CARBIDE

Being the best through innovation

CARBIDE

VOLLHARTMETALL FRÄSER

- General Purposes, Non-coated, Any Coating Available
- Unbeschichtet für allgemeinen Einsatz. Jegliche Beschichtung möglich

ITEM	MODEL	DESCRIPTION	SIZE MIN	SIZE MAX	PAGE
E5424 E5416		CARBIDE, 2 FLUTE SHORT LENGTH VOLLHARTMETALL, 2 SCHNEIDEN KURZ	D1.0 D6.0	D20.0	832
E5444		CARBIDE, 2 FLUTE SHORT LENGTH VOLLHARTMETALL, 2 SCHNEIDEN KURZ	D2.0	D20.0	833
E5445		CARBIDE, 2 FLUTE LONG LENGTH VOLLHARTMETALL, 2 SCHNEIDEN LANG	D2.0	D20.0	834
E5527		CARBIDE, 2 FLUTE LONG LENGTH VOLLHARTMETALL, 2 SCHNEIDEN LANG	D3.5	D20.0	835
E5452		CARBIDE, 2 FLUTE EXTRA LONG LENGTH VOLLHARTMETALL, 2 SCHNEIDEN EXTRA LANG	D3.0	D20.0	836
E5553 E5410		CARBIDE, 3 FLUTE SHORT LENGTH THROW AWAY VOLLHARTMETALL, 3 SCHNEIDEN KURZ EINWEG FRÄSER	D0.5	D20.0	837
E5SET410		CARBIDE, THROW AWAY SET (NON-COATED) VOLLHARTMETALL, EINWEG-SCHAFTFRÄSER SET (NICHT-BESCHICHTET)	D2.0	D10.0	838
E5425 E5417		CARBIDE, 3 FLUTE SHORT LENGTH VOLLHARTMETALL, 3 SCHNEIDEN KURZ	D2.0 D6.0	D20.0	839
E5439		CARBIDE, 3 FLUTE SHORT LENGTH VOLLHARTMETALL, 3 SCHNEIDEN KURZ	D2.0	D20.0	840
E5433		CARBIDE, 3 FLUTE LONG LENGTH VOLLHARTMETALL, 3 SCHNEIDEN LANG	D3.0	D20.0	841
E5528		CARBIDE, 3 FLUTE LONG LENGTH VOLLHARTMETALL, 3 SCHNEIDEN LANG	D3.5	D20.0	842
E5882		CARBIDE, 3 FLUTE 35° HELIX CORNER RADIUS VOLLHARTMETALL, 3 SCHNEIDEN 35° RECHTSSPIRALE ECKENRADIUS	D3.0	D20.0	843
E5423 E5415		CARBIDE, 3 FLUTE 45° HELIX SHORT LENGTH VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE KURZ	D3.0	D20.0	844
E5446		CARBIDE, 3 FLUTE 45° HELIX SHORT LENGTH VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE KURZ	D1.5	D20.0	845
E5447		CARBIDE, 3 FLUTE 45° HELIX LONG LENGTH VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE LANG	D3.0	D20.0	846
E5432 E5595		CARBIDE, 4 FLUTE SHORT LENGTH VOLLHARTMETALL, 4 SCHNEIDEN KURZ	D2.0 D6.0	D20.0	847
E5448		CARBIDE, 4 FLUTE SHORT LENGTH VOLLHARTMETALL, 4 SCHNEIDEN KURZ	D2.0	D20.0	848
E5449		CARBIDE, 4 FLUTE LONG LENGTH VOLLHARTMETALL, 4 SCHNEIDEN LANG	D2.0	D20.0	849
E5540		CARBIDE, 4 FLUTE LONG LENGTH VOLLHARTMETALL, 4 SCHNEIDEN LANG	D3.5	D20.0	850

◎ : Excellent, ○ : Good

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

ITEM	MODEL	DESCRIPTION	SIZE		PAGE
			MIN	MAX	
E5453		CARBIDE, 4 FLUTE EXTRA LONG LENGTH VOLLHARTMETALL, 4 SCHNEIDEN EXTRA LANG	D3.0	D20.0	851
E5624 E5650		CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN KURZ STIRNRADIUS	R1.0	R10.0	852
E5437		CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN KURZ STIRNRADIUS	R1.0	R10.0	853
E5438		CARBIDE, 2 FLUTE LONG LENGTH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN LANG STIRNRADIUS	R1.0	R10.0	854
E5454		CARBIDE, 2 FLUTE LONG REACH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN GROßE REICHWEITE STIRNRADIUS	R1.5	R10.0	855
E5455		CARBIDE, 2 FLUTE EXTRA LONG LENGTH BALL NOSE VOLLHARTMETALL, 2 SCHNEIDEN EXTRA LANG STIRNRADIUS	R1.5	R10.0	856
E5634 E5524		CARBIDE, 4 FLUTE SHORT LENGTH BALL NOSE VOLLHARTMETALL, 4 SCHNEIDEN KURZ STIRNRADIUS	R1.0	R10.0	857
E5742 E5711		CARBIDE, 3 FLUTE LONG LENGTH ROUGHING VOLLHARTMETALL, 3 SCHNEIDEN LANG SCHRUPPFRÄSER	D6.0	D25.0	858
E5400		CARBIDE, DRILL MILLS VOLLHARTMETALL, BOHRNUTEN FRÄSER	D3.0	D20.0	859
		RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDKONDITIONEN			860

◎ : Excellent, ○ : Good

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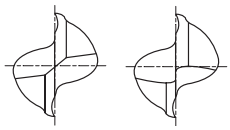
CARBIDE END MILLS

E5424 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT
E5416 SERIES FLAT SHANK / SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 2 FLUTE SHORT LENGTH
VOLLHARTMETALL, 2 SCHNEIDEN KURZ



MG HM | YG STD | N | 2 | 30° | DIN 6535HA | DIN 6535HB

P.860

Unit : mm

EDP No. PLAIN	ITEM No. PLAIN	EDP No. FLAT	ITEM No. FLAT	Mill Diameter h10	Shank Diameter h6	Length of Cut	Overall Length
E5424010	T2GRS-010X	—	—	1.0	4	3	40
E5424015	T2GRS-015X	—	—	1.5	4	4.5	40
E5424020	T2GRS-020Z	—	—	2.0	2	8	32
E5424025	T2GRS-025Z	—	—	2.5	2.5	8	32
E5424030	T2GRS-030Z	—	—	3.0	3	12	32
E5424035	T2GRS-035Z	—	—	3.5	3.5	12	32
E5424040	T2GRS-040Z	—	—	4.0	4	12	40
E5424045	T2GRS-045Z	—	—	4.5	4.5	14	50
E5424050	T2GRS-050Z	—	—	5.0	5	14	50
E5424055	T2GRS-055Z	—	—	5.5	5.5	16	50
E5424060	T2GRS-060Z	E5416060	T2GRS-060ZF	6.0	6	16	50
E5424070	T2GRS-070Z	—	—	7.0	7	20	60
E5424080	T2GRS-080Z	E5416080	T2GRS-080ZF	8.0	8	20	60
E5424090	T2GRS-090Z	—	—	9.0	9	20	60
E5424100	T2GRS-100Z	E5416100	T2GRS-100ZF	10.0	10	22	70
E5424120	T2GRS-120Z	E5416120	T2GRS-120ZF	12.0	12	22	70
E5424140	T2GRS-140Z	E5416140	T2GRS-140ZF	14.0	14	25	75
E5424160	T2GRS-160Z	E5416160	T2GRS-160ZF	16.0	16	25	75
E5424200	T2GRS-200Z	E5416200	T2GRS-200ZF	20.0	20	32	100

▶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

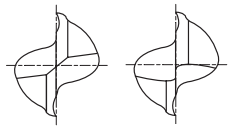
◎ : Excellent ○ : Good

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

CARBIDE END MILLS

E5444 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 2 FLUTE SHORT LENGTH
VOLLHARTMETALL, 2 SCHNEIDEN KURZ



MG HM | DIN 6527 | N | 2 | 30° | DIN 6535HB

P.860

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
FLAT	h10	h6		
E5444020	2.0	6	3	50
E5444030	3.0	6	4	50
E5444035	3.5	6	4	50
E5444040	4.0	6	5	54
E5444045	4.5	6	5	54
E5444050	5.0	6	6	54
E5444060	6.0	6	7	54
E5444070	7.0	8	8	58
E5444080	8.0	8	9	58
E5444090	9.0	10	10	66
E5444100	10.0	10	11	66
E5444120	12.0	12	12	73
E5444140	14.0	14	14	75
E5444160	16.0	16	16	82
E5444180	18.0	18	18	84
E5444200	20.0	20	20	92

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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
h10	0 — 40	0 — 48	0 — 58	0 — 70	0 — 84
h6	0 — 6	0 — 8	0 — 9	0 — 11	0 — 13

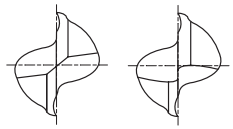
◎ : Excellent ○ : Good

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

CARBIDE END MILLS

E5445 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 2 FLUTE LONG LENGTH
VOLLHARTMETALL, 2 SCHNEIDEN LANG



up to Ø2mm over Ø2mm

MG HM | DIN 6527 | N | 2 | ≈30° | DIN 6535HB

P.860

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
FLAT	h10	h6		
E5445901	2.0	● 3	6	38
E5445028	2.8	6	7	57
E5445030	3.0	6	7	57
E5445035	3.5	6	7	57
E5445038	3.8	6	8	57
E5445040	4.0	6	8	57
E5445045	4.5	6	8	57
E5445048	4.8	6	10	57
E5445050	5.0	6	10	57
E5445957	5.75	6	10	57
E5445060	6.0	6	10	57
E5445967	6.75	8	13	63
E5445070	7.0	8	13	63
E5445977	7.75	8	16	63
E5445080	8.0	8	16	63
E5445087	8.7	10	16	72
E5445090	9.0	10	16	72
E5445097	9.7	10	19	72
E5445100	10.0	10	19	72
E5445117	11.7	12	22	83
E5445120	12.0	12	22	83
E5445137	13.7	14	22	83
E5445140	14.0	14	22	83
E5445157	15.7	16	26	92
E5445160	16.0	16	26	92
E5445177	17.7	18	26	92
E5445180	18.0	18	26	92
E5445197	19.7	20	32	104
E5445200	20.0	20	32	104

● with plain shank
▶ TiN, TiCN-COATING & TiAlN-COATING are available on your request.

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
h10	0 — 40	0 — 48	0 — 58	0 — 70	0 — 84
h6	0 — 6	0 — 8	0 — 9	0 — 11	0 — 13

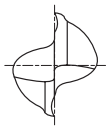
◎ : Excellent ○ : Good

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

CARBIDE END MILLS

E5527 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE LONG LENGTH
VOLLHARTMETALL, 2 SCHNEIDEN LANG



MG HM | DIN 6528 | N | 2 | ≈30° | DIN 6535HA

P.860

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	h10	h6		
E5527035	3.5	3.5	7	50
E5527040	4.0	4	8	50
E5527045	4.5	4.5	8	50
E5527050	5.0	5	10	50
E5527055	5.5	5.5	10	57
E5527060	6.0	6	10	57
E5527065	6.5	6.5	13	60
E5527070	7.0	7	13	60
E5527075	7.5	7.5	16	63
E5527080	8.0	8	16	63
E5527085	8.5	8.5	16	67
E5527090	9.0	9	16	67
E5527095	9.5	9.5	19	72
E5527100	10.0	10	19	72
E5527110	11.0	11	22	83
E5527120	12.0	12	22	83
E5527130	13.0	13	22	83
E5527140	14.0	14	22	83
E5527150	15.0	15	26	92
E5527160	16.0	16	26	92
E5527180	18.0	18	26	92
E5527200	20.0	20	32	104

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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
h10	0 — 40	0 — 48	0 — 58	0 — 70	0 — 84
h6	0 — 6	0 — 8	0 — 9	0 — 11	0 — 13

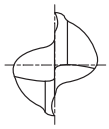
◎ : Excellent ○ : Good

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

CARBIDE END MILLS

E5452 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE EXTRA LONG LENGTH
VOLLHARTMETALL, 2 SCHNEIDEN EXTRA LANG



MG HM | YG STD | N | 2 | 30° | DIN 6535HA P.860

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	h10	h6		
E5452030	3.0	3	30	75
E5452040	4.0	4	30	75
E5452050	5.0	5	40	100
E5452060	6.0	6	50	150
E5452080	8.0	8	50	150
E5452100	10.0	10	60	150
E5452120	12.0	12	75	150
E5452140	14.0	14	65	150
E5452160	16.0	16	65	150
E5452180	18.0	18	65	150
E5452200	20.0	20	65	150

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

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

Tolerance range in ㎛ / Toleranzwerte in ㎛					
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

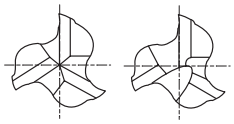
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎			○		◎	○	○		

CARBIDE END MILLS

E5553 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

E5410 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 3 FLUTE SHORT LENGTH THROW AWAY
VOLLHARTMETALL, 3 SCHNEIDEN KURZ EINWEG



up to Ø2mm over Ø2mm

MG HM | YG STD | N | 3 | 30° | DIN 6535HB

P.861

Unit : mm

EDP No.	ITEM No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
FLAT	FLAT	h10	h6		
E5553005	T3FSC-005KS	0.5	● 3	1.5	38
E5553006	T3FSC-006KS	0.6	● 3	1.5	38
E5553008	T3FSC-008KS	0.8	● 3	2	38
E5553010	T3FSC-010KS	1.0	● 3	2	38
E5553012	T3FSC-012KS	1.2	● 3	2	38
E5553015	T3FSC-015KS	1.5	● 3	2	38
E5553018	T3FSC-018KS	1.8	● 3	2	38
E5410020	T3FSC-020AF	2.0	6	4	35
E5410025	T3FSC-025AF	2.5	6	5	36
E5410030	T3FSC-030AF	3.0	6	5	36
E5410035	T3FSC-035AF	3.5	6	6	37
E5410040	T3FSC-040AF	4.0	6	7	38
E5410045	T3FSC-045AF	4.5	6	8	38
E5410050	T3FSC-050AF	5.0	6	8	39
E5410055	T3FSC-055AF	5.5	6	8	39
E5410957	T3FSC-0575AF	5.75	6	8	39
E5410060	T3FSC-060AF	6.0	6	8	39
E5410967	T3FSC-0675BF	6.75	8	10	42
E5410070	T3FSC-070BF	7.0	8	10	42
E5410977	T3FSC-0775BF	7.75	8	10	42
E5410080	T3FSC-080BF	8.0	8	11	43

● with plain shank

◎ : Excellent ○ : Good

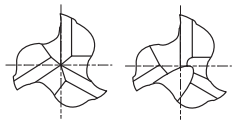
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎			○		◎	○	○		

CARBIDE END MILLS

E5553 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

E5410 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 3 FLUTE SHORT LENGTH THROW AWAY
VOLLHARTMETALL, 3 SCHNEIDEN KURZ EINWEG



up to Ø2mm over Ø2mm

MG HM | YG STD | N | 3 | 30° | DIN 6535HB

P.861

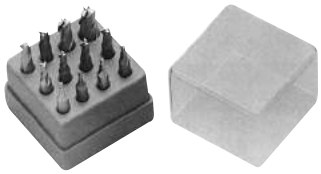
Unit : mm

EDP No.	ITEM No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
FLAT	FLAT	h10	h6		
E5410087	T3FSC-087TF	8.7	10	11	48
E5410090	T3FSC-090TF	9.0	10	11	48
E5410097	T3FSC-097TF	9.7	10	11	48
E5410100	T3FSC-100TF	10.0	10	13	50
E5410120	T3FSC-120DF	12.0	12	15	55
E5410140	T3FSC-140ZF	14.0	14	15	58
E5410160	T3FSC-160EF	16.0	16	18	62
E5410180	T3FSC-180ZF	18.0	18	20	70
E5410200	T3FSC-200FF	20.0	20	22	75

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

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

Tolerance range in ㎛ / Toleranzwerte in ㎛					
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



SET ORDERING No.: E5SET410
* 12PCS. SET
  - 2PCS. OF EACH SIZE
    2, 3, 4, 5, 6mm (T3FSC)
  - 1PC. OF EACH SIZE
    8, 10mm (T3FSC)
* 1 Tooth Over Center

◎ : Excellent ○ : Good

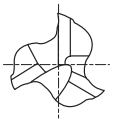
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎			○		◎	○	○		

CARBIDE END MILLS

E5425 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

E5417 SERIES FLAT SHANK / SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 3 FLUTE SHORT LENGTH
VOLLHARTMETALL, 3 SCHNEIDEN KURZ



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

P.861

Unit : mm

EDP No. PLAIN	ITEM No. PLAIN	EDP No. FLAT	ITEM No. FLAT	Mill Diameter h10	Shank Diameter h6	Length of Cut	Overall Length
E5425020	T3GRC-020Z	—	—	2.0	2	8	32
E5425025	T3GRC-025Z	—	—	2.5	2.5	8	32
E5425030	T3GRC-030Z	—	—	3.0	3	12	32
E5425035	T3GRC-035Z	—	—	3.5	3.5	12	32
E5425040	T3GRC-040Z	—	—	4.0	4	12	40
E5425045	T3GRC-045Z	—	—	4.5	4.5	14	50
E5425050	T3GRC-050Z	—	—	5.0	5	14	50
E5425055	T3GRC-055Z	—	—	5.5	5.5	16	50
E5425060	T3GRC-060Z	E5417060	T3GRC-060ZF	6.0	6	16	50
E5425070	T3GRC-070Z	—	—	7.0	7	20	60
E5425080	T3GRC-080Z	E5417080	T3GRC-080ZF	8.0	8	20	60
E5425090	T3GRC-090Z	—	—	9.0	9	20	60
E5425100	T3GRC-100Z	E5417100	T3GRC-100ZF	10.0	10	22	70
E5425120	T3GRC-120Z	E5417120	T3GRC-120ZF	12.0	12	22	70
E5425140	T3GRC-140Z	E5417140	T3GRC-140ZF	14.0	14	25	75
E5425160	T3GRC-160Z	E5417160	T3GRC-160ZF	16.0	16	25	75
E5425200	T3GRC-200Z	E5417200	T3GRC-200ZF	20.0	20	32	100

▶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

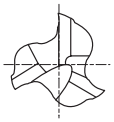
◎ : Excellent ○ : Good

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

CARBIDE END MILLS

E5439 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 3 FLUTE SHORT LENGTH
VOLLHARTMETALL, 3 SCHNEIDEN KURZ



MG HM | DIN 6528HB | N | 3 | 30° | DIN 6535HB P.861

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
FLAT	h10	h6		
E5439020	2.0	6	3	50
E5439030	3.0	6	4	50
E5439035	3.5	6	4	50
E5439040	4.0	6	5	54
E5439045	4.5	6	5	54
E5439050	5.0	6	6	54
E5439060	6.0	6	7	54
E5439070	7.0	8	8	58
E5439080	8.0	8	9	58
E5439090	9.0	10	10	66
E5439100	10.0	10	11	66
E5439120	12.0	12	12	73
E5439140	14.0	14	14	75
E5439160	16.0	16	16	82
E5439180	18.0	18	18	84
E5439200	20.0	20	20	92

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

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
h10	0 — 40	0 — 48	0 — 58	0 — 70	0 — 84
h6	0 — 6	0 — 8	0 — 9	0 — 11	0 — 13

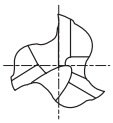
◎ : Excellent ○ : Good

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

CARBIDE END MILLS

E5433 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 3 FLUTE LONG LENGTH
VOLLHARTMETALL, 3 SCHNEIDEN LANG



MG HM | DIN 6528 | N | 3 | ≈30° | DIN 6535HB

P.861

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
FLAT	h10	h6		
E5433030	3.0	6	7	57
E5433040	4.0	6	8	57
E5433050	5.0	6	10	57
E5433060	6.0	6	10	57
E5433080	8.0	8	16	63
E5433100	10.0	10	19	72
E5433120	12.0	12	22	83
E5433140	14.0	14	22	83
E5433160	16.0	16	26	92
E5433180	18.0	18	26	92
E5433200	20.0	20	32	104

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

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
h10	0 — 40	0 — 48	0 — 58	0 — 70	0 — 84
h6	0 — 6	0 — 8	0 — 9	0 — 11	0 — 13

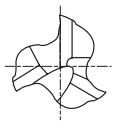
◎ : Excellent ○ : Good

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

CARBIDE END MILLS

E5528 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

CARBIDE, 3 FLUTE LONG LENGTH
VOLLHARTMETALL, 3 SCHNEIDEN LANG



MG HM | DIN 6528 | N | 3 | 30° | DIN 6535HA

P.861

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	h10	h6		
E5528035	3.5	3.5	7	50
E5528040	4.0	4	8	50
E5528045	4.5	4.5	8	50
E5528050	5.0	5	10	50
E5528055	5.5	5.5	10	57
E5528060	6.0	6	10	57
E5528065	6.5	6.5	13	60
E5528070	7.0	7	13	60
E5528075	7.5	7.5	16	63
E5528080	8.0	8	16	63
E5528085	8.5	8.5	16	67
E5528090	9.0	9	16	67
E5528095	9.5	9.5	19	72
E5528100	10.0	10	19	72
E5528110	11.0	11	22	83
E5528120	12.0	12	22	83
E5528130	13.0	13	22	83
E5528140	14.0	14	22	83
E5528150	15.0	15	26	92
E5528160	16.0	16	26	92
E5528180	18.0	18	26	92
E5528200	20.0	20	32	104

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

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

Tolerance range in ㎛ / Toleranzwerte in ㎛					
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
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎			○		◎	○	○		

CARBIDE END MILLS

E5882 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 3 FLUTE 35° HELIX CORNER RADIUS
VOLLHARTMETALL, 3 SCHNEIDEN 35° RECHTSSPIRALE ECKENRADIUS

for STAINLESS STEELS
für EDELSTÄHLE

MG HM | DIN 6527 | N | 3 | 35° | DIN 6535HA

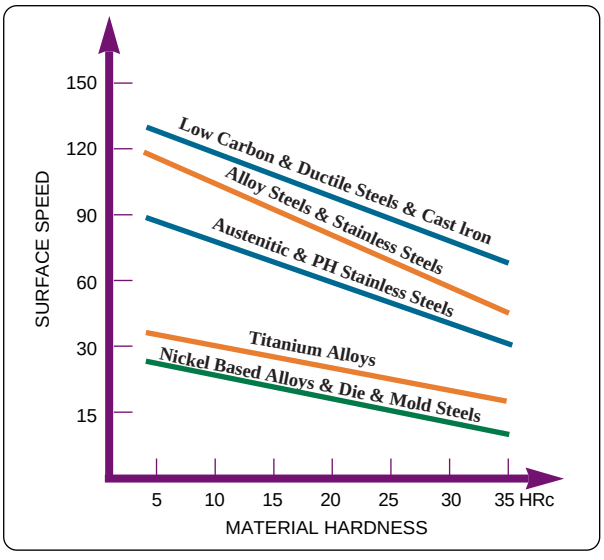
Unit : mm

EDP No.	CORNER RADIUS	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	R	h10	h6		
E5882030	0.20~0.25	3.0	3	4	38
E5882040	0.20~0.25	4.0	6	5	54
E5882050	0.20~0.25	5.0	6	6	54
E5882060	0.40~0.50	6.0	6	7	54
E5882080	0.40~0.50	8.0	8	9	58
E5882100	0.40~0.50	10.0	10	11	66
E5882120	0.75~0.85	12.0	12	12	73
E5882160	0.75~0.85	16.0	16	16	82
E5882200	0.75~0.85	20.0	20	20	92

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

FEED CHART

MILL DIAMETER(mm)	3	5	6	8	10	12	16	20
FEED(mm)/TOOTH	0.008 ~ 0.015	0.010 ~ 0.050	0.025 ~ 0.065	0.040 ~ 0.075	0.040 ~ 0.090	0.050 ~ 0.100	0.065 ~ 0.130	0.075 ~ 0.150



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

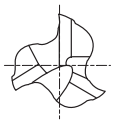
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎			○		◎	○	◎		

CARBIDE END MILLS

E5423 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

E5415 SERIES FLAT SHANK / SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 3 FLUTE 45° HELIX SHORT LENGTH
VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE KURZ



MG HM | YG STD | N | 3 | 45° | DIN 6535HA | DIN 6535HB

P.863

Unit : mm

EDP No. PLAIN	ITEM No. PLAIN	EDP No. FLAT	ITEM No. FLAT	Mill Diameter h10	Shank Diameter h6	Length of Cut	Overall Length
E5423030	T3ERS-030A	E5415030	T3ERS-030AF	3.0	6	8	45
E5423040	T3ERS-040A	E5415040	T3ERS-040AF	4.0	6	11	45
E5423050	T3ERS-050A	E5415050	T3ERS-050AF	5.0	6	13	50
E5423060	T3ERS-060Z	E5415060	T3ERS-060ZF	6.0	6	13	50
E5423080	T3ERS-080Z	E5415080	T3ERS-080ZF	8.0	8	19	60
E5423100	T3ERS-100Z	E5415100	T3ERS-100ZF	10.0	10	22	70
E5423120	T3ERS-120Z	E5415120	T3ERS-120ZF	12.0	12	26	75
E5423140	T3ERS-140Z	E5415140	T3ERS-140ZF	14.0	14	26	75
E5423160	T3ERS-160Z	E5415160	T3ERS-160ZF	16.0	16	25	75
E5423200	T3ERS-200Z	E5415200	T3ERS-200ZF	20.0	20	32	100

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

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

Tolerance range in ㎛ / Toleranzwerte in ㎛

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

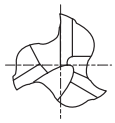
◎ : Excellent ○ : Good

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

CARBIDE END MILLS

E5446 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 3 FLUTE 45° HELIX SHORT LENGTH
VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE KURZ



MG HM | DIN 6527 | N | 3 | 45° | DIN 6535HB

P.863

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
FLAT	h10	h6		
E5446015	1.5	● 3	3	38
E5446020	2.0	6	3	50
E5446030	3.0	6	4	50
E5446035	3.5	6	4	50
E5446040	4.0	6	5	54
E5446045	4.5	6	5	54
E5446050	5.0	6	6	54
E5446060	6.0	6	7	54
E5446070	7.0	8	8	58
E5446080	8.0	8	9	58
E5446090	9.0	10	10	66
E5446100	10.0	10	11	66
E5446120	12.0	12	12	73
E5446140	14.0	14	14	75
E5446160	16.0	16	16	82
E5446180	18.0	18	18	84
E5446200	20.0	20	20	92

● with plain shank
▶ TiN, TiCN-COATING & TiAlN-COATING are available on your request.

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

Tolerance range in ㎛ / Toleranzwerte in ㎛
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

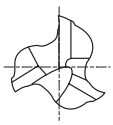
◎ : Excellent ○ : Good

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

CARBIDE END MILLS

E5447 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

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



MG HM | DIN 6527 | N | 3 | 45° | DIN 6535HB

P.863

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
FLAT	h10	h6		
E5447030	3.0	6	7	57
E5447035	3.5	6	7	57
E5447040	4.0	6	8	57
E5447045	4.5	6	8	57
E5447050	5.0	6	10	57
E5447060	6.0	6	10	57
E5447070	7.0	8	13	63
E5447080	8.0	8	16	63
E5447090	9.0	10	16	72
E5447100	10.0	10	19	72
E5447120	12.0	12	22	83
E5447140	14.0	14	22	83
E5447160	16.0	16	26	92
E5447180	18.0	18	26	92
E5447200	20.0	20	32	104

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

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

Tolerance range in ㎛ / Toleranzwerte in ㎛					
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

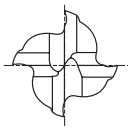
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎			◎		◎	◎			

CARBIDE END MILLS

E5432 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

E5595 SERIES FLAT SHANK / SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 4 FLUTE SHORT LENGTH
VOLLHARTMETALL, 4 SCHNEIDEN KURZ



MG HM | YG STD | N | 4 | 30° | DIN 6535HA | DIN 6535HB

P.865

Unit : mm

EDP No. PLAIN	ITEM No. PLAIN	EDP No. FLAT	ITEM No. FLAT	Mill Diameter h10	Shank Diameter h6	Length of Cut	Overall Length
E5432020	T4GRC-020Z	—	—	2.0	2	8	32
E5432025	T4GRC-025Z	—	—	2.5	2.5	8	32
E5432030	T4GRC-030Z	—	—	3.0	3	12	32
E5432035	T4GRC-035Z	—	—	3.5	3.5	12	32
E5432040	T4GRC-040Z	—	—	4.0	4	12	40
E5432045	T4GRC-045Z	—	—	4.5	4.5	14	50
E5432050	T4GRC-050Z	—	—	5.0	5	14	50
E5432055	T4GRC-055Z	—	—	5.5	5.5	16	50
E5432060	T4GRC-060Z	E5595060	T4GRC-060ZF	6.0	6	16	50
E5432070	T4GRC-070Z	—	—	7.0	7	20	60
E5432080	T4GRC-080Z	E5595080	T4GRC-080ZF	8.0	8	20	60
E5432090	T4GRC-090Z	—	—	9.0	9	20	60
E5432100	T4GRC-100Z	E5595100	T4GRC-100ZF	10.0	10	22	70
E5432120	T4GRC-120Z	E5595120	T4GRC-120ZF	12.0	12	22	70
E5432140	T4GRC-140Z	E5595140	T4GRC-140ZF	14.0	14	25	75
E5432160	T4GRC-160Z	E5595160	T4GRC-160ZF	16.0	16	25	75
E5432200	T4GRC-200Z	E5595200	T4GRC-200ZF	20.0	20	32	100

▶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

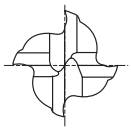
◎ : Excellent ○ : Good

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

CARBIDE END MILLS

E5448 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 4 FLUTE SHORT LENGTH
VOLLHARTMETALL, 4 SCHNEIDEN KURZ



MG HM | DIN 6527 | N | 4 | 30° | DIN 6535HB P.865

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
FLAT	h10	h6		
E5448020	2.0	6	4	50
E5448025	2.5	6	4	50
E5448030	3.0	6	5	50
E5448035	3.5	6	6	50
E5448040	4.0	6	8	54
E5448045	4.5	6	8	54
E5448050	5.0	6	9	54
E5448060	6.0	6	10	54
E5448070	7.0	8	11	58
E5448080	8.0	8	12	58
E5448090	9.0	10	13	66
E5448100	10.0	10	14	66
E5448120	12.0	12	16	73
E5448140	14.0	14	18	75
E5448160	16.0	16	22	82
E5448180	18.0	18	24	84
E5448200	20.0	20	26	92

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

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

Tolerance range in ㎛ / Toleranzwerte in ㎛					
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

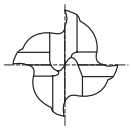
◎ : Excellent ○ : Good

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

CARBIDE END MILLS

E5449 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 4 FLUTE LONG LENGTH
VOLLHARTMETALL, 4 SCHNEIDEN LANG



MG HM | DIN 6527 | N | 4 | ≈30° | DIN 6535HB

P.865

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
FLAT	h10	h6		
E5449901	2.0	● 3	7	38
E5449030	3.0	6	8	57
E5449035	3.5	6	10	57
E5449040	4.0	6	11	57
E5449045	4.5	6	11	57
E5449050	5.0	6	13	57
E5449060	6.0	6	13	57
E5449070	7.0	8	16	63
E5449080	8.0	8	19	63
E5449090	9.0	10	19	72
E5449100	10.0	10	22	72
E5449120	12.0	12	26	83
E5449140	14.0	14	26	83
E5449160	16.0	16	32	92
E5449180	18.0	18	32	92
E5449200	20.0	20	38	104

● with plain shank
▶ TiN, TiCN-COATING & TiAlN-COATING are available on your request.

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
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
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎			○		◎	○	○		

CARBIDE END MILLS

E5540 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

CARBIDE, 4 FLUTE LONG LENGTH
VOLLHARTMETALL, 4 SCHNEIDEN LANG

MG HM | DIN 6528 | N | 4 | 30° | DIN 6535HA

P.865

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	h10	h6		
E5540035	3.5	3.5	10	50
E5540040	4.0	4	11	50
E5540045	4.5	4.5	11	50
E5540050	5.0	5	13	50
E5540055	5.5	5.5	13	57
E5540060	6.0	6	13	57
E5540065	6.5	6.5	16	60
E5540070	7.0	7	16	60
E5540075	7.5	7.5	19	63
E5540080	8.0	8	19	63
E5540085	8.5	8.5	19	67
E5540090	9.0	9	19	67
E5540095	9.5	9.5	22	72
E5540100	10.0	10	22	72
E5540110	11.0	11	26	83
E5540120	12.0	12	26	83
E5540130	13.0	13	26	83
E5540140	14.0	14	26	83
E5540150	15.0	15	32	92
E5540160	16.0	16	32	92
E5540180	18.0	18	32	92
E5540200	20.0	20	38	104

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

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

Tolerance range in ㎛ / Toleranzwerte in ㎛					
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
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎			○		◎	○	○		

CARBIDE END MILLS

E5453 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

CARBIDE, 4 FLUTE EXTRA LONG LENGTH
VOLLHARTMETALL, 4 SCHNEIDEN EXTRA LANG

MG HM | YG STD | N | 4 | 30° | DIN 6535HA

P.865

Unit : mm

EDP No.	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	h10	h6		
E5453030	3.0	3	30	75
E5453040	4.0	4	30	75
E5453050	5.0	5	40	100
E5453060	6.0	6	50	150
E5453080	8.0	8	50	150
E5453100	10.0	10	60	150
E5453120	12.0	12	75	150
E5453140	14.0	14	65	150
E5453160	16.0	16	65	150
E5453180	18.0	18	65	150
E5453200	20.0	20	65	150

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

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
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
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎			○		◎	○	○		

CARBIDE END MILLS

E5624 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

E5650 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 2 FULTE SHORT LENGTH BALL NOSE
VOLLHARTMETALL, 2 SCHNEIDEN KURZ STIRNRADIUS

MG HM | YG STD | N | 2 | 30° | R ±0.02 | DIN 6535HA | DIN 6535HB

P.866

Unit : mm

EDP No. PLAIN	ITEM No. PLAIN	EDP No. FLAT	ITEM No. FLAT	Radius of Ball Nose R (±0.02)	Mill Diameter h10	Shank Diameter h6	Length of Cut	Overall Length
E5624020	T2GRB-020A	E5650020	T2GOB-020AF	R1.0	**2.0**	6	4	48
E5624025	T2GRB-025A	E5650025	T2GOB-025AF	R1.25	**2.5**	6	4	48
E5624030	T2GRB-030A	E5650030	T2GOB-030AF	R1.5	**3.0**	6	4	48
E5624040	T2GRB-040A	E5650040	T2GOB-040AF	R2.0	**4.0**	6	6	50
E5624901	T2GRB-040Z	—	—	R2.0	**4.0**	4	12	40
E5624050	T2GRB-050A	E5650050	T2GOB-050AF	R2.5	**5.0**	6	7	51
E5624902	T2GRB-050Z	—	—	R2.5	**5.0**	5	14	50
E5624060	T2GRB-060Z	E5650060	T2GOB-060ZF	R3.0	**6.0**	6	7	51
E5624080	T2GRB-080Z	E5650080	T2GOB-080ZF	R4.0	**8.0**	8	9	59
E5624100	T2GRB-100Z	E5650100	T2GOB-100ZF	R5.0	**10.0**	10	10	60
E5624120	T2GRB-120Z	E5650120	T2GOB-120ZF	R6.0	**12.0**	12	14	71
E5624140	T2GRB-140Z	E5650140	T2GOB-140ZF	R7.0	**14.0**	14	14	71
E5624160	T2GRB-160Z	E5650160	T2GOB-160ZF	R8.0	**16.0**	16	16	76
E5624180	T2GRB-180Z	E5650180	T2GOB-180ZF	R9.0	**18.0**	18	18	76
E5624200	T2GRB-200Z	E5650200	T2GOB-200ZF	R10.0	**20.0**	20	20	82

▶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
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎	○				◎	○			

CARBIDE END MILLS

E5437 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 2 FLUTE SHORT LENGTH BALL NOSE
VOLLHARTMETALL, 2 SCHNEIDEN KURZ STIRNRADIUS

MG HM | DIN 6527 | N | 2 | ≈30° | R ±0.02 | DIN 6535HB

P.866

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
FLAT	R (±0.02)	h10	h6		
E5437020	R1.0	**2.0**	6	3	50
E5437030	R1.5	**3.0**	6	4	50
E5437040	R2.0	**4.0**	6	5	54
E5437050	R2.5	**5.0**	6	6	54
E5437060	R3.0	**6.0**	6	7	54
E5437080	R4.0	**8.0**	8	9	58
E5437100	R5.0	**10.0**	10	11	66
E5437120	R6.0	**12.0**	12	12	73
E5437140	R7.0	**14.0**	14	14	75
E5437180	R9.0	**18.0**	18	18	84
E5437200	R10.0	**20.0**	20	20	92

▶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
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎	○				◎	○			

CARBIDE END MILLS

E5438 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 2 FLUTE LONG LENGTH BALL NOSE
VOLLHARTMETALL, 2 SCHNEIDEN LANG STIRNRADIUS

MG HM | DIN 6527 | N | 2 | 30° | R ±0.02 | DIN 6535HB P.866

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
FLAT	R (±0.02)	h10	h6		
E5438020	R1.0	**2.0**	● 3	6	38
E5438030	R1.5	**3.0**	6	7	57
E5438040	R2.0	**4.0**	6	8	57
E5438050	R2.5	**5.0**	6	10	57
E5438060	R3.0	**6.0**	6	10	57
E5438080	R4.0	**8.0**	8	16	63
E5438100	R5.0	**10.0**	10	19	72
E5438120	R6.0	**12.0**	12	22	83
E5438140	R7.0	**14.0**	14	22	83
E5438160	R8.0	**16.0**	16	26	92
E5438180	R9.0	**18.0**	18	26	92
E5438200	R10.0	**20.0**	20	32	104

● with plain shank
▶ 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
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎	○				◎	○			

CARBIDE END MILLS

E5454 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE LONG REACH BALL NOSE
VOLLHARTMETALL, 2 SCHNEIDEN GROßE REICHWEITE STIRNRADIUS

MG HM | YG STD | N | 2 | 30° | R ±0.02 | DIN 6535HA

P.866

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	R (±0.02)	h10	h6		
E5454030	R1.5	**3.0**	3	5	75
E5454040	R2.0	**4.0**	4	8	75
E5454050	R2.5	**5.0**	5	9	75
E5454060	R3.0	**6.0**	6	10	100
E5454080	R4.0	**8.0**	8	12	100
E5454100	R5.0	**10.0**	10	14	100
E5454120	R6.0	**12.0**	12	16	100
E5454140	R7.0	**14.0**	14	18	100
E5454160	R8.0	**16.0**	16	22	150
E5454200	R10.0	**20.0**	20	26	150

▶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
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎	○				◎	○			

CARBIDE END MILLS

E5455 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE EXTRA LONG LENGTH BALL NOSE
VOLLHARTMETALL, 2 SCHNEIDEN EXTRA LANG STIRNRADIUS

MG HM | YG STD | N | 2 | 30° | R ±0.02 | DIN 6535HA

P.866

Unit : mm

EDP No.	Radius of Ball Nose	Mill Diameter	Shank Diameter	Length of Cut	Overall Length
PLAIN	R (±0.02)	h10	h6		
E5455030	R1.5	3.0	3	30	75
E5455040	R2.0	4.0	4	30	75
E5455050	R2.5	5.0	5	40	100
E5455060	R3.0	6.0	6	50	150
E5455080	R4.0	8.0	8	50	150
E5455100	R5.0	10.0	10	60	150
E5455120	R6.0	12.0	12	75	150
E5455140	R7.0	14.0	14	75	150
E5455160	R8.0	16.0	16	75	150
E5455180	R9.0	18.0	18	75	150
E5455200	R10.0	20.0	20	75	150

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

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

Tolerance range in ㎛ / Toleranzwerte in ㎛					
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

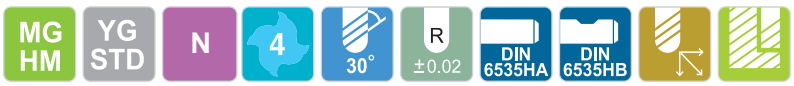
Carbon Steels	Alloy Steels	Prehardened Steels	Hardened Steels		High Hardened Steels	Copper	Graphite	Cast Iron	Aluminum	Stainless Steels	Titanium	Inconel
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎	○				◎	○			

CARBIDE END MILLS

E5634 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

E5524 SERIES FLAT SHANK
SEITLICHE MITNAHMEFLÄCHEN

CARBIDE, 4 FLUTE SHORT LENGTH BALL NOSE
VOLLHARTMETALL, 4 SCHNEIDEN KURZ STIRNRADIUS



P.867

Unit : mm

EDP No. PLAIN	ITEM No. PLAIN	EDP No. FLAT	ITEM No. FLAT	Radius of Ball Nose R (±0.02)	Mill Diameter h10	Shank Diameter h6	Length of Cut	Overall Length
E5634020	T4GRB-020A	E5524020	T4GRB-020AF	R1.0	**2.0**	6	4	48
E5634030	T4GRB-030A	E5524030	T4GRB-030AF	R1.5	**3.0**	6	4	48
E5634040	T4GRB-040A	E5524040	T4GRB-040AF	R2.0	**4.0**	6	6	50
E5634050	T4GRB-050A	E5524050	T4GRB-050AF	R2.5	**5.0**	6	7	51
E5634060	T4GRB-060Z	E5524060	T4GRB-060ZF	R3.0	**6.0**	6	7	51
E5634080	T4GRB-080Z	E5524080	T4GRB-080ZF	R4.0	**8.0**	8	9	59
E5634100	T4GRB-100Z	E5524100	T4GRB-100ZF	R5.0	**10.0**	10	10	60
E5634120	T4GRB-120Z	E5524120	T4GRB-120ZF	R6.0	**12.0**	12	14	71
E5634140	T4GRB-140Z	E5524140	T4GRB-140ZF	R7.0	**14.0**	14	14	71
E5634160	T4GRB-160Z	E5524160	T4GRB-160ZF	R8.0	**16.0**	16	16	76
E5634180	T4GRB-180Z	E5524180	T4GRB-180ZF	R9.0	**18.0**	18	18	76
E5634200	T4GRB-200Z	E5524200	T4GRB-200ZF	R10.0	**20.0**	20	20	82

▶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
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	◎	◎	◎	○				◎	○			

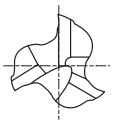
CARBIDE END MILLS

E5742 SERIES PLAIN SHANK / GLATTER ZYLINDERSCHAFT

E5711 SERIES FLAT SHANK / SEITLICHE MITNAHMEFLÄCHEN

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

for ALUMINUM
für ALUMINIUM



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

P.868

Unit : mm

EDP No. PLAIN	EDP No. FLAT	Mill Diameter h10	Shank Diameter h6	Length of Cut	Overall Length
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 ㎛ / Toleranzwerte in ㎛					
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
~HB225	HB225~325	HRc30~40	HRc40~45	HRc45~55	HRc55~70							
○	○							○	◎			

CARBIDE END MILLS

E5400 SERIES PLAIN SHANK
GLATTER ZYLINDERSCHAFT

CARBIDE, 2 FLUTE DRILL MILLS
VOLLHARTMETALL, 2 SCHNEIDEN BOHRNUTEN FRÄSER

MG HM | YG STD | N | 2 | 30° | DIN 6535HA

P.869

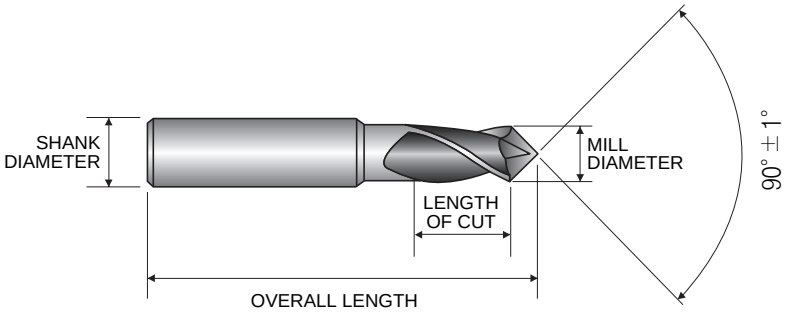
Unit : mm

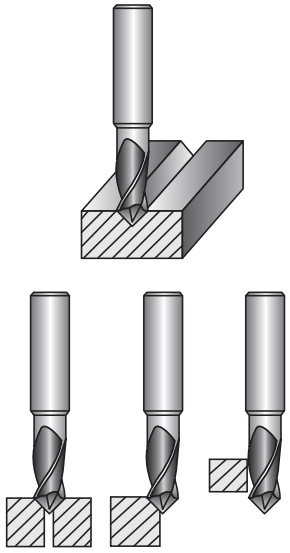
EDP No. PLAIN	Mill Diameter	Shank Diameter h6	Length of Cut	Overall Length
E5400030	3.0	4	6	50
E5400040	4.0	5	8	50
E5400050	5.0	6	10	50
E5400060	6.0	8	12	60
E5400080	8.0	10	16	70
E5400100	10.0	12	18	70
E5400120	12.0	12	20	70
E5540140	14.0	14	24	80
E5400160	16.0	16	26	80
E5400200	20.0	20	32	100

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

●Performs many drilling and milling operations not presently done with the standard end mill.

●Among the many vertical milling machine operations the Drill Mill performs are : Drilling, Slotting, NC Milling Drilling & Slotting, Profile Milling, Chamfering.





Mill Dia. Tolerance(mm)	Shank Dia. Tolerance
Ø3 ~ Ø10=h9 Ø12 ~ Ø20=d9	h6

◎ : Excellent ○ : Good

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

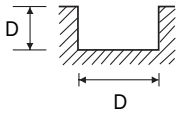
CARBIDE END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE - SLOTTING
VOLLHARTMETALL, 2 SCHNEIDEN - NUTENFRÄSEN

E5424, E5416, E5444, E5527, E5445, E5452 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		CAST IRON		ALUMINUM ALLOYS		COPPER. BRASS NON-FERROUS METALS	
HARDNESS	~ HRc 20		HRc 20 ~ HRc 30		HRc 30 ~ HRc 40									
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²									
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2.0	5500	80	4800	70	4000	55	8000	65	6500	150	16000	320	12000	240
3.0	3700	90	3200	80	2600	60	5300	65	4200	150	11000	320	8000	240
4.0	2800	90	2400	80	2000	60	4000	65	3200	150	8000	320	6000	240
5.0	2200	90	1900	80	1600	60	3200	65	2500	150	6400	320	4800	240
6.0	1800	90	1600	80	1300	60	2600	65	2100	180	5300	340	4000	260
8.0	1400	90	1200	80	1000	60	2000	65	1600	190	4000	340	3000	260
10.0	1100	90	950	80	800	60	1600	65	1300	200	3200	340	2400	260
12.0	900	90	800	80	660	60	1300	65	1000	210	2600	340	2000	260
14.0	800	90	700	80	570	60	1100	65	900	220	2300	340	1700	260
16.0	700	100	600	85	500	75	1000	75	800	225	2000	340	1500	260
20.0	550	100	480	85	400	75	800	80	640	240	1600	340	1200	260



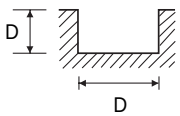
※The FEED, in long & extra long types, should be reduced by around 50%

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

CARBIDE, 2 FLUTE TiCN-COATED - SLOTTING
VOLLHARTMETALL, 2 SCHNEIDEN - NUTENFRÄSEN

E5424, E5416, E5444, E5527, E5445, E5452 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		CAST IRON		ALUMINUM ALLOYS		COPPER. BRASS NON-FERROUS METALS	
HARDNESS	~ HRc 20		HRc 20 ~ HRc 30		HRc 30 ~ HRc 40									
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²									
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2.0	7200	100	6200	90	5200	70	7000	85	8500	200	20000	420	15000	310
3.0	4800	120	4200	105	3400	80	6900	85	5500	200	14000	420	10000	310
4.0	3640	120	3100	105	2600	80	5200	85	4200	200	10000	420	8000	310
5.0	2860	120	2500	105	2000	80	4200	85	3300	200	8300	420	6200	310
6.0	2400	120	2000	105	1700	80	3400	85	2700	230	6900	440	5200	340
8.0	1800	120	1500	105	1300	80	2600	85	2000	250	5200	440	4000	340
10.0	1400	120	1200	105	1000	80	2000	85	1700	260	4200	440	3100	340
12.0	1200	120	1000	105	860	80	1700	85	1300	270	3400	440	2600	340
14.0	1000	120	900	105	740	80	1400	85	1200	280	3000	440	2200	340
16.0	900	130	800	110	650	100	1300	100	1000	290	2600	440	2000	340
20.0	720	130	620	110	520	100	1000	100	830	310	2000	440	1560	340



※The FEED, in long & extra long types, should be reduced by around 50%

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

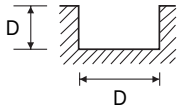
CARBIDE END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 3 FLUTE - SLOTTING
VOLLHARTMETALL, 3 SCHNEIDEN - NUTENFRÄSEN

E5553, E5425, E5417, E5439, E5433, E5528 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		CAST IRON		ALUMINUM ALLOYS		COPPER. BRASS NON-FERROUS METALS	
HARDNESS	~ HRc 20		HRc 20 ~ HRc 30		HRc 30 ~ HRc 40									
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²									
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2.0	5500	70	4800	60	4000	50	8000	55	6500	140	16000	290	12000	220
3.0	3700	80	3200	75	2600	55	5300	55	4200	140	11000	300	8000	220
4.0	2800	80	2400	75	2000	55	4000	55	3200	130	8000	290	6000	220
5.0	2200	80	1900	70	1600	55	3200	55	2500	135	6400	290	4800	220
6.0	1800	80	1600	70	1300	55	2600	60	2100	160	5300	305	4000	240
8.0	1400	80	1200	70	1000	55	2000	60	1600	170	4000	310	3000	230
10.0	1100	80	950	70	800	55	1600	60	1300	180	3200	305	2400	230
12.0	900	80	800	70	660	55	1300	60	1000	190	2600	300	2000	230
14.0	800	80	700	70	570	55	1100	60	900	200	2300	300	1700	230
16.0	700	90	600	75	500	65	1000	70	800	200	2000	300	1500	230
20.0	550	90	480	75	400	65	800	70	640	215	1600	300	1200	230



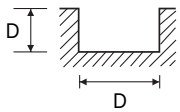
※The FEED, in long & extra long types, should be reduced by around 50%

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

CARBIDE, 3 FLUTE TiCN-COATED - SLOTTING
VOLLHARTMETALL, 3 SCHNEIDEN TiCN-BESCHICHTET - NUTENFRÄSEN

E5553, E5425, E5417, E5439, E5433, E5528 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		CAST IRON		ALUMINUM ALLOYS		COPPER. BRASS NON-FERROUS METALS	
HARDNESS	~ HRc 20		HRc 20 ~ HRc 30		HRc 30 ~ HRc 40									
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²									
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2.0	7200	90	6200	80	5200	65	10000	70	8500	180	20000	380	15000	280
3.0	4800	105	4200	100	3400	70	6900	70	5500	180	14000	390	10000	280
4.0	3640	105	3100	100	2600	70	5200	70	4200	170	10000	380	8000	280
5.0	2860	105	2500	90	2000	70	4200	70	3300	180	8300	380	6200	280
6.0	2400	105	2000	90	1700	70	3400	80	2700	210	6900	400	5200	310
8.0	1800	105	1500	90	1300	70	2600	80	2000	220	5200	400	4000	300
10.0	1400	105	1200	90	1000	70	2000	80	1700	230	4200	400	3100	300
12.0	1200	105	1000	90	860	70	1700	80	1300	250	3400	390	2600	300
14.0	1000	105	900	90	740	70	1400	80	1200	260	3000	390	2200	300
16.0	900	120	800	100	650	85	1300	90	1000	260	2600	390	2000	300
20.0	720	120	620	100	520	85	1000	90	830	280	2000	390	1560	300



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

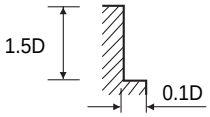
CARBIDE END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 3 FLUTE - SIDE CUTTING
VOLLHARTMETALL, 3 SCHNEIDEN - SEITENFRÄSEN

E5553, E5425, E5417, E5439, E5433, E5528 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		CAST IRON		ALUMINUM ALLOYS		COPPER. BRASS NON-FERROUS METALS	
HARDNESS	~ HRc 20		HRc 20 ~ HRc 30		HRc 30 ~ HRc 40									
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²									
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2.0	5500	180	4800	160	4000	120	8000	140	6500	330	16000	720	12000	540
3.0	3700	200	3200	170	2600	130	5300	140	4200	330	11000	690	8000	530
4.0	2800	200	2400	180	2000	130	4000	140	3200	340	8000	720	6000	540
5.0	2200	200	1900	180	1600	130	3200	140	2500	340	6400	710	4800	530
6.0	1800	200	1600	180	1300	130	2600	150	2100	400	5300	760	4000	580
8.0	1400	200	1200	180	1000	130	2000	150	1600	430	4000	760	3000	580
10.0	1100	200	950	180	800	130	1600	150	1300	450	3200	760	2400	580
12.0	900	200	800	180	660	130	1300	150	1000	470	2600	760	2000	580
14.0	800	200	700	180	570	130	1100	150	900	490	2300	760	1700	580
16.0	700	220	600	190	500	160	1000	170	800	510	2000	760	1500	580
20.0	550	220	480	190	400	160	800	180	640	540	1600	760	1200	580



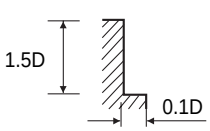
※The FEED, in long & extra long types, should be reduced by around 50%

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

CARBIDE, 3 FLUTE TiCN-COATED - SIDE CUTTING
VOLLHARTMETALL, 3 SCHNEIDEN TiCN-BESCHICHTET - SEITENFRÄSEN

E5553, E5425, E5417, E5439, E5433, E5528 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		CAST IRON		ALUMINUM ALLOYS		COPPER. BRASS NON-FERROUS METALS	
HARDNESS	~ HRc 20		HRc 20 ~ HRc 30		HRc 30 ~ HRc 40									
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²									
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2.0	7200	230	6200	210	5200	160	10000	180	8500	430	20000	940	15000	700
3.0	4800	260	4200	220	3400	170	6900	180	5500	430	14000	900	10000	690
4.0	3640	260	3100	230	2600	170	5200	180	4200	440	10000	940	8000	700
5.0	2860	260	2500	230	2000	170	4200	180	3300	440	8300	920	6200	690
6.0	2400	260	2000	230	1700	170	3400	200	2700	520	6900	1000	5200	750
8.0	1800	260	1500	230	1300	170	2600	200	2000	560	5200	1000	4000	750
10.0	1400	260	1200	230	1000	170	2000	200	1700	580	4200	1000	3100	750
12.0	1200	260	1000	230	860	170	1700	200	1300	610	3400	1000	2600	750
14.0	1000	260	900	230	740	170	1400	200	1200	640	3000	1000	2200	750
16.0	900	280	800	250	650	210	1300	220	1000	660	2600	1000	2000	750
20.0	720	280	620	250	520	210	1000	230	830	700	2000	1000	1560	750



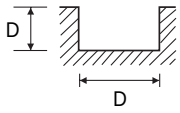
※The FEED, in long & extra long types, should be reduced by around 50%

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

CARBIDE, 3 FLUTE 45° HELIX - SLOTTING
VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE - NUTENFRÄSEN

E5423, E5415, E5446, E5447 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CAST IRON		ALUMINUM ALLOYS		COPPER. BRASS NON-FERROUS METALS	
HARDNESS	~ HRc30		HRc30 ~ HRc40							
STRENGTH	~ 1000N/mm²		1000 ~ 1300N/mm²							
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6.0	1600	95	1300	65	2100	220	5300	410	4000	310
8.0	1200	95	1000	65	1600	230	4000	410	3000	310
10.0	950	95	800	65	1300	240	3200	410	2400	310
12.0	800	95	660	65	1000	250	2600	410	2000	310
14.0	700	95	570	65	900	260	2300	410	1700	310
16.0	600	100	500	80	800	270	2000	410	1500	310
20.0	480	100	400	80	640	290	1600	410	1200	310



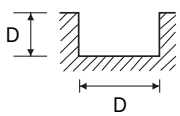
※The FEED, in long & extra long types, should be reduced by around 50%

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

CARBIDE, 3 FLUTE 45° HELIX TiCN-COATED - SLOTTING
VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE TiCN-BESCHICHTET - NUTENFRÄSEN

E5423, E5415, E5446, E5447 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CAST IRON		ALUMINUM ALLOYS		COPPER. BRASS NON-FERROUS METALS	
HARDNESS	~ HRc30		HRc30 ~ HRc40							
STRENGTH	~ 1000N/mm²		1000 ~ 1300N/mm²							
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6.0	2000	125	1700	85	2700	280	6900	530	5200	400
8.0	1560	125	1300	85	2000	300	5200	530	3900	400
10.0	1240	125	1000	85	1700	310	4200	530	3100	400
12.0	1000	125	860	85	1300	330	3400	530	2600	400
14.0	900	125	740	85	1200	340	3000	530	2200	400
16.0	800	130	650	100	1000	350	2600	530	2000	400
20.0	620	130	520	100	830	380	2000	530	1560	400



※The FEED, in long & extra long types, should be reduced by around 50%

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

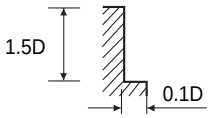
CARBIDE END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 3 FLUTE 45° HELIX - SIDE CUTTING
VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE - SEITENFRÄSEN

E5423, E5415, E5446, E5447 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CAST IRON		ALUMINUM ALLOYS		COPPER. BRASS NON-FERROUS METALS	
HARDNESS	~ HRc30		HRc30 ~ HRc40							
STRENGTH	~ 1000N/mm²		1000 ~ 1300N/mm²							
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6.0	1600	190	1300	130	2100	440	5300	820	4000	620
8.0	1200	190	1000	130	1600	460	4000	820	3000	620
10.0	950	190	800	130	1300	480	3200	820	2400	620
12.0	800	190	660	130	1000	500	2600	820	2000	620
14.0	700	190	570	130	900	520	2300	820	1700	620
16.0	600	200	500	160	800	540	2000	820	1500	620
20.0	480	200	400	160	640	580	1600	820	1200	620



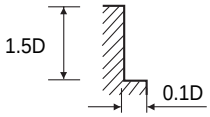
※The FEED, in long & extra long types, should be reduced by around 50%

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

CARBIDE, 3 FLUTE 45° HELIX TiCN-COATED - SIDE CUTTING
VOLLHARTMETALL, 3 SCHNEIDEN 45° RECHTSSPIRALE TiCN-BESCHICHTET - SEITENFRÄSEN

E5423, E5415, E5446, E5447 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CAST IRON		ALUMINUM ALLOYS		COPPER. BRASS NON-FERROUS METALS	
HARDNESS	~ HRc30		HRc30 ~ HRc40							
STRENGTH	~ 1000N/mm²		1000 ~ 1300N/mm²							
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
6.0	2000	250	1700	170	2700	570	6900	1000	5200	800
8.0	1560	250	1300	170	2000	600	5200	1000	3900	800
10.0	1240	250	1000	170	1700	620	4200	1000	3100	800
12.0	1000	250	860	170	1300	650	3400	1000	2600	800
14.0	900	250	740	170	1200	680	3000	1000	2200	800
16.0	800	260	650	210	1000	700	2600	1000	2000	800
20.0	620	260	520	210	830	750	2000	1000	1560	800



※The FEED, in long & extra long types, should be reduced by around 50%

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

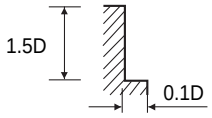
CARBIDE END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 4 FLUTE - SIDE CUTTING
VOLLHARTMETALL, 3 SCHNEIDEN - SEITENFRÄSEN

E5432, E5595, E5448, E5449, E5540, E5453 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		CAST IRON		ALUMINUM ALLOYS		COPPER. BRASS NON-FERROUS METALS	
HARDNESS	~ HRc 20		HRc 20 ~ HRc 30		HRc 30 ~ HRc 40									
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²									
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2.0	5500	240	4800	210	4000	160	8000	200	6500	450	16000	960	12000	720
3.0	3700	270	3200	240	2600	180	5300	200	4200	450	11000	960	8000	720
4.0	2800	270	2400	240	2000	180	4000	200	3200	450	8000	960	6000	720
5.0	2200	270	1900	240	1600	180	3200	200	2500	450	6400	960	4800	720
6.0	1800	270	1600	240	1300	180	2600	200	2100	540	5300	1020	4000	780
8.0	1400	270	1200	240	1000	180	2000	200	1600	570	4000	1020	3000	780
10.0	1100	270	950	240	800	180	1600	200	1300	600	3200	1020	2400	780
12.0	900	270	800	240	660	180	1300	200	1000	630	2600	1020	2000	780
14.0	800	270	700	240	570	180	1100	200	900	660	2300	1020	1700	780
16.0	700	300	600	260	500	220	1000	225	800	680	2000	1020	1500	780
20.0	550	300	480	260	400	220	800	240	640	720	1600	1020	1200	780



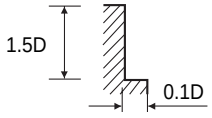
※The FEED, in long & extra long types, should be reduced by around 50%

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

CARBIDE, 4 FLUTE TiCN-COATED - SIDE CUTTING
VOLLHARTMETALL, 3 SCHNEIDEN TiCN-BESCHICHTET - SEITENFRÄSEN

E5432, E5595, E5448, E5449, E5540, E5453 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		CAST IRON		ALUMINUM ALLOYS		COPPER. BRASS NON-FERROUS METALS	
HARDNESS	~ HRc 20		HRc 20 ~ HRc 30		HRc 30 ~ HRc 40									
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²									
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
2.0	7200	310	6200	270	5200	210	10000	260	8500	580	20000	1200	15000	940
3.0	4800	350	4200	310	3400	230	6900	260	5500	580	14000	1200	10000	940
4.0	3640	350	3100	310	2600	230	5200	260	4200	580	10000	1200	8000	940
5.0	2860	350	2500	310	2000	230	4200	260	3300	580	8300	1200	6200	940
6.0	2400	350	2000	310	1700	230	3400	260	2700	700	6900	1300	5200	1000
8.0	1800	350	1500	310	1300	230	2600	260	2000	740	5200	1300	4000	1000
10.0	1400	350	1200	310	1000	230	2000	260	1700	780	4200	1300	3100	1000
12.0	1200	350	1000	310	860	230	1700	260	1300	820	3400	1300	2600	1000
14.0	1000	350	900	310	740	230	1400	260	1200	860	3000	1300	2200	1000
16.0	900	390	800	340	650	290	1300	290	1000	880	2600	1300	2000	1000
20.0	720	390	620	340	520	290	1000	310	830	940	2000	1300	1560	1000



※The FEED, in long & extra long types, should be reduced by around 50%

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

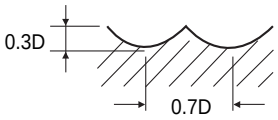
CARBIDE END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE BALL NOSE
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS

E5624, E5650, E5437, E5438, E5454, E5455 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CAST IRON		ALUMINUM ALLOYS	
HARDNESS	~ HRc30		HRc30 ~ HRc40					
STRENGTH	~ 1000N/mm²		1000 ~ 1300N/mm²					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R1.0 × 2.0	5200	90	4400	45	7300	150	21500	280
R1.5 × 3.0	3500	100	2900	45	4900	160	14300	280
R2.0 × 4.0	2600	100	2100	45	3600	200	10900	280
R2.5 × 5.0	2100	105	1700	45	2900	230	8800	330
R3.0 × 6.0	1700	100	1430	45	2400	250	7260	330
R4.0 × 8.0	1270	95	1100	45	1800	320	5500	380
R5.0 × 10.0	1000	95	870	45	1430	320	4300	380
R6.0 × 12.0	870	85	730	45	1200	320	3600	440
R7.0 × 14.0	750	85	620	45	1000	325	3000	440
R8.0 × 16.0	650	85	540	45	920	325	2700	380
R9.0 × 18.0	580	85	480	45	810	325	2400	380
R10.0 × 20.0	500	85	430	45	730	290	2100	380



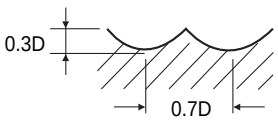
※The FEED, in long & extra long types, should be reduced by around 50%

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

CARBIDE, 2 FLUTE BALL NOSE TiCN-COATED
VOLLHARTMETALL, 2 SCHNEIDEN STIRNRADIUS TiCN-BESCHICHTET

E5624, E5650, E5437, E5438, E5454, E5455 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CAST IRON		ALUMINUM ALLOYS	
HARDNESS	~ HRc30		HRc30 ~ HRc40					
STRENGTH	~ 1000N/mm²		1000 ~ 1300N/mm²					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R1.0 × 2.0	6760	120	5700	60	9500	200	28000	360
R1.5 × 3.0	4500	130	3800	60	6400	210	18600	360
R2.0 × 4.0	3400	130	2700	60	4700	260	14000	360
R2.5 × 5.0	2700	135	2200	60	3800	300	11000	430
R3.0 × 6.0	2200	130	1860	60	3100	330	9400	430
R4.0 × 8.0	1600	120	1400	60	2300	420	7200	490
R5.0 × 10.0	1300	120	1100	60	1860	420	5600	490
R6.0 × 12.0	1100	110	950	60	1600	420	4700	570
R7.0 × 14.0	980	110	800	60	1300	420	3900	570
R8.0 × 16.0	850	110	700	60	1200	420	3500	490
R9.0 × 18.0	750	110	620	60	1000	420	3100	490
R10.0 × 20.0	650	110	560	60	950	380	2700	490



※The FEED, in long & extra long types, should be reduced by around 50%

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

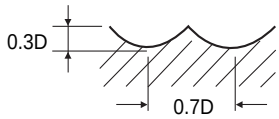
CARBIDE END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 4 FLUTE BALL NOSE
VOLLHARTMETALL, 4 SCHNEIDEN STIRNRADIUS

E5634, E5524 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CAST IRON		ALUMINUM ALLOYS	
HARDNESS	~ HRc30		HRc30 ~ HRc40					
STRENGTH	~ 1000N/mm²		1000 ~ 1300N/mm²					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R1.0 × 2.0	5200	140	4400	70	7300	230	21500	420
R1.5 × 3.0	3500	150	2900	70	4900	240	14300	420
R2.0 × 4.0	2600	150	2100	70	3600	300	10900	420
R2.5 × 5.0	2100	160	1700	70	2900	350	8800	500
R3.0 × 6.0	1700	150	1430	70	2400	380	7260	500
R4.0 × 8.0	1270	140	1100	70	1800	480	5500	570
R5.0 × 10.0	1000	140	870	70	1430	480	4300	570
R6.0 × 12.0	870	130	730	70	1200	480	3600	660
R7.0 × 14.0	750	130	620	70	1000	490	3000	660
R8.0 × 16.0	650	130	540	70	920	490	2700	570
R9.0 × 18.0	580	130	480	70	810	490	2400	570
R10.0 × 20.0	500	130	430	70	730	440	2100	570



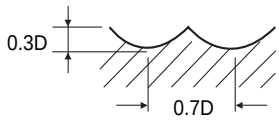
※The FEED, in long & extra long types, should be reduced by around 50%

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

CARBIDE, 4 FLUTE BALL NOSE TiCN-COATED
VOLLHARTMETALL, 4 SCHNEIDEN STIRNRADIUS TiCN-BESCHICHTET

E5634, E5524 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CAST IRON		ALUMINUM ALLOYS	
HARDNESS	~ HRc30		HRc30 ~ HRc40					
STRENGTH	~ 1000N/mm²		1000 ~ 1300N/mm²					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
R1.0 × 2.0	6760	180	5700	90	9500	300	28000	550
R1.5 × 3.0	4500	200	3800	90	6400	310	18600	550
R2.0 × 4.0	3400	200	2700	90	4700	390	14000	550
R2.5 × 5.0	2700	210	2200	90	3800	450	11000	650
R3.0 × 6.0	2200	200	1860	90	3100	490	9400	650
R4.0 × 8.0	1600	180	1400	90	2300	620	7200	740
R5.0 × 10.0	1300	180	1100	90	1860	620	5600	740
R6.0 × 12.0	1100	170	950	90	1600	620	4700	860
R7.0 × 14.0	980	170	800	90	1300	640	3900	860
R8.0 × 16.0	850	170	700	90	1200	640	3500	740
R9.0 × 18.0	750	170	620	90	1000	640	3100	740
R10.0 × 20.0	650	170	560	90	950	570	2700	740



※The FEED, in long & extra long types, should be reduced by around 50%

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

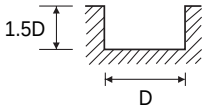
CARBIDE END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 3 FLUTE ROUGHING
VOLLHARTMETALL, 3 SCHNEIDEN SCHRUPPFRÄSER

E5742, E5711 SERIES <Slotting>

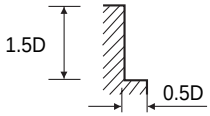
MATERIAL	ALUMINUM NONFERROUS METALS	
DIAMETER	RPM	FEED
6.0	10500	800
8.0	8000	700
10.0	6500	750
12.0	5250	800
16.0	4000	800
20.0	3200	800



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

E5742, E5711 SERIES <Side Cutting>

MATERIAL	ALUMINUM NONFERROUS METALS	
DIAMETER	RPM	FEED
6.0	10500	800
8.0	8000	700
10.0	6500	750
12.0	5250	800
16.0	4000	800
20.0	3200	800

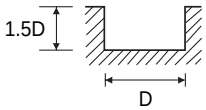


RPM = rev./min.
FEED = mm/min.

CARBIDE, 3 FLUTE ROUGHING TiCN-COATED
VOLLHARTMETALL, 3 SCHNEIDEN SCHRUPPFRÄSER TiCN-BESCHICHTET

E5742, E5711 SERIES <Slotting>

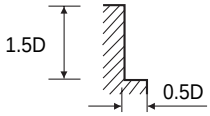
MATERIAL	ALUMINUM NONFERROUS METALS	
DIAMETER	RPM	FEED
6.0	13500	1050
8.0	10500	900
10.0	8500	1000
12.0	6800	1050
16.0	5200	1050
20.0	4200	1050



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

E5742, E5711 SERIES <Side Cutting>

MATERIAL	ALUMINUM NONFERROUS METALS	
DIAMETER	RPM	FEED
6.0	13500	1050
8.0	10500	900
10.0	8500	950
12.0	6800	1050
16.0	5200	1050
20.0	4200	1050

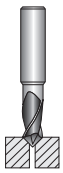


RPM = rev./min.
FEED = mm/min.

CARBIDE, 2 FLUTE - CHAMFERING
VOLLHARTMETALL, 2 SCHNEIDEN - SENKEN

E5400 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		ALUMINUM ALLOYS	
HARDNESS	~ HRc20		HRc20 ~ HRc30		HRc30 ~ HRc40					
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
3.0	4400	220	3500	160	3000	140	2400	100	11000	550
4.0	3600	220	3000	160	2500	140	2000	100	9000	580
5.0	2860	230	2400	170	2000	140	1760	105	6900	620
6.0	2300	240	2000	170	1600	140	1400	105	5600	640
8.0	1760	250	1540	180	1200	145	1000	110	4400	660
10.0	1500	250	1300	190	1100	145	870	110	4000	680
12.0	1300	260	1100	200	900	150	730	115	3500	700
10.0	1000	250	950	200	700	160	550	120	2750	740
20.0	950	260	750	210	600	160	530	130	2200	770



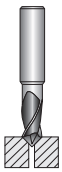
※The FEED, in long & extra long types, should be reduced by around 50%

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

CARBIDE, 2 FLUTE TiCN-COATED - CHAMFERING
VOLLHARTMETALL, 2 SCHNEIDEN TiCN-BESCHICHTET - SENKEN

E5400 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		ALUMINUM ALLOYS	
HARDNESS	~ HRc20		HRc20 ~ HRc30		HRc30 ~ HRc40					
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
3.0	5700	280	4500	210	4000	180	3100	130	14000	720
4.0	4700	280	4000	210	3300	180	2600	130	11000	750
5.0	3700	300	3100	220	2600	180	2300	135	9000	810
6.0	3000	310	2600	220	2000	180	1800	135	7300	830
8.0	2300	330	2000	230	1600	190	1300	145	5700	860
10.0	2000	330	1700	250	1400	190	1100	145	5200	880
12.0	1700	340	1400	260	1200	200	950	150	4500	900
16.0	1300	330	1200	260	900	210	700	155	3600	960
20.0	1200	340	1000	270	800	210	690	170	2900	1000



※The FEED, in long & extra long types, should be reduced by around 50%

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

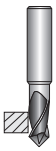
CARBIDE END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE - CHAMFERING & SIDE CUTTING
VOLLHARTMETALL, 2 SCHNEIDEN - SENKEN & SEITENFRÄSEN

E5400 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		ALUMINUM ALLOYS	
HARDNESS	~ HRc20		HRc20 ~ HRc30		HRc30 ~ HRc40					
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
3.0	5900	95	3900	65	3300	50	2400	40	14000	230
4.0	4800	95	3200	65	2800	50	2000	40	12000	240
5.0	3800	100	2500	65	2200	55	1760	45	9500	250
6.0	3000	110	2000	70	1800	60	1400	50	7700	300
8.0	2300	115	1540	75	1300	65	1100	55	5800	350
10.0	2000	120	1300	80	1200	65	1000	55	5100	380
12.0	1760	130	1100	90	1000	70	840	60	4400	400
16.0	1300	140	900	90	770	70	660	60	3300	330
20.0	1100	140	700	90	600	70	440	60	2640	340

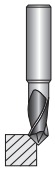
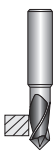
※The FEED, in long & extra long types, should be reduced by around 50%

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

CARBIDE, 2 FLUTE TiCN-COATED - CHAMFERING & SIDE CUTTING
VOLLHARTMETALL, 2 SCHNEIDEN TiCN-BESCHICHTET - SENKEN & SEITENFRÄSEN

E5400 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		ALUMINUM ALLOYS	
HARDNESS	~ HRc20		HRc20 ~ HRc30		HRc30 ~ HRc40					
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
3.0	7600	120	5000	85	4300	65	3100	50	18000	300
4.0	6200	120	4200	85	3600	65	2600	50	16000	310
5.0	5000	130	3300	85	2900	70	2300	60	13000	330
6.0	4000	140	2600	90	2300	80	1800	65	10000	390
8.0	3000	150	2000	100	1700	85	1400	70	7500	450
10.0	2600	160	1700	105	1600	85	1300	70	6600	490
12.0	2300	170	1400	120	1300	90	1100	80	5700	520
16.0	1700	180	1200	120	1000	90	860	80	4300	430
20.0	1400	180	900	120	800	90	570	80	3400	440

※The FEED, in long & extra long types, should be reduced by around 50%

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

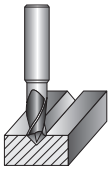
CARBIDE END MILLS

RECOMMENDED CUTTING CONDITIONS
EMPFOHLENE SCHNEIDKONDITIONEN

CARBIDE, 2 FLUTE - V-GROOVING
VOLLHARTMETALL, 2 SCHNEIDEN - ENTGRATEN

E5400 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		ALUMINUM ALLOYS	
HARDNESS	~ HRc20		HRc20 ~ HRc30		HRc30 ~ HRc40					
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
3.0	5900	60	4000	30	3300	25	2400	20	14000	220
4.0	4800	60	3300	30	2800	25	2000	20	11800	230
5.0	3800	60	2500	30	2200	25	1760	20	9500	240
6.0	3000	60	2000	30	1800	30	1400	20	7700	250
8.0	2300	65	1540	35	1300	35	1100	20	5800	260
10.0	2000	65	1300	35	1200	35	1000	20	5000	260
12.0	1760	65	1000	40	1000	35	840	20	4400	260
16.0	1400	65	900	40	770	35	660	25	3300	270
20.0	1100	65	700	40	600	35	440	25	2600	270



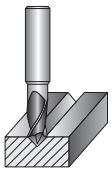
※The FEED, in long & extra long types, should be reduced by around 50%

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

CARBIDE, 2 FLUTE TiCN-COATED - V-GROOVING
VOLLHARTMETALL, 2 SCHNEIDEN TiCN-BESCHICHTET - ENTGRATEN

E5400 SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		STAINLESS STEELS TITANIUM ALLOYS		ALUMINUM ALLOYS	
HARDNESS	~ HRc20		HRc20 ~ HRc30		HRc30 ~ HRc40					
STRENGTH	500 ~ 800N/mm²		800 ~ 1000N/mm²		1000 ~ 1300N/mm²					
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
3.0	7600	80	5000	40	4300	30	3100	25	18000	290
4.0	6200	80	4300	40	3600	30	2600	25	15000	300
5.0	5000	80	3300	40	2900	30	2300	25	12000	310
6.0	4000	80	2600	40	2300	40	1800	25	10000	330
8.0	3000	85	2000	45	1700	45	1400	25	7500	340
10.0	2600	85	1700	45	1600	45	1300	25	6500	340
12.0	2300	85	1300	50	1300	45	1100	25	5700	340
16.0	1800	85	1200	50	1000	45	860	30	4300	350
20.0	1400	85	900	50	800	45	570	30	3400	350



※The FEED, in long & extra long types, should be reduced by around 50%

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