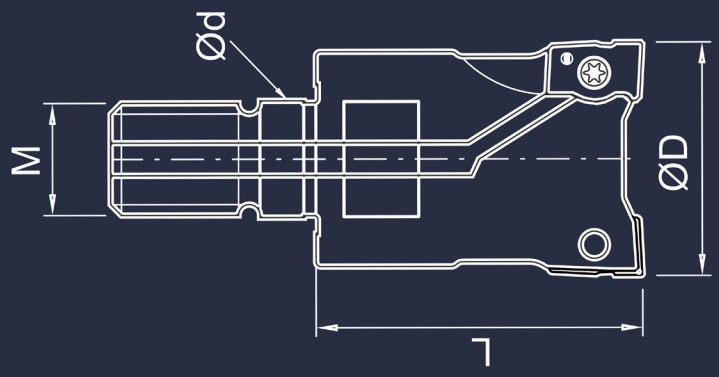
HTC Hiper System

MP FINSHING SERIES

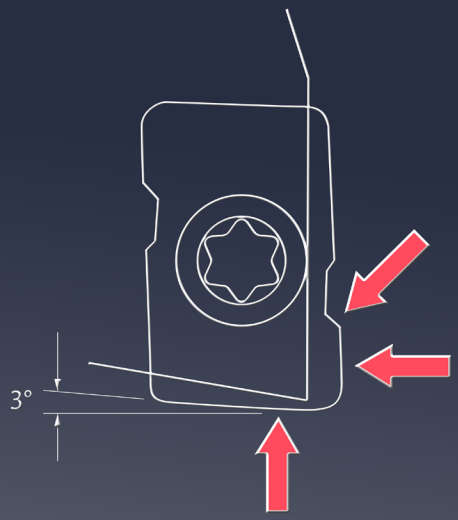


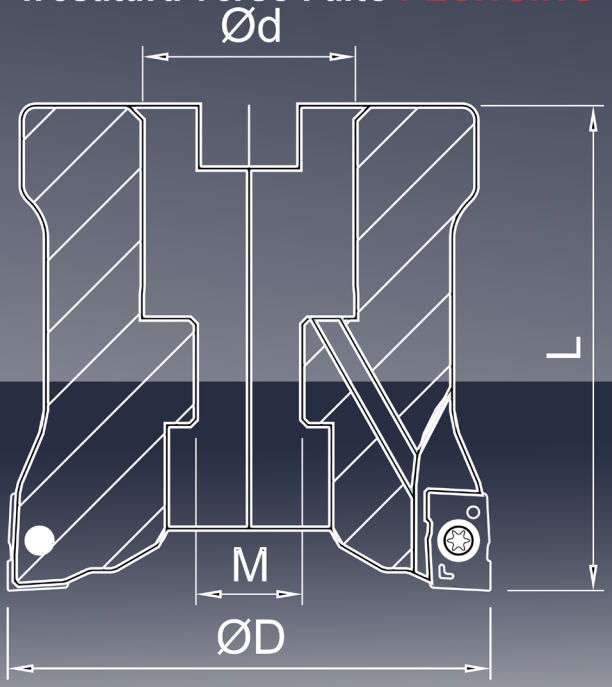
- ***Nuova micrograna e rivestimento :***
  per una durata fino a 3 volte superiore

- ***Inserto scaricato :***
  elimina la vibrazioni anche in lavorazioni profonde

- ***Alto grado di precisione H:***
  garantisce un'ottimo grado di finitura

- ***Inserto multifunzione :***
  torico - raschiante selezionabile e fresatura verso l'alto PLUNGING UP





HC Hiper System

Hiper Tools presenta :

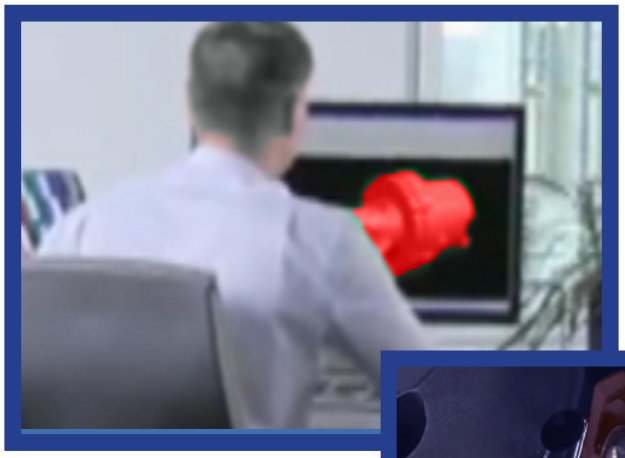
Hiper System

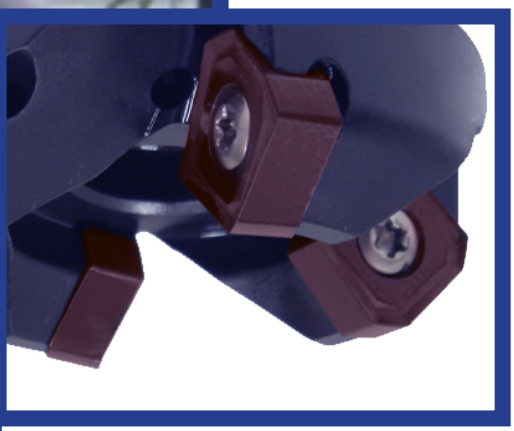
• Hiper System è l'evoluzione logica e la risposta più' adeguata alle esigenze dello stampista.
Una linea di corpi fresa, mandrini, steli, riduzioni antivibranti tutte dirette a risolvere le impellenze e le problematiche più' svariate dello stampo.

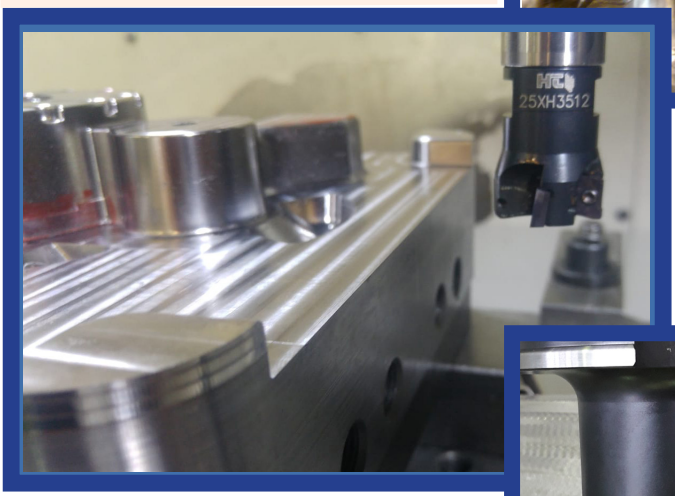
• Un programma di lavoro in continua evoluzione nel quale un attento staff di ingegneri è sempre pronto a prestare attenzione ai problemi della propria clientela e a creare insieme delle soluzioni adatte e più' idonee all'esecuzione del pezzo.

• La nostra esperienza tecnica abbinata ad un'ampia conoscenza industriale, ci ha consentito di ottenere soluzioni tecnologicamente avanzate e prodotti di alta qualità .

• Uno stimolo continuoe una versatilità del gruppo di lavoro fanno si che questo programma sia sempre in continuo sviluppo.







Hiper Tools presents:

Hiper System

• Hiper System is the logical evolution and the most adequate response to the needs of the mouldijng industry.

• A line of milling bodies, spindles, shafts, anti-vibration shank, all aimed at solving the impellences and the most varied problems of the mould.

• A constantly evolving work program in which a careful staff of engineers is always ready to pay attention to the problems of its customers and to create together solutions suitable and more appropiate to the execution of the piece.

• Our technical experience combined with a broad industrial knowledge has allowed us to obtain technologically advanced solutions and high quality products.

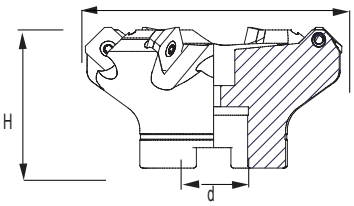
• A continuous stimulus and a versatility of the working group make this program always in continuous development.

Indice

Indice

45°

HRC >=50



Fresa per spianatura 45°inserto SEET 13T3....

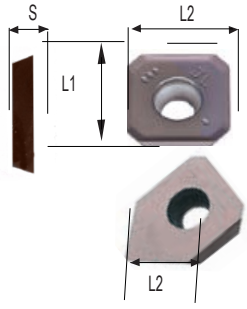
Face milling 45°with insert SEET 13T3....

codice	D	H	d	z	ap	torx	screw	weight(kg)
050ASX3L-22.0	50	40	22.0	3	6	**passo lungo**		0.54
063ASX04L-22.0	63	40	22.0	4	6			0.82
080ASX04L-27.0	80	50	27.0	4	6			1.40
100ASX05L-32.0	100	50	32.0	5	6			1.98
125ASX06L-40.0	125	63	40.0	6	6			3.10
160ASX07L-40.0	160	63	40.0	7	6		S3512B	5.13
050ASX04N-22.0	50	40	22.0	4	6	**passo standard**		0.50
063ASX05N-22.0	63	40	22.0	5	6	TX 15		0.76
080ASXB06N-27.0	80	50	27.0	6	6			1.31
100ASX07N-32.0	100	50	32.0	7	6			1.89
125ASX08N-40.0	125	63	40.0	8	6		SOT445N	3.01
160ASX10N-40.0	160	63	40.0	10	6			4.99
050ASX05S-22.0	50	40	22.0	5	6	**passo stretto**		0.50
063ASX06S-22.0	63	40	22.0	6	6	TX 15		0.80
080ASX08S-27.0	80	50	27.0	8	6			1.30
100ASX10S-32.0	100	50	32.0	10	6		SP05035S	1.86
125ASX12S-40.0	125	63	40.0	12	6			2.97
160ASX16S-40.0	160	63	40.0	16	6			4.88

Metodi di applicazione

Applicable insert

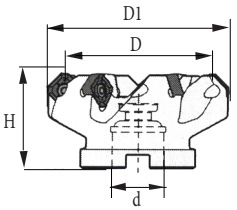
	Rroughing	Light Interruption	Interruption	Finishing
P	●	⬢		
M	●	⬢		
K	●	⬢		
N			■	
S	●	⬢		
H				



insert code-dimension	L1	L2	S		d1	r
SEET13T3AFTN-DM 034	13,4	13,4	3,97	--	4,1	--
SEET13T3AFTN-DM 035	13,4	13,4	3,97	--	4,1	--
SEET13T3 WIPER 034	13,4	17,8	3,97	--	4,1	--
SEET13T3 WIPER 035	13,4	17,8	3,97	--	4,1	--

45°

HRC >=60



Fresa per spianatura 45°inserto bilaterale SNFX 14....

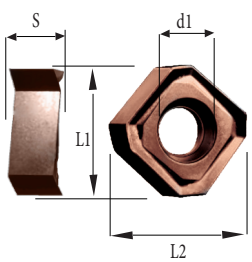
Face milling 45°with double sided insert SNFX 14...

codice	D	D1	H	d	z	ap	torx	screw	weight(kg)
40 0314 FX	40	54,4	45	16	3				0,40
50 0414 FX	50	64,4	45	22	4				0,45
63 0514 FX	63	77,4	40	22	5				0,55
80 0614 FX	80	94,4	50	27	6				1,05
100 0714 FX	100	114,4	50	32	7				1,50
100 0914FX	100	114,4	50	32	9				1,50
125 0814 FX	125	139,4	63	40	8	7	TORX20	S50	2,70
125 1014FX	125	139,4	63	40	10				2,70
160 1014 FX	160	174,4	63	40	10				3,90
160 1314FX	160	174.4	63	40	13				3,90
200 1214 FX	200	214,4	63	60	12				5,50
250 1414 FX	250	264,4	63	60	14				11,30
315 1814 FX	315	329,4	80	60	18				20,00

Metodi di applicazione

Applicable insert

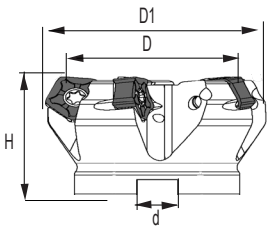
	Roughing	Light Interruption	Interruption	Finishing
P	●	⬢		
M	●	⬢		
K	●	⬢		
N			■	
S	●	⬢		
H				



insert code-dimension	L1	L2	S		d1	r
SNFX 1405ASR 034	14	14	6	--	5,5	--
SNFX 1405ASR 035	14	14	6	--	5,5	--
SNFX 1405ASR 030	14	14	6	--	5,5	--

66°

HRC >=50



Fresa per spianatura 66°inserto bilaterale PNMU 09....

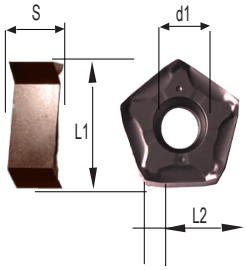
Face milling 66°with double sided insert PNMU 09...

codice	D	D1	H	d	z	ap	torx	screw	weight(kg)
50 05 09 PN	50	58	40	22	5	5	TORX15	S40 3,5Nm	0,30
63 05 09 PN	63	71	40	22	5				0,55
63 06 09 PN	63	71	40	22	6				1,20
80 08 09 PN	80	88	50	27	8				1,60
100 07 09 PN	100	107	50	32	7				2,80
100 10 09 PN	100	107	50	40	10				3,80
125 12 09 PN	125	132	63	40	12				
160 11 09 PN	160	167	63	40	11				

Metodi di applicazione

Applicable insert

	Rroughing	Light Interruption	Interruption	Finishing
P	●	⬢		
M	●	⬢		
K	●	⬢		
N			■	
S	●	⬢		
H				

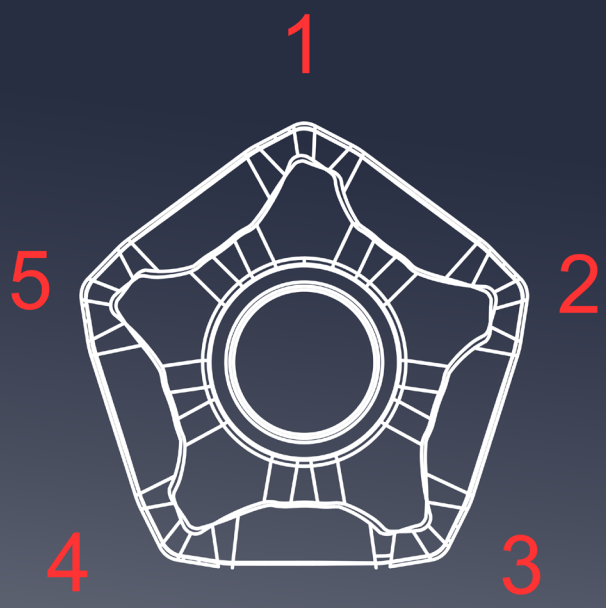


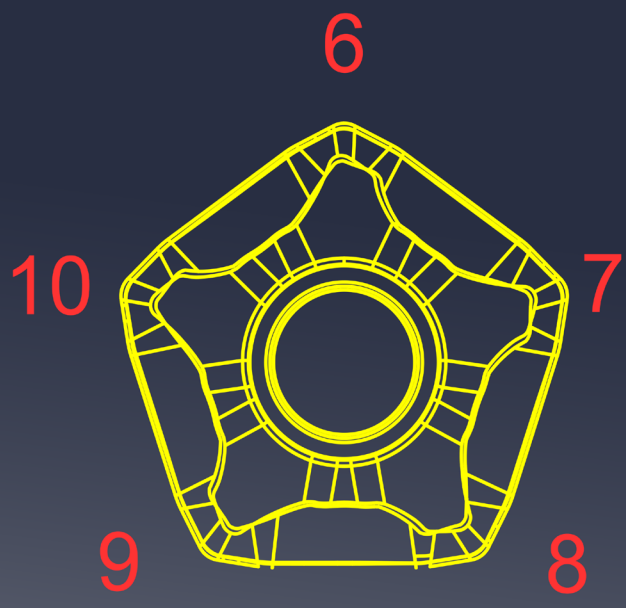
insert code-dimension	L1	L2	S		d1	r
PNMU 09 05 ENER - GM034	14,6	2	5,56	--	4,5	0,8
PNMU 09 05 ENER - GM035	14,6	2	5,56	--	4,5	0,8
PNMU 09 05 ENER - GM030	14,6	2	5,56	--	4,5	0,8

PN FACE MILL SERIES

Geometriia ad alta efficienza
ed elevato avanzamento
Insertl BILATERALI **10 TAGLIENTI**
Raggio di program. 0,8
Ampia gamma di diametri

D. 50 - 160





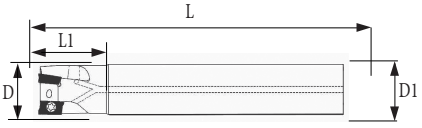
NEW COATED

- ***Nuovo rivestimento Nano Coated***
- ***Eccellente grado di finitura grazie al posizionamento a 66°***
- ***Elevato volume di truciolo Q***
- ***Buona evacuazione del truciolo grazie ai nuovi disegni dell'inserto***

HT Hiper Speedy

90°

HRC >=60



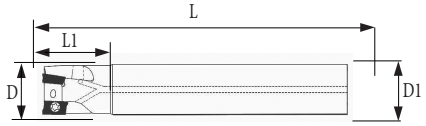
Fresa spallamento retto 90° per inserto XOKT....

Shoulder Milling cutters for insert XOKT....

codice	D	D1	L	L1	Z	insert	screw	torx
1002-06XO-120	10	10	120	20	2	XOKT0602..	S186	TX06
1102-06XO-110	11	10	110	13	2			
1102-06XO-150	11	10	150	13	2			
1202-06XO-100	12	12	100	25	2			
1202-06XO-130	12	12	130	25	2			
1203-06XO-100	12	12	100	25	3			
1203-06XO-130	12	12	130	25	3			
1302-06XO-130	13	12	130	18	2			
1303-06XO-130	13	12	130	18	3			
1604-06XO-150	16	16	150	28	4			
1604-06XO-200	16	16	200	28	4			
1704-06XO-150	17	16	150	20	4			
1602-09XO-150	16	16	150	28	2	XOKT0903..	S258	TX08
1602-09XO-200	16	16	200	28	2			
1702-09XO-150	17	16	150	20	2			
1702-09XO-200	17	16	200	20	2			
2002-09XO-150	20	20	150	30	2			
2002-09XO-200	20	20	200	30	2			
2003-09XO-150	20	20	150	30	3			
2003-09XO-200	20	20	200	30	3			
2102-09XO-150	21	20	150	30	2			
2102-09XO-200	21	20	200	30	2			
2103-09XO-150	21	20	150	30	3			
2103-09XO-200	21	20	200	30	3			
2503-09XO-150	25	25	150	35	3			
2503-09XO-200	25	25	200	35	3			
2603-09XO-150	26	25	150	30	3			
2603-09XO-200	26	25	200	30	3			
3205-09XO-150	32	32	150	35	5			
3205-09XO-200	32	32	200	35	5			

90°

HRC >=60



Fresa spallamento retto 90° per inserto XOKT....

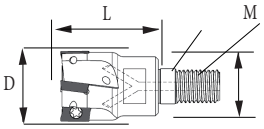
Shoulder Milling cutters for insert XOKT....

codice	D	D1	L	L1	Z	insert	screw	torx
1602-12XO-150	16	16	150	28	2	XOKT1204..	S259	TX09
1602-12XO-200	16	16	200	28	2			
1702-12XO-150*	17	16	150	20	2			
1702-12XO-200*	17	16	200	20	2			
1802-12XO-150*	18	20	150	25	2			
1802-12XO-200*	18	20	200	25	2			
1802-12XO-150*	19	20	150	25	2			
1902-12XO-200*	19	20	200	25	2			
2002-12XO-150	20	20	150	30	2			
2002-12XO-200	20	20	200	30	2			
2003-12XO-150	20	20	150	30	3	XOKT1204..	S259	TX09
2003-12XO-200	20	20	200	30	3			
2102-12XO-150*	21	20	150	20	2			
2102-12XO-200*	21	20	200	20	2			
2103-12XO-150*	21	20	150	20	3			
2103-12XO-200*	21	20	200	20	3			
2202-12XO-150*	22	20	150	30	2			
2202-12XO-200*	22	20	200	30	2			
2203-12XO-150*	22	20	150	30	3			
2302-12XO-150*	23	25	150	30	2			
2302-12XO-200*	23	25	200	30	2			
2403-12XO-150*	24	25	150	35	3			
2403-12XO-200*	24	25	200	35	3			
2503-12XO-150*	25	25	150	35	3			
2503-12XO-200*	25	25	200	35	3			
2504-12XO-150	25	25	150	35	4			
2504-12XO-200	25	25	200	35	4			

* = on demand

90°

HRC >=60

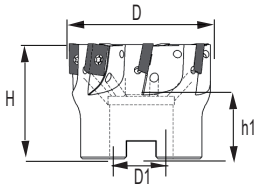


Testina filettata spallamento retto 90° per inserto XOKT....

Body screw Milling cutters for insert XOKT....

codice	M	D	D1	L	Z	insert	screw	torx
10 06 XO 0205	M5	10	5,5	16	2	XOKT0602..	S186	TX06
11 06 XO 0205*	M5	11	5,5	16	2			
12 06 XO 0206	M6	12	6,5	18	2			
12 06 XO 0306	M6	12	6,5	18	3			
13 06 XO 0206*	M6	13	6,5	18	2			
13 06 XO 0306*	M6	13	6,5	18	3			
16 06 XO 0408	M8	16	8,5	20	4			
18 06 XO 0408*	M8	18	8,5	20	4			
20 06 XO 0410	M10	20	10,5	24	4			
20 06 XO 0510	M10	20	10,5	24	5			
25 06 XO 0412	M12	25	12,5	28	4			
25 06 XO 0512	M12	25	12,5	28	5			
16 09 XO 0208	M8	16	8,5	25	2	XOKT0903..	S258	TX08
17 09 XO 0208*	M8	17	8,5	25	2			
20 09 XO 0310	M10	20	10,5	30	3			
21 09 XO 0310*	M10	21	10,5	30	3			
25 09 XO 0312	M12	25	12,5	35	3			
26 09 XO 0412*	M12	26	12,5	35	4			
32 09 XO 0516	M16	32	17	43	5			
33 09 XO 0516*	M16	33	17	43	5			
16 12 XO 0208	M8	16	8,5	26	2	XOKT1204..	S259	TX09
17 12 XO 0208*	M8	17	8,5	26	2			
20 12 XO 0310	M10	20	10,5	30	3			
21 12 XO 0310*	M10	21	10,5	30	3			
25 12 XO 0412	M12	25	12,5	35	4			
26 12 XO 0412*	M12	26	12,5	35	4			
32 12 XO 0416	M16	32	17	43	4			
33 12 XO 0416*	M16	33	17	43	4			
35 12 XO 0416	M16	35	17	43	4			

* = on demand



90°

HRC >=60

Fresa spallamento retto 90° per inserto XOKT....

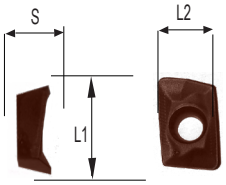
Shoulder Milling cutters for insert XOKT....

codice	D	H	D1	h1	Z	insert	screw	torx
40 06 09 XO	40	40	22	18	6	XOKT 0903..	S258	Tx8
50 06 09 XO	50	40	22	20	6			
63 07 09 XO	63	40	22	27	7			
40 05 12 XO	40	40	16	18	5	XOKT1204..	S259	TX09
50 04 12 XO	50	40	22	20	4			
50 06 12 XO	50	40	22	20	6			
50 07 12 XO	50	40	22	20	7			
63 07 12 XO	63	40	22	20	7			
80 09 12 XO	80	50	27	22	9			
100 10 12 XO	100	50	32	26	10			

Metodi di applicazione

Applicable insert

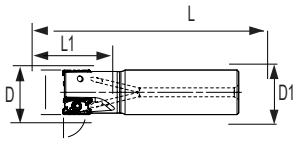
	Rroughing	Light Interruption	Interruption	Finishing
P	●	●		★
M	●	●		★
K	●	●		★
N			■	★
S	●	●		★
H				★



insert code-dimension	L1	L2	S	radius	quality
XOKT 06 02.....	6,91	4,09	2,45	0,4 -0,8	034
XOKT 09 03.....	9,95	6,35	3,40	0,8 - 1,6 - 2,0	035
XOKT 12 04.....	12,0	6,6	4,00	0,8 - 1,0 - 1,6 - 2,0 - 3,0	030
POS1 : N.D	POS2 : R0,8		POS3 : R 0,2 - 0,4 - 0,8		029

90°

HRC >=50



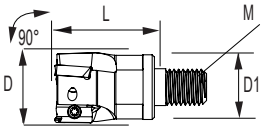
Fresa spallamento retto 90° per inserto XOKT 1805..

Shoulder Milling cutters for insert XOKT 1805..

codice	D	D1	L	L1	Z	insert	screw	torx
25WE25150	25	25	150	40	2	XOKT 1805..	S4-10 A	TX 15
32WE32120	32	32	120	30	3			
32WE32150	32	32	150	40	3			
32WE32200	32	32	200	50	3			
32WE32250	32	32	250	50	3			
40WE32150	40	32	150	40	4			
40WE32200	40	32	200	40	4			

90°

HRC >=50



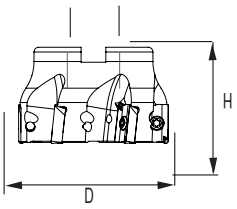
Testina filettata spallamento retto 90° per inserto XOKT 1805..

Body screw Milling cutters 90°for insert XOKT 1805..

codice	D	L	D1	Z	M	insert	screw	torx
32WE4316	32	32	29	3	16	XOKT 1805...	S4-10 A	TX 15
40WE4316	40	40	29	4	16			

90°

HRC >=50



Fresa spallamento retto 90° per inserto XOKT 1705..

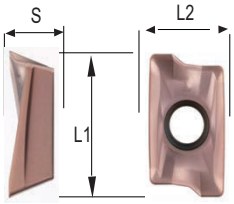
Shoulder Milling cutters for insert XOKT 1705..

codice	D	D1	L	Z			screw	torx
40 04 17 WE 16	40	16	40			XOKT 1805...	S4-10	TX 15
50 05 17 WE 22	50	22	40					
63 06 17 WE 22	63	22	40					
80 07 12 WE 27	80	27	50					
100 08 12 WE 27	100	32	50					

Metodi di applicazione

Applicable insert

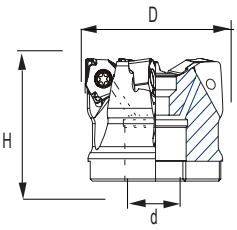
	Rroughing		Light Interruption		Interruption		Finishing	
P	★		★					★
M								★
K		●		⬢				★
N								
S								★
H								★



insert code-dimension	L1	L2	S	radius		quality	Fig.
XOKT 180508	17.55	10.00	6.00	0,8		030 - 035 - 034	

90°

HRC >=50



Fresa per spianatura 90°inserto bilaterale WNMU 08....

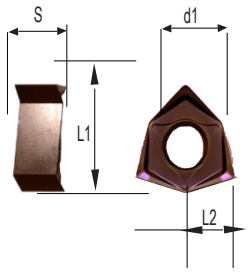
Face milling 90°with double sided insert WNMU 08....

codice	D	H	d	z	ap	torx	screw	weight(kg)
50 04 08 WN	50	40	22	4	8	TORX15	S40 3,5Nm	0,30
50 05 08 WN	50	40	22	5				0,30
63 05 08 WN	63	40	22	5				0,55
63 06 08 WN	63	40	22	6				0,55
63 06 08 WN27	63	40	27	6				0,55
80 06 08WN	80	50	27	6				1,20
80 07 08 WN	80	50	27	7				1,20
100 08 08 WN	100	50	32	8				2,80
125 12 08 WN	125	63	40	11				3,80

Metodi di applicazione

Applicable insert

	Rroughing ●	Light Interruption ⬢	Interruption ■	Finishing ★
P	●	⬢		
M	●	⬢		
K	●	⬢		
N			■	
S	●	⬢		
H				



insert code-dimension	L1	L2	S		d1	r
WNMU 08 06 08 ENM 034	16,7	7,5	6,45	--	12,5	0,8
WNMU 08 06 08 ENM035	16,7	7,5	6,45	--	12,5	0,8
WNMU 08 06 12 ENM 034	16,7	7,5	6,45	--	12,5	1,2
WNMU 08 06 12 ENM 035	16,7	7,5	6,45		12,5	1,2

WN FACE MILL
90° SERIES

Geometriia ad alta efficienza
ed elevato avanzamento
Spallamento e Spianatura
InsertI BILATERALI **6 TAGLIENTI**
Raggio di program. 0,8 - 1,2
Ampia gamma di diametri

D. 50 - 125

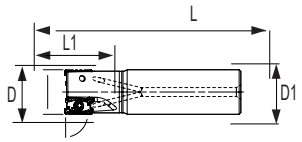
NEW DESIGN

- ***Per realizzare il massimo della produttività in economia con l'inserto triangolare negativo a 6 taglienti***
- ***Elevato volume di truciolo ed asportazione fino ad 8 mm Ap***
- ***Grazie ai nuovi disegni dell'inserto si riduce notevolmente la forza di taglio.***
- ***Buona evacuazione del truciolo nonostante l'elevata asportazione.***

HT Hiper System

90°

HRC >=60



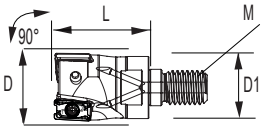
Fresa spallamento retto 90° per inserto AN....

Shoulder Milling cutters for insert AN....

codice	D	D1	L	L1	Z	insert	screw	torx
16AN15150	16	15	150	150	2			
16AN15200	16	15	200	200	2			
16AN16150	16	16	150	150	2			
16AN16200	16	16	200	200	2			
20AN19150	20	19	150	150	3			
20AN19200	20	19	200	200	3			
20AN20150	20	20	150	250	3		S3-8 A	TX 8
20AN20200	20	20	200	120	3	ANGT 120408		
25AN24150	25	24	150	150	3	ANHT120408		
25AN24200	25	24	200	200	3			
25AN25150	25	25	150	150	3			
25AN25200	25	25	200	200	3			
32AN32150	32	32	150	150	4			
32AN32200	32	32	200	200	4			

90°

HRC >=60



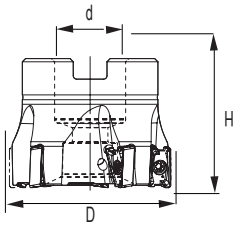
Testina filettata spallamento retto 90° per inserto AN....

Body screw Milling cutters 90°for insert AN....

codice	D	L	D1	Z	M	insert	screw	torx
16AN28 8	16	28	12,7	2	8			
20AN3010	20	30	17,7	3	10		S3-8 A	TX 8
25AN3012	25	30	20,7	3	12	ANGT 120408		
32AN3416	32	34	28,7	4	16	ANHT120408		
42AN4316	42	43	28,7	5	16			

90°

HRC >=60



Fresa spallamento retto 90° per inserto AN....

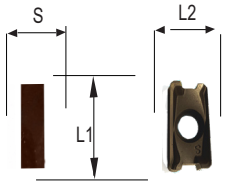
Shoulder Milling cutters for insert AN....

codice	D	D1	L	Z			screw	torx
40 04 12 AN 16	40	16	40	4				
40 04 12 AN 22	40	22	40	4				
50 05 12 AN 22	50	22	40	5				
63 06 12 AN 22	63	22	40	6		S3-8 A		T8
80 08 12 AN 27	80	27	50	8				
100 10 12 AN 40	100	32	50	10				
125 12 12 AN 40	125	40	50	12				

Metodi di applicazione

Applicable insert

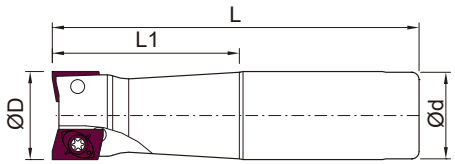
	Rroughing	Light Interruption	Interruption	Finishing
P	★	★		★
M				★
K	●	⬢		★
N				
S				★
H				★



insert code-dimension	L1	L2	S	radius		quality	Fig.
ANGT 120408	12,16	6,60	4,83	0,8		030 - 035 - 034	
ANHT 120408	12,16	6,60	4,83	0,8		030 - 035 - 034	

90°

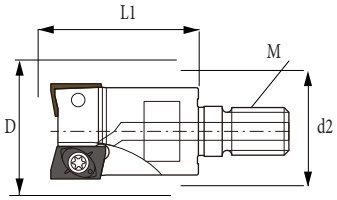
HRC >=65



Fresa cilindrica spallamento retto 90° per inserto ADMT 07 02

Body cilindrical shank Milling cutters 90° for insert ADMT 07 02

codice	D	d2	L	L1	Z	insert	screw	torx
1002AS10120	10	10	120	18	2			
1202AS12120	12	12	120	20	2			
1203AS12120	12	12	120	20	3			
1403AS12120	14	12	120	20	3	XDMT 0702.....	S18 A	TX 06
1604AS16150	16	16	150	25	4			
2005AS20150	20	20	150	30	5			
2005AS20200	20	20	200	30	5			
2505AS25150	25	25	150	35	5			
2505AS25200	25	25	200	35	5			



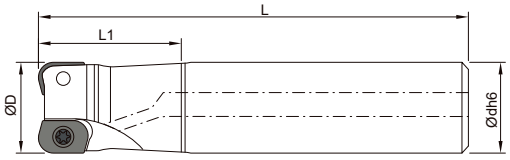
90°

HRC >=65

Testina filettata spallamento retto 90° per inserto ADMT 07 02

Body screw Milling cutters 90° for insert ADMT 07 02

codice	M	D	L1	d2	Z	insert	screw	torx
10AS0205.	5	10	5.5	20	2			
12AS0306	6	12	6.5	20	3			
14AS0406	6	14	6.5	20	3			
16AS0408	8	16	8.5	25	4	XDMT 0702.....	S18 A	TX 06
20AS0510	10	20	10.5	25	5			
25AS0512	12	25	12.5	28	5			



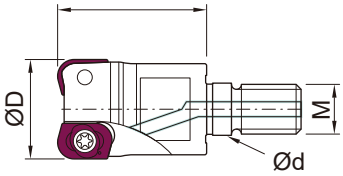
90°

HRC >=65

Fresa cilindrica spallamentu retto 90° per inserto EXMT 07 02 20....

Body cilindrical shank Milling cutters 90° for insert EXMT 07 02 20....

codice	D	d2	L	L1	Z	insert	screw	torx
1002ASR10120	10	10	120	18	2	EXMT 070220	S18 A	TX 06
1203ASR12120	12	12	120	20	3			
1403ASR12120	14	12	120	20	3			
1604ASR16150	16	16	150	25	4			



90°

HRC >=65

Testina filettata spallamentu retto 90° per inserto EXMT 07 02 20....

Body screw Milling cutters 90° for insert EXMT 07 02 20....

codice	M	D	L1	d2	Z	insert	screw	torx
10ASR0205.	5	10	5.5	20	2	EXMT 070220	S18 A	TX 06
12ASR0306	6	12	6.5	20	3			
14ASR0406	6	14	6.5	20	3			
16ASR0408	8	16	8.5	25	4			
20ASR0510	10	20	10.5	25	5			
25ASR0512	12	25	12.5	28	5			

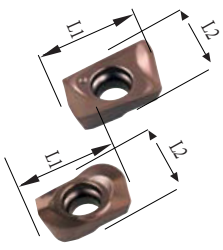
Metodi di applicazione

Applicable insert

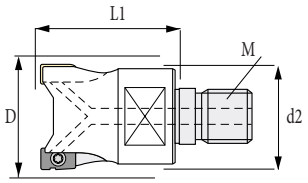
	Rroughing	Light Interruption	Interruption	Finishing
P				★
M				★
K	●		●	★
N				
S				★
H				★

Fig. 1

Fig. 2



insert code-dimension	L1	L2	S	radius		quality	Fig.
XDMT 070202	6,4	4,3	2,45	0,2		030/029*	fig 1
XDMT 070204	6,4	4,3	2,45	0,4		030/029*	fig 1
XDMT 070208	6,4	4,3	2,45	0,8		030/029*	fig 1
EXMT 070220	6,4	4,3	2,52	2,0		030/029*	fig 2



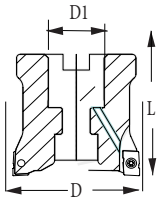
90°

HRC >=65

Testina filettata spallamento retto 90° per inserto APHW 0603.....

Body screw Milling cutters 90° for insert APHW 0603.....

codice	M	D	L1	d2	Z	insert	screw	torx
16MP2308	08	16	23	12,7	2	APHW 06.....	S25 E	TX 08
20MP3010	10	20	30	17,7	3			
25MP3512	12	25	35	20,7	4			
32MP3516	16	32	35	28,7	5			
35MP4316	16	35	43	28,7	5			
42MP4316	16	42	43	28,7	6			



Fresa spallamento retto 90° per inserto APHW 0603.....

Shoulder Milling cutters 90° for insert APHW 0603.....

codice	D	Z	D1	L	insert	raggio	screw	torx
42MP 06 06	42	6	16	40	APHW 06.....	0,4...0,8	S 25 E	TX 08
50MP 06 07	50	7	22	50	APHW 06.....	0,4...0,8		
52MP 06 07	52	7	22	50	APHW 06.....	0,4...0,8		
52MP 06 07 27	52	7	27	50	APHW 06.....	0,4...0,8		
63MP 06 08	63	8	27	50	APHW 06.....	0,4...0,8		
66MP 06 08	66	8	27	50				

HRC >=55

Metodi di applicazione

Applicable insert

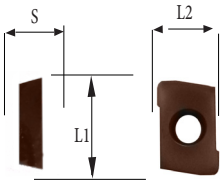
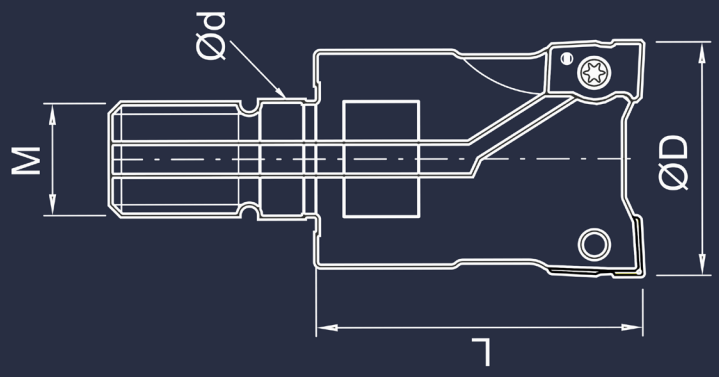


Fig. 1 Fig. 2

insert code-dimension	L1	L2	S	radius	FH	quality	Fig.
APHW 06 03 04	8,80	6,35	3,20	0,4	-	030 - 029	1
APHW 06 03 08	8,80	6,35	3,20	0,8	-	030 - 029	1
APHW 06 03 04FH		6,35	3,20	0,4	0,5	030 - 029	2
APHW 06 03 08FH		6,35	3,20	0,8	1,5	030 - 029	2

MP FINSHING SERIES

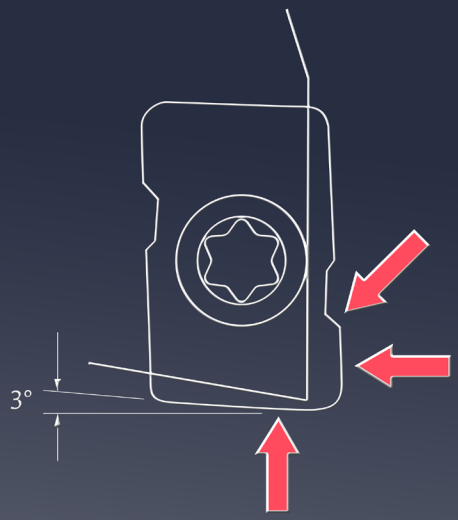


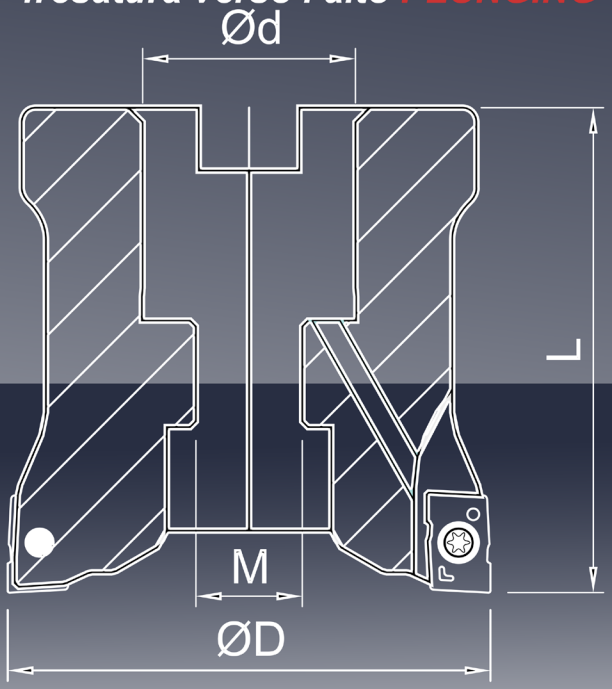
- ***Nuova micrograna e rivestimento :***
  per una durata fino a 3 volte superiore

- ***Inserto scaricato :***
  elimina la vibrazioni anche in lavorazioni profonde

- ***Alto grado di precisione H:***
  garantisce un'ottimo grado di finitura

- ***Inserto multifunzione :***
  torico - raschiante selezionabile e fresatura verso l'alto PLUNGING UP

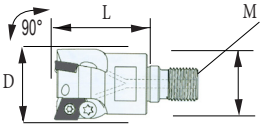




HC Hiper System

90°

HRC >=60



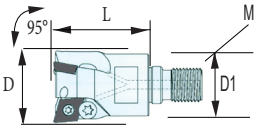
Testina filettata spallamento retto 90° per inserto XDHW....

Body screw Milling cutters 90°for insert XDHW....

codice	D	L	D1	Z	M	insert	screw	torx
10XC18 6	10	18	9,7	2	6	0401...	S18	Tx6
12XC18 6	12	18	9,7	2	6	0401...	S18	Tx6
16XC23 8	16	23	12,7	2	8	0601...	S25	Tx 7
20XC3010	20	30	17,7	3	10	0601...	S25	Tx7
25XC3512	25	35	20,7	3	12	0601...	S25	Tx 7
35XC4316	35	43	28,7	3	16	1004...	S35/35R	Tx 15

95°

HRC >=60



Testina filettata spallamento retto 95° per inserto XDHW....

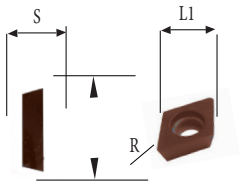
Body screw Milling cutters 95°for insert XDHW....

codice	D	L	D1	Z	M	insert	screw	torx
10XF18 6	10	189,7	2	6	0401	...	S18	Tx6
12XF18 6	12	189,7	2	6	0401...	S18	Tx6	
16XF23 8	16	2312,7	2	8	0601...	S25	Tx 7	
20XF3010	20	3017,7	3	10	0601...	S25	Tx7	
25XF3512	25	3520,7	3	12	0601...	S25	Tx 7	
35XF4316	35	4328,7	3	16	1004...	S35/35R	Tx 15	
42XF4316	42	43	28,74	16	1004...	S35/35R	Tx 15	

Metodi di applicazione

Applicable insert

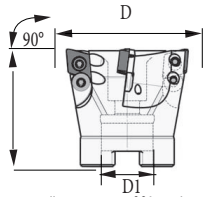
	Rroughing	Light Interruption	Interruption	Finishing
P	●	⬢		★
M		⬢		★
K		⬢		★
N				★
S		⬢		★
H		⬢		★



insert code-dimension	L1	S	radius	quality
XDHW 04 01.....	4,00	1,59	1,0	030
XDHW 06 02.....	6,50	2,38	0,5 -1,0 - 1,5 - 2	030 - 035 - PKD
XDHW 10 04.....	10,00	3,98	1,0 - 1,5 - 2,0	030 - 035 - 034

90°

HRC >=60



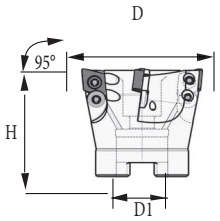
Fresa spallamento retto 90° per inserto 10 04....

Shoulder Milling cutters 90° for insert 10 04...

codice	D	H	D1	Z	insert	screw	torx
40 XC 04 16	40	40	16	4	10 04...		
50 XC 05 22	50	50	22	5	10 04...	S35	TX 15
63 XC 06 27	63	50	27	6	10 04...	35R	
80 XC 07 27	80	50	27	7	10 04...		

95°

HRC >=60



Fresa spallamento retto 95° per inserto 10 04....

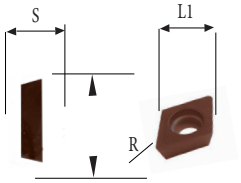
Shoulder Milling cutters 95° for insert 10 04 ...

codice	D	H	D1	Z	insert	screw	torx
40 XF 04 16	40	40	16	4	10 04...		
50 XF 05 22	50	50	22	5	10 04...	S35	TX 15
63 XF 06 27	63	50	27	6	10 04...	35R	
80 XF 07 27	80	50	27	7	10 04...		

Metodi di applicazione

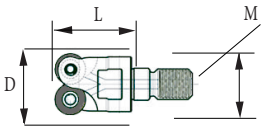
Applicable insert

	Roughing	Light Interruption	Interruption	Finishing
P	●	⬢		★
M		⬢		★
K		⬢		★
N				★
S		⬢		★
H		⬢		★



insert code-dimension	L1	S	radius	quality
XDHW 10 04.....	10,00	3,98	1,0 - 1,5 - 2,0	030 - 035 - 034

HRC >=60

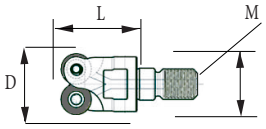


Testina filettata torica per inserto RDHW....

Body screw Rounding Milling cutters for insert RDHW....

codice	D	L	D1	Z	M	insert	screw	torx
10 HR 02 18 06	10	18	9,7	2	6	10501	S18	Tx6
12 HR 02 18 06	12	18	9,7	2	6	10701	S25	Tx7
12 HR 03 18 06	12	18	9,7	3	6	10501	S18	Tx6
15 HR 02 18 08	15	23	12,7	2	8	10702	S25	Tx7
16 HR 02 18 08	16	23	12,7	2	8	10702	S25	Tx7
16 HR 03 18 08	16	23	12,7	3	8	10501	S18	Tx7

HRC >=60



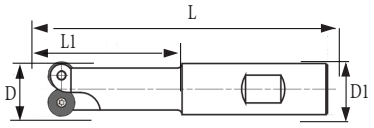
Testina filettata torica per inserto RDHW.... ..

Body screw Rounding Milling cutters for insert RDHW....

codice	D	L	D1	Z	M	insert	screw	torx
20HR023010	20	30	17,7	2	10	11002	S35 -	Tx 15
20HR043010	20	30	17,7	4	10	10702	S25 -	Tx 7
25HR023512	25	35	20,7	2	12	11002	S35 35R	Tx 15
25HR033512	25	35	20,7	3	12	11002	S35 -	Tx 15
30HR034316	30	43	28,7	3	16	11203	S35 35R	Tx 15
30HR044316	30	43	28,7	4	16	11002	S35 -	Tx15
32HR024316	32	43	28,7	2	16	11604	S45 -	Tx 20
32HR034316	32	43	28,7	3	16	11203	S35 35R	Tx 15
32HR044316	32	43	28,7	4	16	11003	S35 -	Tx15
35HR034316	35	43	28,7	3	16	11203	S35 35R	Tx 15
35HR044316	35	43	28,7	4	16	11002	S35 -	Tx15
35HR064316	35	43	28,7	6	16	10702	S25 -	Tx7
42HR044316	42	43	28,7	4	16	11203	S35 35R	Tx 15
42HR054316	42	43	28,7	5	16	11002	S35 -	Tx 15

r

HRC >=60

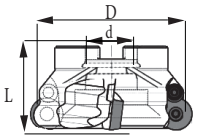


Fresa torica attacco cilindrico per inserto RDHW....

Shoulder Rounding Milling cutters for insert RDHW..

codice	D	Z	L	D1	L1	insert	screw	torx
15 HR02 120	15	2	120	16	40	107 02...	S25	TX 08
16 HR02 120	16	2	120	16	40			
20 HR03 120	20	3	120	20	40			
15 HR02 150	15	2	150	16	40			
16 HR02 150	16	2	150	16	60			
20 HR03 150	20	3	150	20	60			
20 HR02 120	20	2	120	20	40	110 02...	S35	TX 15
25 HR02 120	25	2	120	25	40			
30 HR03 120	30	3	120	25	40			
20 HR02 150	20	2	150	20	60			
25 HR02 150	25	2	150	25	60			
30 HR03 150	30	3	150	25	60			
32 HR03 150	32	3	150	32	60			
35 HR03 150	35	3	150	32	60			
20 HR02 200	20	2	200	20	70			
25 HR02 200	25	2	200	25	70			
30 HR03 200	30	3	200	25	70			
32 HR03 200	32	3	200	32	70			
35 HR03 200	35	3	200	32	70			
25 HR02 150	25	2	150	25	60			
25 HR02 200	25	2	200	25	70	112 03 ...	S35	TX15
30 HR02 200	30	2	200	25	70			
32 HR03 200	32	3	200	32	70			
35 HR03 200	35	3	200	32	70			
30 HR02 300	30	2	300	25	70			
32 HR03 300	32	3	300	32	70			
35 HR03 300	35	3	300	32	70			

HRC >=60



Fresa Torica attacco a manicotto per inserto RDHW....

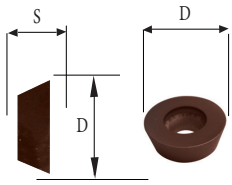
Corner Rounding Milling Cutter for insert RDHW....

codice	D	D1	d	L	Z	insert	screw	torx
40 HR 6.4	40	38	16	40	4	11203...	S35-R35	Tx 15
42 HR 6.4	42	40	16	50	4	11203...	S35-R35	Tx 15
50 HR 6.5	50	40	22	50	5	11203...	S35-R35	Tx 15
50 HR 8.4	50	40	22	50	4	11604 . . .	S45-500H	Tx 20
52HR 5.6	52	40	22	50	6	11002...	S35-R35	Tx 15
52 HR 6.5	52	40	22	50	5	11203...	S35-R35	Tx 15
52 HR 8.4	52	40	22	50	4	11604 . . .	S45-500H	Tx 20
63 HR 6.6	63	40	22	50	6	11203...	S35-R35	Tx 15
63 HR 8.5	63	40	22	50	5	11604 . . .	S45-500H	Tx 20
66 HR 6.6	66	48	27	50	6	11203...	S35-R35	Tx 15
66 HR 8.5	66	48	27	50	5	11604 . . .	S45-500H	Tx 20
75 HR 6.6	75	48	27	50	6	11203...	S35-R35	Tx 15
80 HR 6.7	80	60	27	50	7	11203...	S35-R35	Tx 15
80 HR 8.6	80	60	27	50	6	11604 . . .	S45-500H	Tx 20
100 HR 8.7	100	70	32	55	7	11604...	S45-500H	Tx 20
125 HR 8.8	125	90	40	63	8	11604...	S45-500H	Tx 20
160 HR 8.9	160	130	40	55	9	11604 . . .	S45-500H	Tx 20

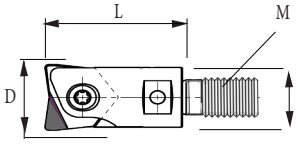
Metodi di applicazione

Applicable insert

	Roughing	Light Interruption	Interruption	Finishing
P	●	●	■	★
M	●	●	■	★
K	●	●	■	★
N	●	●	■	★
S		●	■	★
H	●	●	■	★



insert code-dimension	D	S	quality
105 01 ...	5,0	1,40	030
107 01 ...	7,0	1,99	030
107 02 ...	7,0	2,38	030-035
110 02 ...	10,0	3,18	029-030-035-034
112 03 ...	12,0	3,97	029-030-032-035-034
116 04 ...	16,0	4,76	030-032-035-034



90°

HRC >=60

Testina filettata per inserto Hiper Flat....

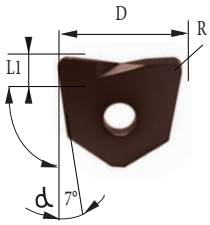
Body screw Milling cutter Flat bottom and back draft inserts.

codice	D	M	D1	L	insert	screw	torx
10 06 25 HF	10	6	9,0	25	HD 10 S	10MS	Tx 15
12 06 27 HF	12	6	10,8	27	HD 12 S	12MS	Tx 20
16 08 31 HF	16	8	14,4	31	HD 16 S	16MS	Tx 20
20 10 36 HF	20	10	18,0	36	HD 20 S	20MS	Tx 20
25 12 44 HF	25	12	22,5	44	HD 25 S	25MS	Tx 20
32 16 52 HF	16	16	28,6	52	HD 32 S	32MS	Tx 30

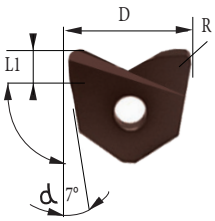
Metodi di applicazione

Applicable insert

	Roughing	Light Interruption	Interruption	Finishing
P		⬢		★
M		⬢		★
K		⬢		★
N		⬢		★
S		⬢		★
H		⬢		★

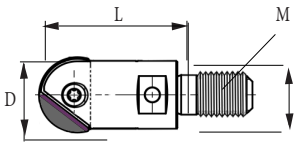


codice	HD 10 S	HD 12 S	HD 16 S	HD 20 S	HD 25 S	HD 32 S
standard radius	0,8	1,0	1,3	1,6	2,0	2,6
special radius	0,5 - 1,0	0,5 - 1,0 - 2,0	0,5 - 1,0 - 2,0	0,5 - 1,0 - 2,0	1,0	1,0



codice	HD 10 RR	HD 12 RR	HD 16 RR	HD 20 RR	HD 25 RR	HD 32 RR
standard radius	0,8	1,0	1,3	1,6	2,0	2,6
special radius	0,5 - 1,0	0,5 - 1,0 - 2,0	0,5 - 1,0 - 2,0	0,5 - 1,0 - 2,0	1,0	1,0

HRC >=60



Fresa Sferica attacco filettato per inserto HC....

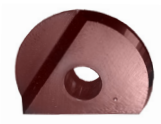
Body screw Copy end mill for insert HC....

codice	D	M	D1	L	insert	screw	torx
10 HC 23/5	10	6	9,7	23	HC 10	10MS	Tx 08
12 HC 23/6	12	6	9,7	23	HC 12	12MS	Tx 10
14 HC 23/8	14	8	12,7	23	HC 14	14MS	Tx 15
16 HC 28/8	16	8	12,7	28	HC 16	16MS	Tx 15
20 HC 28/10	20	10	17,7	28	HC 20	20MS	Tx 20
25 HC 35/12	25	12	20,7	35	HC 25	25MS	Tx 25
32 HC 43/12	32	16	28,7	43	HC 32	32MS	Tx 40

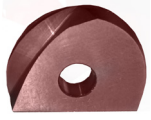
Metodi di applicazione

Applicable insert

	Rroughing	Light Interruption	Interruption	Finishing
P		●		★
M		●		★
K		●		★
N		●		★
S		●		★
H		●		★



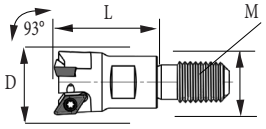
codice	HC 10	HC 12	HC 16	HC 20	HC 25	HC 32
Diam :	10	12	16	20	25	32
S :	2,60	3,0	4,0	5,0	6,0	7,0



codice	HC 10 SF	HC 12 SF	HC 16 SF	HC 20 SF	HC 25 SF	HC 32 SF
Diam :	10	12	16	20	25	32
S :	2,60	3,0	4,0	5,0	6,0	7,0

ALU

93°



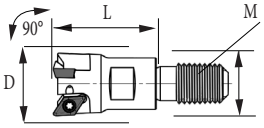
Testina filettata 93° per Alluminio

Body screw Milling cutters 93° for non-ferrous metals and plastics

codice	D	M	Z	L	D1	insert	screw	torx
10 AF 2 06	10	6	2	20	10	07... 029	S 22	TX 07
12 AF 2 06	12	6	2	20	10			
14 AF 2 08	14	8	2	25	13			
16 AF 3 08	16	8	3	25	13			
20 AF 3 10	20	10	3	32	18			
20 AF 2 10	20	10	2	32	18	09 ...029	S 30	TX 09
25 AF 3 12	25	12	3	36	21			
32 AF 3 16	32	16	3	40	29			
40 AF 4 16	40	16	4	40	29			

ALU

90°



Testina filettata 90° per Alluminio

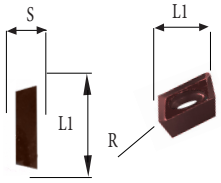
Body screw Milling cutters 90° for non-ferrous metals and plastics

codice	D	M	Z	L	D1	insert	screw	torx
20 AL 2 10	20	10	2	32	18	09 ...029	S 30	TX 09
25 AL 2 12	25	12	2	36	21			
32 AL 2 16	32	16	2	40	29			
40 AL 3 16	40	16	3	40	29			

Metodi di applicazione

Applicable insert

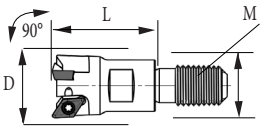
	Rroughing	Light Interruption	Interruption	Finishing
K				
N	●	⬢	■	★
S				
H	●	⬢	■	★



insert code-dimension	L1	S	radius	quality
07... 029.....	7,0	3,18	0,5 - 1,0	029
09... 029.....	9,0	3,18	2,0 - 2,5	029

ALU

90°



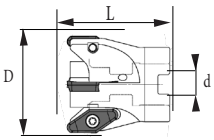
Testina filettata 90° per Alluminio

Body screw Milling cutters 90° for non-ferrous metals and plastics

codice	D	M	Z	L	D1	insert	screw	torx
20 HA 2 10	20	10	2	35	18	11 ...029	S 15	TX 08
25 HA 2 12	25	12	2	50	21	16 ...029	S 20	TX 10
32 HA 2 16	32	16	2	50	29	22 ...029	S 45	TX 20
42 HA 3 16	42	16	3	50	29	22 ...029		

ALU

90°



Fresa attacco a manicotto per Alluminio 90 °....

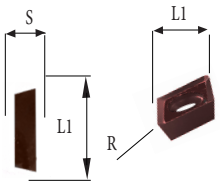
Shoulder Milling cutters 90° for non-ferrous metals and plastics

codice	D	D1	d	L	Z	insert	screw	torx
42AL316	42	32	16	55	3	22... 029		
52 AL 316	52	40	22	55	3	22... 029	S 45	Tx20
66 AL 416	66	50	27	55	4	22... 029		
80 AL 516	80	60	27	55	5	22... 029		

Metodi di applicazione

Applicable insert

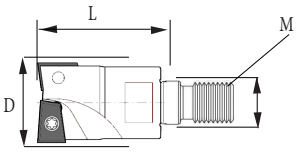
	Rroughing	Light Interruption	Interruption	Finishing
K				
N	●	⬢	■	★
S				
H	●	⬢	■	★



insert code-dimension	L1	S	radius	quality
11 08 029.....	11,00	3,18	0,8	029
16 08 029.....	16,00	4,76	0,8	029
22 30 029.....	22,00	5,56	3,0	029

90°

HRC >=45



Fresa filettata forante multi-funzionale....

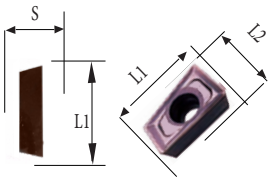
Body screw Milling cutters multi-functional with a center cutting edge..

codice	D	M	L	D1	Z	insert	screw	torx
16 QG 25 08	16	8	25	8,5	2	XQOG0830R	S 22	TX 07
17 QG 25 08	17	8	25	8,5	2			
20 QG 32 10	20	10	32	10,5	2	XQOG1035R	S 25	TX 09
21 QG 32 10	21	10	32	10,5	2			
25 QG 35 12	25	12	35	12,5	2	XQOG1342R	S 30	
26 QG 35 12	26	12	35	12,5	2			
32 QG 43 16	32	16	43	17	2	XQOG1651R	S 40	TX 15
33 QG 43 16	33	16	43	17	2			

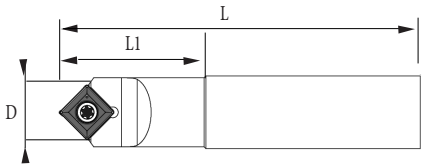
Metodi di applicazione

Applicable insert

	Roughing	Light Interruption	Interruption	Finishing
P	●	⬢	■	★
M	●	⬢	■	★
K	●	⬢	■	★
N	●	⬢	■	★
S		⬢	■	★
H	●	⬢	■	★



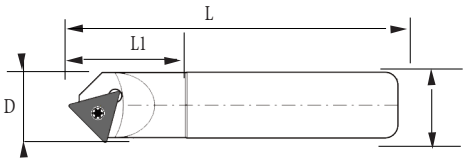
insert code-dimension	L1	L2	S	radius	quality
XQOG0830R	8,4	5,5	3	0,8	035
XQOG1035R	10,6	7	3,5	0,8	035
XQOG1342R	13,1	8,7	4,2	0,8	035
XQOG1651R	16,5	11	5,1	0,8	035



Fresa per smussatura per inserto SG..

Engraving tool with indexable carbide SG.... ...

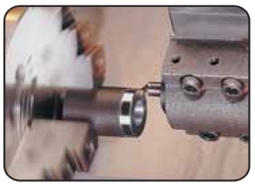
codice	D	L1	L	dg	Angolo	Z	insert	screw	torx
16 100 16 CT	16,6	30	100	16	45	1			
16 150 16 CT	16,6	30	150	16	45	1	SGMT 1003...	S35	Tx15



Fresa per smussatura per inserto XC...

Engraving tool with indexable carbide .XC... ...

codice	D	L1	L	D1	Angolo	Z	insert	screw	torx
21 130 20 CT	21,6	35	130	20	45	1	XCMX 16...	S40A	Tx15



insert code-dimension	L1	S	radius	quality
SGMT 100308 035	11,00	3,18	0,8	035
XCMX 16T3108 035	16,00	4,76	0,8	035
XPMW/T 09308 035	9,50	3,18	0,4 - 0,8	035
XPMW/T 09T308 035	9,50	3,97	0,4 - 0,8	035

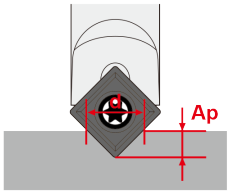
Metodi di applicazione

Applicable insert

Centratura Fori

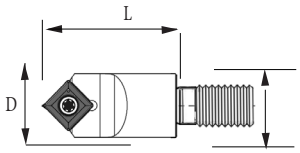
Smussi - Contornature - Scritte

Vc	Fr/Av giro	Material		Vc	Fr/Av giro
60~220	0.05~0.10	P	Carbon steel	60~220	0.05~0.10
50~180	0.04~0.08		Alloy steel	60~270	0.15~0.24
30~120	0.03~0.06	M	Stainless	50~220	0.12~0.20
40~130	0.05~0.10	K	steel	35~120	0.10~0.20
20~60	0.03~0.08	H	Cast iron	60~220	0.15~0.25



$$d = (Ap + 0,3) \times 2$$

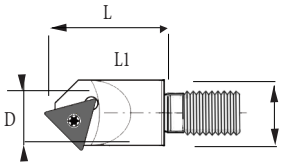
$$S = \frac{Vc \times 1000}{d \times \pi}$$



Fresa Filettata a smussare per inserto SG...

Body screw Milling cutters Engraving tool with indexable carbide .SG...

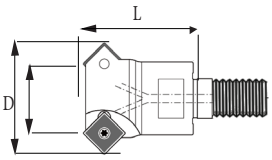
codice	D	T max	M	L	D1	Angolo	Z	insert	screw	torx
16 CT 40 08	16,6	6,5	8	30	12,7	45	1	SGMT 1003..	S35	Tx15
16 CT 40 10	16,6	6,5	10	40	17,8	45	1			



Fresa Filettata a smussare per inserto XC...

Body screw Milling cutters Engraving tool with indexable carbide

codice	D	T max	M	L	D1	Angolo	Z	insert	screw	torx
21 CT 40 10	21,6	9,0	10	40	17,8	45	1	XCMX 16...	S40	Tx15



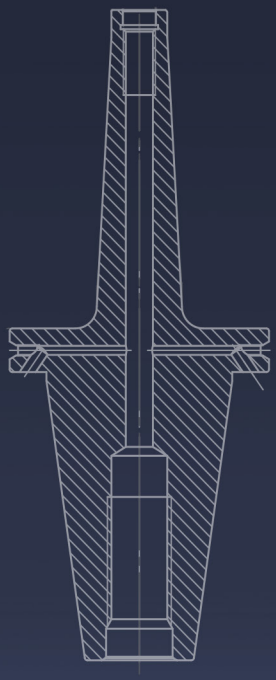
Fresa Filettata a smussare per inserto XP...

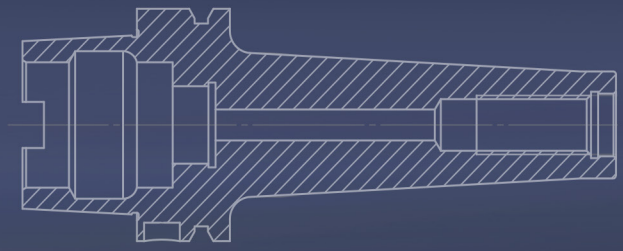
Body screw Milling cutters for Chamfer with insert XP...

codice	D	D1	M	L	Z	insert	screw	torx
28 SV 30 10	28,8	16	10	30	2	XPM.. 09T3...	S 40	TX 15
35 SV 35 12	35,0	22,2	12	35	3	XPM.. 0903 ...		
42 SV 35 16	42,3	30	16	35	3	XPM.. 09T3...		

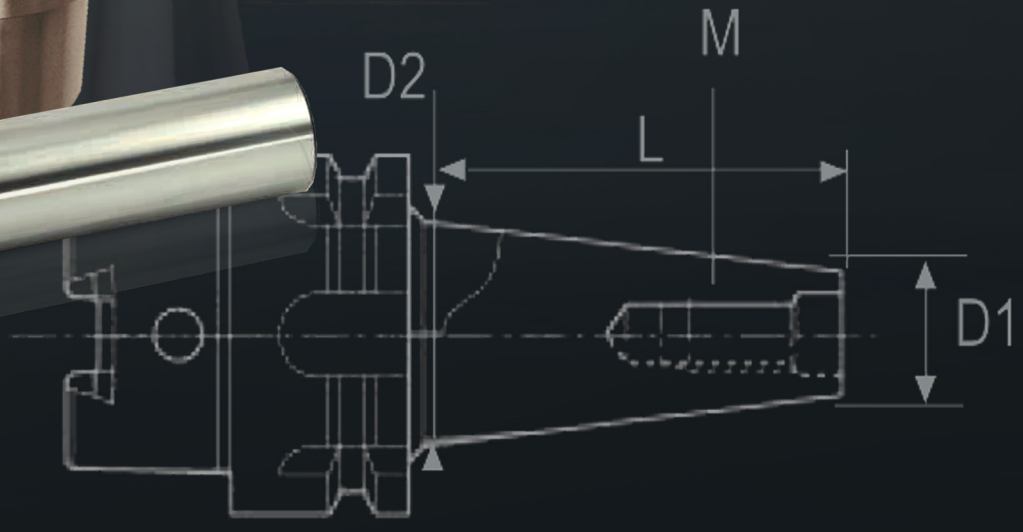
HC

Hiper System



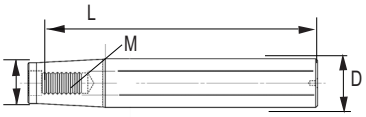


Hiper Extension



COD. HC solid carbide Extension

CARBIDE



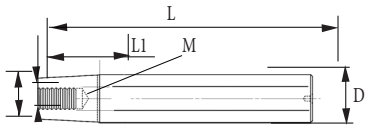
Porta Fresa cilindrico per attacchi filettatil in Metallo Duro.

Cylindrical Solid Carbide extension.

codice	D	L	M	D1	L1
100 10 05 HC	10	100	M5	5,5	15
150 10 05 HC*	10	150	M5	5,5	15
100 12 06 HC	12	100	M6	6,5	15
150 12 06 HC	12	150	M6	6,5	15
200 12 06 HC*	12	200	M6	6,5	15
100 16 08 HC	16	100	M8	8,5	15
150 16 08 HC	16	150	M8	8,5	15
200 16 08 HC	16	200	M8	8,5	15
250 16 08 HC*	16	250	M8	8,5	15
300 16 08 HC*	16	300	M8	8,5	15
100 20 10 HC	20	100	M10	10,5	20
150 20 10 HC	20	150	M10	10,5	20
200 20 10 HC	20	200	M10	10,5	20
250 20 10 HC*	20	250	M10	10,5	20
300 20 10 HC*	20	300	M10	10,5	20
100 25 12 HC*	25	100	M12	12,5	30
150 25 12 HC	25	150	M12	12,5	30
200 25 12 HC	25	200	M12	12,5	30
250 25 12 HC	25	250	M12	12,5	30
300 25 12 HC	25	300	M12	12,5	30
350 25 12 HC*	25	350	M12	12,5	30
150 32 16 HC*	32	150	M16	17	35
200 32 16 HC*	32	200	M16	17	35
250 32 16 HC*	32	250	M16	17	35
300 32 16 HC	32	300	M16	17	35
350 32 16 HC*	32	350	M16	17	35
400 32 16 HC*	32	400	M16	17	35

* = NON A STOCK- ON DEMAND

** = SI ESEGUONO RETIFICHE A DISEGNO - ARE AVAILABLE ON DRAWING GRINDING

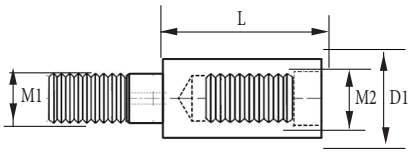


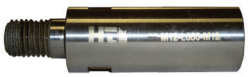
ACCIAO

Porta Fresa cilindrico in acciaio per attacchi filettatil....

Steel extension for milling cutters modular type.

codice	D	M	L	L1	D1	D1
1601006HE	10	6	160	40	6,5	9,8
1601206HE	12	6	160	40	6,5	9,8
1601208HE	16	8	160	45	8,5	12,8
2001608HE	16	8	200	10	8,5	14
1602010HE	20	10	160	50	10,5	17,8
2502010HE	20	10	250	12	10,5	18
1602512HE	25	12	160	55	12,5	20,8
2502512HE	25	12	250	15	12,5	23
1603216HE	32	16	160	60	17	28,8
3003216HE	32	16	300	18	17	29





ACCIAO

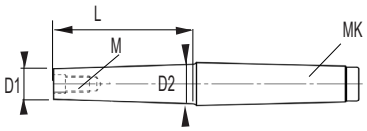
Prolunghe in acciaio cilindrici per attacchi filettatil....

Steel extension for milling cutters modular type.

codice	M1	M2	D1	L
08 HE 40 08	8	8	13,8	40
08 HE 60 08	8	8	13,8	60
10 HE 40 10	10	10	17,7	40
10 HE 60 10	10	10	17,7	60
12 HE 40 12	12	12	20,7	40
12 HE 60 12	12	12	20,7	60
16 HE 40 16	16	16	28,7	40
16 HE 60 16	16	16	28,7	60

COD. HSM Extension

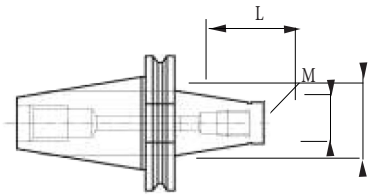
ACCIAO



Prolunghe in acciaio attacco CM per attacchi filettatil....

Steel extension for milling cutters modular type CM reduction.

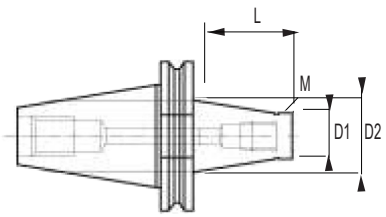
codice	MK	M	D1	D2	L
20 HSM2 08	MK2	M8	13,8	18	20
40 HSM2 08	MK2	M8	13,8	18	40
60 HSM2 08	MK2	M8	13,8	18	60
20 HSM2 10	MK2	M10	18	18	20
40 HSM2 10	MK2	M10	18	18	40
60 HSM2 10	MK2	M10	18	18	60
80 HSM3 08	MK3	M8	13,8	24	80
100 HSM3 08	MK3	M8	13,8	24	100
80 HSM3 10	MK3	M10	18	24	80
100 HSM3 10	MK3	M10	18	24	100
10 HSM3 12	MK3	M12	21	24	10
30 HSM3 12	MK3	M12	21	24	30
45 HSM3 12	MK3	M12	21	24	45
60 HSM3 12	MK3	M12	21	24	60
75 HSM3 12	MK3	M12	21	24	75
85 HSM3 12	MK3	M12	21	24	85
95 HSM3 12	MK3	M12	21	24	95
110 HSM3 12	MK3	M12	21	24	110
120HSM4 12	MK4	M12	21	31,5	120
10 HSM4 16	MK4	M16	29	29	10
35 HSM4 16	MK4	M16	29	31,5	35
50 HSM4 16	MK4	M16	29	31,5	50
65 HSM4 16	MK4	M16	29	31,5	65
80 HSM4 16	MK4	M16	29	31,5	80
95 HSM4 16	MK4	M16	29	31,5	95
110 HSM4 16	MK4	M16	29	31,5	110
125 HSM4 16	MK4	M16	29	31,5	125
150 HSM4 16	MK4	M16	29	31,5	150
100 HSM5 16	MK5	M16	29	45	100
120 HSM5 16	MK5	M16	29	45	120
150 HSM5 16	MK5	M16	29	45	150
180 HSM5 16	MK5	M16	29	45	180
220 HSM5 16	MK5	M16	29	45	220
260 HSM5 16	MK5	M16	29	45	260



Mandrino SK porta testina per attacchi filettati .

Shank SK for milling cutters modular typescrew-in endmills.

codice	SK	M	D1	D2	L
30 M8/40SK	40	8	12,7	15	30
50 M8/40SK	40	8	12,7	23	50
70 M8/40SK	40	8	12,7	23	70
90 M8/40SK	40	8	12,7	23	90
30 M10/40SK	40	10	17,7	20	30
50 M10/40SK	40	10	17,7	25	50
70 M10/40SK	40	10	17,7	28	70
90 M10/40SK	40	10	17,7	28	90
120 M10/40SK	40	10	17,7	34	120
30M12/40SK	40	12	20,7	24	30
50 M12/40SK	40	12	20,7	24	50
70 M12/40SK	40	12	20,7	31	70
90 M12/40SK	40	12	20,7	31	90
120 M12/40SK	40	12	20,7	38	120
150 M12/40SK	40	12	20,7	42	150
30 M16/40SK	40	16	28,7	29	30
50 M16/40SK	40	16	28,7	34	50
70 M16/40SK	40	16	28,7	34	70
90 M16/40SK	40	16	28,7	34	90
120 M16/40SK	40	16	28,7	39	120
150 M16/40SK	40	16	28,7	44	150
200 M16/40SK	40	16	28,7	44	200
30 M10/50SK	50	10	17,7	20	30
50 M10/50SK	50	10	17,7	25	50
70 M10/50SK	50	10	17,7	28	70
100 M10/50SK	50	10	17,7	31	100
30 M12/50SK	50	12	20,7	24	30
50 M12/50SK	50	12	20,7	24	50

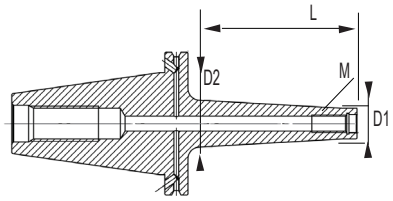


Mandrino SK porta testina per attacchi filettati .

Shank SK for milling cutters modular typescrew-in endmills.

codice	SK	M	D1	D2	L
70 M12/50SK	50	12	20,7	31	70
100 M12/50SK	50	12	20,7	31	100
150 M12/50SK	50	12	20,7	41	150
30 M16/50SK	50	16	28,7	29	30
50 M16/50SK	50	16	28,7	34	50
70 M16/50SK	50	16	28,7	34	70
100 M16/50SK	50	16	28,7	41	100
150 M16/50SK	50	16	28,7	52	150
200 M16/50SK	50	16	28,7	57	200

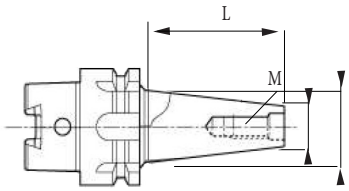
Slim



Mandrino SK porta testina per attacchi filettati SLIM.

Shank SK for milling cutters modular typescrew-in endmills SLIM.

codice	MK	M	D1	D2	L
50 M10/40SK SLIM	40	10	17,7	19,5	50
70 M10/40SK SLIM	40	10	17,7	19,5	70
90M10/40SK SLIM	40	10	17,7	19,5	90
70 M12/40SK SLIM	40	12	20,7	24	70
90 M12/40SK SLIM	40	12	20,7	24	90
50 M16/40SK SLIM	40	16	28,7	31	50
70 M12/40SK SLIM	40	16	28,7	31	70
90 M16/40SK SLIM	40	16	28,7	31	90
120 M16/40SK SLIM	40	16	28,7	31	120

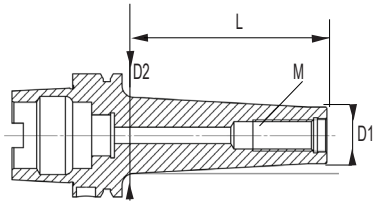


Mandrino HSK A porta testina per attacchi filettati .

Shank HSK A for milling cutters modular typescrew-in endmills.

codice	HSK	M	D1	D2	L
25 M6/63A	63	6	9,7	10	25
50 M6/63A	63	6	9,7	20	50
75 M6/63A	63	6	9,7	20	75
25 M8/63A	63	8	12' 7	15	25
50 M8/63A	63	8	12' 7	23	50
75 M8/63A	63	8	12' 7	23	75
100 M8/63A	63	8	12,7	25	100
25 M10/63A	63	10	17,7	20	25
50 M10/63A	63	10	17,7	25	50
75 M10/63A	63	10	17,7	28	75
100 M10/63A	63	10	17,7	30	100
125 M10/63A	63	10	17,7	34	125
25 M12/63A	63	12	20,7	24	25
50 M12/63A	63	12	20,7	24	50
75 M12/63A	63	12	20,7	31	75
100 M12/63A	63	12	20,7	31	100
125 M12/63A	63	12	20,7	31	125
150 M12/63A	63	12	20,7	39	150
175 M12/63A	63	12	20,7	42	175
25 M16/63A	63	16	28,7	34	25
50 M16/63A	63	16	28,7	34	50
75 M16/63A	63	16	28,7	34	75
100 M16/63A	63	16	28,7	39	100
125 M16/63A	63	16	28,7	39	125
150 M16/63A	63	16	28,7	39	150
175 M16/63A	63	16	28,7	42	175
200 M16/63A	63	16	28,7	45	200

Mandrini Shank HSK 63A

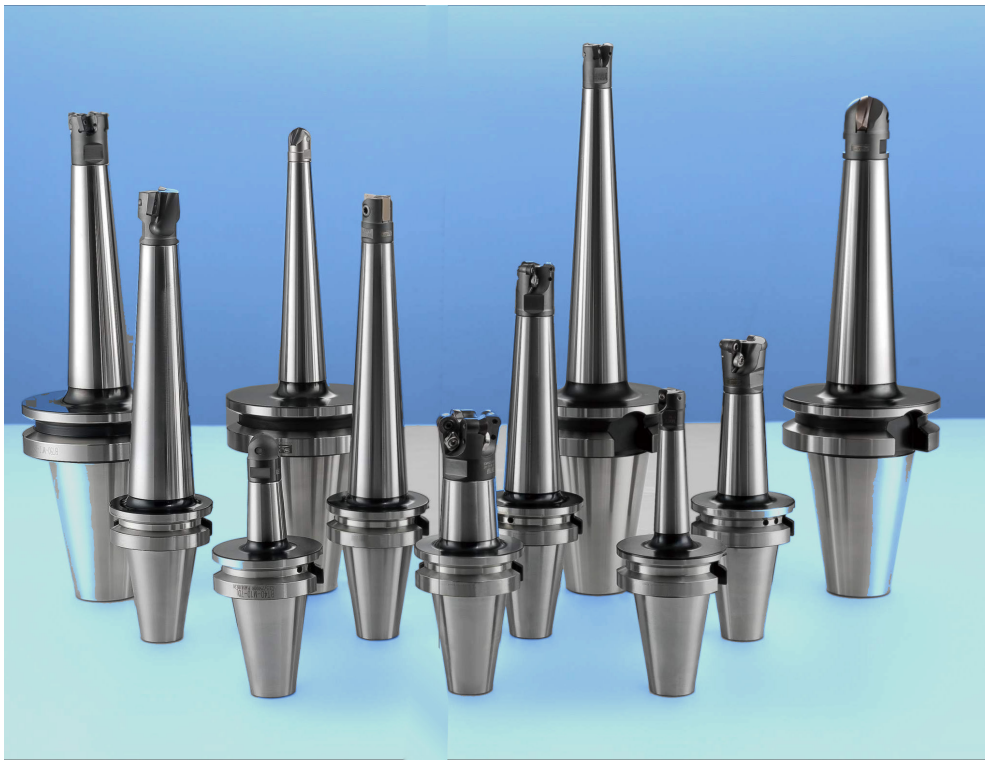


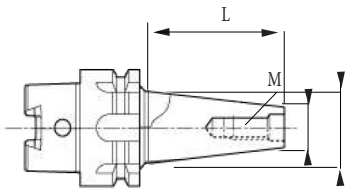
Slim

Mandrino HSK A porta testina per attacchi filettati SLIM.

Shank HSK A for milling cutters modular typescrew-in endmills SLIM..

codice	HSK	M	D1	D2	L
50 M10/63A SLIM	63	10	18	19,5	50
75 M10/63A SLIM	63	10	18	19,5	75
100 M10/63A SLIM	63	10	18	19,5	100
100 M10/63A SLIM	63	10	21	24	125
75 M12/63A SLIM	63	12	21	24	75
100 M12/63A SLIM	63	12	29	31	100
50 M16/63A SLIM	63	16	29	31	50
75 M16/63A SLIM	63	16	29	31	75
100 M16/63A SLIM	63	16	29	31	100
125 M10/63A SLIM	63	16	29	31	125



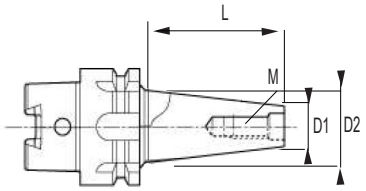


Mandrino HSK E porta testina per attacchi filettati .

Shank HSK E for milling cutters modular typescrew-in endmills SLIM..

codice	HSK	M	D1	D2	L
25 M6/63E	63	6	9,7	10	25
50 M6/63E	63	6	9,7	20	50
75 M6/63E	63	6	9,7	20	75
25 M8/63E	63	8	12' 7	15	25
50 M8/63E	63	8	12' 7	23	50
75 M8/63E	63	8	12' 7	23	75
100 M8/63E	63	8	12,7	25	100
25 M10/63E	63	10	17,7	20	25
50 M10/63E	63	10	17,7	25	50
75 M10/63E	63	10	17,7	28	75
100 M10/63E	63	10	17,7	30	100
25 M12/63E	63	12	20,7	24	25
50 M12/63E	63	12	20,7	24	50
75 M12/63E	63	12	20,7	31	75
100 M12/63E	63	12	20,7	31	100
25 M16/83E	63	16	28,7	34	25
50 M16/63E	63	16	28,7	34	50
75 M16/63E	63	16	28,7	34	75
100 M16/63E	63	16	28,7	39	100

Mandrini - Shank HSK 63A/E



Mandrino HSK A/E porta testina per attacchi filettati .

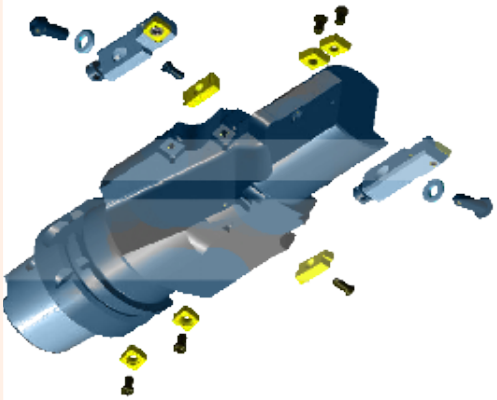
Shank HSK A/E for milling cutters modular typescrew-in endmills.

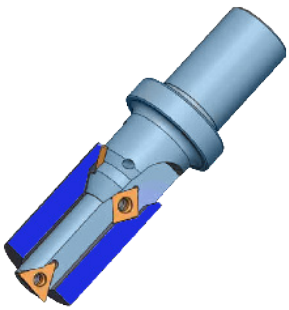
codice	codice	HSK	M	D1	D2	L
25 M6 /40A	25 M6 /40E	40	6	9,7	10	25
50 M6 /40A	50 M6 /40E	40	6	9,7	20	50
75 M6 /40A	75 M6 /40E	40	6	9,7	23	75
25 M8 /40A	25 M8 /40E	40	8	12,7	15	25
50 M8 /40A	50 M8 /40E	40	8	12,7	23	50
75 M8 /40A	75 M8 /40E	40	8	12,7	23	75
100 M8 /40A	100 M8 /40E	40	8	12,7	25	100
25 M10 /40A	25 M10 /40E	40	10	17,7	20	25
50 M10 /40A	50 M10 /40E	40	10	17,7	25	50
75 M10 /40A	75 M10 /40E	40	10	17,7	28	75
100 M10 /40A	100 M10 /40E	40	10	17,7	30	100
25 M6 /50A	25 M6 /50E	50	6	9,7	10	25
50 M6 /50A	50 M6 /50E	50	6	9,7	20	50
75 M6 /50A	75 M6 /50E	50	6	9,7	23	75
25 M8 /50A	25 M8 /50E	50	8	12,7	15	25
50 M8 /50A	50 M8 /50E	50	8	12,7	23	50
75 M8 /50A	75 M8 /50E	50	8	12,7	23	75
100 M8 /50A	100 M8/50E	50	8	12,7	25	10
25 M10 /50A	25 M10 /50E	50	10	17,7	20	25
50 M10 /50A	50 M10 /50E	50	10	17,7	25	50
75 M10 /50A	75 M10 /50E	50	10	17,7	28	75
100 M10 /50A	100 M10 /50E	50	10	17,7	30	100
25 M12 /50A	25 M12 /50E	50	12	20,7	24	25
50 M12 /50A	50 M12 /50E	50	12	20,7	24	50
75 M12 /50A	75 M12 /50E	50	12	20,7	31	75
25 M16 /50A	25 M16 /50E	50	16	28,7	34	25
50 M16 /50A	50 M16 /50E	50	16	28,7	34	50
75 M16 /50A	75 M16 /50E	50	16	28,7	34	75

Hiper Special

Utensili speciali | Special-Tools | Sonder-Werkzeuge

- Si eseguono su disegno utensili speciali
- Special tools are made to drawing
- Spezialwerkzeuge werden zum Zeichnen angefertigt
- Se hacen herramientas especiales para dibujar.
- Des outils spéciaux sont faits pour dessiner





Parametri di lavorazione consigliati
Recommended cutting conditions

MATERIALI		Resistenza (N/mm²)	Gruppo Materiali	035 - 034 Vc (m/min) DRY	035 - 034 Vc (m/min) WET	CRX - PRX Vc (m/min) DRY	CRX - PRX Vc (m/min) WET	030 Vc (m/min) DRY	KRX Vc (m/min) DRY	KRX Vc (m/min) WET	029 Vc (m/min) DRY	029 Vc (m/min) WET
P Acciaio Steels	Non Legati Non-Alloy	600-800	1-2-3	300 -160	190 - 140							
	Basso Legati Low-Alloy	800-1000	4-5-6	250 -120	150 - 100							
	Medio Legati Medium-Alloy	1000-1200	7-9	200 -100	140 - 80							
	Alto Legati High-Alloy	1200-1300	10	180 -100	160 - 80							
		1400-1500	11	120 - 80	100 - 60			160 - 80				
M Acciaio Inox Stainless Steels	Martensitico Martensitic		12			300-150	180 - 120					
	Austenitic		13			250-120	150 - 110					
	Inox Duplex Inox-Super Duplex		14				140 - 80		250 - 140		250 - 140	140 - 180
			14,1				110 - 60		200 -120	85 - 45	200 -120	
S Super Leghe Heat Res Alloy	Fe	600-900	31-32									80 - 45
	Ni-Co	900-1000	34-35									70 - 45
	Leghe Titanio Titanium	1200	36									40 - 20
	Alloy	α-β	37									85 - 60
H Acciaio temprato Hardened steels		45-50 Hrc	38					300 - 200				
		50-55 Hrc	39					180 -120				
		> 55 Hrc	40					80 - 60				
K Ghisa Cast iron		≤ 200 HB	15					250 - 150				
N Nonferrous ALU		≤ 110 HB	16								500 - 300	500 - 300
											1500 -500	1500 -500

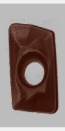
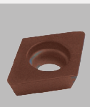
Lista Materiali

Recommended cutting conditions

	MATERIALI	Gruppo Materiali	DIN	UNI	AISI/ASTM	N° MATER	NOTE
Acciaio Steels P	C 15	1	C 15	C 15		10.401	
	15 CrMo5	6		15 CrMo5		17.262	
	C45	3	C45	C45		10.503	
	38NCD5	9		40NiCrMo6		16.565	Bonificato
	12.311	9	40 CrMgMo 7	40 CrMgMo 7		1,23 1 1	Hardened and
	12.312	9					Tempered Steel
	12.714	9					
	12.738	9		40 CrMnNi Mo 8 6 1		12.738	Bonificato
	1.2738 HH	11				1,2738 HH	Hardened and
	12.343	11				12.343	Tempered Steel
	12.344	11					
	1.2083 STAVAX	11					
	12.365	11					
	12.367	11					
	100Cr 6	9		100Cr6		1.2067	
	36 CrNiMo4	9		36 CrNiMo4		1.65 1 1	
	21 NiCrMo2	9		21 NiCrMo2		1.6523	Bonificato
	X100CrMoV5 1	11		X100CrMoV5 1		1.2363	Hardened and
	NIMAX	9				1.2738/P20	Tempered Steel
	DAC MAGIC	9					
	W 300	11				1.2343	
	IMPAX	11					
	12.080	10					
	K110	10				1.2379	
	K720	11				1.2842	
	K390	11					
	K890	11					
	M4-HSS	11			M4		
Acciaio Inox Stainless Steels M	AISI 304	13		X 5Cr Ni 18 10	630	1.4301	
	304LN	14		XCrNiN	304LN	1	
	AISI 316L	13		X 2 Cr Ni Mo 17 12 2	316L	1.4404	
	FA6	13					
	AISI 420	12		X 30Cr 13	420	1.4028	
	AISI 904L	13		X1NiCrMoCu25 20 5	904L	1.4539	
	17-4PH	14					
	15-5PH	14					
	F53	14,1		X 2 Cr Ni Mo 25 7 4	F53	1.4410	
	F51	14					
	F44	14,1					
	F55	14,1					
Super Leghe Heat Res Alloy S	NIMONIC 80 A	34				2.4631	
	MONEL K500	34				2.4375	
	INCONEL 625	35				2.4856	
	INCONEL 718	36				2.4668	
	INCONEL 718 INV /	36				2.4668	Invecchiato / Aged
	TITANIO	37	TiAl6V4			3.7165	
Acciaio temprato Hardened steels H	1.2738	38		40 CrMnNi Mo 8 6 1		1.2738	
	1.2738 HH	39				1.2738 HH	45 / 50
	1.2343	38				1.2343	
	1.2344	38					
	1.2083 STAVAX	40				1	
	1.2365	39					50 / 55
	1.2367	39					
	TOOLOX 33	39					33
	TOOLOX 44	39					Temprato 44
	DAC MAGIC	39					Hrc 48
	W 300	38				1.2343	Hardened
	IMPAX	39					Steel Hrc
	1.2080	39					45 / 50
	K110	40				1.2379	50 / 55
	K720	40				1.2842	50 / 60
	K390	40					
	K890	40					
	M4-HSS	40			M4		58 / 63
Ghisa Cast iron K	G15	15	G15	G15		0.6015	
	G20-GHISA	15	G20	G20		0.6020	
	G25-CAST IRON	15	G25	G25		0.6025	
Nonferrous ALU N	AVIONAL100	16	AlCuMg1	3579		3.1325	
	ANTICORODAL110	16	AlMgSi1	3571		3.2315	
	ERGAL55	16	AlZnMgCu1.5	3735		3.4365	
		16	G-AlSi8Cu3	5075		3.2161	

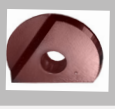
Inserti - Parametri di taglio ap e fz

Valori guida per profondità di taglio ap e avanzamento per dente fz ae = 0,6-0,7 x D
(I valori indicati sono valori standard e potrebbero dover essere adattati alla macchina - Sistema di bloccaggio del pezzo).

Cod . Inserti	Diam	12	16	20	25	32	42	52	66	80	100
 SNFX 1405ASR	ap [mm]						0.2	3,0			7.0
	fz [mm/Z]						0.4	0,8			1.3
 XOKT 06 02.....	ap [mm]	0.1		0,3		0.5					
	fz [mm/Z]	0.1		0,5		0.7					
 XOKT 09 03.....	ap [mm]		0.5		1,5			4,0			
	fz [mm/Z]		0.3		0,4			0.7			
 XOKT 12 04.....	ap [mm]		0.2			3,0					7.5
	fz [mm/Z]		0.2			0,4					0.7
		finitura - finishing : fz = 0,1 - 0,3									
 APHW 06 03....	ap [mm]		0.2		1,5			2.5			
	fz [mm/Z]		0.2		0,5			0.8			
		finitura - finishing : fz = 0,1 - 0,3									
 04 01.....	ap [mm]	0.1		0.3							
	fz [mm/Z]	0.1		0.5							
		finitura - finishing : fz = 0,1 - 0,2									
 06 02.....	ap [mm]			0.2	0,5	0.5					
	fz [mm/Z]			0.2	0,4	0.8					
		finitura - finishing : fz = 0,1 - 0,3									
 10 04.....	ap [mm]						0.2	0,8			1.5
	fz [mm/Z]						0.2	0,6			0.8
		finitura - finishing : fz = 0,1 - 0,3									
 105 01 ...	ap [mm]	0.2		0.5							
	fz [mm/Z]	0.2		0.5							
		finitura - finishing : fz = 0,1 - 0,3									
 107 01 ...	ap [mm]	0.2		0.5							
	fz [mm/Z]	0.2		0.5							
		finitura - finishing : fz = 0,1 - 0,3									
 107 02	ap [mm]		0.2		0,3			0.7			
	fz [mm/Z]		0.2		0,5			0.7			
 110 02 ...	ap [mm]			0.2		0,3			0.9		
	fz [mm/Z]			0.2		0,8			1.1		
 112 03 ...	ap [mm]						0.2	0,5			2.0
	fz [mm/Z]						0.4	0,8			1.2
 116 04 ...	ap [mm]						0.2	0,7			4.0
	fz [mm/Z]						0.4	0,8			1.3

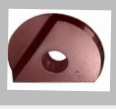
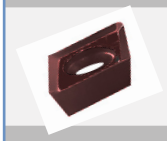
Inserti - Parametri di taglio ap e fz

Valori guida per profondità di taglio ap e avanzamento per dente fz ae = 0,6-0,7 x D
(I valori indicati sono valori standard e potrebbero dover essere adattati alla macchina - Sistema di bloccaggio del pezzo).

Cod . Inserti		Diam	12	16	20	25	32	42	52	66	80	100
	HD S	ap [mm]	0.1		0,2		1,0					
		fz [mm/Z]	0.2		0,25		0,8					
			finitura - finishing : fz = 0,1 - 0,3									
	HC HC SF	ap [mm]	0.1		0,3		1.5					
		fz [mm/Z]	0.2		0,25		0.7					
			finitura - finishing : fz = 0,1 - 0,3									
	07... 029.....	ap [mm]	0.3		0,5		0,8					
		fz [mm/Z]	0.1		0,2		0.7					
			finitura - finishing : fz = 0,1 - 0,3									
	09... 029.....	ap [mm]	0.2		0,5		3,0					
		fz [mm/Z]	0.2		0,4		0.7					
			finitura - finishing : fz = 0,1 - 0,3									
	11 08 029.....	ap [mm]		0.2	0,5		5,0					
		fz [mm/Z]		0.2	0,8		1,5					
				finitura - finishing : fz = 0,1 - 0,3								
	16 08 029.....	ap [mm]		0.2	0,5		5,0					
		fz [mm/Z]		0.2	0,8		1,5					
				finitura - finishing : fz = 0,1 - 0,3								
	22 30 029.....	ap [mm]		0.5	3,0		10					
		fz [mm/Z]		0.2	0,8		1,5					
				finitura - finishing : fz = 0,1 - 0,3								
	SGMT 1003..	ap [mm]	0.1	3,0								
		fz [mm/Z]	0.21	0,25								
	XCMX 16...	ap [mm]	4,0		12							
		fz [mm/Z]	0.2		0.5							
			finitura - finishing : fz = 0,1 - 0,3									
	XQOG0830R	ap [mm]	4,0	12,0								
		fz [mm/Z]	0.2	0.5								
			finitura - finishing : fz = 0,1 - 0,3									
	XQOG1035R	ap [mm]		17		22						
		fz [mm/Z]		0.2		0,5						
	XQOG1342R	ap [mm]			17		28					
		fz [mm/Z]			0.2		0,5					
	XQOG1651R	ap [mm]			20		32					
		fz [mm/Z]			0.2		0,5					
	XPM... 09T3...	ap [mm]			0.2	2,0	4.0					
	XPM...0903....	fz [mm/Z]			0.4	0,8	0,9					

Inserti - Parametri di taglio ap e fz

Valori guida per profondità di taglio ap e avanzamento per dente fz ae = 0,6-0,7 x D
(I valori indicati sono valori standard e potrebbero dover essere adattati alla macchina - Sistema di bloccaggio del pezzo).

Cod . Inserti		Diam	12	16	20	25	32	42	52	66	80	100
	HD S	ap [mm]	0.1		0,2		1,0					
		fz [mm/Z]	0.2		0,25		0,8					
			finitura - finishing : fz = 0,1 - 0,3									
	HC HC SF	ap [mm]	0.1		0,3		1.5					
		fz [mm/Z]	0.2		0,25		0.7					
			finitura - finishing : fz = 0,1 - 0,3									
	07... 029.....	ap [mm]	0.3		0,5		0,8					
		fz [mm/Z]	0.1		0,2		0.7					
			finitura - finishing : fz = 0,1 - 0,3									
	09... 029.....	ap [mm]	0.2		0,5		3,0					
		fz [mm/Z]	0.2		0,4		0.7					
			finitura - finishing : fz = 0,1 - 0,3									
	11 08 029.....	ap [mm]		0.2		0,5		5,0				
		fz [mm/Z]		0.2		0,8		1,5				
				finitura - finishing : fz = 0,1 - 0,3								
	16 08 029.....	ap [mm]		0.2		0,5		5,0				
		fz [mm/Z]		0.2		0,8		1,5				
				finitura - finishing : fz = 0,1 - 0,3								
	22 30 029.....	ap [mm]		0.5		3,0						10
		fz [mm/Z]		0.2		0,8						1,5
				finitura - finishing : fz = 0,1 - 0,3								
	SGMT 1003..	ap [mm]	0.1	3,0								
		fz [mm/Z]	0.21	0,25								
	XCMX 16...	ap [mm]	4,0		12							
		fz [mm/Z]	0.2		0.5							
			finitura - finishing : fz = 0,1 - 0,3									
	XQOG0830R	ap [mm]	4,0	12,0								
		fz [mm/Z]	0.2	0.5								
			finitura - finishing : fz = 0,1 - 0,3									
	XQOG1035R	ap [mm]		17		22						
		fz [mm/Z]		0.2		0,5						
	XQOG1342R	ap [mm]			17		28					
		fz [mm/Z]			0.2		0,5					
	XQOG1651R	ap [mm]			20		32					
		fz [mm/Z]			0.2		0,5					
	XPM... 09T3...	ap [mm]				0.2	2,0	4.0				
	XPM...0903....	fz [mm/Z]				0.4	0,8	0,9				

ap = profondità di passata - axial depth of cut
ae = passata laterale - radial deph, step over
Vt = velocità di taglio - cutting speed
av = avanzamento mm/min - feed mm/min
n = numero di giri - spindle speed,revolution number
D = diametro utensile - diameter of mill
Co = fattore di correzione - correction factor
Fz = avanzammento per dente - feed per tooth
Pw = cavalli necessari teorici - power requirement in Kw

revolution number
numero di giri

$$n = \frac{Vt \times 1000}{\pi \times D}$$

cutting speed
velocità di taglio

$$Vt = \frac{\pi \times D \times n}{1000}$$

feed mm/min
avanzamento

$$av = Fz \times n \times z$$

Vt roughing with correction factor
Vt in sgrossatura con fattore di correzione

$$= Vt \times Co \times Fz \times z$$

Vt finishing with correction factor
Vt in finitura con fattore di correzione

$$= Vt \times Co \times Fz \times z$$

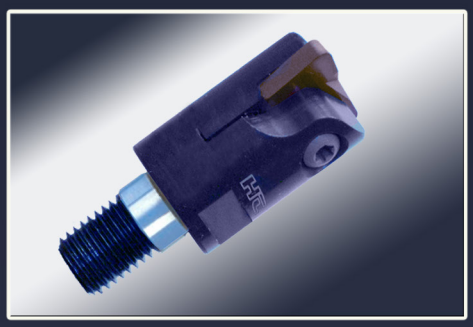
Calculation of chip volume in cm /min
calcolo del volume di truciolo in cm/ min

$$= \frac{ae \times ap \times av}{1000}$$

calculation power requirement in Kw
calcolo teorico Kw necessari

$$Pw = \frac{ae \times ap \times av}{18000}$$

HT Hiper System



HT Hiper Tools

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