

Advanced
Engineering

Hitachi Tool

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Inspire the Next

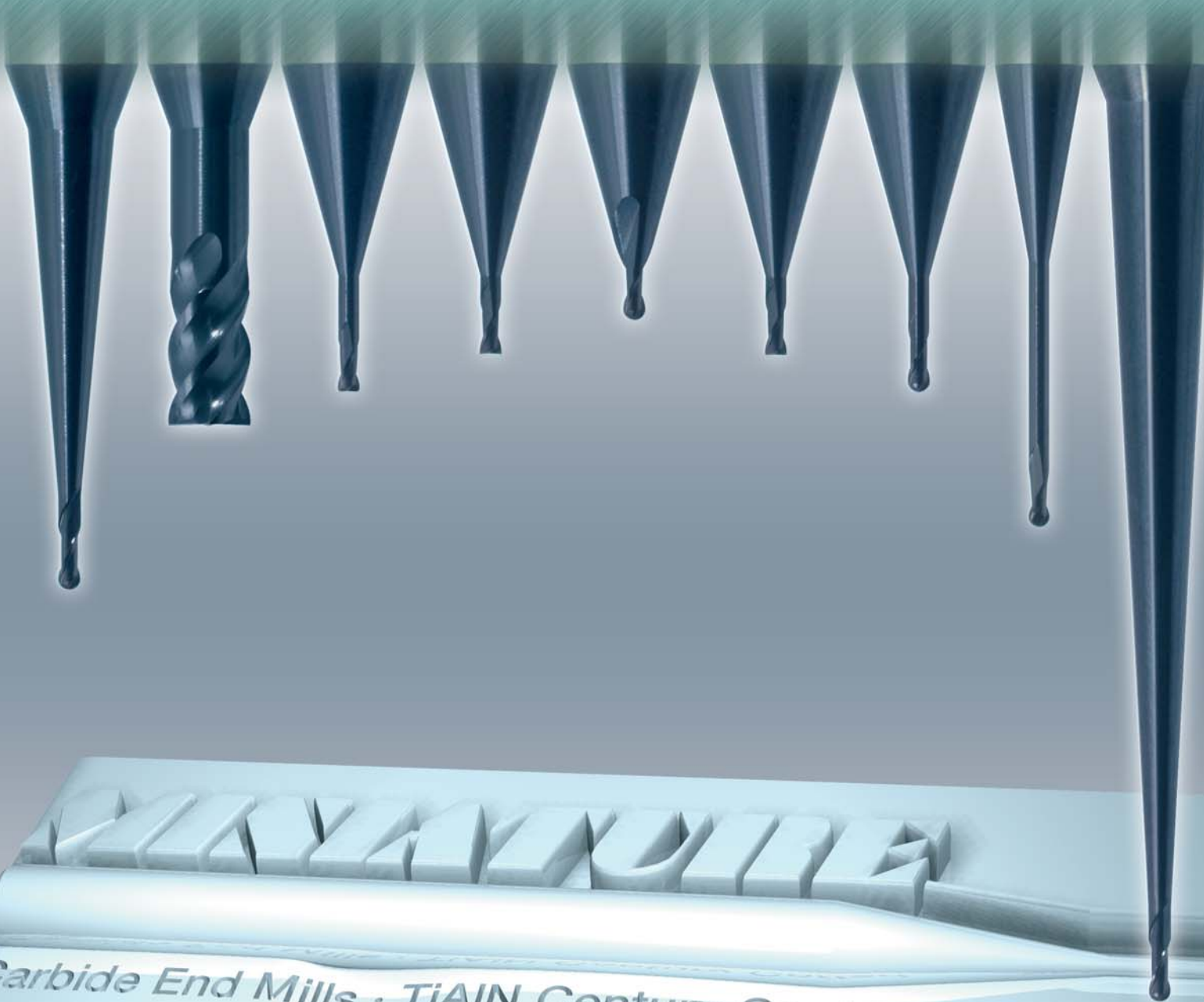
MINIATURE

No. 404

Miniature

Micro Grain Carbide End Mills

Ø 0.2 mm ~ Ø 6.0 mm (HSC-HPC-HHC)



Carbide End Mills · TiAlN Century Coated



Ball Type



Hyper Ball Short
HPBS

1 – 6 mm

4



Hyper Ball
HYPB

0.2 – 6 mm

5



Hyper Ball Long Neck
HPBLN

0.5 – 6 mm

6



Deep Epoch Ball
DEB

0.6 – 2 mm

7



Epoch Ball Pencil Neck
EPBPN

1°30' / 3° / 5°

1 – 6 mm

9



Carbide Ball Taper Neck
BESL-C

1°

3 – 6 mm

10



Carbide Ball Long Neck
BESL-SC

3 – 6 mm

11



Square Type

Epoch21



Hyper Square
HYPS

0.2 – 6 mm

12



Hyper Square Corner Radius
HYPS-00

0.5 – 3 mm

13



Hyper Square Long Neck
HPSLN

0.5 – 6 mm

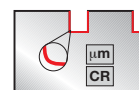
14



Hyper Square Long Neck Corner Radius
HPSLN-00

0.5 – 4 mm

15



Deep Epoch Square
DES

0.5 – 3 mm

17



Epoch Power Mill Long Shank
EPPLS

3 – 5 mm

18



Epoch Power Mill Long Shank Corner Radius
EPPLS-00

3 – 5 mm

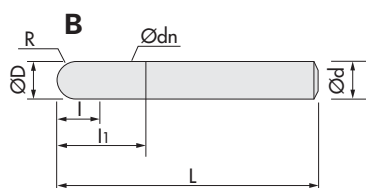
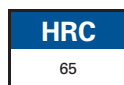
19





Ball Type

HPBS | Hyper Ball Short



R	± 0.005
D	0/-0.015
d	0/-0.005

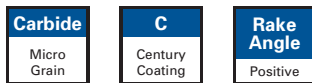
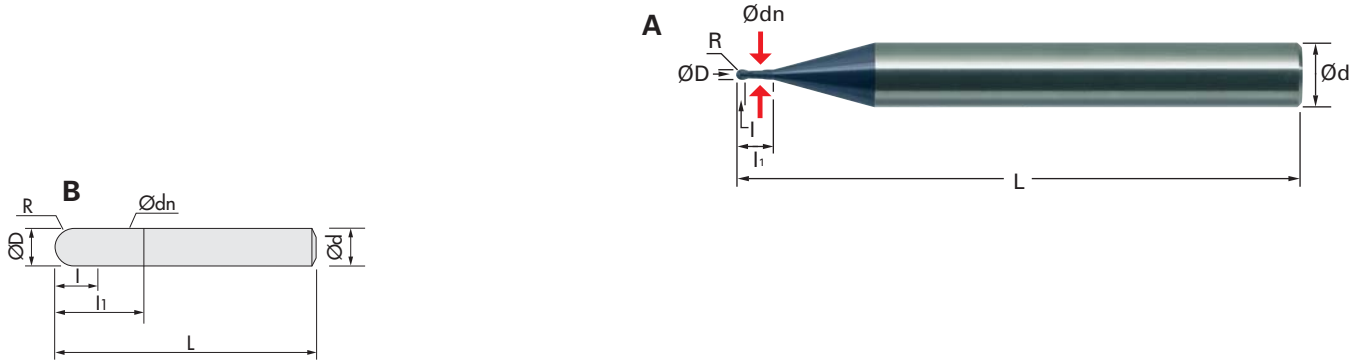
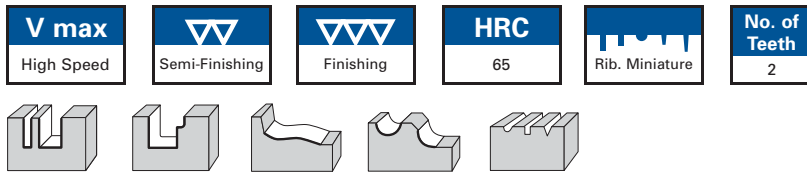
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CC 132	HPBS-2010C	■	2	0.5	1		1.3	0.95	2				50	6	A
CC 133	HPBS-2020C	■	2	1	2		2.5	1.95	3.5				50	6	A
CC 134	HPBS-2030C	■	2	1.5	3		4	2.9	5				50	6	A
CC 135	HPBS-2040C	■	2	2	4		5	3.9	6				50	6	A
CC 136	HPBS-2050C	■	2	2.5	5		6	4.9	7				50	6	A
CC 137	HPBS-2060C	■	2	3	6		7.5	5.9	9				50	6	B

■ = Stock | Germany



Ball Type

HYPB | Hyper Ball



R	± 0.005
D	0/-0.015
d	0/-0.005

ID Code	Item No.	Stock	Z	R	$\varnothing D$	θ°	I	d_n	I_1	I_{n1}	I_{n2}	I_s	L	d	Type
CC 086	HYPB-2002C	■	2	0.1	0.2		0.3						50	6	A
CC 087	HYPB-2003C	■	2	0.15	0.3		0.4						50	6	A
CC 026	HYPB-2004C	■	2	0.2	0.4		0.5						50	6	A
CC 088	HYPB-2005C	■	2	0.25	0.5		0.6	0.45	1.6				50	6	A
CC 027	HYPB-2006C	■	2	0.3	0.6		0.7	0.55	1.7				50	6	A
CC 089	HYPB-2008C	■	2	0.4	0.8		1	0.75	2.5				50	6	A
CC 028	HYPB-2010C	■	2	0.5	1		1.3	0.95	3.3				50	6	A
CC 090	HYPB-2012C	■	2	0.6	1.2		1.5	1.15	3.5				50	6	A
CC 091	HYPB-2014C	■	2	0.7	1.4		1.8	1.35	3.8				50	6	A
CC 029	HYPB-2015C	■	2	0.75	1.5		1.9	1.45	4.9				50	6	A
CC 092	HYPB-2016C	■	2	0.8	1.6		2	1.55	5				50	6	A
CC 093	HYPB-2018C	■	2	0.9	1.8		2.3	1.75	5.3				50	6	A
CC 030	HYPB-2020C	■	2	1	2		2.5	1.95	5.5				50	6	A
CC 094	HYPB-2025C	■	2	1.25	2.5		3	2.4	6				50	6	A
CC 031	HYPB-2030C	■	2	1.5	3		4	2.9	8				50	6	A
CC 095	HYPB-2035C	■	2	1.75	3.5		4.5	3.4	8.5				50	6	A
CC 032	HYPB-2040C	■	2	2	4		5	3.9	10				50	6	A
CC 033	HYPB-2050C	■	2	2.5	5		6	4.9	11				50	6	A
CC 034	HYPB-2060C	■	2	3	6		7.5	5.9	12.5				50	6	B

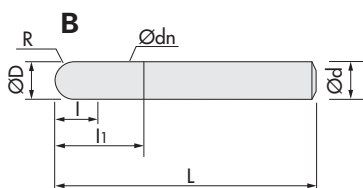
■ = Stock | Germany



Ball Type

HPBLN | Hyper Ball Long Neck

V max High Speed	▽ Semi-Finishing	▽▽ Finishing	HRC 65	▮ Rib. Miniature	No. of Teeth 2
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Carbide Micro Grain	C Century Coating	Rake Angle Positive
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R	± 0.005
D	0/-0.015
d	0/-0.005

ID Code	Item No.	Stock	Z	R	ØD	θ°	I	dn	I ₁	I _{n1}	I _{n2}	I _s	L	d	Type
CC 138	HPBLN-2005C	■	2	0.25	0.5		0.6	0.45	2.5				60	6	A
CC 139	HPBLN-2006C	■	2	0.3	0.6		0.7	0.55	3				60	6	A
CC 140	HPBLN-2008C	■	2	0.4	0.8		1	0.75	4				60	6	A
CC 141	HPBLN-2010C	■	2	0.5	1		1.3	0.95	5				60	6	A
CC 142	HPBLN-2012C	■	2	0.6	1.2		1.5	1.15	6				60	6	A
CC 143	HPBLN-2014C	■	2	0.7	1.4		1.8	1.35	7				60	6	A
CC 144	HPBLN-2015C	■	2	0.75	1.5		1.9	1.45	7.5				60	6	A
CC 145	HPBLN-2016C	■	2	0.8	1.6		2	1.55	8				60	6	A
CC 146	HPBLN-2018C	■	2	0.9	1.8		2.3	1.75	9				60	6	A
CC 147	HPBLN-2020C	■	2	1	2		2.5	1.95	10				60	6	A
CC 148	HPBLN-2025C	■	2	1.25	2.5		3	2.4	12.5				60	6	A
CC 149	HPBLN-2030C	■	2	1.5	3		4	2.9	15				80	6	A
CC 150	HPBLN-2035C	■	2	1.75	3.5		4.5	3.4	17.5				80	6	A
CC 151	HPBLN-2040C	■	2	2	4		5	3.9	20				80	6	A
CC 152	HPBLN-2050C	■	2	2.5	5		6	4.9	25				80	6	A
CC 153	HPBLN-2060C	■	2	3	6		7.5	5.9	30				80	6	B

■ = Stock | Germany

Ball Type

DEB | Deep Epoch Ball

V max High Speed	 Finishing	HRC 60	 Rib. Miniature	No. of Teeth 2
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Carbide Micro Grain	C Century Coating	Rake Angle Positive
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R	± 0.005
D	0/-0.02
d	h6

ID Code	Item No.	Stock	Z	R	ØD	θ°	l	dn	l ₁	l _{n1}	l _{n2}	l _s	L	d	Type
CC 048	DEB-2006-6C	■	2	0.3	0.6		1.2	0.58	6				55	4	A
CC 049	DEB-2008-8C	■	2	0.4	0.8		1.2	0.77	8				55	4	A
CC 170	DEB-2010-8C	■	2	0.5	1		1.5	0.95	8				55	4	A
CC 050	DEB-2010-12C	■	2	0.5	1		1.5	0.95	12				55	4	A
CC 183	DEB-2012-8C	■	2	0.6	1.2		1.6	1.15	8				55	4	A
CC 051	DEB-2012-12C	■	2	0.6	1.2		1.6	1.15	12				55	4	A
CC 184	DEB-2014-12C	■	2	0.7	1.4		1.6	1.34	12				55	4	A
CC 185	DEB-2015-8C	■	2	0.75	1.5		1.8	1.44	8				55	4	A
CC 052	DEB-2015-12C	■	2	0.75	1.5		1.8	1.44	12				55	4	A
CC 186	DEB-2015-16C	■	2	0.75	1.5		1.8	1.44	16				55	4	A
CC 064	DEB-2016-16C	■	2	0.8	1.6		1.8	1.54	16				55	4	A
CC 065	DEB-2018-16C	■	2	0.9	1.8		2	1.73	16				55	4	A
CC 187	DEB-2020-8C	■	2	1	2		2	1.92	8				55	4	A
CC 066	DEB-2020-12C	■	2	1	2		2	1.92	12				55	4	A
CC 171	DEB-2020-16C	■	2	1	2		2	1.92	16				55	4	A
CC 067	DEB-2020-20C	■	2	1	2		2	1.92	20				55	4	A

■ = Stock | Germany



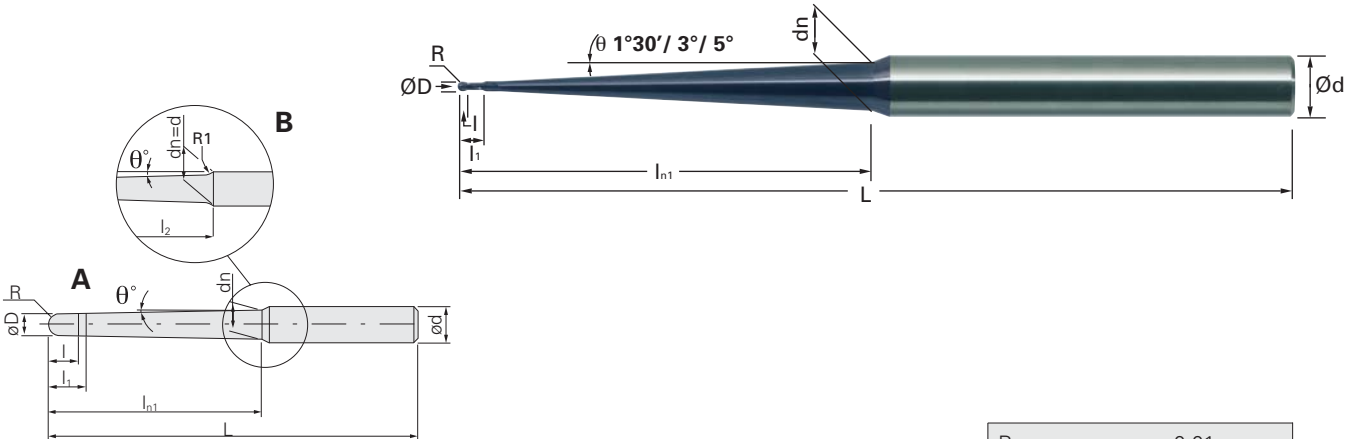
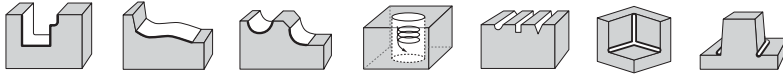
Ball Type



Ball Type

EPBPN | Epoch Ball Pencil Neck

V max High Speed	 Finishing	HRC 65	 Rib. Miniature	No. of Teeth 2
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Carbide Micro grain	C Century Coating	Rake Angle Positive
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R	± 0.01
D	0/-0.01
d	h6

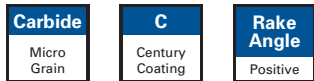
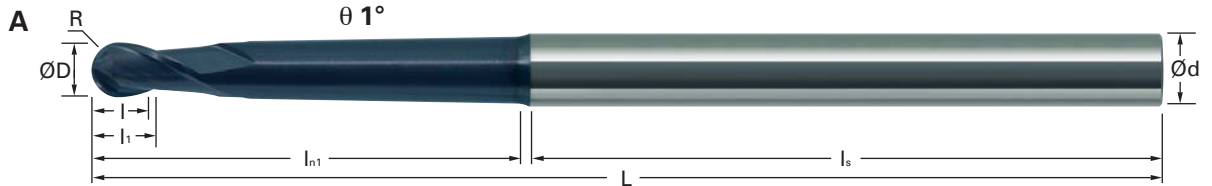
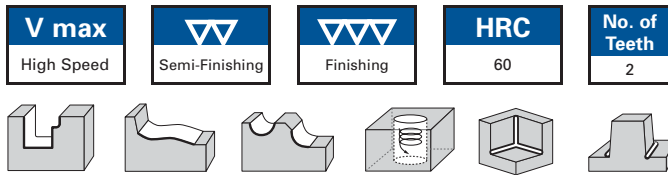
ID Code	Item No.	Stock	Z	R	ØD	θ°	I	dn	I ₁	I _{n1}	I _{n2}	I _s	L	d	Type
EP 186	EPBPN-2010-15	■	2	0.5	1	1°30'	2.5	1.8	4	20			60	6	A
EP 187	EPBPN-2010-30	■	2	0.5	1	3°	2.5	4.8	4	40			80	6	A
EP 188	EPBPN-2010-50	■	2	0.5	1	5°	2.5	3.8	4	20			60	6	A
EP 189	EPBPN-2020-15	■	2	1	2	1°30'	5	2.7	7	20			60	6	A
EP 190	EPBPN-2020-30	■	2	1	2	3°	5	5.5	7	40			80	6	A
EP 191	EPBPN-2020-50	■	2	1	2	5°	5	4.3	7	20			60	6	A
EP 192	EPBPN-2030-15	■	2	1.5	3	1°30'	8	5.1	10	50			90	6	A
EP 193	EPBPN-2030-30	■	2	1.5	3	3°	8	5.1	10	30			70	6	A
EP 194	EPBPN-2040-15	■	2	2	4	1°30'	8	6	10	48.2			90	6	B
EP 195	EPBPN-2040-30	■	2	2	4	3°	8	6	10	29.1			70	6	B
EP 196	EPBPN-2050-15	■	2	2.5	5	1°30'	10	7.5	12	60			110	8	A
EP 197	EPBPN-2050-30	■	2	2.5	5	3°	10	8	12	40.6			90	8	B
EP 198	EPBPN-2060-15	■	2	3	6	1°30'	12	8	14	52.2			110	8	B
EP 199	EPBPN-2060-30	■	2	3	6	3°	12	8	14	33.1			90	8	B

■ = Stock | Germany



Ball Type

BESL-C | Carbide Ball Taper Neck



R	± 0.02
D	0/-0.02
d	h6

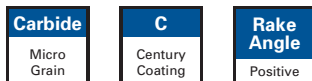
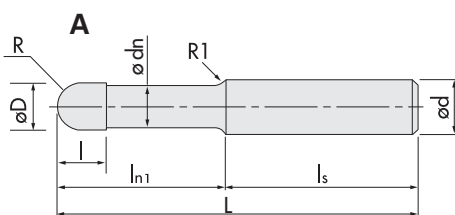
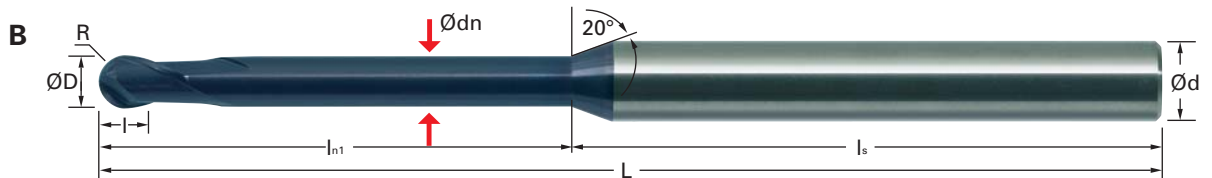
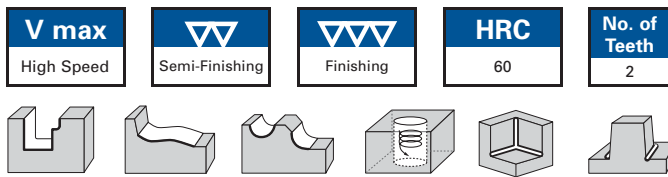
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CC 043	BESL-2030C	■	2	1.5	3	1°	4		5	35		62.3	100	6	A
CC 044	BESL-2040C	■	2	2	4	1°	6		7	35		63.6	100	6	A
CC 041	BESL-2050C	■	2	2.5	5	1°	7		8	40		72.4	115	8	A
CC 042	BESL-2060C	■	2	3	6	1°	8		9	45		68.7	115	8	A

■ = Stock | Germany



Ball Type

BESL-SC | Carbide Ball Long Neck



R	± 0.02
D	0/-0.02
d	h6

ID Code	Item No.	Stock	Z	R	$\varnothing D$	θ°	l	d_n	l_1	l_{n1}	l_{n2}	l_s	L	d	Type
CC 053	BESL-2030SC	■	2	1.5	3	4	2.8		35			65	100	6	B
CC 054	BESL-2040SC	■	2	2	4	6	3.8		35			65	100	6	B
CC 055	BESL-2050SC	■	2	2.5	5	7	4.8		40			75	115	6	B
CC 056	BESL-2060SC	■	2	3	6	8	5.8		45			70	115	6	A

■ = Stock | Germany

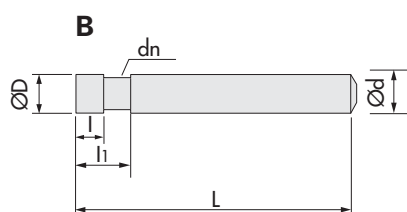




Square Type

HYPS | Hyper Square

V max High Speed	▽▽▽ Finishing	HRC 65	Rib. Miniature	No. of Teeth 2
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Carbide Micro Grain	C Century Coating	Rake Angle Positive
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D	0/-0.015
d	0/-0.005

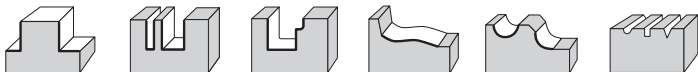
ID Code	Item No.	Stock	Z	R	ØD	θ°	I	dn	I ₁	I _{n1}	I _{n2}	I _s	L	d	Type
CC 096	HYPS-2002C	■	2		0.2	0.3							50	6	A
CC 035	HYPS-2003C	■	2		0.3	0.4							50	6	A
CC 097	HYPS-2004C	■	2		0.4	0.5							50	6	A
CC 036	HYPS-2005C	■	2		0.5	0.6	0.45	1.6					50	6	A
CC 037	HYPS-2006C	■	2		0.6	0.7	0.55	1.7					50	6	A
CC 098	HYPS-2008C	■	2		0.8	1	0.75	2.5					50	6	A
CC 038	HYPS-2010C	■	2		1	1.3	0.95	3.3					50	6	A
CC 099	HYPS-2012C	■	2		1.2	1.5	1.15	3.5					50	6	A
CC 100	HYPS-2014C	■	2		1.4	1.8	1.35	3.8					50	6	A
CC 039	HYPS-2015C	■	2		1.5	1.9	1.45	4.9					50	6	A
CC 101	HYPS-2016C	■	2		1.6	2	1.55	5					50	6	A
CC 102	HYPS-2018C	■	2		1.8	2.3	1.75	5.3					50	6	A
CC 040	HYPS-2020C	■	2		2	2.5	1.95	5.5					50	6	A
CC 103	HYPS-2025C	■	2		2.5	3	2.4	6					50	6	A
CC 104	HYPS-2030C	■	2		3	4	2.9	8					50	6	A
CC 105	HYPS-2035C	■	2		3.5	4.5	3.4	8.5					50	6	A
CC 106	HYPS-2040C	■	2		4	5	3.9	10					50	6	A
CC 107	HYPS-2050C	■	2		5	6	4.9	11					50	6	A
CC 108	HYPS-2060C	■	2		6	7.5	5.9	12.5					50	6	B

■ = Stock | Germany

Square Type

HYPS-00 | Hyper Square Corner Radius

V max High Speed	 Finishing	HRC 65	 Rib. Miniature	No. of Teeth 2
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Carbide Micro Grain	C Century Coating	Rake Angle Positive
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R	± 0.01
D	0/-0.015
d	0/-0.005

ID Code	Item No.	Stock	Z	R	ØD	θ°	l	dn	l ₁	l _{n1}	l _{n2}	l _s	L	d	Type
CC 188	HYPS-2005-01C	■	2	0.1	0.5	0.6	0.45	1.6					50	6	A
CC 189	HYPS-2010-02C	■	2	0.2	1	1.3	0.95	3.3					50	6	A
CC 190	HYPS-2015-02C	■	2	0.2	1.5	1.9	1.45	4.9					50	6	A
CC 191	HYPS-2020-02C	■	2	0.2	2	2.5	1.95	5.5					50	6	A
CC 192	HYPS-2020-05C	■	2	0.5	2	2.5	1.95	5.5					50	6	A
CC 193	HYPS-2025-02C	■	2	0.2	2.5	3	2.4	6					50	6	A
CC 194	HYPS-2025-05C	■	2	0.5	2.5	3	2.4	6					50	6	A
CC 195	HYPS-2030-02C	■	2	0.2	3	4	2.9	8					50	6	A
CC 196	HYPS-2030-05C	■	2	0.5	3	4	2.9	8					50	6	A

■ = Stock | Germany

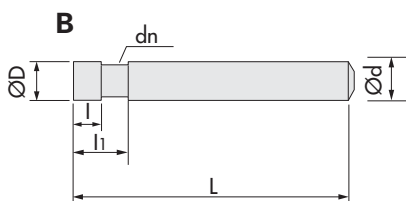




Square Type

HPSLN | Hyper Square Long Neck

V max High Speed	Finishing	HRC 65	Rib. Miniature	No. of Teeth 2
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Carbide Micro Grain	C Century Coating	Rake Angle Positive
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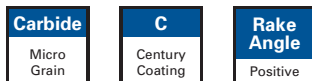
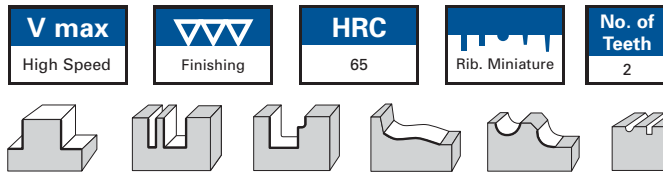
D	0/-0.015
d	0/-0.005

ID Code	Item No.	Stock	Z	R	ØD	θ°	I	dn	I ₁	I _{n1}	I _{n2}	I _s	L	d	Type
CC 154	HPSLN-2005C	■	2		0.5		0.6	0.45	2.5				60	6	A
CC 155	HPSLN-2006C	■	2		0.6		0.7	0.55	3				60	6	A
CC 156	HPSLN-2008C	■	2		0.8		1	0.75	4				60	6	A
CC 157	HPSLN-2010C	■	2		1		1.3	0.95	5				60	6	A
CC 158	HPSLN-2012C	■	2		1.2		1.5	1.15	6				60	6	A
CC 159	HPSLN-2014C	■	2		1.4		1.8	1.35	7				60	6	A
CC 160	HPSLN-2015C	■	2		1.5		1.9	1.45	7.5				60	6	A
CC 161	HPSLN-2016C	■	2		1.6		2	1.55	8				60	6	A
CC 162	HPSLN-2018C	■	2		1.8		2.3	1.75	9				60	6	A
CC 163	HPSLN-2020C	■	2		2		2.5	1.95	10				60	6	A
CC 164	HPSLN-2025C	■	2		2.5		3	2.4	12.5				60	6	A
CC 165	HPSLN-2030C	■	2		3		4	2.9	15				80	6	A
CC 166	HPSLN-2035C	■	2		3.5		4.5	3.4	17.5				80	6	A
CC 167	HPSLN-2040C	■	2		4		5	3.9	20				80	6	A
CC 168	HPSLN-2050C	■	2		5		6	4.9	25				80	6	A
CC 169	HPSLN-2060C	■	2		6		7.5	5.9	30				80	6	B

■ = Stock | Germany

Square Type

HPSLN-00 | Hyper Square Long Neck Corner Radius



R	± 0.01
D	0/-0.015
d	0/-0.005

ID Code	Item No.	Stock	Z	R	ØD	θ°	I	dn	I ₁	I _{n1}	I _{n2}	I _s	L	d	Type
CC 172	HPSLN-200501C	■	2	0.1	0.5	0.6	0.45	2.5					60	6	A
CC 173	HPSLN-201002C	■	2	0.2	1	1.3	0.95	5					60	6	A
CC 174	HPSLN-201502C	■	2	0.2	1.5	1.9	1.45	7.5					60	6	A
CC 175	HPSLN-202002C	■	2	0.2	2	2.5	1.95	10					60	6	A
CC 176	HPSLN-202005C	■	2	0.5	2	2.5	1.95	10					60	6	A
CC 177	HPSLN-202502C	■	2	0.2	2.5	3	2.4	12.5					60	6	A
CC 178	HPSLN-202505C	■	2	0.5	2.5	3	2.4	12.5					60	6	A
CC 179	HPSLN-203002C	■	2	0.2	3	4	2.9	15					80	6	A
CC 180	HPSLN-203005C	■	2	0.5	3	4	2.9	15					80	6	A

■ = Stock | Germany



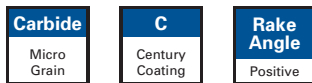
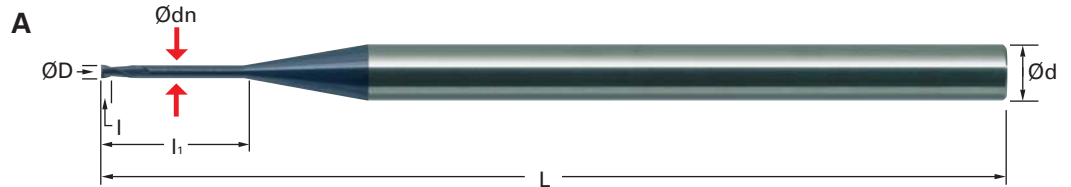
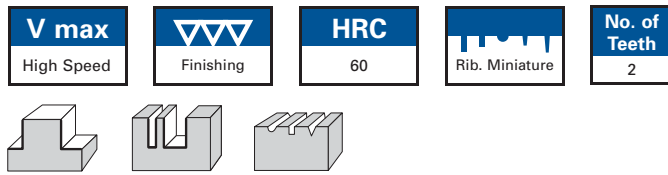


Square Type



Square Type

DES | Deep Epoch Square



D	0/-0.02
d	h6

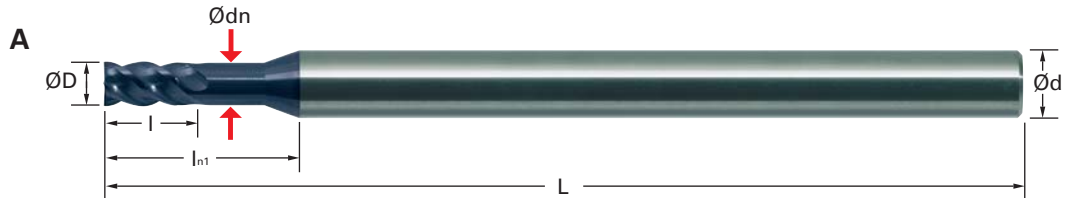
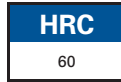
ID Code	Item No.	Stock	Z	R	ØD	θ°	l	dn	l ₁	l _{n1}	l _{n2}	l _s	L	d	Type
CC 068	DES-2005-10C	■	2	R	0.5	0.8	0.48	5					55	4	A
CC 069	DES-2006-7C	■	2		0.6	1	0.58	4.2					55	4	A
CC 070	DES-2006-10C	■	2		0.6	1	0.58	6					55	4	A
CC 071	DES-2007-10C	■	2		0.7	1.1	0.67	7					55	4	A
CC 072	DES-2008-5C	■	2		0.8	1.3	0.77	4					55	4	A
CC 073	DES-2008-10C	■	2		0.8	1.3	0.77	8					65	4	A
CC 074	DES-2010-5C	■	2		1	1.6	0.95	5					55	4	A
CC 075	DES-2010-8.5C	■	2		1	1.6	0.95	8.5					65	4	A
CC 076	DES-2010-10C	■	2		1	1.6	0.95	10					65	4	A
CC 077	DES-2012-10C	■	2		1.2	1.9	1.15	12					65	4	A
CC 078	DES-2015-5C	■	2		1.5	2.4	1.44	7.5					55	4	A
CC 079	DES-2015-10C	■	2		1.5	2.4	1.44	15					65	4	A
CC 080	DES-2020-5C	■	2		2	3.2	1.92	10					55	4	A
CC 081	DES-2020-7C	■	2		2	3.2	1.92	14					55	4	A
CC 082	DES-2020-10C	■	2		2	3.2	1.92	20					65	4	A
CC 083	DES-2025-8.5C	■	2		2.5	4	2.4	21.3					55	4	A
CC 084	DES-2030-5C	■	2		3	4.8	2.88	15					80	6	A
CC 085	DES-2030-8.5C	■	2		3	4.8	2.88	25.5					80	6	A

■ = Stock | Germany



Square Type

EPPLS | Epoch Power Mill Long Shank



DØ3.0	-0.014/-0.028
DØ4.0~Ø5.0	-0.020/-0.038
d	h6

ID Code	Item No.	Stock	Z	R	ØD	θ°	I	dn	I ₁	I _{n1}	I _{n2}	I _s	L	d	Type
EP 156	EPPLS-4030	■	4		3		4.5	2.9		10.5			80	6	A
EP 157	EPPLS-4040	■	4		4		6	3.8		14			80	6	A
EP 158	EPPLS-4050	■	4		5		7.5	4.8		17.5			100	6	A

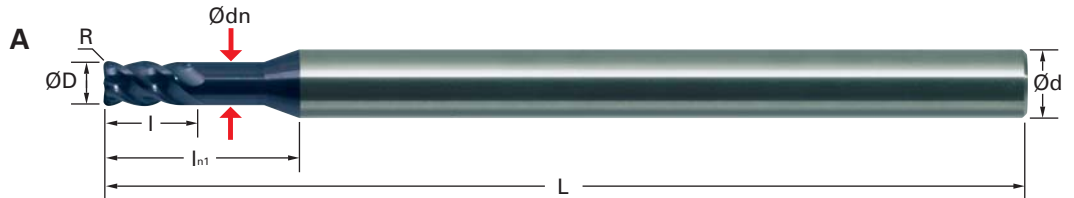
■ = Stock | Germany



Square Type

EPPLS-00 | Epoch Power Mill Long Shank Corner Radius

		HRC	No. of Teeth
Semi-Finishing	Finishing	60	4



Carbide	C	Rake Angle
Micro Grain	Century Coating	Positive



R	± 0.015
DØ3.0	-0.014/-0.028
DØ4.0~Ø5.0	-0.020/-0.038
d	h6

ID Code	Item No.	Stock	Z	R	ØD	θ°	I	dn	I ₁	I _{n1}	I _{n2}	I _s	L	d	Type
EP 164	EPPLS-4030-02	■	4	0.2	3		4.5	2.9		10.5			80	6	A
EP 165	EPPLS-4030-05	■	4	0.5	3		4.5	2.9		10.5			80	6	A
EP 166	EPPLS-4040-02	■	4	0.2	4		6	3.8		14			80	6	A
EP 167	EPPLS-4040-05	■	4	0.5	4		6	3.8		14			80	6	A
EP 168	EPPLS-4050-02	■	4	0.2	5		7.5	4.8		17.5			100	6	A
EP 169	EPPLS-4050-05	■	4	0.5	5		7.5	4.8		17.5			100	6	A

■ = Stock | Germany



Product Range

Solid Carbide End Mills

Epoch21

MINIATURE

3D-Cut

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**Indexable
Milling**

ESM Speed End Mills
EMC Power Drills

ESM
SPEED

Milling Chucks

**Milling
Chucks**

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