

X-MILL MD

2022



SCHUMANTOOLS®
WORK INSPIRATION

INDICE GENERALE

FRESE MD HM MILL

XE10AL				
ø D (mm)		2-20		
				
		N		
pag 7				

XE12AL				
ø D (mm)		4-20		
				
		N		
pag 7				

XE13AL				
ø D (mm)		3-20		
				
		N		
pag 8				

XE06c				
ø D (mm)		2-20		
				
		P	M	K
pag 9				

XE06cr				
ø D (mm)		2-12		
				
		P	M	K
pag 10				

XE21c				
ø D (mm)		2-10		
				
		P	M	K
pag 11				

XE79c				
ø D (mm)		2-16		
				
		P	M	K
pag 11				

XE01c				
ø D (mm)		2-20		
				
		P	M	K
pag 12				

XE16c				
ø D (mm)		2-20		
				
		P	M	K
pag 13				

XE81c				
ø D (mm)		4-16		
				
		P	M	K
pag 13				

XE36c				
ø D (mm)		2-20		
				
		P	M	K
pag 14				

XE26c				
ø D (mm)		2-10		
				
		P	M	K
pag 14				

FRESE MD HM MILL

XE76c								
ø D (mm)	4-16							
								
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pag 15								

XE95c								
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pag 15								

XE92c								
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pag 16								

XE92cc/ccx								
ø D (mm)	3-20							
								
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pag 17								

XE92L								
ø D (mm)	5-20							
								
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XE94c								
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pag 19								

XE94L								
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XE93c								
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XE71								
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XE97c								
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XE29								
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XE56								
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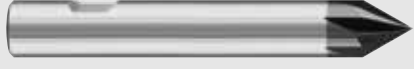
XE56CR								
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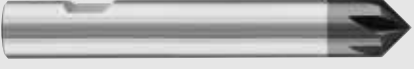
XE66								
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XE61								
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pag 24								

XE59								
	ø D (mm)	3-16						
								
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pag 25								

XE83								
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XE41 WAL								
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pag 26								

XE42WAL								
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pag 26								

FRESE MD HM MILL

XM547								
ø D (mm)	4,80-14,95							
								
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N	S							
pag 34								

XM548								
ø D (mm)	4,80-14,95							
								
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N	S							
pag 35								

XM735								
ø D (mm)	4,80-14,95							
2,5xD 								
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XM653								
ø D (mm)	3-25							
								
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	S							
pag 38								

XM653								
ø D (mm)	3-25							
								
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	S							
pag 39								

XM871 UNIVERSAL								
ø D (mm)	6-20							
Frese trocoidali Trochoidal mill 								
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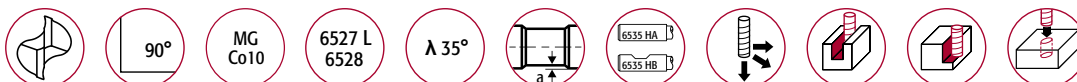
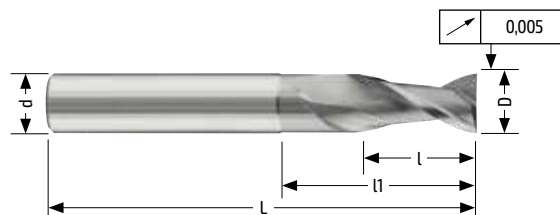
XM761 STAINLESS SPEED								
ø D (mm)	3-20							
Frese trocoidali Trochoidal mill 								
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	S							
pag 41								

XM632								
ø D (mm)	8-25							
Frese trocoidali Trochoidal mill 								
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N	S	48 HRC						
pag 42								

XM898								
ø D (mm)	4-20							
Frese trocoidali Trochoidal mill 								
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P	M	K						
N	S	48 HRC						
pag 43								

XE10_{AL}

N



Fresa a 2 taglienti per alluminio 2 flute end mill for aluminium

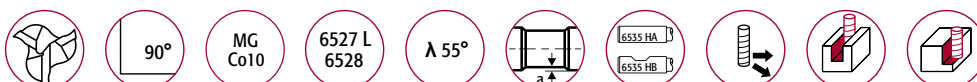
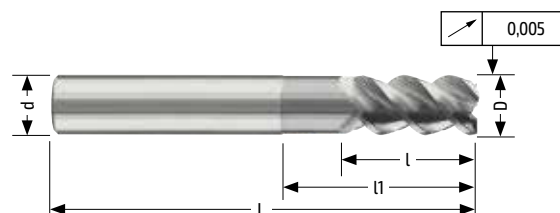
FR27

CODICE CODE	D h6	d h6	L	l ap	l1	a	Z	
XE-10 D2 AL	2,0	3	50	6	-	-	2	●
XE-10 D3 AL	3,0	3	50	7	18	0,10	2	●
XE-10 D4 AL	4,0	4	50	8	19	0,10	2	●
XE-10 D5 AL	5,0	5	50	10	21	0,10	2	●
XE-10 D6 AL	6,0	6	57	10	21	0,15	2	●
XE-10 D8 AL	8,0	8	63	16	27	0,15	2	●
XE-10 D10 AL	10,0	10	72	19	30	0,15	2	●
XE-10 D12 AL	12,0	12	83	22	38	0,20	2	●
XE-10 D14 AL	14,0	14	83	22	38	0,20	2	○
XE-10 D16 AL	16,0	16	92	26	42	0,20	2	●
XE-10 D20 AL	20,0	20	104	32	54	0,20	2	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE12_{AL}

N



Fresa a 3 taglienti per alluminio 3 flute end mill for aluminium

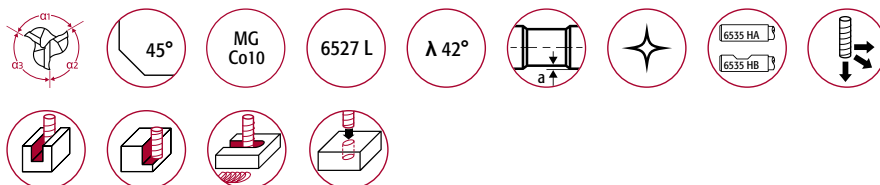
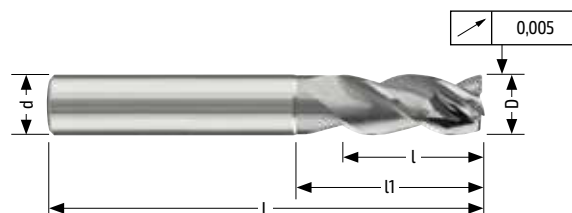
FR27

CODICE CODE	D h6	d h6	L	l ap	l1	a	Z	
XE-12 D4 AL	4,0	4	50	8	19	0,10	3	●
XE-12 D5 AL	5,0	5	50	10	21	0,10	3	●
XE-12 D6 AL	6,0	6	57	10	21	0,15	3	●
XE-12 D7 AL	7,0	7	60	13	24	0,15	3	○
XE-12 D8 AL	8,0	8	63	16	27	0,15	3	●
XE-12 D9 AL	9,0	9	67	16	27	0,15	3	○
XE-12 D10 AL	10,0	10	72	19	30	0,15	3	●
XE-12 D12 AL	12,0	12	83	22	38	0,20	3	●
XE-12 D14 AL	14,0	14	83	22	38	0,20	3	○
XE-12 D16 AL	16,0	16	92	26	42	0,20	3	●
XE-12 D20 AL	20,0	20	104	32	54	0,20	4	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE13_{AL}

N



Fresa 3 taglienti serie normale per alluminio con divisione irregolare
3 flute end mill with unequal flute spacing regular version

FR27

CODICE CODE	D h10	d h5	L	l ap	l1	a	45°	Z	
XE-13 D3 AL	3,0	6	57	8	-	-	0,05	3	●
XE-13 D4 AL	4,0	6	57	11	-	-	0,05	3	●
XE-13 D5 AL	5,0	6	57	13	-	-	0,10	3	●
XE-13 D6 AL	6,0	6	57	13	20	0,15	0,10	3	●
XE-13 D8 AL	8,0	8	63	19	25	0,15	0,15	3	●
XE-13 D10 AL	10,0	10	72	22	30	0,15	0,20	3	●
XE-13 D12 AL	12,0	12	83	26	36	0,20	0,25	3	●
XE-13 D16 AL	16,0	16	92	32	42	0,20	0,30	3	●
XE-13 D20 AL	20,0	20	104	38	52	0,20	0,35	3	○

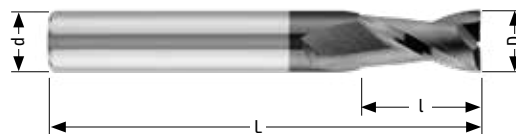
● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability

XE06c



Fresa a 2 taglienti serie normale 2 flute end mill standard series

FR27

CODICE CODE	D h10	d h6	L	l ap	Z	
XE-06 D2 C	2,0	4	50	5	2	●
XE-06 D2.5 C	2,5	4	50	7	2	○
XE-06 D3 C	3,0	4	50	7	2	●
XE-06 D3.5 C	3,5	4	50	7	2	○
XE-06 D4 C	4,0	4	50	8	2	●
XE-06 D4.5 C	4,5	5	50	8	2	○
XE-06 D5 C	5,0	5	50	10	2	●
XE-06 D5.5 C	5,5	6	57	10	2	○
XE-06 D6 C	6,0	6	57	10	2	●
XE-06 D7 C	7,0	7	60	13	2	○
XE-06 D8 C	8,0	8	63	16	2	●
XE-06 D9 C	9,0	9	67	16	2	○
XE-06 D10 C	10,0	10	72	19	2	●
XE-06 D11 C	11,0	11	83	22	2	○
XE-06 D12 C	12,0	12	83	22	2	●
XE-06 D13 C	13,0	13	83	22	2	○
XE-06 D14 C	14,0	14	83	22	2	●
XE-06 D15 C	15,0	15	92	26	2	○
XE-06 D16 C	16,0	16	92	26	2	●
XE-06 D17 C	17,0	17	92	26	2	○
XE-06 D18 C	18,0	18	92	26	2	○
XE-06 D19 C	19,0	19	92	26	2	○
XE-061 D20 C	20,0	20	104	32	2	○

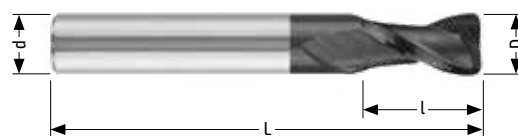
● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability

XE06_{CR}



Fresa a 2 taglienti serie normale 2 flute end mill standard series

FR27

CODICE CODE	D h10	d h6	L	l ap	Cr	Z	
XE-06CR05 D2	2,0	4	50	5	0,5	2	○
XE-06CR05 D3	3,0	4	50	7	0,5	2	○
XE-06CR05 D4	4,0	4	50	8	0,5	2	○
XE-06CR05 D6	6,0	6	57	10	0,5	2	○
XE-06CR05 D8	8,0	8	63	16	0,5	2	○
XE-06CR05 D10	10,0	10	72	19	0,5	2	○
XE-06CR05 D12	12,0	12	83	22	0,5	2	○

Fresa a 2 taglienti serie normale 2 flute end mill standard series

FR27

CODICE CODE	D h10	d h6	L	l ap	Cr	Z	
XE-06CR10 D5	5,0	5	50	10	1,0	2	○
XE-06CR10 D6	6,0	6	57	10	1,0	2	○
XE-06CR10 D8	8,0	8	63	16	1,0	2	○
XE-06CR10 D10	10,0	10	72	19	1,0	2	○
XE-06CR10 D12	12,0	12	83	22	1,0	2	○

Fresa a 2 taglienti serie normale 2 flute end mill standard series

FR27

CODICE CODE	D h10	d h6	L	l ap	Cr	Z	
XE-06CR15 D14	14,0	14	83	22	1,5	2	○
XE-06CR15 D16	16,0	16	92	26	1,5	2	○
XE-06CR15 D18	18,0	18	92	26	1,5	2	○

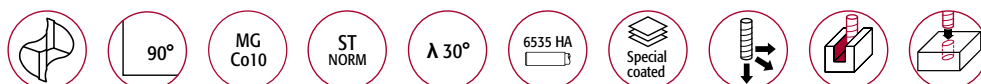
Fresa a 2 taglienti serie normale 2 flute end mill standard series

FR27

CODICE CODE	D h10	d h6	L	l ap	Cr	Z	
XE-06CR20 D10	10,0	10	72	19	2,0	2	○
XE-06CR20 D12	12,0	12	83	22	2,0	2	○
XE-06CR20 D20	20,0	20	104	32	2,0	2	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE21_c



Fresa a 2 taglienti serie extra corta
2 flute end mill extra short series

FR27

CODICE CODE	D h10	d h6	L	l ap	Z	
XE-21 D2 C	2,0	6	38	3	2	○
XE-21 D3 C	3,0	6	38	4	2	○
XE-21 D4 C	4,0	6	38	5	2	○
XE-21 D5 C	5,0	6	38	6	2	○
XE-21 D6 C	6,0	6	38	7	2	○
XE-21 D7 C	7,0	8	43	9	2	○
XE-21 D8 C	8,0	8	43	9	2	○
XE-21 D9 C	9,0	10	50	11	2	○
XE-21 D10 C	10,0	10	50	11	2	○
XE-21 D12 C	12,0	12	63	12	2	○

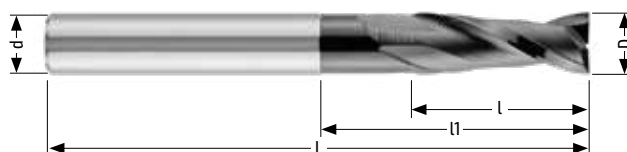
● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability

XE79_c



Fresa a 2 taglienti serie lunga
2 flute end mill long series

FR27

CODICE CODE	D h10	d h6	L	l ap	l1	a	Z	
XE-79 D3 C	3,0	3	62	14	-	-	2	○
XE-79 D4 C	4,0	4	62	16	-	-	2	○
XE-79 D5 C	5,0	5	62	20	-	-	2	○
XE-79 D6 C	6,0	6	78	20	30	0,15	2	○
XE-79 D8 C	8,0	8	78	25	35	0,15	2	○
XE-79 D10 C	10,0	10	105	28	48	0,15	2	○
XE-79 D12 C	12,0	12	105	32	52	0,20	2	○
XE-79 D16 C	16,0	16	130	40	60	0,20	2	○

● Stock Italia/Warehouse in Italy

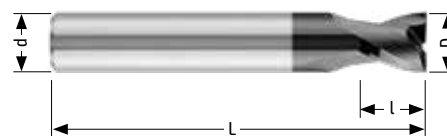
○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability

XE01c

P K M



Fresa a 2 taglienti per sedi di chiave 2 flute end mill key slot

FR27

CODICE CODE	D e8	d h6	L	l ap	Z	
XE-01 D2 C	2,0	6	50	3	2	○
XE-01 D2,5 C	2,5	6	50	3	2	○
XE-01 D3 C	3,0	6	50	4	2	○
XE-01 D3,5 C	3,5	6	50	4	2	○
XE-01 D4 C	4,0	6	54	5	2	○
XE-01 D4,5 C	4,5	6	54	5	2	○
XE-01 D5 C	5,0	6	54	6	2	●
XE-01 D5,5 C	5,5	6	54	6	2	○
XE-01 D6 C	6,0	6	54	7	2	●
XE-01 D7 C	7,0	8	58	9	2	○
XE-01 D8 C	8,0	8	58	9	2	●
XE-01 D9 C	9,0	10	66	11	2	○
XE-01 D10 C	10,0	10	66	11	2	●
XE-01 D11 C	11,0	12	73	12	2	○
XE-01 D12 C	12,0	12	73	12	2	●
XE-01 D13 C	13,0	14	75	14	2	○
XE-01 D14 C	14,0	14	75	14	2	○
XE-01 D15 C	15,0	16	82	16	2	○
XE-01 D16 C	16,0	16	82	16	2	○
XE-01 D20 C	20,0	20	92	20	2	○

● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability

XE16c

P K M



Fresa semisferica a 2 taglienti serie normale
2 flute ball nose end mill standard series

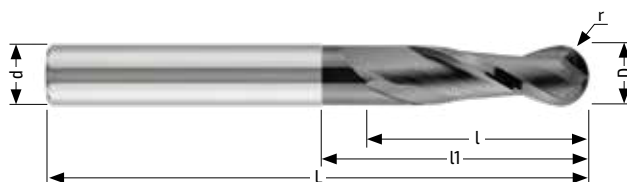
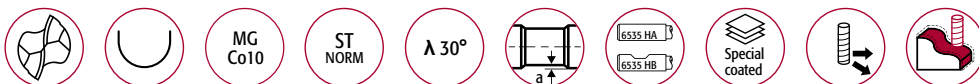
FR27

CODICE CODE	D h10	d h6	L	l ap	r	Z	
XE-16 D4 C	4,0	4	50	8	2,0	2	●
XE-16 D5 C	5,0	5	50	10	2,5	2	●
XE-16 D6 C	6,0	6	57	10	3,0	2	●
XE-16 D8 C	8,0	8	63	16	4,0	2	●
XE-16 D10 C	10,0	10	72	19	5,0	2	●
XE-16 D12 C	12,0	12	83	22	6,0	2	●
XE-16 D14 C	14,0	14	83	22	7,0	2	○
XE-16 D16 C	16,0	16	92	26	8,0	2	●
XE-16 D20 C	20,0	20	104	32	10,0	2	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE81c

P K M



Fresa semisferica a 2 taglienti serie lunga
2 flute ball nose end mill long series

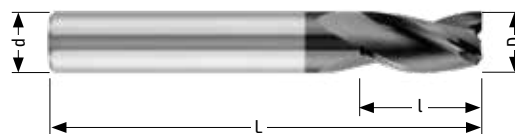
FR27

CODICE CODE	D h10	d h5	L	l ap	r	l1	a	Z	
XE-81 D4 C	4,0	4	62	16	2,0	-	-	2	●
XE-81 D5 C	5,0	5	62	20	2,5	-	-	2	●
XE-81 D6 C	6,0	6	78	20	3,0	30	0,15	2	●
XE-81 D8 C	8,0	8	78	25	4,0	35	0,15	2	●
XE-81 D10 C	10,0	10	105	28	5,0	48	0,15	2	●
XE-81 D12 C	12,0	12	105	32	6,0	52	0,20	2	●
XE-81 D16 C	16,0	16	130	40	8,0	60	0,20	2	●

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE36_c

P K M



Fresa a 3 taglienti serie normale
3 flute end mill standard series

FR27

CODICE CODE	D h10	d h6	L	l ap	Z	
XE-36 D2 C	2,0	4	50	5	3	●
XE-36 D3 C	3,0	4	50	7	3	●
XE-36 D4 C	4,0	4	50	8	3	●
XE-36 D5 C	5,0	5	50	10	3	●
XE-36 D6 C	6,0	6	57	10	3	●
XE-36 D7 C	7,0	7	60	13	3	○
XE-36 D8 C	8,0	8	63	16	3	●
XE-36 D9 C	9,0	9	67	16	3	○
XE-36 D10 C	10,0	10	72	19	3	●
XE-36 D11 C	11,0	11	83	22	3	○
XE-36 D12 C	12,0	12	83	22	3	●
XE-36 D13 C	13,0	13	83	22	3	○
XE-36 D14 C	14,0	14	83	22	3	○
XE-36 D15 C	15,0	15	92	26	3	○
XE-36 D16 C	16,0	16	92	26	3	●
XE-36 D18 C	18,0	18	92	26	3	○
XE-36 D20 C	20,0	20	104	32	3	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE26_c

P K M



Fresa a 3 taglienti serie extra corta
3 flute end mill extra short series

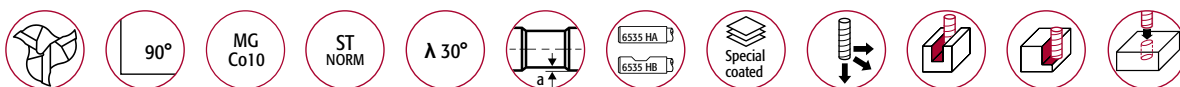
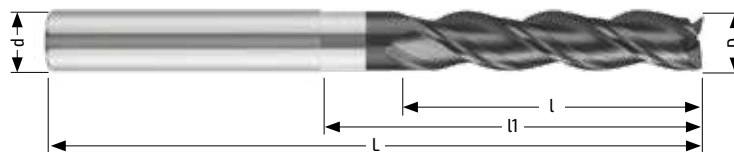
FR27

CODICE CODE	D h10	d h6	L	l ap	Z	
XE-26 D2 C	2,0	6	38	4	3	○
XE-26 D2.5 C	2,5	6	38	4	3	○
XE-26 D3 C	3,0	6	38	5	3	○
XE-26 D3.5 C	3,5	6	38	6	3	○
XE-26 D4 C	4,0	6	38	7	3	○
XE-26 D4.5 C	4,5	6	38	8	3	○
XE-26 D5 C	5,0	6	38	8	3	○
XE-26 D6 C	6,0	6	38	8	3	○
XE-26 D7 C	7,0	8	43	11	3	○
XE-26 D8 C	8,0	8	43	11	3	○
XE-26 D9 C	9,0	10	50	13	3	○
XE-26 D10 C	10,0	10	50	13	3	○
XE-26 D12 C	12,0	12	63	14	3	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE76_c

P K M



Fresa a 3 taglienti serie lunga
3 flute end mill long series

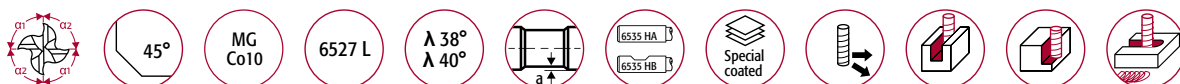
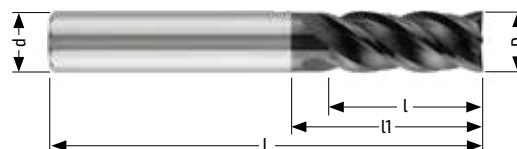
FR27

CODICE CODE	D h10	d h5	L	l ap	l1	a	Z	
XE-76 D4 C	4,0	4	62	16	-	-	3	○
XE-76 D5 C	5,0	5	62	20	-	-	3	○
XE-76 D6 C	6,0	6	78	20	30	0,15	3	○
XE-76 D8 C	8,0	8	78	25	35	0,15	3	○
XE-76 D10 C	10,0	10	105	28	48	0,15	3	○
XE-76 D12 C	12,0	12	105	32	52	0,20	3	○
XE-76 D16 C	16,0	16	130	40	60	0,20	3	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE95_c

P K M



Fresa 4 taglienti serie normale con elica differenziata
4 flute end mill regular version with variable helix

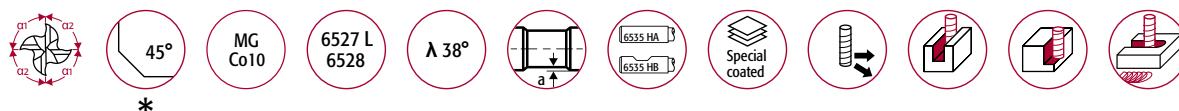
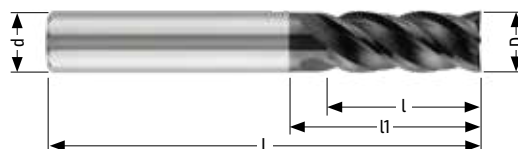
FR27

CODICE CODE	D h10	d h5	L	l ap	l1	a	45°	Z	
XE-95 D3 C	3,0	6	57	8	-	-	0,05	4	●
XE-95 D4 C	4,0	6	57	11	16	0,10	0,05	4	●
XE-95 D5 C	5,0	6	57	13	18	0,10	0,05	4	●
XE-95 D6 C	6,0	6	57	13	20	0,15	0,05	4	●
XE-95 D8 C	8,0	8	63	19	25	0,15	0,05	4	●
XE-95 D10 C	10,0	10	72	22	30	0,15	0,05	4	●
XE-95 D12 C	12,0	12	83	26	36	0,20	0,05	4	●
XE-95 D14 C	14,0	14	83	26	36	0,20	0,05	4	○
XE-95 D16 C	16,0	16	92	32	42	0,20	0,05	4	●
XE-95 D18 C	18,0	18	92	32	42	0,20	0,05	4	○
XE-95 D20 C	20,0	20	104	38	52	0,20	0,05	4	●

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE92c/cx

P K M



Fresa 4 taglienti serie normale 4 flute end mill normal version

FR27

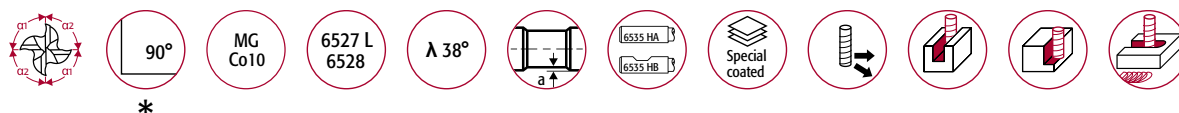
CODICE CODE	D h10	d h5	L	l ap	l1	a	45°	Z	
XE-92 D3 C	3,0	3	38	8	-	-	-	4	●
XE-92 D3 C6	3,0	6	57	8	11	0,10	0,05	4	○
XE-92 D4 C	4,0	4	50	11	16	0,10	0,10	4	●
XE-92 D4 C6	4,0	6	57	9	16	0,10	0,10	4	○
XE-92 D5 C	5,0	5	50	13	18	0,10	0,10	4	●
XE-92 D5 C6	5,0	6	57	13	18	0,10	0,10	4	○
XE-92 D6 C	6,0	6	57	13	20	0,15	0,10	4	●
XE-92 D8 C	8,0	8	63	19	25	0,15	0,15	4	○
XE-92 D10 C	10,0	10	72	22	30	0,15	0,15	4	●
XE-92 D12 C	12,0	12	83	26	36	0,20	0,15	4	○
XE-92 D14 C	14,0	14	83	26	36	0,20	0,15	4	●
XE-92 D16 C	16,0	16	92	32	42	0,20	0,20	4	○
XE-92 D18 C	18,0	18	92	32	42	0,20	0,20	4	●
XE-92 D20 C	20,0	20	104	38	52	0,20	0,20	4	○

● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability



Fresa 4 taglienti serie normale 4 flute end mill normal version

FR27

CODICE CODE	D h10	d h5	L	l ap	l1	a	45°	Z	
XE-92 D3 CX	3,0	3	38	8	-	-	-	4	○
XE-92 D3 CX6	3,0	6	57	8	11	0,10	-	4	○
XE-92 D4 CX	4,0	4	50	11	16	0,10	-	4	○
XE-92 D4 CX6	4,0	6	57	9	16	0,10	-	4	○
XE-92 D5 CX	5,0	5	50	13	18	0,10	-	4	○
XE-92 D5 CX6	5,0	6	57	13	18	0,10	-	4	○
XE-92 D6 CX	6,0	6	57	13	20	0,15	-	4	○
XE-92 D6 CX	8,0	8	63	19	25	0,15	-	4	○
XE-92 D10 CX	10,0	10	72	22	30	0,15	-	4	○
XE-92 D12 CX	12,0	12	83	26	36	0,20	-	4	○
XE-92 D14 CX	14,0	14	83	26	36	0,20	-	4	○
XE-92 D16 CX	16,0	16	92	32	42	0,20	-	4	○
XE-92 D18 CX	18,0	18	92	32	42	0,20	-	4	○
XE-92 D20 CX	20,0	20	104	38	52	0,20	-	4	○

● Stock Italia/Warehouse in Italy

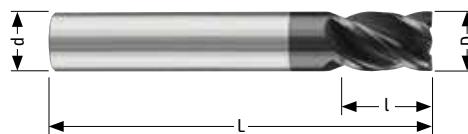
○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability

XE92_{CC/CCX}

P K M



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Fresa 4 taglienti serie corta 4 flute end mill short version

FR27

CODICE CODE	D h10	d h5	L	l ap	45°	Z	
XE-92 D3 CC	3,0	6	54	6	0,05	4	●
XE-92 D4 CC	4,0	6	54	8	0,10	4	●
XE-92 D5 CC	5,0	6	54	9	0,10	4	●
XE-92 D6 CC	6,0	6	54	10	0,10	4	●
XE-92 D8 CC	8,0	8	57	12	0,15	4	●
XE-92 D10 CC	10,0	10	66	14	0,15	4	●
XE-92 D12 CC	12,0	12	73	16	0,15	4	●
XE-92 D14 CC	14,0	14	75	18	0,15	4	○
XE-92 D16 CC	16,0	16	82	22	0,20	4	●
XE-92 D18 CC	18,0	18	84	24	0,20	4	○
XE-92 D20 CC	20,0	20	92	26	0,20	4	○

● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability



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Fresa 4 taglienti serie corta 4 flute end mill short version

FR27

CODICE CODE	D h10	d h5	L	l ap		Z	
XE-92 D3 CCX	3,0	6	54	6	-	4	○
XE-92 D4 CCX	4,0	6	54	8	-	4	○
XE-92 D5 CCX	5,0	6	54	9	-	4	○
XE-92 D6 CCX	6,0	6	54	10	-	4	○
XE-92 D8 CCX	8,0	8	57	12	-	4	○
XE-92 D10 CCX	10,0	10	66	14	-	4	○
XE-92 D12 CCX	12,0	12	73	16	-	4	○
XE-92 D14 CCX	14,0	14	75	18	-	4	○
XE-92 D16 CCX	16,0	16	82	22	-	4	○
XE-92 D18 CCX	18,0	18	84	24	-	4	○
XE-92 D20 CCX	20,0	20	92	26	-	4	○

● Stock Italia/Warehouse in Italy

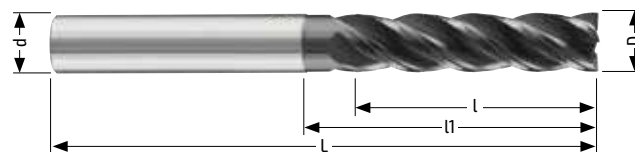
○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability

XE92_L

P K M



Fresa 4 taglienti serie lunga 4 flute end mill long version

FR27

CODICE CODE	D h10	d h5	L	l ap	l1	a	45°	Z	
XE-92 D5 L	5,0	6	74	20	25	0,10	0,10	4	○
XE-92 D6 L	6,0	6	74	24	30	0,15	0,10	4	●
XE-92 D8 L	8,0	8	80	32	40	0,15	0,15	4	●
XE-92 D10 L	10,0	10	87	40	46	0,15	0,15	4	●
XE-92 D12 L	12,0	12	105	48	58	0,20	0,15	4	●
XE-92 D14 L	14,0	14	105	48	58	0,20	0,15	4	○
XE-92 D16 L	16,0	16	125	64	68	0,20	0,20	4	○
XE-92 D20 L	20,0	20	160	70	80	0,20	0,20	4	○

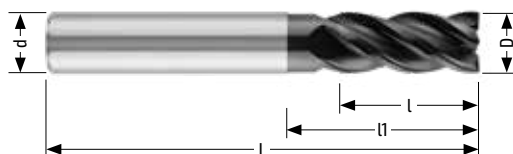
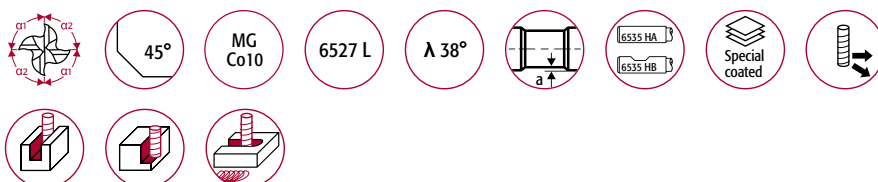
● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability

XE94_C



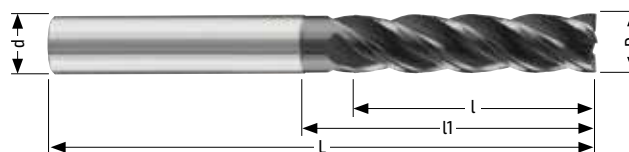
Fresa 4 taglienti serie normale per inox e acciai dolci
4 flute end mill regular version for inox and mild steel

FR27

CODICE CODE	D h10	d h5	L	l ap	l1	a	45°	Z	
XE-94 D3 C	3,0	6	57	8	11	0,10	0,10	4	○
XE-94 D4 C	4,0	6	57	9	16	0,10	0,10	4	○
XE-94 D5 C	5,0	6	57	13	18	0,10	0,10	4	○
XE-94 D6 C	6,0	6	57	13	20	0,15	0,10	4	●
XE-94 D8 C	8,0	8	63	19	25	0,15	0,15	4	●
XE-94 D10 C	10,0	10	72	22	30	0,15	0,15	4	●
XE-94 D12 C	12,0	12	83	26	36	0,20	0,15	4	●
XE-94 D14 C	14,0	14	83	26	36	0,20	0,15	4	○
XE-94 D16 C	16,0	16	92	32	42	0,20	0,20	4	○
XE-94 D18 C	18,0	18	92	32	42	0,20	0,20	4	○
XE-94 D20 C	20,0	20	104	38	52	0,20	0,20	4	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE94_L



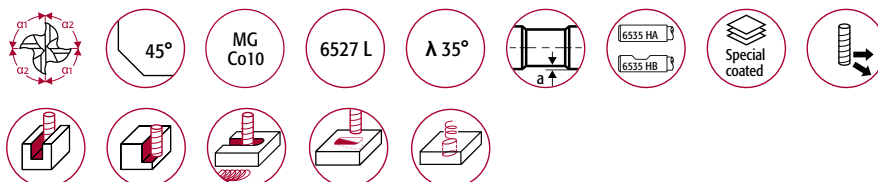
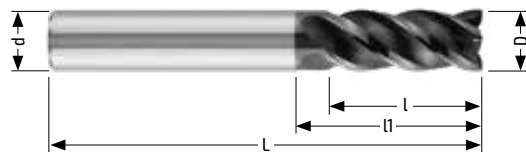
Fresa 4 taglienti serie lunga per inox e acciai dolci
4 flute end mill long version for inox and mild steel

FR27

CODICE CODE	D h10	d h5	L	l ap	l1	a	45°	Z	
XE-94 D5 L	5,0	6	74	20	25	0,10	0,10	4	○
XE-94 D6 L	6,0	6	74	24	30	0,15	0,10	4	●
XE-94 D8 L	8,0	8	80	32	40	0,15	0,15	4	●
XE-94 D10 L	10,0	10	87	40	46	0,15	0,15	4	●
XE-94 D12 L	12,0	12	105	48	58	0,20	0,15	4	●
XE-94 D14 L	14,0	14	105	48	58	0,20	0,15	4	○
XE-94 D16 L	16,0	16	125	64	68	0,20	0,20	4	○
XE-94 D20 L	20,0	20	160	70	80	0,20	0,20	4	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE93_C



Fresa universale a 4 taglienti adatta per la fresatura in rampa 4 flute multi-purpose end mill suitable for ramp milling

FR27

CODICE CODE	D h10	d h5	L	l ap	l1	45°	a	Z	
XE-93 D4 C	4,0	6	57	11	15	0,20	0,15	4	●
XE-93 D5 C	5,0	6	57	13	18	0,20	0,15	4	●
XE-93 D6 C	6,0	6	57	13	20	0,25	0,15	4	●
XE-93 D8 C	8,0	8	63	19	25	0,30	0,15	4	●
XE-93 D10 C	10,0	10	72	22	30	0,35	0,15	4	●
XE-93 D12 C	12,0	12	83	26	36	0,40	0,20	4	●
XE-93 D16 C	16,0	16	92	32	42	0,45	0,20	4	●
XE-93 D20 C	20,0	20	104	38	52	0,50	0,20	4	○

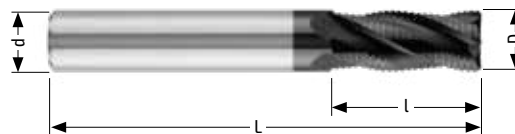
● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability

XE71



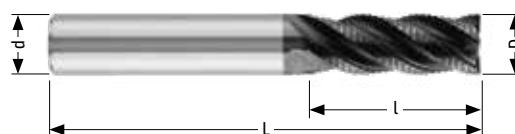
Fresa a sgrossare 4 taglienti con rompitruciolo serie normale 4 flute end mill for roughing with chip breaker standard series

FR27

CODICE CODE	D h11	d h6	L	l ap	Z	
XE-71 D4 C	4,0	6	57	13	4	●
XE-71 D4,5 C	4,5	6	57	13	4	○
XE-71 D5 C	5,0	6	57	13	4	●
XE-71 D5,5 C	5,5	6	57	13	4	○
XE-71 D6 C	6,0	6	57	13	4	●
XE-71 D7 C	7,0	7	60	16	4	○
XE-71 D8 C	8,0	8	63	19	4	●
XE-71 D9 C	9,0	9	67	19	4	○
XE-71 D10 C	10,0	10	72	22	4	●
XE-71 D11 C	11,0	11	83	26	4	○
XE-71 D12 C	12,0	12	83	26	4	●
XE-71 D13 C	13,0	13	83	26	4	○
XE-71 D14 C	14,0	14	83	26	4	●
XE-71 D15 C	15,0	15	92	32	4	○
XE-71 D16 C	16,0	16	92	32	4	●
XE-71 D18 C	18,0	18	92	32	4	○
XE-71 D20 C	20,0	20	104	38	4	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE97_C



Fresa a SGROSSARE 4 taglienti serie normale 4 flute end mill for ROUGHING standard series

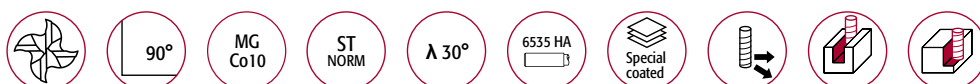
FR27

CODICE CODE	D h10	d h6	L	l ap	45°	Z	
XE-97 D4 C6	4,0	6	57	13	0,70	4	●
XE-97 D5 C6	5,0	6	57	13	0,80	4	●
XE-97 D6 C6	6,0	6	57	13	0,80	4	●
XE-97 D8 C8	8,0	8	63	19	0,80	4	●
XE-97 D10 C	10,0	10	72	22	0,80	4	●
XE-97 D12 C	12,0	12	83	26	0,90	4	●
XE-97 D16 C	16,0	16	92	32	0,90	4	●

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE29

P K M



Fresa a 4 taglienti serie extra corta 4 flute end mill extra short series

FR27

CODICE CODE	D h10	d h5	L	l ap	Z	
XE-29 D2 C	2,0	6	38	4	4	○
XE-29 D3 C	3,0	6	38	5	4	○
XE-29 D4 C	4,0	6	38	7	4	○
XE-29 D5 C	5,0	6	38	8	4	○
XE-29 D6 C	6,0	6	38	8	4	○
XE-29 D8 C	8,0	8	43	11	4	○
XE-29 D10 C	10,0	10	50	13	4	○
XE-29 D12 C	12,0	12	63	14	4	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE56

P K M



Fresa a 4 taglienti serie normale 4 flute end mill standard series

FR27

CODICE CODE	D h10	d h5	L	l ap	Z	
XE-56 D2 C	2,0	4	50	7	4	●
XE-56 D2.5 C	2,5	4	50	8	4	●
XE-56 D3 C	3,0	4	50	8	4	●
XE-56 D3.5 C	3,5	4	50	10	4	●
XE-56 D4 C	4,0	4	50	11	4	●
XE-56 D4.5 C	4,5	5	50	11	4	●
XE-56 D5 C	5,0	5	50	13	4	●
XE-56 D5.5 C	5,5	6	57	13	4	○
XE-56 D6 C	6,0	6	57	13	4	●
XE-56 D6.5 C	6,5	7	60	16	4	○
XE-56 D7 C	7,0	7	60	16	4	○
XE-56 D7.5 C	7,5	8	63	19	4	○
XE-56 D8 C	8,0	8	63	19	4	●
XE-56 D8.5 C	8,5	9	67	19	4	○
XE-56 D9 C	9,0	9	67	19	4	○
XE-56 D9.5 C	9,5	10	72	22	4	○
XE-56 D10 C	10,0	10	72	22	4	●
XE-56 D11 C	11,0	11	83	26	4	○
XE-56 D12 C	12,0	12	83	26	4	●
XE-56 D13 C	13,0	13	83	26	4	○
XE-56 D14 C	14,0	14	83	26	4	○
XE-56 D15 C	15,0	15	92	32	4	○
XE-56 D16 C	16,0	16	92	32	4	●
XE-56 D18 C	18,0	18	92	32	4	○
XE-56 D20 C	20,0	20	104	38	4	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE56CR



Fresa a 4 taglienti serie normale

4 flute end mill standard series

FR27

CODICE CODE	D h10	d h6	L	l ap	Cr	Z	
XE-56CR05 D2	2,0	4	50	7	0,5	4	●
XE-56CR05 D3	3,0	4	50	8	0,5	4	●
XE-56CR05 D4	4,0	4	50	11	0,5	4	●
XE-56CR05 D6	6,0	6	57	13	0,5	4	●
XE-56CR05 D8	8,0	8	63	19	0,5	4	●
XE-56CR05 D10	10,0	10	72	22	0,5	4	●
XE-56CR05 D12	12,0	12	83	26	0,5	4	●

Fresa a 4 taglienti serie normale

4 flute end mill standard series

FR27

CODICE CODE	D h10	d h6	L	l ap	Cr	Z	
XE-56CR10 D5	5,0	5	50	13	1,0	4	●
XE-56CR10 D6	6,0	6	57	13	1,0	4	○
XE-56CR10 D8	8,0	8	63	19	1,0	4	○
XE-56CR10 D10	10,0	10	72	22	1,0	4	○
XE-56CR10 D12	12,0	12	83	26	1,0	4	○

Fresa a 4 taglienti serie normale

4 flute end mill standard series

FR27

CODICE CODE	D h10	d h6	L	l ap	Cr	Z	
XE-56CR15 D14	14,0	14	83	26	1,5	4	○
XE-56CR15 D16	16,0	16	92	32	1,5	4	●
XE-56CR15 D18	18,0	18	92	32	1,5	4	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

Fresa a 4 taglienti serie normale

4 flute end mill standard series

FR27

CODICE CODE	D h10	d h6	L	l ap	Cr	Z	
XE-56CR20 D10	10,0	10	72	22	2,0	4	○
XE-56CR20 D12	12,0	12	83	26	2,0	4	○
XE-56CR20 D20	20,0	20	104	38	2,0	4	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE66

P K M



Fresa semisferica a 4 taglienti serie normale
4 flute ball nose end mill standard series

FR27

CODICE CODE	D h10	d h6	L	l ap	r	Z	
XE-66 D2 C	2,0	3	38	5	1,0	4	○
XE-66 D3 C	3,0	3	38	7	1,5	4	○
XE-66 D4 C	4,0	4	50	8	2,0	4	○
XE-66 D5 C	5,0	5	50	10	2,5	4	○
XE-66 D6 C	6,0	6	57	10	3,0	4	○
XE-66 D7 C	7,0	7	60	13	3,5	4	○
XE-66 D8 C	8,0	8	63	16	4,0	4	○
XE-66 D9 C	9,0	9	67	16	4,5	4	○
XE-66 D10 C	10,0	10	72	19	5,0	4	○
XE-66 D12 C	12,0	12	83	22	6,0	4	○
XE-66 D13 C	13,0	13	83	22	6,5	4	○
XE-66 D14 C	14,0	14	83	22	7,0	4	○
XE-66 D16 C	16,0	16	92	26	8,0	4	○
XE-66 D18 C	18,0	18	92	26	9,0	4	○
XE-66 D20 C	20,0	20	104	32	10,0	4	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE83

P K M



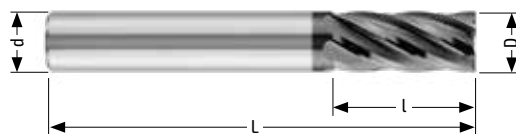
Fresa semisferica a 4 taglienti serie lunga
4 flute ball nose end mill long series

FR27

CODICE CODE	D h10	d h6	L	l ap	r	Z	
XE-83 D6 C	6,0	6	105	42	3,0	4	○
XE-83 D8 C	8,0	8	105	50	4,0	4	○
XE-83 D10 C	10,0	10	120	50	5,0	4	○
XE-83 D12 C	12,0	12	160	65	6,0	4	○
XE-83 D16 C	16,0	16	160	70	8,0	4	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE61



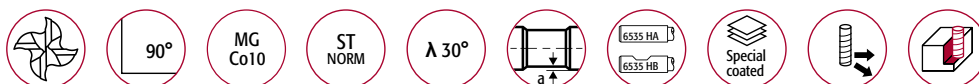
Fresa a 6 taglienti serie normale 6 flute end mill standard series

FR27

CODICE CODE	D h10	d h6	L	l ap	Z	
XE-61 D6 C	6,0	6	57	13	6	●
XE-61 D8 C	8,0	8	63	19	6	●
XE-61 D10 C	10,0	10	72	22	6	●
XE-61 D12 C	12,0	12	83	26	6	●
XE-61 D14 C	14,0	14	83	26	6	○
XE-61 D16 C	16,0	16	92	32	6	○
XE-61 D20 C	20,0	20	104	38	8	○

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE59



Fresa a 4 taglienti serie lunga 4 flute end mill long series

FR27

CODICE CODE	D h10	d h6	L	l ap	l1	a	Z	
XE-59 D3 C	3,0	3	62	14	-	-	4	○
XE-59 D4 C	4,0	4	62	16	-	-	4	●
XE-59 D5 C	5,0	5	62	20	-	-	4	●
XE-59 D6 C	6,0	6	78	20	30	0,15	4	●
XE-59 D8 C	8,0	8	78	25	35	0,15	4	●
XE-59 D10 C	10,0	10	105	28	48	0,15	4	●
XE-59 D12 C	12,0	12	105	32	52	0,20	4	●
XE-59 D16 C	16,0	16	130	40	60	0,20	4	●

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE41_{WAL}



Fresa per smussi 60°
End mill for chamfer 60°

FR27

CODICE CODE	D h10	d h5	L	Z	
XE-41 D3	3,0	4	50	4	★
XE-41 D4	4,0	4	50	4	●
XE-41 D6 WAL	6,0	6	57	6	●
XE-41 D8 WAL	8,0	8	63	6	●
XE-41 D10 WAL	10,0	10	72	6	●
XE-41 D12 WAL	12,0	12	83	6	★
XE-41 D16 WAL	16,0	16	92	6	★
XE-41 D20 WAL	20,0	20	104	6	★

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

XE42_{WAL}

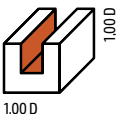
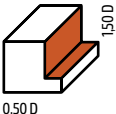
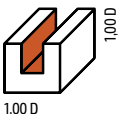
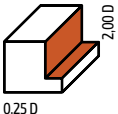
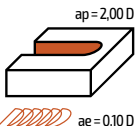


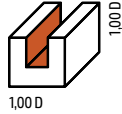
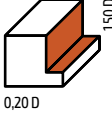
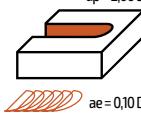
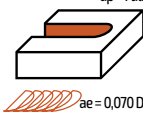
Fresa per smussi 90°
End mill for chamfer 90°

FR27

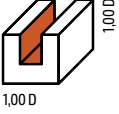
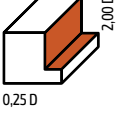
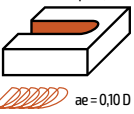
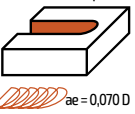
CODICE CODE	D h10	d h5	L	Z	
XE-42 D3 WAL	3,0	4	50	4	○
XE-42 D4 WAL	4,0	4	50	4	●
XE-42 D6 WAL	6,0	6	57	6	●
XE-42 D8 WAL	8,0	8	63	6	●
XE-42 D10 WAL	10,0	10	72	6	●
XE-42 D12 WAL	12,0	12	83	6	●
XE-42 D16 WAL	16,0	16	92	6	●
XE-42 D20 WAL	20,0	20	104	6	●

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability

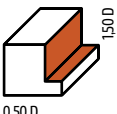
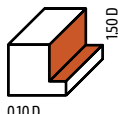
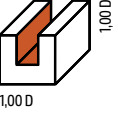
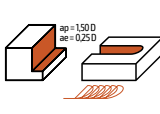
Materiale Material	Diametro Diameter	XE-97C						XE-95C								
																
Acciaio <800 N/mm ² Steel <800 N/mm ²	m/min	Vc = 140			Vc = 160			Vc=140			Vc=160			Vc=240		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	2,0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3,0	-	-	-	-	-	-	0,010	594	14862	0,010	679	16985	0,020	2037	25465
	4,0	0,025	1114	11141	0,025	1273	12732	0,015	669	11146	0,015	764	12739	0,050	3820	19099
	5,0	0,030	1070	8913	0,030	1222	10186	0,020	713	8917	0,020	815	10191	0,070	4278	15279
	6,0	0,040	1188	7427	0,040	1358	8488	0,030	892	7431	0,030	1019	8493	0,090	4584	12732
	8,0	0,060	1337	5570	0,060	1528	6366	0,045	1003	5573	0,045	1146	6369	0,120	4584	9549
	10,0	0,070	1248	4456	0,070	1426	5093	0,060	1070	4459	0,060	1223	5096	0,150	4583	7639
	12,0	0,080	1188	3714	0,080	1358	4244	0,070	1040	3715	0,070	1189	4246	0,180	4584	6366
	14,0	-	-	-	-	-	-	0,072	917	3185	0,072	1048	3640	0,200	4366	5457
	16,0	0,085	947	2785	0,085	1082	3183	0,075	836	2787	0,075	955	3185	0,220	4202	4775
	20,0	-	-	-	-	-	-	0,082	731	2229	0,090	917	2548	0,250	3820	3820
Acciaio <1000 N/mm ² - Ghisa Steel <1000 N/mm ² - Cast iron	m/min	Vc = 115			Vc = 125			Vc=115			Vc=130			Vc=200		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	2,0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3,0	-	-	-	-	-	-	0,010	488	12208	0,010	552	13800	0,020	1698	21221
	4,0	0,025	915	9151	0,025	995	9947	0,015	549	9156	0,015	621	10350	0,050	3183	15915
	5,0	0,030	879	7321	0,030	955	7958	0,020	586	7325	0,020	662	8280	0,070	3565	12732
	6,0	0,040	976	6101	0,040	1061	6631	0,030	732	6104	0,030	828	6900	0,090	3820	10610
	8,0	0,060	1098	4576	0,060	1194	4974	0,045	824	4578	0,045	932	5175	0,120	3820	7958
	10,0	0,070	1025	3661	0,070	1114	3979	0,060	879	3662	0,060	994	4140	0,150	3820	6366
	12,0	0,080	976	3050	0,080	1061	3316	0,070	855	3052	0,070	966	3450	0,180	3820	5305
	14,0	-	-	-	-	-	-	0,072	753	2616	0,072	852	2957	0,200	3638	4547
	16,0	0,085	778	2288	0,085	846	2487	0,075	687	2289	0,075	776	2588	0,220	3502	3979
	20,0	-	-	-	-	-	-	0,082	601	1831	0,090	745	2070	0,250	3183	3183
Acciaio <1300 N/mm ² Steel <1300 N/mm ²	m/min	Vc = 85			Vc = 95			Vc=85			Vc=100			160		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	2,0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3,0	-	-	-	-	-	-	0,010	361	9023	0,010	425	10616	0,020	1358	16977
	4,0	0,025	676	6764	0,025	756	7560	0,015	406	6768	0,015	478	7962	0,050	2546	12732
	5,0	0,030	649	5411	0,030	726	6048	0,020	433	5414	0,020	510	6369	0,070	2852	10186
	6,0	0,040	721	4509	0,040	806	5040	0,030	541	4512	0,030	637	5308	0,090	3056	8488
	8,0	0,060	812	3382	0,060	907	3780	0,045	609	3384	0,045	717	3981	0,120	3056	6366
	10,0	0,070	758	2706	0,070	847	3024	0,060	650	2707	0,060	764	3185	0,150	3056	5093
	12,0	0,080	722	2255	0,080	806	2520	0,070	632	2256	0,070	743	2654	0,180	3056	4244
	14,0	-	-	-	-	-	-	0,072	557	1934	0,072	655	2275	0,200	2910	3638
	16,0	0,085	575	1691	0,085	643	1890	0,075	508	1692	0,075	597	1990	0,220	2801	3183
	20,0	-	-	-	-	-	-	0,082	444	1354	0,090	573	1592	0,250	2546	2546
Acciai alloyati High alloyed tool steel	m/min	Vc = 45			Vc = 50			Vc=45			Vc=60			Vc=90		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	2,0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3,0	-	-	-	-	-	-	0,010	191	4777	0,010	255	6369	0,020	764	9549
	4,0	0,025	358	3581	0,025	398	3979	0,015	215	3583	0,015	287	4777	0,040	1146	7162
	5,0	0,030	344	2865	0,030	382	3183	0,020	229	2866	0,020	306	3822	0,050	1146	5730
	6,0	0,040	382	2387	0,040	424	2653	0,030	287	2389	0,030	382	3185	0,060	1146	4775
	8,0	0,060	430	1790	0,060	477	1989	0,045	322	1791	0,045	430	2389	0,080	1146	3581
	10,0	0,070	401	1432	0,070	446	1592	0,060	344	1433	0,060	459	1911	0,100	1146	2865
	12,0	0,080	382	1194	0,080	424	1326	0,070	334	1194	0,070	446	1592	0,120	1146	2387
	14,0	-	0	1023	-	0	1137	0,072	295	1024	0,072	393	1365	0,140	1146	2046
	16,0	0,085	304	895	0,085	338	995	0,075	269	896	0,075	358	1194	0,160	1146	1790
	20,0	-	-	-	-	-	-	0,082	235	717	0,090	344	955	0,180	1031	1432
Acciaio Inox Stainless Steel	m/min	Vc = 35			Vc = 45			Vc=85			Vc=100			Vc=120		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	2,0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3,0	-	-	-	-	-	-	0,010	361	9023	0,010	403	10085	0,020	1019	12732
	4,0	0,025	279	2785	0,025	358	3581	0,015	406	6768	0,015	454	7564	0,040	1528	9549
	5,0	0,030	267	2228	0,030	344	2865	0,020	433	5414	0,020	484	6051	0,060	1986	7639
	6,0	0,040	297	1857	0,040	382	2387	0,030	541	4512	0,030	605	5042	0,080	2037	6366
	8,0	0,060	334	1393	0,060	430	1790	0,040	541	3384	0,045	681	3782	0,100	1910	4775
	10,0	0,070	312	1114	0,070	401	1432	0,050	541	2707	0,060	726	3025	0,120	1834	3820
	12,0	0,080	297	928	0,080	382	1194	0,060	541	2256	0,070	706	2521	0,140	1782	3183
	14,0	-	-	-	-	-	-	0,070	541	1934	0,072	655	2275	0,160	1746	2728
	16,0	0,085	237	696	0,085	304	895	0,075	508	1692	0,075	567	1891	0,180	1719	2387
	20,0	-	-	-	-	-	-	0,082	444	1354	0,090	545	1513	0,220	1681	1910

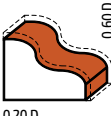
		XE-92C/XE-93C									XE-92L		
Materiale Material	Diametro Diameter				Vedi nota See note 								
Acciaio <800 N/mm² Steel <800 N/mm²	m/min	Vc = 140			Vc = 160			Vc = 180			Vc = 160		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	3,0	0,010	594	14854	0,010	679	16977	0,020	1528	19099	-	-	-
	4,0	0,015	668	11141	0,015	764	12732	0,050	2865	14324	-	-	-
	5,0	0,020	713	8913	0,020	815	10186	0,070	3209	11459	0,060	2445	10186
	6,0	0,030	891	7427	0,030	1019	8488	0,090	3438	9549	0,070	2377	8488
	8,0	0,045	1003	5570	0,045	1146	6366	0,120	3438	7162	0,090	2292	6366
	10,0	0,060	1069	4456	0,060	1222	5093	0,150	3438	5730	0,110	2241	5093
	12,0	0,070	1040	3714	0,070	1188	4244	0,180	3438	4775	0,130	2207	4244
	14,0	0,072	917	3183	0,072	1048	3638	0,200	3274	4093	0,150	2183	3638
16,0	0,075	836	2785	0,075	955	3183	0,220	3151	3581	0,170	2164	3183	
20,0	0,082	731	2228	0,090	917	2546	0,250	2865	2865	0,200	2037	2546	
Acciaio <1000 N/mm² - Ghisa Steel <1000 N/mm² - Cast iron	m/min	Vc = 115			Vc = 125			Vc = 150			Vc = 140		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	3,0	0,010	488	12202	0,010	531	13263	0,020	1273	15915	-	-	-
	4,0	0,015	549	9151	0,015	597	9947	0,050	2387	11937	-	-	-
	5,0	0,020	586	7321	0,020	637	7958	0,070	2674	9549	0,060	2139	8913
	6,0	0,030	732	6101	0,030	796	6631	0,090	2865	7958	0,070	2080	7427
	8,0	0,045	824	4576	0,045	895	4974	0,120	2865	5968	0,090	2005	5570
	10,0	0,060	879	3661	0,060	955	3979	0,150	2865	4775	0,110	1961	4456
	12,0	0,070	854	3050	0,070	928	3316	0,180	2865	3979	0,130	1931	3714
	14,0	0,072	753	2615	0,072	819	2842	0,200	2728	3410	0,150	1910	3183
16,0	0,075	686	2288	0,075	746	2487	0,220	2626	2984	0,170	1894	2785	
20,0	0,082	600	1830	0,090	716	1989	0,250	2387	2387	0,200	1782	2228	
Acciaio <1300 N/mm² Steel <1300 N/mm²	m/min	Vc = 85			Vc = 95			Vc = 130			Vc = 110		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	3,0	0,010	361	9019	0,010	403	10080	0,020	1103	13793	-	-	-
	4,0	0,015	406	6764	0,015	454	7560	0,050	2069	10345	-	-	-
	5,0	0,020	433	5411	0,020	484	6048	0,070	2317	8276	0,060	1681	7003
	6,0	0,030	541	4509	0,030	605	5040	0,090	2483	6897	0,070	1634	5836
	8,0	0,045	609	3382	0,045	680	3780	0,120	2483	5173	0,090	1576	4377
	10,0	0,060	649	2706	0,060	726	3024	0,150	2483	4138	0,110	1540	3501
	12,0	0,070	631	2255	0,070	706	2520	0,180	2483	3448	0,130	1517	2918
	14,0	0,072	557	1933	0,072	622	2160	0,200	2365	2956	0,150	1501	2501
16,0	0,075	507	1691	0,075	567	1890	0,220	2276	2586	0,170	1488	2188	
20,0	0,082	444	1353	0,090	544	1512	0,250	2069	2069	0,200	1401	1751	
20,0	0,082	444	1353	0,090	544	1512	0,082	444	1353	0,070	799	2865	
Acciai alloyati High alloyed tool steel	m/min	Vc = 45			Vc = 50			Vc = 80			Vc = 65		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	3,0	0,010	191	4775	0,010	212	5305	0,020	679	8488	-	-	-
	4,0	0,015	215	3581	0,015	239	3979	0,040	1019	6366	-	-	-
	5,0	0,020	229	2865	0,020	255	3183	0,050	1019	5093	0,050	828	4138
	6,0	0,030	286	2387	0,030	318	2653	0,060	1019	4244	0,060	828	3448
	8,0	0,045	322	1790	0,045	358	1989	0,080	1019	3183	0,080	828	2586
	10,0	0,060	344	1432	0,060	382	1592	0,100	1018	2546	0,100	828	2069
	12,0	0,070	334	1194	0,070	371	1326	0,120	1019	2122	0,120	828	1724
	14,0	0,072	295	1023	0,072	327	1137	0,140	1019	1819	0,140	828	1478
16,0	0,075	269	895	0,075	298	995	0,160	1019	1592	0,160	828	1293	
20,0	0,082	235	716	0,090	286	796	0,180	917	1273	0,180	745	1035	
Acciaio Inox Stainless Steel	m/min	Vc = 35			Vc = 45			Vc = 100			Vc = 90		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	3,0	0,010	149	3714	0,010	191	4775	0,020	849	10610	-	-	-
	4,0	0,015	167	2785	0,015	215	3581	0,040	1273	7958	-	-	-
	5,0	0,020	178	2228	0,020	229	2865	0,065	1655	6366	0,050	1146	5730
	6,0	0,030	223	1857	0,030	286	2387	0,080	1698	5305	0,060	1146	4775
	8,0	0,045	251	1393	0,045	322	1790	0,100	1592	3979	0,080	1146	3581
	10,0	0,060	267	1114	0,060	344	1432	0,120	1528	3183	0,100	1146	2865
	12,0	0,070	260	928	0,070	334	1194	0,140	1486	2653	0,120	1146	2387
	14,0	0,072	229	796	0,072	295	1023	0,160	1455	2274	0,140	1146	2046
16,0	0,075	209	696	0,075	269	895	0,180	1432	1989	0,160	1146	1790	
20,0	0,082	183	557	0,090	258	716	0,220	1401	1592	0,180	1031	1432	

Serie lunga: parametri di lavoro di riferimento da adattare in base all'impegno utensile. / Long series: reference parameters to be adjusted based on tool engagement.

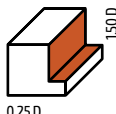
Materiale Material	Diametro Diameter	XE-94C									XE-94L		
			Vedi nota See note										
Inox ferritico Ferritic stainless steel	m/min	Vc=130			Vc=140			Vc=160			Vc=140		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	3,0	0,013	718	13800	0,013	773	14862	0,025	1698	16977	-	-	-
	4,0	0,020	828	10350	0,020	892	11146	0,040	2037	12732	-	-	-
	5,0	0,025	828	8280	0,025	892	8917	0,050	2037	10186	0,060	2139	8913
	6,0	0,030	828	6900	0,030	892	7431	0,060	2037	8488	0,070	2080	7427
	8,0	0,040	828	5175	0,040	892	5573	0,080	2037	6366	0,090	2005	5570
	10,0	0,050	828	4140	0,050	892	4459	0,100	2037	5093	0,110	1961	4456
	12,0	0,060	828	3450	0,060	892	3715	0,120	2037	4244	0,130	1931	3714
	14,0	0,065	759	2956	0,065	828	3183	0,130	1892	3638	-	-	-
	16,0	0,070	725	2588	0,070	780	2787	0,140	1782	3183	0,150	1671	2785
	18,0	0,075	690	2299	0,075	743	2476	0,150	1697	2829	-	-	-
	20,0	0,080	662	2070	0,080	713	2229	0,160	1629	2546	0,200	1782	2228
Inox austenitico Austenitic stainless steel	m/min	Vc=110			Vc=120			Vc=150			Vc=130		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	3,0	0,013	607	11677	0,013	662	12739	0,025	1592	15915	-	-	-
	4,0	0,020	701	8758	0,020	764	9554	0,040	1910	11937	-	-	-
	5,0	0,025	701	7006	0,025	764	7643	0,050	1910	9549	0,060	2292	9549
	6,0	0,030	701	5839	0,030	764	6369	0,060	1910	7958	0,070	2228	7958
	8,0	0,040	701	4379	0,040	764	4777	0,080	1910	5968	0,090	2148	5968
	10,0	0,050	701	3503	0,050	764	3822	0,100	1910	4775	0,110	2101	4775
	12,0	0,060	701	2919	0,060	764	3185	0,120	1910	3979	0,130	2069	3979
	14,0	0,065	650	2501	0,065	709	2728	0,130	1773	3410	-	-	-
	16,0	0,070	613	2189	0,070	669	2389	0,140	1671	2984	0,150	1790	2984
	18,0	0,075	584	1945	0,075	637	2122	0,150	1592	2653	-	-	-
	20,0	0,080	561	1752	0,080	611	1911	0,160	1528	2387	0,200	1910	2387
Titanio Titanium	m/min	Vc=60			Vc=70			Vc=90			Vc=90		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	3,0	0,005	127	6369	0,010	297	7431	0,020	764	9549	-	-	-
	4,0	0,007	124	4777	0,016	357	5573	0,032	917	7162	-	-	-
	5,0	0,009	130	3822	0,020	357	4459	0,040	917	5730	0,030	688	5730
	6,0	0,010	127	3185	0,030	446	3715	0,060	1146	4775	0,040	764	4775
	8,0	0,013	124	2389	0,040	446	2787	0,080	1146	3581	0,060	859	3581
	10,0	0,018	138	1911	0,050	446	2229	0,100	1146	2865	0,080	917	2865
	12,0	0,022	140	1592	0,060	446	1858	0,120	1146	2387	0,100	955	2387
	14,0	0,027	147	1364	0,070	446	1592	0,140	1146	2046	-	-	-
	16,0	0,032	153	1194	0,080	446	1393	0,160	1146	1790	0,140	1002	1790
	18,0	0,036	153	1061	0,090	446	1238	0,180	1146	1592	-	-	-
	20,0	0,040	153	955	0,100	446	1115	0,200	1146	1432	0,180	1031	1432
Acciaio <800 N/mm² Steel < 800N/mm²	m/min	Vc=130			Vc=140			Vc=170			Vc=150		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm
	3,0	0,013	718	13800	0,013	773	14862	0,025	1804	18038	-	-	-
	4,0	0,020	828	10350	0,020	892	11146	0,040	2164	13528	-	-	-
	5,0	0,025	828	8280	0,025	892	8917	0,050	2165	10823	0,060	2598	10823
	6,0	0,030	828	6900	0,030	892	7431	0,060	2165	9019	0,070	2525	9019
	8,0	0,040	828	5175	0,040	892	5573	0,080	2164	6764	0,090	2435	6764
	10,0	0,050	828	4140	0,050	892	4459	0,100	2164	5411	0,110	2381	5411
	12,0	0,060	828	3450	0,060	892	3715	0,120	2164	4509	0,130	2345	4509
	14,0	0,065	769	2956	0,065	828	3183	0,130	2010	3865	-	-	-
	16,0	0,070	725	2588	0,070	780	2787	0,140	1894	3382	0,150	2029	3382
	18,0	0,075	690	2299	0,075	743	2476	0,150	1804	3006	-	-	-
	20,0	0,080	662	2070	0,080	713	2229	0,160	1732	2706	0,200	2165	2706

Serie lunga: parametri di lavoro di riferimento da adattare in base all'impegno utensile. / Long series: reference parameters to be adjusted based on tool engagement.

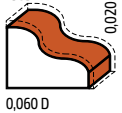
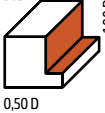
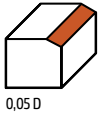
		XE-10AL						XE-12AL			XE-13AL						
Materiale Material	Diametro Diameter																
Alluminio e leghe < 6% Si Aluminium and alloys < 6% Si	m/min	Vc = 600				Vc = 795			Vc = 795			Vc=600			Vc=800		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	
	2,0	0,010	1910	95493	0,010	2531	126528	-	-	-	-	-	-	-	-	-	
	3,0	0,014	1783	63662	0,014	2362	84352	-	-	-	0,012	2292	63662	0,012	3056	84883	
	4,0	0,024	2292	47746	0,024	3037	63264	0,021	3986	63264	0,020	2865	47746	0,020	3820	63662	
	5,0	0,044	3361	38197	0,044	4454	50611	0,035	5314	50611	0,035	4011	38197	0,035	5348	50930	
	6,0	0,060	3820	31831	0,060	5061	42176	0,050	6326	42176	0,050	4775	31831	0,050	6366	42441	
	8,0	0,086	4106	23873	0,086	5441	31632	0,073	6927	31632	0,070	5013	23873	0,070	6685	31831	
	10,0	0,106	4049	16099	0,106	5365	25306	0,091	6908	25306	0,090	5157	19099	0,090	6875	25465	
	12,0	0,122	3883	15915	0,122	5145	21088	0,105	6643	21088	0,105	5013	15915	0,105	6685	21221	
Alluminio e leghe > 6% Si Aluminium and alloys > 6% Si	m/min	Vc = 225				Vc = 300			Vc = 300			Vc=600			Vc=800		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	
	2,0	0,010	716	35810	0,010	955	47746	-	-	-	-	-	-	-	-	-	
	3,0	0,014	668	23873	0,014	891	31831	-	-	-	0,012	2292	63662	0,012	3056	84883	
	4,0	0,024	859	17905	0,024	1146	23873	0,021	1504	23873	0,020	2865	47746	0,020	3820	63662	
	5,0	0,044	1261	14324	0,044	1681	19099	0,035	2005	19099	0,035	4011	38197	0,035	5348	50930	
	6,0	0,060	1432	11937	0,060	1910	15915	0,050	2387	15915	0,050	4775	31831	0,050	6366	42441	
	8,0	0,086	1540	8952	0,086	2053	11937	0,073	2614	11937	0,070	5013	23873	0,070	6685	31831	
	10,0	0,106	1518	7162	0,106	2024	9549	0,091	2607	9549	0,090	5157	19099	0,090	6875	25465	
	12,0	0,122	1456	5968	0,122	1942	7958	0,105	2057	7958	0,105	5013	15915	0,105	6685	21221	
Rame e leghe Copper and alloys	m/min	Vc = 375				Vc = 495			Vc = 495			Vc=350			Vc=500		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	
	2,0	0,010	1194	59683	0,010	1576	78782	-	-	-	-	-	-	-	-	-	
	3,0	0,014	1114	39789	0,014	1471	52521	-	-	-	0,012	1337	37136	0,012	1910	53052	
	4,0	0,024	1432	29842	0,024	1891	39391	0,021	2482	39391	0,020	1671	27852	0,020	2387	39789	
	5,0	0,044	2101	23873	0,044	2773	31513	0,035	3309	31513	0,035	2340	22282	0,035	3342	31831	
	6,0	0,060	2387	19894	0,060	3151	26261	0,050	3939	26261	0,050	2785	18568	0,050	3979	26526	
	8,0	0,086	2566	14921	0,086	3388	19695	0,073	4313	19695	0,070	2924	13926	0,070	4178	19894	
	10,0	0,106	2531	11937	0,106	3340	15756	0,091	4301	15756	0,090	3008	11141	0,090	4297	15915	
	12,0	0,122	2427	9947	0,122	3204	13130	0,105	4136	13130	0,105	2924	9284	0,105	4178	13263	
Resina termoplastica Thermoplastics	m/min	Vc = 450				Vc = 595			Vc = 595			Vc=450			Vc=600		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	
	2,0	0,010	1432	71620	0,010	1894	94697	-	-	-	-	-	-	-	-	-	
	3,0	0,014	1337	47746	0,014	1768	63131	-	-	-	0,012	1719	47746	0,012	2292	63662	
	4,0	0,024	1719	35810	0,024	2273	47349	0,021	2983	47349	0,020	2149	35810	0,020	2865	47746	
	5,0	0,044	2521	28648	0,044	3333	37879	0,035	3977	37879	0,035	3008	28648	0,035	4011	38197	
	6,0	0,060	2865	23873	0,060	3788	31566	0,050	4735	31566	0,050	3581	23873	0,050	4775	31831	
	8,0	0,086	3080	17905	0,086	4072	23674	0,073	5185	23674	0,070	3760	17905	0,070	5013	23873	
	10,0	0,106	3037	14324	0,106	4015	18939	0,091	5170	18939	0,090	3867	14324	0,090	5157	19099	
	12,0	0,122	2913	11937	0,122	3851	15783	0,105	4972	15783	0,105	3760	11937	0,105	5013	15915	

		XE-56C				XE-29C				XE-61C				XE-66C			
Materiale Material	Diametro Diameter	Vedi nota See note 												Vedi nota See note 			
Acciaio <800 N/mm² Steel <800 N/mm²	m/min	Vc = 175				Vc = 150				Vc = 175				Vc = 360			
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm				
	2,0	0,002	223	27852	0,002	191	23885	-	-	-	0,035	8021	57296				
	3,0	0,007	520	18568	0,004	255	15924	-	-	-	0,059	9015	38197				
	4,0	0,012	668	13926	0,007	334	11943	-	-	-	0,117	13407	28648				
	5,0	0,017	758	11141	0,012	459	9554	-	-	-	0,162	14851	22918				
	6,0	0,022	817	9284	0,016	510	7962	0,022	1225	9284	0,198	15126	19099				
	8,0	0,029	808	6963	0,020	478	5971	0,029	1212	6963	0,256	14668	14324				
	10,0	0,035	780	5570	0,025	478	4777	0,035	1170	5570	0,300	13751	11459				
	12,0	0,039	724	4642	-	-	-	0,039	1086	4642	0,337	12872	9549				
	14,0	0,043	684	3979	-	-	-	0,043	1027	3979	0,367	12016	8185				
	16,0	0,047	655	3482	-	-	-	0,047	1309	3482	0,394	11287	7162				
20,0	0,052	579	2785	-	-	-	0,052	1159	2785	0,420	9626	5730					
Acciaio <1000 N/mm² - Ghisa Steel <1000 N/mm² - Cast iron	m/min	Vc = 145				Vc = 125				Vc = 145				Vc = 295			
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm				
	2,0	0,002	185	23077	0,002	159	19904	-	-	-	0,035	6573	46951				
	3,0	0,007	431	15385	0,004	212	13270	-	-	-	0,059	7387	31300				
	4,0	0,012	554	11539	0,007	279	9952	-	-	-	0,117	10986	23475				
	5,0	0,017	628	9231	0,012	382	7962	-	-	-	0,162	12170	18780				
	6,0	0,022	677	7692	0,016	425	6635	0,022	1015	7692	0,198	12395	15650				
	8,0	0,029	669	5769	0,02	398	4976	0,029	1004	5769	0,256	12019	11738				
	10,0	0,035	646	4615	0,025	398	3981	0,035	969	4615	0,300	11268	9390				
	12,0	0,039	600	3846	-	-	-	0,039	900	3846	0,337	10548	7825				
	14,0	0,043	567	3297	-	-	-	0,043	851	3297	0,367	9846	6707				
	16,0	0,047	542	2885	-	-	-	0,047	1085	2885	0,394	9249	5869				
20,0	0,052	480	2308	-	-	-	0,052	960	2308	0,420	7888	4695					
Acciaio <1300 N/mm² Steel <1300 N/mm²	m/min	Vc = 110				Vc = 90				Vc = 110				Vc = 225			
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm				
	2,0	0,002	140	17507	0,002	115	14331	-	-	-	0,035	5013	35810				
	3,0	0,007	327	11671	0,004	153	9554	-	-	-	0,059	5634	23873				
	4,0	0,012	420	8754	0,007	201	7166	-	-	-	0,117	8380	17905				
	5,0	0,017	476	7003	0,012	275	5732	-	-	-	0,162	9282	14324				
	6,0	0,022	514	5836	0,016	306	4777	0,022	770	5836	0,198	9454	11937				
	8,0	0,029	508	4377	0,02	287	3583	0,029	762	4377	0,256	9167	8952				
	10,0	0,035	490	3501	0,025	287	2866	0,035	735	3501	0,300	8594	7162				
	12,0	0,039	455	2918	-	-	-	0,039	683	2918	0,337	8045	5968				
	14,0	0,043	430	2501	-	-	-	0,043	645	2501	0,367	7510	5116				
	16,0	0,047	411	2188	-	-	-	0,047	823	2188	0,394	7055	4476				
20,0	0,052	364	1751	-	-	-	0,052	728	1751	0,420	6016	3581					
Acciai alloyati High alloyed tool steel	m/min	Vc = 55				Vc = 40				Vc = 55				Vc = 115			
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm				
	2,0	0,002	70	8754	0,002	51	6369	-	-	-	0,035	2562	18303				
	3,0	0,007	163	5836	0,004	68	4246	-	-	-	0,059	2880	12202				
	4,0	0,012	210	4377	0,007	89	3185	-	-	-	0,117	4283	9151				
	5,0	0,017	238	3501	0,012	122	2548	-	-	-	0,162	4744	7321				
	6,0	0,022	257	2918	0,016	136	2123	0,022	385	2918	0,198	4832	6101				
	8,0	0,029	254	2188	0,02	127	1592	0,029	381	2188	0,256	4686	4576				
	10,0	0,035	245	1751	0,025	127	1274	0,035	368	1751	0,300	4393	3661				
	12,0	0,039	228	1459	-	-	-	0,039	341	1459	0,337	4112	3050				
	14,0	0,043	215	1251	-	-	-	0,043	323	1251	0,367	3838	2615				
	16,0	0,047	206	1094	-	-	-	0,047	411	1094	0,394	3606	2288				
20,0	0,052	182	875	-	-	-	0,052	364	875	0,420	3075	1830					
Acciaio Inox Stainless Steel	m/min	Vc = 45				Vc = 45				Vc = 45				Vc = 75			
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm				
	2,0	0,002	57	7162	0,002	57	7166	-	-	-	0,035	1671	11937				
	3,0	0,007	134	4775	0,004	76	4777	-	-	-	0,059	1878	7958				
	4,0	0,012	172	3581	0,007	100	3583	-	-	-	0,117	2793	5968				
	5,0	0,017	195	2865	0,012	138	2866	-	-	-	0,162	3094	4775				
	6,0	0,022	210	2387	0,016	153	2389	0,022	315	2387	0,198	3151	3979				
	8,0	0,029	208	1790	0,02	143	1791	0,029	312	1790	0,256	3056	2984				
	10,0	0,035	201	1432	0,025	143	1433	0,035	301	1432	0,300	2865	2387				
	12,0	0,039	186	1194	-	-	-	0,039	279	1194	0,337	2682	1989				
	14,0	0,043	176	1023	-	-	-	0,043	264	1023	0,367	3503	1705				
	16,0	0,047	168	895	-	-	-	0,047	337	895	0,394	2352	1492				
20,0	0,052	149	716	-	-	-	0,052	298	716	0,420	2005	1194					

Serie lunga: -15% rispetto ai parametri di lavoro del corrispettivo utensile serie normale. / Long series: 15% less than the working parameters of the corresponding tool standard series.

		XE-71C				XE-06C			XE-21C			XE-01C		
Materiale Material	Diametro Diameter					Vedi nota See note 								
Acciaio <800 N/mm ² Steel <800 N/mm ²	m/min	Vc = 140				Vc = 120			Vc = 120			Vc = 120		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	
	2,0	-	-	-	0,002	76	19099	0,002	76	19108	0,002	76	19108	
	3,0	-	-	-	0,003	76	12732	0,004	102	12739	0,004	102	12739	
	4,0	0,018	802	11141	0,004	76	9549	0,009	172	9554	0,009	172	9554	
	5,0	0,020	713	8913	0,007	107	7639	0,014	214	7643	0,014	214	7643	
	6,0	0,028	832	7427	0,009	115	6366	0,018	229	6369	0,018	229	6369	
	8,0	0,039	869	5570	0,016	153	4775	0,023	220	4777	0,023	220	4777	
	10,0	0,048	856	4456	0,022	168	3820	0,028	214	3822	0,028	214	3822	
	12,0	0,055	817	3714	0,026	166	3183	-	-	-	0,032	204	3185	
	14,0	0,061	777	3183	0,030	164	2728	-	-	-	0,034	186	2730	
16,0	0,067	746	2785	0,033	158	2387	-	-	-	0,038	182	2389		
20,0	0,076	677	2228	0,039	149	1910	-	-	-	0,042	161	1911		
Acciaio <1000 N/mm ² - Ghisa Steel <1000 N/mm ² - Cast iron	m/min	Vc = 115				Vc = 100			Vc = 100			Vc = 100		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	
	2,0	-	-	-	0,002	64	15915	0,002	64	15924	0,002	64	15924	
	3,0	-	-	-	0,003	64	10610	0,004	85	10616	0,004	85	10616	
	4,0	0,018	659	9151	0,004	64	7958	0,009	143	7962	0,009	143	7962	
	5,0	0,02	586	7321	0,007	89	6366	0,014	178	6369	0,014	178	6369	
	6,0	0,028	683	6101	0,009	95	5305	0,018	191	5308	0,018	191	5308	
	8,0	0,039	714	4576	0,016	127	3979	0,023	183	3981	0,023	183	3981	
	10,0	0,048	703	3661	0,022	140	3183	0,028	178	3185	0,028	178	3185	
	12,0	0,055	671	3050	0,026	138	2653	-	-	-	0,032	170	2654	
	14,0	0,061	638	2615	0,030	136	2274	-	-	-	0,034	155	2275	
16,0	0,067	613	2288	0,033	131	1989	-	-	-	0,038	151	1990		
20,0	0,076	556	1830	0,039	124	1592	-	-	-	0,042	134	1592		
Acciaio <1300 N/mm ² Steel <1300 N/mm ²	m/min	Vc = 90				Vc = 75			Vc = 75			Vc = 75		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	
	2,0	-	-	-	0,002	48	11937	0,002	48	11943	0,002	48	11943	
	3,0	-	-	-	0,003	48	7958	0,004	64	7962	0,004	64	7962	
	4,0	0,018	516	7162	0,004	48	5968	0,009	107	5971	0,009	107	5971	
	5,0	0,02	458	5730	0,007	67	4775	0,014	134	4777	0,014	134	4777	
	6,0	0,028	535	4775	0,009	72	3979	0,018	143	3981	0,018	143	3981	
	8,0	0,039	559	3581	0,016	95	2984	0,023	137	2986	0,023	137	2986	
	10,0	0,048	550	2865	0,022	105	2387	0,028	134	2389	0,028	134	2389	
	12,0	0,055	525	2387	0,026	103	1989	-	-	-	0,032	127	1990	
	14,0	0,061	499	2046	0,030	102	1705	-	-	-	0,034	116	1706	
16,0	0,067	480	1790	0,033	98	1492	-	-	-	0,038	113	1493		
20,0	0,076	435	1432	0,039	93	1194	-	-	-	0,042	100	1194		
Acciai altolegati High alloyed tool steel	m/min	Vc = 45				Vc = 40			Vc = 40			Vc = 40		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	
	2,0	-	-	-	0,002	25	6366	0,002	25	6369	0,002	25	6369	
	3,0	-	-	-	0,003	25	4244	0,004	34	4246	0,004	34	4246	
	4,0	0,018	258	3581	0,004	25	3183	0,009	57	3185	0,009	57	3185	
	5,0	0,02	229	2865	0,007	36	2546	0,014	71	2548	0,014	71	2548	
	6,0	0,028	267	2387	0,009	38	2122	0,018	76	2123	0,018	76	2123	
	8,0	0,039	279	1790	0,016	51	1592	0,023	73	1592	0,023	73	1592	
	10,0	0,048	275	1432	0,022	56	1273	0,028	71	1274	0,028	71	1274	
	12,0	0,055	263	1194	0,026	55	1061	-	-	-	0,032	68	1062	
	14,0	0,061	250	1023	0,030	55	909	-	-	-	0,034	62	910	
16,0	0,067	240	895	0,033	53	796	-	-	-	0,038	61	796		
20,0	0,076	218	716	0,039	50	637	-	-	-	0,042	54	637		
Acciaio Inox Stainless Steel	m/min	Vc = 40				Vc = 40			Vc = 40			Vc = 40		
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	
	2,0	-	-	-	0,002	22	5570	0,002	25	6369	0,002	25	6369	
	3,0	-	-	-	0,003	22	3714	0,004	34	4246	0,004	34	4246	
	4,0	0,018	229	3183	0,004	22	2785	0,009	57	3185	0,009	57	3185	
	5,0	0,02	204	2546	0,007	31	2228	0,014	71	2548	0,014	71	2548	
	6,0	0,028	238	2122	0,009	33	1857	0,018	76	2123	0,018	76	2123	
	8,0	0,039	248	1592	0,016	45	1393	0,023	73	1592	0,023	73	1592	
	10,0	0,048	244	1273	0,022	49	1114	0,028	71	1274	0,028	71	1274	
	12,0	0,055	233	1061	0,026	48	928	-	-	-	0,032	68	1062	
	14,0	0,061	222	909	0,030	48	796	-	-	-	0,034	62	910	
16,0	0,067	213	796	0,033	46	696	-	-	-	0,038	61	796		
20,0	0,076	194	637	0,039	43	557	-	-	-	0,042	54	637		

Serie lunga: -15% rispetto ai parametri di lavoro del corrispettivo utensile serie normale. / Long series: 15% less than the working parameters of the corresponding tool standard series.

Materiale Material	Diametro Diameter	XE-16C				XE-36C				XE-26C				XE-41/XE-42			
		Vedi nota See note 				Vedi nota See note 				Vedi nota See note 							
Acciaio <800 N/mm ² Steel <800 N/mm ²	m/min	Vc = 360				Vc = 130				Vc = 120				Vc = 130			
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z
	2,0	0,022	2521	57296	0,002	124	20701	0,002	115	19108	0,002	124	20701	0,002	115	19108	-
	3,0	0,081	6188	38197	0,004	166	13800	0,004	153	12739	0,004	166	13800	0,004	153	12739	0,020
	4,0	0,139	7964	28648	0,009	279	10350	0,009	258	9554	0,009	279	10350	0,009	258	9554	0,030
	5,0	0,184	8434	22918	0,014	348	8280	0,014	321	7643	0,014	348	8280	0,014	321	7643	-
	6,0	0,220	8403	19099	0,018	373	6900	0,018	344	6369	0,018	373	6900	0,018	344	6369	0,040
	8,0	0,278	7964	14324	0,023	357	5175	0,023	330	4777	0,023	357	5175	0,023	330	4777	0,050
	10,0	0,322	7380	11459	0,028	348	4140	0,028	321	3822	0,028	348	4140	0,028	321	3822	0,060
	12,0	0,359	6856	9549	0,032	331	3450	0,032	306	3185	-	-	-	-	-	-	0,070
	14,0	0,389	6368	8185	-	-	-	-	-	-	-	-	-	-	-	-	-
	16,0	0,416	5959	7162	0,038	295	2588	0,038	272	2389	-	-	-	-	-	-	0,070
	20,0	-	-	-	0,042	261	2070	0,042	241	1911	-	-	-	-	-	-	0,080
Acciaio <1000 N/mm ² - Ghisa Steel <1000 N/mm ² - Cast iron	m/min	Vc = 295				Vc = 110				Vc = 100				Vc = 110			
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z
	2,0	0,022	2066	46951	0,002	105	17516	0,002	96	15924	0,002	105	17516	0,002	96	15924	-
	3,0	0,081	5071	31300	0,004	140	11677	0,004	127	10616	0,004	140	11677	0,004	127	10616	0,020
	4,0	0,139	6526	23475	0,009	236	8758	0,009	215	7962	0,009	236	8758	0,009	215	7962	0,030
	5,0	0,184	6911	18780	0,014	294	7006	0,014	268	6369	0,014	294	7006	0,014	268	6369	-
	6,0	0,22	6886	15650	0,018	315	5839	0,018	287	5308	0,018	315	5839	0,018	287	5308	0,040
	8,0	0,278	6526	11738	0,023	302	4379	0,023	275	3981	0,023	302	4379	0,023	275	3981	0,050
	10,0	0,322	6047	9390	0,028	294	3503	0,028	268	3185	0,028	294	3503	0,028	268	3185	0,060
	12,0	0,359	5618	7825	0,032	280	2919	0,032	255	2654	-	-	-	-	-	-	0,070
	14,0	0,389	5218	6707	-	-	-	-	-	-	-	-	-	-	-	-	-
	16,0	0,416	4883	5869	0,038	250	2189	0,038	227	1990	-	-	-	-	-	-	0,070
	20,0	-	-	-	0,042	221	1752	0,042	201	1592	-	-	-	-	-	-	0,080
Acciaio <1300 N/mm ² Steel <1300 N/mm ²	m/min	Vc = 225				Vc = 80				Vc = 75				Vc = 80			
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z
	2,0	0,022	1576	35810	0,002	76	12739	0,002	72	11943	0,002	76	12739	0,002	72	11943	-
	3,0	0,081	3867	23873	0,004	102	8493	0,004	96	7962	0,004	102	8493	0,004	96	7962	0,020
	4,0	0,139	4978	17905	0,009	172	6369	0,009	161	5971	0,009	172	6369	0,009	161	5971	0,030
	5,0	0,184	5271	14324	0,014	214	5096	0,014	201	4777	0,014	214	5096	0,014	201	4777	-
	6,0	0,220	5252	11937	0,018	229	4246	0,018	215	3981	0,018	229	4246	0,018	215	3981	0,040
	8,0	0,278	4978	8952	0,023	220	3185	0,023	206	2986	0,023	220	3185	0,023	206	2986	0,050
	10,0	0,322	4612	7162	0,028	214	2548	0,028	201	2389	0,028	214	2548	0,028	201	2389	0,060
	12,0	0,359	4285	5968	0,032	204	2123	0,032	191	1990	-	-	-	-	-	-	0,070
	14,0	0,389	3980	5116	-	-	-	-	-	-	-	-	-	-	-	-	-
	16,0	0,416	3724	4476	0,038	182	1592	0,038	170	1493	-	-	-	-	-	-	0,070
	20,0	-	-	-	0,042	161	1274	0,042	150	1194	-	-	-	-	-	-	0,080
Acciai alloyati High alloyed tool steel	m/min	Vc = 115				Vc = 40				Vc = 40				Vc = 40			
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z
	2,0	0,022	805	18303	0,002	38	6369	0,002	38	6369	0,002	38	6369	0,002	38	6369	-
	3,0	0,081	1977	12202	0,004	51	4246	0,004	51	4246	0,004	51	4246	0,004	51	4246	0,020
	4,0	0,139	2544	9151	0,009	86	3185	0,009	86	3185	0,009	86	3185	0,009	86	3185	0,030
	5,0	0,184	2694	7321	0,014	107	2548	0,014	107	2548	0,014	107	2548	0,014	107	2548	-
	6,0	0,220	2684	6101	0,018	115	2123	0,018	115	2123	0,018	115	2123	0,018	115	2123	0,040
	8,0	0,278	2544	4576	0,023	110	1592	0,023	110	1592	0,023	110	1592	0,023	110	1592	0,050
	10,0	0,322	2357	3661	0,028	107	1274	0,028	107	1274	0,028	107	1274	0,028	107	1274	0,060
	12,0	0,359	2190	3050	0,032	102	1062	0,032	102	1062	-	-	-	-	-	-	0,070
	14,0	0,389	2034	2615	-	-	-	-	-	-	-	-	-	-	-	-	-
	16,0	0,416	1903	2288	0,038	91	796	0,038	91	796	-	-	-	-	-	-	0,070
	20,0	-	-	-	0,042	80	637	0,042	80	637	-	-	-	-	-	-	0,080
Acciaio Inox Stainless Steel	m/min	Vc = 75				Vc = 40				Vc = 40				Vc = 40			
	D mm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z	F mm/min	n rpm	fz mm/z
	2,0	0,022	525	11937	0,002	38	6369	0,002	38	6369	0,002	38	6369	0,002	38	6369	-
	3,0	0,081	1289	7958	0,004	51	4246	0,004	51	4246	0,004	51	4246	0,004	51	4246	0,020
	4,0	0,139	1659	5968	0,009	86	3185	0,009	86	3185	0,009	86	3185	0,009	86	3185	0,030
	5,0	0,184	1757	4775	0,014	107	2548	0,014	107	2548	0,014	107	2548	0,014	107	2548	-
	6,0	0,220	1751	3979	0,018	115	2123	0,018	115	2123	0,018	115	2123	0,018	115	2123	0,040
	8,0	0,278	1659	2984	0,023	110	1592	0,023	110	1592	0,023	110	1592	0,023	110	1592	0,050
	10,0	0,322	1537	2387	0,028	107	1274	0,028	107	1274	0,028	107	1274	0,028	107	1274	0,060
	12,0	0,359	1428	1989	0,032	102	1062	0,032	102	1062	-	-	-	-	-	-	0,070
	14,0	0,389	1327	1705	-	-	-	-	-	-	-	-	-	-	-	-	-
	16,0	0,416	1241	1492	0,038	91	796	0,038	91	796	-	-	-	-	-	-	0,070
	20,0	-	-	-	0,042	80	637	0,042	80	637	-	-	-	-	-	-	0,080

Serie lunga: -15% rispetto ai parametri di lavoro del corrispettivo utensile serie normale. / Long series: 15% less than the working parameters of the corresponding tool standard series.

XM-MILL

XM547



P K N S



2,5xD

H<55

TiCN

Fresa a filettare in metallo duro/Solid carbide thread milling cutters

FR27

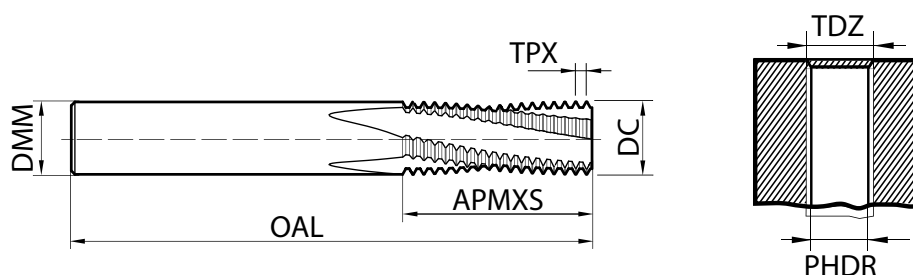
CODICE CODE	TDZ	TPX*60°	DC	DMM	PHDR	OAL	APMXS	Z	
XM-547 M6 Z3-WE	M6	1,00	4,80	6	5	54	13,50	3	●
XM-547 M8 Z3-WE	M8	1,25	6,40	8	6,8	62	18,10	3	○
XM-547 M10 Z3-WE	M10	1,50	7,95	10	8,5	74	21,80	3	○
XM-547 M12 Z4-WE	M12	1,75	9,95	10	10,2	74	25,40	4	○
XM-547 M14 Z4-WE	M14	2,00	11,20	12	12	90	31,00	4	●
XM-547 M16 Z4-WE	M16	2,00	12,80	14	14	90	35,00	4	●
XM-547 M20 Z4-WE	M20	2,50	14,95	16	17,5	102	41,30	4	●

● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability



Frese a filettare in metallo duro adatte a tutti i materiali senza fori di lubrificazione, attacco weldon. Possibilità di fare filetti destri e sinistri con un'unica fresa, tolleranze regolabili a piacere. Con lo stesso passo è possibile fare filetti di diametri diversi.

Carbide thread drills suitable for all materials without lubrication holes, weldon connection. Right and left threads with a single milling cutter, adjustable tolerances. With the same step it is possible to make threads of different diameters.

XM548



Fresa a filettare in metallo duro/Solid carbide thread milling cutters

FR27

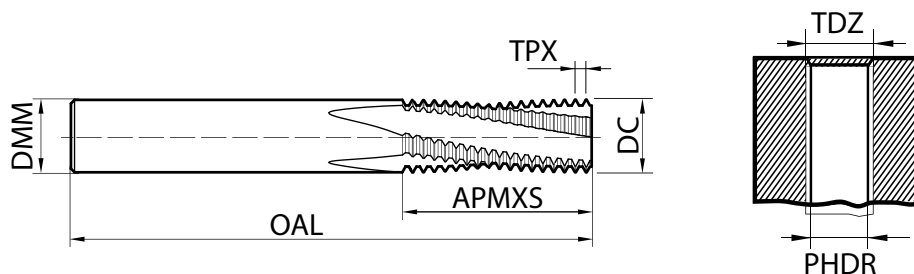
CODICE CODE	TDZ	TPX*60°	DC	DMM	PHDR	OAL.	APMXS	Z	
XM-548 M6-A Z3-C	M6	1,00	4,80	6	5	54	13,50	3	○
XM-548 M8-A Z3-C	M8	1,25	6,40	8	6,8	62	18,10	3	●
XM-548 M10-A Z3-C	M10	1,50	7,95	10	8,5	74	21,80	3	●
XM-548 M12-A Z4-C	M12	1,75	9,95	10	10,2	74	25,40	4	●
XM-548 M14-A Z4-C	M14	2,00	11,20	12	12	90	31,00	4	●
XM-548 M16-A Z4-C	M16	2,00	12,80	14	14	90	35,00	4	●
XM-548 M20-A Z4-C	M20	2,50	14,95	16	17,5	102	41,30	4	●

● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability



Frese a filettare in metallo duro adatte a tutti i materiali con fori di lubrificazione, attacco cilindrico. Possibilità di fare filetti destri e sinistri con un'unica fresa, tolleranze regolabili a piacere. Con lo stesso passo è possibile fare filetti di diametri diversi.

Carbide thread drills suitable for all materials with lubrication holes, cylindrical connection. Right and left threads with a single milling cutter, adjustable tolerances. With the same step it is possible to make threads of different diameters.

XM-MILL

XM735



Fresa a filettare in metallo duro/Solid carbide thread milling cutters

FR28

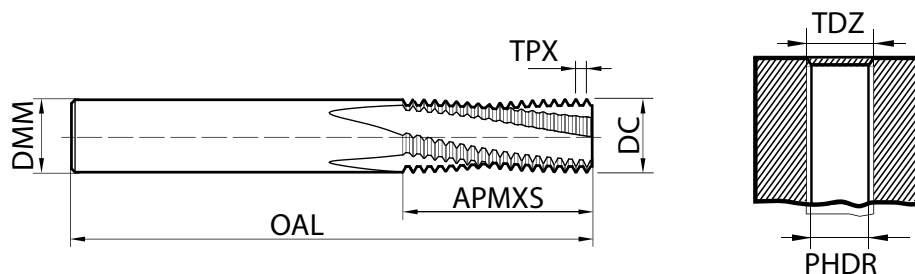
CODICE CODE	TDZ	TPX*60°	DC	DMM	PHDR	OAL	APMXS	Z	
XM-735 M6-A Z3-C	M6	1,00	4,80	6	5	54	13,50	3	☆
XM-735 M8-A Z3-C	M8	1,25	6,40	8	6,8	62	18,10	3	☆
XM-735 M10-A Z3-C	M10	1,50	7,95	10	8,5	74	21,80	3	☆
XM-735 M12-A Z4-C	M12	1,75	9,95	10	10,2	74	25,40	4	☆
XM-735 M14-A Z4-C	M14	2,00	11,20	12	12	90	31,00	4	☆
XM-735 M16-A Z4-C	M16	2,00	12,80	14	14	90	35,00	4	☆
XM-735 M20-A Z4-C	M20	2,50	14,95	16	17,5	102	41,30	4	☆

● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability



Frese a filettare in metallo duro adatte a tutti i materiali con fori di lubrificazione, attacco cilindrico. Possibilità di fare filetti destri e sinistri con un'unica fresa, tolleranze regolabili a piacere. Con lo stesso passo è possibile fare filetti di diametri diversi.

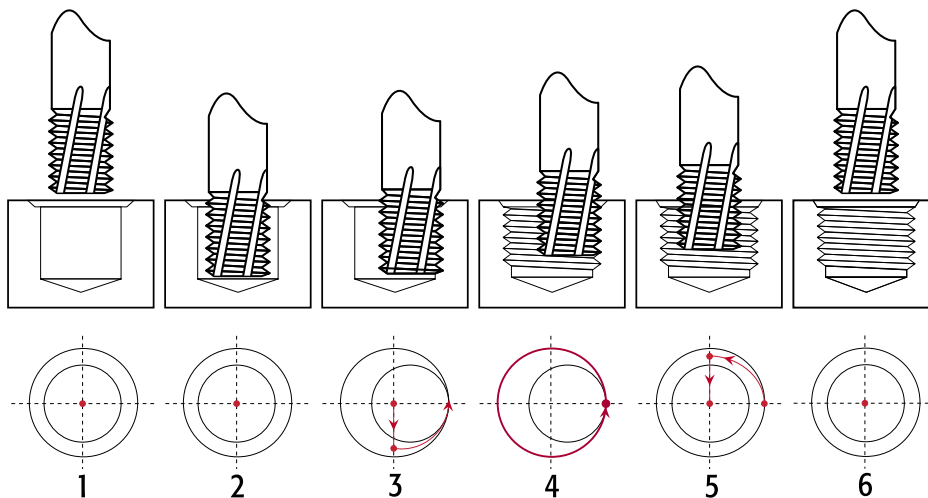
Carbide thread drills suitable for all materials with lubrication holes, cylindrical connection. Right and left threads with a single milling cutter, adjustable tolerances. With the same step it is possible to make threads of different diameters.

INFORMAZIONI TECNICHE/TECHNICAL INFORMATION

Dati di taglio/Cutting data

MATERIALE MATERIAL	Vc (m/min)	Fz=DC x coeff. Coeff.	Lavorazione consigliata
Acciaio basso legato/Low alloy steel	120/160	0,0020	●
Acciaio medio legato/Medium alloy steel	80/120	0,0020	●
Acciaio legato, per stampi-utensili/Alloy steel for dies-tools	60/100	0,0015	○
Inox/ss	50/90	0,0015	○
Duplex, leghe titanio, inconel 625/Duplex steel, titanium alloys, Inconel 625	40/70	0,0010	○
Ghisa/Cast iron	90/140	0,0020	●
Materiali non ferrosi, alluminio/Aluminium	160/200	0,0020	○

Esempio di ciclo di lavorazione



- 1 Posizionamento centro foro e avvio rotazione mandrino, inserimento lavoro incrementale.
- 2 Avvicinamento in Z alla profondità di lavoro, inserimento compensazione raggio.
- 3 Ingresso dolce con rotazione di 180° e incremento Z metà passo.
- 4 Ciclo di lavorazione con rotazione di 360° e incremento in Z pari al passo del filetto.
- 5 Uscita dolce con rotazione 180°, incremento Z metà passo e disattivazione compensazione raggio.
- 6 Uscita dal foro, disattivazione lavoro incrementale e fine ciclo.

- 1 Center hole positioning and spindle rotation start, incremental job insertion.
- 2 Approach in Z to the working depth, insertion of radius compensation.
- 3 Sweet input with 180 ° rotation and Z increment half step.
- 4 Machining cycle with 360 ° rotation and Z increment equal to thread pitch.
- 5 Soft output with 180 ° rotation, Z increment half step and radius compensation deactivation.
- 6 Exit from the hole, deactivate incremental work and end cycle.

Per i CNC che non calcolano automaticamente l'avanzamento dal centro dell'utensile, deve essere preso in considerazione il valore Vfm.

$V_f = f_z \times Z \times n$ avanzamento in contornatura

$V_{fm} = \frac{V_f \times (TDZ-DC)}{TDZ}$ avanzamento dal centro fresa

Esempio indicativo parametri per M12 acciai medio legato

Vc.	100	S (n° giri):	$\frac{100 \times 1000}{9,95 \times 3,14} = 3200$
DC	9,95		
Z	4		
M	12	Fz (mm) = DC x coeff. :	$9,95 \times 0,002 = 0,02$
		Vf periferico (mm/min):	$3200 \times 0,02 \times 4 = 256$
		Vfm centro fresa (mm/min):	$\frac{256 \times (12-9,95)}{12} = 44$

XM-MILL

XM653



Fresa MD per lavorazioni universali/Solid carbide for general machining

FR27

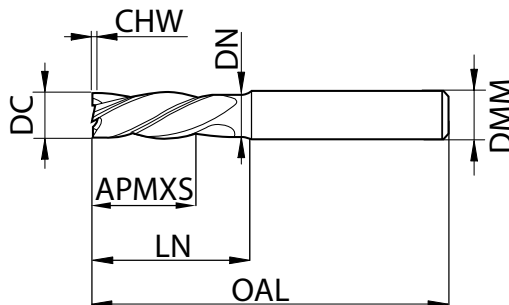
CODICE CODE	D h10	DMM h6	DN	OAL	APMXS	LN	CHW	Z	
XM-653 D3.00 Z4-C	3	6	2,8	57	8	15	0,1X45°	4	●
XM-653 D4.00 Z4-C	4	6	3,8	57	11	18	0,15X45°	4	●
XM-653 D5.00 Z4-C	5	6	4,8	57	13	18	0,15X45°	4	●
XM-653 D6.00 Z4-C	6	6	5,7	57	13	20	0,2X45°	4	●
XM-653 D8.00 Z4-C	8	8	7,7	63	19	26	0,25X45°	4	●
XM-653 D10.00 Z4-C	10	10	9,5	72	22	30	0,3X45°	4	●
XM-653 D12.00 Z4-C	12	12	11,5	83	26	36	0,35X45°	4	●
XM-653 D14.00 Z4-C	14	14	13,5	83	26	36	0,4X45°	4	●
XM-653 D16.00 Z4-C	16	16	15,5	92	32	42	0,5X45°	4	●
XM-653 D18.00 Z4-C	18	18	17,5	92	32	42	0,6X45°	4	●
XM-653 D20.00 Z4-C	20	20	19,5	104	38	52	0,6X45°	4	●
XM-653 D25.00 Z4-C	25	25	24	121	45	63	0,75X45°	4	●

● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability



Frese MD Z4 elica e passo differenziati. Con attacco cilindrico, disponibili anche con attacco weldon.
Solid carbide mills Z4 differentiated helix and pitch. Cylindrical and weldon connection available.

INFORMAZIONI TECNICHE/TECHNICAL INFORMATION

Dati di taglio/Cutting data

MATERIALE MATERIAL	FINITURA IN CONTORNATURA/CONTOURING FINISHING				
	N/mm ²	vc	ap	ae	fz
Acciai basso legati/Low alloy steel	<800	170/210	1,5 x D	0,25 x D	0,006 x D
Acciai medio legati/Medium alloy steel	<1000	150/180	1,5 x D	0,25 x D	0,006 x D
Acciai legati, per utensili/Alloy steel tools	<1300	90/120	1,5 x D	0,20 x D	0,005 x D
Acciai al cromo, inox/SS Cr Steel		50/100	1,5 x D	0,15 x D	0,005 x D
Duplex, leghe titanio, inconel 625		40/60			0,0045 x D
Materiali non ferrosi, alluminio/Aluminium		120/150	1,5 x D	0,03 x D	0,008 x D

FINITURA IN CONTORNATURA

Impegno laterale radiale Ae : mm. 0,03 x D

Aumentare o ridurre Fz per ottenere il grado di finitura richiesto

Contouring finishing

Radial cutting width Ae : mm. 0,03 x D

Increase decrease the Fz for satisfactory surface quality



XM654



Fresa MD per lavorazioni universali/Solid carbide for general machining

FR27

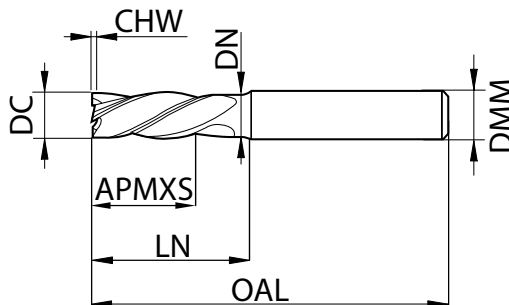
CODICE CODE	D h10	DMM h6	DN	OAL	APMXS	LN	CHW	Z	
XM-654 D3.00 Z4-WE	3	6	2,8	57	8	15	0,1X45°	4	●
XM-654 D4.00 Z4-WE	4	6	3,8	57	11	18	0,15X45°	4	●
XM-654 D5.00 Z4-WE	5	6	4,8	57	13	18	0,15X45°	4	●
XM-654 D6.00 Z4-WE	6	6	5,7	57	13	20	0,2X45°	4	●
XM-654 D8.00 Z4-WE	8	8	7,7	63	19	26	0,25X45°	4	●
XM-654 D10.00 Z4-WE	10	10	9,5	72	22	30	0,3X45°	4	●
XM-654 D12.00 Z4-WE	12	12	11,5	83	26	36	0,35X45°	4	●
XM-654 D14.00 Z4-WE	14	14	13,5	83	26	36	0,4X45°	4	●
XM-654 D16.00 Z4-WE	16	16	15,5	92	32	42	0,5X45°	4	●
XM-654 D18.00 Z4-WE	18	18	17,5	92	32	42	0,6X45°	4	●
XM-654 D20.00 Z4-WE	20	20	19,5	104	38	52	0,6X45°	4	●
XM-654 D25.00 Z4-WE	25	25	24	121	45	63	0,75X45°	4	●

● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability



Frese MD Z4 elica e passo differenziati. Con attacco weldon, disponibili anche con attacco cilindrico. Solid carbide mills Z4 differentiated helix and pitch. Weldon and cylindrical connection available.

INFORMAZIONI TECNICHE/TECHNICAL INFORMATION

Dati di taglio/Cutting data

MATERIALE MATERIAL	FINITURA IN CONTORNATURA/CONTOURING FINISHING				
	N/mm ²	vc	ap	ae	fz
Acciai basso legati/Low alloy steel	<800	170/210	1,5 x D	0,25 x D	0,006 x D
Acciai medio legati/Medium alloy steel	<1000	150/180	1,5 x D	0,25 x D	0,006 x D
Acciai legati, per utensili/Alloy steel tools	<1300	90/120	1,5 x D	0,20 x D	0,005 x D
Acciai al cromo, inox/SS Cr Steel		50/100	1,5 x D	0,15 x D	0,005 x D
Duplex, leghe titanio, inconel 625		40/60			0,0045 x D
Materiali non ferrosi, alluminio/Aluminium		120/150	1,5 x D	0,03 x D	0,008 x D

FINITURA IN CONTORNATURA

Impegno laterale radiale Ae : mm. 0,03 x D

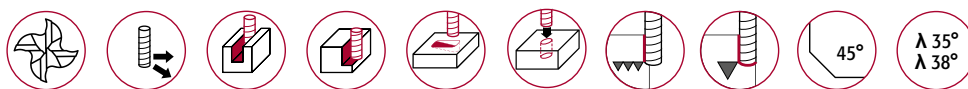
Aumentare o ridurre Fz per ottenere il grado di finitura richiesto

Contouring finishing

Radial cutting width Ae. : mm. 0,03 x D

Increase decrease the Fz for satisfactory surface quality

XM871 UNIVERSAL



Fresa MD per lavorazioni trocoidali Z4, gambo con attacco weldon
Solid carbide milling cutter Z4 for trochoidal machining with weldon connection

FR27

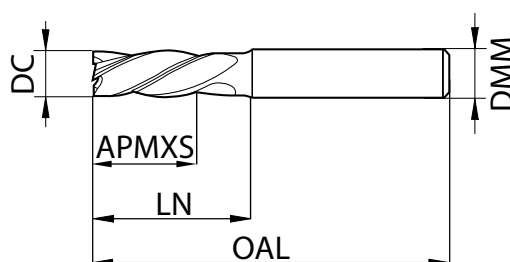
CODICE CODE	D h10	DMM h6	OAL	APMXS	LN	Z	
XM-871 D6.00 Z4 WE	6	6	65	18	28	4	●
XM-871 D8.00 Z4 WE	8	8	75	24	38	4	●
XM-871 D10.00 Z4 WE	10	10	80	30	38	4	●
XM-871 D12.00 Z4 WE	12	12	93	36	46	4	●
XM-871 D16.00 Z4 WE	16	16	108	48	58	4	●
XM-871 D20.00 Z4 WE	20	20	126	60	74	4	○

● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability



Frese MD Z4 **elica differenziata**. Con angolo smussato per una lavorazione stabile.
Solid carbide mills Z4 **differentiated helix angle**. Corner protection chamfer and face protection.

INFORMAZIONI TECNICHE/TECHNICAL INFORMATION

Dati di taglio/Cutting data

ISO	Hardness	vc	fz (mm/z) ø							vc	fz (mm/z) ø						
			3	6	8	10	12	16	20		3	6	8	10	12	16	20
			ap = l2		Sgros.	Finit.		ae max. = 0,10 x D			ap = l2			ae max.= 0,02 x D			
P	≤ 850 N/MM2	340	0,036	0,072	0,096	0,138	0,17	0,22	0,28	360	0,017	0,034	0,046	0,066	0,08	0,11	0,13
	≥ 850 N/MM2	250	0,031	0,062	0,083	0,115	0,14	0,18	0,23	270	0,015	0,030	0,040	0,055	0,07	0,09	0,11
K	≤ 240 HB	300	0,038	0,076	0,101	0,150	0,18	0,24	0,30	320	0,018	0,036	0,048	0,072	0,09	0,11	0,14
	> 240 HB	260	0,035	0,069	0,092	0,127	0,15	0,20	0,25	280	0,017	0,033	0,044	0,061	0,07	0,10	0,12

XM761 STAINLESS SPEED

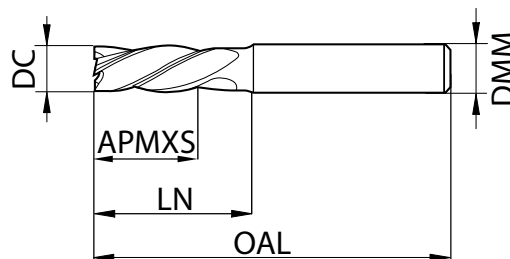


Fresa MD per lavorazioni trocoidali Z4 con elica e passo differenziato, gambo con attacco weldon
Solid carbide milling cutter Z4 for trochoidal machining with weldon connection

FR27

CODICE CODE	D h10	DMM h6	OAL	APMXS	LN	Z	
XM-761 D3.00 Z4 WE	3	6	57	12	14,9	4	●
XM-761 D4.00 Z4 WE	4	6	65	16	18,9	4	●
XM-761 D5.00 Z4 WE	5	6	65	20	22,9	4	●
XM-761 D6.00 Z4 WE	6	6	65	24	29,0	4	●
XM-761 D8.00 Z4 WE	8	8	75	32	39,0	4	●
XM-761 D10.00 Z4 WE	10	10	90	40	50,0	4	●
XM-761 D12.00 Z4 WE	12	12	100	46	55,0	4	●
XM-761 D16.00 Z4 WE	16	16	108	55	60,0	4	○
XM-761 D20.00 Z4 WE	20	20	126	65	76,0	4	●

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability



Frese MD Z4 **passo differenziato**. Con vani evacuazione truciolo profondi per maggiore asportazione, angolo smussato per una lavorazione stabile, rompi truciolo aggiuntivo lungo filo tagliente e ampia varietà di materiali.
Solid carbide mills Z4 differentiated helix pitch. Deepened flute on front cutting edge area for improved chip evacuation, corner protection chamfer and face protection, extra length's chip breakers in the cutting edges ensure short chips for secure evacuation and wide variety of materials.

INFORMAZIONI TECNICHE/TECHNICAL INFORMATION

Dati di taglio/Cutting data

ISO	Hardness	vc	fz (mm/z) ø								vc	fz (mm/z) ø							
			3	6	8	10	12	16	20	3		6	8	10	12	16	20		
			ap = l2		Sgros.	Finit.		ae max. = 0,10 x D				ap = l2			ae max.= 0,02 x D				
M	≤ 750 N/MM2	220	0,031	0,062	0,083	0,115	0,14	0,18	0,23	240	0,015	0,030	0,040	0,055	0,07	0,09	0,11		
	≥ 750 N/MM2	110	0,024	0,048	0,064	0,092	0,11	0,15	0,18	120	0,011	0,021	0,028	0,040	0,05	0,06	0,08		
S	Ni-based	60	0,019	0,039	0,052	0,074	0,09	0,12	0,15	60	0,008	0,017	0,022	0,032	0,04	0,05	0,06		
	Ti-based	110	0,028	0,055	0,074	0,104	0,12	0,17	0,21	120	0,013	0,026	0,035	0,050	0,06	0,08	0,10		

XM632

P

M

K

S

N

48
HRC



Fresa MD per lavorazioni trocoidali Z6, gambo con attacco weldon
Solid carbide milling cutter Z6 for trochoidal machining with weldon connection

FR27

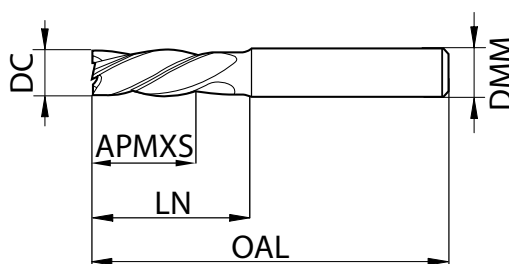
CODICE CODE	D h10	DMM h6	OAL	APMXS	LN	Z	
XM-632 D8.00 Z6 WE	8	8	63	19	26	6	●
XM-632 D10.00 Z6 WE	10	10	72	22	30	6	●
XM-632 D12.00 Z6 WE	12	12	83	26	36	6	●
XM-632 D16.00 Z6 WE	16	16	92	32	42	6	○
XM-632 D20.00 Z6 WE	20	20	104	38	52	6	○
XM-632 D25.00 Z6 WE	25	25	121	45	63	6	●

● Stock Italia/Warehouse in Italy

○ A Richiesta/On request

★ Stock estero/Warehouse abroad

☆ Disponibilità limitata/Limited availability



Frese MD Z6 **elica differenziata**. Con angolo smussato per una lavorazione stabile e ampia varietà di materiali.
Solid carbide mills Z6 differentiated helix angle. Corner protection chamfer and face protection and wide variety of materials.

INFORMAZIONI TECNICHE/TECHNICAL INFORMATION

Dati di taglio/Cutting data

ISO	Hardness	vc	fz (mm/z) ø								vc	fz (mm/z) ø							
			3	6	8	10	12	16	20	3		6	8	10	12	16	20		
			ap = l2		Sgros.	Finit.		ae max. = 0,10 x D				ap = l2			ae max.= 0,02 x D				
P	≤ 850 N/MM2	340	0,036	0,072	0,096	0,138	0,17	0,22	0,28	360	0,017	0,034	0,046	0,066	0,08	0,11	0,13		
	≥ 850 N/MM2	250	0,031	0,062	0,083	0,115	0,14	0,18	0,23		270	0,015	0,030	0,040	0,055	0,07	0,09	0,11	
M	≤ 750 N/MM2	220	0,031	0,062	0,083	0,115	0,14	0,18	0,23	240	0,015	0,030	0,040	0,055	0,07	0,09	0,11		
	≥ 750 N/MM2	110	0,024	0,048	0,064	0,092	0,11	0,15	0,18		120	0,011	0,021	0,028	0,040	0,05	0,06	0,08	
S	Ni-based	60	0,019	0,039	0,052	0,074	0,09	0,12	0,15	60	0,008	0,017	0,022	0,032	0,04	0,05	0,06		
	Ti-based	110	0,028	0,055	0,074	0,104	0,12	0,17	0,21		120	0,013	0,026	0,035	0,050	0,06	0,08	0,10	
K	≤ 240 HB	300	0,038	0,076	0,101	0,150	0,18	0,24	0,30	320	0,018	0,036	0,048	0,072	0,09	0,11	0,14		
	≥ 240 HB	260	0,035	0,069	0,092	0,127	0,15	0,20	0,25		280	0,017	0,033	0,044	0,061	0,07	0,10	0,12	
N	≤ 7 % Si	900	0,045	0,090	0,120	0,184	0,22	0,29	0,37	1000	0,021	0,043	0,057	0,088	0,11	0,14	0,18		
	≥ 7 % Si	430	0,038	0,076	0,101	0,138	0,17	0,22	0,28		460	0,018	0,036	0,048	0,066	0,08	0,11	0,13	

XM898

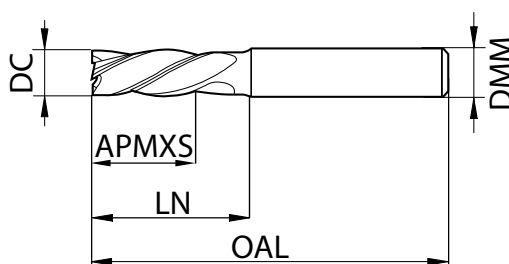


Fresa MD per lavorazioni trocoidali Z5, gambo con attacco weldon
Solid carbide milling cutter Z5 for trochoidal machining with weldon connection

FR27

CODICE CODE	D h10	DMM h6	OAL	APMXS	LN	Z	
XM-898 D4.00 Z5 WE	4	6	65	12	26	5	●
XM-898 D5.00 Z5 WE	5	6	65	15	26	5	●
XM-898 D6.00 Z5 WE	6	6	65	18	28	5	●
XM-898 D8.00 Z5 WE	8	8	75	24	38	5	●
XM-898 D10.00 Z5 WE	10	10	80	30	38	5	●
XM-898 D12.00 Z5 WE	12	12	93	36	46	5	●
XM-898 D16.00 Z5 WE	16	16	108	48	58	5	●
XM-898 D20.00 Z5 WE	20	20	126	60	74	5	●

● Stock Italia/Warehouse in Italy ○ A Richiesta/On request ★ Stock estero/Warehouse abroad ☆ Disponibilità limitata/Limited availability



Frese MD Z5 con angolo smussato per una lavorazione stabile e ampia varietà di materiali.
Solid carbide mills Z5 with corner protection chamfer and face protection, wide variety of materials.

INFORMAZIONI TECNICHE/TECHNICAL INFORMATION

Dati di taglio/Cutting data

ISO	Hardness	vc	fz (mm/z) ø							vc	fz (mm/z) ø						
			3	6	8	10	12	16	20		3	6	8	10	12	16	20
			ap = l2		Sgros.	Finit.		ae max. = 0,10 x D			ap = l2			ae max.= 0,02 x D			
P	≤ 850 N/MM2	340	0,036	0,072	0,096	0,138	0,17	0,22	0,28	360	0,017	0,034	0,046	0,066	0,08	0,11	0,13
	≥ 850 N/MM2	250	0,031	0,062	0,083	0,115	0,14	0,18	0,23		270	0,015	0,030	0,040	0,055	0,07	0,09
M	≤ 750 N/MM2	220	0,031	0,062	0,083	0,115	0,14	0,18	0,23	240	0,015	0,030	0,040	0,055	0,07	0,09	0,11
	≥ 750 N/MM2	110	0,024	0,048	0,064	0,092	0,11	0,15	0,18		120	0,011	0,021	0,028	0,040	0,05	0,06
S	Ni-based	60	0,019	0,039	0,052	0,074	0,09	0,12	0,15	60	0,008	0,017	0,022	0,032	0,04	0,05	0,06
	Ti-based	110	0,028	0,055	0,074	0,104	0,12	0,17	0,21		120	0,013	0,026	0,035	0,050	0,06	0,08
K	≤ 240 HB	300	0,038	0,076	0,101	0,150	0,18	0,24	0,30	320	0,018	0,036	0,048	0,072	0,09	0,11	0,14
	≥ 240 HB	260	0,035	0,069	0,092	0,127	0,15	0,20	0,25		280	0,017	0,033	0,044	0,061	0,07	0,10
N	≤ 7 % Si	900	0,045	0,090	0,120	0,184	0,22	0,29	0,37	1000	0,021	0,043	0,057	0,088	0,11	0,14	0,18
	≥ 7 % Si	430	0,038	0,076	0,101	0,138	0,17	0,22	0,28		460	0,018	0,036	0,048	0,066	0,08	0,11



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