0.038-0.076	0.050-0.101	0.063-0.126	0.078-0.157	0.088-0.176	0.101-0.205
K	Cast Irons, Grey, Spher., Malleable	<300 HB	5	0.03-0.14	154-336	0.038-0.076	0.050-0.101	0.063-0.126	0.070-0.140	0.076-0.151	0.101-0.205
N	Aluminiums, Aluminiums Alloys	<6% Si									
S	Titanium , Titanium Alloys	<1100N/mm ²	5	0.03-0.14	66-144	0.038-0.076	0.050-0.101	0.063-0.126	0.076-0.151	0.088-0.176	0.113-0.231
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	5	0.03-0.14	72-156	0.032-0.064	0.045-0.090	0.057-0.115	0.063-0.126	0.083-0.165	0.101-0.205

RAZOR-1400

Recommended cutting data

EMC 140, 130, 150, ALU-T, ALU T IK, EMR 1510

MATERIAL	Hardness	ap max xD	ae max xD	Vc (m/min)	fz (mm/z) Ø										
					2	3	4	5	6	8	10	12	16	20	
SLOTTING															
N	Aluminiums, Aluminiums Alloys	<6% Si	0.5	1	300-500	0.023	0.030	0.039	0.049	0.058	0.079	0.098	0.116		
	Brass , Bronze		0.5	1	150-350	0.017	0.021	0.027	0.034	0.040	0.055	0.068	0.081		
	Plastics		0.5	1	400-600	0.023	0.030	0.039	0.049	0.058	0.079	0.098	0.116		
SIDE MILLING															
N	Aluminiums, Aluminiums Alloys	<6% Si	1	0.5	300-600	0.030	0.040	0.052	0.065	0.077	0.105	0.130	0.155		
	Brass , Bronze		1	0.5	200-400	0.021	0.028	0.036	0.046	0.054	0.074	0.091	0.109		
	Plastics		1	0.5	400-800	0.030	0.040	0.052	0.065	0.077	0.105	0.130	0.155		
DRILLING															
N	Aluminiums, Aluminiums Alloys	<6% Si	1	1	200-400	0.011	0.015	0.020	0.024	0.029	0.039	0.049	0.058		
	Brass , Bronze		1	1	100-300	0.008	0.011	0.014	0.017	0.020	0.028	0.034	0.041		
	Plastics		0.5	1	300-500	0.011	0.015	0.020	0.024	0.029	0.039	0.049	0.058		

RAZOR 1300, 1500

MATERIAL	Hardness	ap max xD	ae max xD	Vc (m/min)	fz (mm/z) Ø										
					2	3	4	5	6	8	10	12	16	20	
SLOTTING															
N	Aluminiums, Aluminiums Alloys	<6% Si	0.5	1	200-600		0.028	0.038	0.047	0.057	0.075	0.094	0.112	0.148	0.185
	Brass , Bronze		0.5	1	150-250		0.020	0.026	0.033	0.039	0.052	0.066	0.078	0.103	0.129
	Plastics		0.5	1	500-900		0.028	0.038	0.047	0.057	0.075	0.094	0.112	0.148	0.185
SIDE MILLING															
N	Aluminiums, Aluminiums Alloys	<6% Si	1	0.5	300-500		0.034	0.045	0.056	0.068	0.090	0.112	0.134	0.177	0.222
	Brass , Bronze		1	0.5	150-350		0.024	0.032	0.040	0.047	0.063	0.079	0.094	0.124	0.155
	Plastics		1	0.5	600-1000		0.034	0.045	0.056	0.068	0.090	0.112	0.134	0.177	0.222

ALU-T, ALU-T IK, ALU-X

MATERIAL	Hardness	ap max xD	ae max xD	Vc (m/min)	fz (mm/z) Ø										
					2	3	4	5	6	8	10	12	16	20	
SLOTTING															
N	Aluminiums, Aluminiums Alloys	<6% Si	1	1	300-500		0.033	0.044	0.055	0.065	0.086	0.105	0.120	0.160	0.195
	Brass , Bronze		1	1	150-350		0.023	0.031	0.039	0.046	0.060	0.074	0.084	0.112	0.137
	Plastics		1	1	600-900		0.036	0.048	0.061	0.072	0.095	0.116	0.132	0.176	0.215
SIDE MILLING															
N	Aluminiums, Aluminiums Alloys	<6% Si	1.5	0.5	300-600		0.040	0.053	0.066	0.078	0.103	0.126	0.144	0.192	0.234
	Brass , Bronze		1.5	0.5	200-400		0.032	0.042	0.053	0.062	0.083	0.101	0.115	0.154	0.187
	Plastics		1.5	0.5	600-1000		0.044	0.058	0.073	0.086	0.114	0.139	0.158	0.211	0.257
HELICAL DRILLING															
N	Aluminiums, Aluminiums Alloys	<6% Si	8°	0.5	300-500		0.023	0.030	0.038	0.045	0.058	0.073	0.083	0.111	0.135
	Brass , Bronze		5°	0.5	150-350		0.017	0.022	0.028	0.033	0.044	0.054	0.061	0.082	0.099
	Plastics		8°	0.5	600-900		0.025	0.033	0.042	0.049	0.065	0.080	0.091	0.122	0.148
RAMPING															
N	Aluminiums, Aluminiums Alloys	<6% Si	15°	0.5	300-500		0.022	0.029	0.037	0.043	0.057	0.070	0.080	0.106	0.130
	Brass , Bronze		7°	0.5	150-350		0.016	0.022	0.027	0.032	0.042	0.051	0.059	0.078	0.096
	Plastics		15°	0.5	600-900		0.024	0.032	0.040	0.048	0.063	0.077	0.088	0.117	0.143

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	fz (mm/z) Ø										
COPY MILLING [EMBD 2100]						1	2	3	4	5	6	8	10	12	16	20
P	High tensile strength steel	35-45 HRC	0.05	0.2	140-180	0.009	0.012	0.018	0.025	0.032	0.038	0.048	0.057	0.067	0.095	0.108
H	Hardened steel	45-55HRC	0.05	0.2	80-100	0.007	0.010	0.014	0.020	0.026	0.030	0.038	0.045	0.054	0.076	0.086
SLOTTING [EMSD 2100]																
P	High tensile strength steel	35-45 HRC	0.2	1	30-70	0.005	0.008	0.012	0.016	0.020	0.026	0.031	0.037	0.044	0.058	0.075
H	Hardened steel	45-55HRC	0.1	1	20-40	0.004	0.007	0.010	0.014	0.018	0.023	0.027	0.032	0.039	0.051	0.065
SIDE MILLING [EMSD 4100]																
P	High tensile strength steel	35-45 HRC	1	0.05	40-60	0.007	0.014	0.020	0.027	0.031	0.034	0.044	0.057	0.068	0.088	0.112
H	Hardened steel	45-55HRC	1	0.05	20-40	0.006	0.012	0.018	0.024	0.027	0.030	0.039	0.050	0.060	0.077	0.098
SIDE MILLING																
P	High tensile strength steel	35-45 HRC	1.5	0.05	20-60		0.012	0.017	0.023	0.026	0.029	0.038	0.048	0.058	0.075	0.095
H	Hardened steel	45-55HRC	1.5	0.05	20-40		0.010	0.015	0.020	0.023	0.025	0.033	0.042	0.051	0.065	0.083
SIDE MILLING																
P	High tensile strength steel	35-45 HRC	1.5	0.02	60-100			0.007	0.010	0.012	0.014	0.022	0.027	0.033	0.045	0.058
H	Hardened steel	45-55HRC	1.5	0.02	50-70			0.006	0.008	0.010	0.013	0.019	0.024	0.029	0.039	0.051
SLOTTING																
P	High tensile strength steel	35-45 HRC	0.3	1	30-50			0.008	0.011	0.013	0.015	0.020	0.024	0.028	0.034	0.042
H	Hardened steel	45-55HRC	0.2	1	20-40			0.007	0.010	0.012	0.014	0.019	0.022	0.026	0.032	0.039
SIDE MILLING																
P	High tensile strength steel	35-45 HRC	1.2	0.2	40-60			0.010	0.014	0.017	0.020	0.026	0.031	0.035	0.044	0.054
H	Hardened steel	45-55HRC	1	0.1	30-50			0.014	0.019	0.023	0.027	0.035	0.042	0.048	0.061	0.074
HELICAL MILLING																
P	High tensile strength steel	35-45 HRC	3°	0.4	30-50			0.006	0.008	0.011	0.012	0.016	0.019	0.022	0.028	0.034
H	Hardened steel	45-55HRC	2°	0.4	20-40			0.007	0.009	0.011	0.013	0.017	0.020	0.023	0.029	0.035
TROCHOIDAL MILLING																
P	High tensile strength steel	35-45 HRC	1	0.1	50-70			0.021	0.029	0.034	0.041	0.054	0.064	0.073	0.092	0.112
H	Hardened steel	45-55HRC	1	0.1	40-60			0.029	0.040	0.048	0.057	0.074	0.088	0.101	0.126	0.154

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MATERIAL		Hardness	ap max	ae max	Vc	fz (mm/z) Ø									
SLOTTING EMS 586			xD	xD	(m/min)	0.8	1.0	1.2	1.4	1.5	1.6	1.8	2.0	2.5	3.0
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	0.06	1	78-85	0.0070	0.010	0.014	0.016	0.017	0.018	0.019	0.021	0.023	0.031
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	0.06	1	55-60	0.0060	0.009	0.012	0.015	0.016	0.017	0.018	0.020	0.022	0.030
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	0.01	1	34-37	0.0030	0.004	0.005	0.006	0.007	0.007	0.008	0.008	0.010	0.012
M	Stainless Steel : Easy To Machine	<750 N/mm ²													
	Stainless Steel : Difficult To Machine	<950 N/mm ²	0.06	1	55-60	0.0060	0.009	0.012	0.015	0.016	0.017	0.018	0.020	0.022	0.030
K	Cast Irons, Grey, Spher., Melleable	<300 HB	0.06	1	78-85	0.0070	0.010	0.014	0.016	0.017	0.018	0.019	0.021	0.023	0.031
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²													
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	0.01	1	34-37	0.0030	0.004	0.005	0.006	0.007	0.007	0.008	0.008	0.010	0.012
SIDE MILLING EMB 586															
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	0.06	1	66-122	0.0060	0.007	0.009	0.009	0.011	0.012	0.012	0.014	0.021	0.025
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	0.06	1	55-60	0.0040	0.005	0.006	0.007	0.008	0.009	0.009	0.010	0.014	0.018
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	0.01	1	30-55	0.0050	0.006	0.007	0.009	0.009	0.010	0.010	0.011	0.012	0.018
M	Stainless Steel : Easy To Machine	<750 N/mm ²													
	Stainless Steel : Difficult To Machine	<950 N/mm ²	0.06	1	55-60	0.0040	0.005	0.006	0.007	0.008	0.009	0.009	0.010	0.014	0.018
K	Cast Irons, Grey, Spher., Melleable	<300 HB	0.06	1	66-122	0.0060	0.007	0.009	0.009	0.011	0.012	0.012	0.014	0.021	0.025
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²													
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	0.01	1	30-55	0.0050	0.006	0.007	0.009	0.009	0.010	0.010	0.011	0.012	0.018

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MATERIAL			Dia Ø														
H	Hardened Steel	45-55 HRC	1.00	Neck Length	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0		
				Depth of Cut (mm)	0.050	0.050	0.030	0.030	0.020	0.010	0.010	0.008	0.008	0.005	0.005		
				RPM (n)	40000	40000	40000	35000	30000	20000	20000	18000	18000	13000	13000		
				Vf (mm/min)	4000	4000	3000	2000	1600	1000	1000	600	500	300	250		
H	Hardened Steel	55-62 HRC	1.00	Neck Length	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0		
				Depth of Cut (mm)	0.040	0.040	0.020	0.020	0.010	0.010	0.008	0.008	0.006	0.004	0.004		
				RPM (n)	40000	40000	40000	35000	30000	20000	20000	18000	18000	13000	13000		
				Vf (mm/min)	4000	4000	3000	2000	1600	1000	800	480	400	2400	200		
H	Hardened Steel	45-55 HRC	1.20	Neck Length	6.0	8.0	10.0	12.0	14.0	16.0							
				Depth of Cut (mm)	0.050	0.050	0.030	0.020	0.010	0.010							
				RPM (n)	40000	40000	27000	16000	16000	15000							
				Vf (mm/min)	4000	3000	1900	1100	850	500							
H	Hardened Steel	55-62 HRC	1.20	Neck Length	6.0	8.0	10.0	12.0	14.0	16.0							
				Depth of Cut (mm)	0.040	0.040	0.020	0.010	0.010	0.006							
				RPM (n)	35000	27000	24000	16000	16000	14000							
				Vf (mm/min)	3500	2000	1700	1000	780	400							
H	Hardened Steel	45-55 HRC	1.40	Neck Length	8.0	12.0	16.0										
				Depth of Cut (mm)	0.060	0.030	0.020										
				RPM (n)	40000	32000	15000										
				Vf (mm/min)	4500	3000	1000										
H	Hardened Steel	55-62 HRC	1.40	Neck Length	8.0	12.0	16.0										
				Depth of Cut (mm)	0.050	0.020	0.010										
				RPM (n)	28000	19000	14000										
				Vf (mm/min)	3200	1800	800										
H	Hardened Steel	45-55 HRC	1.50	Neck Length	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0					
				Depth of Cut (mm)	0.070	0.070	0.060	0.040	0.040	0.030	0.020	0.020					
				RPM (n)	40000	40000	40000	32000	16000	13000	13000	12000					
				Vf (mm/min)	5000	5000	4500	3400	1500	1200	1100	900					
H	Hardened Steel	55-62 HRC	1.50	Neck Length	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0					
				Depth of Cut (mm)	0.060	0.060	0.040	0.030	0.030	0.020	0.020	0.010					
				RPM (n)	32000	28000	21000	19000	13000	13000	10000	9000					
				Vf (mm/min)	4000	3500	2400	2000	1200	1200	800	700					
H	Hardened Steel	45-55 HRC	1.60	Neck Length	8.0	12.0	16.0	20.0									
				Depth of Cut (mm)	0.080	0.050	0.040	0.020									
				RPM (n)	40000	35000	13000	10000									
				Vf (mm/min)	5000	3800	1200	750									
H	Hardened Steel	55-62 HRC	1.60	Neck Length	8.0	12.0	16.0	20.0									
				Depth of Cut (mm)	0.070	0.030	0.020	0.010									
				RPM (n)	26000	20000	12000	8000									
				Vf (mm/min)	3200	2100	1100	600									
H	Hardened Steel	45-55 HRC	1.80	Neck Length	8.0	12.0	16.0	20.0									
				Depth of Cut (mm)	0.090	0.060	0.040	0.030									
				RPM (n)	40000	36000	25000	10000									
				Vf (mm/min)	5000	3800	2500	1000									
H	Hardened Steel	55-62 HRC	1.80	Neck Length	8.0	12.0	16.0	20.0									
				Depth of Cut (mm)	0.080	0.040	0.025	0.020									
				RPM (n)	25000	18000	14000	8000									
				Vf (mm/min)	3100	1900	1300	800									
H	Hardened Steel	45-55 HRC	2.00	Neck Length	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	30.0	35.0	
				Depth of Cut (mm)	0.100	0.100	0.080	0.080	0.060	0.050	0.040	0.040	0.040	0.040	0.040	0.020	0.020
				RPM (n)	40000	40000	40000	40000	40000	32000	24000	10000	10000	10000	10000	10000	10000
				Vf (mm/min)	6000	5000	5000	5000	5000	3500	2400	1000	1000	1000	1000	800	500

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MATERIAL			Dia Ø													
H	Hardened Steel	55-62 HRC	2.00	Neck Length	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	30.0	35.0
				Depth of Cut (mm)	0.100	0.100	0.070	0.050	0.050	0.030	0.030	0.030	0.020	0.020	0.015	0.010
				RPM (n)	24000	24000	24000	24000	21000	16000	13000	10000	10000	8000	8000	8000
				Vf (mm/min)	3400	3000	3000	2600	2300	1700	1300	1000	1000	800	800	400
H	Hardened Steel	45-55 HRC	2.50	Neck Length	10.0	15.0	20.0	25.0	30.0	35.0						
				Depth of Cut (mm)	0.120	0.080	0.070	0.060	0.050	0.030						
				RPM (n)	36000	36000	26000	10000	8000	8000						
				Vf (mm/min)	5000	4600	3000	1100	800	500						
H	Hardened Steel	55-62 HRC	2.50	Neck Length	10.0	15.0	20.0	25.0	30.0	35.0						
				Depth of Cut (mm)	0.110	0.075	0.050	0.040	0.030	0.030						
				RPM (n)	20000	18000	13000	8000	7000	5000						
				Vf (mm/min)	2600	2000	140	800	700	400						
H	Hardened Steel	45-55 HRC	3.00	Neck Length	8.0	10.0	12.0	14.0	16.0	20.0	25.0	30.0	35.0	40.0		
				Depth of Cut (mm)	0.150	0.150	0.130	0.130	0.100	0.100	0.080	0.080	0.060	0.040		
				RPM (n)	32000	32000	32000	32000	27000	21000	9000	6000	6000			
				Vf (mm/min)	6400	5100	5100	4500	4500	3800	2700	1000	700	600		
H	Hardened Steel	55-62 HRC	3.00	Neck Length	8.0	10.0	12.0	14.0	16.0	20.0	25.0	30.0	35.0	40.0		
				Depth of Cut (mm)	0.150	0.150	0.130	0.100	0.100	0.060	0.060	0.050	0.040	0.030		
				RPM (n)	16000	16000	16000	16000	16000	14000	11000	7000	6000	5000		
				Vf (mm/min)	3000	2200	2200	2200	1800	1600	1200	700	600	400		
H	Hardened Steel	45-55 HRC	3.50	Neck Length	16.0	20.0	25.0	30.0	35.0	40.0						
				Depth of Cut (mm)	0.130	0.130	0.120	0.090	0.080	0.070						
				RPM (n)	28000	26000	23000	13000	9000	8500						
				Vf (mm/min)	4200	3800	3300	1900	1200	1100						
H	Hardened Steel	55-62 HRC	3.50	Neck Length	16.0	20.0	25.0	30.0	35.0	40.0						
				Depth of Cut (mm)	0.130	0.110	0.080	0.070	0.060	0.040						
				RPM (n)	14000	13000	11000	9000	6000	5500						
				Vf (mm/min)	1600	1600	1200	1000	600	500						
H	Hardened Steel	45-55 HRC	4.00	Neck Length	10.0	12.0	14.0	16.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0	
				Depth of Cut (mm)	0.200	0.200	0.150	0.150	0.150	0.100	0.100	0.100	0.080	0.050		
				RPM (n)	24000	24000	24000	24000	24000	24000	20000	12000	11000	10000	8000	
				Vf (mm/min)	4800	4800	3800	3800	3800	3800	3000	1700	1500	1300	1000	
H	Hardened Steel	55-62 HRC	4.00	Neck Length	10.0	12.0	14.0	16.0	20.0	25.0	30.0	35.0	40.0	45.0	50.0	
				Depth of Cut (mm)	0.200	0.200	0.150	0.150	0.150	0.100	0.080	0.080	0.060	0.050	0.040	
				RPM (n)	12000	12000	12000	12000	12000	10000	10000	8000	5000	5000	4000	
				Vf (mm/min)	2200	2200	1500	1500	1500	1100	1100	900	500	500	400	
H	Hardened Steel	45-55 HRC	5.00	Neck Length	15.0	25.0	35.0	45.0								
				Depth of Cut (mm)	0.200	0.200	0.150	0.100								
				RPM (n)	19000	19000	19000	16000								
				Vf (mm/min)	3400	3400	3200	2700								
H	Hardened Steel	55-62 HRC	5.00	Neck Length	15.0	25.0	35.0	45.0								
				Depth of Cut (mm)	0.200	0.200	0.150	0.100								
				RPM (n)	10000	10000	8000	8000								
				Vf (mm/min)	1400	1400	1000	900								
H	Hardened Steel	45-55 HRC	6.00	Neck Length	15.0	30.0										
				Depth of Cut (mm)	0.200	0.150										
				RPM (n)	16000	16000										
				Vf (mm/min)	3500	3000										
H	Hardened Steel	55-62 HRC	6.00	Neck Length	15.0	30.0										
				Depth of Cut (mm)	0.200	0.150										
				RPM (n)	8000	8000										
				Vf (mm/min)	1000	800										

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	ap max	ae max	Vc	fz (mm/z) Ø												
SLOTTING			xD	xD	(m/min)	1	2	3	4	5	6	8	10	12	14	16	18	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	0.5	1	80-100	0.004	0.008	0.012	0.016	0.020	0.025	0.032	0.038	0.045	0.052	0.060	0.070	0.080
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	0.5	1	50-70	0.003	0.007	0.010	0.014	0.017	0.021	0.027	0.032	0.038	0.044	0.051	0.060	0.068
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	0.5	1	30-50	0.003	0.006	0.009	0.012	0.015	0.019	0.024	0.029	0.034	0.039	0.045	0.053	0.060
M	Stainless Steel : Easy To Machine	<750 N/mm ²	0.5	1	50-70	0.003	0.007	0.010	0.014	0.017	0.021	0.027	0.032	0.038	0.044	0.051	0.060	0.068
	Stainless Steel : Difficult To Machine	<950 N/mm ²	0.5	1	30-50	0.003	0.006	0.009	0.012	0.015	0.019	0.024	0.029	0.034	0.039	0.045	0.053	0.060
K	Cast Irons, Grey, Spher., Malleable	<300 HB	0.5	1	50-70	0.003	0.007	0.010	0.014	0.017	0.021	0.027	0.032	0.038	0.044	0.051	0.060	0.068
N	Aluminiums, Aluminiums Alloys	<6% Si	0.5	1	100-120	0.005	0.010	0.016	0.021	0.026	0.033	0.042	0.049	0.059	0.068	0.079	0.091	0.104
S	Titanium , Titanium Alloys	<1100N/mm ²																
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²																
SIDE MILLING																		
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1.5	0.5	80-100	0.005	0.010	0.014	0.019	0.024	0.030	0.038	0.046	0.054	0.063	0.072	0.084	0.096
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1.5	0.5	50-70	0.004	0.008	0.012	0.016	0.020	0.026	0.033	0.039	0.046	0.053	0.061	0.071	0.082
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1.5	0.5	30-50	0.004	0.007	0.011	0.014	0.019	0.023	0.029	0.034	0.041	0.047	0.054	0.063	0.072
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1.5	0.5	50-70	0.004	0.008	0.012	0.016	0.020	0.026	0.033	0.039	0.046	0.053	0.061	0.071	0.082
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1.5	0.5	30-50	0.004	0.007	0.011	0.014	0.019	0.023	0.029	0.034	0.041	0.047	0.054	0.063	0.072
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1.5	0.5	50-70	0.004	0.008	0.012	0.016	0.020	0.026	0.033	0.039	0.046	0.053	0.061	0.071	0.082
N	Aluminiums, Aluminiums Alloys	<6% Si	1.5	0.5	100-120	0.006	0.012	0.019	0.025	0.031	0.039	0.050	0.059	0.070	0.081	0.094	0.109	0.125
S	Titanium , Titanium Alloys	<1100N/mm ²																
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²																
COPYING MILLING [EMB 230, EMB 430]																		
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	0.1	0.1	80-100	0.030	0.040	0.050	0.060	0.070	0.080	0.090	0.105	0.120	0.126	0.150	0.162	0.018
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	0.1	0.1	60-80	0.023	0.030	0.038	0.045	0.053	0.060	0.068	0.079	0.090	0.098	0.113	0.126	0.135
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	0.1	0.1	40-60	0.021	0.028	0.035	0.042	0.049	0.056	0.063	0.074	0.084	0.084	0.106	0.108	0.126
M	Stainless Steel : Easy To Machine	<750 N/mm ²	0.1	0.1	60-80	0.023	0.030	0.038	0.045	0.053	0.060	0.068	0.079	0.090	0.098	0.113	0.126	0.135
	Stainless Steel : Difficult To Machine	<950 N/mm ²	0.1	0.1	40-60	0.021	0.028	0.035	0.042	0.049	0.056	0.063	0.074	0.084	0.084	0.106	0.108	0.126
K	Cast Irons, Grey, Spher., Malleable	<300 HB	0.1	0.1	60-80	0.023	0.030	0.038	0.045	0.053	0.060	0.068	0.079	0.090	0.098	0.113	0.126	0.135
N	Aluminiums, Aluminiums Alloys	<6% Si	0.1	0.1	110-130	0.036	0.048	0.060	0.072	0.084	0.096	0.108	0.124	0.144	0.154	0.180	0.198	0.216
S	Titanium , Titanium Alloys	<1100N/mm ²																
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²																
DRILLING [ONLY 2FL, EMS 230]																		
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	1	70-90	0.002	0.005	0.007	0.010	0.012	0.016	0.019	0.023	0.027	0.031	0.036	0.042	0.048
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	1	40-60	0.002	0.004	0.006	0.008	0.010	0.013	0.016	0.019	0.023	0.027	0.031	0.036	0.041
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	0.5	1	25-35	0.002	0.004	0.005	0.007	0.009	0.011	0.014	0.017	0.020	0.023	0.027	0.032	0.036
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1	1	40-60	0.002	0.004	0.006	0.008	0.010	0.013	0.016	0.019	0.023	0.027	0.031	0.036	0.041
	Stainless Steel : Difficult To Machine	<950 N/mm ²	0.5	1	25-35	0.002	0.004	0.005	0.007	0.009	0.011	0.014	0.017	0.020	0.023	0.027	0.032	0.036
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	1	40-60	0.002	0.004	0.006	0.008	0.010	0.013	0.016	0.019	0.023	0.027	0.031	0.036	0.041
N	Aluminiums, Aluminiums Alloys	<6% Si	1	1	80-100	0.003	0.006	0.009	0.012	0.016	0.020	0.025	0.030	0.035	0.041	0.047	0.055	0.062
S	Titanium , Titanium Alloys	<1100N/mm ²																
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²																

CHAMFER MILLS

EMDA 60/90/120

MATERIAL		Hardness	ap max	ae max	Vc	fz (mm/z) Ø									
SIDE MILLING			xD	xD	(m/min)	3	4	5	6	8	10	12	16	20	
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1	<0.3	130-180	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100	
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1	<0.3	130-180	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100	
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1	<0.3	90-100	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100	
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1	<0.3	60-80	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100	
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1	<0.3	60-80	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100	
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1	<0.3	110-160	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100	
N	Aluminiums, Aluminiums Alloys	<6% Si													
S	Titanium , Titanium Alloys	<1100N/mm ²	1	<0.3	60-80	0.015	0.020	0.024	0.030	0.040	0.045	0.065	0.080	0.100	
S	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²													

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	ap max xD	ae max xD	Vc (m/min)	fz (mm/z) Ø								
SLOTTING						3	4	5	6	8	10	12	16	20
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	0.5	1	80-100	0.015	0.020	0.025	0.030	0.045	0.055	0.065	0.082	0.100
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	0.5	1	50-70	0.012	0.016	0.020	0.026	0.038	0.047	0.055	0.072	0.085
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	0.5	1	30-50	0.011	0.015	0.019	0.023	0.034	0.041	0.049	0.064	0.075
M	Stainless Steel : Easy To Machine	<750 N/mm ²	0.5	1	50-70	0.012	0.016	0.020	0.026	0.038	0.047	0.055	0.072	0.085
	Stainless Steel : Difficult To Machine	<950 N/mm ²	0.5	1	30-50	0.011	0.015	0.019	0.023	0.034	0.041	0.049	0.064	0.075
K	Cast Irons, Grey, Spher., Malleable	<300 HB	0.5	1	50-70	0.012	0.016	0.020	0.026	0.038	0.047	0.055	0.072	0.085
N	Aluminiums, Aluminiums Alloys	<6% Si												
S	Titanium , Titanium Alloys	<1100N/mm ²												
S	H RSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²												
SIDE MILLING														
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²	1.5	0.3	80-100	0.021	0.028	0.035	0.040	0.055	0.065	0.080	0.100	0.120
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	1.5	0.3	50-70	0.018	0.024	0.030	0.034	0.047	0.055	0.068	0.085	0.102
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²	1.2	0.3	30-50	0.015	0.020	0.025	0.030	0.041	0.049	0.065	0.075	0.090
M	Stainless Steel : Easy To Machine	<750 N/mm ²	1.5	0.3	50-70	0.018	0.024	0.030	0.034	0.047	0.055	0.068	0.085	0.102
	Stainless Steel : Difficult To Machine	<950 N/mm ²	1.2	0.3	30-50	0.015	0.020	0.025	0.030	0.041	0.049	0.065	0.075	0.090
K	Cast Irons, Grey, Spher., Malleable	<300 HB	1.5	0.3	50-70	0.018	0.024	0.030	0.034	0.047	0.055	0.068	0.085	0.102
N	Aluminiums, Aluminiums Alloys	<6% Si												
S	Titanium , Titanium Alloys	<1100N/mm ²												
S	H RSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²												
RAMPING														
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²												
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²												
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²												
M	Stainless Steel : Easy To Machine	<750 N/mm ²												
	Stainless Steel : Difficult To Machine	<950 N/mm ²												
K	Cast Irons, Grey, Spher., Malleable	<300 HB												
N	Aluminiums, Aluminiums Alloys	<6% Si												
S	Titanium , Titanium Alloys	<1100N/mm ²												
S	H RSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²												
HELICAL MILLING														
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²												
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²												
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²												
M	Stainless Steel : Easy To Machine	<750 N/mm ²												
	Stainless Steel : Difficult To Machine	<950 N/mm ²												
K	Cast Irons, Grey, Spher., Malleable	<300 HB												
N	Aluminiums, Aluminiums Alloys	<6% Si												
S	Titanium , Titanium Alloys	<1100N/mm ²												
S	H RSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²												
DRILLING														
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²												
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²												
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²												
M	Stainless Steel : Easy To Machine	<750 N/mm ²												
	Stainless Steel : Difficult To Machine	<950 N/mm ²												
K	Cast Irons, Grey, Spher., Malleable	<300 HB												
N	Aluminiums, Aluminiums Alloys	<6% Si												
S	Titanium , Titanium Alloys	<1100N/mm ²												
S	H RSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²												
TROCROIDAL MILLING														
P	Steels, Alloy Steels and Tool Steels	<850 N/mm ²												
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²												
	Steels, Alloy Steels and Tool Steels	<1400 N/mm ²												
M	Stainless Steel : Easy To Machine	<750 N/mm ²												
	Stainless Steel : Difficult To Machine	<950 N/mm ²												
K	Cast Irons, Grey, Spher., Malleable	<300 HB												
N	Aluminiums, Aluminiums Alloys	<6% Si												
S	Titanium , Titanium Alloys	<1100N/mm ²												
S	H RSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²												

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	Vc (m/min)	f (mm/rev) Ø										
DFMP 3xd, 5xd, 8xd				1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60	2.80	2.90
P	Steels, Alloy Steels and Tool Steels	500-850 N/mm ²	55-65	0.03	0.03	0.04	0.04	0.05	0.06	0.06	0.07	0.08	0.09	0.09
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	45-55	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.09	0.10	0.10
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	40-50	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.08	0.09	0.10	0.12
M	Stainless Steel : Easy To Machine	<750 N/mm ²	30-40	0.03	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.10
	Stainless Difficult, PH Stainless	<950 N/mm ²	23-33	0.03	0.03	0.04	0.05	0.05	0.06	0.07	0.08	0.09	0.10	0.10
K	Cast Irons, Grey, Spher, Malleable	<300 HB	56-66	0.04	0.05	0.06	0.07	0.08	0.09	0.10	0.11	0.13	0.14	0.15
N	Aluminiums, Aluminiums Alloys	<6% Si	80-90	0.04	0.05	0.05	0.07	0.08	0.10	0.11	0.12	0.13	0.15	0.15
H	Titanium , Titanium Alloys	<1100N/mm ²	23-33	0.02	0.02	0.03	0.04	0.04	0.05	0.06	0.06	0.07	0.08	0.08
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	17-27	0.01	0.01	0.01	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06
DFMP 12xd, 15xd, 20xd														
P	Steels, Alloy Steels and Tool Steels	500-850 N/mm ²	52-62	0.06	0.07	0.07	0.08	0.08	0.08	0.09	0.09			
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	42-52	0.07	0.07	0.08	0.09	0.09	0.09	0.10	0.10			
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	37-47	0.07	0.08	0.08	0.09	0.09	0.10	0.10	0.10			
M	Stainless Steel : Easy To Machine	<750 N/mm ²	27-37	0.07	0.07	0.08	0.09	0.09	0.09	0.10	0.10			
	Stainless Difficult, PH Stainless	<950 N/mm ²	20-30	0.08	0.08	0.08	0.09	0.09	0.10	0.10	0.11			
K	Cast Irons, Grey, Spher, Malleable	<300 HB	49-59	0.10	0.10	0.11	0.12	0.12	0.13	0.13	0.14			
N	Aluminiums, Aluminiums Alloys	<6% Si	75-85	0.10	0.10	0.10	0.12	0.12	0.13	0.13	0.14			
H	Titanium , Titanium Alloys	<1100N/mm ²	21-31	0.06	0.06	0.06	0.07	0.07	0.08	0.08	0.08			
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	15-25	0.03	0.04	0.04	0.05	0.05	0.05	0.05	0.06			
DFMP 25xd, 30xd														
P	Steels, Alloy Steels and Tool Steels	500-850 N/mm ²	47-57	0.07	0.07	0.07	0.08	0.09	0.09	0.09	0.10			
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	37-47	0.07	0.07	0.08	0.09	0.09	0.10	0.10	0.10			
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	32-42	0.08	0.08	0.09	0.10	0.10	0.10	0.11	0.11			
M	Stainless Steel : Easy To Machine	<750 N/mm ²	23-33	0.08	0.08	0.08	0.10	0.10	0.10	0.11	0.11			
	Stainless Difficult, PH Stainless	<950 N/mm ²	17-27	0.08	0.08	0.09	0.10	0.10	0.10	0.11	0.11			
K	Cast Irons, Grey, Spher, Malleable	<300 HB	44-54	0.07	0.07	0.07	0.08	0.09	0.09	0.10	0.10			
N	Aluminiums, Aluminiums Alloys	<6% Si	67-77	0.09	0.09	0.10	0.10	0.13	0.13	0.13	0.14			
H	Titanium , Titanium Alloys	<1100N/mm ²	19-29	0.06	0.06	0.06	0.07	0.08	0.08	0.08	0.08			
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	13-23	0.03	0.04	0.04	0.04	0.05	0.05	0.05	0.05			

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	Vc (m/min)	f (mm/rev) Ø										
DDDA 3XD				3	4	5	6	8	10	12	14	16	18	20
P	Steels, Alloy Steels and Tool Steels	500-850 N/mm ²	90-110	0.10	0.11	0.12	0.14	0.17	0.20	0.21	0.27	0.31	0.35	0.39
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	50-70	0.08	0.08	0.09	0.10	0.12	0.14	0.17	0.20	0.23	0.26	0.29
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	30-50	0.06	0.07	0.07	0.08	0.10	0.12	0.14	0.16	0.19	0.21	0.23
M	Stainless Steel : Easy To Machine	<750 N/mm ²												
	Stainless Difficult, PH Stainless	<950 N/mm ²												
K	Cast Irons, Grey, Spher, Malleable	<300 HB	80-100	0.09	0.09	0.10	0.12	0.14	0.17	0.20	0.23	0.26	0.29	0.32
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²												
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	15-25	0.03	0.04	0.04	0.04	0.05	0.06	0.07	0.09	0.10	0.11	0.12
DDDA 3XD IK														
P	Steels, Alloy Steels and Tool Steels	500-850 N/mm ²	100-140	0.11	0.13	0.15	0.17	0.21	0.25	0.28	0.32	0.36	0.39	0.40
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	70-90	0.09	0.10	0.12	0.14	0.17	0.20	0.22	0.26	0.29	0.30	0.32
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	50-70	0.08	0.09	0.11	0.12	0.15	0.18	0.20	0.22	0.25	0.27	0.28
M	Stainless Steel : Easy To Machine	<750 N/mm ²												
	Stainless Difficult, PH Stainless	<950 N/mm ²												
K	Cast Irons, Grey, Spher, Malleable	<300 HB	80-100	0.10	0.12	0.14	0.15	0.19	0.23	0.25	0.29	0.32	0.34	0.36
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²												
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	20-30	0.03	0.04	0.04	0.05	0.06	0.08	0.09	0.10	0.11	0.13	0.14
DDDA 5XD														
P	Steels, Alloy Steels and Tool Steels	500-850 N/mm ²	80-100	0.09	0.09	0.10	0.12	0.14	0.17	0.20	0.23	0.26	0.30	0.33
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	40-60	0.06	0.07	0.07	0.08	0.10	0.12	0.14	0.16	0.18	0.21	0.23
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	20-40	0.04	0.05	0.05	0.06	0.07	0.08	0.10	0.12	0.13	0.15	0.17
M	Stainless Steel : Easy To Machine	<750 N/mm ²												
	Stainless Difficult, PH Stainless	<950 N/mm ²												
K	Cast Irons, Grey, Spher, Malleable	<300 HB	70-90	0.07	0.08	0.08	0.09	0.11	0.13	0.16	0.18	0.21	0.24	0.27
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²												
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	10-20	0.03	0.03	0.03	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.10
DDDA 5XD IK														
P	Steels, Alloy Steels and Tool Steels	500-700 N/mm ²	100-120	0.09	0.11	0.12	0.15	0.18	0.21	0.24	0.27	0.31	0.32	0.34
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	60-80	0.06	0.07	0.08	0.09	0.11	0.13	0.14	0.20	0.23	0.24	0.26
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	40-60	0.05	0.06	0.06	0.07	0.09	0.11	0.12	0.14	0.02	0.16	0.17
M	Stainless Steel : Easy To Machine	<750 N/mm ²												
	Stainless Difficult, PH Stainless	<950 N/mm ²												
K	Cast Irons, Grey, Spher, Malleable	<300 HB	70-90	0.08	0.10	0.12	0.13	0.16	0.19	0.21	0.25	0.28	0.29	0.31
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²												
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	15-25	0.03	0.03	0.04	0.04	0.05	0.07	0.08	0.09	0.10	0.11	0.12
DDDA 8XD IK														
P	Steels, Alloy Steels and Tool Steels	500-700 N/mm ²	80-100	0.07	0.08	0.10	0.11	0.14	0.17	0.20	0.23	0.26		
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	50-70	0.06	0.07	0.09	0.10	0.12	0.15	0.18	0.20	0.23		
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	40-60	0.05	0.06	0.07	0.09	0.11	0.13	0.16	0.18	0.20		
M	Stainless Steel : Easy To Machine	<750 N/mm ²												
	Stainless Difficult, PH Stainless	<950 N/mm ²												
K	Cast Irons, Grey, Spher, Malleable	<300 HB	80-100	0.07	0.08	0.10	0.11	0.14	0.17	0.20	0.23	0.26		
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²												
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	15-25	0.03	0.04	0.04	0.05	0.06	0.08	0.09	0.10	0.11		

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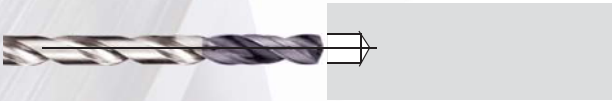
MATERIAL	Hardness	Vc (m/min)	fz (mm/z) Ø											
			3	4	5	6	8	10	12	14	16	18	20	
DDIA 3XD IK														
P	Steels, Alloy Steels	500-700 N/mm ²	130-150	0.12	0.14	0.16	0.18	0.23	0.27	0.30	0.34	0.39	0.41	0.43
	Steels, Alloy Steels	600-1000 N/mm ²	100-140	0.11	0.13	0.15	0.16	0.20	0.24	0.27	0.31	0.35	0.37	0.39
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²												
M	Stainless Steel : Easy To Machine	<750 N/mm ²	50-70	0.08	0.09	0.11	0.12	0.15	0.18	0.19	0.22	0.25	0.27	0.28
	Stainless Difficult, PH Stainless	<950 N/mm ²	30-40	0.05	0.06	0.07	0.08	0.10	0.12	0.14	0.16	0.18	0.19	0.20
K	Cast Irons, Grey, Spher, Melleable	<300 HB												
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²	35-55	0.04	0.05	0.06	0.07	0.08	0.10	0.11	0.12	0.14	0.15	0.16
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²												
DDIA 5XD IK														
P	Steels, Alloy Steels	500-700 N/mm ²	120-140	0.10	0.12	0.14	0.16	0.19	0.23	0.26	0.29	0.33	0.35	0.37
	Steels, Alloy Steels	600-1000 N/mm ²	100-120	0.08	0.09	0.10	0.12	0.14	0.17	0.19	0.22	0.25	0.26	0.27
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²												
M	Stainless Steel : Easy To Machine	<750 N/mm ²	40-60	0.07	0.08	0.09	0.10	0.13	0.15	0.17	0.19	0.21	0.23	0.24
	Stainless Difficult, PH Stainless	<950 N/mm ²	25-35	0.05	0.05	0.06	0.07	0.09	0.10	0.12	0.13	0.15	0.16	0.17
K	Cast Irons, Grey, Spher, Melleable	<300 HB												
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²	30-50	0.04	0.04	0.05	0.06	0.07	0.08	0.09	0.11	0.12	0.13	0.13
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²												

Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

MATERIAL		Hardness	Vc (m/min)	f (mm/rev) Ø										
DRX2 3XD IK				3	4	5	6	8	10	12	14	16	18	20
P	Steels, Alloy Steels and Tool Steels	500-850 N/mm ²	120-150	0.11	0.14	0.16	0.18	0.22	0.26	0.29	0.33	0.37	0.39	0.41
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	90-110	0.10	0.12	0.14	0.16	0.19	0.23	0.26	0.29	0.33	0.35	0.37
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	60-80	0.09	0.11	0.12	0.14	0.17	0.20	0.23	0.26	0.29	0.31	0.32
M	Stainless Steel : Easy To Machine	<750 N/mm ²	60-80	0.08	0.10	0.11	0.13	0.16	0.19	0.21	0.24	0.27	0.29	0.30
	Stainless Difficult, PH Stainless	<950 N/mm ²	35-45	0.06	0.06	0.07	0.08	0.09	0.11	0.13	0.15	0.18	0.20	0.23
K	Cast Irons, Grey, Spher, Malleable	<300 HB	100-120	0.11	0.14	0.16	0.18	0.22	0.26	0.29	0.33	0.37	0.39	0.41
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²	40-60	0.05	0.05	0.06	0.07	0.09	0.10	0.12	0.13	0.15	0.16	0.02
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	25-45	0.04	0.05	0.05	0.06	0.08	0.09	0.10	0.12	0.13	0.14	0.15
DRX2 5XD IK														
P	Steels, Alloy Steels and Tool Steels	500-850 N/mm ²	110-130	0.08	0.10	0.11	0.13	0.15	0.18	0.21	0.24	0.26	0.28	0.29
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	80-100	0.07	0.08	0.09	0.10	0.12	0.15	0.16	0.19	0.21	0.22	0.24
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	50-70	0.05	0.06	0.07	0.08	0.10	0.12	0.14	0.16	0.18	0.19	0.20
M	Stainless Steel : Easy To Machine	<750 N/mm ²	50-70	0.07	0.08	0.10	0.11	0.13	0.16					
	Stainless Difficult, PH Stainless	<950 N/mm ²												
K	Cast Irons, Grey, Spher, Malleable	<300 HB	90-110	0.10	0.11	0.13	0.15	0.19	0.22	0.25	0.28	0.32	0.33	0.35
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²	35-55	0.03	0.04	0.04	0.04	0.05	0.06	0.07	0.09	0.10	0.12	0.13
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	20-40	0.03	0.04	0.05	0.05	0.07	0.08	0.09	0.10	0.11	0.12	0.12
DRX2 12XD IK , 15XD IK														
P	Steels, Alloy Steels and Tool Steels	500-850 N/mm ²	80-100	0.07	0.08	0.10	0.11	0.14	0.17	0.20	0.23	0.26		
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	50-70	0.06	0.07	0.09	0.10	0.12	0.15	0.18	0.20	0.23		
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	40-60	0.05	0.06	0.07	0.09	0.11	0.13	0.16	0.18	0.20		
M	Stainless Steel : Easy To Machine	<750 N/mm ²												
	Stainless Difficult, PH Stainless	<950 N/mm ²												
K	Cast Irons, Grey, Spher, Malleable	<300 HB	80-100	0.07	0.08	0.10	0.11	0.14	0.17	0.20	0.23	0.26		
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²	25-35	0.04	0.04	0.05	0.06	0.07	0.09	0.10	0.12	0.13		
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	15-25	0.03	0.04	0.04	0.05	0.06	0.08	0.09	0.10	0.11		
DRX2 20XD IK , 25XD														
P	Steels, Alloy Steels and Tool Steels	500-850 N/mm ²	75-85	0.08	0.11	0.14	0.18	0.25	0.32	0.36	0.40			
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	55-65	0.06	0.09	0.11	0.14	0.20	0.26	0.30	0.35			
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	45-55	0.05	0.08	0.10	0.13	0.18	0.23	0.27	0.32			
M	Stainless Steel : Easy To Machine	<750 N/mm ²	45-55	0.06	0.08	0.11	0.13	0.19	0.24	0.29	0.34			
	Stainless Difficult, PH Stainless	<950 N/mm ²	34-40	0.04	0.05	0.07	0.09	0.12	0.16	0.19	0.22			
K	Cast Irons, Grey, Spher, Malleable	<300 HB	65-75	0.07	0.09	0.13	0.16	0.23	0.29	0.35	0.40			
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²	27-33	0.05	0.07	0.10	0.12	0.17	0.21	0.26	0.30			
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	18-22	0.04	0.05	0.07	0.09	0.12	0.16	0.19	0.22			
DRX2 20XD IK , 25XD														
P	Steels, Alloy Steels and Tool Steels	500-850 N/mm ²	65-75	0.08	0.11	0.14	0.18	0.25	0.32					
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	45-55	0.06	0.09	0.11	0.14	0.20	0.26					
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	35-45	0.05	0.08	0.10	0.13	0.18	0.23					
M	Stainless Steel : Easy To Machine	<750 N/mm ²	40-50	0.06	0.08	0.11	0.13	0.19	0.24					
	Stainless Difficult, PH Stainless	<950 N/mm ²	29-35	0.04	0.05	0.07	0.09	0.12	0.16					
K	Cast Irons, Grey, Spher, Malleable	<300 HB	55-65	0.07	0.10	0.13	0.16	0.23	0.29					
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²	22-28	0.05	0.07	0.10	0.12	0.17	0.21					
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	13-17	0.04	0.05	0.07	0.09	0.12	0.16					
DRX2 30XD IK														
P	Steels, Alloy Steels and Tool Steels	500-850 N/mm ²	60-70	0.08	0.11	0.14	0.18							
	Steels, Alloy Steels and Tool Steels	850-1200 N/mm ²	40-50	0.06	0.09	0.11	0.14							
	Alloy Steels, Tool Steels, Duplex Steels	<1400 N/mm ²	30-40	0.05	0.08	0.10	0.13							
M	Stainless Steel : Easy To Machine	<750 N/mm ²	35-45	0.06	0.08	0.11	0.13							
	Stainless Difficult, PH Stainless	<950 N/mm ²	24-30	0.04	0.05	0.07	0.09							
K	Cast Irons, Grey, Spher, Malleable	<300 HB	45-55	0.07	0.10	0.13	0.16							
N	Aluminiums, Aluminiums Alloys	<6% Si												
H	Titanium , Titanium Alloys	<1100N/mm ²	18-22	0.05	0.07	0.10	0.12							
H	HRSA (Nickel Alloys, Co. Alloys)	<1300N/mm ²	11-15	0.04	0.05	0.07	0.09							

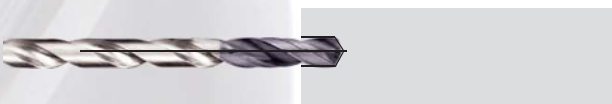
Technical Data provided should be considered advisory only as variations may be necessary depending on the particular application

A. Pilot Hole Drilling



- All deep hole drills must utilize a pilot hole
- Machine a pilot hole with a 3rd Duronto-RX drill to a minimum pilot depth of $1.5 \sim 2 \times d$

B. Initial Drilling with DURONTO-RX



- Enter the pilot hole at 20% RPM Value and with 50% of the feed rate

C. Deep Hole Drilling with DURONTO-RX



- Start high coolant pressure and increase RPM to 100% value. Drill continuously to the desired hole depth.
- For through holes with inclined exit, reduce the feed rate to 30% about 1mm prior to break-through. (corrected)

D. Drill Retraction



- After reaching the desired hole depth reduce RPM to 10% & withdraw the drill.

MATERIALS	TRADE MARK	AISI-ASTM	W.-Nr	DIN	JIS
P1 < 500 N/mm ² Free cutting steel and structural steel	AVP	1213	1.0715	9 SMn 28	SUM 22
		12 L 13	1.0718	9 SMnPb 28	SUM 22 L
		1108	1.0721	10 S 20	
		11 L 08	1.0722	10 SPb 20	
			1.0723	15 S 20	SUM 32
		1140	1.0726	35 S 20	
		1146	1.0727	46 S 20	
	AVZ	1215	1.0736	9 SMn 36	
		12 L 14	1.0737	9 SMnPb 36	
			1.0037	St 37-2	STKM 12 C
	PR80	A29	1.0765	36 SMnPb 14	Cf 35 SMnPb 10
		A 573 Gr. 58	1.0116	St 37-3	
		A 573 Gr. 70	1.0144	St 44-3 N	SM 41 C
		1010	1.0301	C 10	S 10 C
		1015	1.0401	C 15	
		1023	1.0402	C 22	
			1.057	St 52-3	SM 50 YA
		1015	1.1141	Ck 15	S 15 C, S 15 CK
		1025	1.1158	Ck 25	S 25 C
	P2 500-700 N/mm ² Carbon steel and low alloy steel		A 204 Gr. A	1.5415	15 Mo 3
		4520	1.5423	16 Mo 5	SB 450 M
		3310, 9314	1.5752	14 NiCr 14	SNC 815 (H)
		4320	1.5919	15 CrNi 6	
			1.6587	18 CrNiMo 7 6	
		5115	1.7131	16 MnCr 5	SCR 415
			1.7139	16 MnCrS 5	
		5120	1.7147	20 MnCr 5	SMnC 420 (H)
		5120 H	1.7149	20 MnCrS 5	SMnC 21 H
		A 182-F11, F12	1.7335	13 CrMo 4 4	
		A 387 Gr. 12 Cl. 2	1.7337	16 CrMo 4 4	
		A 182-F22	1.738	10 CrMo 9 10	
		1035	1.0501	C 35	
		1045	1.0503	C 45	S 45 C
		1040	1.0511	C 40	S 40 C
		1055	1.0535	St 70-2	
		1060	1.0601	C 60	
		1039	1.1157	40 Mn 4	
		1330	1.1165	30 Mn 5	SMn 1 H, SCMn 2
		1335	1.1167	36 Mn 5	SMn 438 (H), SCMn 3
		1035	1.1181	Ck 35	S 35 C
		1045	1.1191	Ck 45	S 45 C
		1064	1.1221	Ck 60	S 58 C
		1060	1.174	C 60 W	SK 7
P3 600-800 N/mm ² Medium alloy steel and heat treated steel			9255	1.0904	55 Si 7
		4142, 4140	1.1201	42 CrMo 4	SCM 440 (H)
		4142, 4140	1.7225	42 CrMo 4	SCM 440 (H)
		4135	1.233	35 CrMo 4	
		S1	1.2542	45 WCrV 7	
		L6	1.2714	56 NiCrMoV 7	SKT 4
		5045	1.5121	46 MnSi 4	
		3135	1.571	36 NiCr 6	SNC 236
		3435	1.5736	36 NiCr 10	SNC 631 (H)
		9840	1.6511	36 CrNiMo 4	
		4340	1.6582	34 CrNiMo 6	SNCM 447
		5132	1.7033	34 Cr 4	SCr 430 (H)
		5140	1.7035	41 Cr 4	SCr 440 (H)
		4130	1.7218	25 CrMo 4	SCM 425
			1.7361	32 CrMo 12	
		6150	1.8159	50 CrV 4	SUP 10
		A 355 Cl. A	1.8509	41 CrAlMo 7	SACM 645

MATERIALS	TRADE MARK	AISI-ASTM	W.-Nr	DIN	JIS
P4 800-1000 N/mm ² High alloy steel		1070	1.1231	Ck 67	
		1095	1.1274	Ck 101	SUP 4
		W1	1.1545	C 105 W1	
			1.1645	C 105 W2	SK 3
		W1	1.1663	C 125 W	SK 2
		L2	1.221	115 CrV 3	
		01	1.251	100 MnCrW 4	SKS 3
	K720 HARDOX HiTuf	02	1.2842	90 MnCrV 8	
		52100	1.3505	100 Cr 6	SUJ 2
	TOOLOX 33				
P5 900-1200 N/mm ² Tool steel	K100	D3	1.2080	X 210 Cr 12	SKD 1
	M310		1.2083	X 42 Cr 13	
	M201		1.2311	40 CrMnMo 7	
	M200-HOLDAX		1.2312	40 CrMnMoS 86	
			1.2316	X 36 CrMo 17	
	W300	H11	1.2343	X 38 CrMoV 5 1	SKD 6
	W302	H13	1.2344	X 40 CrMoV 5 1	SKD 61
		A2	1.2363	X 100 CrMoV 5 1	SKD 12
	W320	H10	1.2365	X 32 CrMoV 3 3	SKD 7
	K110		1.2379	X 155 CrVMo 12 1	
			1.2436	X 210 CrW 12	
			1.2601	X 165 CrMoV 12	
		L6	1.2713	55 NiCrMoV 6	SKT 4
	W500		1.2714	56 NiCrMoV 7	
	M238		1.2738	40 CrMnNiMo8 6 4	SKH 55
		M35	1.3243	S 6-5-2-5	SKH 51
		M42	1.3247	S 2-10-1-8	SKH 3
		T4	1.3255	S 18-1-2-5	SKH 9, SKH 51
	S600	M2	1.3343	S 6-5-2	SKH 58
		M7	1.3348	S 2-9-2	
	TOOLOX 40				SKH 2
		T1	1.3355	S 18-0-1	
VANADIS 4 VANADIS 10					
P6 1200-1600 N/mm ² High tensile strength steel	TOOLOX 44				
	HARDOX 400				
	HARDOX 450				
	HARDOX 500				
	WELDOX 1100				
	CREUSABRO DUAL				
	CREUSABRO 8000				
	W720		1.6358	X 2 NiCrMo 18 9 5	
	MARAGING		1.2706	X 3 NiCrMo 18 8 5	
M1 400-700 N/mm ² Ferritic stainless steel		405	14002	X 6 CrAl 13	SUS 405
		430	14016	X 6 Cr 17	SUS 430
		430 F	14104	X 12 CrMoS 17	SUS 430 F
		434	14113	X 6 CrMo 17	X 8 CrMo 17
		CA-6NM	14313	X 5 CrNi 13 4	X 6 CrNi 13 04
		430 Ti	1451	X 6 CrTi 17	X 6 CrTi 17
		409	14512	X 5 CrTi 12	X 5 CrTi 12
		446	14749	X 18 CrN 28	

MATERIALS	TRADE MARK	AISI-ASTM	W.-Nr	DIN	JIS
M2 500-750 N/mm ² Austenitic stainless steel (good machinability)					SUS 303
		303	14305	X 10 CrNiS 18 9	SUS 302
		302	143	X 12 CrNi 18 8	SUS 304
		304, 304 H	14301	X 6 CrNi 18 10	SUS 305
		305	14303	X 5 CrNi 18 12	SUS 304 L
		304 L	14306	X 2 CrNi 19 11	SUS 301
		301	1431	X 12 CrNi 17 7	SUS 304
		304	1435	X 5 CrNi 18 9	SUS 347
		347	1455	X 6 CrNiNb 18 10	SUS 304 LN
	304 LN	14311	X 2 CrNiN 19 11	SUH 310, SUS 310 S	
M3 550-850 N/mm ² Austenitic stainless steel (medium machinability)		310 S	14335	X 12 CrNi 25 21	SUS 316
		316	14401	X 5 CrNiMo 17 12 2	SUS 316 LN
		316 LN	14429	X 2 CrNiMoN 17 13 3	SCS 16, SUS 316 L
		316 L	14435	X 2 CrNiMo 18 14 3	SUS 317 L
		317 L	14438	X 2 CrNiMo 18 16	SUS 329 J 1
		329	1446	X 4 CrNiMo 27 5 2	
	DUPLEX	F 51-329 A	14462	X 2 CrNiMoN 22 5	SUS 317
		317	14466	X 5 CrNi 18 15	SUS 321
		321	14541	X 10 CrNiTi 18 9	SUS 347
		347	1455	X 10 CrNiNb 18 9	—
		316 Ti	14571	X 10 CrNiMoTi 18 10	SUS 309
		309	14828	X 15 CrNiSi 20 12	SUH 330
		330	14864	X 12 NiCrSi 36 16	
	253 MA		14893	X 9 CrNiSiN 21 11 2	
	3RE60		14417	X 2 CrNiMoSi 19 5	SUS 403
	M4 650-950 N/mm ² Martensitic stainless steel		403	14000	X 6 Cr 13
		416	14005	X 12 CrS 13	SUS 410
		410, CA-15	14006	X 10 Cr 13	SUS 420 J1
		420	14021	X 20 Cr 13	SUS 420 J2
		420F	14028	X 30 Cr 13	SUS 420
		420	14031	X 40 Cr 13	SUS 431
		431	14057	X 20 CrNi 17 2	SUS 440 A
		440 A	14109	X 65 CrMo 14	SUS 440 B
		440 B	14112	X 90 CrMoV 18	SUS 440 C
		440 C	14125	X 105 CrMo 17	
SUPER DUPLEX		F 53-329 S1	1441	X 2 CrNiMoN 25 7 4	
SUPER DUPLEX		F 55-329 S	14501	X 2 CrNiMoCuWN 15 7 4	
		904L	14539	X 2 NiCrMoCu 25 20 5	
		329 A			
254 SMO			14529	X 1 CrNiMoN 20 18 7	
PH13-8Mo		XM-13	14534	X 3 CrNiMoAl 13 8 2	
654 SMO			14652	X 2 CrNiMoN 25 22 7	NCF 800
Alloy 800		14876	X 10 NiCrAlTi 32 20		
M5 800-1250 N/mm ² PH stainless steel	15-5-PH	XM-12	1454	X 4 CrNiCuNb 16 4	
	17-4-PH	630	14542	X 5 CrNiNb 16 4	SUS 630
	17-7-PH	631	14568	X 7 CrNiAl 17 7	SUS 631
	A286	660	14943	X 4 NiCrTi 25 15	SUH 660
K1 150-250 HB Grey cast iron		A48-20B	0.601	GG-10	FC 100
		A48 25 B	0.6015	GG-15	FC 150
		A48 30 B	0.602	GG-20	FC 200
		G 3500		GG-220 HB	
		A48 35 B	0.6025	GG-25	FC 250
		A48 45 B	0.603	GG-30	FC 300
		A48 50 B	0.6035	GG-35	FC 350
		A48-60B	0.604	GG-40	FC 40

MATERIALS	TRADE MARK	AISI-ASTM	W.-Nr	DIN	JIS
K2 150-350 HB Nodular cast iron		Grade 350		GJV-300	
		Grade 400		GJV-350	
		Grade 400-15		GJV-400	
		Grade 450		GJV-450	
		Grade 500		GJV-500	
				GGG-35.3	FCD 350-22L
		60-40-18		GGG-40	FCD 400-18L
		60-40-18		GGG-40.3	
		A536 80-55-6		GGG-50	FCD 500-7
		A476 80-60-03		GGG-60	FCD 600-3
	A536 100-70-03		GGG-70	FCD 700-2	
K3 120-260 HB Austenitic cast iron	(Tempered)	A220 60004		GTS-55-04	PCMP55-04
	Ni-Resist 2	A436 Type 2	0.6660	GGL-NiCr 20 2	
	Ni-Resist 3	A436 Type 3	0.6676	GGL-NiCr 30 3	
	Ni-Resist 1	A436 Type 1	0.6655	GGL-NiCuCr 15 6 2	
	Ni-Resist D-5	A439 Type D-5	0.7683	GGG-Ni 35	
	Ni-Resist D-2	A436 Type D-2	0.7660	GGG-NiCr 20 2	
	Ni-Resist D-3	A436 Type D-3	0.7676	GGG-NiCr 30 3	
	Nodumag	—	0.7652	GGG-NiMn 13 7	
Ni-Resist D-2M	A439 Type D-2M	0.7673	GGG-NiMn 23 4		
K4 250-500 HB ADI cast iron	ADI 800	850/550/10		GJS-800-8	
	ADI 1000	1050/700/7		GJS-1000-5	
	ADI 1200	1200/850/4		GJS-1200-2	
	ADI 1400	1400/1100/1		GJS-1400-1	
	ADI 1600	1600/1300/-		GJS-1600-1	
N1 Aluminium alloys ≤ 12% Si		A1200	3.0205	Al 99	A1×3
		A1050/1050A	3.0255	Al 99.5	A1×1
		1070/1070A	3.0275	Al 99.7	
		1080/1080A	3.0285	Al 99.8	
			3.0515	AlMn1	
	Aluman 100		3.0517	AlMn1Cu	A3003
		3105	3.0505	AlMn0.5Mg0.5	
		3005	3.0525	AlMn1Mg0.5	
		3004	3.0526	AlMn1Mg1	
		6012	3.0615	AlMgSiPb	
	Avional 660	2014/2014A	3.1255	AlCuSiMn	
	Avional 050	2117	3.1305	AlCuMg0.5	
	Avional 100	2017/2017A	3.1325	AlCuMg 1	A3×2
	Avional 150	2024	3.1355	AlCuMg 2	A3×4
	-	2030	3.1645	AlCuMgPb	-
	Recidal 11	2011	3.1655	AlCuBiPb	A2011
		A380	3.2161	G-AlSi8Cu3	
		B26	3.2341	G-AlSi5Mg	AC 4C
	Anticorodal 063		3.3206	AlMgSi0.5	
			3.3210	AlMgSi0.7	(A6063)
	Anticorodal 061	6061	3.3211	AlMg1SiCu	A2×4
	Peraluman 080		3.3315	AlMg1	
	Peraluman 150	5050	3.3316	AlMg1.5	
	Peraluman 250	5052	3.3523	AlMg2.5	
		5251	3.3525	AlMg2Mn0.3	
	Peraluman 350	5154	3.3535	AlMg3	
		5454	3.3537	AlMg2.7Mn	
	Peraluman 440	5083	3.3547	AlMg4.5Mn	A2×1
	Peraluman 500	5056	3.3555	AlMg5	
	Anticorodal 061	6061	3.3211	AlMg1SiCu	A2×4
	Anticorodal 100	6082	3.2315	AlMgSi 1	A2×7
	Aldrey 051	6101		EAlMgSi0.5	
		6106		AlMgSiMn	
		6463			
	6262				
	7010		AlZn6MgCu		
	7020	34335	AlZn4.5Mg1		
Ergal 55	7075	34365	AlZnMgCu1.5	A34×6	

MATERIALS	TRADE MARK	STRUCTURE	MF*	AISI-ASTM	AFNOR
S1 < 25 HRC Heat resistant super alloys (HRSA) - good machinability	Nickel 201	4.3			
	17-4 PH (solubilized)	2.1			
	AM 350	1.8			
	Lapelloy	1.8			
	17-7 (precipitation)	1.8			
	Hastelloy C (plate)	1.8	N10002	NC17DWY	
	Hastelloy S	1.8		NC22DNb	
	Inconel 625 (cast)	1.7	N06625		
	A 286 (plate)	1.4			
	IN 801	1.4			
	M 308	1.4			
	Hastelloy B-2	1.4		N10665	
	Hastelloy C (cast)	1.4	N10002	NC17DWY	
	Hastelloy C-22	1.4			
	Hastelloy N (forged)	1.4	N10003		
	Inconel 600	1.4	N06600	NC15Fe	
	Inconel 601	1.4	N06601		
	Inconel 706	1.4			
Inconel X750- (solubilized)	Nickel based superalloys	1.4	N07750	NC19FeNB	
S2 25-35 HRC Heat resistant super alloys (HRSA) medium machinability	A 286 (Isolubilizzato)	Iron based superalloys	1.3		
	AM 350 (cast)	Iron based superalloys	1.3		
	Incoloy 800	Iron based superalloys	1.3	N08800	
	Incoloy 825	Iron based superalloys	1.3	N08825	NC21FeDU
	Hastelloy C-276	Nickel based superalloys	1.3		
	Hastelloy C-4	Nickel based superalloys	1.3		
	Hastelloy D	Nickel based superalloys	1.3		
	Hastelloy G	Nickel based superalloys	1.3		
	Hastelloy G-3	Nickel based superalloys	1.3		
	Hastelloy N (cast)	Nickel based superalloys	1.3	N10003	
	Hastelloy W	Nickel based superalloys	1.3		
	Hastelloy X	Nickel based superalloys	1.3	N06002	NC22FeD
	Inconel 625 (pipe)	Nickel based superalloys	1.3	N06625	NC22DNb
	Inconel 708 (forged)	Nickel based superalloys	1.3		
	Nimonic 80	Nickel based superalloys	1.3	N06075	NC20T
	Nimonic 105	Nickel based superalloys	1.3		
	A 286 (precipitation)	Iron based superalloys	1.1		
	AM 355	Iron based superalloys	1.1		
	IN 800	Iron based superalloys	1.1		
	N 155	Iron based superalloys	1.1		
	15-5 PH	Iron based superalloys	1.1		
	17-4 PH (Isolubilizzato)	Iron based superalloys	1.1		
	Incoloy 909	Iron based superalloys	1.1		
	Stellite 21	Cobalt based superalloys	1.1		
	Stellite 30	Cobalt based superalloys	1.1		
	Stellite 31	Cobalt based superalloys	1.1		
	Inconel 625 (forged)	Cobalt based superalloys	1.1	N06625	NC22DNb
	Inconel 713	Cobalt based superalloys	1.1		
	Inconel 718 (cast)	Cobalt based superalloys	1.1	N07718	Nc19FeNb
	Inconel 718 (pipe)	Cobalt based superalloys	1.1	N07718	Nc19FeNb
	Inconel 901	Cobalt based superalloys	1.1		
	Nimonic 81	Cobalt based superalloys	1.1	N07080	NC20TA
	Nimonic 263	Cobalt based superalloys	1.1		
	Waspalloy (cast)	Cobalt based superalloys	1.1	N07001	NC20K14

MATERIALS	TRADE MARK	STRUCTURE	MF*	AISI-ASTM	AFNOR
S3 35-45 HRC Heat resistant super alloys (HRSA) low machinability	Cobalt based superalloys	Haynes 188 (pipe)	1.0		
	Nickel based superalloys	Inconel X750 (precipitation)	1.0	NiCr 15 Fe 7 TiAl	NC19FeNB
	Nickel based superalloys	Inconel 718 (forged)	1.0	NiCr19Fe19NbMo	Nc19FeNb
	Nickel based superalloys	Nimonic 115	1.0		
	Nickel based superalloys	Waspalloy (forged)	1.0	NiCr20Co14MoTi	NC20K14
	Cobalt based superalloys	Haynes 25	0.9		
	Cobalt based superalloys	Haynes 188 (forged)	0.9		
	Nickel based superalloys	Udimet 500	0.9	NiCr18cCoMoAlTi	NCK19DAT
	Nickel based superalloys	Udimet 700	0.9	NiCo15Cr15MoAlTi	NCKD20AT
	Nickel based superalloys	Nimonic 90	0.7		
	Nickel based superalloys	Nimonic 91	0.7		
	Nickel based superalloys	Nimonic 101	0.7		
	Nickel based superalloys	Mar-M 247	0.7	NiCo10W10Cr9AlTi	
	Nickel based superalloys	Mar-M 200	0.6	NiW13Co10Cr9AlTi	
	Cobalt based superalloys	H 531	04		
	Nickel based superalloys	Rene 95	04		
Cobalt based superalloys	Air Resist	0.3			
S4 Low alloy titanium (good machinability)		Grade 1		TiAl2Sn4Zr2MoSi	
		Grade 2		TiAl2Sn4Zr6Mo	
		Grade 3 (13 HRC)		Ti 99.6	
		Grade 9 (15 HRC)		Ti3Al2.5V	
				TiAl7Mo4	
				TiAl5Sn2.5	T-A6V
				TiCu2.5	
				TiAl6Zr5Mo0.5	
				TiAl5Mo4Sn4Si0.5	
				TiAl6V6Sn2	
				TiAl4Mo4Sn2	
			Ti 99.8	TA 1	
			Ti 99.7a	TA 2-5	
S5 High alloy titanium (good machinability)		Grade 4 (23 HRC)			
		Grade 5 (36 HRC)		Ti6Al4V	T-A5E
		Grade 6 (36 HRC)		Ti5Al2.5SN	
		Grade 23 (35 HRC)		Ti6Al4VELI	
		6242 (34 HRC)		TiAl2Sn4Zr2MoSi	
		6246 (39 HRC)		TiAl2Sn4Zr6Mo	
				TiV10Fe2Al3	

MATERIALS	W.-Nr	DIN	BS	SS	EN
H1 50-56 HRC Hardened steel	1.7131	16 MnCr 5	527 M 17	2511	16 MnCr 5
	1.1201	42 CrMo 4	708 M40	2244	42 CrMo 4
	1.1231	Ck 67	060 A 67	1770	C 67S
	1.1248	Ck 75	060 A 78	1774, 1778	C 75S
	1.1274	Ck 101	060 A 96	1870	C 100S
	1.1545	C 105 W1		1880	C 105U
	1.255	60 WCrV 7			
	1.7176 1.3401	55 Cr 3 X 120 Mn 12	527 A 60 BW 10	2253 2183	55 Cr 3
H2 54-62 HRC Hardened bearing steel	1.221	115 CrV 3			107 CrV 3
	1.251	100 MnCrW 4	B0 1	2140	
	1.2842	90 MnCrV 8	B0 2		90 MnCrV 8
	1.3505	100 Cr 6	534 A 99	2258	100 Cr 6
H2 54-62 HRC Hardened bearing steel	1.221	115 CrV 3			107 CrV 3
	1.251	100 MnCrW 4	B0 1	2140	
	1.2842	90 MnCrV 8	B0 2		90 MnCrV 8
	1.3505	100 Cr 6	534 A 99	2258	100 Cr 6
H3 60-65 HRC Hardened tool steel	1.2344	X 40 CrMoV 5 1	BH 13	2242	X 40 CrMoV 5 1
	1.2363	X 100 CrMoV 5 1	BA 2	2260	X 100 CrMoV 5
	1.2379	X 155 CrVMo 12 1	BD 2		X 155 CrVMo 12 1
	1.2436	X 210 CrW 12		2312	
	1.2601	X 165 CrMoV 12		2310	
	1.2713	55 NiCrMoV 6			
	1.3243	S 6-5-2-5		2723	HS 6-5-2-5
	1.3247	S 2-10-1-8	BM 42		HS 2-10-1-8
	1.3343	S 6-5-2	BM 2	2722	HS 6-5-2
1.3355	S 18-0-1	BT 1		HS 18-0-1	
H4 50-56 HRC Hardened martensitic stainless steel	1.4021	X 20 Cr 13	420 S 37	2303	X 20 Cr 13
	1.4109	X 65 CrMo 14			X 70 CrMo 15
	1.4112	X 90 CrMoV 18	409 S 19	2327	X 90 CrMoV 18
	1.4125	X 105 CrMo 17			X 105 CrMo 17
	1.4534	X 3 CrNiMoAl 13 8 2			X 3 CrNiMoAl 13 8 2
	1.4542	X 5 CrNiCuNb 17 4			X 5 CrNiCuNb 16 4
	1.4568	X 7 CrNiAl 17 7	301 S 81	2388	X 7 CrNiAl 17 7
	1.4943	X 4 NiCrTi 25 15	HR 51	2570	X 6 NiCrTiMoV 25 15
H5 48-55 HRC Hardened white cast iron	G-X330 NiCr 4 2	FB Ni4 Cr2 BC	Grade 2 A	05 12-00	EN-GJN-HV520
	G-X260 NiCr 4 2	FB Ni4 Cr2 HC	Grade 2 B	05 13-00	EN-GJN-HV550
	G-X300 CrNiSi 9 5 2	FB Cr9 Ni5	Grade 2 C, D, E	04 57-00	EN-GJN-HV600(XCr11)

BINDING TERMS AND CONDITIONS OF SALE

The following are the terms and conditions ("Terms and Conditions") for the sale of products ("Products") by NMC Tools Private Limited ("NMCT") to its customers ("Customers").

1. ACCEPTANCE AND CANCELLATION OF ORDERS

All orders are subject to acceptance in writing by NMCT. Any written acknowledgment of receipt of an order shall not, in and of itself, constitute such acceptance. Orders accepted by NMCT may be canceled by Customer upon written consent of NMCT provided such order is not "NC/NR" or "Non-Cancelable/Non-Returnable", "Non-Standard Products" or governed by a Purchase Agreement Letter. Non-Standard Products are defined as Products that are special orders, custom orders, and orders for non-standard products, products not customarily in stock, or orders for value-added products. Non-standard products are non-cancellable and non-refundable. In the event of cancellation or other withdrawal of an order for any reason, and without limiting any other remedy which NMCT may have as a result of such cancellation or other withdrawal, reasonable cancellation or restocking charges shall include all expenses incurred and commitments made by NMCT and shall be paid by Customer to NMCT. Customer requests to reschedule are subject to acceptance by NMCT at its sole discretion. Orders may not be canceled or re-scheduled after the order has been submitted by NMCT to the shipment carrier. NMCT reserves the right to allocate sales and limit quantities of selected Products among its customers at its sole discretion. Product specifications and availability are subject to change without prior notice.

1a. Returns

The customer must notify NMCT within 90 days from the date of shipment of any defective product. (See NMCT'S LIMITED WARRANTY for further information.) Returns are normally accepted when completed within 90 days of the ship date. If NMCT agrees to accept a return, return freight charges must be prepaid by the customer. NMCT will not accept COD shipments. Some products may require return directly to the manufacturer. Contact our customer service representative for a Return Materials Authorization Number and addressing instructions prior to returning the product. The foregoing statements concerning Returns do not apply to NON-CANCELABLE/NON-RETURNABLE PRODUCTS. (See the NON-CANCELABLE/NON-RETURNABLE PRODUCTS section in these terms.)

1b. Counterfeit Product Prevention Clause

Only products originally shipped from NMCT will be returned to NMCT. All others will be promptly quarantined and disposed of or returned to the customer. By a Customer returning products to NMCT, the Customer certifies that the products were purchased from NMCT and there has been no substitution in whole or part of same product from another supplier, distributor, or another such source of the product. The return should be in the original packaging, in unused condition (except defective).

2. PRICES

Orders are billed at the prices in effect at the time of shipment. Prices will be as specified by NMCT and will be applicable for the period specified in NMCT's quote. If no period is specified, quoted prices will be applicable for thirty (30) days. Prices are subject to an increase in the event of an increase in NMCT's costs or other circumstances beyond NMCT's reasonable control. If the Customer does not purchase the quantity upon which quantity prices are based, Customer will pay the non-discounted price for the quantity actually purchased and/or a cancellation or restocking fee. Prices are exclusive of taxes, impositions, and other charges, including sales, use, excise, value-added and similar taxes or charges imposed by any government authority, international shipping charges, forwarding agent's and broker's fees, bank fees, consular fees, and document fees.

3. TERMS OF PAYMENT

All payments must be made in the currency billed on the original invoice. The customer agrees to pay the entire net amount of each invoice from NMCT pursuant to the terms of each such invoice, without offset or deduction. Orders are subject to credit approval by NMCT, which may in its sole discretion at any time change the terms of Customer's credit, require payment in cash, bank wire transfer/EFT or by official bank check, and/or require payment of any or all amounts due or to become due for the Customer's order before shipment of any or all of the Products. If NMCT reasonably believes that the Customer's ability to make payments may be impaired or if Customer fails to pay any invoice when due, NMCT may suspend delivery of any order or any remaining balance thereof, until such payment is made or cancel any order or any remaining balance thereof.

The customer will remain liable to pay for any Products already shipped and all Non-Standard Products ordered by the Customer. The Customer agrees to submit such financial information as NMCT may reasonably require for determination of credit terms and/or continuation of credit terms. Checks are accepted subject to collection and the date of collection will be deemed the date of payment. Any check received from the Customer may be applied by NMCT against any obligation owing by the Customer to NMCT under this or any other contract, regardless of any statement appearing on or referring to such check, without discharging Customer's liability for any additional amounts owing by Customer to NMCT. The acceptance by NMCT of such a check will not constitute a waiver of NMCT's right to pursue the collection of any remaining balance. Invoices not paid when due will bear interest to the date of payment at the annual rate of twenty-four (24%) percent or such lower rate as may be the maximum permitted by law. If the Customer fails to make payment when due, NMCT may pursue any legal or equitable remedies, in which event NMCT will be entitled to reimbursement of costs for collection and reasonable attorneys' fees. There is a 1000/- (INR) service charge on all returned checks. Prepaid Wire Transfer/EFT/Performa: The Customers can wire the funds to our bank. After your order is placed we will e-mail a Proforma invoice which includes our bank information, the merchandise total, shipping charges, and a \$25 (USD) wire transfer/ EFT fee. We will reserve stock for your order for 72 hours on orders awaiting funds. Orders will be canceled after 20 business days if funds have not been received. The customer is responsible for duties and taxes.

4. DELIVERY AND TITLE

All shipments by NMCT are in accordance with the agreed Terms of Delivery by the customer and NMCT. These will be in accordance with INCOTERMS. Subject to NMCT's right of stoppage in transit, delivery of the Products to the carrier will constitute delivery to Customer and title and risk of loss will pass to Customer. NMCT will make reasonable efforts to initiate shipment and schedule delivery as close as possible to the Customer's requested delivery date(s). The customer acknowledges that delivery dates provided by NMCT are estimates only and that NMCT will not be liable for failure to deliver on such dates. NMCT reserves the right to make deliveries in instalments. Delay in delivery of one instalment will not entitle the Customer to cancel any other instalment(s). Delivery of any instalment of Products within thirty (30) days after the date requested will constitute a timely delivery. Delivery of a quantity that varies from the quantity specified shall not relieve Customer of the obligation to accept delivery and pay for the Products delivered.

5. NMCT'S LIMITED WARRANTY

NMCT warrants that all NMCT Products sold will be free of defects in Materials and Workmanship for a period of Ninety (90) Days from the date of Delivery. The Foregoing Ninety (90) Day Warranty shall not be extended or changed by NMCT furnishing any replacements, additions, attachments, accessories or repairs to the product subsequent to the Date of Delivery or Acceptance. The Foregoing Warranty is the Sole and Exclusive Warranty of NMCT regarding the Product. Other than the Foregoing Warranty, there are no express or Implied Warranties or Any Affirmations of Fact or Promises by NMCT with respect to the Product. NMCT Disclaims any Warranties, Express, Implied or Statutory, Not Specifically Set Forth Above without Limiting the Generality of the Foregoing, NMCT Expressly Disclaims any Implied Warranties of Merchantability, Fitness for any particular Purpose, Infringement or any representations of Fact or Quality Not Expressly Set Forth Herein. Furthermore, no warranty will apply if the Product has been subject to misuse, static discharge, neglect, accident, modification, or has been soldered or altered in any way.

6. NMCT CORPORATE WEEE POLICY

NMCT is not registered as a "producer" in the European Union and does not provide a WEEE recycling program within the EU. A very small number of products that NMCT sells are subject to the European Union Directive 2002/96/EC known as WEEE. Therefore, it is the policy of NMCT to not export or place on the market, EEE classified products (as defined by EU Directive 2002/96/EC) to Customers within the European Union member countries.

6a. Product Country Of Origin

NMCT maintains Country of Origin information on all products in its inventory. This information is provided to the customer(s) on request. Our manufacturers do not provide NMCT with the country of origin of each raw material or subcomponent that is incorporated into the Manufacturer's final product.

7. LIMITATION OF LIABILITIES IN NO EVENT SHALL NMCT BE LIABLE FOR ANY SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE including, but not limited to, damages resulting from loss of profit or revenue, recall costs, claims for service interruptions or failure to supply downtime, testing, installation or removal costs, costs of substitute products, property damage, personal injury, death or legal expenses. The Customer's recovery from NMCT for any claim shall not exceed the purchase price paid by the customer for the goods, irrespective of the nature of the claim, whether in warrant, contract or otherwise. CUSTOMER SHALL INDEMNIFY, DEFEND AND HOLD NMCT HARMLESS FROM ANY CLAIMS BROUGHT BY ANY PARTY REGARDING PRODUCTS SUPPLIED BY NMCT AND INCORPORATED INTO THE CUSTOMER'S PRODUCT.

8. PRODUCT SAFETY NOTICE AND RESTRICTIONS

Products are intended for commercial use only. Products are traceable at the manufacturer's level only. There is no lot-level traceability. NMCT does not determine the specifications or conduct any performance or safety testing of any products that it sells. Specification sheets provided to Customers are produced by the manufacturer or transcribed from information provided by the manufacturer. NMCT is not a Qualified Manufacturers List (QML) supplier or a supplier of Qualified Product Listing (QPL) components. The customer agrees that all purchases are for commercial or other applications that do not require QPL components. Any reference to military specifications in our catalog or on our website are for reference only and do not modify these terms and conditions. NMCT does not participate in any product safety engineering, product safety review, or product safety testing. NMCT cannot provide any safety testing, safety evaluation, or safety engineering services. Products sold by NMCT are not designed, intended, or authorized for use in life support, life sustaining, humanly implantable, nuclear facilities, Fluteight control systems, or other applications in which the failure of such Products could result in personal injury, loss of life or catastrophic property damage. If Customer uses or sells the Products for use in any such applications: (1) Customer acknowledges that such use or sale is at Customer's sole risk; (2) Customer agrees that NMCT are not liable, in whole or in part, for any claim or damage arising from such use; and (3) CUSTOMER AGREES TO INDEMNIFY, DEFEND AND HOLD NMCT AND THE MANUFACTURER OF THE PRODUCTS HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS, DAMAGES, LOSSES, COSTS, EXPENSES, AND LIABILITIES ARISING OUT OF OR IN CONNECTION WITH SUCH USE OR SALE.

9. STATEMENTS AND ADVICE

If statements or advice, technical or otherwise, are offered or given to Customer, such statements or advice will be deemed to be given as accommodation to Customer and without charge. NMCT shall have no responsibility or liability for the content or use of such statements or advice. NMCT Technical support is provided by email and, therefore, extremely limited in scope which prevents us from direct participation in the design of any customer products. We do not conduct product suitability studies or engineering reviews of products that we sell, nor for the final product that a Customer produces.

10. NON-CANCELABLE/NON-RETURNABLE PRODUCTS

From time to time, Seller will notify Buyer of a product that is "NC/NR", (Non-Cancelable/Non-Returnable) upon determining that an order requires such conditions of sale. The buyer understands that "NC/NR" products are obtained by NMCT from the manufacturer specifically for the buyer. Irrespective of circumstances, the buyer agrees that "NC/NR" products may not be canceled, returned, or rescheduled by the buyer without the agreement of both NMCT's supplier and the written consent of NMCT. All products purchased by Customers classified by NMCT as an Electronic Component Distributors or Brokers shall be deemed Non-Cancellable/Non-Returnable.

11. INTELLECTUAL PROPERTY

If an order includes software or other intellectual property, such software or other intellectual-property is provided by NMCT to the Customer subject to the copyright and user license, the terms, and conditions of which are outlined in the license agreement accompanying such software or other intellectual property. Nothing herein shall be construed to grant any rights or license to use any software or other intellectual property in any manner or for any purpose not expressly permitted by such license agreement. Unopened software may be returned for credit. Opened software may not be returned unless defective.

12. FORCE MAJEURE

NMCT will not be liable for delays in delivery or for failure to perform its obligations due to causes beyond its reasonable control including, but not limited to, product allocations, material shortages, labor disputes, transportation delays, unforeseen circumstances, acts of God, acts or omissions of other parties, acts or omissions of civil or military authorities, Government priorities, fires, strikes, Fluteoods, severe weather conditions, computer interruptions, terrorism, epidemics, quarantine restrictions, riots or war. NMCT's time for delivery or performance will be extended by the period of such delay or NMCT may, at its option, cancel any order or remaining part thereof, without liability by giving notice to Customer.

13. EXPORT CONTROL

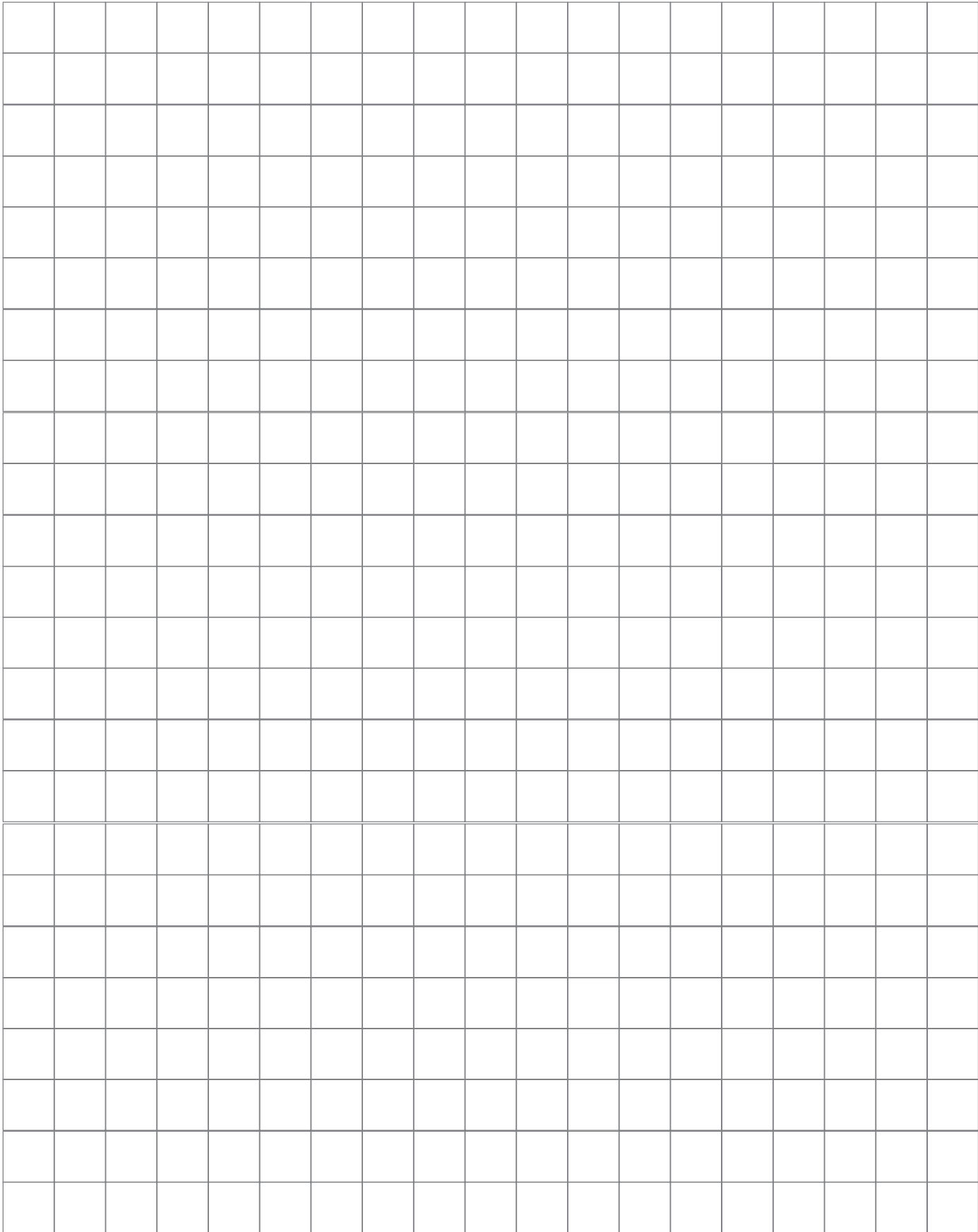
NMCT is committed to compliance with all Indian Export Regulations and Laws. NMCT will not sell or ship to individuals or organizations identified as Specially Designated Nationals and Blocked Persons. NMCT will not sell or ship products prohibited under Export Administration Regulations to individuals or organizations. NMCT will not seek export licenses pursuant to Export Administration Regulations. NMCT participates in BIS Export Enforcement and OFAC transaction reporting. Furthermore, NMCT prohibits the re-export, brokering, or trans-shipment of its products to any individual, organization, or country prohibited by the OFAC or BIS. The sale, resale, or other disposition of Products, and any related technology or documentation, are subject to the export control laws, regulations, and orders of India and may be subject to the export and/or import control laws and regulations of other countries. The customer agrees to comply with all such laws, regulations, and orders. The customer further acknowledges that it shall not directly or indirectly export any Products to any country to which such export or transmission is restricted or prohibited. Customer acknowledges its responsibility to obtain any license to export, re-export or import as may be required.

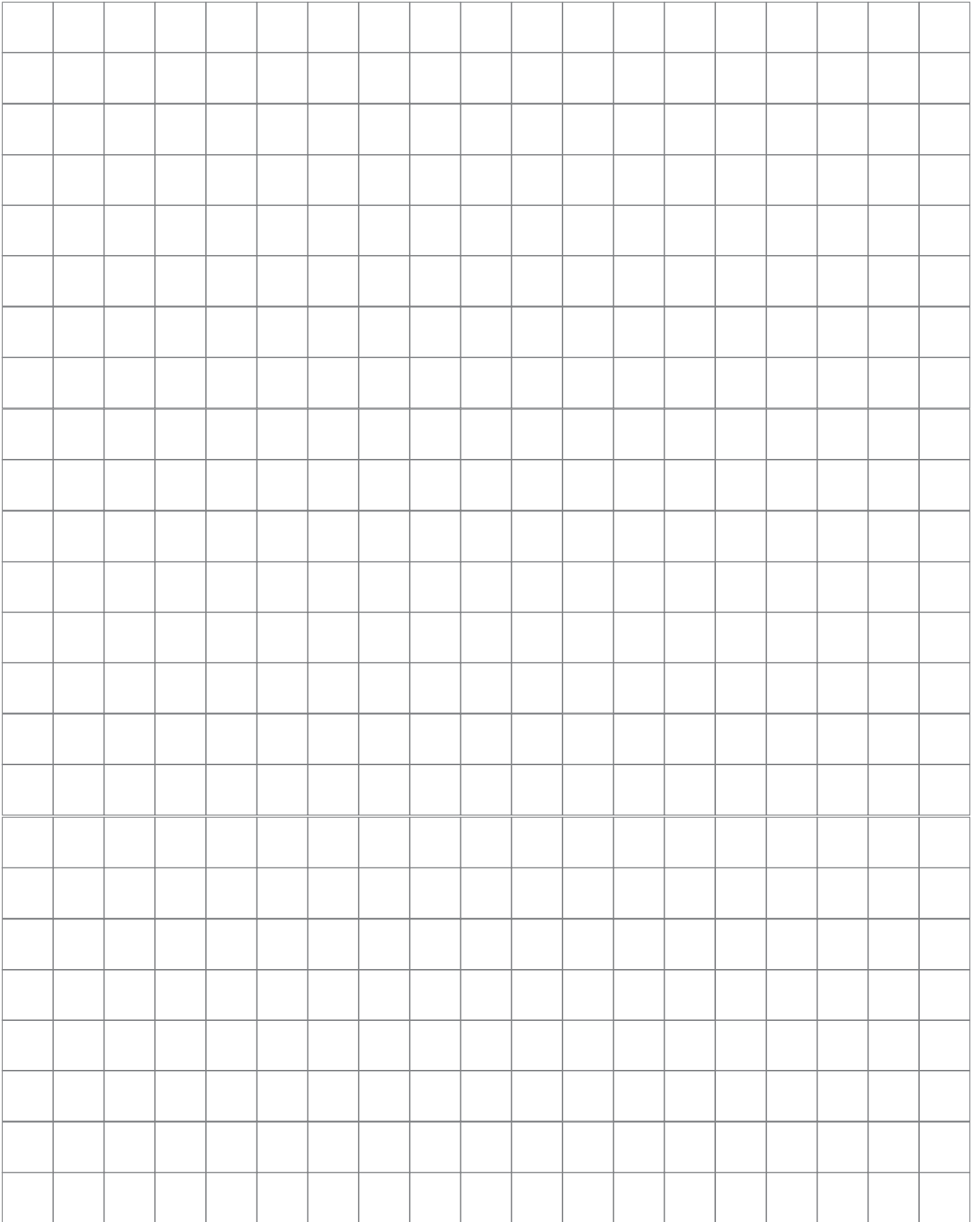
13.a Export Classification Disclaimer

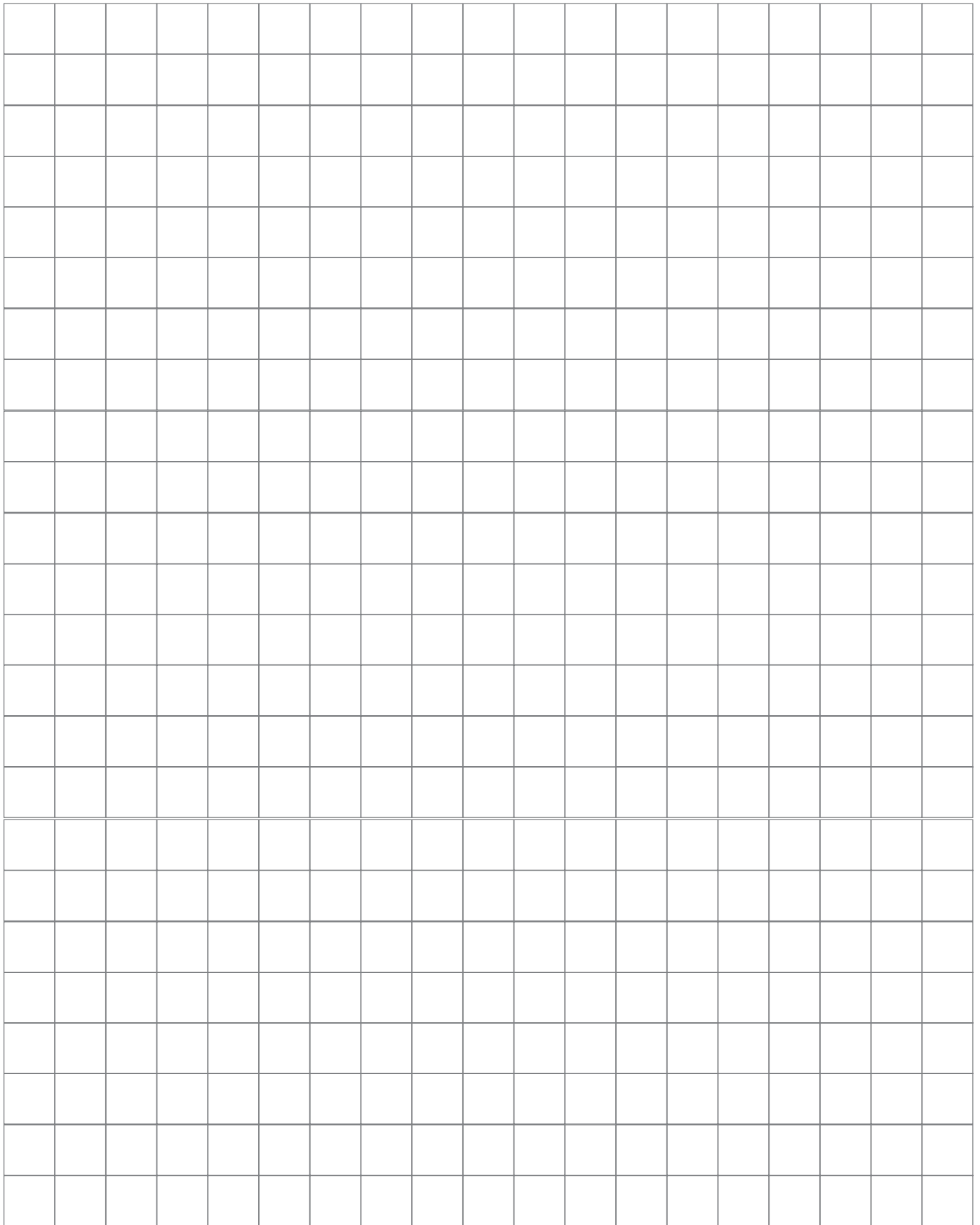
Any use made of NMCT classifications, whether it be ECCNs or any variation of Harmonized Tariff codes are without recourse to NMCT and at the user's risk. Export classifications are subject to change. If you export or re-export, your company, as the exporter of record, is responsible for determining the correct classification of any item at the time of export. Any export classification by NMCT is for NMCT's internal use only and shall not be construed as a representation or warranty regarding the proper export classification nor relied upon to make licensing determinations.

14. GENERAL

The Terms and Conditions may not be modified or canceled without NMCT's written agreement. Accordingly, goods furnished and services rendered by NMCT are sold only on the terms and conditions stated herein. The sale of Products hereunder will be governed by the Terms and Conditions, not withstanding contrary or additional terms and conditions in any order purchase order, planning schedule, acknowledgment, confirmation, or any other form or document issued by either party affecting the purchase and/or sale of Products. Notwithstanding any terms and conditions on the Customer's order, the information and conditions on the Credit Application are controlling over the Customer and NMCT. Any conflicting statements or terms listed on the Customer purchase orders, invoices, confirmations, or other Customer-generated documents ("Customer Documents"), whether heretofore or hereafter submitted, are negated by submission of the Credit Application and the issuance of credit by NMCT, and all different or additional terms and conditions contained in any Customer Documents are hereby objected to by NMCT. NMCT's performance of any contract is expressly made conditional on Customer's agreement to NMCT's Terms and Conditions of Sale, unless otherwise specifically agreed upon in writing by NMCT. In the absence of such agreement, the commencement of performance and/or delivery shall be for Customer's convenience only and shall not be deemed or construed to be acceptance of Customer's terms and conditions or any of them. If a contract is not earlier formed by mutual agreement in writing, acceptance by Customer of any goods or services shall be deemed acceptance by Customer of the terms and conditions stated herein. No rights, duties, agreements, or obligations hereunder, may be assigned or transferred by operation of law, merger, or otherwise, without the prior written consent of NMCT. The obligations, rights, terms, and conditions hereof will be binding on the parties hereto and their respective successors and assigns. The waiver or breach of any term, condition, or covenant hereof, or default under any provision hereof, will not be deemed to constitute a waiver of any other term, condition, or covenant contained herein, or of any subsequent breach or default of any kind or nature. Any provision hereof which is prohibited or unenforceable in any jurisdiction shall, as to such jurisdiction, be ineffective to the extent of such prohibition or unenforceability without invalidating the remaining provisions hereof in that jurisdiction, or affecting the validity or enforceability of such provision in any other jurisdiction. The Terms and Conditions will be governed by and construed in accordance with the applicable laws of India and shall be subject to competent Courts of Kolkata jurisdiction.











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