

# HSS-PM HSS-PM Line

Serie/Series

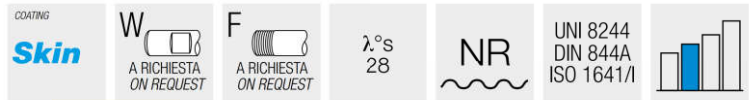
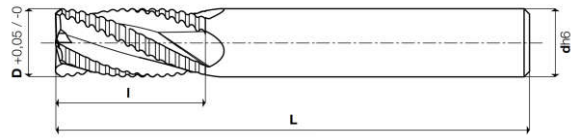
## 21105

Frese a **SGROSSARE**  
Roughing end mills

**ALTE PRESTAZIONI**  
**HIGH PERFORMANCE**

## 21105

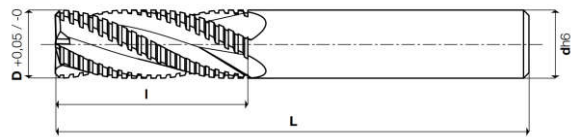
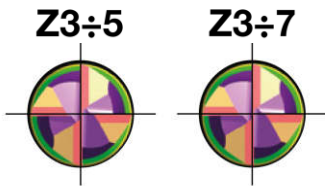
Frese a **SEMIFINIRE** tagliente al centro  
Semi-finishing end mills center cutting



Cod. Art.	X-105 (PM Co 10,5%)	D +0,05 -0	I	L	dh6	Z
211050603	EMX	6	13	57	6	3
211050803	EMX	8	19	69	10	4
211051003	EMX	10	22	72	10	4
211051203	EMX	12	26	83	12	4
211051403	EMX	14	26	83	12	4
211051603	EMX	16	32	92	16	4
211051803	EMX	18	32	92	16	4
211052007	EMX	20	38	104	20	4
211052203	EMX	22	38	104	20	4
211052503	EMX	25	45	121	25	5
211052603	EMX	26	45	121	25	5
211052803	EMX	28	45	121	25	5
211053003	EMX	30	45	121	25	5
211053203	EMX	32	53	133	32	5



parametri tecnici a pag. / for technical parameters see page 127



Cod. Art.	X-85 (PM Co 8,5%)	COATED	D +0,05 -0	I	L	dh6	Z
211050601	CM	CMX	6	13	57	6	3
211050701	CM	CMX	7	16	66	10	3
211050801	CM	CMX	8	19	69	10	4
211050901	CM	CMX	9	19	69	10	4
211051001	CM	CMX	10	22	72	10	4
211051101	CM	CMX	11	22	79	12	4
211051201	CM	CMX	12	26	83	12	4
211051301	CM	CMX	13	26	83	12	4
211051401	CM	CMX	14	26	83	12	4
211051501	CM	CMX	15	32	92	16	4
211051601	CM	CMX	16	32	92	16	4
211051701	CM	CMX	17	32	92	16	4
211051801	CM	CMX	18	32	92	16	4
211051805	CM	CMX	18	32	98	20	4
211052001	CM	CMX	20	38	98	16	4
211052005	CM	CMX	20	38	104	20	4
211052201	CM	CMX	22	38	104	20	4
211052205	CM	CMX	22	38	114	25	4
211052401	CM	CMX	24	45	121	25	5
211052501	CM	CMX	25	45	121	25	5
211052601	CM	CMX	26	45	121	25	5
211052801	CM	CMX	28	45	121	25	5
211053001	CM	CMX	30	45	121	25	5
211053201	CM	CMX	32	53	133	32	5
211053601	CM	CMX	36	53	133	32	6
211054001	CM	CMX	40	63	143	32	6
211054501	CM	CMX	45	63	143	32	6
211055001	CM	CMX	50	75	155	32	7






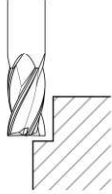
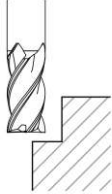
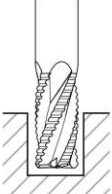
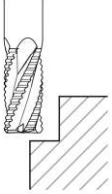
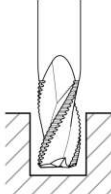
MATERIALI LAVORABILI / WORKPIECE MATERIALS

parametri tecnici a pag. / for technical parameters see page 124



serie	TITANIO	HRSA	ACCIAI INOSSIDABILI	MATERIALI NON FERROSI	LEGHE LEGGERE	ACCIAI	GHISE
series	TITANIUM	HRSA	STAINLESS STEELS	NON FERROUS MATERIALS	LIGHT ALLOYS	STEELS	CAST IRON
21105 EMX	●	●	●	○	○	●	●
21105 CM/CMX	●	●	●	○	○	●	●

# Parametri di taglio/Cutting parameters

	17305	18105	21105	21105	22105	
			NR 	NR 	NRF 	
Materiali Materials	Contornatura Shouldering $ap = 1,5\phi$ $ae = 0,15\phi$	Contornatura Shouldering $ap = 1,5\phi$ $ae = 0,15\phi$	Cava Slotting $ap = 1\phi$ $ae = 1\phi$	Sgrossatura Roughing $ap = 1,5\phi$ $ae = 0,5\phi$	Cava Slotting $ap = 1\phi$ $ae = 1\phi$	
						
Gruppo e descrizione Group and description	Vc (mt /min.)	Vc (mt /min.)	Vc (mt /min.)	Vc (mt /min.)	Vc (mt /min.)	
	X-105 Skin	X-105 Skin	X-105 Skin	X-105 Skin	X-105 Skin	
Ghisa Cast Iron	Grigia e sferoidale Grey and spheroidal	45 - 50	45 - 50	45 - 50	45 - 50	
	Basso contenuto di C Low carbon content	70 - 80	70 - 80	70 - 80	70 - 80	
Acciaio Steel	Medio contenuto di C Medium carbon content	70 - 80	70 - 80	70 - 80	70 - 80	
	Basso legato Low alloyed	65 - 75	65 - 75	65 - 75	65 - 75	
	Alto legato High alloyed	50 - 60	50 - 60	50 - 60	50 - 60	
	Acciaio da stampi e utensili Die/tool steel	30 - 40	30 - 40	30 - 40	30 - 40	30 - 40
Acciaio inossidabile Stainless Steel	AISI 304 - 416 - 420	15 - 20	15 - 20	15 - 20	15 - 20	
	AISI 316 - 440	15 - 20	15 - 20	15 - 20	15 - 20	
	17-4 ph 15-5 ph	10 - 15	10 - 15	10 - 15	10 - 15	
	Leghe Cr - Co Cr - Co alloys	10 - 15	10 - 15	10 - 15	10 - 15	
	Duplex F51	5 - 10	5 - 10	5 - 10	5 - 10	
Superleghe resistenti al calore Heat Resistant Super Alloys	Super Duplex F55	5 - 10	5 - 10	5 - 10	5 - 10	
	HRSA Hastelloy	5 - 10	5 - 10	5 - 10	5 - 10	
	HRSA Inconel 625	5 - 10	5 - 10	5 - 10	5 - 10	
	HRSA Inconel 718	5 - 10	5 - 10	5 - 10	5 - 10	
Ti	HRSA Nimonic	5 - 10	5 - 10	5 - 10	5 - 10	
	Titanio - Titanium	15 - 20	15 - 20	15 - 20	15 - 20	
Materiali non ferrosi Leghe leggere Non ferrous materials Light alloys	Leghe di titanio Titanium alloys	15 - 20	15 - 20	15 - 20	15 - 20	
	Alluminio non legato Unalloyed aluminium	-	-	-	-	
	Alluminio Si < 6% si < 6% aluminium	-	-	-	-	
	Materiali termoplastici Thermoplastic materials	-	-	-	-	
	Rame/Ottone Copper/Brass	75 - 85	75 - 85	75 - 85	75 - 85	75 - 85
	<b>D</b> Avanzamento fz mm/tagliante FEED mm/tooth					
	6	0,025	0,025	0,012	0,025	0,015
	8	0,035	0,035	0,016	0,035	0,020
	10	0,045	0,045	0,022	0,045	0,025
	12	0,060	0,060	0,026	0,055	0,030
	16	0,090	0,090	0,036	0,070	0,040
	20	0,120	0,120	0,045	0,085	0,050