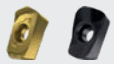
FRESATURA AD ALTO AVANZAMENTO

SPIANATURA

	SBN10	SSN11				
	20°	18°				
	APMX (mm) 1.0	APMX (mm) 1.7				
	DCX (mm) 16 – 66	DCX (mm) 32 – 125				
Codolo cilindrico	 DCX = 16 – 35 (mm)	 DCX = 32, 35 (mm)				
Weldon						
Modulare	 DCX = 16 – 40 (mm)	 DCX = 32 – 40 (mm)				
Fresa a manicotto	 DCX = 40 – 66 (mm)	 DCX = 40 – 125 (mm)				
Pagina	252	258				
ISO	P M K S H	P M K S H				
Forma dell'inserto						
Inserti	BNGX 10T3 ANHX 10T3	SNGX 1104				
N. di taglienti	4 / 2	8				
Spianatura	■	■				
Interpolazione elicoidale	■	◪				
Fresatura di spallamento superficiale	■	■				
Fresatura a tuffo	■	■				
Fresatura a tuffo progressiva	■	◪				
Rampa	■	◪				
Fresatura di superfici sagomate (fresatura a copiare)	■	■				
Cave poco profonde	◪	◪				

■ Uso primario ◪ Uso possibile

SBN10

P M K S H

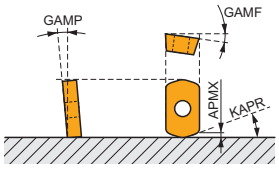
PRAMET

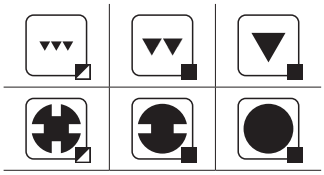
S

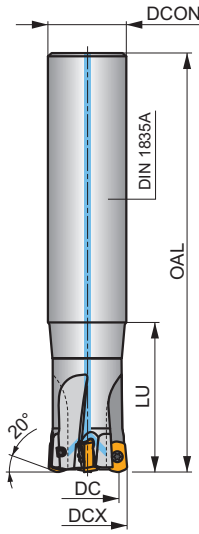
Fresa ad alto avanzamento per inserti BN..10, con refrigerante interno.

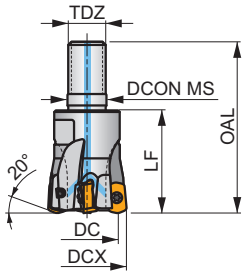
Fresa ad alto avanzamento con piccoli diametri che utilizza inserti bilaterali BNGX 10 con quattro taglienti e APMX di 1 mm. Refrigerante interno. Adatta per un'ampia gamma di applicazioni. Disponibile con codolo cilindrico, modulare ed a manicotto. Corpo trattato per una maggiore durata dell'utensile.

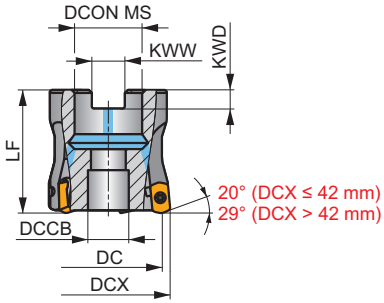
KAPR	20° (29°)
APMX	1.0 mm











h_m	0.17 - 0.41
h_m	0.17 - 0.41

	Codice prodotto	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	KAPR (°)	GAMF (°)	GAMP (°)			max.		kg		
	16E2R030A16-SBN10-C	16	9.4	100	16	–	30	–	–	–	–	20	-12	-10	2	✓	31100	✓	0.13	GI329	C0310
	16E2R050A16-SBN10-C	16	9.4	150	16	–	50	–	–	–	–	20	-12	-10	2	–	31100	✓	0.18	GI329	C0310
	16E2R030A14-SBN10-C	16	9.4	150	14	–	30	–	–	–	–	20	-12	-10	2	–	31100	✓	0.18	GI329	C0310
	18E2R030A16-SBN10-C	18	11.4	150	16	–	30	–	–	–	–	20	-11	-10	2	–	29200	✓	0.23	GI329	C0310
	20E3R040A20-SBN10-C	20	13.4	130	20	–	40	–	–	–	–	20	-10	-10	3	–	27700	✓	0.25	GI329	C0310
	20E3R080A20-SBN10-C	20	13.4	160	20	–	80	–	–	–	–	20	-10	-10	3	–	27700	✓	0.29	GI329	C0310
	20E3R040A18-SBN10-C	20	13.4	180	18	–	40	–	–	–	–	20	-10	-10	3	–	27700	✓	0.29	GI329	C0310
	20E4R040A20-SBN10-C	20	13.4	130	20	–	40	–	–	–	–	20	-10	-10	4	–	27700	✓	0.28	GI329	C0310
DIN 1835A	**25E4R050A25-SBN10-C**	25	18.4	140	25	–	50	–	–	–	–	20	-9	-10	4	✓	24800	✓	0.42	GI329	C0310
	25E4R100A25-SBN10-C	25	18.4	180	25	–	100	–	–	–	–	20	-9	-10	4	✓	24800	✓	0.51	GI329	C0310
	25E4R050A22-SBN10-C	25	18.4	220	22	–	50	–	–	–	–	20	-9	-10	4	✓	24800	✓	0.58	GI329	C0310
	25E5R050A25-SBN10-C	25	18.4	140	25	–	50	–	–	–	–	20	-9	-10	5	–	24800	✓	0.42	GI329	C0310
	32E5R070A32-SBN10-C	32	25.4	150	32	–	70	–	–	–	–	20	-8	-10	5	✓	21900	✓	0.73	GI329	C0310
	32E6R070A32-SBN10-C	32	25.4	150	32	–	70	–	–	–	–	20	-8	-10	6	✓	21900	✓	0.76	GI329	C0310
	32E5R120A32-SBN10-C	32	25.4	200	32	–	120	–	–	–	–	20	-8	-10	5	✓	21900	✓	0.96	GI329	C0310
	35E5R050A32-SBN10-C	35	28.4	200	32	–	50	–	–	–	–	20	-7.5	-10	5	✓	21000	✓	1.08	GI329	C0310
	35E6R050A32-SBN10-C	35	28.4	200	32	–	50	–	–	–	–	20	-7.5	-10	6	✓	21000	✓	1.08	GI329	C0310
	16E2R025M08-SBN10-C	16	9.4	43	8.5	–	–	25	M8	–	–	20	-12	-10	2	–	31100	✓	0.05	GI329	C0310
	18E2R025M08-SBN10-C	18	11.4	43	8.5	–	–	25	M8	–	–	20	-11	-10	2	–	29200	✓	0.05	GI329	C0310
	20E3R030M10-SBN10-C	20	13.4	49	10.5	–	–	30	M10	–	–	20	-10	-10	3	–	27700	✓	0.07	GI329	C0310
	20E4R030M10-SBN10-C	20	13.4	49	10.5	–	–	30	M10	–	–	20	-10	-10	4	–	27700	✓	0.06	GI329	C0310
MODULAR	**25E4R033M12-SBN10-C**	25	18.4	55	12.5	–	–	33	M12	–	–	20	-9	-10	4	✓	24800	✓	0.08	GI329	C0310
	25E5R033M12-SBN10-C	25	18.4	55	12.5	–	–	33	M12	–	–	20	-9	-10	5	–	24800	✓	0.10	GI329	C0310
	28E5R035M12-SBN10-C	28	21.4	57	12.5	–	–	35	M12	–	–	20	-8.5	-10	5	✓	23400	✓	0.12	GI329	C0310
	32E5R040M16-SBN10-C	32	25.4	63	17	–	–	40	M16	–	–	20	-8	-10	5	✓	21900	✓	0.21	GI329	C0310
	32E6R040M16-SBN10-C	32	25.4	63	17	–	–	40	M16	–	–	20	-8	-10	6	✓	21900	✓	0.21	GI329	C0310
	35E6R043M16-SBN10-C	35	28.4	66	17	–	–	43	M16	–	–	20	-7.5	-10	6	✓	21000	✓	0.23	GI329	C0310

	Codice prodotto	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	KAPR (°)	GAMF (°)	GAMP (°)			max.		kg		
MODULAR	**40E6R043M16-SBN10-C**	40	33.4	66	17	–	–	43	M16	–	–	20	-7	-10	6	✓	19600	✓	0.27	GI329	C0310
MODULAR	**40E7R043M16-SBN10-C**	40	33.4	66	17	–	–	43	M16	–	–	20	-7	-10	7	✓	19600	✓	0.26	GI329	C0310
	40A05R-SMOBN10-C	40	33.4	–	16	14.1	–	40	–	8.4	5.6	20	-7	-10	5	✓	19600	✓	0.23	GI329	C0312
	40A07R-SMOBN10-C	40	33.4	–	16	14.1	–	40	–	8.4	5.6	20	-7	-10	7	✓	19600	✓	0.27	GI329	C0312
	42A05R-SMOBN10-C	42	35.4	–	16	14.1	–	40	–	8.4	5.6	20	-7	-10	5	✓	19100	✓	0.23	GI329	C0312
	42A07R-SMOBN10-C	42	35.4	–	16	14.1	–	40	–	8.4	5.6	20	-7	-10	7	✓	19100	✓	0.36	GI329	C0312
ISO 6462 DIN 8030	**50A07R-SMOBN10-C**	50	45	–	22	18.1	–	40	–	10.4	6.3	29	-6	-7	7	✓	17500	✓	0.46	GI343	C0311
ISO 6462 DIN 8030	**50A08R-SMOBN10-C**	50	45	–	22	18.1	–	40	–	10.4	6.3	29	-6	-7	8	✓	17500	✓	0.34	GI343	C0311
ISO 6462 DIN 8030	**52A07R-SMOBN10-C**	52	47	–	22	18.1	–	40	–	10.4	6.3	29	-6	-7	7	✓	17200	✓	0.49	GI343	C0311
ISO 6462 DIN 8030	**52A08R-SMOBN10-C**	52	47	–	22	18.1	–	40	–	10.4	6.3	29	-6	-7	8	✓	17200	✓	0.37	GI343	C0311
ISO 6462 DIN 8030	**66A08R-SMOBN10-C**	66	61	–	27	22.1	–	50	–	12.4	7	29	-6	-7	8	✓	15200	✓	0.89	GI343	C0313

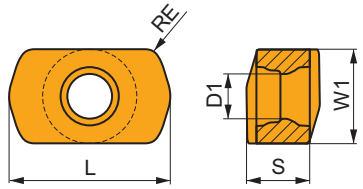
GI329	BNGX 10T3…	ANHX 10T3..
GI343	BNGX 10T3…	–

		Nm						
C0310	US 42507-T07P	1.2	M 2.5	7	Flag T07P	–	–	–
C0313	US 42507-T07P	1.2	M 2.5	7	–	D-T07P/T09P	FG-15	HS 1230C
C0312	US 42507-T07P	1.2	M 2.5	7	–	D-T07P/T09P	FG-15	HS 0830C
C0311	US 42507-T07P	1.2	M 2.5	7	–	D-T07P/T09P	FG-15	HS 1030C

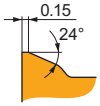
BNGX 10

PRAMET

	W1 (mm)	D1 (mm)	L (mm)	S (mm)
10T3	5.800	2.76	9.92	3.90

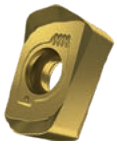
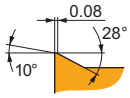
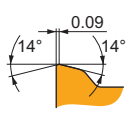


Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

Codice prodotto	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
																			
BNGX 10T308SR-M:8215	0.8	240	0.65	0.7	–	–	–	225	0.65	0.7	–	–	–	–	–	–	45	0.36	0.5
BNGX 10T308SR-M:M6330	0.8	210	0.65	0.7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BNGX 10T308SR-M:M8310	0.8	250	0.65	0.7	–	–	–	235	0.65	0.7	–	–	–	–	–	–	50	0.36	0.5
BNGX 10T308SR-M:M8330	0.8	240	0.65	0.7	–	–	–	225	0.65	0.7	–	–	–	–	–	–	45	0.36	0.5
BNGX 10T308SR-M:M8340	0.8	225	0.65	0.7	–	–	–	210	0.65	0.7	–	–	–	–	–	–	–	–	–
BNGX 10T308SR-M:M8345	0.8	180	0.65	0.7	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BNGX 10T308SR-M:M9325	0.8	275	0.65	0.7	–	–	–	260	0.65	0.7	–	–	–	–	–	–	55	0.36	0.5

M geometria con design positivo per lavorazioni ad alto avanzamento.

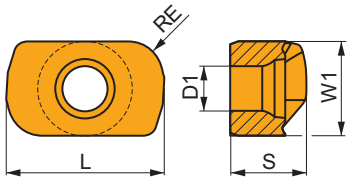
Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

Codice prodotto	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
 																			
MM geometria con design altamente positivo per lavorazioni ad alto avanzamento.																			
BNGX 10T308SR-MM:M6330	0.8	215	0.65	0.6	150	0.59	0.6	–	–	–	–	–	–	60	0.46	0.5	–	–	–
BNGX 10T308SR-MM:M8310	0.8	255	0.65	0.6	130	0.59	0.6	–	–	–	–	–	–	–	–	–	–	–	–
BNGX 10T308SR-MM:M8330	0.8	245	0.65	0.6	145	0.59	0.6	–	–	–	–	–	–	60	0.46	0.5	–	–	–
BNGX 10T308SR-MM:M8340	0.8	230	0.65	0.6	135	0.59	0.6	–	–	–	–	–	–	55	0.46	0.5	–	–	–
BNGX 10T308SR-MM:M8345	0.8	180	0.65	0.6	105	0.59	0.6	–	–	–	–	–	–	45	0.46	0.5	–	–	–
BNGX 10T308SR-MM:M9325	0.8	280	0.65	0.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
BNGX 10T308SR-MM:M9340	0.8	250	0.65	0.6	150	0.59	0.6	–	–	–	–	–	–	60	0.46	0.5	–	–	–
 																			
HM geometria con design robusto per lavorazioni ad alto avanzamento.																			
BNGX 10T308SR-HM:8215	0.8	–	–	–	–	–	–	240	0.65	0.4	–	–	–	–	–	–	50	0.65	0.4
BNGX 10T308SR-HM:M8310	0.8	–	–	–	–	–	–	250	0.65	0.4	–	–	–	–	–	–	50	0.65	0.4
BNGX 10T308SR-HM:M8330	0.8	–	–	–	–	–	–	240	0.65	0.4	–	–	–	–	–	–	50	0.65	0.4

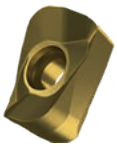
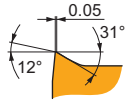
ANHX 10

PRAMET

	W1 (mm)	D1 (mm)	L (mm)	S (mm)
10T3	5.800	2.76	9.72	4.70



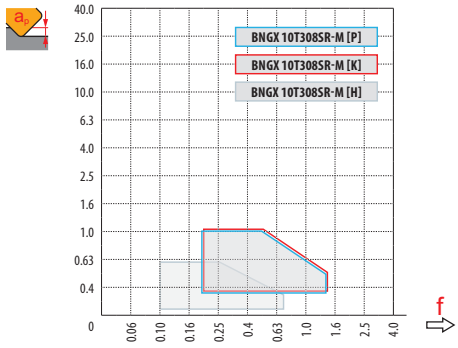
Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

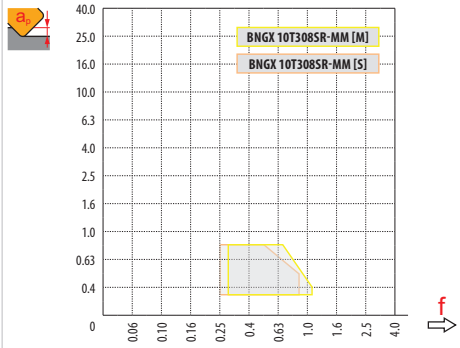
Codice prodotto	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
 																			
F geometria con design positivo per lavorazioni di finitura e semi finitura.																			
ANHX 10T320SR-F:M8310	2.0	380	0.10	2.5	190	0.09	2.5	–	–	–	–	–	–	–	–	–	–	–	–
ANHX 10T320SR-F:M8330	2.0	340	0.10	2.5	200	0.09	2.5	–	–	–	–	–	–	–	–	–	–	–	–

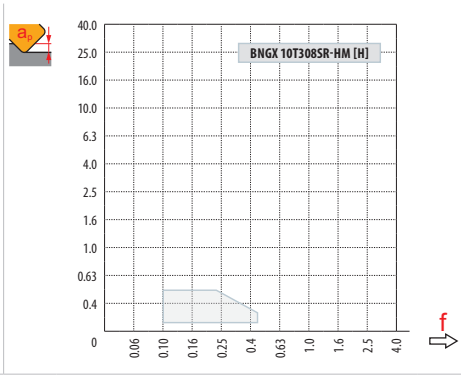
a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
X.V	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
x.f	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
x.f	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

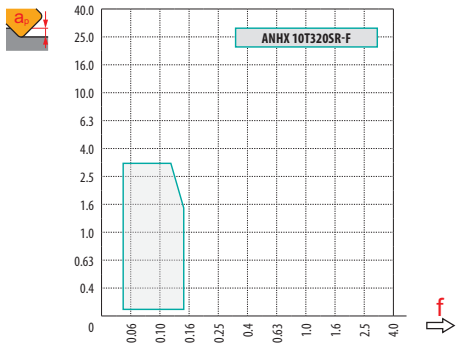
	BNGX 10-M	BNGX 10-MM	BNGX 10-HM
RE	0.8	0.8	0.8
BS	–	–	–

	ANHX 10 - F
RE	2.0
BS	0.92









BNGX 10 (HFC)

DCX	a_p	0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
16		9.40	12.85	13.36	13.80	14.20	14.56	14.88	15.19	15.47
18		11.40	14.85	15.36	15.80	16.20	16.56	16.88	17.19	17.47
20		13.40	16.85	17.36	17.80	18.20	18.56	18.88	19.19	19.47
25		18.40	21.85	22.36	22.80	23.20	23.56	23.88	24.19	24.47
32	DEF	25.40	28.85	29.36	29.80	30.20	30.56	30.88	31.19	31.47
35		28.40	31.85	32.36	32.80	33.20	33.56	33.88	34.19	34.47
40		33.40	36.85	37.36	37.80	38.20	38.56	38.88	39.19	39.47
42		35.40	38.85	39.36	39.80	40.20	40.56	40.88	41.19	41.47
50		43.98	46.09	46.45	46.82	47.18	47.54	47.90	48.26	48.56
52		45.98	48.09	48.45	48.82	49.18	49.54	49.90	50.26	50.56
66		59.98	62.09	62.45	62.82	63.18	63.54	63.90	64.26	64.56
	a_p	**0.00**	**0.30**	**0.40**	**0.50**	**0.60**	**0.70**	**0.80**	**0.90**	**1.00**
	f	–	1.30	1.10	0.90	0.80	0.72	0.68	0.65	0.50

BNGX 10

DCX	a_{emax}	f_{max}
16	3.5	0.12
18	3.5	0.12
20	4.0	0.15
25	4.0	0.15
32	4.0	0.17
35	4.0	0.17
40	4.0	0.17
42	4.0	0.17
50	4.5	0.30
52	4.5	0.30
66	4.5	0.30

BNGX 10 (HFC)

a_p	0.3	0.6	1.0
f	1.10	0.60	0.30

BNGX 10 (HFC) / ANHX 10

DCX	BNGX 10 (HFC) RPMX	BNGX 10 (HFC) APMX/I	ANHX 10 RPMX	ANHX 10 APMX/I
16	3.8	1/17	1.6°	2.65/100
18	3.8	1/17	1.3°	2.15/100
20	3.8	1/17	1.1°	1.80/100
25	2.6	1/24	0.8°	1.25/100
32	1.8	1/33	0.5°	0.75/100
35	1.6	1/37	0.5°	0.75/100
40	1.3	1/46	0.4°	0.55/100
42	1.3	1/46	0.4°	0.55/100
50	0.4	0.55/100	–	–
52	0.4	0.55/100	–	–
66	0.3	0.4/100	–	–

BNGX 10 (HFC)

DCX	a_p	f_{max}
16	0.4	0.15
18	0.7	0.15
20	0.7	0.15
25	0.7	0.15
32	0.7	0.2
35	0.7	0.2
40	0.7	0.2
42	0.7	0.2
50	0.3	0.2
52	0.3	0.2
66	0.3	0.2

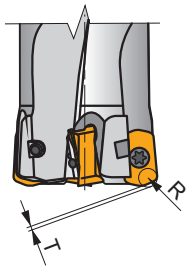
BNGX 10 (HFC)

DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
16	22.4	31.8	0.5	0.5
18	25.4	35.8	0.5	0.5
20	29.4	39.8	0.5	0.5
25	39.4	49.8	0.5	0.5
32	53.4	63.8	0.5	0.5
35	59.4	69.8	0.5	0.5
40	69.4	79.8	0.5	0.5
42	73.4	83.8	0.5	0.5
50	89.6	99.6	0.5	0.5
52	93.6	103.6	0.5	0.5
66	121.6	131.6	0.5	0.5

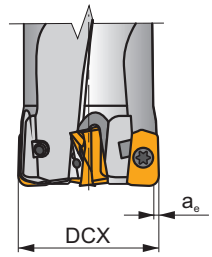
DCX	µm	3	5	10	15	20	30	40	50	60	80	100
16	FE	0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
18		0.465	0.600	0.849	1.039	1.200	1.470	1.697	1.897	2.078	2.400	2.683
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
35		0.648	0.837	1.183	1.449	1.673	2.049	2.366	2.646	2.898	3.347	3.742
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
42		0.710	0.917	1.296	1.587	1.833	2.245	2.592	2.898	3.175	3.666	4.099

ANHX 10

RE	µm	3	5	10	15	20	30	40	50	60	80	100
2.0	FE	0.219	0.283	0.400	0.490	0.566	0.693	0.800	0.894	0.980	1.131	1.265



	R	T
BNGX 10T308	1.60	0.44



	max a_e/DCX
ANHX 10T320	0.05

SSN11

P M K S H

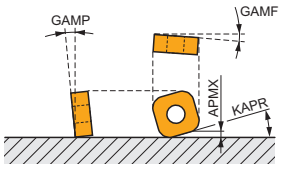
PRAMET

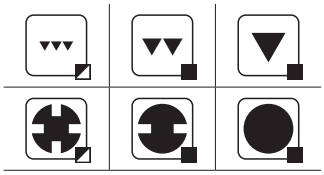
S

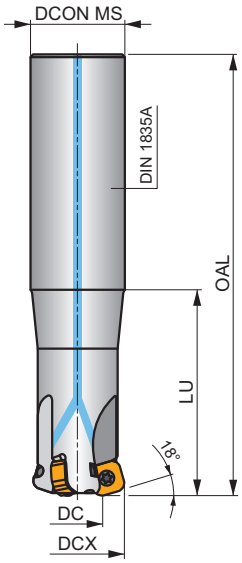
Fresa ad alto avanzamento per inserti SN.. 11 con refrigerante interno .

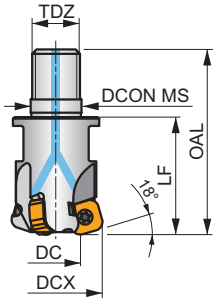
Fresa ad alto avanzamento con diametri maggiori che utilizza inserti bilaterali SNGX 11 con otto taglienti e con APMX di 1.7 mm. Refrigerante interno. Adatta per una vasta gamma di applicazioni. Disponibile con attacco cilindrico, modulare ed a manicotto. Corpo trattato per una maggiore durata dell'utensile.

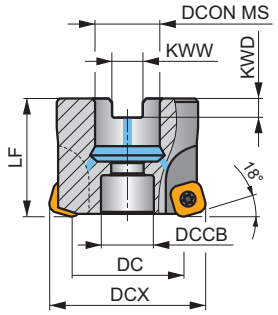
KAPR	18°
APMX	1.7 mm











h_m	0.20 - 0.46
h_m	0.20 - 0.46

	Codice prodotto	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)			max.		kg			
DIN 1835A	**32E3R070A32-SSN11-C**	32	18.3	150	32	–	70	–	–	–	–	-11.5	-10	3	–	17500	✓	0.69	GI339	C0314	–
	32E3R120A32-SSN11-C	32	18.3	200	32	–	120	–	–	–	–	-11.5	-10	3	–	17500	✓	0.89	GI339	C0314	–
	35E3R050A32-SSN11-C	35	21.2	200	32	–	50	–	–	–	–	-11	-10	3	–	16800	✓	1.08	GI339	C0314	–
MODULAR	**32E3R040M16-SSN11-C**	32	18.3	63	17	–	–	40	M16	–	–	-11.5	-10	3	–	17500	✓	0.19	GI339	C0314	–
	35E3R040M16-SSN11-C	35	21.2	63	17	–	–	40	M16	–	–	-11	-10	3	–	16800	✓	0.19	GI339	C0314	–
	40E4R043M16-SSN11-C	40	26.2	66	17	–	–	43	M16	–	–	-10.5	-10	4	✓	15700	✓	0.26	GI339	C0314	–
ISO 6462 DIN 8030	**40A04R-SMOSN11-C**	40	26.2	–	16	12.4	–	40	–	8.4	5.6	-10.5	-10	4	✓	15700	✓	0.19	GI339	C0316	–
	42A04R-SMOSN11-C	42	28.2	–	16	14.1	–	40	–	8.4	5.6	-10.5	-10	4	✓	15300	✓	0.21	GI339	C0318	–
	50A05R-SMOSN11-C	50	36.1	–	22	18.1	–	40	–	10.4	6.3	-10	-10	5	✓	14000	✓	0.31	GI339	C0320	–
	50A06R-SMOSN11-C	50	36.1	–	22	18.1	–	40	–	10.4	6.3	-10	-10	6	✓	14000	✓	0.43	GI339	C0320	–
	52A05R-SMOSN11-C	52	38.1	–	22	18.1	–	40	–	10.4	6.3	-10	-10	5	✓	13800	✓	0.47	GI339	C0320	–
	52A06R-SMOSN11-C	52	38.1	–	22	18.1	–	40	–	10.4	6.3	-10	-10	6	✓	13800	✓	0.46	GI339	C0320	–
	63A06R-SMOSN11-C	63	49.1	–	22	18.1	–	40	–	10.4	6.3	-10	-10	6	✓	12500	✓	0.46	GI339	C0320	–
	63A08R-SMOSN11-C	63	49.1	–	22	18.1	–	40	–	10.4	6.3	-10	-10	8	✓	12500	✓	0.60	GI339	C0320	–
	66A06R-SMOSN11-C	66	52.1	–	27	18.1	–	50	–	12.4	7	-10	-10	6	✓	12200	✓	0.88	GI339	C0322	–
	66A08R-SMOSN11-C	66	52.1	–	27	18.1	–	50	–	12.4	7	-10	-10	8	✓	12200	✓	0.88	GI339	C0322	–
	80A07R-SMOSN11-C	80	66.1	–	27	38.1	–	50	–	12.4	7	-10	-10	7	✓	11100	✓	0.95	GI339	C0324	AC001
	80A09R-SMOSN11-C	80	66.1	–	27	38.1	–	50	–	12.4	7	-10	-10	9	✓	11100	✓	1.03	GI339	C0324	AC001
	100A08R-SMOSN11-C	100	86.1	–	32	45.1	–	50	–	14.4	8	-10	-10	8	✓	9900	✓	1.83	GI339	C0324	AC002
	115A08R-SMOSN11-C	115	101.1	–	32	45.1	–	50	–	14.4	8	-10	-10	8	✓	9200	✓	2.30	GI339	C0324	AC002
	125A08R-SMOSN11-C	125	111.1	–	40	56.1	–	63	–	16.4	9	-10	-10	8	✓	8900	✓	3.34	GI339	C0324	AC003

GI339	SNGX 1104..

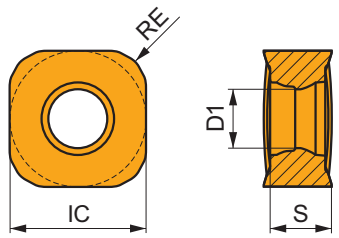
		Nm						
C0314	US 44012-T15P	3.5	M 4	12	–	–	Flag T15P	–
C0316	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	HCS 0840C
C0318	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	HS 90835
C0320	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	HS 1030C
C0322	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	HS 1230C
C0324	US 44012-T15P	3.5	M 4	12	D-T08P/T15P	FG-15	–	–

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

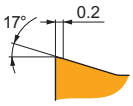
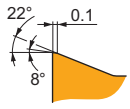
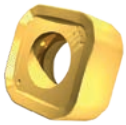
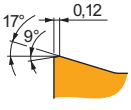
SNGX 11

PRAMET

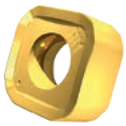
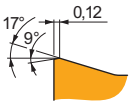
	IC (mm)	D1 (mm)	S (mm)
1104	10.600	4.56	4.76



Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

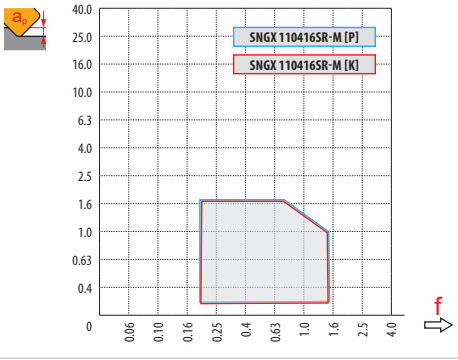
Codice prodotto	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
		**M** geometria con tagliente positivo per lavorazioni ad alto avanzamento.																	
SNGX 110416SR-M:8215	1.6	260	0.60	1.0	–	–	–	245	0.60	1.0	–	–	–	–	–	–	–	–	–
SNGX 110416SR-M:M8310	1.6	275	0.60	1.0	–	–	–	260	0.60	1.0	–	–	–	–	–	–	–	–	–
SNGX 110416SR-M:M8330	1.6	260	0.60	1.0	–	–	–	245	0.60	1.0	–	–	–	–	–	–	–	–	–
SNGX 110416SR-M:M8340	1.6	245	0.60	1.0	–	–	–	230	0.60	1.0	–	–	–	–	–	–	–	–	–
SNGX 110416SR-M:M9325	1.6	305	0.60	1.0	–	–	–	285	0.60	1.0	–	–	–	–	–	–	–	–	–
SNGX 110416SR-M:M9340	1.6	270	0.60	1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
		**MM** geometria con tagliente altamente positivo per lavorazioni ad alto avanzamento.																	
SNGX 110416SR-MM:M6330	1.6	175	0.60	1.0	125	0.54	1.0	–	–	–	–	–	–	50	0.42	0.8	–	–	–
SNGX 110416SR-MM:M8340	1.6	190	0.60	1.0	110	0.54	1.0	–	–	–	–	–	–	45	0.42	0.8	–	–	–
SNGX 110416SR-MM:M8345	1.6	150	0.60	1.0	90	0.54	1.0	–	–	–	–	–	–	35	0.42	0.8	–	–	–
SNGX 110416SR-MM:M9340	1.6	210	0.60	1.0	125	0.54	1.0	–	–	–	–	–	–	50	0.42	0.8	–	–	–
		**HM** geometria dal tagliente robusto per lavorazioni ad alto avanzamento.																	
SNGX 110416SR-HM:8215	1.6	230	1.00	1.0	–	–	–	215	1.00	1.0	–	–	–	–	–	–	45	0.70	0.7
SNGX 110416SR-HM:M8310	1.6	240	1.00	1.0	–	–	–	225	1.00	1.0	–	–	–	–	–	–	45	0.70	0.7

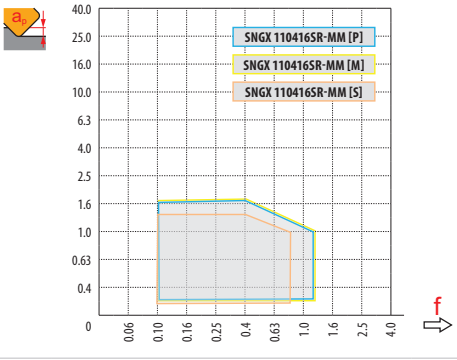
Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

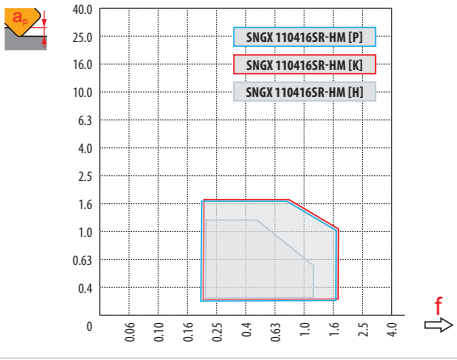
Codice prodotto	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
 																			
HM geometria dal tagliente robusto per lavorazioni ad alto avanzamento.																			
SNGX 110416SR-HM:M8330	1.6	235	1.00	1.0	–	–	–	220	1.00	1.0	–	–	–	–	–	–	45	0.70	0.7
SNGX 110416SR-HM:M9325	1.6	260	1.00	1.0	–	–	–	245	1.00	1.0	–	–	–	–	–	–	50	0.70	0.7

a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
X.V	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
x.f	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
x.f	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	SNGX 11 - M	SNGX 11 - MM	SNGX 11 - HM
RE	1.6	1.6	1.6
BS	–	–	–







		HFC												
DCX	a_p	0.00	0.20	0.40	0.60	0.80	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70
32		18.30	19.53	20.76	21.99	23.22	24.46	25.07	25.69	26.30	26.92	27.53	28.15	28.76
35		21.20	22.43	23.66	24.89	26.12	27.36	27.97	28.59	29.20	29.82	30.43	31.05	31.66
40		26.20	27.43	28.66	29.89	31.12	32.36	32.97	33.59	34.20	34.82	35.43	36.05	36.66
42		28.20	29.43	30.66	31.89	33.12	34.36	34.97	35.59	36.20	36.82	37.43	38.05	38.66
50		36.10	37.33	38.56	39.79	41.02	42.26	42.87	43.49	44.10	44.72	45.33	45.95	46.56
52	DEF	38.10	39.33	40.56	41.79	43.02	44.26	44.87	45.49	46.10	46.72	47.33	47.95	48.56
63		49.10	50.33	51.56	52.79	54.02	55.26	55.87	56.49	57.10	57.72	58.33	58.95	59.56
66		52.10	53.33	54.56	55.79	57.02	58.26	58.87	59.49	60.10	60.72	61.33	61.95	62.56
80		66.10	67.33	68.56	69.79	71.02	72.26	72.87	73.49	74.10	74.72	75.33	75.95	76.56
100		86.10	87.33	88.56	89.79	91.02	92.26	92.87	93.49	94.10	94.72	95.33	95.95	96.56
115		101.10	102.33	103.56	104.79	106.02	107.26	107.87	108.49	109.10	109.72	110.33	110.95	111.56
125		111.10	112.33	113.56	114.79	116.02	117.26	117.87	118.49	119.10	119.72	120.33	120.95	121.56
	a_p	–	0.20	0.40	0.60	0.80	1.00	1.10	1.20	1.30	1.40	1.50	1.60	1.70
	f	–	1.37	0.98	0.81	0.71	0.64	0.62	0.59	0.58	0.56	0.54	0.53	0.52

SNGX		
DCX	a_{emax}	f_{max}
32	5.0	0.25
35	5.0	0.25
40	5.2	0.30
42	5.2	0.30
50	5.3	0.30
52	5.3	0.30
63	5.4	0.30
66	5.4	0.30
80	5.5	0.35
100	5.5	0.35
115	5.5	0.35
125	5.5	0.35

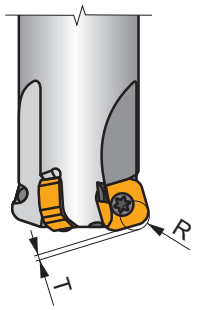
SNGX (HFC)		
DCX	RPMX	APMX/I
32	0.8	1.4/100
35	0.8	1.4/100
40	0.7	1.2/100
42	0.7	1.2/100
50	0.5	0.9/100
52	0.5	0.9/100
63	0.4	0.7/100
66	0.4	0.7/100
80	0.3	0.5/100
100	0.2	0.3/100
115	0.2	0.3/100
125	0.2	0.3/100

SNGX (HFC)		
DCX	a_p	f_{max}
32	0.2	0.3
35	0.2	0.3
40	0.2	0.3
42	0.2	0.3
50	0.3	0.4
52	0.3	0.4
63	0.3	0.4
66	0.3	0.4
80	0.3	0.4
100	0.3	0.4
115	0.3	0.4
125	0.3	0.4

DCX	µm	3	5	10	15	20	30	40	50	60	80	100
32	FE	0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
35		0.648	0.837	1.183	1.449	1.673	2.049	2.366	2.646	2.898	3.347	3.742
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
42		0.710	0.917	1.296	1.587	1.833	2.245	2.592	2.898	3.175	3.666	4.099
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
52		0.790	1.020	1.442	1.766	2.040	2.498	2.884	3.225	3.533	4.079	4.561
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
66		0.890	1.149	1.625	1.990	2.298	2.814	3.250	3.633	3.980	4.596	5.138
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657
100		1.095	1.414	2.000	2.449	2.828	3.464	4.000	4.472	4.899	5.657	6.325
115		1.175	1.517	2.145	2.627	3.033	3.715	4.290	4.796	5.254	6.066	6.782
125		1.225	1.581	2.236	2.739	3.162	3.873	4.472	5.000	5.477	6.325	7.071

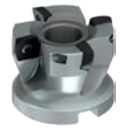
	SNGX			
a_p	0.2	0.5	1.0	1.7
1 f	1.20	1.00	0.50	0.25

SNGX (HFC)				
DCX	DMIN	DMAX	SMAX / DMIN	SMAX / DMAX
32	48.0	63.8	0.7	1.4
35	54.0	69.8	0.8	1.5
40	64.0	79.8	0.9	1.5
42	68.0	83.8	1.0	1.6
50	84.0	99.8	0.9	1.4
52	88.0	103.8	1.0	1.4
63	109.0	125.8	1.0	1.4
66	115.0	131.8	1.1	1.4
80	143.0	159.8	1.0	1.3
100	183.0	199.8	0.9	1.1
115	213.0	229.8	1.1	1.3
125	233.0	249.8	1.2	1.4



SNGX	R	T
SNGX 110416	4.6	0.92

SPIANATURA

	SSO12	SPD09	SZD07	SZD09	SZD12
	12°	19°	–	–	–
	APMX (mm) 1.9	APMX (mm) 2.0	APMX (mm) 1.0	APMX (mm) 1.0	APMX (mm) 1.6
	DCX (mm) 35 – 125	DCX (mm) 32 – 140	DCX (mm) 16 – 25	DCX (mm) 25 – 63	DCX (mm) 32 – 80
Codolo cilindrico	 DC = 35, 40 (mm)	 DCX = 32, 40 (mm)	 DCX = 16 – 25 (mm)		
Weldon	 DC = 35, 40 (mm)			 DCX = 25, 32 (mm)	
Modulare				 DCX = 25, 32 (mm)	 DCX = 32, 40 (mm)
Fresa a manicotto	 DC = 42 – 125 (mm)	 DCX = 42 – 140 (mm)		 DCX = 40 – 63 (mm)	 DCX = 50 – 80 (mm)
Pagina	266	270	276	280	284
ISO	P M K N S H	P M K S H	P K H	P K H	P K H
Forma dell'inserto					
Inserti	SOHT 1205	PD.. 0905	ZDCW 0703	ZDCW 09T3	ZDEW 1204
N. di taglienti	4	5	4	4	4
Spianatura	■	■	■	■	■
Interpolazione elicoidale	■	■	◪	◪	◪
Fresatura di spallamento superficiale	■	■	◪	◪	◪
Fresatura a tuffo	■	■	◪	◪	◪
Fresatura a tuffo progressiva	■	■	◪	◪	◪
Rampa	■	■			
Fresatura di superfici sagomate (fresatura a copiare)		◪	◪	◪	◪
Cave poco profonde	■	◪	◪	◪	◪

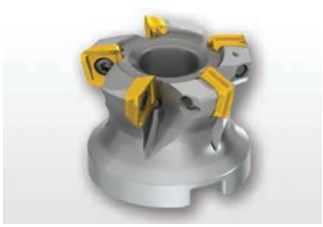
■ Uso primario ◪ Uso possibile

SSO12

P M K S H

PRAMET

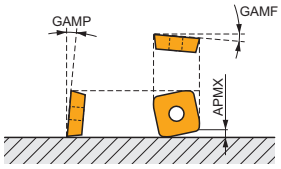
S

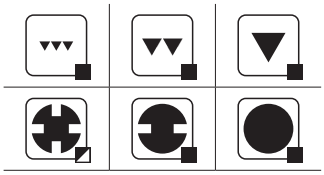


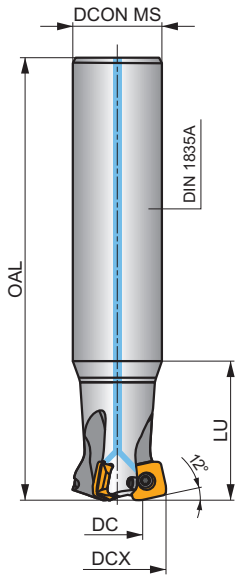
VER SO12 Fresatura ad alto avanzamento con Kapr di 12°con refrigerante interno

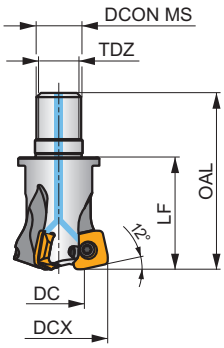
Fresa ad alto avanzamento molto versatile con Kapr di 12° che utilizza inserti positivi di tipo SO... 12 con APMX di 1.9 mm. Adatta ad un'ampia gamma di applicazioni nella maggior parte dei materiali da lavorare . Disponibili in versione cilindrica, modulare ed a manicotto , con passo dei denti differenziato. Fori per il passaggio del refrigerante interno e corpo trattato per una maggiore durata dell'utensile.

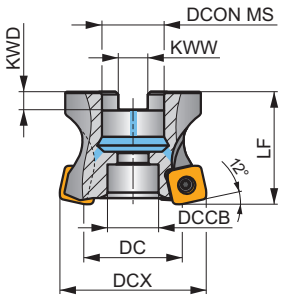
KAPR	12°
APMX	1.9 mm











h_m	0.09-0.93
h_m	0.09-0.93

	Codice prodotto	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)			max.		kg			
DIN 1835A	**35E3R050A32-SSO12-C**	35	17.3	200	32	–	50	–	–	–	–	-5	5	3	–	15700	✓	1.07	GI350	SQ501	–
	35E3R120A32-SSO12-C	35	17.3	200	32	–	120	–	–	–	–	-5	5	3	–	15700	✓	0.95	GI350	SQ501	–
	40E4R120A32-SSO12-C	40	22.3	200	32	–	120	–	–	–	–	-5	5	4	–	14700	✓	1.00	GI350	SQ501	–
MODULAR	**35E3R040M16-SSO12-C**	35	17.3	63	17	–	–	40	M16	–	–	-5	5	3	–	15700	✓	0.15	GI350	SQ501	–
	40E4R043M16-SSO12-C	40	22.3	66	17	–	–	43	M16	–	–	-5	5	4	–	14700	✓	0.18	GI350	SQ501	–
ISO 6462 DIN 8030	**42A04R-SMOSO12-C**	42	24.3	–	16	12.4	–	40	–	8.4	5.6	-5	5	4	–	14300	✓	0.16	GI350	SQ502	–
	50A05R-SMOSO12-C	50	32.3	–	22	18.1	–	40	–	10.4	6.3	-5	5	5	✓	13100	✓	0.23	GI350	SQ503	–
	52A05R-SMOSO12-C	52	34.3	–	22	18.1	–	40	–	10.4	6.3	-5	5	5	✓	12800	✓	0.35	GI350	SQ503	–
	63A06R-SMOSO12-C	63	45.3	–	27	22.1	–	50	–	12.4	7	-5	5	6	✓	11700	✓	0.48	GI350	SQ504	–
	66A06R-SMOSO12-C	66	48.3	–	27	22.1	–	50	–	12.4	7	-5	5	6	✓	11400	✓	0.51	GI350	SQ504	–
	80A07R-SMOSO12-C	80	62.3	–	27	22.1	–	50	–	12.4	7	-5	5	7	✓	10400	✓	0.76	GI350	SQ504	–
	100A08R-SMOSO12-C	100	82.3	–	32	45.1	–	50	–	14.4	8	-5	5	8	✓	9300	✓	1.32	GI350	SQ505	AC002
	125A10R-SMOSO12-C	125	107.3	–	40	56.1	–	63	–	16.4	9	-5	5	10	✓	8300	✓	2.46	GI350	SQ505	AC003

GI350	SOHT 1205..

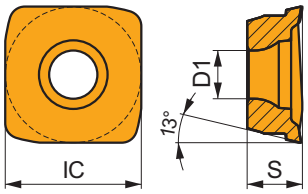
		Nm					
SQ501	US 4011-T15P	3.5	M 4	10.6	FLAG T15P	–	–
SQ502	US 4011-T15P	3.5	M 4	10.6	–	SDR T15P-T	HCS 0840C
SQ503	US 4011-T15P	3.5	M 4	10.6	–	SDR T15P-T	HS 1030C
SQ504	US 4011-T15P	3.5	M 4	10.6	–	SDR T15P-T	HS 1230C
SQ505	US 4011-T15P	3.5	M 4	10.6	–	SDR T15P-T	–

AC002	KS 1635	K.FMH32
AC003	KS 2040	K.FMH40

SOHT 12

PRAMET

	IC (mm)	D1 (mm)	S (mm)
1205	12.700	4.50	5.15



Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

Codice prodotto		RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
			0.20 / 0.12 / 2° / 10° / 5°																	
SOHT 120514SR-M:8215	✱	1.4	■ 215	1.00	1.0	◪ 125	0.90	1.0	■ 200	1.00	1.0	–	–	–	◪ 50	0.70	0.8	■ 40	0.68	0.8
SOHT 120514SR-M:M8310	✱	1.4	■ 225	1.00	1.0	◪ 110	0.90	1.0	■ 210	1.00	1.0	–	–	–	–	–	–	■ 45	0.68	0.8
SOHT 120514SR-M:M8330	✱	1.4	■ 220	1.00	1.0	◪ 130	0.90	1.0	■ 205	1.00	1.0	–	–	–	◪ 55	0.70	0.8	◪ 40	0.68	0.8
SOHT 120514SR-M:M8340	✱	1.4	■ 205	1.00	1.0	◪ 120	0.90	1.0	◪ 190	1.00	1.0	–	–	–	◪ 50	0.70	0.8	–	–	–
SOHT 120514SR-M:M9325	✱	1.4	■ 245	1.00	1.0	–	–	–	■ 230	1.00	1.0	–	–	–	–	–	–	◪ 45	0.68	0.8
SOHT 120514SR-M:M9340	✱	1.4	■ 215	1.00	1.0	◪ 125	0.90	1.0	–	–	–	–	–	–	◪ 50	0.70	0.8	–	–	–

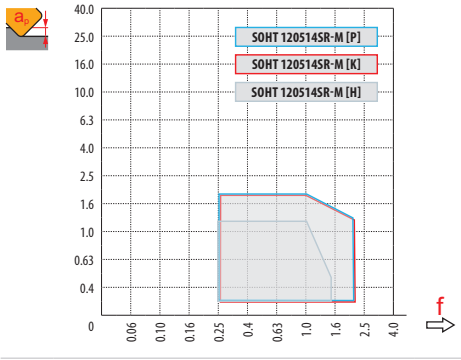
M è versatile per un'ampia gamma di condizioni di lavoro. Progettata con spoglia positiva, T-land medio e arrotondamento del tagliente per una fresatura HFC regolare. La prima scelta per acciai, ghise e acciai temprati.

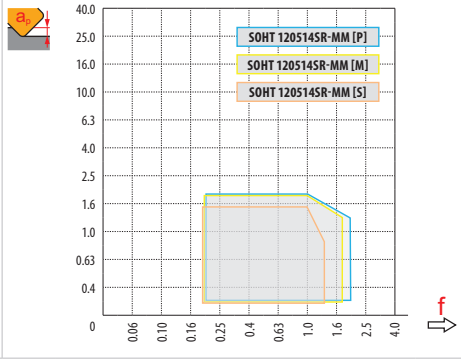
		0.17 / 0.08 / 4° / 12°																		
SOHT 120514SR-MM:M6330	✱	1.4	■ 190	1.00	1.0	■ 135	0.90	1.0	–	–	–	–	–	–	■ 55	0.70	0.8	–	–	–
SOHT 120514SR-MM:M8340	✱	1.4	■ 205	1.00	1.0	■ 120	0.90	1.0	–	–	–	–	–	–	■ 50	0.70	0.8	–	–	–
SOHT 120514SR-MM:M8345	✱	1.4	■ 165	1.00	1.0	■ 95	0.90	1.0	–	–	–	–	–	–	■ 40	0.70	0.8	–	–	–
SOHT 120514SR-MM:M9325	✱	1.4	■ 245	1.00	1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SOHT 120514SR-MM:M9340	✱	1.4	■ 215	1.00	1.0	■ 125	0.90	1.0	–	–	–	–	–	–	■ 50	0.70	0.8	–	–	–

MM geometria è affilata ed adatta ad applicazioni con elevate sporgenze o con pezzi e pareti sottili . Progettata con spoglia positiva, T-land stretto e arrotondamento del tagliente per una fresatura HFC affidabile. La prima scelta per acciai inossidabili e superleghe.

a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
X.V	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
x.f	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
x.f	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	SOHT 12-M	SOHT 12-MM
RE	1.4	1.4
BS	2.00	2.00





		HFC												
DCX	a_p	0.00	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.50	1.60	1.70	1.80	1.90
35		17.3	19.2	21.1	22.9	24.8	26.7	28.6	30.5	31.4	32.4	33.1	33.5	33.9
40		22.3	24.2	26.1	27.9	29.8	31.7	33.6	35.5	36.4	37.4	38.1	38.5	38.9
42		24.3	26.2	28.1	29.9	31.8	33.7	35.6	37.5	38.4	39.4	40.1	40.5	40.9
50		32.3	34.2	36.1	37.9	39.8	41.7	43.6	45.5	46.4	47.4	48.1	48.5	48.9
52	DEF	34.3	36.2	38.1	39.9	41.8	43.7	45.6	47.5	48.4	49.4	50.1	50.5	50.9
63		45.3	47.2	49.1	50.9	52.8	54.7	56.6	58.5	59.4	60.4	61.1	61.5	61.9
66		48.3	50.2	52.1	53.9	55.8	57.7	59.6	61.5	62.4	63.4	64.1	64.5	64.9
80		62.3	64.2	66.1	67.9	69.8	71.7	73.6	75.5	76.4	77.4	78.1	78.5	78.9
100		82.3	84.2	86.1	87.9	89.8	91.7	93.6	95.5	96.4	97.4	98.1	98.5	98.9
125		107.3	109.2	111.1	112.9	114.8	116.7	118.6	120.5	121.4	122.4	123.1	123.5	123.9
	a_p	0.00	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.50	1.60	1.70	1.80	1.90
	f	-	2.20	2.00	1.80	1.60	1.40	1.20	1.10	1.00	0.90	0.80	0.70	0.60

DCX	a_{emax}	f_{max}
35	10.0	0.10
40	10.0	0.10
42	10.0	0.12
50	10.0	0.12
52	10.0	0.12
63	10.0	0.15
66	10.0	0.15
80	10.0	0.20
100	10.0	0.20
125	10.0	0.20

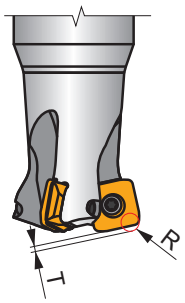
DCX	RPMX	APMX/I
35	9.6	1.9/11
40	6.9	1.9/16
42	6.1	1.9/18
50	4.3	1.9/25
52	4.0	1.9/27
63	2.6	1.9/41
66	2.5	1.9/44
80	1.9	1.9/59
100	1.4	1.9/79
125	1.0	1.9/105

DCX	a_p	f_{max}
35	1.6	0.17
40	1.6	0.17
42	1.6	0.15
50	1.6	0.10
52	1.6	0.10
63	1.6	0.05
66	1.6	0.05
80	1.6	0.05
100	1.6	0.05
125	1.6	0.05

DCX	µm	3	5	10	15	20	30	40	50	60	80	100
35		0.648	0.837	1.183	1.449	1.673	2.049	2.366	2.646	2.898	3.347	3.742
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
42		0.710	0.917	1.296	1.587	1.833	2.245	2.592	2.898	3.175	3.666	4.099
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
52	FE	0.790	1.020	1.442	1.766	2.040	2.498	2.884	3.225	3.533	4.079	4.561
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
66		0.890	1.149	1.625	1.990	2.298	2.814	3.250	3.633	3.980	4.596	5.138
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657
100		1.095	1.414	2.000	2.449	2.828	3.464	4.000	4.472	4.899	5.657	6.325
125		1.225	1.581	2.236	2.739	3.162	3.873	4.472	5.000	5.477	6.325	7.071

a_p	0.2	0.6	1.0	1.5	1.9
1 f	2.0	1.6	1.2	0.8	0.5

DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
35	46.0	69.8	1.9	1.9
40	56.0	79.8	1.9	1.9
42	60.0	83.8	1.9	1.9
50	76.0	99.8	1.9	1.9
52	80.0	103.8	1.9	1.9
63	102.0	125.8	1.9	1.9
66	108.0	131.8	1.9	1.9
80	136.0	159.8	1.9	1.9
100	176.0	199.8	1.9	1.9
125	226.0	249.8	1.9	1.9



SOHT	R	T
SOHT 120514	3.37	1.21

SPD09

P M K S H

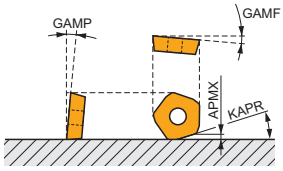
PRAMET

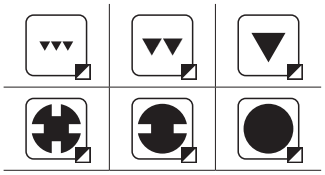
S

PENTA HF fresa ad alto avanzamento con passaggio interno del refrigerante

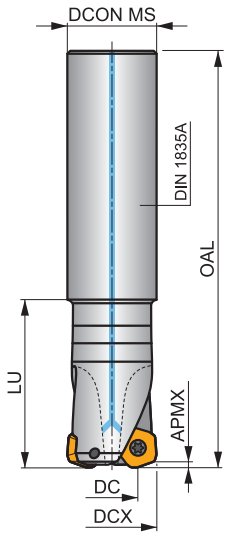
Fresa ad alto avanzamento ad elevata produttività che utilizza inserti positivi mono laterali PD... 09 con 5 lati taglienti e una APMX fino a 2 mm. Passaggio interno del refrigerante. Adatta per un'ampia gamma di operazioni. Disponibile nelle versioni con attacco cilindrico ed a manicotto. Corpo trattato per una maggiore durata.

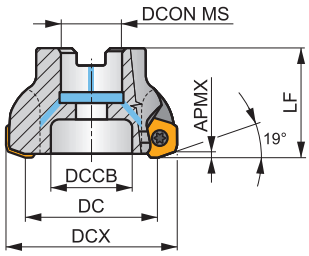
KAPR	19°
APMX	2.0 mm





PENTA HF





h_m 0.065 - 0.975

h_m 0.065 - 0.975

	Codice prodotto	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	DCCB (mm)	LU (mm)	LF (mm)	GAMF (°)	GAMP (°)			max.		kg			
DIN 1835A	**32E2R060A32-SPD09-C**	32	18.4	250	32	–	60	–	-24	10	2	–	13100	✓	1.34	GI245	C0340	–
	40E3R060A32-SPD09-C	40	25.5	250	32	–	60	–	-11	10	3	–	11700	✓	1.43	GI245	C0340	–
	42A03R-S19PD09-C	42	27.5	–	16	12	–	40	-8	10	3	–	11500	✓	0.18	GI245	C0342	–
	50A04R-S19PD09-C	50	35.3	–	22	18	–	40	-3	10	4	–	10500	✓	0.23	GI245	C0343	–
	50A05R-S19PD09-C	50	35.3	–	22	18	–	40	-3	10	5	–	10500	✓	0.33	GI245	C0343	–
	52A04R-S19PD09-C	52	37.3	–	22	18	–	40	-3	10	4	–	10300	✓	0.25	GI245	C0343	–
	63A05R-S19PD09-C	63	48.2	–	22	18	–	40	-1	10	5	–	9400	✓	0.44	GI245	C0343	–
	63A06R-S19PD09-C	63	48.2	–	22	18	–	40	-1	10	6	–	9300	✓	0.45	GI245	C0343	–
	66A06R-S19PD09-C	66	51.2	–	22	18	–	40	-1	10	6	–	9200	✓	0.35	GI245	C0343	–
ISO 6462 DIN 8030	**66A06R-S19PD09-CF**	66	51.2	–	27	22	–	50	-1	10	6	–	9100	✓	0.67	GI245	C0344	–
	80A05R-S19PD09-C	80	65.3	–	27	37	–	50	-1	10	5	–	8300	✓	0.84	GI245	C0341	AC001
	80A06R-S19PD09-C	80	65.3	–	27	37	–	50	-1	10	6	–	8300	✓	0.86	GI245	C0341	AC001
	100A06R-S19PD09-C	100	58.3	–	32	45	–	50	-1	10	6	–	7400	✓	1.46	GI245	C0341	AC002
	100A08R-S19PD09-C	100	85.3	–	32	45	–	50	-1	10	8	–	7400	✓	1.40	GI245	C0341	AC002
	125A08R-S19PD09-C	125	110.3	–	40	36	–	63	-1	10	8	–	6600	✓	3.10	GI245	C0349	–
	125A10R-S19PD09-C	125	110.3	–	40	36	–	63	-1	10	10	–	6600	✓	3.11	GI245	C0349	–
	140A08R-S19PD09-C	140	125.3	–	40	36	–	63	-1	10	8	–	6200	✓	3.57	GI245	C0349	–

GI245	PD.X 0905ZE..	PDKT 0905..	PDMW 0905..

		Nm					
C0340	US 45011-T20P	5.0	M 5	11	–	–	Flag T20P
C0341	US 45011-T20P	5.0	M 5	11	SDR T20P-T	–	–

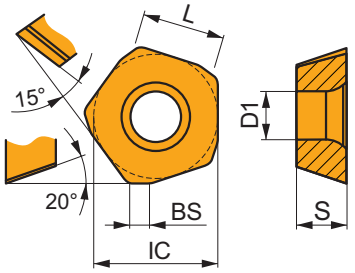
C0342	US 45011-T20P	5.0	M 5	11	SDR T20P-T	HS 90835	–
C0343	US 45011-T20P	5.0	M 5	11	SDR T20P-T	HS 1030C	–
C0344	US 45011-T20P	5.0	M 5	11	SDR T20P-T	HS 1230C	–
C0349	US 45011-T20P	5.0	M 5	11	SDR T20P-T	HSD 2040	–

AC001	KS 1230	K.FMH27
AC002	KS 1635	K.FMH32

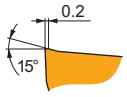
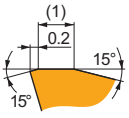
PDMX 09

PRAMET

	BS (mm)	IC (mm)	D1 (mm)	L (mm)	S (mm)
0905	2.00	13.500	5.50	9.00	5.47



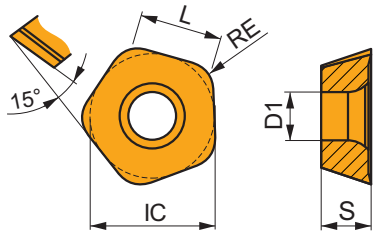
Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

Codice prodotto	RE (mm)	P vc (m/min)	P f (mm/tooth)	P ap (mm)	M vc (m/min)	M f (mm/tooth)	M ap (mm)	K vc (m/min)	K f (mm/tooth)	K ap (mm)	N vc (m/min)	N f (mm/tooth)	N ap (mm)	S vc (m/min)	S f (mm/tooth)	S ap (mm)	H vc (m/min)	H f (mm/tooth)	H ap (mm)
								**M** geometria con design positivo per lavorazioni medie ad alto avanzamento.												
PDMX 0905ZEER-M:8215	–	215	1.00	1.2	125	0.90	1.2	200	1.00	1.2	–	–	–	–	–	–	–	–	–
PDMX 0905ZEER-M:M8330	–	220	1.00	1.2	130	0.90	1.2	205	1.00	1.2	–	–	–	–	–	–	–	–	–
PDMX 0905ZEER-M:M8345	–	165	1.00	1.2	95	0.90	1.2	–	–	–	–	–	–	–	–	–	–	–	–
PDMX 0905ZEER-M:M9340	–	215	1.00	1.2	125	0.90	1.2	–	–	–	–	–	–	–	–	–	–	–	–
								**R** geometria con design robusto per lavorazioni ad alto avanzamento.												
PDMX 0905ZESR-R:8215	–	215	1.00	1.3	–	–	–	200	1.00	1.3	–	–	–	–	–	–	40	0.70	0.9
PDMX 0905ZESR-R:M8330	–	215	1.00	1.3	–	–	–	200	1.00	1.3	–	–	–	–	–	–	40	0.70	0.9
PDMX 0905ZESR-R:M8345	–	165	1.00	1.3	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
PDMX 0905ZESR-R:M9325	–	245	1.00	1.3	–	–	–	230	1.00	1.3	–	–	–	–	–	–	45	0.70	0.9

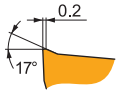
PDKT 09

PRAMET

	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
0905	13.500	5.50	9.00	5.47



Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

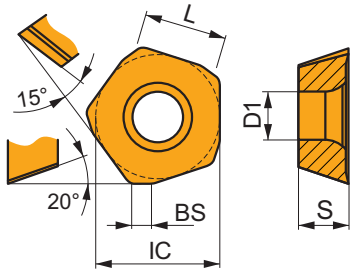
Codice prodotto		RE	P			M			K			N			S			H		
			vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)
																				
PDKT 090530ER-FM:8215		3.0	■	240	1.00	1.2	◪	140	0.90	1.2	◪	225	1.00	1.2	–	–	–	◪	60	0.70	1.0	–	–	–
PDKT 090530ER-FM:M6330		3.0	■	210	1.00	1.2	■	150	0.90	1.2		–	–	–	–	–	–	■	60	0.70	1.0	–	–	–
PDKT 090530ER-FM:M8310		3.0	■	250	1.00	1.2	◪	125	0.90	1.2	◪	235	1.00	1.2	–	–	–		–	–	–	–	–	–
PDKT 090530ER-FM:M8330		3.0	■	245	1.00	1.2	■	145	0.90	1.2	◪	230	1.00	1.2	–	–	–	◪	60	0.70	1.0	–	–	–
PDKT 090530ER-FM:M8345		3.0	■	180	1.00	1.2	■	105	0.90	1.2		–	–	–	–	–	–	■	45	0.70	1.0	–	–	–
PDKT 090530ER-FM:M9325		3.0	■	275	1.00	1.2		–	–	–	◪	260	1.00	1.2	–	–	–		–	–	–	–	–	–

FM geometria con design altamente positivo per lavorazioni da leggere a medie ad alto avanzamento.

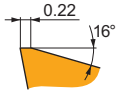
PDKX 09

PRAMET

	BS	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)	(mm)
0905	2.00	13.500	5.50	9.00	5.47



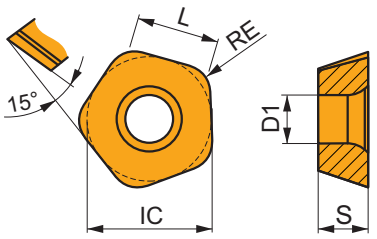
Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

Codice prodotto		RE	P			M			K			N			S			H		
			vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)
																				
PDKX 0905ZEER-FM:M6330		–	■	195	1.00	1.2	■	135	0.90	1.2		–	–	–	–	–	–	■	55	0.70	1.0	–	–	–
PDKX 0905ZEER-FM:M8345		–	■	165	1.00	1.2	■	95	0.90	1.2		–	–	–	–	–	–	■	40	0.70	1.0	–	–	–
PDKX 0905ZEER-FM:M9340		–	■	215	1.00	1.2	■	125	0.90	1.2		–	–	–	–	–	–	■	50	0.70	1.0	–	–	–

FM geometria con design altamente positivo per lavorazioni medie ad alto avanzamento.

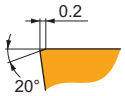
PDMW 09

	IC	D1	L	S
	(mm)	(mm)	(mm)	(mm)
0905	13.500	5.50	9.00	5.47



Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

Codice prodotto		RE	P			M			K			N			S			H		
			vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



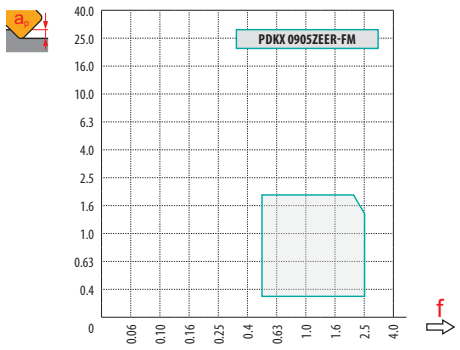
HFC S

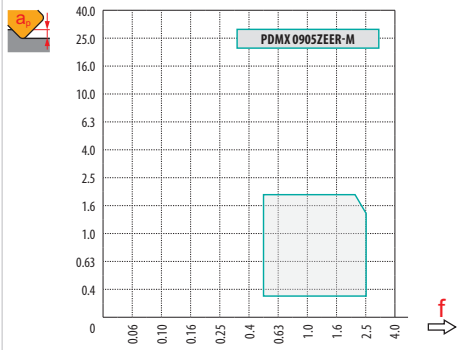
SR design con angolo di spoglia superiore del tagliente a zero gradi per lavorazioni ad alto avanzamento.

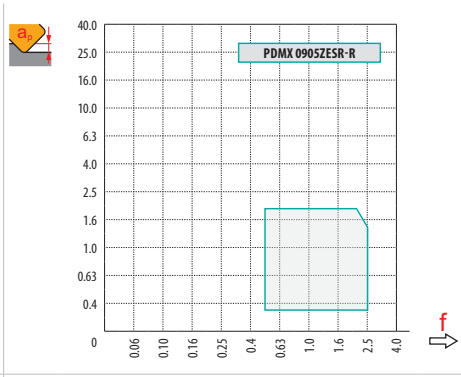
PDMW 090530SR:M8310	✱	3.0	◪	245	1.00	1.4	–	–	–	■	230	1.00	1.4	–	–	–	–	–	–	■	45	0.70	1.0
PDMW 090530SR:M8345	✱	3.0	◪	180	1.00	1.4	–	–	–		–	–	–	–	–	–	–	–	–		–	–	–
PDMW 090530SR:M9325	✱	3.0	◪	270	1.00	1.4	–	–	–	■	255	1.00	1.4	–	–	–	–	–	–	◪	50	0.70	1.0

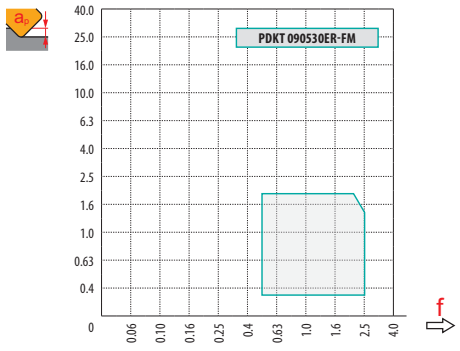
a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
X.V	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
x.f	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
x.f	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

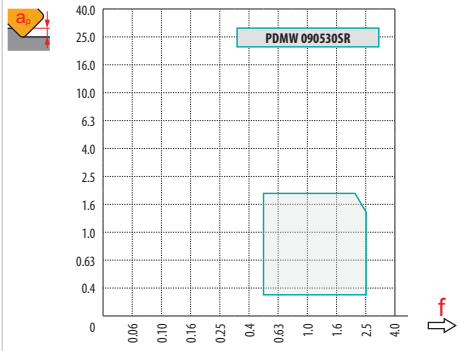
	PDKX 09-FM	PDMX 09-M	PDMX 09-R	PDKT 09-FM	PDMW 09
RE	–	–	–	3.0	3.0
BS	2.00	2.00	2.00	–	–











DCX	a_p	0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.25	1.50	2.00
32	DEF	18.4	20.1	20.7	21.3	21.9	22.5	23.0	23.6	24.2	25.7	27.1	30.0
40		25.5	27.2	27.8	28.4	29.0	29.6	30.1	30.7	31.3	32.8	34.2	37.1
42		27.5	29.2	29.8	30.4	31.0	31.6	32.1	32.7	33.3	34.8	36.2	39.1
50		35.3	37.0	37.6	38.2	38.8	39.4	39.9	40.5	41.1	42.6	44.0	46.9
52		37.3	39.0	39.6	40.2	40.8	41.4	41.9	42.5	43.1	44.6	46.0	48.9
63		48.2	49.9	50.5	51.1	51.7	52.3	52.8	53.4	54.0	55.5	56.9	59.8
66		51.2	52.9	53.5	54.1	54.7	55.3	55.8	56.4	57.0	58.5	59.9	62.8
80		65.3	67.0	67.6	68.2	68.8	69.4	69.9	70.5	71.1	72.6	74.0	76.9
100		85.3	87.0	87.6	88.2	88.8	89.4	89.9	90.5	91.1	92.6	94.0	96.9
125		110.3	112.3	112.9	113.5	114.1	114.6	115.2	115.8	116.4	117.9	119.3	122.2
140		125.3	127.3	127.9	128.5	129.1	129.7	130.2	130.8	131.4	132.9	134.3	137.2
	a_p	0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00	1.25	1.50	2.00
	f	–	3.00	3.00	2.90	2.80	2.70	2.60	2.50	2.40	2.25	1.50	1.50

Seguire le istruzioni per la fresatura di superfici piane. Nel caso di fresatura in prossimità di una parete verticale, diminuire l'avanzamento al dente f_z del 50 % per prevenire vibrazioni e danni ai taglienti.

DCX	max	f_{max}
32	5.0	0.20
40	5.0	0.20
42	5.0	0.20
50	6.0	0.20
52	6.0	0.20
63	7.0	0.25
66	7.0	0.25
80	8.0	0.30
100	8.0	0.30

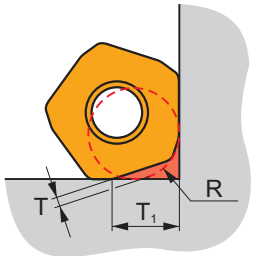
DCX	RPMX	APMX/I
40	8.0	1.80/16
42	8.0	2.00/16
50	8.0	2.00/16
52	8.0	2.00/16
63	7.0	2.00/18
66	6.0	2.00/21
80	5.0	2.00/24
100	3.0	2.00/40

	HFC		
a_p	0.5	1.0	2.0
1 f	3.0	2.3	1.5

DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
40	63.7	80.0	2.00	2.00
42	67.5	84.0	2.00	2.00
50	83.3	100.0	2.00	2.00
52	87.3	104.0	2.00	2.00
63	109.2	126.0	2.00	2.00
66	115.2	132.0	2.00	2.00
80	143.3	160.0	2.00	2.00
100	183.3	200.0	2.00	2.00

DCX	a_p	f_{max}
32	1.8	0.20
40	1.8	0.20
42	2.0	0.20
50	2.0	0.20
52	2.0	0.20
63	2.0	0.25
66	2.0	0.25
80	2.0	0.30
100	2.0	0.30

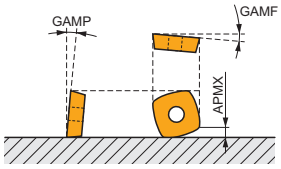
DCX	µm	3	5	10	15	20	30	40	50	60	80	100
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
42		0.710	0.917	1.296	1.587	1.833	2.245	2.592	2.898	3.175	3.666	4.099
50	FE	0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
52		0.790	1.020	1.442	1.766	2.040	2.498	2.884	3.225	3.533	4.079	4.561
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
66		0.890	1.149	1.625	1.990	2.298	2.814	3.250	3.633	3.980	4.596	5.138
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657

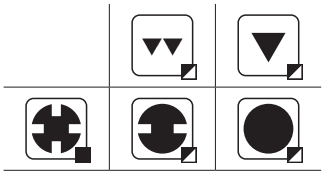


DCX	R	T	T_1
32	4.5	1.1	6.8
40 – 140	4.5	1.1	7.3

SZD07

APMX	1.0 mm

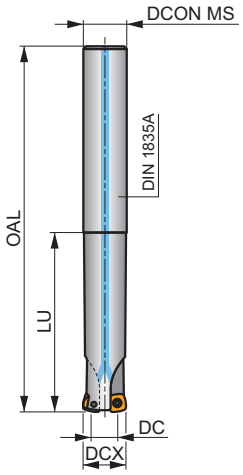




FEED ZD07 fresa ad alto avanzamento con passaggio interno del refrigerante

Fresa ad alto avanzamento ad elevata produttività che utilizza inserti positivi mono laterali ZD... 07 con 4 lati taglienti e una APMX fino a 1 mm. Passaggio interno del refrigerante. Adatta per un'ampia gamma di operazioni. Disponibile nelle versioni con attacco cilindrico e modulare. Corpo trattato per una maggiore durata.

FEED ZD



h_m 0.175 - 0.44

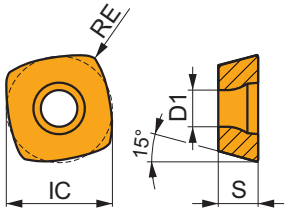
	Codice prodotto	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	LF (mm)	GAMF (°)	GAMP (°)			max.		kg		
	16E2R030A16-SZD07	16	6	100	16	30	–	-5	8	2	–	47400	✓	0.13	GI201	C0350
	16E2R065A16-SZD07	16	6	145	16	65	–	-5	8	2	–	47400	✓	0.22	GI201	C0350
DIN 1835A	**20E3R040A20-SZD07**	20	10	120	20	40	–	-5	8	3	–	42400	✓	0.25	GI201	C0350
	20E3R080A20-SZD07	20	10	165	20	80	–	-5	8	3	–	42400	✓	0.33	GI201	C0350
	25E3R050A25-SZD07	25	15	140	25	50	–	-5	8	3	–	37900	✓	0.47	GI201	C0350
	25E3R100A25-SZD07	25	15	190	25	100	–	-5	8	3	–	37900	✓	0.60	GI201	C0350

GI201	ZDCW 0703..

		Nm			
C0350	US 2205-T07P	0.9	M 2.2	5	Flag T07P

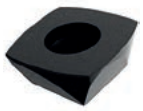
ZDCW 07

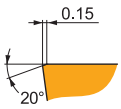
	IC	D1	S
	(mm)	(mm)	(mm)
0703	6.800	2.60	3.18



Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

Codice prodotto	RE	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)



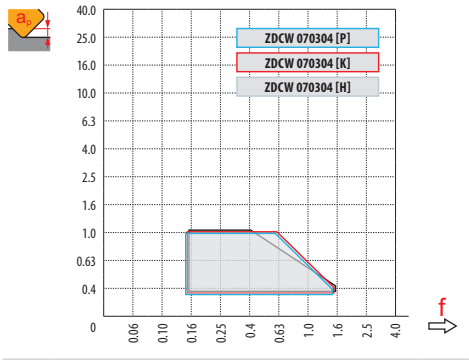


ZDCW geometria specifica per lavorazioni ad alto avanzamento.

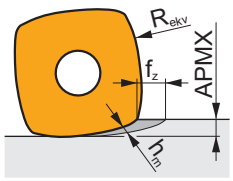
ZDCW 070304:M8310	0.4	420	0.60	0.4	–	–	–	395	0.60	0.4	–	–	–	–	–	–	80	0.42	0.3
ZDCW 070304:M8325	0.4	325	0.60	0.4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ZDCW 070304:M8345	0.4	305	0.60	0.4	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
X.V	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
x.f	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
x.f	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ZDCW 07
RE	0.4
BS	–



DCX	a_p	0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
16	DEF	6.0	12.0	12.9	13.7	14.4	15.1	15.7	16.2	16.8
20		10.0	16.0	16.9	17.7	18.4	19.1	19.7	20.2	20.8
25		15.0	21.0	21.9	22.7	23.4	24.1	24.7	25.2	25.8
	a_p	0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
	f	–	1.50	1.50	1.13	1.00	0.88	0.75	0.61	0.60



$$f_z = h_m \times \sqrt{\frac{2R_{ekv.}}{APMX}} \quad \text{(mm/dente)}$$

Seguire le istruzioni per la fresatura di superfici piane. Nel caso di fresatura in prossimità di una parete verticale, diminuire l'avanzamento al dente f_z del 50 % per prevenire vibrazioni e danni ai taglienti.

DCX	max	f_{max}
16	5.6	0.12
20	5.6	0.15
25	5.6	0.17

HFC			
a_p	0.3	0.6	1.0
f	1.50	0.80	0.40

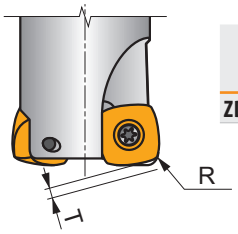
DCX	RPMX	APMX/I
16	7.8	1.0/9
20	9.7	1.0/7
25	4.9	1.0/13

HFC		
DCX	RPMX	APMX/I
16	0.5	0.75/100
20	0.3	0.40/100
25	0.2	0.20/100

DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
16	21.0	32.0	0.10	0.40
20	29.0	40.0	0.10	0.30
25	39.0	50.0	0.15	0.25

DCX	a_p	f_{max}
16	0.05	0.12
20	0.05	0.15
25	0.05	0.17

DCX	µm	3	5	10	15	20	30	40	50	60	80	100
16	FE	0.438	0.566	0.800	0.980	1.131	1.386	1.600	1.789	1.960	2.263	2.530
20		0.490	0.632	0.894	1.095	1.265	1.549	1.789	2.000	2.191	2.530	2.828
25		0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162



	R	T
ZDCW 070304	1.70	0.60

SZD09

P K H

PRAMET

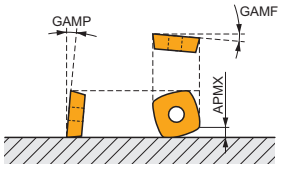
S

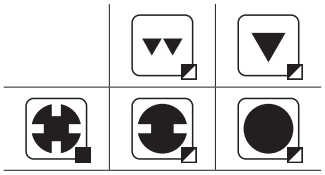
FEED ZD09 fresa ad alto avanzamento con passaggio interno del refrigerante

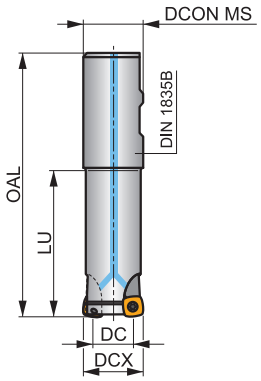
Fresa ad alto avanzamento ad elevata produttività che utilizza inserti positivi mono laterali ZD... 09 con 4 lati taglienti e una APMX fino a 1 mm. Passaggio interno del refrigerante. Adatta per un'ampia gamma di operazioni. Disponibile nelle versioni con attacco cilindrico, modulare ed a manicotto. Corpo trattato per una maggiore durata.

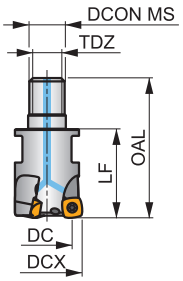
FEED ZD

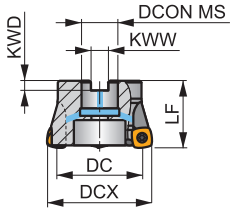
APMX	1.0 mm











h_m	0.31 - 0.618
h_m	0.31 - 0.618

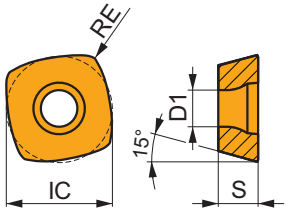
	Codice prodotto	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)			max.		kg		
DIN 1835B	**25E2R080B25-SZD09-C**	25	11.6	140	25	80	–	–	–	–	-6	10	2	–	22800	✓	0.46	GI191	SQ400
	25E2R140B25-SZD09-C	25	11.6	200	25	140	–	–	–	–	-6	10	2	–	22800	✓	0.63	GI191	SQ400
	32E2R080B32-SZD09-C	32	18.7	140	32	80	–	–	–	–	-6	10	2	–	20100	✓	0.76	GI191	SQ400
MODULAR	**25E3R032M12-SZD09-C**	25	11.6	54	12.5	–	32	M12	–	–	-6	10	3	–	–	✓	0.11	GI191	SQ400
	32E3R040M16-SZD09-C	32	18.7	63	17	–	40	M16	–	–	-6	10	3	–	–	✓	0.21	GI191	SQ400
ISO 6462 DIN 8030	**40A04R-SMOZD09-C**	40	26.7	–	16	–	40	–	8.4	5.6	-6	10	4	✓	18000	✓	0.34	GI191	SQ402
	50A05R-SMOZD09-C	50	36.7	–	22	–	40	–	10.4	6.4	-6	10	5	✓	16000	✓	0.41	GI191	SQ403
	63A06R-SMOZD09-C	63	49.7	–	22	–	40	–	10.4	6.4	-6	10	6	✓	14300	✓	0.60	GI191	SQ403

GI191	ZDCW 09T3..

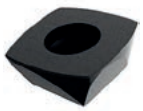
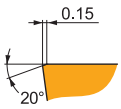
		Nm						
SQ400	US 3006-T09P	2.0	M 3	6	–	–	Flag T09P	–
SQ402	US 3006-T09P	2.0	M 3	6	D-T07P/T09P	FG-15	–	HS 0830C
SQ403	US 3006-T09P	2.0	M 3	6	D-T07P/T09P	FG-15	–	HS 1030C

ZDCW 09

	IC	D1	S
	(mm)	(mm)	(mm)
09T3	9.525	3.40	3.97



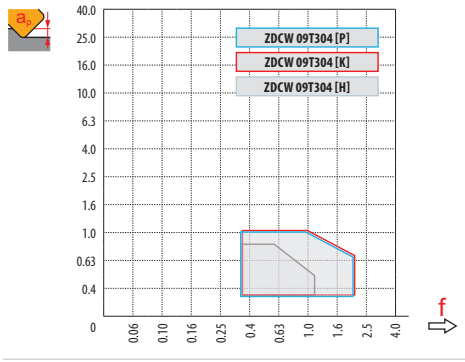
Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

Codice prodotto	RE	P			M			K			N			S			H		
		vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)
																			
ZDCW 09T304:M8310	0.4	320	1.00	0.6	–	–	–	300	1.00	0.6	–	–	–	–	–	–	60	0.70	0.4
ZDCW 09T304:M8325	0.4	250	1.00	0.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ZDCW 09T304:M8345	0.4	235	1.00	0.6	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

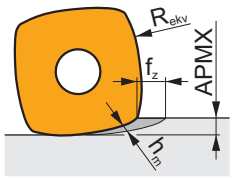
ZDCW geometria specifica per lavorazioni ad alto avanzamento.

a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
X.V	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
⇨ X.f	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
⇨ X.f	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ZDCW 09
RE	0.4
BS	–



DCX	a_p	0.00	0.30	0.40	0.50	0.60	0.70	0.80	0.90	1.00
25	DEF	11.6	17.4	18.2	19.0	19.7	20.3	20.9	21.5	22.0
32		18.7	24.5	25.3	26.1	26.8	27.4	28.0	28.6	29.1
40		27.7	33.5	34.3	35.1	35.8	36.4	37.0	37.6	38.1
50		36.7	42.3	43.1	43.8	44.5	45.1	45.7	46.2	46.7
63		49.7	55.3	56.1	56.8	57.5	58.1	58.7	59.2	59.7
	a_p	**0.00**	**0.30**	**0.40**	**0.50**	**0.60**	**0.70**	**0.80**	**0.90**	**1.00**
	1 f	–	2.00	2.00	2.00	1.75	1.50	1.25	1.13	1.00



$$f_z = h_m \times \sqrt{\frac{2R_{ekv.}}{APMX}} \quad \text{(mm/dente)}$$

Seguire le istruzioni per la fresatura di superfici piane. Nel caso di fresatura in prossimità di una parete verticale, diminuire l'avanzamento al dente f_z del 50 % per prevenire vibrazioni e danni ai taglienti.

DCX	max	f_{max}
25	7.7	0.15
32	7.7	0.17
40	7.7	0.20

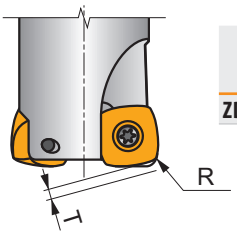
	HFC		
a_p	0.3	0.6	1.0
1 f	2.00	1.50	1.00

			HFC	
DCX	RPMX	APMX/l	RPMX	APMX/l
25	12.0	1.0/6	0.9	1.00/65
32	7.5	1.0/11	0.5	0.75/100
40	3.6	1.0/17	0.4	0.55/100

DCX	DMIN	DMAX	SMAX / DMIN	SMAX / DMAX
25	35.0	50.0	0.45	1.00
32	49.0	64.0	0.45	0.85
40	65.0	80.0	0.50	0.85

DCX	a_p	f_{max}
25	0.15	0.15
32	0.15	0.17
40	0.15	0.20

DCX	µm	3	5	10	15	20	30	40	50	60	80	100
25	FE	0.548	0.707	1.000	1.225	1.414	1.732	2.000	2.236	2.449	2.828	3.162
32		0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50												
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020



	R	T
ZDCW 09T304	2.27	0.52

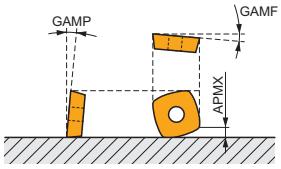
SZD12

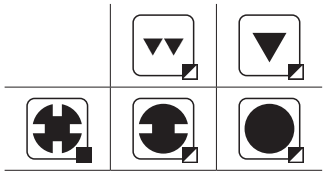
FEED ZD12 Fresa per alto avanzamento con refrigerante interno

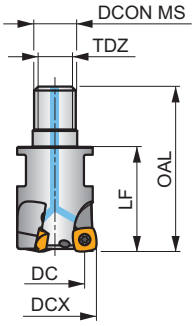
Fresa ad alto avanzamento ad elevata produttività che utilizza un inserto positivo ZD .. 12 a 4 taglienti e APMX di 1.6 mm. Refrigerante interno. Adatta per un'ampia gamma di applicazioni. Disponibile con codolo cilindrico, attacco modulare filettato ed a manicotto. Corpo trattato per una maggiore durata dell'utensile.

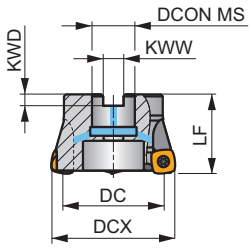
FEED ZD

APMX	1.6 mm









h_m	0.46 - 0.925
h_m	0.46 - 0.925

	Codice prodotto	DCX (mm)	DC (mm)	OAL (mm)	DCON MS (mm)	LU (mm)	LF (mm)	TDZ	KWW (mm)	KWD (mm)	GAMF (°)	GAMP (°)			max.		kg			
MODULAR	**32E3R040M16-SZD12-C**	32	14.5	63	17	–	40	M16	–	–	-6	10	3	–	–	✓	0.19	GI192	SQ220	–
MODULAR	**40E4R040M16-SZD12-C**	40	22.5	63	17	–	40	M16	–	–	-6	10	4	–	–	✓	0.22	GI192	SQ220	–
ISO 6462 DIN 8030	**50A04R-SM0ZD12-C**	50	32.5	–	22	–	40	–	10.4	6.4	-6	10	4	✓	14000	✓	0.38	GI192	SQ033	–
ISO 6462 DIN 8030	**63A05R-SM0ZD12-C**	63	45.5	–	22	–	40	–	10.4	6.4	-6	10	5	✓	12500	✓	0.57	GI192	SQ033	–
ISO 6462 DIN 8030	**80A05R-SM0ZD12-C**	80	62.5	–	27	–	50	–	12	7	-6	10	5	✓	11100	✓	1.07	GI192	C0371	AC001

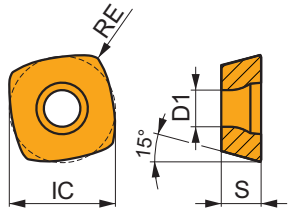
GI192	ZDEW 1204..

		Nm						
C0371	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	–	–
SQ033	US 4011-T15P	3.5	M 4	10.6	D-T08P/T15P	FG-15	–	HS 1030C
SQ220	US 4011-T15P	3.5	M 4	10.6	–	–	Flag T15P	–

AC001	KS 1230	K.FMH27

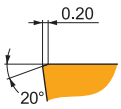
ZDEW 12

	IC	D1	S
	(mm)	(mm)	(mm)
1204	12.700	4.40	4.76



Idoneità e valori iniziali per velocità di taglio (Vc), avanzamento (f) e profondità di taglio (ap). Fare riferimento alla nostra App Machining Calculator per ulteriori calcoli.

Codice prodotto		RE	P			M			K			N			S			H		
			vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap	vc	f	ap
		(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)	(m/min)	(mm/tooth)	(mm)

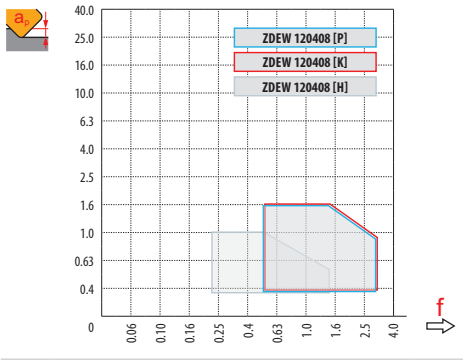


ZDEW geometria specifica per lavorazioni ad alto avanzamento.

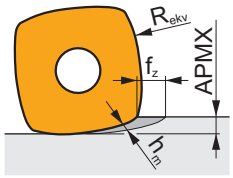
ZDEW 120408:M8310	●	0.8	270	1.00	1.0	–	–	–	255	1.00	1.0	–	–	–	–	–	–	50	0.70	0.7
ZDEW 120408:M8325	●	0.8	205	1.00	1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
ZDEW 120408:M8345	✱	0.8	195	1.00	1.0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

a_e / DCX	5 %	10 %	15 %	20 %	25 %	30 %	40 %	50 %	60 %	70 %	75 %	80 %	90 %	100 %
X.V	1.48	1.35	1.27	1.22	1.19	1.16	1.11	1.08	1.05	1.03	1.00	1.00	1.00	1.00
x.f	2.20	1.60	1.35	1.20	1.10	0.95	0.85	0.75	0.85	0.95	1.00	1.00	1.00	1.00
x.f	0.64	0.64	0.64	0.64	0.64	0.65	0.65	0.67	0.68	0.71	0.72	0.74	0.79	1.00

	ZDEW 12
RE	0.8
BS	–



DCX	a_p	0.00	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50	1.60
32	DEF	14.5	22.7	23.5	24.2	24.8	25.4	26.0	26.5	27.0	27.5	28.0	28.5	28.9
40		22.5	30.7	31.5	32.2	32.8	33.4	34.0	34.5	35.0	35.5	36.0	36.5	36.9
50		32.5	40.7	41.5	42.2	42.8	43.4	44.0	44.5	45.0	45.5	46.0	46.5	46.9
63		45.5	53.7	54.5	55.2	55.8	56.4	57.0	57.5	58.0	58.5	59.0	59.5	59.9
80		62.5	70.7	71.5	72.2	72.8	73.4	74.0	74.5	75.0	75.5	76.0	76.5	76.9
	a_p	0.00	0.50	0.60	0.70	0.80	0.90	1.00	1.10	1.20	1.30	1.40	1.50	1.60
	f	–	3.00	3.00	3.00	3.00	3.00	3.00	2.50	2.25	2.00	1.80	1.65	1.50



$$f_z = h_m \times \sqrt{\frac{2R_{ekv.}}{APMX}} \quad \text{(mm/dente)}$$

Seguire le istruzioni per la fresatura di superfici piane. Nel caso di fresatura in prossimità di una parete verticale, diminuire l'avanzamento al dente f_z del 50 % per prevenire vibrazioni e danni ai taglienti.

DCX	max	f_{max}
32	10.0	0.15
40	10.0	0.17
50	10.0	0.20
63	10.0	0.20
80	10.0	0.25

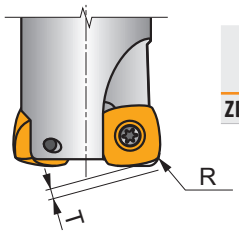
	HFC		
a_p	0.5	1.0	1.6
f	3.00	2.00	1.50

			HFC	
DCX	RPMX	APMX/I	RPMX	APMX/I
32	10	1.6/11	1.2	1.60/78
40	5.5	1.6/18	0.7	1.10/100
50	3.3	1.6/29	0.5	0.75/100
63	2.2	1.6/43	0.3	0.40/100
80	1.5	1.6/63	0.2	0.20/100

DCX	DMIN	DMAX	SMAX DMIN	SMAX DMAX
32	44.0	64.0	0.75	1.60
40	60.0	80.0	0.75	1.50
50	80.0	100.0	0.80	1.35
63	106.0	126.0	0.70	1.00
80	140.0	160.0	0.65	0.85

DCX	a_p	f_{max}
32	0.25	0.15
40	0.25	0.17
50	0.25	0.20
63	0.25	0.20
80	0.25	0.25

DCX	µm	3	5	10	15	20	30	40	50	60	80	100
32	FE	0.620	0.800	1.131	1.386	1.600	1.960	2.263	2.530	2.771	3.200	3.578
40		0.693	0.894	1.265	1.549	1.789	2.191	2.530	2.828	3.098	3.578	4.000
50		0.775	1.000	1.414	1.732	2.000	2.449	2.828	3.162	3.464	4.000	4.472
63		0.869	1.122	1.587	1.944	2.245	2.750	3.175	3.550	3.888	4.490	5.020
80		0.980	1.265	1.789	2.191	2.530	3.098	3.578	4.000	4.382	5.060	5.657



	R	T
ZDEW 120408	3.52	0.64