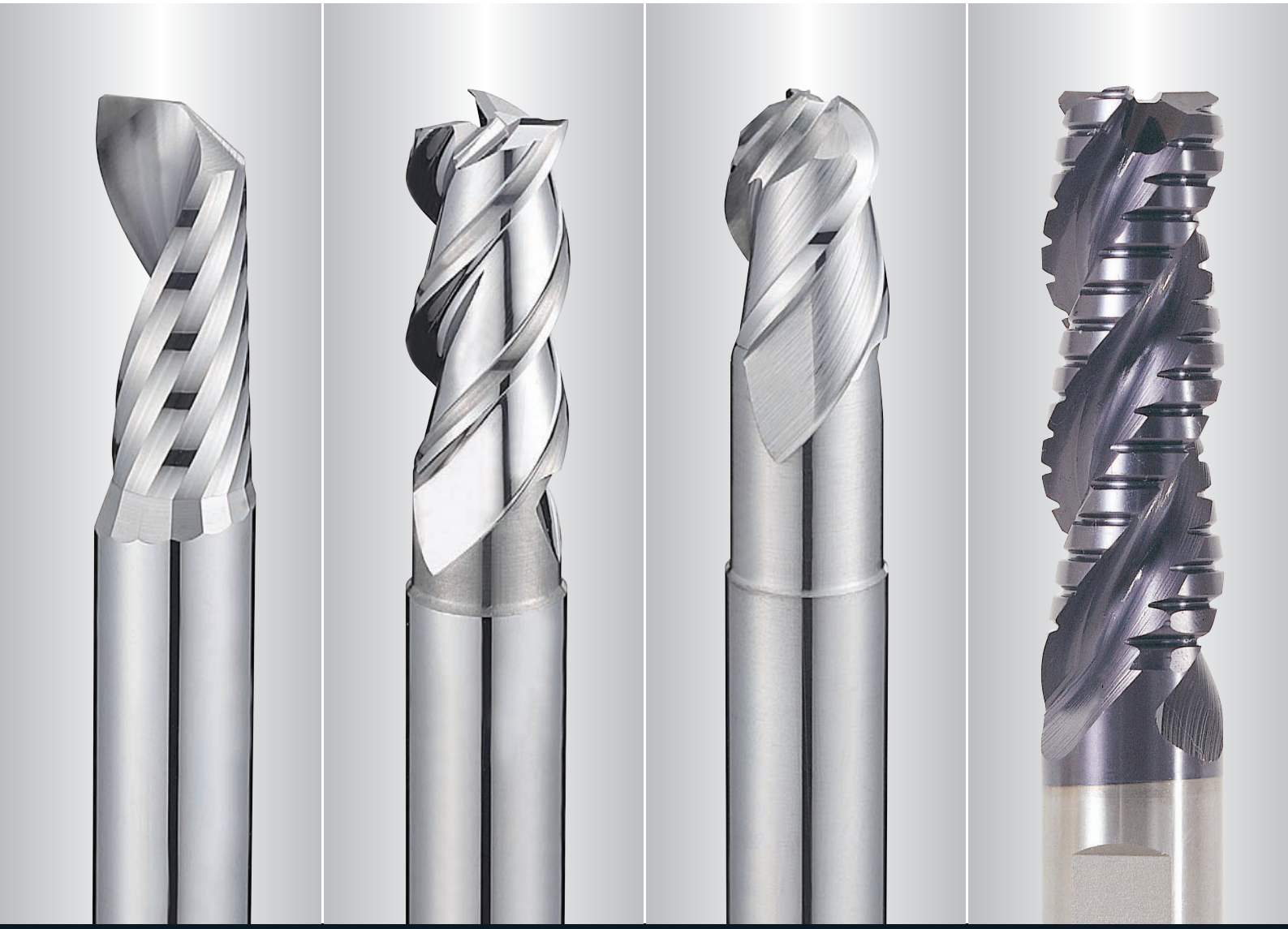
CARBIDE

YG

Being the best through innovation



ALU-POWER

ALU-POWER FRÄSER

- Aluminium Alloys and Silent Cutting
- Für Aluminiumlegierungen in schwerem und ruhigem Schnitt

SELECTION GUIDE

ITEM	MODEL	DESCRIPTION	SIZE		PAGE
			MIN	MAX	
E5E47		CARBIDE, 1 FLUTE VOLLHARTMETALL, 1 SCHNEIDEN	D2.0	D12.0	962
E5930		CARBIDE, 2 FLUTE 25° HELIX CORNER RADIUS with NECK VOLLHARTMETALL, 2 SCHNEIDEN 25° RECHTSSPIRALE ECKENRADIUS mit ABGESETZTEM SCHAFTTETL	D2.0	D20.0	963
E5E48		CARBIDE, 2 FLUTE 45° HELIX SHORT LENGTH VOLLHARTMETALL, 2 SCHNEIDEN 45° RECHTSSPIRALE KURZ	D3.0	D20.0	964
E5522 E5521		CARBIDE, 2 FLUTE 45° HELIX LONG LENGTH VOLLHARTMETALL, 2 SCHNEIDEN 45° RECHTSSPIRALE LANG	D3.0	D20.0	965
E5909		CARBIDE, 2 FLUTE CORNER RADIUS with NECK VOLLHARTMETALL, 2 SCHNEIDEN ECKENRADIUS mit ABGESETZTEM SCHAFTTETL	D4.0	D20.0	966
E5E50		CARBIDE, 3 FLUTE 45° HELIX with NECK VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE mit ABGESETZTEM SCHAFTTETL	D3.0	D20.0	967
E5E49		CARBIDE, 3 FLUTE 45° HELIX LONG LENGTH VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE LANG	D3.0	D20.0	968
E5E51		CARBIDE, 3 FLUTE 45° HELIX LONG LENGTH CORNER RADIUS VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE LANG ECKENRADIUS	D3.0	D20.0	969
E5910		CARBIDE, 2 FLUTE 50° HELIX BALL NOSE with NECK VOLLHARTMETALL, 2 SCHNEIDEN 50° RECHTSSPIRALE STIRNRADIUS mit ABGESETZTEM SCHAFTTETL	R3.0	R10.0	970
E5908		CARBIDE, 3 FLUTE 40° HELIX BALL NOSE with NECK VOLLHARTMETALL, 3 SCHNEIDEN 40° RECHTSSPIRALE STIRNRADIUS mit ABGESETZTEM SCHAFTTETL	R1.0	R8.0	971
E5742 E5711		CARBIDE, 3 FLUTE LONG LENGTH ROUGHING VOLLHARTMETALL, 3 SCHNEIDEN LANG SCHRUPPFRÄSER	D6.0	D25.0	972
E5E39 E5E40		CARBIDE, 3 FLUTE ROUGHING with NECK VOLLHARTMETALL, 3 SCHNEIDEN SCHRUPPFRÄSER mit ABGESETZTEM SCHAFTTETL	D6.0	D20.0	973
EP922 EP923		YPM, 3 FLUTE 42° HELIX SHORT LENGTH ROUGHING TiAlN COATED PREMIUM HSS-PM, 3 SCHNEIDEN 42° RECHTSSPIRALE KURZ SCHRUPPFRÄSER TiAlN-BESCHICHTET	D12.0	D32.0	974
EP924 EP925		YPM, 3 FLUTE 42° HELIX LONG LENGTH ROUGHING TiAlN COATED PREMIUM HSS-PM, 3 SCHNEIDEN 42° RECHTSSPIRALE LANG SCHRUPPFRÄSER TiAlN-BESCHICHTET	D12.0	D32.0	975
		RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDKONDITIONEN			976

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
									◎				◎	
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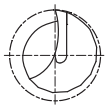
								○	◎					
								○	◎					

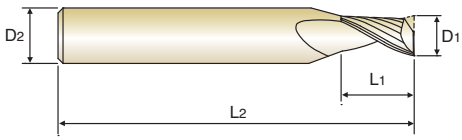
ALU-POWER END MILLS

E5E47 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 1 FLUTE
VOLLHARTMETALL, 1 SCHNEIDEN

- Designed to non-ferrous material and non-metal like aluminum and acrylic
- 1 Flute allows for excellent workpiece finishes and chip evacuation
- Entwickelt für NE-Metalle und nichtmetallische Werkstoffe wie Aluminium und Acryl
- 1 Spannute ermöglicht hervorragende Werkstückoberflächen und Spanabfuhr





MG HM | 1 | 30° | PLAIN P.976

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Overall Length L2
E5E47020	2.0	3	8	50
E5E47030	3.0	3	12	50
E5E47040	4.0	4	15	60
E5E47050	5.0	5	17	60
E5E47060	6.0	6	20	65
E5E47080	8.0	8	22	65
E5E47100	10.0	10	25	75
E5E47120	12.0	12	30	80

- TiN, TiCN-COATING & TiAlN-COATING are available on your request.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
									◎				◎	

ALU-POWER END MILLS

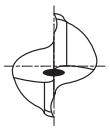
E5930 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

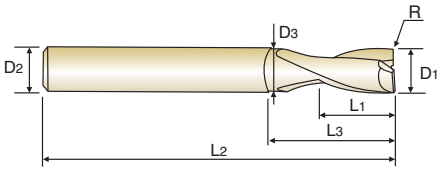
CARBIDE, 2 FLUTE 25° HELIX CORNER RADIUS with NECK

VOLLHARTMETALL, 2 SCHNEIDEN 25° RECHTSSPIRALE ECKENRADIUS mit ABGESETZTEM SCHAFTTETL

- Designed for the machining aluminum and aluminum alloys, non-ferrous materials
- Mirror surface - Excellent surface finishes
- Increased tool life and higher cutting accuracy
- Maximum-metal removal rate
- Superior chip evacuation
- Corner Radius for avoiding the chipping

- Entwickelt für die Bearbeitung von Aluminium, Aluminiumlegierungen, NE-Metalle
- Spiegel-Oberfläche - Hervorragendes Oberflächenfinishing.
- Verbesserte Standzeiten und höhere Fräsgenauigkeit.
- Maximale Zerspanungsleistung.
- Überlegene Spanabfuhr
- Eckradien verhindern Schneidkantenausbrüche





MG HM | 2 | 25° | PLAIN

P.976

Unit : mm

EDP No.	Corner Radius R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
E5930020	R0.2	2.0	3	3	6	40	1.9
E5930030	R0.2	3.0	3	4	8	40	2.9
E5930040	R0.2	4.0	4	5	12	50	3.8
E5930050	R0.2	5.0	5	8	14	50	4.8
E5930060	R0.2	6.0	6	8	18	65	5.7
E5930080	R0.2	8.0	8	10	22	70	7.7
E5930100	R0.2	10.0	10	14	28	80	9.7
E5930120	R0.2	12.0	12	16	35	90	11.5
E5930160	R0.2	16.0	16	20	40	90	15.5
E5930200	R0.2	20.0	20	25	50	100	19.5

- TiN, TiCN-COATING & TiAlN-COATING are available on your request.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
									◎					

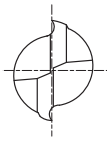
ALU-POWER END MILLS

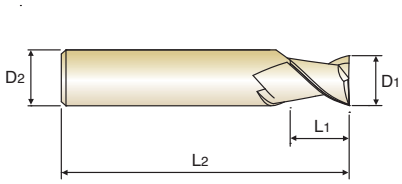
E5E48 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE 45° HELIX SHORT LENGTH
VOLLHARTMETALL, 2 SCHNEIDEN 45° RECHTSSPIRALE KURZ

- Suitable for high speed machining in aluminum and other non-ferrous materials
- Mirror surface - Excellent surface finishes
- Superior chip evacuation
- Reduces chipping of corner edges

- Zur HSC- Bearbeitung von Aluminium und anderen Nichteisenmetallen.
- Spiegel-Oberfläche - Hervorragendes Oberflächenfinishing.
- Überlegene Spanabfuhr
- Reduzierung von Schneideckenausbrüchen.





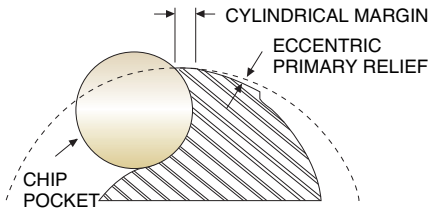
MG HM | 2 | 45° | PLAIN P.978

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Overall Length L2
E5E48030	3.0	6	5	50
E5E48040	4.0	6	8	54
E5E48050	5.0	6	9	54
E5E48060	6.0	6	10	54
E5E48080	8.0	8	12	58
E5E48100	10.0	10	14	66
E5E48120	12.0	12	16	73
E5E48140	14.0	14	18	75
E5E48160	16.0	16	22	82
E5E48180	18.0	18	24	84
E5E48200	20.0	20	26	92

- TiN, TiCN-COATING & TiAlN-COATING are available on your request.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.015	h6



◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
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ALU-POWER END MILLS

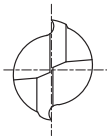
E5522 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

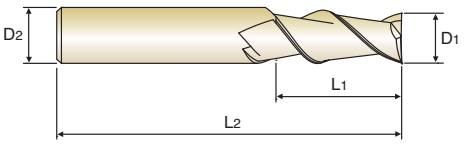
E5521 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 2 FLUTE 45° HELIX LONG LENGTH
VOLLHARTMETALL, 2 SCHNEIDEN 45° RECHTSSPIRALE LANG

- Suitable for high speed machining in aluminum and other non-ferrous materials
- Mirror surface - Excellent surface finishes
- Superior chip evacuation
- Reduces chipping of corner edges

- Zur HSC- Bearbeitung von Aluminium und anderen Nichteisenmetallen.
- Spiegel-Oberfläche - Hervorragendes Oberflächenfinishing.
- Überlegene Spanabfuhr
- Reduzierung von Schneideckenausbrüchen.





MG HM | 2 | 45° | PLAIN | FLAT

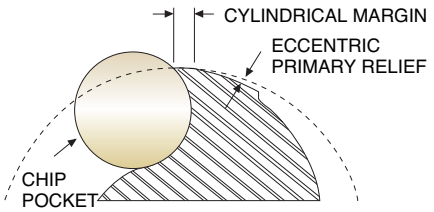
P.978

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	D_1	D_2	L_1	L_2
E5522030	E5521030	3.0	6	8	57
E5522040	E5521040	4.0	6	11	57
E5522050	E5521050	5.0	6	13	57
E5522060	E5521060	6.0	6	13	57
E5522080	E5521080	8.0	8	19	63
E5522100	E5521100	10.0	10	22	72
E5522120	E5521120	12.0	12	26	83
E5522140	E5521140	14.0	14	26	83
E5522160	E5521160	16.0	16	32	92
E5522180	E5521180	18.0	18	32	92
E5522200	E5521200	20.0	20	38	104

- TiN, TiCN-COATING & TiAlN-COATING are available on your request.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.015	h6



◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
									◎					

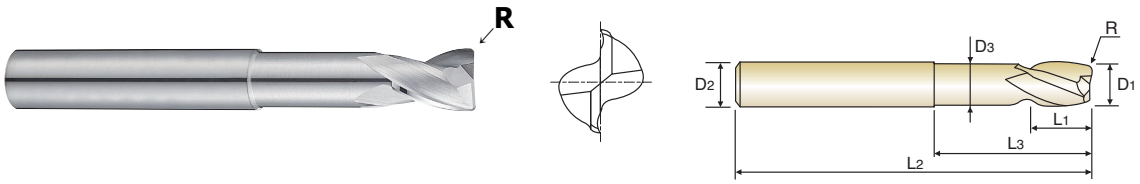
ALU-POWER END MILLS

E5909 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE CORNER RADIUS with NECK
VOLLHARTMETALL, 2 SCHNEIDEN ECKENRADIUS mit ABGESETZTEM SCHAFTTETL

- Excellent cutting qualities on aluminum, copper
- Increased tool life and higher cutting accuracy
- Mirror surface - Excellent surface finishes

- Ausgezeichnete Schneideigenschaften in Aluminium, Kupfer
- Verbesserte Standzeiten und höhere Fräsgenauigkeit.
- Spiegel-Oberfläche - Hervorragendes Oberflächenfinishing.



MG HM | 2 | 30° | PLAIN

P.977

Unit : mm

EDP No.	Corner Radius R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
E5909040	R0.3	4.0	6	5	10	50	3.6
E5909060	R0.5	6.0	6	8	20	60	5.4
E5909080	R0.6	8.0	8	10	30	70	7.2
E5909100	R0.8	10.0	10	12	36	80	9
E5909120	R1.0	12.0	12	14	40	90	11
E5909160	R1.3	16.0	16	18	45	100	14.5
E5909200	R1.6	20.0	20	24	45	100	18

- TiN, TiCN-COATING & TiAlN-COATING are available on your request.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
						○			◎					

ALU-POWER END MILLS

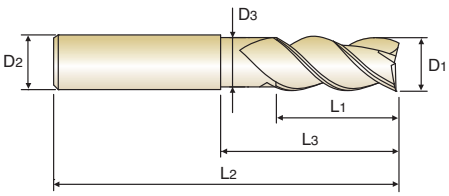
E5E50 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 3 FLUTE 45° HELIX with NECK

VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE mit ABGESETZTEM SCHAFTTETL

- ▶ Excellent cutting qualities on aluminum, copper
- ▶ Increased tool life and higher cutting accuracy
- ▶ Mirror surface - Excellent surface finishes
- ▶ Superior chip evacuation
- ▶ Reduces chipping of corner edges

- ▶ Ausgezeichnete Schneideigenschaften in Aluminium, Kupfer
- ▶ Verbesserte Standzeiten und höhere Fräsgenauigkeit.
- ▶ Spiegel-Oberfläche - Hervorragendes Oberflächenfinishing.
- ▶ Überlegene Spanabfuhr
- ▶ Reduzierung von Schneideckenausbrüchen.



MG HM | 3 | 45° | PLAIN

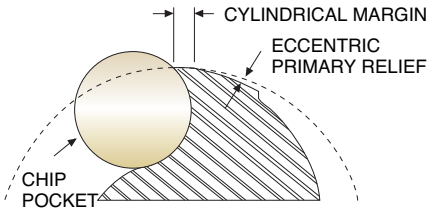
P.978

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
E5E50030	3.0	6	8	12	57	2.7
E5E50040	4.0	6	11	18	57	3.7
E5E50050	5.0	6	13	18	57	4.7
E5E50060	6.0	6	13	18	57	5.7
E5E50080	8.0	8	21	25	63	7.4
E5E50100	10.0	10	22	30	72	9.2
E5E50120	12.0	12	26	36	83	11
E5E50160	16.0	16	36	42	92	15
E5E50200	20.0	20	41	52	104	19

▶ TiN, TiCN-COATING & TiAlN-COATING are available on your request.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.015	h6



◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
									◎					

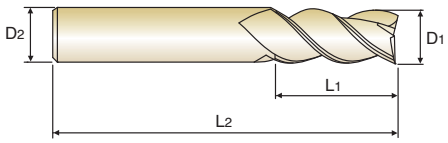
ALU-POWER END MILLS

E5E49 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 3 FLUTE 45° HELIX LONG LENGTH
VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE LANG

- Excellent cutting qualities on aluminum, copper
- Increased tool life and higher cutting accuracy
- Mirror surface - Excellent surface finishes
- Superior chip evacuation
- Reduces chipping of corner edges

- Ausgezeichnete Schneideigenschaften in Aluminium, Kupfer
- Verbesserte Standzeiten und höhere Fräsgenauigkeit.
- Spiegel-Oberfläche - Hervorragendes Oberflächenfinishing.
- Überlegene Spanabfuhr
- Reduzierung von Schneideckenausbrüchen.



MG HM | 3 | 45° | PLAIN

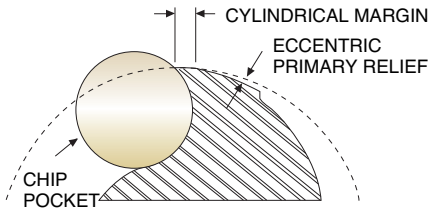
P.978

Unit : mm

EDP No.	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Overall Length L2
E5E49030	3.0	6	12	57
E5E49040	4.0	6	15	57
E5E49050	5.0	6	20	57
E5E49060	6.0	6	20	65
E5E49080	8.0	8	22	65
E5E49100	10.0	10	25	70
E5E49120	12.0	12	25	75
E5E49160	16.0	16	35	90
E5E49200	20.0	20	40	100

- TiN, TiCN-COATING & TiAlN-COATING are available on your request.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.015	h6



◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
									◎					

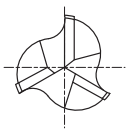
ALU-POWER END MILLS

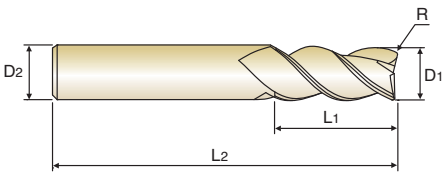
E5E51 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

CARBIDE, 3 FLUTE 45° HELIX LONG LENGTH CORNER RADIUS
VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE LANG ECKENRADIUS

- Excellent cutting qualities on aluminum, copper
- Increased tool life and higher cutting accuracy
- Mirror surface - Excellent surface finishes
- Superior chip evacuation

- Ausgezeichnete Schneideigenschaften in Aluminium, Kupfer
- Verbesserte Standzeiten und höhere Fräsgenauigkeit.
- Spiegel-Oberfläche - Hervorragendes Oberflächenfinishing.
- Überlegene Spanabfuhr





MG HM | 3 | 45° | PLAIN

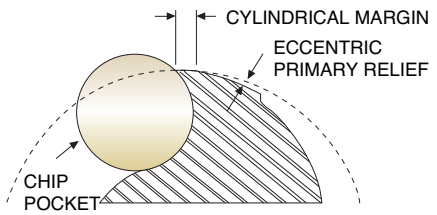
P.979

Unit : mm

EDP No.	Corner Radius R	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Overall Length L2
E5E51030	R0.5	3.0	6	12	57
E5E51901	R1.0	3.0	6	12	57
E5E51040	R0.5	4.0	6	15	57
E5E51902	R1.0	4.0	6	15	57
E5E51050	R0.5	5.0	6	20	57
E5E51903	R1.0	5.0	6	20	57
E5E51060	R0.5	6.0	6	20	65
E5E51904	R1.0	6.0	6	20	65
E5E51080	R0.5	8.0	8	22	65
E5E51905	R1.0	8.0	8	22	65
E5E51100	R0.5	10.0	10	25	70
E5E51906	R1.0	10.0	10	25	70
E5E51907	R2.0	10.0	10	25	70
E5E51120	R0.5	12.0	12	25	75
E5E51908	R1.0	12.0	12	25	75
E5E51909	R2.0	12.0	12	25	75
E5E51160	R0.5	16.0	16	35	90
E5E51910	R1.0	16.0	16	35	90
E5E51911	R2.0	16.0	16	35	90
E5E51200	R0.5	20.0	20	40	100
E5E51912	R1.0	20.0	20	40	100
E5E51913	R2.0	20.0	20	40	100

- TiN, TiCN-COATING & TiAlN-COATING are available on your request.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.015	h6



◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
									◎					

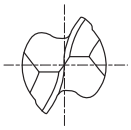
ALU-POWER END MILLS

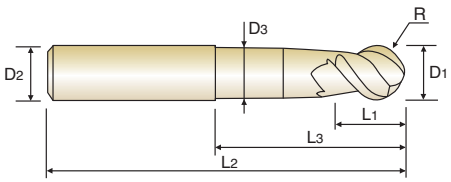
E5910 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE 50° HELIX BALL NOSE with NECK

VOLLHARTMETALL, 2 SCHNEIDEN 50° RECHTSSPIRALE STIRNRADIUS mit ABGESETZTEM SCHAFTTETL

- Excellent cutting qualities on aluminum, copper
- Increased tool life and higher cutting accuracy
- Ausgezeichnete Schneideigenschaften in Aluminium, Kupfer
- Verbesserte Standzeiten und höhere Fräsgenauigkeit.





MG HM | 2 | 50° | R ±0.01 | PLAIN

P.980

Unit : mm

EDP No.	Radius of Ball Nose R (±0.01)	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
E5910060	R3.0	6.0	6	5.5	25	55	5.4
E5910080	R4.0	8.0	8	7	30	65	7.2
E5910100	R5.0	10.0	10	8.5	35	75	9
E5910120	R6.0	12.0	12	10.5	40	75	11
E5910160	R8.0	16.0	16	14	50	90	14.5
E5910200	R10.0	20.0	20	17	50	100	18

- TiN, TiCN-COATING & TiAlN-COATING are available on your request.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
±0.02	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
						○			◎					

ALU-POWER END MILLS

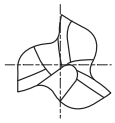
E5908 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

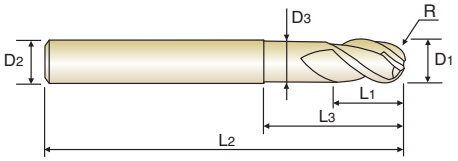
CARBIDE, 3 FLUTE 40° HELIX BALL NOSE with NECK

VOLLHARTMETALL, 3 SCHNEIDEN 40° RECHTSSPIRALE STIRNRADIUS mit ABGESETZTEM SCHAFTTETL

- Excellent cutting qualities on aluminum, copper
- Increased tool life and higher cutting accuracy
- Mirror surface - Excellent surface finishes

- Ausgezeichnete Schneideigenschaften in Aluminium, Kupfer
- Verbesserte Standzeiten und höhere Fräsgenauigkeit.
- Spiegel-Oberfläche - Hervorragendes Oberflächenfinishing.





MG HM | 3 | 40° | R ±0.01 | PLAIN

P.980

Unit : mm

EDP No.	Radius of Ball Nose R (±0.01)	Mill Diameter D1	Shank Diameter D2	Length of Cut L1	Length Below Shank L3	Overall Length L2	Neck Diameter D3
E5908020	R1.0	**2.0**	6	3	5	60	1.9
E5908025	R1.25	**2.5**	6	4	6	60	2.4
E5908030	R1.5	**3.0**	6	4.5	6.5	60	2.8
E5908035	R1.75	**3.5**	6	5	7	65	3.2
E5908040	R2.0	**4.0**	6	6	8	65	3.7
E5908050	R2.5	**5.0**	6	7.5	10	65	4.6
E5908060	R3.0	**6.0**	6	9	12	75	5.6
E5908080	R4.0	**8.0**	8	12	25	75	7.4
E5908100	R5.0	**10.0**	10	15	30	80	9.4
E5908120	R6.0	**12.0**	12	18	36	90	11.4
E5908160	R8.0	**16.0**	16	24	40	100	15.4

- TiN, TiCN-COATING & TiAlN-COATING are available on your request.

Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
0~−0.03	h6

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
						○			◎					

ALU-POWER END MILLS

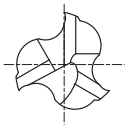
E5742 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

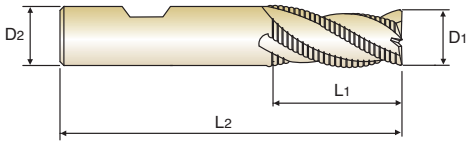
E5711 SERIES FLAT SHANK / SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 3 FLUTE LONG LENGTH ROUGHING
VOLLHARTMETALL, 3 SCHNEIDEN LANG SCHRUPPFRÄSER

- Excellent cutting qualities on aluminum, copper
- Increased tool life and superior chip evacuation
- Reduces chipping of corner edges

- Ausgezeichnete Schneideigenschaften in Aluminium, Kupfer
- Verbesserte Standzeiten und höhere Fräsgenauigkeit.
- Reduzierung von Schneideckenausbrüchen.





MG HM | YG STD | WR | ALU | 3 | 30° | DIN 6535HA | DIN 6535HB

P.979

Unit : mm

EDP No. PLAIN	EDP No. FLAT	Mill Diameter D1(h10)	Shank Diameter D2(h6)	Length of Cut L1	Overall Length L2
E5742060	E5711060	6.0	6	16	57
E5742070	E5711070	7.0	8	16	63
E5742080	E5711080	8.0	8	16	63
E5742090	E5711090	9.0	10	19	72
E5742100	E5711100	10.0	10	22	72
E5742120	E5711120	12.0	12	26	83
E5742140	E5711140	14.0	14	26	83
E5742160	E5711160	16.0	16	32	92
E5742180	E5711180	18.0	18	32	92
E5742200	E5711200	20.0	20	38	104
E5742250	E5711250	25.0	25	45	121

- TiN, TiCN-COATING & TiAlN-COATING are available on your request.

Tolerances according to DIN 7160 & 7161
Toleranzen nach DIN 7160 & 7161

Tolerance range in μm / Toleranzwerte in μm Nominal-Diameter in mm / Nennmaßbereich in mm	from 1 to 3 von 1 bis 3	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30
h10	0 / — 40	0 / — 48	0 / — 58	0 / — 70	0 / — 84
h6	0 / — 6	0 / — 8	0 / — 9	0 / — 11	0 / — 13

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
○	○							○	◎					

ALU-POWER END MILLS

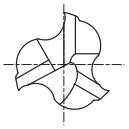
E5E39 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

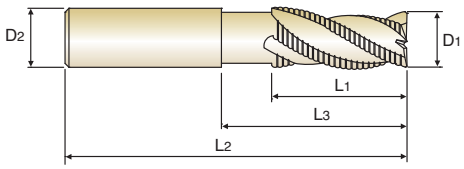
E5E40 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 3 FLUTE ROUGHING with NECK
VOLLHARTMETALL, 3 SCHNEIDEN SCHRUPPFRÄSER mit ABGESETZTEM SCHAFTTETL

- Excellent cutting qualities on aluminum, copper
- Increased tool life and superior chip evacuation
- Reduces chipping of corner edges

- Ausgezeichnete Schneideigenschaften in Aluminium, Kupfer
- Verbesserte Standzeiten und höhere Fräsgenauigkeit.
- Reduzierung von Schneideckenausbrüchen.





MG HM | YG STD | WR | ALU | 3 | 30° | DIN 6535HA | DIN 6535HB

P.979

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Length Below Shank	Overall Length	Neck Diameter
PLAIN	FLAT	D_1	D_2	L_1	L_3	L_2	D_3
E5E39060	**E5E40060**	**6.0**	6	16	20	57	5
E5E39080	**E5E40080**	**8.0**	8	16	25	63	7
E5E39100	**E5E40100**	**10.0**	10	22	30	72	9
E5E39120	**E5E40120**	**12.0**	12	26	36	83	10.5
E5E39160	**E5E40160**	**16.0**	16	32	42	92	14.5
E5E39200	**E5E40200**	**20.0**	20	38	52	104	18.5

- TiN, TiCN-COATING & TiAlN-COATING are available on your request.

Tolerances according to DIN 7160 & 7161
Toleranzen nach DIN 7160 & 7161

Tolerance range in μm / Toleranzwerte in μm					
Nominal-Diameter in mm / Nennmaßbereich in mm					
	from 1 to 3 von 1 bis 3	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30
h10	0 — 40	0 — 48	0 — 58	0 — 70	0 — 84
h6	0 — 6	0 — 8	0 — 9	0 — 11	0 — 13

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
○	○							○	◎					

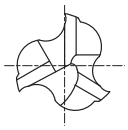
ALU-POWER END MILLS

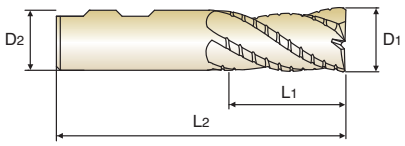
EP922 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT
EP923 SERIES FLAT SHANK / SEITLICHE MITNAHMEFLÄCHEN

YPM, 3 FLUTE 42° HELIX SHORT LENGTH ROUGHING TiAlN COATED
PREMIUM HSS-PM, 3 SCHNEIDEN 42° RECHTSSPIRALE KURZ SCHRUPPFRÄSER TiAlN-BESCHICHTET

- Maximum metal removal rate at High Speed Condition
- Reduces vibrations and improves surface roughness
- Reduces chipping of corner edges

- Maximale Zerspanungsleistung bei der High-Speed-Bearbeitung (HSC)
- Reduziert Vibrationen und verbessert die Oberflächenrauhigkeit
- Reduzierung von Schneideckenausbrüchen.





YPM | ALU | 3 | 42° | PLAIN | FLAT

P.981

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	D1(js12)	D2(h6)	L1	L2
EP922120	EP923120	12.0	12	26	83
EP922140	EP923140	14.0	12	26	83
EP922160	EP923160	16.0	16	32	92
EP922180	EP923180	18.0	16	32	92
EP922200	EP923200	20.0	20	38	104
EP922220	EP923220	22.0	20	38	104
EP922250	EP923250	25.0	25	45	121
EP922280	EP923280	28.0	25	45	121
EP922320	EP923320	32.0	32	53	133

Tolerances according to DIN 7160 & 7161
Toleranzen nach DIN 7160 & 7161

Tolerance range in ㎛ / Toleranzwerte in ㎛
Nominal-Diameter in ㎜ / Nennmaßbereich in ㎜

	from 1 to 3 von 1 bis 3	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30	over 30 to 50 über 30 bis 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 — 6	0 — 8	0 — 9	0 — 11	0 — 13	0 — 16

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
								○	◎					

ALU-POWER END MILLS

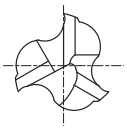
EP924 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

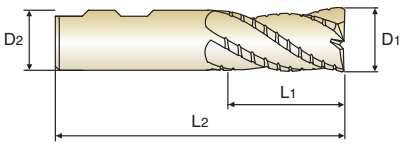
EP925 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

YPM, 3 FLUTE 42° HELIX LONG LENGTH ROUGHING TiAlN COATED
PREMIUM HSS-PM, 3 SCHNEIDEN 42° RECHTSSPIRALE LANG SCHRUPPFRÄSER TiAlN-BESCHICHTET

- Maximum metal removal rate at High Speed Condition
- Reduces vibrations and improves surface roughness
- Reduces chipping of corner edges

- Maximale Zerspanungsleistung bei der High-Speed-Bearbeitung (HSC)
- Reduziert Vibrationen und verbessert die Oberflächenrauhigkeit
- Reduzierung von Schneideckenausbrüchen.





YPM ALU 3 42° PLAIN FLAT P.981

Unit : mm

EDP No.		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	FLAT	D1(js12)	D2(h6)	L1	L2
EP924120	**EP925120**	**12.0**	12	53	110
EP924140	**EP925140**	**14.0**	12	53	110
EP924160	**EP925160**	**16.0**	16	63	123
EP924180	**EP925180**	**18.0**	16	63	123
EP924200	**EP925200**	**20.0**	20	75	141
EP924220	**EP925220**	**22.0**	20	75	141
EP924250	**EP925250**	**25.0**	25	90	166
EP924280	**EP925280**	**28.0**	25	90	166
EP924320	**EP925320**	**32.0**	32	106	186

Tolerances according to DIN 7160 & 7161
Toleranzen nach DIN 7160 & 7161

Tolerance range in μm / Toleranzwerte in μm						
Nominal-Diameter in mm / Nennmaßbereich in mm						
	from 1 to 3 von 1 bis 3	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30	over 30 to 50 über 30 bis 50
js12	± 50	± 60	± 75	± 90	± 105	± 125
h6	0 / − 6	0 / − 8	0 / − 9	0 / − 11	0 / − 13	0 / − 16

◎ : Excellent ○ : Good

Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel	Acrylic	CFRP
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70									
								○	◎					

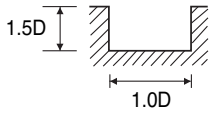
ALU-POWER END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 1 FLUTE
VOLLHARTMETALL, 1 SCHNEIDEN

E5E47 SERIES

MATERIAL	ACRYLIC				ALUMINUM ALUMINUM ALLOY			
DIAMETER	RPM	FEED	Vc	Fz	RPM	FEED	Vc	Fz
2.0	32000	2200	200	0.069	23000	1500	145	0.065
3.0	25000	2400	235	0.096	18000	1700	170	0.094
4.0	20000	2400	250	0.120	15000	1800	190	0.120
5.0	15000	2200	235	0.147	12000	1800	190	0.150
6.0	13500	2300	255	0.170	10000	1800	190	0.180
8.0	10000	2400	250	0.240	7800	1900	195	0.244
10.0	8000	2400	250	0.300	6000	2000	190	0.333
12.0	6700	2300	255	0.343	5000	2200	190	0.440

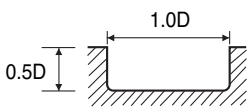


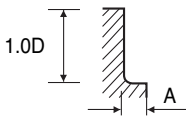
RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t

CARBIDE, 2FLUTE 25° HELIX CORNER RADIUS with NECK
VOLLHARTMETALL, 2 SCHNEIDEN 25° RECHTSSPIRALE ECKENRADIUS mit ABGESETZTEM SCHAFTTETL

E5930 SERIES

MATERIAL	ALUMINUM ALUMINUM ALLOY							
DIAMETER	RPM	FEED	Vc	Fz	RPM	FEED	Vc	Fz
2.0	10400	460	65	0.022	10400	810	65	0.039
3.0	10400	720	100	0.035	10400	960	100	0.046
4.0	10400	960	130	0.046	10400	1120	130	0.054
5.0	10400	1040	165	0.050	10400	1360	165	0.065
6.0	10400	1200	195	0.058	10400	1600	195	0.077
8.0	8000	1440	200	0.090	8000	1840	200	0.115
10.0	8000	1760	250	0.110	8000	2160	250	0.135
12.0	8000	2160	300	0.135	8000	2720	300	0.170
16.0	6400	2000	320	0.156	6400	2480	320	0.194
20.0	4000	1600	250	0.200	4000	2000	250	0.250





A : Ø2 ~ Ø10 = 0.25 × D
Ø12 ~ Ø20 = 0.5 × D

RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t

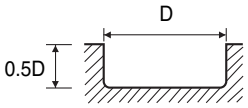
ALU-POWER END MILLS

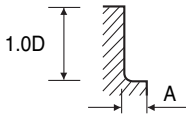
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE CORNER RADIUS with NECK
VOLLHARTMETALL, 2 SCHNEIDEN ECKENRADIUS mit ABGESETZTEM SCHAFTTETL

E5909 SERIES

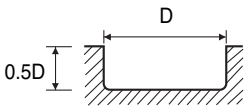
MATERIAL	ALUMINUM ALUMINUM ALLOY							
DIAMETER	RPM	FEED	Vc	Fz	RPM	FEED	Vc	Fz
4.0	10400	960	130	0.046	10400	1120	130	0.054
6.0	10400	1200	195	0.058	10400	1600	195	0.077
8.0	8000	1440	200	0.090	8000	1840	200	0.115
10.0	8000	1760	250	0.110	8000	2160	250	0.135
12.0	8000	2160	300	0.135	8000	2720	300	0.170
16.0	6400	2000	320	0.156	6400	2480	320	0.194
20.0	4000	1600	250	0.200	4000	2000	250	0.250

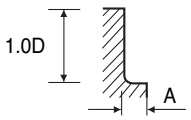




A : ~Ø10=0.25D
Ø12~Ø20=0.5D

MATERIAL	COPPER ALLOY							
DIAMETER	RPM	FEED	Vc	Fz	RPM	FEED	Vc	Fz
4.0	3120	240	40	0.038	3120	280	40	0.045
6.0	3120	305	60	0.049	3120	400	60	0.064
8.0	2400	360	60	0.075	2400	465	60	0.097
10.0	2400	440	75	0.092	2400	545	75	0.114
12.0	2400	545	90	0.114	2400	680	90	0.142
16.0	1920	505	95	0.132	1920	625	95	0.163
20.0	1200	400	75	0.167	1200	505	75	0.210





A : ~Ø10=0.25D
Ø12~Ø20=0.5D

RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t

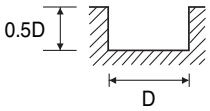
ALU-POWER END MILLS

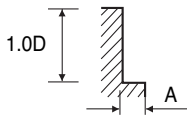
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE 45° HELIX
VOLLHARTMETALL, 2 SCHNEIDEN 45° RECHTSSPIRALE

E5E48, E5522, E5521 SERIES

MATERIAL	ALUMINUM ALUMINUM ALLOY							
DIAMETER	RPM	FEED	Vc	Fz	RPM	FEED	Vc	Fz
3.0	10000	700	95	0.035	10000	900	95	0.045
4.0	10000	900	125	0.045	10000	1100	125	0.055
5.0	10000	1000	155	0.050	10000	1300	155	0.065
6.0	10000	1200	190	0.060	10000	1500	190	0.075
8.0	8000	1400	200	0.088	8000	1800	200	0.113
10.0	8000	1700	250	0.106	8000	2100	250	0.131
12.0	8000	2100	300	0.131	8000	2600	300	0.163
14.0	6000	1800	265	0.150	6000	2200	265	0.183
16.0	6000	1900	300	0.158	6000	2400	300	0.200
18.0	4000	1400	225	0.175	4000	1800	225	0.225
20.0	4000	1600	250	0.200	4000	1900	250	0.238





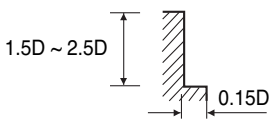
A : Ø3 ~ Ø10 = 0.25 × D
Ø12 ~ Ø20 = 0.5 × D

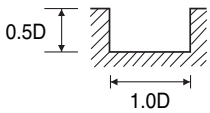
RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t

CARBIDE, 3 FLUTE 45° HELIX
VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE

E5E49, E5E50 SERIES

MATERIAL	ALUMINUM LOW SILICON ALUMINUM							
DIAMETER	RPM	FEED	Vc	Fz	RPM	FEED	Vc	Fz
3.0	7000	940	65	0.045	7000	730	65	0.035
4.0	7000	1150	90	0.055	7000	940	90	0.045
5.0	7000	1360	110	0.065	7000	1050	110	0.050
6.0	7000	1580	130	0.075	7000	1250	130	0.060
8.0	5600	1900	140	0.113	5600	1470	140	0.088
9.0	5600	2050	160	0.122	5600	1630	160	0.097
10.0	5600	2200	175	0.131	5600	1780	175	0.106
12.0	5600	2740	210	0.163	5600	2200	210	0.131
16.0	4200	2520	210	0.200	4200	1990	210	0.158
20.0	2800	2000	175	0.238	2800	1680	175	0.200





RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t

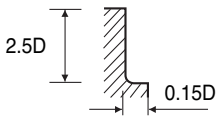
ALU-POWER END MILLS

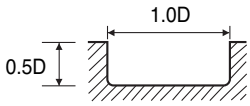
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 3 FLUTE 45° HELIX CORNER RADIUS
VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE ECKENRADIUS

E5E51 SERIES

MATERIAL	ALUMINUM LOW SILICON ALUMINUM							
DIAMETER	RPM	FEED	Vc	Fz	RPM	FEED	Vc	Fz
3.0	10000	1490	95	0.050	10000	1160	95	0.039
4.0	10000	1820	125	0.061	10000	1490	125	0.050
5.0	10000	2150	155	0.072	10000	1650	155	0.055
6.0	10000	2480	190	0.083	10000	1980	190	0.066
8.0	8000	3000	200	0.125	8000	2310	200	0.096
10.0	8000	3470	250	0.145	8000	2810	250	0.117
12.0	8000	4290	300	0.179	8000	3470	300	0.145
16.0	6000	3960	300	0.220	6000	3140	300	0.174
20.0	4000	3140	250	0.262	4000	2640	250	0.220



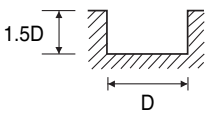


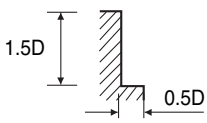
RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t

CARBIDE, 3 FLUTE ROUGHING
VOLLHARTMETALL, 3 SCHNEIDEN SCHRUPPFRÄSER

E5E39, E5E40, E5742, E5711 SERIES

MATERIAL	ALUMINUM							
DIAMETER	RPM	FEED	Vc	Fz	RPM	FEED	Vc	Fz
6.0	13500	6800	200	0.168	10500	5300	198	0.168
8.0	10500	5300	200	0.168	8000	4000	201	0.167
10.0	8500	4300	205	0.169	6500	3500	204	0.179
12.0	8500	4200	320	0.165	6400	3200	241	0.167
16.0	6400	3200	322	0.167	4800	2400	241	0.167
20.0	5100	2500	320	0.163	3850	1900	242	0.165





RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t

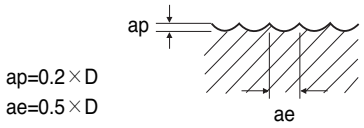
ALU-POWER END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE 50° HELIX BALL NOSE
VOLLHARTMETALL, 2 SCHNEIDEN 50° RECHTSSPIRALE STIRNRADIUS

E5910 SERIES

MATERIAL	ALUMINUM ALUMINUM ALLOY				COPPER ALLOY			
DIAMETER	RPM	FEED	Vc	Fz	RPM	FEED	Vc	Fz
R3.0 × 6.0	14400	1400	270	0.049	4400	350	85	0.040
R4.0 × 8.0	11200	1600	280	0.071	3360	400	85	0.060
R5.0 × 10.0	11200	1880	350	0.084	3360	465	105	0.069
R6.0 × 12.0	11200	2400	420	0.107	3360	600	125	0.089
R8.0 × 16.0	8800	2160	440	0.123	2640	535	135	0.101
R10.0 × 20.0	5600	1760	350	0.157	1680	440	105	0.131



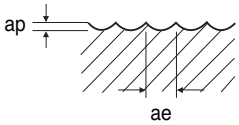
ap=0.2×D
ae=0.5×D

RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t

CARBIDE, 3 FLUTE 40° HELIX BALL NOSE
VOLLHARTMETALL, 3 SCHNEIDEN 40° RECHTSSPIRALE STIRNRADIUS

E5908 SERIES

MATERIAL	ALUMINUM ALUMINUM ALLOY				COPPER ALLOY			
DIAMETER	RPM	FEED	Vc	Fz	RPM	FEED	Vc	Fz
R1.0 × 2.0	21600	760	135	0.018	6400	190	40	0.015
R1.25 × 2.5	17600	760	140	0.022	5200	190	40	0.018
R1.5 × 3.0	14400	760	135	0.026	4400	190	40	0.022
R1.75 × 3.5	14400	800	160	0.028	4400	190	50	0.022
R2.0 × 4.0	14400	1000	180	0.035	4400	250	55	0.028
R2.5 × 5.0	14400	1080	225	0.038	4400	270	70	0.031
R3.0 × 6.0	14400	1400	270	0.049	4400	350	85	0.040
R4.0 × 8.0	11200	1600	280	0.071	3360	400	85	0.060
R5.0 × 10.0	11200	1880	350	0.084	3360	465	105	0.069
R6.0 × 12.0	11200	2400	420	0.107	3360	600	125	0.089
R8.0 × 16.0	8800	2160	440	0.123	2640	535	135	0.101



ap=0.2×D
ae=0.5×D

RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t

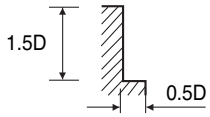
ALU-POWER END MILLS

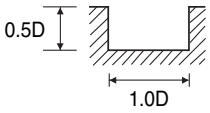
RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

YPM, 3 FLUTE 42° HELIX ROUGHING TiAlN COATED
PREMIUM HSS-PM, 3 SCHNEIDEN 42° RECHTSSPIRALE SCHRUPPFRÄSER TiAlN-BESCHICHTET

EP922, EP923, EP924, EP925 SERIES

MATERIAL	ALUMINUM ALUMINUM ALLOY							
DIAMETER	RPM	FEED	Vc	Fz	RPM	FEED	Vc	Fz
12.0	2800	550	105	0.065	2800	410	105	0.049
14.0	2500	600	110	0.080	2500	450	110	0.060
16.0	2200	625	110	0.095	2200	465	110	0.070
18.0	1950	680	110	0.116	1950	510	110	0.087
20.0	1700	700	105	0.137	1700	525	105	0.103
22.0	1600	685	110	0.143	1600	515	110	0.107
25.0	1400	625	110	0.149	1400	465	110	0.111
28.0	1250	675	110	0.180	1250	505	110	0.135
32.0	1100	700	110	0.212	1100	525	110	0.159





RPM = rev./min.
FEED = mm/min.
Vc = m/min.
fz = mm/t