

# HSS



Being the best through innovation



# MILLING CUTTER

## FRÄSER

- General Works. Available Dovetail, Woodruff Keyseat, T-slot, Side Milling Cutters and HSS (8% cobalt) Corner Rounding, Shell End Mills
- Für allgemeinen Einsatz. Winkelschaftfräser, Schlitzfräser, T-Nutenfräser, Konkavfräser, Scheibenfräser und HSSE-Co8 Walzenstirnfräser

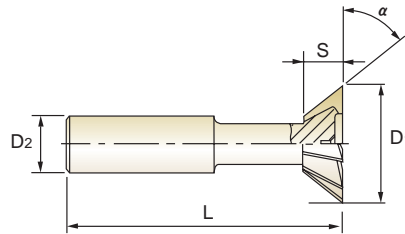
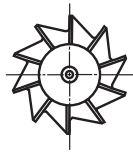
# SELECTION GUIDE

ITEM	MODEL	DESCRIPTION	SIZE		PAGE
			MIN	MAX	
<b>ML012</b> <b>ML022</b> <b>ML112</b> <b>ML122</b>		HSS-E, DOVETAIL CUTTERS TYPE "A", "C", "E" HSS-E, WINKELFRÄSER FORM "A", "C", "E"	D16.0	D50.0	<b>979</b>
<b>ML032</b> <b>ML042</b> <b>ML132</b> <b>ML142</b>		HSS-E, DOVETAIL CUTTERS TYPE "B", "D", "F" HSS-E, WINKELFRÄSER FORM "B", "D", "F"	D16.0	D38.0	<b>980</b>
<b>ML062</b> <b>ML162</b>		HSS-E, WOODRUFF KEYSEAT CUTTERS TYPE "B", "D", "F" HSS-E, SCHLITZFRÄSER FORM "B", "D", "F"	D10.5	D45.5	<b>981</b>
<b>ML072</b> <b>ML172</b>		HSS-E, T-SLOT CUTTERS TYPE "AA", "AB", "AD" HSS-E, SCHAFTERFRÄSER FÜR T-NUTEN FORM "AA", "AB", "AD"	D12.5	D40.0	<b>983</b>
<b>ML092</b>		HSS-E, SIDE AND FACE MILLING CUTTERS with STRAIGHT TEETH HSS-E, SCHEIBENFRÄSER mit GERADEVERZAHNT	D50.0	D125.0	<b>984</b>
<b>ML102</b>		HSS-E, SIDE AND FACE MILLING CUTTERS with STAGGERED TEETH HSS-E, SCHEIBENFRÄSER mit KREUZVERZAHNT	D50.0	D200.0	<b>985</b>
<b>E2675</b>		HSSCo8, MULTI FLUTE SHELL END MILL HSSCo8, MULTI SCHNEIDEN WALZENSTIRNFRÄSER	D30.0	D160.0	<b>988</b>
<b>E2676</b>		HSSCo8, MULTI FLUTE SHELL END MILL for ALUMINUM HSSCo8, MULTI SCHNEIDEN WALZENSTIRNFRÄSER für ALUMINIUM	D30.0	D100.0	<b>989</b>
<b>E2677</b>		HSSCo8, MULTI FLUTE ROUGHING SHELL END MILL - COARSE HSSCo8, MULTI SCHNEIDEN WALZENSTIRN-SCHRUPPFÄSER - GROBES	D40.0	D160.0	<b>990</b>
<b>E2678</b>		HSSCo8, MULTI FLUTE ROUGHING SHELL END MILL - FINE HSSCo8, MULTI SCHNEIDEN WALZENSTIRN-SCHRUPPFÄSER - FEINES	D40.0	D160.0	<b>991</b>
<b>E2679</b>		HSSCo8, MULTI FLUTE ROUGHING & FINISHING SHELL END MILL HSSCo8, MULTI SCHNEIDEN WALZENSTIRN-SCHRUPPSCHLICHTFRÄSER	D40.0	D160.0	<b>992</b>
<b>E2498</b>		HSSCo8, 4 FLUTE CORNER ROUNDING CUTTERS HSSCo8, 4 SCHNEIDEN VIERTELKREISFRÄSER	D8.0	D56.0	<b>993</b>
RECOMMENDED CUTTING CONDITIONS EMPFOHLENE SCHNEIDKONDITIONEN					<b>994</b>

**HSS-E, DOVETAIL CUTTERS TYPE "A", "C", "E"**  
**HSS-E, WINKELFRÄSER FORM "A", "C", "E"**

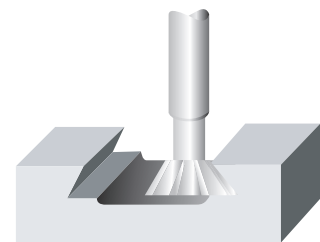
► Recommended for use in place of arbor and threaded hole type cutters to reduce set time and facilitate handling.

► Empfohlen zur Nutzung anstelle von Arbor und threaded hole type Cutters um Montierzeit zu verkürzen und Handhabung zu erleichtern.



Unit : mm

EDP No.			Cutter Diameter	Width of Face	Divergent Taper Angle	Shank Diameter	Overall Length	No. of Teeth
PLAIN	FLAT	THREAD	D1(js16)	S(js14)	$\alpha(\pm 15')$	D2(h6)	L(js18)	Z
ML01201601	ML11201601	ML21201601	16.0	4	45°	12	60	6
ML01202001	ML11202001	ML21202001	20.0	5	45°	12	63	6
ML01202201	ML11202201	ML21202201	22.0	6	45°	12	67	6
ML01202501	ML11202501	ML21202501	25.0	6.3	45°	16	67	8
ML01202801	ML11202801	ML21202801	28.0	7.5	45°	16	67	8
ML01203201	ML11203201	ML21203201	32.0	8	45°	16	71	10
ML01203801	ML11203801	ML21203801	38.0	10	45°	16	80	12
ML02201601	ML12201601	ML22201601	16.0	6.3	60°	12	60	6
ML02202001	ML12202001	ML22202001	20.0	8	60°	12	63	6
ML02202201	ML12202201	ML22202201	22.0	9	60°	12	67	6
ML02202501	ML12202501	ML22202501	25.0	10	60°	16	67	8
ML02202801	ML12202801	ML22202801	28.0	11	60°	16	67	8
ML02203201	ML12203201	ML22203201	32.0	12.5	60°	16	71	10
ML02203801	ML12203801	ML22203801	38.0	16	60°	16	80	12
ML02204001	ML12204001	ML22204001	40.0	13	60°	25	85	12
ML02205001	ML12205001	ML22205001	50.0	16	60°	25	100	16



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

Nominal-Diameter in mm / Nennmaßbereich in mm							
	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	over 50 to 80 über 50 bis 80	over 80 to 120 über 80 bis 120
Tolerance range in mm / Toleranzwerte in mm							
js16	± 0.375	± 0.45	± 0.55	± 0.65	± 0.80	± 0.95	± 1.10
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435
js18	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30	± 2.70
Tolerance range in $\mu\text{m}$ / Toleranzwerte in $\mu\text{m}$							
h6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16	0 - 19	0 - 22

CARBIDE

HSS

CBN  
END MILLS

i-Xmill  
END MILLS

X5070  
END MILLS

X-POWER  
END MILLS

JET-POWER  
END MILLS

V7 Mill INOX  
END MILLS

V7 Mill STEEL  
END MILLS

ALU-POWER  
END MILLS

D-POWER  
END MILLS

K-2 CARBIDE  
END MILLS

GENERAL  
CARBIDE  
END MILLS

TANK-POWER  
END MILLS

GENERAL  
HSS  
END MILLS

MILLING  
CUTTERS

TECHNICAL  
DATA



ML032, ML042 SERIES

ML132, ML142 SERIES

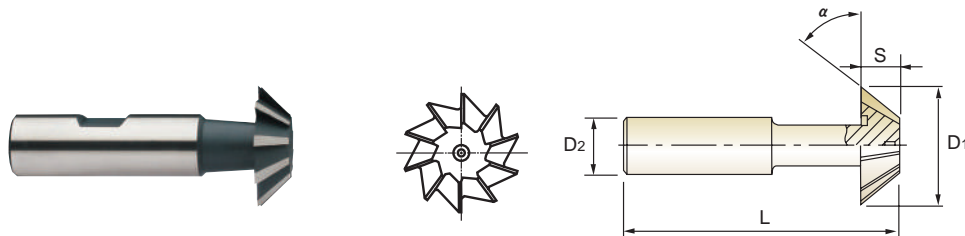
ML232, ML242 SERIES

PLAIN SHANK  
GLATTER ZYLINDERSCHAFT

FLAT SHANK  
SEITLICHEN MITNAHMEFLÄCHEN

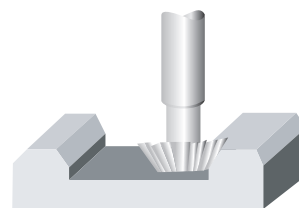
THREAD SHANK  
ANZUGSGEWINDE

HSS-E, DOVETAIL CUTTERS TYPE "B", "D", "F"  
HSS-E, WINKELFRÄSER FORM "B", "D", "F"



Unit : mm

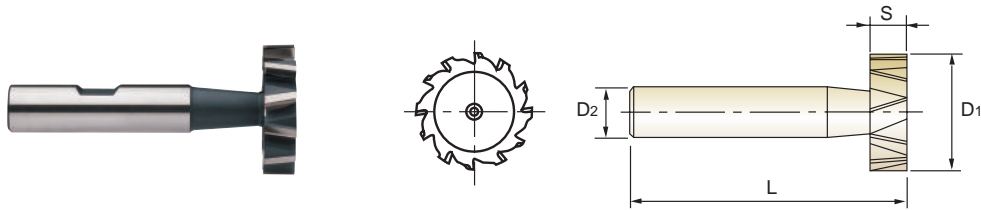
EDP No.			Cutter Diameter D1(js16)	Width of Face S(js14)	Convergent Taper Angle $\alpha(\pm 15')$	Shank Diameter D2(h6)	Overall Length L(js18)	No. of Teeth Z
PLAIN	FLAT	THREAD						
ML03201601	ML13201601	ML23201601	16.0	4	45°	12	60	6
ML03202001	ML13202001	ML23202001	20.0	5	45°	12	63	6
ML03202201	ML13202201	ML23202201	22.0	6	45°	12	67	6
ML03202501	ML13202501	ML23202501	25.0	6.3	45°	16	67	8
ML03202801	ML13202801	ML23202801	28.0	7.5	45°	16	67	8
ML03203201	ML13203201	ML23203201	32.0	8	45°	16	71	10
ML03203801	ML13203801	ML23203801	38.0	10	45°	16	80	12
ML04201601	ML14201601	ML24201601	16.0	6.3	60°	12	60	6
ML04202001	ML14202001	ML24202001	20.0	8	60°	12	63	6
ML04202201	ML14202201	ML24202201	22.0	9	60°	12	67	6
ML04202501	ML14202501	ML24202501	25.0	10	60°	16	67	8
ML04202801	ML14202801	ML24202801	28.0	11	60°	16	67	8
ML04203201	ML14203201	ML24203201	32.0	12.5	60°	16	71	10
ML04203801	ML14203801	ML24203801	38.0	16	60°	16	80	12



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

Nominal-Diameter in mm / Nennmaßbereich in mm						
	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	over 50 to 80 über 50 bis 80
Tolerance range in mm / Toleranzwerte in mm						
js16	± 0.375	± 0.45	± 0.55	± 0.65	± 0.80	± 0.95
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37
js18	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30
Tolerance range in $\mu\text{m}$ / Toleranzwerte in $\mu\text{m}$						
h6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16	0 - 19

**HSS-E, WOODRUFF KEYSEAT CUTTERS TYPE "B", "D", "F"**  
**HSS-E, SCHLITZFRÄSER FORM "B", "D", "F"**



Unit : mm

EDP No.			Cutter Diameter	Width of Face	Shank Diameter	Overall Length	No. of Teeth
PLAIN	FLAT	THREAD	D1(h11)	S(e8)	D2(h6)	L(js18)	Z
MLO6210E01	ML16210E01	ML26210E01	10.5	2	6	50	8
MLO6210E02	ML16210E02	ML26210E02	10.5	2.5	6	50	8
MLO6210E03	ML16210E03	ML26210E03	10.5	3	6	50	8
MLO6213E01	ML16213E01	ML26213E01	13.5	2	10	56	8
MLO6213E02	ML16213E02	ML26213E02	13.5	2.5	10	56	8
MLO6213E03	ML16213E03	ML26213E03	13.5	3	10	56	8
MLO6213E04	ML16213E04	ML26213E04	13.5	4	10	56	8
MLO6216E01	ML16216E01	ML26216E01	16.5	2.5	10	56	8
MLO6216E02	ML16216E02	ML26216E02	16.5	3	10	56	8
MLO6216E03	ML16216E03	ML26216E03	16.5	4	10	56	8
MLO6216E04	ML16216E04	ML26216E04	16.5	5	10	56	8
MLO6219E01	ML16219E01	ML26219E01	19.5	3	10	56	8
MLO6219E02	ML16219E02	ML26219E02	19.5	4	10	63	8
MLO6219E03	ML16219E03	ML26219E03	19.5	5	10	63	8
MLO6219E04	ML16219E04	ML26219E04	19.5	6	10	63	8
MLO6222E01	ML16222E01	ML26222E01	22.5	4	10	63	10
MLO6222E02	ML16222E02	ML26222E02	22.5	5	10	63	10
MLO6222E03	ML16222E03	ML26222E03	22.5	6	10	63	10
MLO6222E04	ML16222E04	ML26222E04	22.5	8	10	63	10
MLO6225E01	ML16225E01	ML26225E01	25.5	5	10	63	10
MLO6225E02	ML16225E02	ML26225E02	25.5	6	10	63	10
MLO6225E03	ML16225E03	ML26225E03	25.5	7	10	63	10
MLO6225E04	ML16225E04	ML26225E04	25.5	8	10	63	10
MLO6228E01	ML16228E01	ML26228E01	28.5	5	10	63	10
MLO6228E02	ML16228E02	ML26228E02	28.5	6	10	63	10
MLO6228E03	ML16228E03	ML26228E03	28.5	7	10	63	10
MLO6228E04	ML16228E04	ML26228E04	28.5	8	10	63	10
MLO6228E05	ML16228E05	ML26228E05	28.5	10	12	71	10

CBN  
END MILLS

i-Xmill  
END MILLS

X5070  
END MILLS

X-POWER  
END MILLS

JET-POWER  
END MILLS

V7 Mill INOX  
END MILLS

V7 Mill STEEL  
END MILLS

ALU-POWER  
END MILLS

D-POWER  
END MILLS

K-2 CARBIDE  
END MILLS

GENERAL  
CARBIDE  
END MILLS

TANK-POWER  
END MILLS

GENERAL  
HSS  
END MILLS

MILLING  
CUTTERS

TECHNICAL  
DATA

CARBIDE

HSS

CBN  
END MILLS

i-Xmill  
END MILLS

X5070  
END MILLS

X-POWER  
END MILLS

JET-POWER  
END MILLS

V7 Mill INOX  
END MILLS

V7 Mill STEEL  
END MILLS

ALU-POWER  
END MILLS

D-POWER  
END MILLS

K-2 CARBIDE  
END MILLS

GENERAL  
CARBIDE  
END MILLS

TANK-POWER  
END MILLS

GENERAL  
HSS  
END MILLS

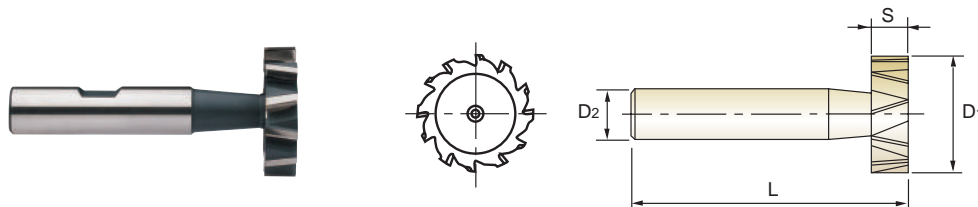
MILLING  
CUTTERS

TECHNICAL  
DATA



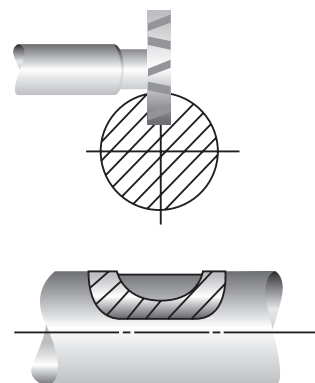
**ML062 SERIES** PLAIN SHANK  
GLATTER ZYLINDERSCHAFT  
**ML162 SERIES** FLAT SHANK  
SEITLICHEN MITNAHMEFLÄCHEN  
**ML262 SERIES** THREAD SHANK  
ANZUGSGEWINDE

**HSS-E, WOODRUFF KEYSEAT CUTTERS TYPE "B", "D", "F"**  
**HSS-E, SCHLITZFRÄSER FORM "B", "D", "F"**



Unit : mm

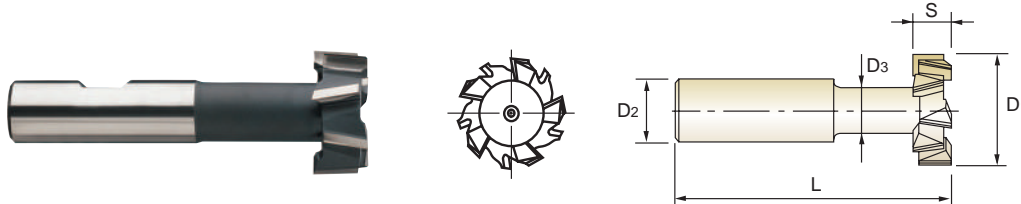
EDP No.			Cutter Diameter	Width of Face	Shank Diameter	Overall Length	No. of Teeth
PLAIN	FLAT	THREAD	D1(h11)	S(e8)	D2(h6)	L(js18)	Z
ML06232E01	ML16232E01	ML26232E01	32.5	5	12	71	12
ML06232E02	ML16232E02	ML26232E02	32.5	6	12	71	12
ML06232E03	ML16232E03	ML26232E03	32.5	7	12	71	12
ML06232E04	ML16232E04	ML26232E04	32.5	8	12	71	12
ML06232E05	ML16232E05	ML26232E05	32.5	10	12	71	12
ML06238E01	ML16238E01	ML26238E01	38.5	7	12	71	12
ML06238E02	ML16238E02	ML26238E02	38.5	8	12	71	12
ML06238E03	ML16238E03	ML26238E03	38.5	9	12	71	12
ML06238E04	ML16238E04	ML26238E04	38.5	10	12	71	12
ML06245E01	ML16245E01	ML26245E01	45.5	10	12	71	14



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

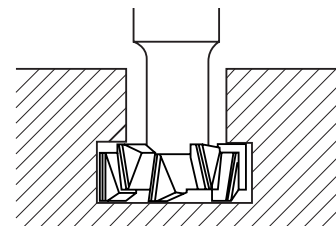
Nominal-Diameter in mm / Nennmaßbereich in mm							
	from 1 to 3 von 1 bis 3	over 3 to 6 über 3 bis 6	over 6 to 10 über 6 bis 10	over 10 to 18 über 10 bis 18	over 18 to 30 über 18 bis 30	over 30 to 50 über 30 bis 50	over 50 to 80 über 50 bis 80
Tolerance range in mm / Toleranzwerte in mm							
js18	—	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30
Tolerance range in μm / Toleranzwerte in μm							
h11	0 - 60	0 - 75	0 - 90	0 - 110	0 - 130	0 - 160	0 - 190
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89	- 60 - 106
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16	0 - 19

**HSS-E, T-SLOT CUTTERS TYPE "AA", "AB", "AD"**  
**HSS-E, SCHAFTERFRÄSER FÜR T-NUTEN FORM "AA", "AB", "AD"**



Unit : mm

EDP No.			Cutter Diameter	Width of Face	Shank Diameter	Neck Diameter	Overall Length	No. of Teeth
PLAIN	FLAT	THREAD	D <sub>1</sub> (d11)	S(d11)	D <sub>2</sub> (h6)	D <sub>3</sub> (h12)	L(js18)	Z
ML07212E01	ML17212E01	ML27212E01	12.5	6	10	5	57	6
ML07201601	ML17201601	ML27201601	16.0	8	10	6.5	62	6
ML07201801	ML17201801	ML27201801	18.0	8	12	8	70	6
ML07201901	ML17201901	ML27201901	19.0	9	12	8	71	6
ML07202101	ML17202101	ML27202101	21.0	9	12	10	74	6
ML07202201	ML17202201	ML27202201	22.0	10	12	10	75	6
ML07202501	ML17202501	ML27202501	25.0	11	16	12	82	6
ML07202801	ML17202801	ML27202801	28.0	12	16	13	83	6
ML07203201	ML17203201	ML27203201	32.0	14	16	15	90	8
ML07203601	ML17203601	ML27203601	36.0	16	25	17	103	8
ML07204001	ML17204001	ML27204001	40.0	18	25	19	108	8



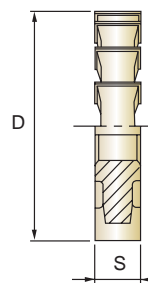
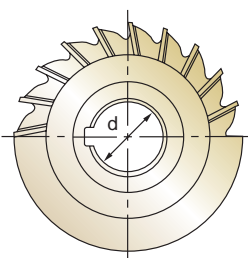
**Tolerances according to DIN 7160 & 7161**  
**Toleranzen nach DIN 7160 & 7161**

Nominal-Diameter in mm / Nennmaßbereich in mm							
	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	over 50 to 80 über 50 bis 80	over 80 to 120 über 80 bis 120
Tolerance range in mm / Toleranzwerte in mm							
<b>h12</b>	0 - 0.12	0 - 0.15	0 - 0.18	0 - 0.21	0 - 0.25	0 - 0.30	0 - 0.35
<b>js18</b>	± 0.90	± 1.10	± 1.35	± 1.65	± 1.95	± 2.30	± 2.70
Tolerance range in µm / Toleranzwerte in µm							
<b>d11</b>	- 30 - 105	- 40 - 130	- 50 - 160	- 65 - 195	- 80 - 240	- 100 - 290	- 120 - 340
<b>h6</b>	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16	0 - 19	0 - 22

**HSS-E, SIDE AND FACE MILLING CUTTERS with STRAIGHT TEETH**  
**HSS-E, SCHEIBENFRÄSER mit GERADEVERZAHNT**

▶ The tools are used for general purpose side and straddle milling where deep cut is not required.

▶ Diese Werkzeuge werden bei allgemeinen Seiten- und Breitfräsen eingesetzt, wo Tiefschnitte nicht vorkommen.

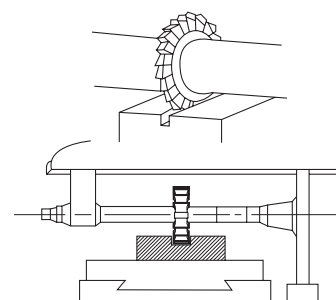


Unit : mm

EDP No.	Cutter Diameter D(js14)	Width of Face S(k11)	Internal Diameter d(H7)	No. of Teeth Z
ML09205001	50.0	4	16	18
ML09205002	50.0	5	16	18
ML09205003	50.0	6	16	18
ML09205004	50.0	8	16	16
ML09205005	50.0	10	16	16
ML09206301	63.0	5	22	22
ML09206302	63.0	6	22	22
ML09206303	63.0	8	22	20
ML09206304	63.0	10	22	20
ML09206305	63.0	12	22	20
ML09208001	80.0	6	22	24
ML09208002	80.0	8	22	24
ML09208003	80.0	10	22	24
ML09208004	80.0	12	22	20
ML09208005	80.0	6	27	24
ML09208006	80.0	8	27	24
ML09208007	80.0	10	27	24
ML09208008	80.0	12	27	20
ML09210001	100.0	6	27	26
ML09210002	100.0	8	27	26
ML09210003	100.0	10	27	22
ML09210004	100.0	6	32	26
ML09210005	100.0	8	32	26
ML09210006	100.0	10	32	22
ML09210007	100.0	12	32	22
ML09212501	125.0	8	32	30
ML09212502	125.0	10	32	30
ML09212503	125.0	12	32	24

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

Nominal-Diameter in mm / Nennmaßbereich in mm								
	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	over 50 to 80 über 50 bis 80	over 80 to 120 über 80 bis 120	over 120 to 180 über 120 bis 180
Tolerance range in mm / Toleranzwerte mm								
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50
Tolerance range in μm / Toleranzwerte in μm								
k11	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0	+ 250 0
H7	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 35 0	+ 40 0



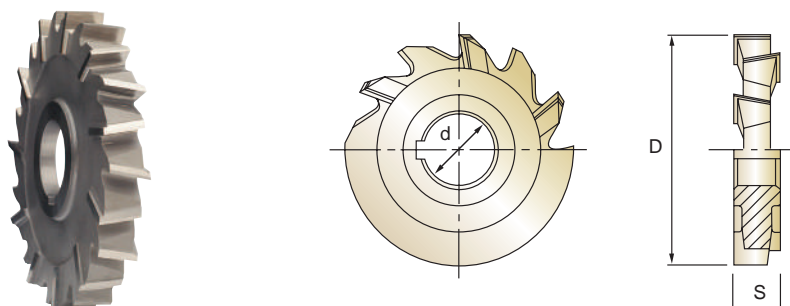


# HSS-E, SIDE AND FACE MILLING CUTTERS with STAGGERED TEETH

## HSS-E, SCHEIBENFRÄSER mit KREUZVERZAHNT

► The type of cutter is recommended for slotting operations.  
 The alternate spiral effectively counteracts all tendency to chatter.

► Dieser Typ ist zum Schlitzfräsen geeignet. Das alternierende  
 Spiral wirkt allen Schnatterbewegungen entgegen.



P.996

Unit : mm

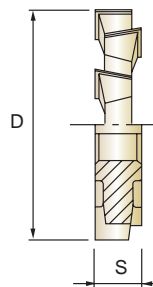
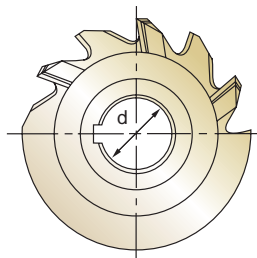
EDP No.	Cutter Diameter D(js14)	Width of Face S(k11)	Internal Diameter d(H7)	No. of Teeth Z
ML10205001	50.0	3	16	14
ML10205002	50.0	4	16	14
ML10205003	50.0	5	16	14
ML10205004	50.0	6	16	14
ML10205005	50.0	7	16	14
ML10205006	50.0	8	16	14
ML10205007	50.0	9	16	14
ML10205008	50.0	10	16	14
ML10206301	63.0	3	22	16
ML10206302	63.0	4	22	16
ML10206303	63.0	5	22	16
ML10206304	63.0	6	22	16
ML10206305	63.0	7	22	16
ML10206306	63.0	8	22	16
ML10206307	63.0	9	22	16
ML10206308	63.0	10	22	16
ML10206309	63.0	12	22	16
ML10206310	63.0	14	22	16
ML10206311	63.0	16	22	16
ML10206312	63.0	18	22	16
ML10208001	80.0	3	22	18
ML10208002	80.0	4	22	18
ML10208003	80.0	5	22	18
ML10208004	80.0	6	22	18
ML10208005	80.0	7	22	18
ML10208006	80.0	8	22	18
ML10208007	80.0	9	22	18
ML10208008	80.0	10	22	18
ML10208009	80.0	12	22	18
ML10208010	80.0	14	22	18
ML10208011	80.0	16	22	18
ML10208012	80.0	18	22	18
ML10208013	80.0	20	22	18
ML10208014	80.0	4	27	18
ML10208015	80.0	5	27	18
ML10208016	80.0	6	27	18
ML10208017	80.0	7	27	18
ML10208018	80.0	8	27	18

## HSS-E, SIDE AND FACE MILLING CUTTERS with STAGGERED TEETH

### HSS-E, SCHEIBENFRÄSER mit KREUZVERZAHNT

► The type of cutter is recommended for slotting operations.  
The alternate spiral effectively counteracts all tendency to chatter.

► Dieser Typ ist zum Schlitzfräsen geeignet. Das alternierende  
Spiral wirkt allen Schnatterbewegungen entgegen.



HSS-E

DIN  
885-A

H



P.996

Unit : mm

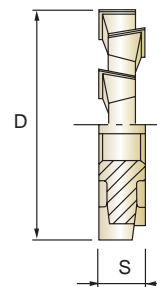
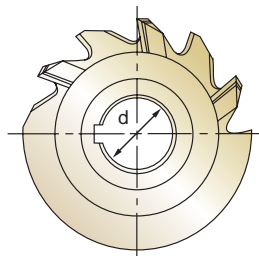
EDP No.	Cutter Diameter	Width of Face	Internal Diameter	No. of Teeth
	D(js14)	S(k11)	d(H7)	Z
ML10208019	80.0	9	27	18
ML10208020	80.0	10	27	18
ML10208021	80.0	12	27	18
ML10208022	80.0	14	27	18
ML10208023	80.0	16	27	18
ML10208024	80.0	18	27	18
ML10208025	80.0	20	27	18
ML10210001	100.0	3	27	20
ML10210002	100.0	4	27	20
ML10210003	100.0	5	27	20
ML10210004	100.0	6	27	20
ML10210005	100.0	7	27	20
ML10210006	100.0	8	27	20
ML10210007	100.0	9	27	20
ML10210008	100.0	10	27	20
ML10210009	100.0	12	27	20
ML10210010	100.0	14	27	20
ML10210011	100.0	15	27	20
ML10210012	100.0	16	27	20
ML10210013	100.0	18	27	20
ML10210014	100.0	20	27	20
ML10210015	100.0	4	32	20
ML10210016	100.0	5	32	20
ML10210017	100.0	6	32	20
ML10210018	100.0	7	32	20
ML10210019	100.0	8	32	20
ML10210020	100.0	9	32	20
ML10210021	100.0	10	32	20
ML10210022	100.0	12	32	20
ML10210023	100.0	14	32	20
ML10210024	100.0	15	32	20
ML10210025	100.0	16	32	20
ML10210026	100.0	18	32	20
ML10210027	100.0	20	32	20
ML10212501	125.0	5	32	22
ML10212502	125.0	6	32	22
ML10212503	125.0	8	32	22
ML10212504	125.0	10	32	22

# HSS-E, SIDE AND FACE MILLING CUTTERS with STAGGERED TEETH

## HSS-E, SCHEIBENFRÄSER mit KREUZVERZAHNT

► The type of cutter is recommended for slotting operations.  
The alternate spiral effectively counteracts all tendency to chatter.

► Dieser Typ ist zum Schlitzfräsen geeignet. Das alternierende Spiral wirkt allen Schnatterbewegungen entgegen.



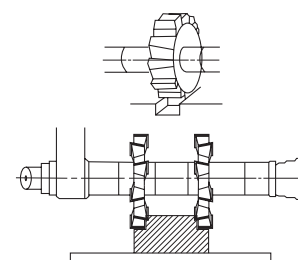
HSS-E DIN 885-A H P.996

Unit : mm

EDP No.	Cutter Diameter D(js14)	Width of Face S(k11)	Internal Diameter d(H7)	No. of Teeth Z
ML10212505	125.0	12	32	22
ML10212506	125.0	14	32	22
ML10212507	125.0	16	32	22
ML10212508	125.0	18	32	22
ML10212509	125.0	20	32	22
ML10216001	160.0	6	32	26
ML10216002	160.0	8	32	26
ML10216003	160.0	10	32	26
ML10216004	160.0	12	32	26
ML10216005	160.0	14	32	26
ML10216006	160.0	16	32	26
ML10216007	160.0	18	32	26
ML10216008	160.0	20	32	26
ML10216009	160.0	6	40	26
ML10216010	160.0	8	40	26
ML10216011	160.0	10	40	26
ML10216012	160.0	12	40	26
ML10216013	160.0	14	40	26
ML10216014	160.0	16	40	26
ML10216015	160.0	18	40	26
ML10216016	160.0	20	40	26
ML10220001	200.0	10	40	30
ML10220002	200.0	12	40	30
ML10220003	200.0	14	40	30
ML10220004	200.0	16	40	30
ML10220005	200.0	18	40	30
ML10220006	200.0	20	40	30
ML10220007	200.0	22	40	30
ML10220008	200.0	25	40	30

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

Nominal-Diameter in mm / Nennmaßbereich in mm									
	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	over 50 to 80 über 50 bis 80	over 80 to 120 über 80 bis 120	over 120 to 180 über 120 bis 180	over 180 to 250 über 180 bis 250
Tolerance range in mm / Toleranzwerte in mm									
js14	± 0.15	± 0.18	± 0.215	± 0.26	± 0.31	± 0.37	± 0.435	± 0.50	± 0.575
Tolerance range in $\mu\text{m}$ / Toleranzwerte in $\mu\text{m}$									
k11	+ 75 0	+ 90 0	+ 110 0	+ 130 0	+ 160 0	+ 190 0	+ 220 0	+ 250 0	+ 290 0
H7	+ 12 0	+ 15 0	+ 18 0	+ 21 0	+ 25 0	+ 30 0	+ 35 0	+ 40 0	+ 46 0



**HSSCo8, MULTI FLUTE SHELL END MILL**  
**HSSCo8, MULTI SCHNEIDEN WALZENSTIRNFRÄSER**

CBN END MILLS

i-Xmill END MILLS

X5070 END MILLS

X-POWER END MILLS

JET-POWER END MILLS

V7 Mill INOX END MILLS

V7 Mill STEEL END MILLS

ALU-POWER END MILLS

D-POWER END MILLS

K-2 CARBIDE END MILLS

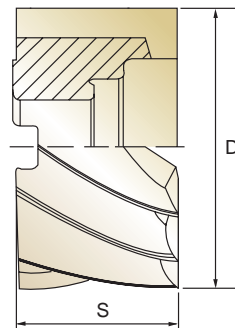
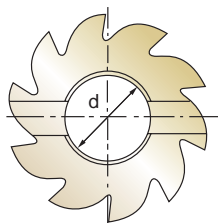
GENERAL CARBIDE END MILLS

TANK-POWER END MILLS

GENERAL HSS END MILLS

MILLING CUTTERS

TECHNICAL DATA



HSS Co8
DIN 841
N
6-10
30°
P.997

Unit : mm

EDP No.	Mill Diameter D	Width of Face S	Internal Diameter d	No. of Teeth Z
E2675300	30.0	30	● 13	6
E2675350	35.0	35	● 16	6
E2675400	40.0	20	● 16	8
E2675402	40.0	40	● 16	8
E2675500	50.0	25	22	8
E2675502	50.0	50	22	8
E2675600	60.0	30	27	8
E2675601	60.0	60	27	8
E2675750	75.0	35	27	10
E2675751	75.0	75	27	10
E2675900	90.0	35	27	10
E2675902	110.0	35	32	10

● Tolerance of Internal Diameter = +0.018 - 0  
 ▶ TiN-COATING, TiCN-COATING & TiAIN-COATING is available on your request.

HSS Co8
DIN 1880
N
8-14
30°
P.997

Unit : mm

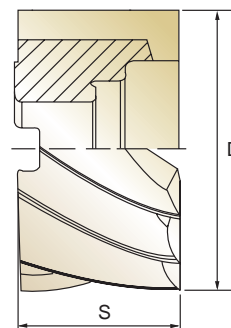
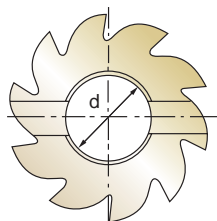
EDP No.	Mill Diameter D	Width of Face S	Internal Diameter d	No. of Teeth Z
E2675401	40.0	32	● 16	8
E2675501	50.0	36	22	8
E2675630	63.0	40	27	8
E2675800	80.0	45	27	10
E2675901	100.0	50	32	10
E2675903	125.0	56	40	12
E2675904	160.0	63	50	14

● Tolerance of Internal Diameter = +0.018 - 0  
 ▶ TiN-COATING, TiCN-COATING & TiAIN-COATING is available on your request.

Mill Dia. Tolerance(mm)	Width of Face Tolerance(mm)	Internal Dia. Tolerance(mm)
+ 0.25 - 0.15	+ 0.5 - 0	+ 0.02 - 0

# HSSCo8, MULTI FLUTE SHELL END MILL for ALUMINUM

## HSSCo8, MULTI SCHNEIDEN WALZENSTIRNFRÄSER für ALUMINIUM



Unit : mm

EDP No.	Mill Diameter D	Width of Face S	Internal Diameter d	No. of Teeth Z
E2676300	30.0	30	● 13	4
E2676400	40.0	20	● 16	4
E2676402	40.0	40	● 16	4
E2676500	50.0	25	22	6
E2676502	50.0	50	22	6
E2676600	60.0	30	27	6
E2676601	60.0	60	27	6
E2676750	75.0	75	27	6

● Tolerance of Internal Diameter = +0.018 - 0  
 ▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.



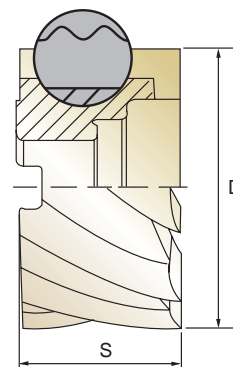
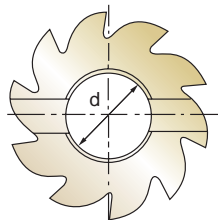
Unit : mm

EDP No.	Mill Diameter D	Width of Face S	Internal Diameter d	No. of Teeth Z
E2676401	40.0	32	● 16	4
E2676501	50.0	36	22	6
E2676630	63.0	40	27	6
E2676800	80.0	45	27	6
E2676901	100.0	50	32	6

● Tolerance of Internal Diameter = +0.018 - 0  
 ▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

Mill Dia. Tolerance(mm)	Width of Face Tolerance(mm)	Internal Dia. Tolerance(mm)
+ 0.25 - 0.15	+ 0.5 - 0	+ 0.02 - 0

**HSSCo8, MULTI FLUTE ROUGHING SHELL END MILL - COARSE**  
**HSSCo8, MULTI SCHNEIDEN WALZENSTIRN-SCHRUPPFÄRÄSER - GROBES**



HSS Co8
DIN 841
NR
COARSE
6-12
30°
P.998

Unit : mm

EDP No.	Mill Diameter D	Width of Face S	Internal Diameter d	No. of Teeth Z
E2677401	40.0	40	● 16	6
E2677501	50.0	50	22	8
E2677600	60.0	30	27	8
E2677601	60.0	60	27	8
E2677750	75.0	35	27	10
E2677751	75.0	75	27	10
E2677900	90.0	35	27	10
E2677902	110.0	35	32	12

● Tolerance of Internal Diameter = +0.018 - 0  
 ▶ TiN-COATING, TiCN-COATING & TiAIN-COATING is available on your request.

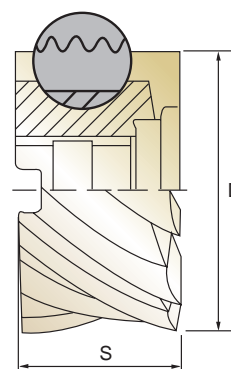
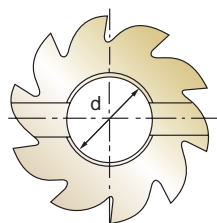
HSS Co8
DIN 1880
NR
COARSE
6-12
30°
P.998

Unit : mm

EDP No.	Mill Diameter D	Width of Face S	Internal Diameter d	No. of Teeth Z
E2677400	40.0	32	● 16	6
E2677500	50.0	36	22	8
E2677630	63.0	40	27	8
E2677800	80.0	45	27	10
E2677901	100.0	50	32	10
E2677903	125.0	56	40	12
E2677904	160.0	63	50	12

● Tolerance of Internal Diameter = +0.018 - 0  
 ▶ TiN-COATING, TiCN-COATING & TiAIN-COATING is available on your request.

Mill Dia. Tolerance(mm)	Width of Face Tolerance(mm)	Internal Dia. Tolerance(mm)
+ 0.25 - 0.15	+ 0.5 - 0	+ 0.02 - 0

**HSSCo8, MULTI FLUTE ROUGHING SHELL END MILL - FINE**  
**HSSCo8, MULTI SCHNEIDEN WALZENSTIRN-SCHRUPPFÄRER - FEINES**


HSS Co8
DIN 841
HR
FINE
6-12
30°
P.998

Unit : mm

EDP No.	Mill Diameter	Width of Face	Internal Diameter	No. of Teeth
	D	S	d	Z
E2678401	40.0	40	● 16	6
E2678501	50.0	50	22	8
E2678600	60.0	30	27	8
E2678601	60.0	60	27	8
E2678750	75.0	35	27	10
E2678751	75.0	75	27	10
E2678900	90.0	35	27	10
E2678902	110.0	35	32	12

- Tolerance of Internal Diameter = +0.018 - 0
- ▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

HSS Co8
DIN 1880
HR
FINE
6-12
30°
P.998

Unit : mm

EDP No.	Mill Diameter	Width of Face	Internal Diameter	No. of Teeth
	D	S	d	Z
E2678400	40.0	32	● 16	6
E2678500	50.0	36	22	8
E2678630	63.0	40	27	8
E2678800	80.0	45	27	10
E2678901	100.0	50	32	10
E2678903	125.0	56	40	12
E2678904	160.0	63	50	12

- Tolerance of Internal Diameter = +0.018 - 0
- ▶ TiN-COATING, TiCN-COATING & TiAlN-COATING is available on your request.

Mill Dia. Tolerance(mm)	Width of Face Tolerance(mm)	Internal Dia. Tolerance(mm)
+ 0.25 - 0.15	+ 0.5 - 0	+ 0.02 - 0

**HSSCo8, MULTI FLUTE ROUGHING & FINISHING SHELL END MILL**  
**HSSCo8, MULTI SCHNEIDEN WALZENSTIRN-SCHRUPPSCHLICHTFRÄSER**

CBN  
END MILLS

i-Xmill  
END MILLS

X5070  
END MILLS

X-POWER  
END MILLS

JET-POWER  
END MILLS

V7 Mill INOX  
END MILLS

V7 Mill STEEL  
END MILLS

ALU-POWER  
END MILLS

D-POWER  
END MILLS

K-2 CARBIDE  
END MILLS

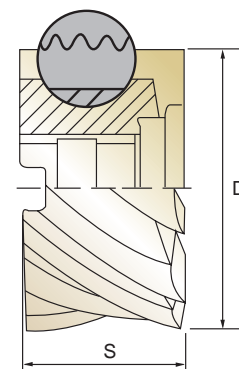
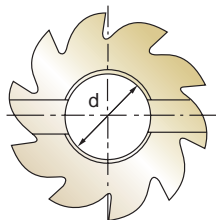
GENERAL  
CARBIDE  
END MILLS

TANK-POWER  
END MILLS

GENERAL  
HSS  
END MILLS

MILLING  
CUTTERS

TECHNICAL  
DATA



Unit : mm

EDP No.	Mill Diameter D	Width of Face S	Internal Diameter d	No. of Teeth Z
E2679401	40.0	40	● 16	6
E2679501	50.0	50	22	8
E2679600	60.0	30	27	8
E2679601	60.0	60	27	8
E2679750	75.0	35	27	10
E2679751	75.0	75	27	10
E2679900	90.0	35	27	10
E2679902	110.0	35	32	12

● Tolerance of Internal Diameter = +0.018 - 0  
 ▶ TiN-COATING, TiCN-COATING & TiAIN-COATING is available on your request.



Unit : mm

EDP No.	Mill Diameter D	Width of Face S	Internal Diameter d	No. of Teeth Z
E2679400	40.0	32	● 16	6
E2679500	50.0	36	22	8
E2679630	63.0	40	27	8
E2679800	80.0	45	27	10
E2679901	100.0	50	32	10
E2679903	125.0	56	40	12
E2679904	160.0	63	50	12

● Tolerance of Internal Diameter = +0.018 - 0  
 ▶ TiN-COATING, TiCN-COATING & TiAIN-COATING is available on your request.

Mill Dia. Tolerance(mm)	Width of Face Tolerance(mm)	Internal Dia. Tolerance(mm)
+ 0.25 - 0.15	+ 0.5 - 0	+ 0.02 - 0

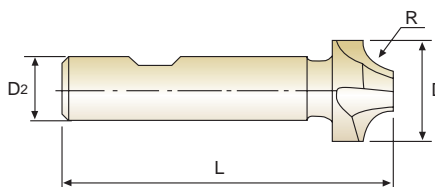


# HSSCo8, 4 FLUTE CORNER ROUNDING CUTTERS

## HSSCo8, 4 SCHNEIDEN VIERTELKREISFRÄSER

► These tools can be adapted for many screw machine applications as end forming tools to form a specific radius.

► Dieses Werkzeug kann an vielen Scrow maschine als Finishingtool für spezielle Radien montiert werden.



Unit : mm

EDP No.	Radius	Outside Diameter	Shank Diameter	Overall Length
FLAT	R(H11)	D	D <sub>2</sub> (h6)	L
E2498010	R1.0	8.0	10	60
E2498015	R1.5	9.0	10	60
E2498020	R2.0	10.0	10	60
E2498025	R2.5	11.0	10	60
E2498030	R3.0	12.0	12	60
E2498035	R3.5	13.0	12	60
E2498040	R4.0	14.0	12	60
E2498045	R4.5	15.0	12	60
E2498050	R5.0	16.0	12	60
E2498055	R5.5	19.0	16	67
E2498060	R6.0	20.0	16	67
E2498065	R6.5	21.0	16	71
E2498070	R7.0	22.0	16	71
E2498075	R7.5	23.0	16	71
E2498080	R8.0	24.0	16	71
E2498085	R8.5	25.0	25	85
E2498090	R9.0	26.0	25	85
E2498095	R9.5	27.0	25	85
E2498100	R10.0	28.0	25	85
E2498105	R10.5	31.0	25	90
E2498110	R11.0	32.0	25	90
E2498120	R12.0	34.0	25	90
E2498125	R12.5	41.0	25	100
E2498130	R13.0	42.0	25	100
E2498140	R14.0	44.0	25	100
E2498150	R15.0	46.0	25	100
E2498160	R16.0	48.0	25	100
E2498180	R18.0	52.0	32	112
E2498200	R20.0	56.0	32	112

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

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
Tolerance range in $\mu\text{m}$ / Toleranzwerte in $\mu\text{m}$						
H11	+60 0	+75 0	+90 0	+110 0	+130 0	+160 0
h6	-6	-8	-9	-11	-13	-16

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

**HSS-E, DOVETAIL CUTTERS TYPE "A", "C", "E"**  
**HSS-E, WINKELFRÄSER FORM "A", "C", "E"****ML012, ML112, ML022, ML122, ML212, ML222 SERIES**

MATERIAL	CARBON STEELS ALLOY STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM & ALUMINUM ALLOYS	
HARDNESS			~ HRC20		HRC20 ~ HRC30		HRC30 ~ HRC40			
STRENGTH	~ 500N/mm <sup>2</sup>		500 ~ 800N/mm <sup>2</sup>		800 ~ 1000N/mm <sup>2</sup>		1000 ~ 1300N/mm <sup>2</sup>			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
16.0	615	110	305	57	215	40	160	20	1850	336
20.0	500	110	255	55	180	38	125	15	1350	324
25.0	380	80	190	47	135	30	100	16	1150	270
32.0	300	125	155	64	100	40	80	16	920	375
40.0	250	130	125	64	90	45	60	16	765	387
50.0	190	90	100	42	75	36	50	16	550	265
63.0	150	75	80	40	60	32	40	15	450	240

RPM = rev./min.  
FEED = mm/min.**HSS-E, DOVETAIL CUTTERS TYPE "B", "D", "F"**  
**HSS-E, WINKELFRÄSER FORM "B", "D", "F"****ML032, ML132, ML042, ML142, ML232, ML242 SERIES**

MATERIAL	CARBON STEELS ALLOY STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM & ALUMINUM ALLOYS	
HARDNESS			~ HRC20		HRC20 ~ HRC30		HRC30 ~ HRC40			
STRENGTH	~ 500N/mm <sup>2</sup>		500 ~ 800N/mm <sup>2</sup>		800 ~ 1000N/mm <sup>2</sup>		1000 ~ 1300N/mm <sup>2</sup>			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
16.0	615	110	305	57	215	40	160	20	1850	336
20.0	500	110	255	55	180	38	125	15	1350	324
25.0	380	80	190	47	135	30	100	16	1150	270
32.0	300	125	155	64	100	40	80	16	920	375

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

**HSS-E, WOODRUFF KEYSEAT CUTTERS TYPE "B", "D", "F"**  
**HSS-E, SCHLITZFRÄSER FORM "B", "D", "F"**

**ML062, ML162, ML262 SERIES**

MATERIAL	CARBON STEELS ALLOY STEELS	CARBON STEELS ALLOY STEELS TOOL STEELS	CARBON STEELS ALLOY STEELS TOOL STEELS	CARBON STEELS ALLOY STEELS TOOL STEELS	ALUMINUM & ALUMINUM ALLOYS
HARDNESS		~ HRC20	HRC20 ~ HRC30	HRC30 ~ HRC40	
STRENGTH	~ 500N/mm <sup>2</sup>	500 ~ 800N/mm <sup>2</sup>	800 ~ 1000N/mm <sup>2</sup>	1000 ~ 1300N/mm <sup>2</sup>	
DIAMETER	RPM	RPM	RPM	RPM	RPM
10.5	900	600	480	300	3000
13.5	700	470	370	230	2300
16.5	570	380	300	190	1900
19.5	480	320	260	160	1600
22.5	420	280	220	140	1400
28.5	330	220	180	110	1100
32.5	290	190	155	90	900
45.5	210	130	110	70	700

RPM = rev./min.

**HSS-E, T-SLOT CUTTERS TYPE "AA", "AB", "AD"**  
**HSS-E, SCHAFTERFRÄSER FÜR T-NUTEN FORM "AA", "AB", "AD"**

**ML072, ML172, ML272 SERIES**

MATERIAL	CARBON STEELS ALLOY STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM & ALUMINUM ALLOYS	
HARDNESS			~ HRC20		HRC20 ~ HRC30		HRC30 ~ HRC40	
STRENGTH	~ 500N/mm <sup>2</sup>		500 ~ 800N/mm <sup>2</sup>		800 ~ 1000N/mm <sup>2</sup>		1000 ~ 1300N/mm <sup>2</sup>	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
12.5	770	38	380	16	270	8	2350	110
16.0	600	45	300	19	210	9	1830	140
18.0	550	47	270	20	195	12	1680	150
19.0	500	50	250	20	180	15	1540	160
21.0	470	52	230	22	160	16	1430	165
22.0	440	55	220	25	150	17	1330	170
25.0	390	65	190	30	135	18	1170	180
28.0	345	75	170	38	120	20	1040	210
32.0	310	90	150	42	100	20	910	250
50.0	270	80	135	40	90	20	800	230
63.0	240	70	120	38	85	20	730	210

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



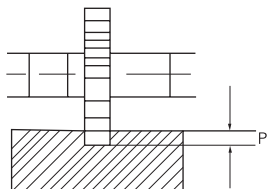
**RECOMMENDED CUTTING CONDITIONS**  
**EMPFOHLENE SCHNEIDKONDITIONEN**

**HSS-E, SIDE AND FACE MILLING CUTTERS WITH STRAIGHT TEETH**  
**HSS-E, SCHEIBENFRÄSER mit GERADEVERZAHNT**

**ML092 SERIES**

MATERIAL	CARBON STEELS ALLOY STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM & ALUMINUM ALLOYS	
HARDNESS			~ HRC20		HRC20 ~ HRC30		HRC30 ~ HRC40			
STRENGTH	~ 500N/mm <sup>2</sup>		500 ~ 800N/mm <sup>2</sup>		800 ~ 1000N/mm <sup>2</sup>		1000 ~ 1300N/mm <sup>2</sup>			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
50.0	160	130	115	82	95	58	76	42	630	200
63.0	125	160	90	72	75	51	60	38	500	250
80.0	100	145	70	69	60	48	47	34	400	250
100.0	80	130	60	60	47	41	38	30	320	200
125.0	63	100	45	54	38	38	30	26	250	200

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



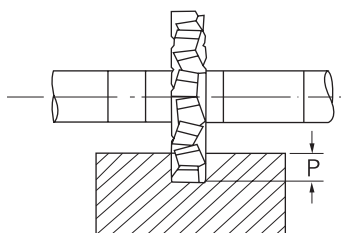
MILLING DEPTH P = WIDTH OF FACES

**HSS-E, SIDE AND FACE MILLING CUTTERS WITH STAGGERED TEETH**  
**HSS-E, SCHEIBENFRÄSER mit KREUZVERZAHNT**

**ML102 SERIES**

MATERIAL	CARBON STEELS ALLOY STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM & ALUMINUM ALLOYS	
HARDNESS			~ HRC20		HRC20 ~ HRC30		HRC30 ~ HRC40			
STRENGTH	~ 500N/mm <sup>2</sup>		500 ~ 800N/mm <sup>2</sup>		800 ~ 1000N/mm <sup>2</sup>		1000 ~ 1300N/mm <sup>2</sup>			
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
50.0	160	130	115	85	95	58	76	42	630	200
63.0	125	160	90	75	75	51	60	38	500	250
80.0	100	145	70	69	60	48	47	34	400	250
100.0	80	130	60	60	47	41	38	30	320	200
125.0	63	100	45	54	38	38	30	26	250	200
160.0	50	105	37	48	30	34	23	24	200	150
200.0	40	95	31	45	25	31	19	22	160	150

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

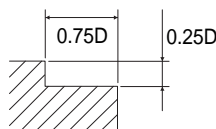


MILLING DEPTH P = WIDTH OF FACES

**HSSCo8, MULTI FLUTE SHELL END MILL**  
**HSSCo8, MULTI SCHNEIDEN WALZENSTIRNFRÄSER**

**E2675** SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS	
HARDNESS	~ HRc20		HRc20 ~ HRc28		HRc28 ~ HRc35		HRc35 ~ HRc40	
STRENGTH	~ 800N/mm <sup>2</sup>		800 ~ 900N/mm <sup>2</sup>		900 ~ 1100N/mm <sup>2</sup>		1100 ~ 1300N/mm <sup>2</sup>	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
40.0	240	135	200	120	140	80	80	50
50.0	200	125	170	105	120	75	70	45
63.0	150	110	130	95	90	65	50	40
80.0	120	120	100	100	80	75	40	40
100.0	100	115	80	95	60	70	30	35
125.0	80	115	70	95	50	65	20	35
160.0	60	110	60	100	40	65	20	35



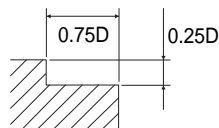
※ The FEED, in long & extra long types, should be reduced by around 50%

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

**HSSCo8, MULTI FLUTE SHELL END MILL for ALUMINUM**  
**HSSCo8, MULTI SCHNEIDEN WALZENSTIRNFRÄSER für ALUMINIUM**

**E2676** SERIES

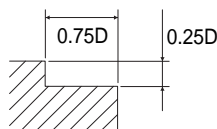
MATERIAL	ALUMINUM, NONFERROUS METALS	
DIAMETER	RPM	FEED
30.0	135	75
40.0	120	105
50.0	105	135
60.0	85	120
63.0	75	120
75.0	70	120
80.0	60	120
100.0	45	105



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

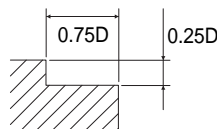

**HSSCo8, MULTI FLUTE ROUGHING SHELL END MILL**  
**HSSCo8, MULTI SCHNEIDEN WALZENSTIRN-SCHRUPPFRÄSER**
**E2677, E2678** SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM & ALUMINUM ALLOYS	
HARDNESS	~ HRc20		HRc20 ~ HRc28		HRc28 ~ HRc35		HRc35 ~ HRc40	
STRENGTH	~ 800N/mm <sup>2</sup>		800 ~ 900N/mm <sup>2</sup>		900 ~ 1100N/mm <sup>2</sup>		1100 ~ 1300N/mm <sup>2</sup>	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
40.0	240	100	200	85	140	60	80	35
50.0	200	125	170	105	120	75	70	45
63.0	150	110	130	95	90	65	50	40
80.0	120	120	100	100	80	75	40	40
100.0	100	115	80	95	60	70	30	35
125.0	80	115	70	95	50	65	20	35
160.0	60	110	60	100	40	65	20	35


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

**HSSCo8, MULTI FLUTE ROUGHING & FINISHING SHELL END MILL**  
**HSSCo8, MULTI SCHNEIDEN WALZENSTIRN-SCHRUPPSCHLICHTFRÄSER**
**E2679** SERIES

MATERIAL	CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		CARBON STEELS ALLOY STEELS TOOL STEELS		ALUMINUM & ALUMINUM ALLOYS	
HARDNESS	~ HRc20		HRc20 ~ HRc28		HRc28 ~ HRc35		HRc35 ~ HRc40	
STRENGTH	~ 800N/mm <sup>2</sup>		800 ~ 900N/mm <sup>2</sup>		900 ~ 1100N/mm <sup>2</sup>		1100 ~ 1300N/mm <sup>2</sup>	
DIAMETER	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
40.0	240	100	200	85	140	60	80	35
50.0	200	125	170	105	120	75	70	45
63.0	150	110	130	95	90	65	50	40
80.0	120	120	100	100	80	75	40	40
100.0	100	115	80	95	60	70	30	35
125.0	80	115	70	95	50	65	20	35
160.0	60	110	60	100	40	65	20	35


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

**HSSCo8, 4 FLUTE CORNER ROUNDING CUTTERS**  
**HSSCo8, 4 SCHNEIDEN VIERTELKREISFRÄSER**

**E2498** SERIES

MATERIAL		ALUMINUM & ALUMINUM ALLOYS	CARBON STEELS ALLOY STEELS	CARBON STEELS ALLOY STEELS TOOL STEELS	CARBON STEELS ALLOY STEELS TOOL STEELS
HARDNESS				~ HRc20	HRc20 ~ HRc35
STRENGTH			~ 500N/mm <sup>2</sup>	500 ~ 800N/mm <sup>2</sup>	800 ~ 1100N/mm <sup>2</sup>
OUTSIDE DIAMETER	CORNER RADIUS	RPM	RPM	RPM	RPM
8.0	R1	3500	800	600	480
9.0	R1.5	2800	630	470	380
10.0	R2	2800	630	470	380
11.0	R2.5	2400	530	390	315
12.0	R3	2400	530	390	315
14.0	R4	2000	450	330	270
16.0	R5	1600	350	260	210
20.0	R6	1400	310	230	185
24.0	R8	1200	260	190	155
28.0	R10	950	210	155	125
34.0	R12	800	180	130	105
48.0	R16	600	130	95	75

RPM = rev./min.

CARBIDE

HSS

CBN  
END MILLS

i-Mill  
END MILLS

X5070  
END MILLS

X-POWER  
END MILLS

JET-POWER  
END MILLS

V7 Mill INOX  
END MILLS

V7 Mill STEEL  
END MILLS

ALU-POWER  
END MILLS

D-POWER  
END MILLS

K-2 CARBIDE  
END MILLS

GENERAL  
CARBIDE  
END MILLS

TANK-POWER  
END MILLS

GENERAL  
HSS  
END MILLS

MILLING  
CUTTERS

TECHNICAL  
DATA