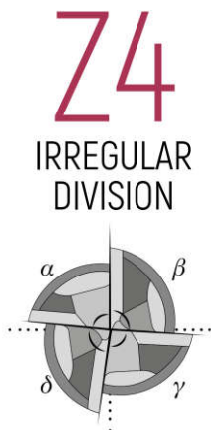
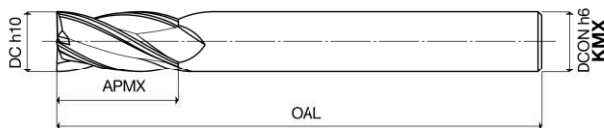


# Series 45120

Frese a quattro taglienti  
Four flute end mills



**Z4**  
IRREGULAR  
DIVISION



Cod. Art.	DC h10	APMX	OAL	DCON h6	Z	UNCOATED
451200300 KMX	3	25	70	3	4	KM
451200400 KMX	4	32	72	4	4	KM
451200500 KMX	5	32	80	5	4	KM
451200600 KMX	6	40	82	6	4	KM
451200700 KMX	7	42	100	7	4	KM
451200800 KMX	8	42	100	8	4	KM
451200900 KMX	9	45	100	9	4	KM
451201000 KMX	10	45	100	10	4	KM
451201100 KMX	11	70	130	11	4	KM
451201200 KMX	12	75	160	12	4	KM
451201300 KMX	13	75	160	13	4	KM
451201400 KMX	14	75	160	14	4	KM
451201500 KMX	15	75	160	15	4	KM
451201600 KMX	16	75	160	16	4	KM
451201700 KMX	17	75	160	17	4	KM
451201800 KMX	18	75	160	18	4	KM
451201900 KMX	19	75	160	19	4	KM
451202000 KMX	20	75	160	20	4	KM

parametri tecnici a pag. / for technical parameters see page 276



# Series

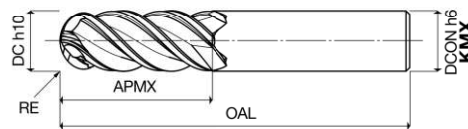
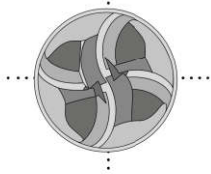
# 45135

Frese a quattro taglienti a testa semisferica  
Ball-nosed four flute end mills



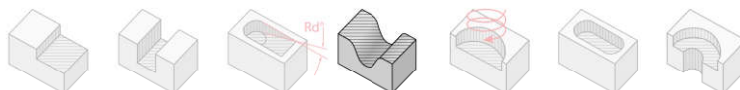
**Gamma Raggi  
Radii Range**  
RE: 1 - 1,5 - 2 - 2,5 - 3 - 3,5 - 4  
4,5 - 5 - 5,5 - 6 - 6,5 - 7 - 7,5  
8 - 8,5 - 9 - 9,5 - 10

**Z4**  
BALL-NOSED  
CUTTERS

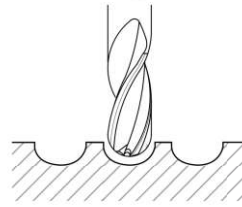


Cod. Art.	DC h10	APMX	OAL	RE	DCON h6	Z	UNCOATED
451350200 KMX	2	7	40	1	2	4	KM
451350300 KMX	3	10	40	1,5	3	4	KM
451350400 KMX	4	11	50	2	4	4	KM
451350500 KMX	5	13	50	2,5	5	4	KM
451350600 KMX	6	16	57	3	6	4	KM
451350700 KMX	7	16	60	3,5	7	4	KM
451350800 KMX	8	19	63	4	8	4	KM
451350900 KMX	9	19	67	4,5	9	4	KM
451351000 KMX	10	22	72	5	10	4	KM
451351100 KMX	11	22	83	5,5	11	4	KM
451351200 KMX	12	26	83	6	12	4	KM
451351300 KMX	13	26	83	6,5	13	4	KM
451351400 KMX	14	28	83	7	14	4	KM
451351500 KMX	15	32	92	7,5	15	4	KM
451351600 KMX	16	32	92	8	16	4	KM
451351700 KMX	17	32	92	8,5	17	4	KM
451351800 KMX	18	32	92	9	18	4	KM
451351900 KMX	19	38	104	9,5	19	4	KM
451352000 KMX	20	38	104	10	20	4	KM

parametri tecnici a pag. / for technical parameters see page 277



# Parametri di taglio / Cutting parameters



Materiali Materials		Sgrossatura Roughing $a_p = 0,4\phi$   $a_e = 0,9\phi$	
Serie Series		45135 - 45140* - 45150**	
Gruppo e descrizione Group and description		Vc (m/min.)	
		NON RIVESTITA UNCOATED	<b>Skin<sup>UP</sup></b>
Ghisa Cast Iron	Grigia e sferoidale Grey and spheroidal	80 - 90	110 - 120
	Basso contenuto di C Low Carbon content	90 - 100	120 - 130
Acciaio Steel	Medio contenuto di C Medium Carbon content	90 - 100	120 - 130
	Basso legato Low alloy	80 - 90	110 - 120
	Alto legato High alloy	70 - 80	90 - 100
	Acciaio da stampi e utensili Tool and die Steel	50 - 60	70 - 80
Materiali non ferrosi - Leghe leggere Non ferrous materials - Light alloys	Alluminio non legato Unalloyed aluminium	-	-
	Alluminio Si < 6% si < 6% aluminium	-	-
	Materiali termoplastici Thermoplastic materials	-	-
Acciaio temprato Hardened Steel	Rame/Ottone Copper/Brass	90 - 100	120 - 130
	$\leq 54$ HRC	-	-
Acciaio inossidabile Stainless Steel	Aisi 304 - 416 - 420	-	40 - 50
	Aisi 316 - 440	-	25 - 35
	17-4 ph 15-5 ph	-	25 - 35
	Leghe Cr - Co / Cr - Co alloys	-	15 - 20
	Duplex F51	-	25 - 30
Superleghe resistenti al calore Superalloys	Super Duplex F55	-	15 - 20
	Hrsa Hastelloy	-	10 - 15
	Hrsa Inconel 625	-	10 - 15
	Hrsa Inconel 718	-	10 - 15
Ti	Hrsa Nimonic	-	10 - 15
	Titanio - Titanium	-	25 - 35
	Leghe di titanio / Titanium alloys	-	25 - 35

DC	Avanzamento fz mm/tagliente   FEED mm/tooth
3	0,009
4	0,012
5	0,015
6	0,018
8	0,023
10	0,033
12	0,042
16	0,055
20	0,075

\*series 45140 fz consigliato | recommended -50%

\*\*series 45150 fz consigliato | recommended -70%

	45135	45140*	45150**
●	●	●	●
●	●	●	●
○	○	○	○
○	○	○	○
●	●	●	●
●	●	●	●

● consigliata/recommended    ● accettabile/acceptable    ○ non consigliata/not recommended