



Angelo Ghezzi & C SpA

FRESE END MILLS

Evolution



FRESE IN METALLO DURO MICROGRANA PER

Acciai temprati
Lavorazioni Universali
Acciai Inossidabili e leghe di Titanio
Alluminio
Grafite

SOLID CARBIDE MICRO GRAIN END MILLS FOR

Hardened Steels
Universal Machining
Stainless Steels and Titanium alloys
Aluminium
Graphite



Talicarb

Evolution

FRESE • END MILLS



Talicarb

Come leggere il catalogo | How to read the catalogue:



	IT	EN
1	Sezione prodotto	Product section
2	Codice prodotto	Product code
3	Descrizione prodotto	Product description
4	Simboli dati tecnici	Symbols technical details
5	Immagine prodotto	Product image
6	Disegno tecnico	Technical design

4 Simboli dati tecnici | Symbols technical details:

	IT	EN
	Numero di denti (2 - 4 - 6)	Flute number (2 - 4 - 6)
	Angolo elica	Flute angle
	Angolo elica variabile	Angle Variable helix
	Gambo cilindrico Tolleranza h6	Straight shank h6 tolerance
	Idoneo al calettamento a caldo	Shrink fit
	Attacco Weldon	Weldon shank
	Passo differenziato	Unequal pitch
	Taglio a secco	Dry Cutting
	Taglio con emulsione	Wet Cutting
	Riferimento pagina parametri di taglio	Cutting parameters page reference
	Riferimento pagina informazioni generali	General informations page reference
	Rivestimento HP (High performance)	Coating HP (High performance)

	IT	EN
	Rivestimento HPA (HP AlTiSiN)	Coating HPA (HP AlTiSiN)
	Rivestimento HPF (HP - TiAlNSi - TiAlN - TiAlNSi+)	Coating HPF (HP - TiAlNSi - TiAlN - TiAlNSi+)
	Rivestimento HPV (HP AlCrN)	Coating HPV (HP AlCrN)
	Rivestimento HPX (HP ZOx)	Coating HPX (HP ZOx)
	Rivestimento HPX (HP AlTiN)	Coating HPX (HP AlTiN)
	Rivestimento HPD (HP Diamond)	Coating HPD (HP Diamond)
	Tipo applicazione (CAVA)	Application type (SLOTING)
	Tipo applicazione (CONTORNATURA)	Application type (SIDE MILLING)
	Tipo applicazione (A SPIANARE)	Application type (FACE MILLING)
	Tipo applicazione (A PROFILARE 3D)	Application type (3D PROFILING)
	Tipo applicazione (A PROFILARE)	Application type (PROFILING)
	Tipo applicazione (TROCOIDALE)	Application type (TROCHOIDAL)

Gruppo materiali lavorabili | Group of working materials:

P Acciai Steel	M Acciai inossidabili Stainless steel	K Ghisa Cast iron
N Non ferrosi Non ferrous	S Leghe resistenti al calore e Titanio HRSA	H Acciai temprati Hardened steels

Indice generale | General Index:

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Frese per Acciai Temprati >68 HRC
End mills for Hardened Steels >68 HRC



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End mills for universal machining



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End mills for Stainless Steels and Titanium alloys



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End mills for Aluminium



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Frese per Grafite
End mills for Graphite



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Guida alla selezione dell'utensile | Tool selection guide:

Pagina Catalogo Catalogue Page	Codice utensile Tool code	Classe prodotto Product class	Tipo di fresa End mill type	
12	416RHP	FRESE PER ACCIAI TEMPRATI FINO A 68 HRC END MILLS FOR HARDENED STEELS UP TO 68 HRC	Sferica Ball nose	
14	431RHP		Sferica a collo lungo Ball nose long neck	
19	430RHP		Sferica a collo conico Ball nose tapered neck	
23	1412HP		Testa piana Square	
25	1430HP		Testa piana a collo lungo Square long neck	
30	1414HP		Testa piana Square	
31	1416HP		Testa piana Square	
32	1432HP		Toriche Corner radius	
34	1433HP		Toriche a collo lungo Corner radius long neck	
43	1434HP		Toriche Corner radius	
45	14334HP		Toriche a collo lungo Corner radius long neck	
 60	416RHPA		FRESE PER ACCIAI TEMPRATI FINO A 55 HRC END MILLS FOR HARDENED STEELS UP TO 55 HRC	Sferica Ball nose
62	431RHPA	Sferica a collo lungo Ball nose long neck		
 67	1412HPA	Testa piana Square		
 69	1430HPA	Testa piana a collo lungo Square long neck		
74	1414HPA	Testa piana Square		

Gamma diametri Diameter range	Angolo Elica Flute angle	Numero dei denti No flutes	Lubrificazione Coolant	Rivestimento utensile Tool coating	Cave Slotting	Contornatura Side Milling	A spianare Face Milling	A profilare Profiling	Trocooidale Trochoidal	P	M	K	N	S	H	Codice utensile Tool code
∅ d	λ°	Z			Strategie di fresatura Milling strategies											
0.2 ÷ 12	30°	2		HP	-	-	-		-	○	-	○	-	-	●	416RHP
0.2 ÷ 12	30°	2		HP	-	-	-		-	○	-	○	-	-	●	431RHP
0.5 ÷ 4	30°	2		HP	-	-	-		-	○	-	○	-	-	●	430RHP
0.2 ÷ 12	30°	2		HP				-	-	○	-	○	-	-	●	1412HP
0.1 ÷ 8	30°	2		HP				-	-	○	-	○	-	-	●	1430HP
1 ÷ 12	30°	4		HP				-	-	○	-	○	-	-	●	1414HP
6 ÷ 20	45°	6		HP				-	-	○	-	○	-	-	●	1416HP
0.8 ÷ 12	30°	2		HP			-		-	○	-	○	-	-	●	1432HP
0.2 ÷ 12	30°	2		HP			-		-	○	-	○	-	-	●	1433HP
1.5 ÷ 12	30°	4		HP			-		-	○	-	○	-	-	●	1434HP
1 ÷ 12	30°	4		HP			-		-	○	-	○	-	-	●	14334HP
0.2 ÷ 20	30°	2		HPA	-	-	-		-	○	○	○	-	○	●	416RHPA
0.2 ÷ 12	30°	2		HPA	-	-	-		-	○	○	○	-	○	●	431RHPA
0.2 ÷ 20	30°	2		HPA				-	-	○	○	○	-	○	●	1412HPA
0.1 ÷ 8	30°	2		HPA				-	-	○	○	○	-	○	●	1430HPA
1 ÷ 20	30°	4		HPA				-	-	○	○	○	-	○	●	1414HPA

● Raccomandato | Most suitable ○ Possibile | Possible











Guida alla selezione dell'utensile | Tool selection guide:

Pagina Catalogo Catalogue Page	Codice utensile Tool code	Classe prodotto Product class	Tipo di fresa End mill type	
76	1414LHPA	FRESE PER ACCIAI TEMPRATI FINO A 55 HRC END MILLS FOR HARDENED STEELS UP TO 55 HRC	Testa piana serie lunga Square long series	
77	1360HPA		Testa piana Square	
78	1433HPA		Toriche a collo lungo Corner radius long neck	
87	1434HPA		Toriche Corner radius	
89	1440HPA			
90	14334HPA		Toriche a collo lungo Corner radius long neck	
104	1700HPF	FRESE PER LAVORAZIONI UNIVERSALI END MILLS FOR UNIVERSAL MACHINING	Testa piana: Trocoidale Square: Trochoidal	
104	1703HPF			
 105	1705HPF			
 105	1706HPF			
 106	1707HPF		Testa piana: Elica variabile Square: Variable helix	
 106	1708HPF			
108	1701HPF		Testa piana: Passo differenziato, Elica variabile Square: Unequal pitch, variable helix	
109	1702HPF		Testa piana: Rompitruciolo per sgrossatura Square: Chipbreaker for roughing	
109	1704HPF			

Gamma diametri Diameter range	Angolo Elica Flute angle	Numero dei denti No flutes	Lubrificazione Coolant	Rivestimento utensile Tool coating	Cave Slotting	Contornatura Side Milling	A spianare Face Milling	A profilare Profiling	Trocooidale Trochoidal	P	M	K	N	S	H	Codice utensile Tool code
∅ d	λ°	Z			Strategie di fresatura Milling strategies											
2 ÷ 20	30°	4						-	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	-	<input type="radio"/>	<input type="radio"/>	1414LHPA
6 ÷ 20	45°	6						-	-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	-	<input type="radio"/>	<input type="radio"/>	1360HPA
0.2 ÷ 12	30°	2					-		-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	-	<input type="radio"/>	<input type="radio"/>	1433HPA
1.5 ÷ 12	30°	4					-		-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	-	<input type="radio"/>	<input type="radio"/>	1434HPA
6 ÷ 12	0°	4					-		-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	-	<input type="radio"/>	<input type="radio"/>	1440HPA
1 ÷ 12	30°	4					-		-	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	-	<input type="radio"/>	<input type="radio"/>	14334HPA
3 ÷ 20	43°	4						-		<input checked="" type="radio"/>	<input checked="" type="radio"/>	-	-	<input type="radio"/>	-	1700HPF
3 ÷ 20	43°	4						-		<input checked="" type="radio"/>	<input checked="" type="radio"/>	-	-	<input type="radio"/>	-	1703HPF
3 ÷ 20	45°	4						-		<input checked="" type="radio"/>	<input checked="" type="radio"/>	-	-	<input checked="" type="radio"/>	-	1705HPF
3 ÷ 20	45°	4						-		<input checked="" type="radio"/>	<input checked="" type="radio"/>	-	-	<input checked="" type="radio"/>	-	1706HPF
2 ÷ 20	38°/41°	3						-	-	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	-	-	-	1707HPF
2 ÷ 20	38°/41°	3						-	-	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	-	-	-	1708HPF
3 ÷ 20	36°/41°	4						-	-	<input checked="" type="radio"/>	<input checked="" type="radio"/>	-	-	<input checked="" type="radio"/>	-	1701HPF
3 ÷ 20	38°	3-4-6						-	-	<input checked="" type="radio"/>	<input checked="" type="radio"/>	-	-	<input checked="" type="radio"/>	-	1702HPF
3 ÷ 20	38°	3-4-6						-	-	<input checked="" type="radio"/>	<input checked="" type="radio"/>	-	-	<input checked="" type="radio"/>	-	1704HPF

● **Raccomandato** | Most suitable ○ **Possibile** | Possible

Guida alla selezione dell'utensile | Tool selection guide:

Pagina Catalogo Catalogue Page	Codice utensile Tool code	Classe prodotto Product class	Tipo di fresa End mill type	
116	1319HPV	FRESE PER ACCIAI INOSSIDABILI E LEGHE DI TITANIO END MILLS FOR STAINLESS STEELS AND TITANIUM ALLOYS	Testa piana Square	
117	319RHPV		Torica Corner radius	
 122	1267HPC	FRESE PER ALLUMINIO END MILLS FOR ALUMINUM	Testa piana Square	
 123	1268HPC		Testa piana a collo lungo Square long neck	
128	402RHPX	FRESE PER GRAFITE END MILLS FOR GRAPHITE	Sferica a collo lungo Ball nose long neck	
130	1402HPX		Testa piana a collo lungo Square long neck	
132	422RHPD		Sferica a collo lungo Ball nose long neck	
135	424RHPD		Sferica a collo lungo Ball nose long neck	

Gamma diametri Diameter range	Angolo Elica Flute angle	Numero dei denti No flutes	Lubrificazione Coolant	Rivestimento utensile Tool coating	Cave Slotting	Contornatura Side Milling	A spianare Face Milling	A profilare Profiling	Trocooidale Trochoidal	P	M	K	N	S	H	Codice utensile Tool code
Ø d	λ°	Z			Strategie di fresatura Milling strategies											
1 ÷ 12	35°/38°	4		HPV				-	-	-	●	-	-	●	-	1319HPV
1 ÷ 12	35°/38°	4		HPV			-		-	-	●	-	-	●	-	319RHPV
4 ÷ 20	44°	3		HPC				-	-	-	-	-	●	-	-	1267HPC
4 ÷ 20	44°	3		HPC				-	-	-	-	-	●	-	-	1268HPC
0.5 ÷ 12	30°	2		HPX	-	-	-		-	-	-	-	-	-	●	402RHPX
0.5 ÷ 12	30°	2		HPX				-	-	-	-	-	-	-	●	1402HPX
0.5 ÷ 12	30°	2		HPD	-	-	-		-	-	-	-	-	-	●	422RHPD
1.5 ÷ 12	30°	4		HPD	-	-	-		-	-	-	-	-	-	●	424RHPD

● Raccomandato | Most suitable ○ Possibile | Possible



Evolution
FRESE · END MILLS

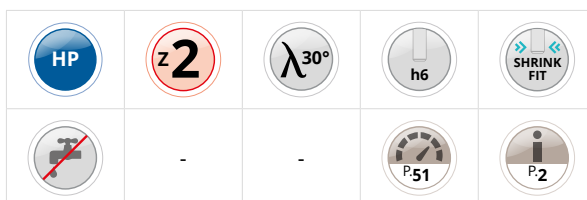
Talicarb



FRESE PER ACCIAI TEMPRATI FINO A 68 HRC
End Mills for hardened steels up to 68 HRC

416RHP

Frese sferiche in metallo duro integrale micrograna.
Ball nose end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

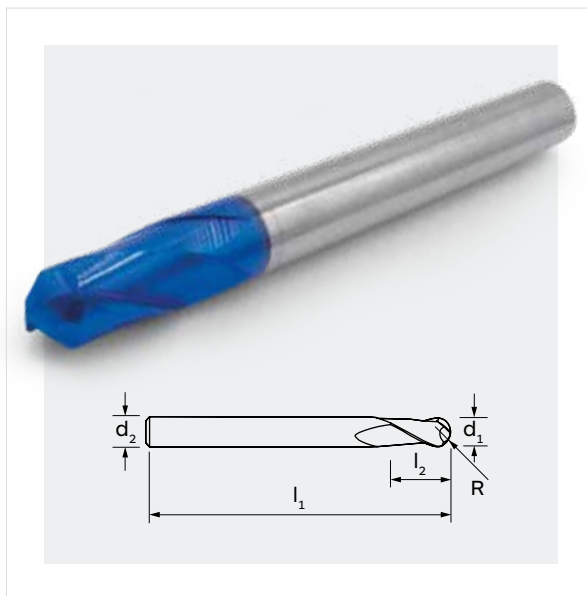
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Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	R ≤ 0.25: 0/-0.005
d > 6: 0/-0.015	R > 0.25: 0/-0.01

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
●	-	○	-	-	●	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
416RHP	d ₁	R	l ₁	l ₂	d ₂	€
.2X.4X45X4	0.2	0.1	45	0.4	4	35,15
.3X.6X45X4	0.3	0.15	45	0.6	4	33,65
.4X.8X45X4	0.4	0.2	45	0.8	4	33,65
.5X1X45X4	0.5	0.25	45	1	4	28,10
.6X1.2X45X4	0.6	0.3	45	1.2	4	27,50
.7X1.5X45X4	0.7	0.35	45	1.5	4	27,50
.8X2X45X4	0.8	0.4	45	2	4	26,60
1X2.5X45X4	1.0	0.5	45	2.5	4	24,20
1X2.5X50X6	1.0	0.5	50	2.5	6	28,40
1.2X3X45X4	1.2	0.6	45	3	4	24,20
1.5X3X45X4	1.5	0.75	45	3	4	24,20
1.5X3X50X6	1.5	0.75	50	3	6	28,40
2X5X45X4	2.0	1.0	45	5	4	24,20
2X5X50X6	2.0	1.0	50	5	6	28,40
2.5X6X45X4	2.5	1.25	45	6	4	25,45
2.5X6X50X6	2.5	1.25	50	6	6	32,75
3X8X50X4	3.0	1.5	50	8	4	25,45
3X8X60X6	3.0	1.5	60	8	6	29,90

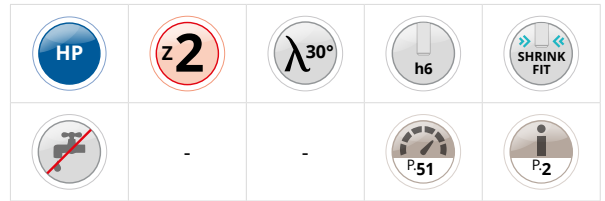
La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
416RHP	d ₁	R	l ₁	l ₂	d ₂	€
3.5X8X50X4	3.5	1.75	50	8	4	27,75
4X8X60X4	4.0	2.0	60	8	4	26,85
4X8X60X6	4.0	2.0	60	8	6	29,90
5X10X60X6	5.0	2.5	60	10	6	32,65
6X12X60X6	6.0	3.0	60	12	6	31,40
6X12X70X6	6.0	3.0	70	12	6	35,15
6X12X80X6	6.0	3.0	80	12	6	36,90
6X12X90X6	6.0	3.0	90	12	6	39,20
6X12X100X6	6.0	3.0	100	12	6	40,90
7X14X80X8	7.0	3.5	80	14	8	41,80
8X14X60X8	8.0	4.0	60	14	8	36,50
8X14X90X8	8.0	4.0	90	14	8	47,00
8X14X100X8	8.0	4.0	100	14	8	48,70
8X14X110X8	8.0	4.0	110	14	8	52,10
9X16X100X10	9.0	4.5	100	16	10	60,00
10X18X70X10	10.0	5.0	70	18	10	48,90
10X18X90X10	10.0	5.0	90	18	10	56,60
10X18X100X10	10.0	5.0	100	18	10	60,10
12X22X75X12	12.0	6.0	75	22	12	66,10
12X22X100X12	12.0	6.0	100	22	12	79,50
12X22X110X12	12.0	6.0	110	22	12	84,60

431RHP

Frese sferiche a collo lungo in metallo duro integrale micrograna.

Ball nose long neck end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

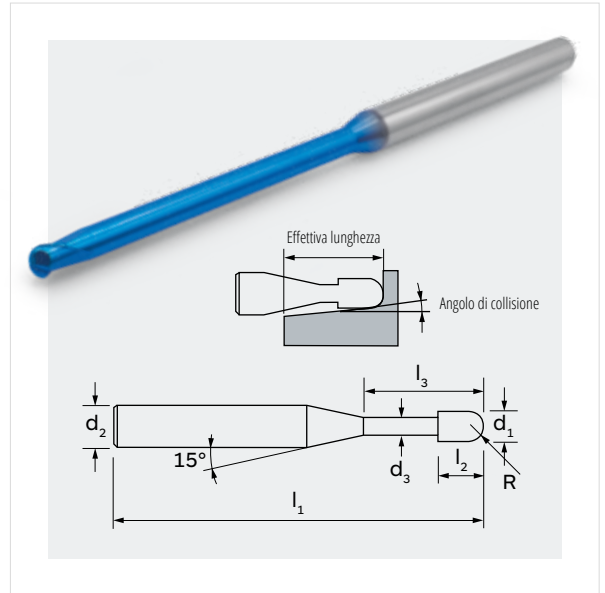
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Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01 d > 6: 0/-0.015	R ≤ 0.25: 0/-0.005 R > 0.25: 0/-0.01

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	● Raccomandato - Most suitable ○ Possibile - Possible
○	-	○	-	-	●	



Codice d'ordine Order Code 431RHP	Diametro fresa End mill diameter d₁	Raggio fresa End mill radius R	Lunghezza totale Overall length l₁	Lunghezza di taglio Length of cut l₂	Lunghezza utile Length of reach l₃	Diametro attacco Shank diameter d₂	Diametro collo Neck diameter d₃	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price €
								30'	1°	1°30'	2°	3°	
.2X.5X45X4	0.2	0.1	45	0.15	0.50	4	0.18	0.55	0.56	0.58	0.6	0.64	38,20
.2X.75X45X4	0.2	0.1	45	0.15	0.75	4	0.18	0.81	0.83	0.86	0.89	0.95	38,20
.2X1X45X4	0.2	0.1	45	0.15	1.00	4	0.18	1.06	1.1	1.13	1.17	1.26	38,20
.2X1.25X45X4	0.2	0.1	45	0.15	1.25	4	0.18	1.32	1.37	1.41	1.46	1.57	38,20
.2X1.5X45X4	0.2	0.1	45	0.15	1.50	4	0.18	1.58	1.63	1.69	1.75	1.88	38,20
.2X2X45X4	0.2	0.1	45	0.15	2.00	4	0.18	2.1	2.17	2.24	2.32	2.5	38,20
.2X2.5X45X4	0.2	0.1	45	0.15	2.50	4	0.18	2.61	2.7	2.8	2.9	3.12	38,20
.2X3X45X4	0.2	0.1	45	0.15	3.00	4	0.18	3.13	3.24	3.35	3.47	3.75	38,20
.3X.5X45X4	0.3	0.15	45	0.25	0.50	4	0.28	0.55	0.56	0.57	0.59	0.63	36,65
.3X.75X45X4	0.3	0.15	45	0.25	0.75	4	0.28	0.80	0.83	0.85	0.88	0.94	36,65
.3X1X45X4	0.3	0.15	45	0.25	1.00	4	0.28	1.06	1.09	1.13	1.17	1.25	36,65
.3X1.25X45X4	0.3	0.15	45	0.25	1.25	4	0.28	1.32	1.36	1.41	1.45	1.56	36,65
.3X1.5X45X4	0.3	0.15	45	0.25	1.50	4	0.28	1.58	1.63	1.68	1.74	1.87	36,65
.3X2X45X4	0.3	0.15	45	0.25	2.00	4	0.28	2.10	2.16	2.24	2.32	2.49	36,65
.3X2.5X45X4	0.3	0.15	45	0.25	2.50	4	0.28	2.61	2.70	2.79	2.89	3.11	36,65
.3X3X45X4	0.3	0.15	45	0.25	3.00	4	0.28	3.13	3.23	3.35	3.47	3.73	36,65
.4X1X45X4	0.4	0.2	45	0.30	1.00	4	0.37	1.08	1.11	1.14	1.18	1.26	34,65
.4X1.5X45X4	0.4	0.2	45	0.30	1.50	4	0.37	1.60	1.65	1.70	1.75	1.88	34,65

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Per Acciai Temprati s68 HRC For Hardened Steels s68 HRC

Codice d'ordine Order Code 431RHP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	.4X2X45X4	0.4	0.2	45	0.30	2.00	4	0.37	2.11	2.18	2.25	2.33	2.50
.4X2.5X45X4	0.4	0.2	45	0.30	2.50	4	0.37	2.63	2.72	2.81	2.90	3.12	34,65
.4X3X45X4	0.4	0.2	45	0.30	3.00	4	0.37	3.15	3.25	3.36	3.48	3.75	34,65
.4X3.5X45X4	0.4	0.2	45	0.30	3.50	4	0.37	3.66	3.78	3.91	4.05	4.37	34,65
.4X4X45X4	0.4	0.2	45	0.30	4.00	4	0.37	4.18	4.32	4.47	4.63	4.99	34,65
.4X4.5X45X4	0.4	0.2	45	0.30	4.50	4	0.37	4.70	4.85	5.02	5.20	5.61	34,65
.4X5X45X4	0.4	0.2	45	0.30	5.00	4	0.37	5.21	5.39	5.58	5.78	6.23	34,65
.4X6X45X4	0.4	0.2	45	0.30	6.00	4	0.37	6.25	6.46	6.69	6.93	7.47	34,65
.4X8X45X4	0.4	0.2	45	0.30	8.00	4	0.37	8.32	8.60	8.90	9.23	9.96	34,65
.5X1X45X4	0.5	0.25	45	0.35	1.00	4	0.47	1.08	1.11	1.14	1.17	1.25	31,65
.5X1.5X45X4	0.5	0.25	45	0.35	1.50	4	0.47	1.59	1.64	1.69	1.75	1.87	31,65
.5X2X45X4	0.5	0.25	45	0.35	2.00	4	0.47	2.11	2.18	2.25	2.32	2.49	31,65
.5X2.5X45X4	0.5	0.25	45	0.35	2.50	4	0.47	2.63	2.71	2.80	2.90	3.11	31,65
.5X3X45X4	0.5	0.25	45	0.35	3.00	4	0.47	3.15	3.25	3.35	3.47	3.73	31,65
.5X4X45X4	0.5	0.25	45	0.35	4.00	4	0.47	4.18	4.32	4.46	4.62	4.98	31,65
.5X5X45X4	0.5	0.25	45	0.35	5.00	4	0.47	5.21	5.39	5.57	5.77	6.22	31,65
.5X6X45X4	0.5	0.25	45	0.35	6.00	4	0.47	6.25	6.46	6.68	6.92	7.46	31,65
.5X8X45X4	0.5	0.25	45	0.35	8.00	4	0.47	8.31	8.59	8.90	9.22	9.95	31,65
.5X10X45X4	0.5	0.25	45	0.35	10.00	4	0.47	10.38	10.73	11.11	11.52	12.44	31,65
.6X1X45X4	0.6	0.3	45	0.40	1.00	4	0.57	1.08	1.10	1.13	1.16	1.23	30,35
.6X2X45X4	0.6	0.3	45	0.40	2.00	4	0.57	2.11	2.17	2.24	2.31	2.48	30,35
.6X2.5X45X4	0.6	0.3	45	0.40	2.50	4	0.57	2.63	2.71	2.80	2.89	3.10	30,35
.6X3X45X4	0.6	0.3	45	0.40	3.00	4	0.57	3.14	3.24	3.35	3.46	3.72	30,35
.6X3.5X45X4	0.6	0.3	45	0.40	3.50	4	0.57	3.66	3.78	3.90	4.04	4.34	30,35
.6X4X45X4	0.6	0.3	45	0.40	4.00	4	0.57	4.18	4.31	4.46	4.61	4.96	30,35
.6X4.5X45X4	0.6	0.3	45	0.40	4.50	4	0.57	4.69	4.85	5.01	5.19	5.59	30,35
.6X5X45X4	0.6	0.3	45	0.40	5.00	4	0.57	5.21	5.38	5.57	5.76	6.21	30,35
.6X5.5X45X4	0.6	0.3	45	0.40	5.50	4	0.57	5.73	5.92	6.12	6.34	6.83	30,35
.6X6X45X4	0.6	0.3	45	0.40	6.00	4	0.57	6.24	6.45	6.67	6.91	7.45	30,35
.6X8X45X4	0.6	0.3	45	0.40	8.00	4	0.57	8.31	8.59	8.89	9.21	9.94	30,35
.6X10X45X4	0.6	0.3	45	0.40	10.00	4	0.57	10.38	10.73	11.11	11.51	12.42	30,35
.6X12X45X4	0.6	0.3	45	0.40	12.00	4	0.57	12.45	12.87	13.32	13.81	14.91	30,35
.7X2X45X4	0.7	0.35	45	0.45	2.00	4	0.66	2.13	2.19	2.26	2.33	2.49	30,35
.7X4X45X4	0.7	0.35	45	0.45	4.00	4	0.66	4.20	4.33	4.47	4.63	4.98	30,35
.7X6X45X4	0.7	0.35	45	0.45	6.00	4	0.66	6.26	6.47	6.69	6.93	7.46	30,35
.7X8X45X4	0.7	0.35	45	0.45	8.00	4	0.66	8.33	8.61	8.91	9.23	9.95	30,35
.8X2X45X4	0.8	0.4	45	0.50	2.00	4	0.77	2.11	2.17	2.23	2.30	2.45	29,10
.8X3X45X4	0.8	0.4	45	0.50	3.00	4	0.77	3.14	3.24	3.34	3.45	3.70	29,10
.8X4X45X4	0.8	0.4	45	0.50	4.00	4	0.77	4.17	4.31	4.45	4.60	4.94	29,10
.8X5X45X4	0.8	0.4	45	0.50	5.00	4	0.77	5.21	5.38	5.56	5.75	6.18	29,10
.8X6X45X4	0.8	0.4	45	0.50	6.00	4	0.77	6.24	6.45	6.66	6.90	7.43	29,10
.8X8X45X4	0.8	0.4	45	0.50	8.00	4	0.77	8.31	8.58	8.88	9.20	9.91	29,10
.8X10X45X4	0.8	0.4	45	0.50	10.00	4	0.77	10.38	10.72	11.10	11.50	12.40	29,10

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Codice d'ordine Order Code 431RHP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
.8X12X45X4	0.8	0.4	45	0.50	12.00	4	0.77	12.44	12.86	13.31	13.80	14.89	29,10
.9X2X45X4	0.9	0.45	45	0.60	2.00	4	0.85	2.14	2.20	2.27	2.33	2.49	29,10
.9X4X45X4	0.9	0.45	45	0.60	4.00	4	0.85	4.21	4.34	4.48	4.63	4.97	29,10
.9X6X45X4	0.9	0.45	45	0.60	6.00	4	0.85	6.28	6.48	6.70	6.93	7.46	29,10
.9X8X45X4	0.9	0.45	45	0.60	8.00	4	0.85	8.35	8.62	8.92	9.23	9.95	29,10
.9X10X45X4	0.9	0.45	45	0.60	10.00	4	0.85	10.41	10.76	11.13	11.53	12.43	29,10
1X2X45X4	1.0	0.5	45	0.80	2.00	4	0.95	2.14	2.20	2.26	2.33	2.48	27,00
1X3X45X4	1.0	0.5	45	0.80	3.00	4	0.95	3.18	3.27	3.37	3.48	3.72	27,00
1X4X45X4	1.0	0.5	45	0.80	4.00	4	0.95	4.21	4.34	4.48	4.63	4.96	27,00
1X4X50X6	1.0	0.5	50	0.80	4.00	6	0.95	4.21	4.34	4.48	4.63	4.96	31,75
1X5X45X4	1.0	0.5	45	0.80	5.00	4	0.95	5.24	5.41	5.59	5.78	6.21	27,00
1X6X45X4	1.0	0.5	45	0.80	6.00	4	0.95	6.28	6.48	6.69	6.93	7.45	27,00
1X6X50X6	1.0	0.5	50	0.80	6.00	6	0.95	6.28	6.48	6.69	6.93	7.45	31,75
1X8X45X4	1.0	0.5	45	0.80	8.00	4	0.95	8.34	8.62	8.91	9.23	9.93	27,00
1X8X50X6	1.0	0.5	50	0.80	8.00	6	0.95	8.34	8.62	8.91	9.23	9.93	31,75
1X10X45X4	1.0	0.5	45	0.80	10.00	4	0.95	10.41	10.76	11.13	11.53	12.42	27,00
1X10X50X6	1.0	0.5	50	0.80	10.00	6	0.95	10.41	10.76	11.13	11.53	12.42	31,75
1X12X45X4	1.0	0.5	45	0.80	12.00	4	0.95	12.48	12.90	13.34	13.83	14.91	27,00
1X12X50X6	1.0	0.5	50	0.80	12.00	6	0.95	12.48	12.90	13.34	13.83	14.91	31,75
1X14X45X4	1.0	0.5	45	0.80	14.00	4	0.95	14.55	15.04	15.56	16.13	17.39	27,00
1X16X50X4	1.0	0.5	50	0.80	16.00	4	0.95	16.61	17.17	17.78	18.43	19.88	27,65
1X16X60X6	1.0	0.5	60	0.80	16.00	6	0.95	16.61	17.17	17.78	18.43	19.88	32,90
1X18X50X4	1.0	0.5	50	0.80	18.00	4	0.95	18.68	19.31	19.99	20.72	22.37	28,10
1X20X50X4	1.0	0.5	50	0.80	20.00	4	0.95	20.75	21.45	22.21	23.02	24.85	28,10
1X20X60X6	1.0	0.5	60	0.80	20.00	6	0.95	20.75	21.45	22.21	23.02	24.85	32,90
1.2X4X45X4	1.2	0.6	45	1.20	4.00	4	1.14	4.23	4.35	4.49	4.63	4.96	27,00
1.2X6X45X4	1.2	0.6	45	1.20	6.00	4	1.14	6.29	6.49	6.70	6.93	7.45	27,00
1.2X8X45X4	1.2	0.6	45	1.20	8.00	4	1.14	8.36	8.63	8.92	9.23	9.93	27,00
1.2X10X45X4	1.2	0.6	45	1.20	10.00	4	1.14	10.43	10.77	11.14	11.53	12.42	27,00
1.2X12X45X4	1.2	0.6	45	1.20	12.00	4	1.14	12.49	12.91	13.35	13.83	14.91	27,00
1.2X16X50X4	1.2	0.6	50	1.20	16.00	4	1.14	16.63	17.19	17.79	18.43	19.88	27,65
1.2X20X50X4	1.2	0.6	50	1.20	20.00	4	1.14	20.76	21.47	22.22	23.03	24.85	28,10
1.5X3X45X4	1.5	0.75	45	1.35	3.00	4	1.44	3.19	3.27	3.36	3.46	3.68	27,00
1.5X4X45X4	1.5	0.75	45	1.35	4.00	4	1.44	4.22	4.34	4.47	4.61	4.92	27,00
1.5X4X50X6	1.5	0.75	50	1.35	4.00	6	1.44	4.22	4.34	4.47	4.61	4.92	31,75
1.5X6X45X4	1.5	0.75	45	1.35	6.00	4	1.44	6.29	6.48	6.69	6.91	7.41	27,00
1.5X6X50X6	1.5	0.75	50	1.35	6.00	6	1.44	6.29	6.48	6.69	6.91	7.41	31,75
1.5X8X45X4	1.5	0.75	45	1.35	8.00	4	1.44	8.35	8.62	8.90	9.21	9.90	27,00
1.5X8X50X6	1.5	0.75	50	1.35	8.00	6	1.44	8.35	8.62	8.90	9.21	9.90	31,75
1.5X10X45X4	1.5	0.75	45	1.35	10.00	4	1.44	10.42	10.76	11.12	11.51	12.38	27,00
1.5X10X50X6	1.5	0.75	50	1.35	10.00	6	1.44	10.42	10.76	11.12	11.51	12.38	31,75
1.5X12X45X4	1.5	0.75	45	1.35	12.00	4	1.44	12.49	12.90	13.34	13.81	14.87	27,00
1.5X12X50X6	1.5	0.75	50	1.35	12.00	6	1.44	12.49	12.90	13.34	13.81	14.87	31,75

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Codice d'ordine Order Code 431RHP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	1.5X14X45X4	1.5	0.75	45	1.35	14.00	4	1.44	14.56	15.04	15.55	16.11	17.36
1.5X16X50X4	1.5	0.75	50	1.35	16.00	4	1.44	16.62	17.18	17.77	18.41	19.84	27,65
1.5X16X60X6	1.5	0.75	60	1.35	16.00	6	1.44	16.62	17.18	17.77	18.41	19.84	32,90
1.5X20X50X4	1.5	0.75	50	1.35	20.00	4	1.44	20.76	21.46	22.20	23.01	libero	28,10
1.5X20X60X6	1.5	0.75	60	1.35	20.00	6	1.44	20.76	21.46	22.20	23.01	24.81	32,90
1.5X25X60X4	1.5	0.75	60	1.35	25.00	4	1.44	25.93	26.80	27.75	28.76	libero	29,65
1.5X30X70X4	1.5	0.75	70	1.35	30.00	4	1.44	31.10	32.15	33.29	34.51	libero	31,30
1.6X6X45X4	1.6	0.8	45	1.60	6.00	4	1.55	6.27	6.46	6.66	6.88	7.38	29,10
1.6X8X45X4	1.6	0.8	45	1.60	8.00	4	1.55	8.33	8.60	8.88	9.18	9.86	29,10
1.6X10X45X4	1.6	0.8	45	1.60	10.00	4	1.55	10.40	10.74	11.09	11.48	12.35	29,10
1.6X12X45X4	1.6	0.8	45	1.60	12.00	4	1.55	12.47	12.88	13.31	13.78	14.83	29,10
1.6X16X50X4	1.6	0.8	50	1.60	16.00	4	1.55	16.60	17.15	17.74	18.38	19.81	30,35
1.6X20X50X4	1.6	0.8	50	1.60	20.00	4	1.55	20.74	21.43	22.18	22.98	libero	30,35
2X4X45X4	2.0	1.0	45	1.80	4.00	4	1.92	4.25	4.36	4.49	4.62	4.91	27,00
2X6X45X4	2.0	1.0	45	1.80	6.00	4	1.92	6.32	6.50	6.70	6.92	7.40	27,00
2X6X50X6	2.0	1.0	50	1.80	6.00	6	1.92	6.32	6.50	6.70	6.92	7.40	31,75
2X8X45X4	2.0	1.0	45	1.80	8.00	4	1.92	8.38	8.64	8.92	9.22	9.88	27,00
2X8X50X6	2.0	1.0	50	1.80	8.00	6	1.92	8.38	8.64	8.92	9.22	9.88	31,75
2X10X45X4	2.0	1.0	45	1.80	10.00	4	1.92	10.45	10.78	11.14	11.52	12.37	27,00
2X10X50X6	2.0	1.0	50	1.80	10.00	6	1.92	10.45	10.78	11.14	11.52	12.37	31,75
2X12X45X4	2.0	1.0	45	1.80	12.00	4	1.92	12.52	12.92	13.35	13.82	14.86	27,00
2X12X50X6	2.0	1.0	50	1.80	12.00	6	1.92	12.52	12.92	13.35	13.82	14.86	31,75
2X14X45X4	2.0	1.0	45	1.80	14.00	4	1.92	14.59	15.06	15.57	16.11	17.34	27,00
2X16X50X4	2.0	1.0	50	1.80	16.00	4	1.92	16.65	17.20	17.79	18.41	19.83	27,65
2X16X60X6	2.0	1.0	60	1.80	16.00	6	1.92	16.65	17.20	17.79	18.41	19.83	32,90
2X18X50X4	2.0	1.0	50	1.80	18.00	4	1.92	18.72	19.34	20.00	20.71	libero	28,10
2X20X50X4	2.0	1.0	50	1.80	20.00	4	1.92	20.79	21.48	22.22	23.01	libero	28,10
2X20X60X6	2.0	1.0	60	1.80	20.00	6	1.92	20.79	21.48	22.22	23.01	24.80	32,90
2X25X60X4	2.0	1.0	60	1.80	25.00	4	1.92	25.96	26.83	27.76	28.76	libero	28,60
2X25X60X6	2.0	1.0	60	1.80	25.00	6	1.92	25.96	26.83	27.76	28.76	31.02	32,90
2X30X70X4	2.0	1.0	70	1.80	30.00	4	1.92	31.13	32.18	33.30	libero	libero	31,30
2X35X70X4	2.0	1.0	70	1.80	35.00	4	1.92	36.29	37.52	38.84	libero	libero	31,30
2X40X80X4	2.0	1.0	80	1.80	40.00	4	1.92	41.46	42.87	libero	libero	libero	34,15
2.5X8X45X4	2.5	1.25	45	2.50	8.00	4	2.39	8.43	8.68	8.95	9.24	9.89	27,50
2.5X10X45X4	2.5	1.25	45	2.50	10.00	4	2.39	10.50	10.82	11.17	11.54	12.38	27,50
2.5X12X45X4	2.5	1.25	45	2.50	12.00	4	2.39	12.57	12.96	13.39	13.84	14.86	27,50
2.5X16X50X4	2.5	1.25	50	2.50	16.00	4	2.39	16.70	17.24	17.82	18.44	libero	27,65
2.5X20X50X4	2.5	1.25	50	2.50	20.00	4	2.39	20.84	21.52	22.25	libero	libero	28,10
2.5X25X60X4	2.5	1.25	60	2.50	25.00	4	2.39	26.01	26.87	27.79	libero	libero	29,50
3X6X50X6	3.0	1.5	50	3.00	6.00	6	2.86	6.42	6.59	6.77	6.97	7.41	32,75
3X8X50X6	3.0	1.5	50	3.00	8.00	6	2.86	8.48	8.73	8.99	9.27	9.90	32,75
3X10X50X6	3.0	1.5	50	3.00	10.00	6	2.86	10.55	10.87	11.21	11.57	12.39	32,75
3X12X50X6	3.0	1.5	50	3.00	12.00	6	2.86	12.62	13.01	13.42	13.87	14.87	32,75

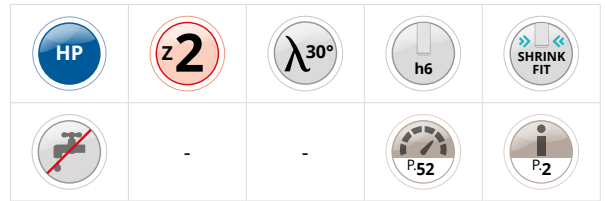
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Codice d'ordine Order Code 431RHP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
3X14X50X6	3.0	1.5	50	3.00	14.00	6	2.86	14.69	15.15	15.64	16.17	17.36	32,75
3X16X60X6	3.0	1.5	60	3.00	16.00	6	2.86	16.75	17.28	17.86	18.47	19.85	34,55
3X18X60X6	3.0	1.5	60	3.00	18.00	6	2.86	18.82	19.42	20.07	20.77	22.33	34,55
3X20X60X6	3.0	1.5	60	3.00	20.00	6	2.86	20.89	21.56	22.29	23.07	24.82	34,55
3X25X60X6	3.0	1.5	60	3.00	25.00	6	2.86	26.06	26.91	27.83	28.82	libero	34,55
3X30X70X6	3.0	1.5	70	3.00	30.00	6	2.86	31.22	32.26	33.37	34.57	libero	38,50
3X35X70X6	3.0	1.5	70	3.00	35.00	6	2.86	36.39	37.61	38.91	40.32	libero	40,00
3X40X80X6	3.0	1.5	80	3.00	40.00	6	2.86	41.56	42.96	44.45	libero	libero	42,70
3X50X100X6	3.0	1.5	100	3.00	50.00	6	2.86	51.90	53.65	55.54	libero	libero	46,20
3.5X15X60X6	3.5	1.75	60	3.50	15.00	6	3.35	15.73	16.22	16.74	17.30	18.56	35,15
3.5X20X60X6	3.5	1.75	60	3.50	20.00	6	3.35	20.90	21.57	22.28	23.05	24.78	35,15
3.5X25X60X6	3.5	1.75	60	3.50	25.00	6	3.35	26.07	26.91	27.82	28.80	libero	36,20
3.5X30X70X6	3.5	1.75	70	3.50	30.00	6	3.35	31.24	32.26	33.37	34.55	libero	40,00
3.5X40X80X6	3.5	1.75	80	3.50	40.00	6	3.35	41.57	42.96	44.45	libero	libero	42,00
4X10X50X6	4.0	2.0	50	4.00	10.00	6	3.80	10.65	10.95	11.28	11.62	12.40	32,75
4X12X50X6	4.0	2.0	50	4.00	12.00	6	3.80	12.72	13.09	13.49	13.92	14.89	32,75
4X16X60X6	4.0	2.0	60	4.00	16.00	6	3.80	16.85	17.37	17.93	18.52	19.86	34,55
4X20X60X6	4.0	2.0	60	4.00	20.00	6	3.80	20.99	21.65	22.36	23.12	libero	34,55
4X25X60X6	4.0	2.0	60	4.00	25.00	6	3.80	26.16	27.00	27.90	28.87	libero	34,55
4X30X70X6	4.0	2.0	70	4.00	30.00	6	3.80	31.32	32.35	33.44	libero	libero	38,50
4X35X70X6	4.0	2.0	70	4.00	35.00	6	3.80	36.49	37.69	38.98	libero	libero	40,00
4X40X80X6	4.0	2.0	80	4.00	40.00	6	3.80	41.66	43.04	libero	libero	libero	42,70
4X50X100X6	4.0	2.0	100	4.00	50.00	6	3.80	52.00	53.74	libero	libero	libero	46,20
6X15X60X6	6.0	3.0	60	7.00	15.00	6	5.70	libero	libero	libero	libero	libero	33,80
6X20X60X6	6.0	3.0	60	7.00	20.00	6	5.70	libero	libero	libero	libero	libero	33,80
6X30X70X6	6.0	3.0	70	7.00	30.00	6	5.70	libero	libero	libero	libero	libero	44,50
8X20X60X8	8.0	4.0	60	10.00	20.00	8	7.60	libero	libero	libero	libero	libero	40,60
8X25X60X8	8.0	4.0	60	10.00	25.00	8	7.60	libero	libero	libero	libero	libero	40,60
8X30X100X8	8.0	4.0	100	10.00	30.00	8	7.60	libero	libero	libero	libero	libero	51,60
10X25X70X10	10.0	5.0	70	12.00	25.00	10	9.50	libero	libero	libero	libero	libero	51,60
10X30X70X10	10.0	5.0	70	12.00	30.00	10	9.50	libero	libero	libero	libero	libero	51,60
10X35X100X10	10.0	5.0	100	12.00	35.00	10	9.50	libero	libero	libero	libero	libero	62,80
12X30X80X12	12.0	6.0	80	14.00	30.00	12	11.50	libero	libero	libero	libero	libero	69,70
12X40X110X12	12.0	6.0	110	14.00	40.00	12	11.50	libero	libero	libero	libero	libero	85,70

430RHP

Frese sferiche a collo conico in metallo duro integrale micrograna.

Ball nose tapered neck end mills in solid carbide micro grain.



Per Acciai Temprati ≤68 HRC
For Hardened Steels ≤68 HRC

Strategie di fresatura | Milling strategies:

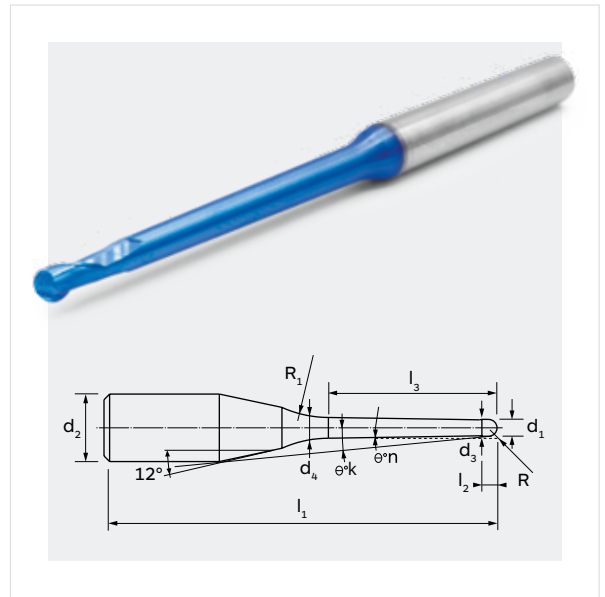
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Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d≤6: 0/-0.01	R≤0.25: 0/-0.005
d>6: 0/-0.015	R>0.25: 0/-0.01

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	● Raccomandato - Most suitable
○	-	○	-	-	●	○ Possibile - Possible



Codice d'ordine Order Code 430RHP	Diametro fresa End mill diameter d₁	Raggio fresa End mill radius R	Lunghezza totale Overall length l₁	Lunghezza di taglio Length of cut l₂	Lunghezza utile Length of reach l₃	Diametro attacco Shank diameter d₂	Diametro collo Neck diameter d₃	Diametro sotto collo Under Neck diameter d₄	Angolo collo Neck angle θ°n	Raggio collo Radius neck R₁	Angolo interferenza Interference angle θ°k	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price €
												0,5°	1°	1°5	2°	3°	
.5X.25X.4X4X50X4	0.5	0.25	50	0.35	4	4	0.47	0.521	0.4	7	8.35	4.62	5.00	5.30	5.55	5.99	43,00
.5X.25X.4X6X50X4	0.5	0.25	50	0.35	6	4	0.47	0.549	0.4	10	7.20	6.80	7.41	7.86	8.24	8.89	43,00
.5X.25X.9X6X50X4	0.5	0.25	50	0.35	6	4	0.47	0.648	0.9	10	7.32	2.62	6.92	7.52	7.97	8.69	43,00
.5X.25X.9X8X50X4	0.5	0.25	50	0.35	8	4	0.47	0.710	0.9	10	6.45	2.62	8.96	9.67	10.18	10.99	43,00
.5X.25X.9X12X50X4	0.5	0.25	50	0.35	12	4	0.47	0.836	0.9	10	5.21	2.62	13.05	13.94	14.55	15.49	43,00
.6X.3X.4X2X50X4	0.6	0.3	50	0.40	2	4	0.57	0.592	0.4	4	9.93	2.42	2.59	2.73	2.85	3.08	43,00
.6X.3X.4X4X50X4	0.6	0.3	50	0.40	4	4	0.57	0.620	0.4	7	8.31	4.62	5.00	5.29	5.54	5.98	43,00
.6X.3X.4X6X50X4	0.6	0.3	50	0.40	6	4	0.57	0.648	0.4	10	7.14	6.80	7.41	7.85	8.23	8.88	43,00
.6X.3X.4X8X50X4	0.6	0.3	50	0.40	8	4	0.57	0.676	0.4	10	6.26	8.85	9.56	10.07	10.50	11.22	43,00
.6X.3X.4X10X50X4	0.6	0.3	50	0.40	10	4	0.57	0.704	0.4	10	5.57	10.89	11.70	12.27	12.73	13.52	43,00
.6X.3X.4X12X55X4	0.6	0.3	55	0.40	12	4	0.57	0.732	0.4	10	5.02	12.94	13.83	14.44	14.95	15.79	45,30
.6X.3X.4X15X55X4	0.6	0.3	55	0.40	15	4	0.57	0.774	0.4	10	4.37	15.99	17.01	17.68	18.24	19.27	45,30
.6X.3X.9X4X50X4	0.6	0.3	50	0.40	4	4	0.57	0.683	0.9	7	8.41	2.67	4.70	5.07	5.37	5.85	43,00
.6X.3X.9X6X50X4	0.6	0.3	50	0.40	6	4	0.57	0.746	0.9	10	7.26	2.67	6.92	7.51	7.96	8.68	43,00
.6X.3X.9X8X50X4	0.6	0.3	50	0.40	8	4	0.57	0.809	0.9	10	6.38	2.67	8.96	9.67	10.18	10.98	43,00
.6X.3X.9X10X50X4	0.6	0.3	50	0.40	10	4	0.57	0.872	0.9	10	5.70	2.67	11.01	11.81	12.37	13.25	43,00
.6X.3X.9X12X55X4	0.6	0.3	55	0.40	12	4	0.57	0.934	0.9	10	5.14	2.67	13.05	13.94	14.54	15.49	45,30
.6X.3X.9X15X55X4	0.6	0.3	55	0.40	15	4	0.57	1.029	0.9	10	4.49	2.67	16.10	17.11	17.78	18.81	45,30

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 430RHP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Diametro sotto collo Under Neck diameter	Angolo collo Neck angle	Raggio collo Radius neck	Angolo interferenza Interference angle	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d_1	R	l_1	l_2	l_3	d_2	d_3	d_4	$\theta^\circ n$	R_1	$\theta^\circ k$	0,5°	1°	1°5	2°	3°	€
.6X.3X1.4X4X50X4	0.6	0.3	50	0.40	4	4	0.57	0.746	1.4	7	8.52	1.41	2.80	4.78	5.16	5.70	43,00
.6X.3X1.4X5X50X4	0.6	0.3	50	0.40	5	4	0.57	0.795	1.4	7	7.91	1.41	2.80	5.80	6.23	6.83	43,00
.6X.3X1.4X6X50X4	0.6	0.3	50	0.40	6	4	0.57	0.844	1.4	10	7.39	1.41	2.80	7.04	7.63	8.45	43,00
.6X.3X1.4X8X50X4	0.6	0.3	50	0.40	8	4	0.57	0.941	1.4	10	6.52	1.41	2.80	9.08	9.78	10.71	43,00
.6X.3X1.4X10X50X4	0.6	0.3	50	0.40	10	4	0.57	1.039	1.4	10	5.83	1.41	2.80	11.13	11.92	12.94	43,00
.6X.3X1.4X20X60X4	0.6	0.3	60	0.40	20	4	0.57	1.528	1.4	10	3.82	1.41	2.80	21.31	22.47	23.84	48,30
.6X.3X2.9X6X50X4	0.6	0.3	50	0.40	6	4	0.57	1.137	2.9	10	7.79	0.77	0.90	1.12	1.58	7.45	43,00
.6X.3X2.9X8X50X4	0.6	0.3	50	0.40	8	4	0.57	1.340	2.9	10	6.95	0.77	0.90	1.12	1.58	9.49	43,00
.6X.3X2.9X12X55X4	0.6	0.3	55	0.40	12	4	0.57	1.745	2.9	10	5.71	0.77	0.90	1.12	1.58	13.56	45,20
.8X.4X.4X4X50X4	0.8	0.4	50	0.50	4	4	0.77	0.819	0.4	7	8.22	4.61	4.99	5.28	5.53	5.97	34,40
.8X.4X.4X6X50X4	0.8	0.4	50	0.50	6	4	0.77	0.847	0.4	7	7.01	6.66	7.14	7.50	7.79	8.30	34,40
.8X.4X.4X8X50X4	0.8	0.4	50	0.50	8	4	0.77	0.875	0.4	10	6.11	8.85	9.56	10.06	10.49	11.21	34,40
.8X.4X.4X12X55X4	0.8	0.4	55	0.50	12	4	0.77	0.931	0.4	10	4.86	12.93	13.83	14.44	14.94	15.77	36,20
.8X.4X.9X8X50X4	0.8	0.4	50	0.50	8	4	0.77	1.006	0.9	10	6.24	2.77	8.96	9.66	10.17	10.97	34,40
.8X.4X.9X12X55X4	0.8	0.4	55	0.50	12	4	0.77	1.131	0.9	10	4.99	2.77	13.04	13.93	14.54	15.48	36,20
.8X.4X.9X16X55X4	0.8	0.4	55	0.50	16	4	0.77	1.257	0.9	10	4.15	2.77	17.12	18.16	18.85	19.90	36,20
1X.5X.4X6X50X6	1	0.5	50	0.80	6	6	0.94	1.013	0.4	7	8.26	6.82	7.24	7.57	7.85	8.34	42,80
1X.5X.4X8X55X6	1	0.5	55	0.80	8	6	0.94	1.041	0.4	7	7.44	8.85	9.36	9.74	10.07	10.62	45,50
1X.5X.4X10X55X6	1	0.5	55	0.80	10	6	0.94	1.068	0.4	10	6.76	11.07	11.79	12.33	12.78	13.54	45,50
1X.5X.4X15X60X6	1	0.5	60	0.80	15	6	0.94	1.138	0.4	10	5.51	16.16	17.08	17.73	18.27	19.31	48,80
1X.5X.4X20X65X6	1	0.5	65	0.80	20	6	0.94	1.208	0.4	10	4.65	21.23	22.33	23.08	23.69	25.73	51,60
1X.5X.4X25X70X6	1	0.5	70	0.80	25	6	0.94	1.278	0.4	10	4.02	26.31	27.56	28.38	29.05	32.15	55,20
1X.5X.4X30X75X6	1	0.5	75	0.80	30	6	0.94	1.348	0.4	10	3.54	31.37	32.76	33.66	34.82	38.57	58,00
1X.5X.4X50X95X6	1	0.5	95	0.80	50	6	0.94	1.627	0.4	10	2.40	51.62	53.44	55.27	57.96	38.57	70,40
1X.5X.4X70X115X6	1	0.5	115	0.80	70	6	0.94	1.906	0.4	10	1.81	71.83	73.98	77.33	57.96	38.57	82,10
1X.5X.9X6X50X6	1	0.5	50	0.80	6	6	0.94	1.103	0.9	7	8.36	5.47	9.61	7.32	7.65	8.19	42,80
1X.5X.9X10X55X6	1	0.5	55	0.80	10	6	0.94	1.229	0.9	10	6.88	5.47	11.20	11.91	12.44	13.28	45,50
1X.5X.9X15X60X6	1	0.5	60	0.80	15	6	0.94	1.386	0.9	10	5.64	5.47	16.28	17.19	17.84	18.84	48,80
1X.5X.9X16X60X6	1	0.5	60	0.80	16	6	0.94	1.418	0.9	10	5.44	5.47	17.29	18.24	18.91	19.94	48,80
1X.5X.9X20X65X6	1	0.5	65	0.80	20	6	0.94	1.543	0.9	10	4.77	5.47	21.35	22.44	23.18	24.68	51,60
1X.5X.9X25X70X6	1	0.5	70	0.80	25	6	0.94	1.700	0.9	10	4.14	5.47	26.42	27.66	28.48	30.83	55,20
1X.5X.9X30X75X6	1	0.5	75	0.80	30	6	0.94	1.857	0.9	10	3.65	5.47	31.49	32.86	33.75	36.98	58,00
1X.5X.9X35X80X6	1	0.5	80	0.80	35	6	0.94	2.015	0.9	10	3.27	5.47	36.55	38.04	39.00	43.12	60,80
1X.5X.9X40X85X6	1	0.5	85	0.80	40	6	0.94	2.172	0.9	10	2.96	5.47	41.61	43.22	44.46	43.12	64,90
1X.5X.9X50X95X6	1	0.5	95	0.80	50	6	0.94	2.486	0.9	10	2.48	5.47	51.73	53.53	55.55	43.12	70,40
1X.5X.9X60X105X6	1	0.5	105	0.80	60	6	0.94	2.800	0.9	10	2.14	5.47	61.84	63.81	66.63	43.12	76,00
1X.5X.9X70X115X6	1	0.5	115	0.80	70	6	0.94	3.114	0.9	10	1.88	5.47	71.94	74.09	66.63	43.12	82,10
1X.5X1.4X6X50X6	1	0.5	50	0.80	6	6	0.94	1.194	1.4	7	8.47	2.87	5.85	7.01	7.41	8.01	43,00
1X.5X1.4X12X60X6	1	0.5	60	0.80	12	6	0.94	1.487	1.4	10	6.45	2.87	5.85	13.36	14.14	15.20	48,80
1X.5X1.4X16X60X6	1	0.5	60	0.80	16	6	0.94	1.683	1.4	10	5.57	2.87	5.85	17.42	18.36	19.56	48,80
1X.5X1.4X20X65X6	1	0.5	65	0.80	20	6	0.94	1.878	1.4	10	4.90	2.87	5.85	21.48	22.55	23.88	51,60
1X.5X1.4X22X70X6	1	0.5	70	0.80	22	6	0.94	1.976	1.4	10	4.62	2.87	5.85	23.50	24.64	26.03	55,20
1X.5X1.4X25X70X6	1	0.5	70	0.80	25	6	0.94	2.123	1.4	10	4.26	2.87	5.85	26.55	27.76	29.51	55,20

La gamma prosegue nella pagina successiva | The range continues on the next page >>

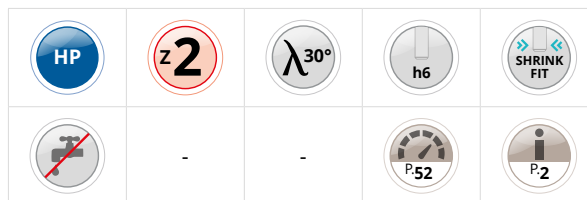
Codice d'ordine Order Code 430RHP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Diametro sotto collo Under Neck diameter	Angolo collo Neck angle	Raggio collo Radius neck	Angolo interferenza Interference angle	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	d₄	θ°n	R₁	θ°k	0,5°	1°	1°5	2°	3°	€
1X.5X1.4X50X95X6	1	0.5	95	0.80	50	6	0.94	3.345	1.4	10	2.57	2.87	5.85	51.84	53.63	29.51	70,40
1X.5X2.9X10X55X6	1	0.5	55	0.80	10	6	0.94	1.872	2.9	10	7.42	1.57	1.86	2.35	3.39	11.74	45,50
1X.5X2.9X15X60X6	1	0.5	60	0.80	15	6	0.94	2.379	2.9	10	6.20	1.57	1.86	2.35	3.39	16.81	48,80
1X.5X2.9X20X65X6	1	0.5	65	0.80	20	6	0.94	2.885	2.9	10	5.33	1.57	1.86	2.35	3.39	21.88	51,60
1X.5X2.9X30X75X6	1	0.5	75	0.80	30	6	0.94	3.898	2.9	10	4.16	1.57	1.86	2.35	3.39	32.00	58,00
1.5X.75X.4X8X55X6	1.5	0.75	55	1.35	8	6	1.42	1.513	0.4	7	7.21	8.95	9.41	9.78	10.09	10.62	42,70
1.5X.75X.4X10X55X6	1.5	0.75	55	1.35	10	6	1.42	1.541	0.4	7	6.51	10.97	11.52	11.93	12.28	12.90	42,70
1.5X.75X.4X12X55X6	1.5	0.75	55	1.35	12	6	1.42	1.569	0.4	7	5.93	13.00	13.62	14.07	14.45	15.47	42,70
1.5X.75X.4X30X75X6	1.5	0.75	75	1.35	30	6	1.42	1.820	0.4	10	3.30	31.46	32.79	33.68	34.85	38.57	54,40
1.5X.75X.9X10X55X6	1.5	0.75	55	1.35	10	6	1.42	1.692	0.9	7	6.63	7.83	11.08	11.61	12.02	12.67	42,70
1.5X.75X.9X15X60X6	1.5	0.75	60	1.35	15	6	1.42	1.849	0.9	10	5.36	7.83	16.40	17.25	17.88	18.86	45,80
1.5X.75X.9X20X65X6	1.5	0.75	65	1.35	20	6	1.42	2.006	0.9	10	4.50	7.83	21.47	22.49	23.21	24.72	48,40
1.5X.75X.9X30X75X6	1.5	0.75	75	1.35	30	6	1.42	2.320	0.9	10	3.40	7.83	31.59	32.90	33.78	37.01	54,40
1.5X.75X1.4X10X55X6	1.5	0.75	55	1.35	10	6	1.42	1.843	1.4	7	6.75	4.23	8.59	11.19	11.70	12.45	42,70
1.5X.75X1.4X20X65X6	1.5	0.75	65	1.35	20	6	1.42	2.332	1.4	10	4.62	4.23	8.59	21.61	22.61	23.91	48,40
1.5X.75X1.4X30X75X6	1.5	0.75	75	1.35	30	6	1.42	2.820	1.4	10	3.51	4.23	8.59	31.73	33.02	35.45	54,40
1.5X.75X1.4X40X85X6	1.5	0.75	85	1.35	40	6	1.42	3.309	1.4	10	2.83	4.23	8.59	41.84	43.36	35.45	60,80
1.5X.75X1.4X50X95X6	1.5	0.75	95	1.35	50	6	1.42	3.798	1.4	10	2.37	4.23	8.59	51.95	53.67	35.45	66,00
1.5X.75X2.9X20X65X6	1.5	0.75	65	1.35	20	6	1.42	3.310	2.9	10	5.03	2.42	2.87	3.63	5.25	22.05	48,40
2X1X.4X8X50X6	2	1.0	50	1.70	8	6	1.92	2.008	0.4	4	6.96	8.70	9.03	9.28	9.50	10.27	40,00
2X1X.4X12X55X6	2	1.0	55	1.70	12	6	1.92	2.064	0.4	7	5.64	13.00	13.61	14.06	14.43	15.40	42,70
2X1X.4X16X60X6	2	1.0	60	1.70	16	6	1.92	2.120	0.4	7	4.74	17.05	17.79	18.31	18.74	20.54	45,80
2X1X.4X20X65X6	2	1.0	65	1.70	20	6	1.92	2.176	0.4	10	4.09	21.33	22.37	23.09	23.68	25.67	48,30
2X1X.4X25X65X6	2	1.0	65	1.70	25	6	1.92	2.245	0.4	10	3.49	26.40	27.59	28.39	29.05	32.09	48,40
2X1X.4X30X70X6	2	1.0	70	1.70	30	6	1.92	2.315	0.4	10	3.04	31.46	32.79	33.67	34.81	38.51	51,80
2X1X.4X40X80X6	2	1.0	80	1.70	40	6	1.92	2.455	0.4	10	2.42	41.58	43.14	44.26	46.39	38.51	57,00
2X1X.4X80X120X6	2	1.0	120	1.70	80	6	1.92	3.013	0.4	10	1.34	81.99	84.47	44.26	46.39	38.51	79,50
2X1X.9X12X55X6	2	1.0	55	1.70	12	6	1.92	2.244	0.9	7	5.76	8.30	13.11	13.70	14.14	14.84	42,70
2X1X.9X16X60X6	2	1.0	60	1.70	16	6	1.92	2.369	0.9	7	4.86	8.30	17.16	17.88	18.39	19.76	45,80
2X1X.9X20X65X6	2	1.0	65	1.70	20	6	1.92	2.495	0.9	10	4.20	8.30	21.48	22.49	23.20	24.68	48,40
2X1X.9X25X65X6	2	1.0	65	1.70	25	6	1.92	2.652	0.9	10	3.60	8.30	26.54	27.70	28.50	30.82	48,40
2X1X.9X30X70X6	2	1.0	70	1.70	30	6	1.92	2.809	0.9	10	3.14	8.30	31.60	32.90	33.77	36.97	51,80
2X1X.9X35X75X6	2	1.0	75	1.70	35	6	1.92	2.966	0.9	10	2.79	8.30	36.66	38.08	39.02	36.97	54,40
2X1X.9X40X80X6	2	1.0	80	1.70	40	6	1.92	3.123	0.9	10	2.51	8.30	41.72	43.25	44.50	36.97	57,00
2X1X.9X50X90X6	2	1.0	90	1.70	50	6	1.92	3.438	0.9	10	2.09	8.30	51.82	53.56	55.58	36.97	63,40
2X1X.9X60X100X6	2	1.0	100	1.70	60	6	1.92	3.752	0.9	10	1.79	8.30	61.92	63.84	55.58	36.97	68,60
2X1X.9X70X110X6	2	1.0	110	1.70	70	6	1.92	4.066	0.9	10	1.56	8.30	72.02	74.15	55.58	36.97	73,90
2X1X1.4X10X55X6	2	1.0	55	1.70	10	6	1.92	2.326	1.4	7	6.47	4.63	9.19	11.20	11.70	12.43	42,70
2X1X1.4X16X60X6	2	1.0	60	1.70	16	6	1.92	2.619	1.4	7	4.98	4.63	9.19	17.27	17.97	18.98	45,80
2X1X1.4X20X65X6	2	1.0	65	1.70	20	6	1.92	2.814	1.4	10	4.32	4.63	9.19	21.62	22.61	23.90	48,40
2X1X1.4X22X65X6	2	1.0	65	1.70	22	6	1.92	2.912	1.4	10	4.05	4.63	9.19	23.65	24.70	26.05	48,40
2X1X1.4X25X65X6	2	1.0	65	1.70	25	6	1.92	3.059	1.4	10	3.71	4.63	9.19	26.68	27.82	29.55	48,40
2X1X1.4X30X70X6	2	1.0	70	1.70	30	6	1.92	3.303	1.4	10	3.24	4.63	9.19	31.74	33.02	35.42	51,80

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 430RHP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Diametro sotto collo Under Neck diameter	Angolo collo Neck angle	Raggio collo Radius neck	Angolo interferenza Interference angle	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	d₄	θ°n	R₁	θ°k	0,5°	1°	1°5	2°	3°	€
2X1X1.4X40X80X6	2	1.0	80	1.70	40	6	1.92	3.792	1.4	10	2.60	4.63	9.19	41.85	43.36	35.42	57,00
2X1X2.9X12X55X6	2	1.0	55	1.70	12	6	1.92	2.964	2.9	7	6.30	2.80	3.27	4.09	5.83	13.57	42,70
2X1X2.9X15X60X6	2	1.0	60	1.70	15	6	1.92	3.267	2.9	7	5.60	2.80	3.27	4.09	5.83	16.59	45,80
2X1X2.9X20X65X6	2	1.0	65	1.70	20	6	1.92	3.774	2.9	10	4.72	2.80	3.27	4.09	5.83	22.08	48,40
3X1.5X.4X8X50X6	3	1.5	50	2.50	8	6	2.86	2.937	0.4	4	6.25	8.87	9.13	9.35	9.55	10.33	34,15
3X1.5X.4X16X55X6	3	1.5	55	2.50	16	6	2.86	3.048	0.4	7	4.01	17.25	17.89	18.38	18.79	20.60	39,00
3X1.5X.4X20X60X6	3	1.5	60	2.50	20	6	2.86	3.104	0.4	7	3.40	21.29	22.04	22.60	23.34	25.74	41,80
3X1.5X.4X30X70X6	3	1.5	70	2.50	30	6	2.86	3.244	0.4	10	2.46	31.67	32.88	33.73	34.92	25.74	47,30
3X1.5X.4X40X80X6	3	1.5	80	2.50	40	6	2.86	3.384	0.4	10	1.93	41.78	43.23	44.38	34.92	25.74	52,10
3X1.5X.4X50X90X6	3	1.5	90	2.50	50	6	2.86	3.523	0.4	10	1.59	51.87	53.53	55.41	34.92	25.74	58,00
3X1.5X.4X80X120X6	3	1.5	120	2.50	80	6	2.86	3.942	0.4	10	1.04	82.14	84.60	55.41	34.92	25.74	246,50
3X1.5X.9X15X55X6	3	1.5	55	2.50	15	6	2.86	3.253	0.9	7	4.30	13.78	16.35	16.95	17.41	18.64	39,00
3X1.5X.9X20X60X6	3	1.5	60	2.50	20	6	2.86	3.410	0.9	7	3.50	13.78	21.40	22.14	22.68	24.78	41,80
3X1.5X.9X30X70X6	3	1.5	70	2.50	30	6	2.86	3.724	0.9	10	2.54	13.78	31.82	33.00	33.84	24.78	47,30
3X1.5X.9X35X75X6	3	1.5	75	2.50	35	6	2.86	3.881	0.9	10	2.24	13.78	36.87	38.18	39.11	24.78	49,70
3X1.5X.9X40X80X6	3	1.5	80	2.50	40	6	2.86	4.038	0.9	10	2.00	13.78	41.92	43.34	39.11	24.78	52,10
3X1.5X.9X50X90X6	3	1.5	90	2.50	50	6	2.86	4.352	0.9	10	1.64	13.78	52.01	53.64	39.11	24.78	58,00
3X1.5X.9X60X100X6	3	1.5	100	2.50	60	6	2.86	4.667	0.9	10	1.39	13.78	62.10	53.64	39.11	24.78	62,80
3X1.5X.9X70X110X6	3	1.5	110	2.50	70	6	2.86	4.981	0.9	10	1.20	13.78	72.19	53.64	39.11	24.78	67,50
3X1.5X.9X90X130X6	3	1.5	130	2.50	90	6	2.86	5.609	0.9	10	0.95	13.78	72.19	53.64	39.11	24.78	79,90
3X1.5X1.4X30X70X6	3	1.5	70	2.50	30	6	2.86	4.204	1.4	10	2.63	7.51	15.05	31.97	33.13	24.78	47,30
3X1.5X1.4X40X80X6	3	1.5	80	2.50	40	6	2.86	4.693	1.4	10	2.05	7.51	15.05	42.06	43.46	24.78	52,10
3X1.5X1.4X50X90X6	3	1.5	90	2.50	50	6	2.86	5.182	1.4	10	1.68	7.51	15.05	52.16	43.46	24.78	58,00
4X2X.4X60X110X8	4	2.0	110	8.00	60	8	3.86	4.586	0.4	10	1.74	62.14	63.88	66.58	43.46	24.78	97,00
4X2X.9X20X70X8	4	2.0	70	8.00	20	8	3.86	4.237	0.9	7	4.26	20.79	21.76	22.37	22.87	25.16	66,30
4X2X.9X30X80X8	4	2.0	80	8.00	30	8	3.86	4.551	0.9	7	3.17	25.53	31.83	32.66	33.95	37.45	73,50
4X2X.9X35X85X8	4	2.0	85	8.00	35	8	3.86	4.708	0.9	7	2.82	25.53	36.87	37.79	39.50	37.45	78,50
4X2X.9X40X90X8	4	2.0	90	8.00	40	8	3.86	4.865	0.9	7	2.53	25.53	42.31	43.56	45.04	37.45	82,20
4X2X.9X50X100X8	4	2.0	100	8.00	50	8	3.86	5.180	0.9	7	2.10	25.53	52.39	53.84	56.12	37.45	89,80
4X2X.9X60X110X8	4	2.0	110	8.00	60	8	3.86	5.494	0.9	7	1.80	25.53	62.46	64.14	56.12	37.45	89,80
4X2X1.4X45X95X8	4	2.0	95	8.00	45	8	3.86	5.669	1.4	7	2.37	15.79	33.06	47.66	48.93	37.45	86,10
4X2X1.4X80X130X8	4	2.0	130	8.00	80	8	3.86	7.379	1.4	7	1.43	15.79	33.06	47.66	48.93	37.45	114,50
4X2X2.9X25X75X8	4	2.0	75	8.00	25	8	3.86	5.582	2.9	7	3.99	10.91	13.27	17.30	25.73	27.74	69,90

1412HP

Frese a testa piana in metallo duro integrale micrograna.
Square end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

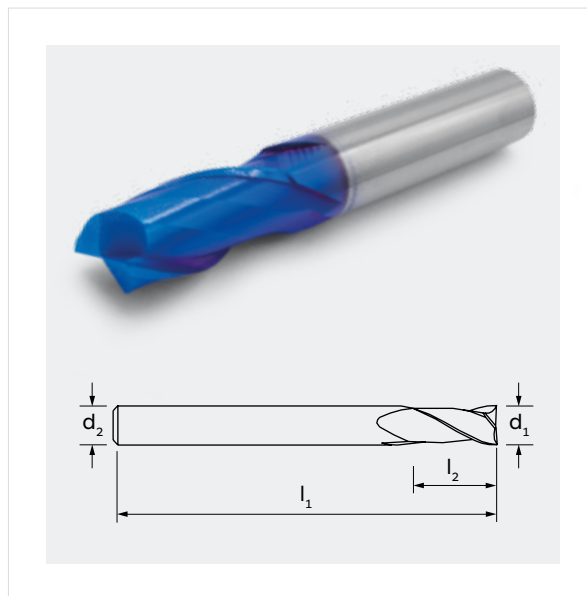


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
$d \leq 6$: 0/-0.01	
$d > 6$: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
○	-	○	-	-	●	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1412HP	d_1	l_1	l_2	d_2	€
.2X.4X38X4	0.2	38	0.4	4	29,65
.3X.6X38X4	0.3	38	0.6	4	27,75
.4X.8X38X4	0.4	38	0.8	4	25,35
.5X1X38X4	0.5	38	1	4	20,95
.6X1.2X38X4	0.6	38	1.2	4	20,95
.7X1.4X38X4	0.7	38	1.4	4	20,95
.8X1.6X38X4	0.8	38	1.6	4	20,95
1X2.5X40X4	1	40	2.5	4	17,85
1X2.5X40X6	1	40	2.5	6	19,45
1.2X3X40X4	1.2	40	3	4	19,30
1.5X4X40X4	1.5	40	4	4	17,85
1.5X4X40X6	1.5	40	4	6	19,85
2X6X40X4	2	40	6	4	17,85
2X6X40X6	2	40	6	6	19,85
2.5X8X40X4	2.5	40	8	4	18,60
2.5X8X40X6	2.5	40	8	6	21,50
3X8X45X4	3	45	8	4	18,70
3X8X45X6	3	45	8	6	20,35

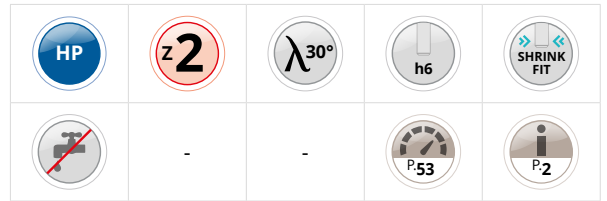
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Codice d'ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1412HP	d_1	l_1	l_2	d_2	€
3.5X8X45X4	3.5	45	8	4	21,55
4X10X45X4	4	45	10	4	18,70
4X11X45X6	4	45	11	6	20,35
4.5X11X45X6	4.5	45	11	6	27,00
5X13X50X6	5	50	13	6	24,20
5.5X13X50X6	5.5	50	13	6	28,40
6X13X50X6	6	50	13	6	24,20
6.5X15X60X8	6.5	60	15	8	35,15
7X16X60X8	7	60	16	8	33,35
7.5X16X60X8	7.5	60	16	8	35,15
8X19X60X8	8	60	19	8	36,10
8.5X19X70X10	8.5	70	19	10	47,10
9X19X70X10	9	70	19	10	49,50
9.5X19X70X10	9.5	70	19	10	49,50
10X22X70X10	10	70	22	10	49,20
10.5X22X75X12	10.5	75	22	12	64,80
11X22X75X12	11	75	22	12	65,50
12X26X75X12	12	75	26	12	66,30

1430HP

Frese a testa piana a collo lungo in metallo duro integrale micrograna.

Square end mills long neck in solid carbide micro grain.



Strategie di fresatura | Milling strategies:



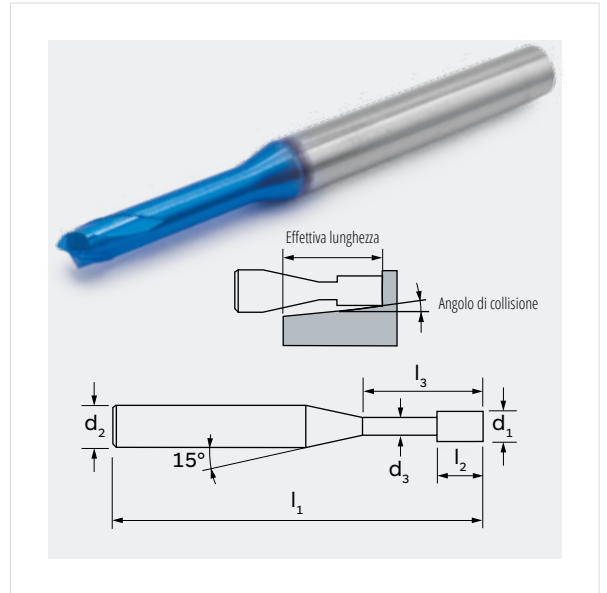
Tolleranze | Tolerances:

Diametro di taglio | Cutting Diameter **Raggio | Radius**

d ≤ 6: 0/-0.01
d > 6: 0/-0.015

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	● Raccomandato - Most suitable
○	-	○	-	-	●	○ Possibile - Possible



Codice d'ordine Order Code 1430HP	Diametro fresa End mill diameter d₁	Lunghezza totale Overall length l₁	Lunghezza di taglio Length of cut l₂	Lunghezza utile Length of reach l₃	Diametro attacco Shank diameter d₂	Diametro collo Neck diameter d₃	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price €
							30°	1°	1°30'	2°	3°	
.1X.3X45X4	0.1	45	0.10	0.30	4	0.085	0.33	0.35	0.36	0.37	0.40	45,60
.1X.5X45X4	0.1	45	0.10	0.50	4	0.085	0.54	0.56	0.58	0.60	0.65	45,60
.1X1X45X4	0.1	45	0.10	1.00	4	0.085	1.06	1.09	1.13	1.18	1.27	45,60
.15X.3X45X4	0.15	45	0.15	0.30	4	0.13	0.34	0.36	0.37	0.38	0.41	40,40
.15X.5X45X4	0.15	45	0.15	0.50	4	0.13	0.55	0.57	0.59	0.61	0.66	40,40
.15X1X45X4	0.15	45	0.15	1.00	4	0.13	1.07	1.10	1.14	1.19	1.28	40,40
.2X.5X45X4	0.2	45	0.20	0.50	4	0.18	0.55	0.57	0.59	0.61	0.66	32,65
.2X1X45X4	0.2	45	0.20	1.00	4	0.18	1.07	1.10	1.14	1.19	1.28	32,65
.2X1.5X45X4	0.2	45	0.20	1.50	4	0.18	1.58	1.64	1.70	1.76	1.91	32,65
.2X2X45X4	0.2	45	0.20	2.00	4	0.18	2.10	2.17	2.25	2.34	2.53	32,65
.2X3X45X4	0.2	45	0.20	3.00	4	0.18	3.13	3.24	3.36	3.49	3.77	32,65
.2X4X45X4	0.2	45	0.20	4.00	4	0.18	4.17	4.31	4.47	4.64	5.01	32,65
.3X1X45X4	0.3	45	0.30	1.00	4	0.28	1.07	1.10	1.14	1.19	1.28	30,35
.3X1.5X45X4	0.3	45	0.30	1.50	4	0.28	1.58	1.64	1.70	1.76	1.91	30,35
.3X2X45X4	0.3	45	0.30	2.00	4	0.28	2.10	2.17	2.25	2.34	2.53	30,35
.3X3X45X4	0.3	45	0.30	3.00	4	0.28	3.13	3.24	3.36	3.49	3.77	30,35
.3X4X45X4	0.3	45	0.30	4.00	4	0.28	4.17	4.31	4.47	4.64	5.01	30,35
.3X6X45X4	0.3	45	0.30	6.00	4	0.28	6.24	6.45	6.69	6.94	7.50	30,35

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 1430HP	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
.3X8X45X4	0.3	45	0.30	8.00	4	0.28	8.30	8.59	8.90	9.24	9.99	30,35
.4X1X45X4	0.4	45	0.40	1.00	4	0.37	1.09	1.12	1.17	1.21	1.31	28,00
.4X1.5X45X4	0.4	45	0.40	1.50	4	0.37	1.60	1.66	1.72	1.78	1.93	28,00
.4X2X45X4	0.4	45	0.40	2.00	4	0.37	2.12	2.19	2.27	2.36	2.55	28,00
.4X2.5X45X4	0.4	45	0.40	2.50	4	0.37	2.64	2.73	2.83	2.93	3.17	28,00
.4X3X45X4	0.4	45	0.40	3.00	4	0.37	3.15	3.26	3.38	3.51	3.79	28,00
.4X3.5X45X4	0.4	45	0.40	3.50	4	0.37	3.67	3.80	3.94	4.08	4.42	28,00
.4X4X45X4	0.4	45	0.40	4.00	4	0.37	4.19	4.33	4.49	4.66	5.04	28,00
.4X5X45X4	0.4	45	0.40	5.00	4	0.37	5.22	5.40	5.60	5.81	6.28	28,00
.4X6X45X4	0.4	45	0.40	6.00	4	0.37	6.25	6.47	6.71	6.96	7.52	28,00
.4X8X45X4	0.4	45	0.40	8.00	4	0.37	8.32	8.61	8.92	9.26	10.01	28,00
.4X10X45X4	0.4	45	0.40	10.00	4	0.37	10.39	10.75	11.14	11.56	12.50	29,10
.4X12X45X4	0.4	45	0.40	12.00	4	0.37	12.46	12.89	13.36	13.86	14.98	29,10
.5X1X45X4	0.5	45	0.50	1.00	4	0.47	1.09	1.12	1.17	1.21	1.31	24,60
.5X1.5X45X4	0.5	45	0.50	1.50	4	0.47	1.60	1.66	1.72	1.78	1.93	24,60
.5X2X45X4	0.5	45	0.50	2.00	4	0.47	2.12	2.19	2.27	2.36	2.55	24,60
.5X2.5X45X4	0.5	45	0.50	2.50	4	0.47	2.64	2.73	2.83	2.93	3.17	24,60
.5X3X45X4	0.5	45	0.50	3.00	4	0.47	3.15	3.26	3.38	3.51	3.79	24,60
.5X3.5X45X4	0.5	45	0.50	3.50	4	0.47	3.67	3.80	3.94	4.08	4.42	24,60
.5X4X45X4	0.5	45	0.50	4.00	4	0.47	4.19	4.33	4.49	4.66	5.04	24,60
.5X5X45X4	0.5	45	0.50	5.00	4	0.47	5.22	5.40	5.60	5.81	6.28	24,60
.5X6X45X4	0.5	45	0.50	6.00	4	0.47	6.25	6.47	6.71	6.96	7.52	24,60
.5X8X45X4	0.5	45	0.50	8.00	4	0.47	8.32	8.61	8.92	9.26	10.01	24,60
.5X10X45X4	0.5	45	0.50	10.00	4	0.47	10.39	10.75	11.14	11.56	12.50	26,50
.5X12X45X4	0.5	45	0.50	12.00	4	0.47	12.46	12.89	13.36	13.86	14.98	26,50
.6X1.5X45X4	0.6	45	0.60	1.50	4	0.57	1.60	1.66	1.72	1.78	1.93	24,60
.6X2X45X4	0.6	45	0.60	2.00	4	0.57	2.12	2.19	2.27	2.36	2.55	24,60
.6X3X45X4	0.6	45	0.60	3.00	4	0.57	3.15	3.26	3.38	3.51	3.79	24,60
.6X4X45X4	0.6	45	0.60	4.00	4	0.57	4.19	4.33	4.49	4.66	5.04	24,60
.6X5X45X4	0.6	45	0.60	5.00	4	0.57	5.22	5.40	5.60	5.81	6.28	24,60
.6X6X45X4	0.6	45	0.60	6.00	4	0.57	6.25	6.47	6.71	6.96	7.52	24,60
.6X8X45X4	0.6	45	0.60	8.00	4	0.57	8.32	8.61	8.92	9.26	10.01	24,60
.6X10X45X4	0.6	45	0.60	10.00	4	0.57	10.39	10.75	11.14	11.56	12.50	25,10
.6X12X45X4	0.6	45	0.60	12.00	4	0.57	12.46	12.89	13.36	13.86	14.98	25,10
.6X16X50X4	0.6	50	0.60	16.00	4	0.57	16.59	17.17	17.79	18.46	19.95	26,75
.7X2X45X4	0.7	45	0.70	2.00	4	0.66	2.14	2.21	2.29	2.38	2.57	24,20
.7X3X45X4	0.7	45	0.70	3.00	4	0.66	3.17	3.28	3.40	3.53	3.82	24,20
.7X4X45X4	0.7	45	0.70	4.00	4	0.66	4.21	4.35	4.51	4.68	5.06	24,20
.7X6X45X4	0.7	45	0.70	6.00	4	0.66	6.27	6.49	6.73	6.98	7.55	24,20
.7X8X45X4	0.7	45	0.70	8.00	4	0.66	8.34	8.63	8.94	9.28	10.03	24,20
.7X10X45X4	0.7	45	0.70	10.00	4	0.66	10.41	10.77	11.16	11.58	12.52	25,10
.8X2X45X4	0.8	45	0.80	2.00	4	0.77	2.12	2.19	2.27	2.36	2.55	24,20
.8X3X45X4	0.8	45	0.80	3.00	4	0.77	3.15	3.26	3.38	3.51	3.79	24,20

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Codice d'ordine Order Code 1430HP	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	.8X4X45X4	0.8	45	0.80	4.00	4	0.77	4.19	4.33	4.49	4.66	5.04
.8X5X45X4	0.8	45	0.80	5.00	4	0.77	5.22	5.40	5.60	5.81	6.28	24,20
.8X6X45X4	0.8	45	0.80	6.00	4	0.77	6.25	6.47	6.71	6.96	7.52	24,20
.8X8X45X4	0.8	45	0.80	8.00	4	0.77	8.32	8.61	8.92	9.26	10.01	24,20
.8X10X45X4	0.8	45	0.80	10.00	4	0.77	10.39	10.75	11.14	11.56	12.50	25,10
.8X12X45X4	0.8	45	0.80	12.00	4	0.77	12.46	12.89	13.36	13.86	14.98	25,10
.8X16X50X4	0.8	50	0.80	16.00	4	0.77	16.59	17.17	17.79	18.46	19.95	26,75
.8X20X50X4	0.8	50	0.80	20.00	4	0.77	20.73	21.45	22.22	23.06	24.93	26,75
.8X25X60X4	0.8	60	0.80	25.00	4	0.77	25.89	26.80	27.76	28.81	libero	29,50
.9X2X45X4	0.9	45	0.90	2.00	4	0.85	2.16	2.23	2.32	2.40	2.60	24,20
.9X4X45X4	0.9	45	0.90	4.00	4	0.85	4.23	4.37	4.53	4.70	5.08	24,20
.9X6X45X4	0.9	45	0.90	6.00	4	0.85	6.29	6.51	6.75	7.00	7.57	24,20
.9X8X45X4	0.9	45	0.90	8.00	4	0.85	8.36	8.65	8.96	9.30	10.06	24,20
.9X10X45X4	0.9	45	0.90	10.00	4	0.85	10.43	10.79	11.18	11.60	12.54	25,10
1X2X45X4	1.0	45	1.00	2.00	4	0.95	2.16	2.23	2.32	2.40	2.60	22,45
1X3X45X4	1.0	45	1.00	3.00	4	0.95	3.19	3.30	3.42	3.55	3.84	22,45
1X4X45X4	1.0	45	1.00	4.00	4	0.95	4.23	4.37	4.53	4.70	5.08	22,45
1X5X45X4	1.0	45	1.00	5.00	4	0.95	5.26	5.44	5.64	5.85	6.33	22,45
1X6X45X4	1.0	45	1.00	6.00	4	0.95	6.29	6.51	6.75	7.00	7.57	22,45
1X8X45X4	1.0	45	1.00	8.00	4	0.95	8.36	8.65	8.96	9.30	10.06	22,45
1X10X45X4	1.0	45	1.00	10.00	4	0.95	10.43	10.79	11.18	11.60	12.54	23,50
1X12X45X4	1.0	45	1.00	12.00	4	0.95	12.50	12.93	13.40	13.90	15.03	23,50
1X14X45X4	1.0	45	1.00	14.00	4	0.95	14.56	15.07	15.61	16.20	17.52	23,50
1X16X50X4	1.0	50	1.00	16.00	4	0.95	16.63	17.21	17.83	18.50	20.00	24,20
1X18X50X4	1.0	50	1.00	18.00	4	0.95	18.70	19.35	20.05	20.80	22.49	24,20
1X20X50X4	1.0	50	1.00	20.00	4	0.95	20.76	21.49	22.26	23.10	24.97	24,20
1X25X60X4	1.0	60	1.00	25.00	4	0.95	25.93	26.84	27.81	28.85	libero	26,00
1X30X70X4	1.0	70	1.00	30.00	4	0.95	31.10	32.19	33.35	34.60	libero	28,00
1.2X4X45X4	1.2	45	1.20	4.00	4	1.14	4.25	4.39	4.55	4.72	5.11	22,45
1.2X6X45X4	1.2	45	1.20	6.00	4	1.14	6.31	6.53	6.77	7.02	7.59	22,45
1.2X8X45X4	1.2	45	1.20	8.00	4	1.14	8.38	8.67	8.99	9.32	10.08	22,45
1.2X10X45X4	1.2	45	1.20	10.00	4	1.14	10.45	10.81	11.20	11.62	12.57	23,50
1.2X12X45X4	1.2	45	1.20	12.00	4	1.14	12.51	12.95	13.42	13.92	15.05	23,50
1.2X16X50X4	1.2	50	1.20	16.00	4	1.14	16.65	17.23	17.85	18.52	20.02	24,20
1.2X20X50X4	1.2	50	1.20	20.00	4	1.14	20.78	21.51	22.29	23.12	25.00	24,20
1.2X25X60X4	1.2	60	1.20	25.00	4	1.14	25.95	26.86	27.83	28.87	libero	26,00
1.5X4X45X4	1.5	45	1.50	4.00	4	1.44	4.25	4.39	4.55	4.72	5.11	22,45
1.5X6X45X4	1.5	45	1.50	6.00	4	1.44	6.31	6.53	6.77	7.02	7.59	22,45
1.5X8X45X4	1.5	45	1.50	8.00	4	1.44	8.38	8.67	8.99	9.32	10.08	22,45
1.5X10X45X4	1.5	45	1.50	10.00	4	1.44	10.45	10.81	11.20	11.62	12.57	23,50
1.5X12X45X4	1.5	45	1.50	12.00	4	1.44	12.51	12.95	13.42	13.92	15.05	23,50
1.5X16X50X4	1.5	50	1.50	16.00	4	1.44	16.65	17.23	17.85	18.52	20.02	24,20
1.5X18X50X4	1.5	50	1.50	18.00	4	1.44	18.72	19.37	20.07	20.82	22.51	24,20

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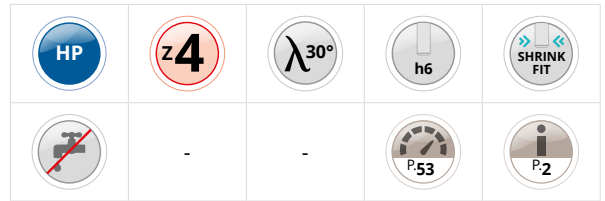
Codice d'ordine Order Code 1430HP	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
1.5X20X50X4	1.5	50	1.50	20.00	4	1.44	20.78	21.51	22.29	23.12	libero	24,20
1.5X25X60X4	1.5	60	1.50	25.00	4	1.44	25.95	26.86	27.83	28.87	libero	26,00
1.5X30X70X4	1.5	70	1.50	30.00	4	1.44	31.12	32.21	33.37	34.62	libero	28,00
1.5X40X80X4	1.5	80	1.50	40.00	4	1.44	41.46	42.90	44.45	libero	libero	30,05
1.6X8X45X4	1.6	45	1.60	8.00	4	1.55	8.36	8.65	8.96	9.30	10.06	23,60
1.6X10X45X4	1.6	45	1.60	10.00	4	1.55	10.43	10.79	11.18	11.60	12.54	23,60
1.6X12X45X4	1.6	45	1.60	12.00	4	1.55	12.50	12.93	13.40	13.90	15.03	23,60
1.6X14X45X4	1.6	45	1.60	14.00	4	1.55	14.56	15.07	15.61	16.20	17.52	23,60
1.6X16X50X4	1.6	50	1.60	16.00	4	1.55	16.63	17.21	17.83	18.50	20.00	24,20
1.6X18X50X4	1.6	50	1.60	18.00	4	1.55	18.70	19.35	20.05	20.80	22.49	24,20
1.6X20X50X4	1.6	50	1.60	20.00	4	1.55	20.76	21.49	22.26	23.10	libero	24,20
1.8X8X45X4	1.8	45	1.80	8.00	4	1.75	8.36	8.65	8.96	9.30	10.06	23,60
1.8X10X45X4	1.8	45	1.80	10.00	4	1.75	10.43	10.79	11.18	11.60	12.54	23,60
1.8X12X45X4	1.8	45	1.80	12.00	4	1.75	12.50	12.93	13.40	13.90	15.03	23,60
1.8X14X45X4	1.8	45	1.80	14.00	4	1.75	14.56	15.07	15.61	16.20	17.52	23,60
1.8X16X50X4	1.8	50	1.80	16.00	4	1.75	16.63	17.21	17.83	18.50	20.00	24,20
1.8X18X50X4	1.8	50	1.80	18.00	4	1.75	18.70	19.35	20.05	20.80	libero	24,20
1.8X20X50X4	1.8	50	1.80	20.00	4	1.75	20.76	21.49	22.26	23.10	libero	24,20
2X4X45X4	2.0	45	2.00	4.00	4	1.92	4.28	4.43	4.59	4.77	5.15	22,45
2X6X45X4	2.0	45	2.00	6.00	4	1.92	6.35	6.57	6.81	7.07	7.64	22,45
2X8X45X4	2.0	45	2.00	8.00	4	1.92	8.42	8.71	9.03	9.37	10.13	22,45
2X10X45X4	2.0	45	2.00	10.00	4	1.92	10.49	10.85	11.24	11.67	12.61	22,45
2X12X45X4	2.0	45	2.00	12.00	4	1.92	12.55	12.99	13.46	13.96	15.10	22,45
2X14X45X4	2.0	45	2.00	14.00	4	1.92	14.62	15.13	15.68	16.26	17.58	22,45
2X16X50X4	2.0	50	2.00	16.00	4	1.92	16.69	17.27	17.89	18.56	libero	23,50
2X18X50X4	2.0	50	2.00	18.00	4	1.92	18.76	19.41	20.11	20.86	libero	23,50
2X20X50X4	2.0	50	2.00	20.00	4	1.92	20.82	21.55	22.33	23.16	libero	23,50
2X25X60X4	2.0	60	2.00	25.00	4	1.92	25.99	26.90	27.87	libero	libero	25,25
2X30X70X4	2.0	70	2.00	30.00	4	1.92	31.16	32.25	33.41	libero	libero	27,75
2X40X80X4	2.0	80	2.00	40.00	4	1.92	41.50	42.94	libero	libero	libero	30,05
2.5X10X45X4	2.5	45	2.50	10.00	4	2.39	10.54	10.91	11.31	11.73	12.68	22,45
2.5X12X45X4	2.5	45	2.50	12.00	4	2.39	12.61	13.05	13.52	14.03	libero	22,45
2.5X16X50X4	2.5	50	2.50	16.00	4	2.39	16.75	17.33	17.96	18.63	libero	24,20
2.5X20X50X4	2.5	50	2.50	20.00	4	2.39	20.88	21.61	22.39	libero	libero	24,20
2.5X25X60X4	2.5	60	2.50	25.00	4	2.39	26.05	26.96	27.93	libero	libero	24,85
2.5X30X70X4	2.5	70	2.50	30.00	4	2.39	31.22	32.31	libero	libero	libero	27,75
3X8X50X6	3.0	50	3.00	8.00	6	2.86	8.53	8.83	9.15	9.49	10.26	25,85
3X10X50X6	3.0	50	3.00	10.00	6	2.86	10.60	10.97	11.37	11.79	12.75	25,85
3X12X50X6	3.0	50	3.00	12.00	6	2.86	12.67	13.11	13.58	14.09	15.24	25,85
3X16X60X6	3.0	60	3.00	16.00	6	2.86	16.80	17.39	18.02	18.69	20.21	28,60
3X20X60X6	3.0	60	3.00	20.00	6	2.86	20.94	21.67	22.45	23.29	25.18	28,60
3X25X60X6	3.0	60	3.00	25.00	6	2.86	26.11	27.02	27.99	29.04	libero	28,60
3X30X70X6	3.0	70	3.00	30.00	6	2.86	31.28	32.36	33.53	34.79	libero	34,00

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 1430HP	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	l₁	l₂	l₃	d₂	d₃	30'	1°	1°30'	2°	3°	€
3X35X70X6	3.0	70	3.00	35.00	6	2.86	36.44	37.71	39.08	40.54	libero	36,20
3X40X80X6	3.0	80	3.00	40.00	6	2.86	41.61	43.06	44.62	libero	libero	37,65
4X10X50X6	4.0	50	4.00	10.00	6	3.80	10.72	11.09	11.49	11.92	12.89	28,40
4X12X50X6	4.0	50	4.00	12.00	6	3.80	12.78	13.23	13.71	14.22	15.38	28,40
4X14X50X6	4.0	50	4.00	14.00	6	3.80	14.85	15.37	15.93	16.52	17.86	28,40
4X16X60X6	4.0	60	4.00	16.00	6	3.80	16.92	17.51	18.14	18.82	libero	29,30
4X20X60X6	4.0	60	4.00	20.00	6	3.80	21.05	21.79	22.57	23.42	libero	30,65
4X25X60X6	4.0	60	4.00	25.00	6	3.80	26.22	27.14	28.12	libero	libero	30,65
4X30X70X6	4.0	70	4.00	30.00	6	3.80	31.39	32.48	33.66	libero	libero	36,20
4X35X70X6	4.0	70	4.00	35.00	6	3.80	36.56	37.83	libero	libero	libero	37,00
4X40X80X6	4.0	80	4.00	40.00	6	3.80	41.73	43.18	libero	libero	libero	38,20
4X50X100X6	4.0	100	4.00	50.00	6	3.80	52.06	53.88	libero	libero	libero	42,20
5X16X60X6	5.0	60	5.00	16.00	6	4.75	17.02	17.61	18.25	libero	libero	30,65
5X20X60X6	5.0	60	5.00	20.00	6	4.75	21.15	21.89	libero	libero	libero	30,65
5X25X60X6	5.0	60	5.00	25.00	6	4.75	26.32	27.24	libero	libero	libero	33,80
5X30X70X6	5.0	70	5.00	30.00	6	4.75	31.49	libero	libero	libero	libero	36,20
5X35X70X6	5.0	70	5.00	35.00	6	4.75	36.66	libero	libero	libero	libero	37,00
5X40X80X6	5.0	80	5.00	40.00	6	4.75	41.82	libero	libero	libero	libero	38,20
5X50X100X6	5.0	100	5.00	50.00	6	4.75	52.16	libero	libero	libero	libero	42,70
6X15X60X6	6.0	60	6.00	15.00	6	5.70	libero	libero	libero	libero	libero	31,40
6X20X60X6	6.0	60	6.00	20.00	6	5.70	libero	libero	libero	libero	libero	31,40
6X30X70X6	6.0	70	6.00	30.00	6	5.70	libero	libero	libero	libero	libero	34,90
6X40X80X6	6.0	80	6.00	40.00	6	5.70	libero	libero	libero	libero	libero	40,00
8X20X80X8	8.0	80	8.00	20.00	8	7.60	libero	libero	libero	libero	libero	52,70
8X30X80X8	8.0	80	8.00	30.00	8	7.60	libero	libero	libero	libero	libero	52,70
8X40X100X8	8.0	100	8.00	40.00	8	7.60	libero	libero	libero	libero	libero	59,50

1414HP

Frese a testa piana in metallo duro integrale micrograna.
Square end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:



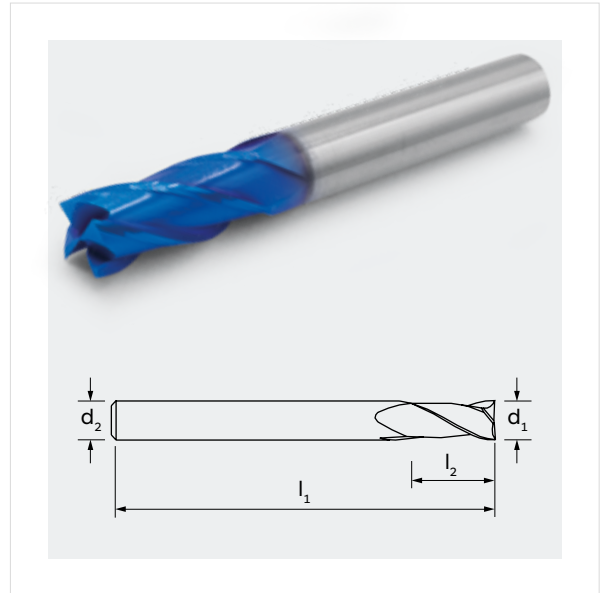
Tolleranze | Tolerances:

Diametro di taglio | Cutting Diameter **Raggio** | Radius

d ≤ 6: 0/-0.01
d > 6: 0/-0.015

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	● Raccomandato - Most suitable
○	-	○	-	-	●	○ Possibile - Possible

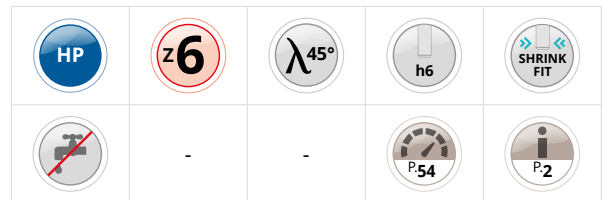


Ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1414HP	d ₁	l ₁	l ₂	d ₂	€

1X2.5X40X4	1	40	2.5	4	21,10
1X2.5X40X6	1	40	2.5	6	23,60
1.5X4X40X4	1.5	40	4	4	21,10
1.5X4X40X6	1.5	40	4	6	23,60
2X6X40X4	2	40	6	4	21,10
2X6X40X6	2	40	6	6	23,60
2.5X8X40X4	2.5	40	8	4	21,50
2.5X8X40X6	2.5	40	8	6	24,10
3X8X45X4	3	45	8	4	22,45
3X8X45X6	3	45	8	6	25,10
3.5X8X45X4	3.5	45	8	4	24,75
4X11X45X4	4	45	11	4	22,45
4X11X45X6	4	45	11	6	25,10
4.5X11X45X6	4.5	45	11	6	27,75
5X13X50X6	5	50	13	6	26,85
6X15X50X6	6	50	15	6	26,85
8X19X60X8	8	60	19	8	34,75
10X22X70X10	10	70	22	10	49,20
12X26X75X12	12	75	26	12	65,60

1416HP

Frese a testa piana in metallo duro integrale micrograna.
Square end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

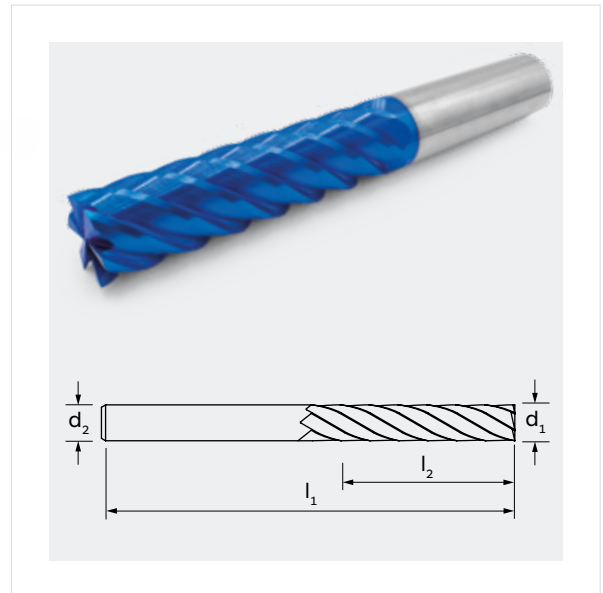


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	
d > 6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

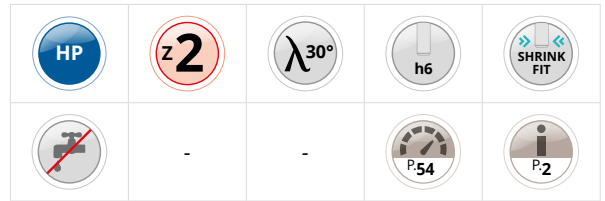
P	M	K	N	S	H	
○	-	○	-	-	●	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1416HP	d ₁	l ₁	l ₂	d ₂	€
6X15X50X6	6	50	15	6	31,90
6X20X60X6	6	60	20	6	36,65
6X25X65X6	6	65	25	6	42,00
6X30X70X6	6	70	30	6	44,30
8X25X65X8	8	65	25	8	44,50
8X30X70X8	8	70	30	8	48,10
8X35X90X8	8	90	35	8	55,00
8X40X90X8	8	90	40	8	56,40
10X35X80X10	10	80	35	10	59,80
10X45X100X10	10	100	45	10	71,10
10X55X110X10	10	110	55	10	76,90
12X40X90X12	12	90	40	12	78,70
12X50X100X12	12	100	50	12	85,80
12X60X110X12	12	110	60	12	92,10
16X45X100X16	16	100	45	16	149,50
16X50X110X16	16	110	50	16	159,00
16X80X150X16	16	150	80	16	205,50
20X50X110X20	20	110	50	20	238,00
20X80X150X20	20	150	80	20	313,00
20X100X160X20	20	160	100	20	335,00

1432HP

Frese toriche in metallo duro integrale micrograna.
Corner radius end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

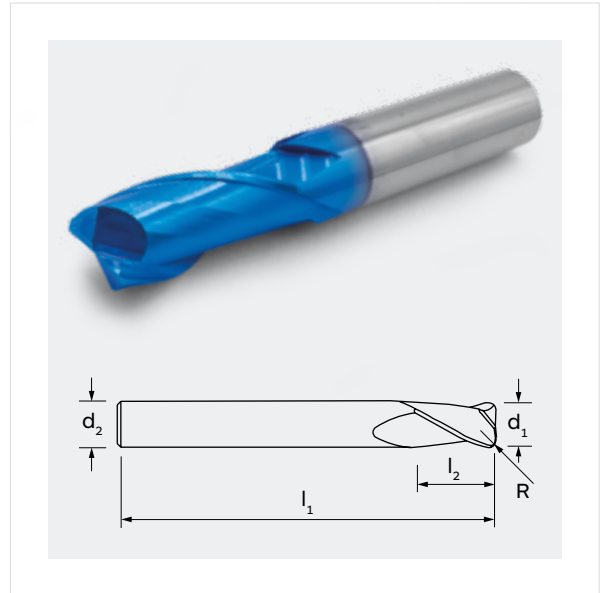


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	±0.01
d > 6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
○	-	○	-	-	●	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1432HP	d ₁	R	l ₁	l ₂	d ₂	€
.8X.2X1.6X50X6	0.8	0.2	50	1.6	6	29,35
1X.1X2.5X50X6	1.0	0.1	50	2.5	6	28,60
1X.2X2.5X50X6	1.0	0.2	50	2.5	6	28,60
1X.3X2.5X50X6	1.0	0.3	50	2.5	6	28,60
1.2X.1X3X50X6	1.2	0.1	50	3	6	28,60
1.2X.2X3X50X6	1.2	0.2	50	3	6	28,60
1.5X.1X4X50X6	1.5	0.1	50	4	6	28,60
1.5X.2X4X50X6	1.5	0.2	50	4	6	28,60
1.5X.3X4X50X6	1.5	0.3	50	4	6	28,60
1.5X.5X4X50X6	1.5	0.5	50	4	6	28,60
2X.1X6X50X6	2.0	0.1	50	6	6	28,60
2X.2X6X50X6	2.0	0.2	50	6	6	28,60
2X.3X6X50X6	2.0	0.3	50	6	6	28,60
2X.5X6X50X6	2.0	0.5	50	6	6	28,60
3X.1X8X60X6	3.0	0.1	60	8	6	30,10
3X.2X8X60X6	3.0	0.2	60	8	6	30,10
3X.3X8X60X6	3.0	0.3	60	8	6	30,10
3X.5X8X60X6	3.0	0.5	60	8	6	30,10

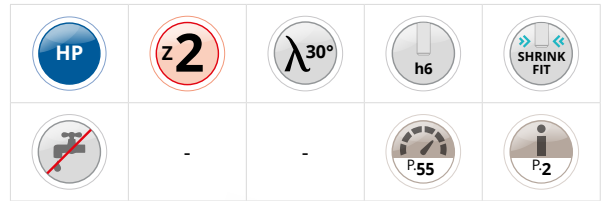
La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1432HP	d ₁	R	l ₁	l ₂	d ₂	€
3X1X8X60X6	3.0	1.0	60	8	6	30,10
4X.1X11X60X6	4.0	0.1	60	11	6	31,10
4X.2X11X60X6	4.0	0.2	60	11	6	31,10
4X.3X11X60X6	4.0	0.3	60	11	6	31,10
4X.5X11X60X6	4.0	0.5	60	11	6	31,10
4X1X11X60X6	4.0	1.0	60	11	6	31,10
5X.2X15X60X6	5.0	0.2	60	15	6	31,10
6X.1X15X60X6	6.0	0.1	60	15	6	31,00
6X.2X15X60X6	6.0	0.2	60	15	6	31,00
6X.3X15X60X6	6.0	0.3	60	15	6	31,00
6X.5X15X60X6	6.0	0.5	60	15	6	31,00
6X1X15X60X6	6.0	1.0	60	15	6	31,00
6X1.5X15X60X6	6.0	1.5	60	15	6	31,00
8X.1X19X60X8	8.0	0.1	60	19	8	39,40
8X.2X19X60X8	8.0	0.2	60	19	8	39,40
8X.3X19X60X8	8.0	0.3	60	19	8	39,40
8X.5X19X60X8	8.0	0.5	60	19	8	39,40
8X1X19X60X8	8.0	1.0	60	19	8	39,40
8X2X19X60X8	8.0	2.0	60	19	8	39,40
10X.2X22X70X10	10.0	0.2	70	22	10	49,20
10X.3X22X70X10	10.0	0.3	70	22	10	49,20
10X.5X22X70X10	10.0	0.5	70	22	10	49,20
10X1X22X70X10	10.0	1.0	70	22	10	49,20
10X1.5X22X70X10	10.0	1.5	70	22	10	49,20
10X2X22X70X10	10.0	2.0	70	22	10	49,20
10X2.5X22X70X10	10.0	2.5	70	22	10	49,20
12X.5X26X75X12	12.0	0.5	75	26	12	65,70
12X1X26X75X12	12.0	1.0	75	26	12	65,70
12X1.5X26X75X12	12.0	1.5	75	26	12	65,70
12X2X26X75X12	12.0	2.0	75	26	12	65,70

1433HP

Frese toriche a collo lungo in metallo duro integrale micrograna.

Corner radius long neck end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

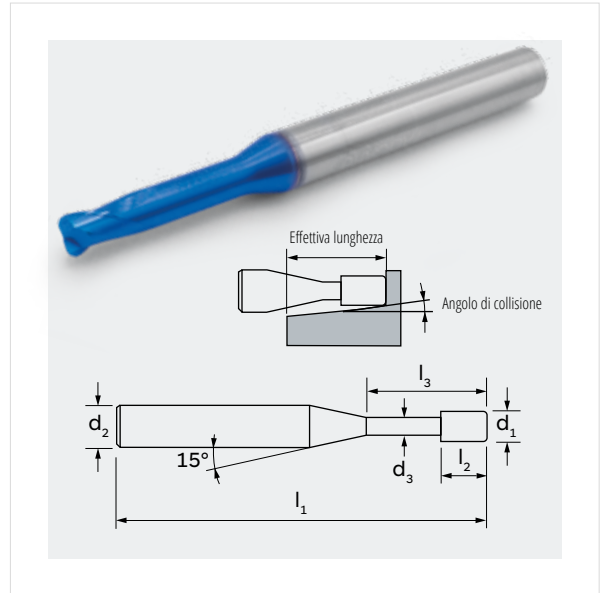


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	±0.01
d > 6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
○	-	○	-	-	●	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code 1433HP	Diametro fresa End mill diameter d₁	Raggio fresa End mill radius R	Lunghezza totale Overall length l₁	Lunghezza di taglio Length of cut l₂	Lunghezza utile Length of reach l₃	Diametro attacco Shank diameter d₂	Diametro collo Neck diameter d₃	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price €
								30'	1°	1°30'	2°	3°	
.2X.02X.5X45X4	0.2	0.02	45	0.15	0.50	4	0.18	0.55	0.57	0.59	0.61	0.66	39,80
.2X.02X1X45X4	0.2	0.02	45	0.15	1.00	4	0.18	1.07	1.10	1.14	1.18	1.28	39,80
.2X.02X2X45X4	0.2	0.02	45	0.15	2.00	4	0.18	2.10	2.17	2.25	2.33	2.52	39,80
.2X.05X.5X45X4	0.2	0.05	45	0.15	0.50	4	0.18	0.55	0.57	0.59	0.61	0.65	39,80
.2X.05X1X45X4	0.2	0.05	45	0.15	1.00	4	0.18	1.07	1.10	1.14	1.18	1.27	39,80
.2X.05X1.5X45X4	0.2	0.05	45	0.15	1.50	4	0.18	1.58	1.64	1.69	1.76	1.89	39,80
.2X.05X2X45X4	0.2	0.05	45	0.15	2.00	4	0.18	2.10	2.17	2.25	2.33	2.52	39,80
.3X.02X1X45X4	0.3	0.02	45	0.25	1.00	4	0.28	1.07	1.10	1.14	1.18	1.28	38,20
.3X.02X2X45X4	0.3	0.02	45	0.25	2.00	4	0.28	2.10	2.17	2.25	2.33	2.52	38,20
.3X.02X3X45X4	0.3	0.02	45	0.25	3.00	4	0.28	3.13	3.24	3.36	3.48	3.77	38,20
.3X.05X1X45X4	0.3	0.05	45	0.25	1.00	4	0.28	1.07	1.10	1.14	1.18	1.27	38,20
.3X.05X1.5X45X4	0.3	0.05	45	0.25	1.50	4	0.28	1.58	1.64	1.69	1.76	1.89	38,20
.3X.05X2X45X4	0.3	0.05	45	0.25	2.00	4	0.28	2.10	2.17	2.25	2.33	2.52	38,20
.3X.05X2.5X45X4	0.3	0.05	45	0.25	2.50	4	0.28	2.62	2.71	2.80	2.91	3.14	38,20
.3X.05X3X45X4	0.3	0.05	45	0.25	3.00	4	0.28	3.13	3.24	3.36	3.48	3.76	38,20
.4X.02X1X45X4	0.4	0.02	45	0.30	1.00	4	0.37	1.09	1.12	1.16	1.21	1.30	35,15
.4X.02X2X45X4	0.4	0.02	45	0.30	2.00	4	0.37	2.12	2.19	2.27	2.36	2.55	35,15
.4X.02X3X45X4	0.4	0.02	45	0.30	3.00	4	0.37	3.15	3.26	3.38	3.51	3.79	35,15

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Per Acciai Temprati ≤68 HRC
For Hardened Steels ≤68 HRC

Codice d'ordine Order Code 1433HP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	.4X.02X4X45X4	0.4	0.02	45	0.30	4.00	4	0.37	4.19	4.33	4.49	4.66	5.03
.4X.05X1X45X4	0.4	0.05	45	0.30	1.00	4	0.37	1.08	1.12	1.16	1.20	1.30	35,15
.4X.05X2X45X4	0.4	0.05	45	0.30	2.00	4	0.37	2.12	2.19	2.27	2.35	2.54	35,15
.4X.05X3X45X4	0.4	0.05	45	0.30	3.00	4	0.37	3.15	3.26	3.38	3.50	3.78	35,15
.4X.05X4X45X4	0.4	0.05	45	0.30	4.00	4	0.37	4.19	4.33	4.48	4.65	5.03	35,15
.4X.1X1X45X4	0.4	0.1	45	0.30	1.00	4	0.37	1.08	1.12	1.15	1.19	1.28	35,15
.4X.1X2X45X4	0.4	0.1	45	0.30	2.00	4	0.37	2.12	2.19	2.26	2.34	2.53	35,15
.4X.1X3X45X4	0.4	0.1	45	0.30	3.00	4	0.37	3.15	3.26	3.37	3.49	3.77	35,15
.4X.1X4X45X4	0.4	0.1	45	0.30	4.00	4	0.37	4.18	4.33	4.48	4.64	5.01	35,15
.5X.02X1X45X4	0.5	0.02	45	0.40	1.00	4	0.47	1.09	1.12	1.16	1.21	1.30	30,35
.5X.02X2X45X4	0.5	0.02	45	0.40	2.00	4	0.47	2.12	2.19	2.27	2.36	2.55	30,35
.5X.02X3X45X4	0.5	0.02	45	0.40	3.00	4	0.47	3.15	3.26	3.38	3.51	3.79	30,35
.5X.02X4X45X4	0.5	0.02	45	0.40	4.00	4	0.47	4.19	4.33	4.49	4.66	5.03	30,35
.5X.02X5X45X4	0.5	0.02	45	0.40	5.00	4	0.47	5.22	5.40	5.60	5.81	6.28	30,35
.5X.05X1X45X4	0.5	0.05	45	0.40	1.00	4	0.47	1.08	1.12	1.16	1.20	1.30	30,35
.5X.05X2X45X4	0.5	0.05	45	0.40	2.00	4	0.47	2.12	2.19	2.27	2.35	2.54	30,35
.5X.05X3X45X4	0.5	0.05	45	0.40	3.00	4	0.47	3.15	3.26	3.38	3.50	3.78	30,35
.5X.05X4X45X4	0.5	0.05	45	0.40	4.00	4	0.47	4.19	4.33	4.48	4.65	5.03	30,35
.5X.05X5X45X4	0.5	0.05	45	0.40	5.00	4	0.47	5.22	5.40	5.59	5.80	6.27	30,35
.5X.1X1X45X4	0.5	0.1	45	0.40	1.00	4	0.47	1.08	1.12	1.15	1.19	1.28	30,35
.5X.1X2X45X4	0.5	0.1	45	0.40	2.00	4	0.47	2.12	2.19	2.26	2.34	2.53	30,35
.5X.1X3X45X4	0.5	0.1	45	0.40	3.00	4	0.47	3.15	3.26	3.37	3.49	3.77	30,35
.5X.1X4X45X4	0.5	0.1	45	0.40	4.00	4	0.47	4.18	4.33	4.48	4.64	5.01	30,35
.5X.1X5X45X4	0.5	0.1	45	0.40	5.00	4	0.47	5.22	5.40	5.59	5.79	6.26	29,75
.6X.02X2X45X4	0.6	0.02	45	0.50	2.00	4	0.57	2.12	2.19	2.27	2.36	2.55	29,75
.6X.02X4X45X4	0.6	0.02	45	0.50	4.00	4	0.57	4.19	4.33	4.49	4.66	5.03	29,75
.6X.02X6X45X4	0.6	0.02	45	0.50	6.00	4	0.57	6.25	6.47	6.70	6.96	7.52	29,75
.6X.05X2X45X4	0.6	0.05	45	0.50	2.00	4	0.57	2.12	2.19	2.27	2.35	2.54	29,75
.6X.05X4X45X4	0.6	0.05	45	0.50	4.00	4	0.57	4.19	4.33	4.48	4.65	5.03	29,75
.6X.05X6X45X4	0.6	0.05	45	0.50	6.00	4	0.57	6.25	6.47	6.70	6.95	7.51	29,75
.6X.1X2X45X4	0.6	0.1	45	0.50	2.00	4	0.57	2.12	2.19	2.26	2.34	2.53	29,75
.6X.1X4X45X4	0.6	0.1	45	0.50	4.00	4	0.57	4.18	4.33	4.48	4.64	5.01	29,75
.6X.1X6X45X4	0.6	0.1	45	0.50	6.00	4	0.57	6.25	6.47	6.70	6.94	7.50	29,75
.7X.05X4X45X4	0.7	0.05	45	0.55	4.00	4	0.66	4.21	4.35	4.51	4.67	5.05	29,10
.7X.05X6X45X4	0.7	0.05	45	0.55	6.00	4	0.66	6.27	6.49	6.72	6.97	7.53	29,10
.7X.1X4X45X4	0.7	0.1	45	0.55	4.00	4	0.66	4.20	4.35	4.50	4.67	5.04	29,10
.7X.1X6X45X4	0.7	0.1	45	0.55	6.00	4	0.66	6.27	6.49	6.72	6.96	7.52	29,10
.8X.02X2X45X4	0.8	0.02	45	0.65	2.00	4	0.77	2.12	2.19	2.27	2.36	2.55	29,10
.8X.02X4X45X4	0.8	0.02	45	0.65	4.00	4	0.77	4.19	4.33	4.49	4.66	5.03	29,10
.8X.02X6X45X4	0.8	0.02	45	0.65	6.00	4	0.77	6.25	6.47	6.70	6.96	7.52	29,10
.8X.02X8X45X4	0.8	0.02	45	0.65	8.00	4	0.77	8.32	8.61	8.92	9.26	10.00	29,10
.8X.05X2X45X4	0.8	0.05	45	0.65	2.00	4	0.77	2.12	2.19	2.27	2.35	2.54	29,10
.8X.05X4X45X4	0.8	0.05	45	0.65	4.00	4	0.77	4.19	4.33	4.48	4.65	5.03	29,10

Per Acciai Temprati ≤68 HRC For Hardened Steels ≤68 HRC

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Per Acciai Temprati s68 HRC
For Hardened Steels s68 HRC

Codice d'ordine Order Code 1433HP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	.8X.05X6X45X4	0.8	0.05	45	0.65	6.00	4	0.77	6.25	6.47	6.70	6.95	7.51
.8X.05X8X45X4	0.8	0.05	45	0.65	8.00	4	0.77	8.32	8.61	8.92	9.25	10.00	29,10
.8X.1X2X45X4	0.8	0.1	45	0.65	2.00	4	0.77	2.12	2.19	2.26	2.34	2.53	29,10
.8X.1X4X45X4	0.8	0.1	45	0.65	4.00	4	0.77	4.18	4.33	4.48	4.64	5.01	29,10
.8X.1X6X45X4	0.8	0.1	45	0.65	6.00	4	0.77	6.25	6.47	6.70	6.94	7.50	29,10
.8X.1X8X45X4	0.8	0.1	45	0.65	8.00	4	0.77	8.32	8.61	8.91	9.24	9.99	29,10
.8X.2X2X45X4	0.8	0.2	45	0.65	2.00	4	0.77	2.11	2.18	2.25	2.33	2.50	29,10
.8X.2X4X45X4	0.8	0.2	45	0.65	4.00	4	0.77	4.18	4.32	4.47	4.63	4.99	29,10
.8X.2X6X45X4	0.8	0.2	45	0.65	6.00	4	0.77	6.25	6.46	6.69	6.93	7.47	29,10
.8X.2X8X45X4	0.8	0.2	45	0.65	8.00	4	0.77	8.32	8.60	8.90	9.23	9.96	29,10
.9X.1X4X45X4	0.9	0.1	45	0.70	4.00	4	0.85	4.22	4.37	4.52	4.69	5.06	29,10
.9X.1X8X45X4	0.9	0.1	45	0.70	8.00	4	0.85	8.36	8.65	8.95	9.29	10.03	29,10
1X.02X2X45X4	1.0	0.02	45	0.80	2.00	4	0.95	2.16	2.23	2.31	2.40	2.59	28,00
1X.02X4X45X4	1.0	0.02	45	0.80	4.00	4	0.95	4.23	4.37	4.53	4.70	5.08	28,00
1X.02X6X45X4	1.0	0.02	45	0.80	6.00	4	0.95	6.29	6.51	6.75	7.00	7.56	28,00
1X.02X8X45X4	1.0	0.02	45	0.80	8.00	4	0.95	8.36	8.65	8.96	9.30	10.05	28,00
1X.02X10X45X4	1.0	0.02	45	0.80	10.00	4	0.95	10.43	10.79	11.18	11.60	12.54	28,50
1X.05X2X45X4	1.0	0.05	45	0.80	2.00	4	0.95	2.16	2.23	2.31	2.39	2.59	28,00
1X.05X4X45X4	1.0	0.05	45	0.80	4.00	4	0.95	4.22	4.37	4.53	4.69	5.07	28,00
1X.05X6X45X4	1.0	0.05	45	0.80	6.00	4	0.95	6.29	6.51	6.74	6.99	7.56	28,00
1X.05X8X45X4	1.0	0.05	45	0.80	8.00	4	0.95	8.36	8.65	8.96	9.29	10.04	28,00
1X.05X10X45X4	1.0	0.05	45	0.80	10.00	4	0.95	10.43	10.79	11.18	11.59	12.53	28,50
1X.05X12X45X4	1.0	0.05	45	0.80	12.00	4	0.95	12.49	12.93	13.39	13.89	15.02	28,50
1X.05X16X50X4	1.0	0.05	50	0.80	16.00	4	0.95	16.63	17.21	17.83	18.49	19.99	29,30
1X.05X20X50X4	1.0	0.05	50	0.80	20.00	4	0.95	20.76	21.48	22.26	23.09	24.96	29,75
1X.1X2X45X4	1.0	0.1	45	0.80	2.00	4	0.95	2.16	2.23	2.30	2.39	2.57	28,00
1X.1X4X45X4	1.0	0.1	45	0.80	4.00	4	0.95	4.22	4.37	4.52	4.69	5.06	28,00
1X.1X6X45X4	1.0	0.1	45	0.80	6.00	4	0.95	6.29	6.51	6.74	6.99	7.55	28,00
1X.1X8X45X4	1.0	0.1	45	0.80	8.00	4	0.95	8.36	8.65	8.95	9.29	10.03	28,00
1X.1X10X45X4	1.0	0.1	45	0.80	10.00	4	0.95	10.42	10.78	11.17	11.59	12.52	28,50
1X.1X12X45X4	1.0	0.1	45	0.80	12.00	4	0.95	12.49	12.92	13.39	13.89	15.00	28,50
1X.1X16X50X4	1.0	0.1	50	0.80	16.00	4	0.95	16.63	17.20	17.82	18.48	19.98	29,30
1X.1X20X50X4	1.0	0.1	50	0.80	20.00	4	0.95	20.76	21.48	22.25	23.08	24.95	29,75
1X.2X2X45X4	1.0	0.2	45	0.80	2.00	4	0.95	2.15	2.22	2.29	2.37	2.55	28,00
1X.2X4X45X4	1.0	0.2	45	0.80	4.00	4	0.95	4.22	4.36	4.51	4.67	5.03	28,00
1X.2X6X45X4	1.0	0.2	45	0.80	6.00	4	0.95	6.29	6.50	6.73	6.97	7.52	28,00
1X.2X8X45X4	1.0	0.2	45	0.80	8.00	4	0.95	8.35	8.64	8.94	9.27	10.01	28,00
1X.2X10X45X4	1.0	0.2	45	0.80	10.00	4	0.95	10.42	10.78	11.16	11.57	12.49	28,50
1X.2X12X45X4	1.0	0.2	45	0.80	12.00	4	0.95	12.49	12.92	13.38	13.87	14.98	28,50
1X.2X16X50X4	1.0	0.2	50	0.80	16.00	4	0.95	16.62	17.20	17.81	18.47	19.95	29,30
1X.2X20X50X4	1.0	0.2	50	0.80	20.00	4	0.95	20.76	21.47	22.24	23.07	24.93	29,75
1X.3X2X45X4	1.0	0.3	45	0.80	2.00	4	0.95	2.15	2.21	2.28	2.36	2.52	28,00
1X.3X4X45X4	1.0	0.3	45	0.80	4.00	4	0.95	4.22	4.35	4.50	4.66	5.01	28,00

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Codice d'ordine Order Code 1433HP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
1X.3X6X45X4	1.0	0.3	45	0.80	6.00	4	0.95	6.28	6.49	6.72	6.96	7.50	28,00
1X.3X8X45X4	1.0	0.3	45	0.80	8.00	4	0.95	8.35	8.63	8.93	9.26	9.98	28,00
1X.3X10X45X4	1.0	0.3	45	0.80	10.00	4	0.95	10.42	10.77	11.15	11.56	12.47	28,50
1X.3X12X45X4	1.0	0.3	45	0.80	12.00	4	0.95	12.49	12.91	13.37	13.86	14.96	28,50
1X.3X16X50X4	1.0	0.3	50	0.80	16.00	4	0.95	16.62	17.19	17.80	18.46	19.93	29,30
1X.3X20X50X4	1.0	0.3	50	0.80	20.00	4	0.95	20.75	21.47	22.23	23.05	24.90	29,75
1.2X.1X4X45X4	1.2	0.1	45	1.00	4.00	4	1.14	4.24	4.39	4.54	4.71	5.08	28,00
1.2X.1X6X45X4	1.2	0.1	45	1.00	6.00	4	1.14	6.31	6.53	6.76	7.01	7.57	28,00
1.2X.1X10X45X4	1.2	0.1	45	1.00	10.00	4	1.14	10.44	10.80	11.19	11.61	12.54	28,00
1.2X.2X4X45X4	1.2	0.2	45	1.00	4.00	4	1.14	4.24	4.38	4.53	4.69	5.06	28,00
1.2X.2X6X45X4	1.2	0.2	45	1.00	6.00	4	1.14	6.31	6.52	6.75	6.99	7.54	28,00
1.2X.2X10X45X4	1.2	0.2	45	1.00	10.00	4	1.14	10.44	10.80	11.18	11.59	12.52	28,00
1.2X.3X4X45X4	1.2	0.3	45	1.00	4.00	4	1.14	4.24	4.37	4.52	4.68	5.03	28,00
1.2X.3X6X45X4	1.2	0.3	45	1.00	6.00	4	1.14	6.30	6.51	6.74	6.98	7.52	28,00
1.2X.3X10X45X4	1.2	0.3	45	1.00	10.00	4	1.14	10.44	10.79	11.17	11.58	12.49	28,00
1.5X.05X3X45X4	1.5	0.05	45	1.50	3.00	4	1.44	3.21	3.32	3.44	3.57	3.85	28,00
1.5X.05X4X45X4	1.5	0.05	45	1.50	4.00	4	1.44	4.24	4.39	4.55	4.72	5.09	28,00
1.5X.05X6X45X4	1.5	0.05	45	1.50	6.00	4	1.44	6.31	6.53	6.76	7.02	7.58	28,00
1.5X.05X8X45X4	1.5	0.05	45	1.50	8.00	4	1.44	8.38	8.67	8.98	9.32	10.07	28,00
1.5X.05X10X45X4	1.5	0.05	45	1.50	10.00	4	1.44	10.45	10.81	11.20	11.61	12.55	28,50
1.5X.05X12X45X4	1.5	0.05	45	1.50	12.00	4	1.44	12.51	12.95	13.41	13.91	15.04	28,50
1.5X.05X16X50X4	1.5	0.05	50	1.50	16.00	4	1.44	16.65	17.23	17.85	18.51	20.01	29,30
1.5X.05X20X50X4	1.5	0.05	50	1.50	20.00	4	1.44	20.78	21.50	22.28	23.11	libero	29,75
1.5X.1X3X45X4	1.5	0.1	45	1.50	3.00	4	1.44	3.21	3.32	3.43	3.56	3.84	28,00
1.5X.1X4X45X4	1.5	0.1	45	1.50	4.00	4	1.44	4.24	4.39	4.54	4.71	5.08	28,00
1.5X.1X6X45X4	1.5	0.1	45	1.50	6.00	4	1.44	6.31	6.53	6.76	7.01	7.57	28,00
1.5X.1X8X45X4	1.5	0.1	45	1.50	8.00	4	1.44	8.38	8.67	8.97	9.31	10.06	28,00
1.5X.1X10X45X4	1.5	0.1	45	1.50	10.00	4	1.44	10.44	10.80	11.19	11.61	12.54	28,50
1.5X.1X12X45X4	1.5	0.1	45	1.50	12.00	4	1.44	12.51	12.94	13.41	13.91	15.03	28,50
1.5X.1X16X50X4	1.5	0.1	50	1.50	16.00	4	1.44	16.65	17.22	17.84	18.51	20.00	29,30
1.5X.1X20X50X4	1.5	0.1	50	1.50	20.00	4	1.44	20.78	21.50	22.27	23.11	libero	29,75
1.5X.2X3X45X4	1.5	0.2	45	1.50	3.00	4	1.44	3.20	3.31	3.42	3.54	3.81	28,00
1.5X.2X4X45X4	1.5	0.2	45	1.50	4.00	4	1.44	4.24	4.38	4.53	4.69	5.06	28,00
1.5X.2X6X45X4	1.5	0.2	45	1.50	6.00	4	1.44	6.31	6.52	6.75	6.99	7.54	28,00
1.5X.2X8X45X4	1.5	0.2	45	1.50	8.00	4	1.44	8.37	8.66	8.96	9.29	10.03	28,00
1.5X.2X10X45X4	1.5	0.2	45	1.50	10.00	4	1.44	10.44	10.80	11.18	11.59	12.52	28,50
1.5X.2X12X45X4	1.5	0.2	45	1.50	12.00	4	1.44	12.51	12.94	13.40	13.89	15.00	28,50
1.5X.2X16X50X4	1.5	0.2	50	1.50	16.00	4	1.44	16.64	17.22	17.83	18.49	19.98	29,30
1.5X.2X20X50X4	1.5	0.2	50	1.50	20.00	4	1.44	20.78	21.49	22.26	23.09	libero	29,75
1.5X.3X3X45X4	1.5	0.3	45	1.50	3.00	4	1.44	3.20	3.30	3.41	3.53	3.79	28,00
1.5X.3X4X45X4	1.5	0.3	45	1.50	4.00	4	1.44	4.24	4.37	4.52	4.68	5.03	28,00
1.5X.3X6X45X4	1.5	0.3	45	1.50	6.00	4	1.44	6.30	6.51	6.74	6.98	7.52	28,00
1.5X.3X8X45X4	1.5	0.3	45	1.50	8.00	4	1.44	8.37	8.65	8.95	9.28	10.01	28,00

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Codice d'ordine Order Code 1433HP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	1.5X.3X10X45X4	1.5	0.3	45	1.50	10.00	4	1.44	10.44	10.79	11.17	11.58	12.49
1.5X.3X12X45X4	1.5	0.3	45	1.50	12.00	4	1.44	12.50	12.93	13.39	13.88	14.98	28,50
1.5X.3X16X50X4	1.5	0.3	50	1.50	16.00	4	1.44	16.64	17.21	17.82	18.48	19.95	29,30
1.5X.3X20X50X4	1.5	0.3	50	1.50	20.00	4	1.44	20.77	21.49	22.25	23.08	libero	29,75
1.5X.5X3X45X4	1.5	0.5	45	1.50	3.00	4	1.44	3.19	3.29	3.39	3.50	3.74	28,00
1.5X.5X4X45X4	1.5	0.5	45	1.50	4.00	4	1.44	4.23	4.36	4.50	4.65	4.99	28,00
1.5X.5X6X45X4	1.5	0.5	45	1.50	6.00	4	1.44	6.30	6.50	6.71	6.95	7.47	28,00
1.5X.5X8X45X4	1.5	0.5	45	1.50	8.00	4	1.44	8.36	8.64	8.93	9.25	9.96	28,00
1.5X.5X10X45X4	1.5	0.5	45	1.50	10.00	4	1.44	10.43	10.78	11.15	11.55	12.44	28,50
1.5X.5X12X45X4	1.5	0.5	45	1.50	12.00	4	1.44	12.50	12.92	13.36	13.85	14.93	28,50
1.5X.5X16X50X4	1.5	0.5	50	1.50	16.00	4	1.44	16.63	17.19	17.80	18.45	19.90	29,30
1.5X.5X20X50X4	1.5	0.5	50	1.50	20.00	4	1.44	20.77	21.47	22.23	23.05	libero	29,75
2X.05X4X45X4	2.0	0.05	45	1.70	4.00	4	1.92	4.28	4.43	4.59	4.76	5.14	28,00
2X.05X6X45X4	2.0	0.05	45	1.70	6.00	4	1.92	6.35	6.57	6.80	7.06	7.63	28,00
2X.05X8X45X4	2.0	0.05	45	1.70	8.00	4	1.92	8.42	8.71	9.02	9.36	10.11	28,00
2X.05X10X45X4	2.0	0.05	45	1.70	10.00	4	1.92	10.48	10.85	11.24	11.66	12.60	28,50
2X.05X12X45X4	2.0	0.05	45	1.70	12.00	4	1.92	12.55	12.99	13.45	13.96	15.09	28,50
2X.05X16X50X4	2.0	0.05	50	1.70	16.00	4	1.92	16.69	17.27	17.89	18.56	libero	29,30
2X.05X20X50X4	2.0	0.05	50	1.70	20.00	4	1.92	20.82	21.54	22.32	23.16	libero	29,75
2X.1X4X45X4	2.0	0.1	45	1.70	4.00	4	1.92	4.28	4.43	4.58	4.75	5.13	28,00
2X.1X6X45X4	2.0	0.1	45	1.70	6.00	4	1.92	6.35	6.57	6.80	7.05	7.62	28,00
2X.1X8X45X4	2.0	0.1	45	1.70	8.00	4	1.92	8.42	8.71	9.02	9.35	10.10	28,00
2X.1X10X45X4	2.0	0.1	45	1.70	10.00	4	1.92	10.48	10.84	11.23	11.65	12.59	28,50
2X.1X12X45X4	2.0	0.1	45	1.70	12.00	4	1.92	12.55	12.98	13.45	13.95	15.07	28,50
2X.1X16X50X4	2.0	0.1	50	1.70	16.00	4	1.92	16.68	17.26	17.88	18.55	libero	29,30
2X.1X20X50X4	2.0	0.1	50	1.70	20.00	4	1.92	20.82	21.54	22.32	23.15	libero	29,75
2X.2X4X45X4	2.0	0.2	45	1.70	4.00	4	1.92	4.28	4.42	4.57	4.74	5.10	28,00
2X.2X6X45X4	2.0	0.2	45	1.70	6.00	4	1.92	6.34	6.56	6.79	7.04	7.59	28,00
2X.2X8X45X4	2.0	0.2	45	1.70	8.00	4	1.92	8.41	8.70	9.01	9.34	10.08	28,00
2X.2X10X45X4	2.0	0.2	45	1.70	10.00	4	1.92	10.48	10.84	11.22	11.64	12.56	28,50
2X.2X12X45X4	2.0	0.2	45	1.70	12.00	4	1.92	12.55	12.98	13.44	13.93	15.05	28,50
2X.2X16X50X4	2.0	0.2	50	1.70	16.00	4	1.92	16.68	17.26	17.87	18.53	libero	29,30
2X.2X20X50X4	2.0	0.2	50	1.70	20.00	4	1.92	20.82	21.53	22.31	23.13	libero	29,75
2X.3X4X45X4	2.0	0.3	45	1.70	4.00	4	1.92	4.27	4.41	4.56	4.72	5.08	28,00
2X.3X6X45X4	2.0	0.3	45	1.70	6.00	4	1.92	6.34	6.55	6.78	7.02	7.57	28,00
2X.3X8X45X4	2.0	0.3	45	1.70	8.00	4	1.92	8.41	8.69	8.99	9.32	10.05	28,00
2X.3X10X45X4	2.0	0.3	45	1.70	10.00	4	1.92	10.48	10.83	11.21	11.62	12.54	28,50
2X.3X12X45X4	2.0	0.3	45	1.70	12.00	4	1.92	12.54	12.97	13.43	13.92	15.03	28,50
2X.3X16X50X4	2.0	0.3	50	1.70	16.00	4	1.92	16.68	17.25	17.86	18.52	libero	29,30
2X.3X20X50X4	2.0	0.3	50	1.70	20.00	4	1.92	20.81	21.53	22.29	23.12	libero	29,75
2X.5X4X45X4	2.0	0.5	45	1.70	4.00	4	1.92	4.27	4.40	4.54	4.69	5.03	28,00
2X.5X6X45X4	2.0	0.5	45	1.70	6.00	4	1.92	6.33	6.54	6.76	6.99	7.52	28,00
2X.5X8X45X4	2.0	0.5	45	1.70	8.00	4	1.92	8.40	8.68	8.97	9.29	10.00	28,00

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Codice d'ordine Order Code 1433HP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	2X.5X10X45X4	2.0	0.5	45	1.70	10.00	4	1.92	10.47	10.82	11.19	11.59	12.49
2X.5X12X45X4	2.0	0.5	45	1.70	12.00	4	1.92	12.54	12.96	13.41	13.89	14.98	28,50
2X.5X16X50X4	2.0	0.5	50	1.70	16.00	4	1.92	16.67	17.23	17.84	18.49	libero	29,30
2X.5X20X50X4	2.0	0.5	50	1.70	20.00	4	1.92	20.81	21.51	22.27	23.09	libero	29,75
2.5X.1X10X45X4	2.5	0.1	45	2.00	10.00	4	2.39	10.54	10.90	11.29	11.71	12.66	28,00
2.5X.1X20X50X4	2.5	0.1	50	2.00	20.00	4	2.39	20.88	21.60	22.38	libero	libero	29,30
2.5X.1X30X70X4	2.5	0.1	70	2.00	30.00	4	2.39	31.21	32.30	libero	libero	libero	32,15
2.5X.2X10X45X4	2.5	0.2	45	2.00	10.00	4	2.39	10.54	10.90	11.28	11.70	12.63	28,00
2.5X.2X20X50X4	2.5	0.2	50	2.00	20.00	4	2.39	20.87	21.59	22.37	libero	libero	29,30
2.5X.2X30X70X4	2.5	0.2	70	2.00	30.00	4	2.39	31.21	32.29	libero	libero	libero	32,15
2.5X.3X10X45X4	2.5	0.3	45	2.00	10.00	4	2.39	10.53	10.89	11.27	11.68	12.61	28,00
2.5X.3X20X50X4	2.5	0.3	50	2.00	20.00	4	2.39	20.87	21.59	22.36	libero	libero	29,30
2.5X.3X30X70X4	2.5	0.3	70	2.00	30.00	4	2.39	31.21	32.28	libero	libero	libero	32,15
2.5X.5X10X45X4	2.5	0.5	45	2.00	10.00	4	2.39	10.53	10.88	11.25	11.65	12.56	28,00
2.5X.5X20X50X4	2.5	0.5	50	2.00	20.00	4	2.39	20.86	21.57	22.33	libero	libero	29,30
2.5X.5X30X70X4	2.5	0.5	70	2.00	30.00	4	2.39	31.20	32.27	libero	libero	libero	32,15
3X.05X4X50X6	3.0	0.05	50	2.50	4.00	6	2.86	4.40	4.55	4.71	4.89	5.28	31,00
3X.05X6X50X6	3.0	0.05	50	2.50	6.00	6	2.86	6.47	6.69	6.93	7.19	7.77	31,00
3X.05X8X50X6	3.0	0.05	50	2.50	8.00	6	2.86	8.53	8.83	9.15	9.49	10.25	31,00
3X.05X10X50X6	3.0	0.05	50	2.50	10.00	6	2.86	10.60	10.97	11.36	11.79	12.74	31,00
3X.05X12X50X6	3.0	0.05	50	2.50	12.00	6	2.86	12.67	13.11	13.58	14.09	15.23	31,40
3X.05X16X60X6	3.0	0.05	60	2.50	16.00	6	2.86	16.80	17.39	18.01	18.69	20.20	32,90
3X.05X20X60X6	3.0	0.05	60	2.50	20.00	6	2.86	20.94	21.66	22.45	23.29	25.17	34,00
3X.1X4X50X6	3.0	0.1	50	2.50	4.00	6	2.86	4.40	4.55	4.71	4.88	5.27	31,00
3X.1X6X50X6	3.0	0.1	50	2.50	6.00	6	2.86	6.46	6.69	6.92	7.18	7.75	31,00
3X.1X8X50X6	3.0	0.1	50	2.50	8.00	6	2.86	8.53	8.82	9.14	9.48	10.24	31,00
3X.1X10X50X6	3.0	0.1	50	2.50	10.00	6	2.86	10.60	10.96	11.36	11.78	12.73	31,00
3X.1X12X50X6	3.0	0.1	50	2.50	12.00	6	2.86	12.67	13.10	13.57	14.08	15.21	31,40
3X.1X16X60X6	3.0	0.1	60	2.50	16.00	6	2.86	16.80	17.38	18.01	18.68	20.19	32,90
3X.1X20X60X6	3.0	0.1	60	2.50	20.00	6	2.86	20.93	21.66	22.44	23.28	25.16	34,00
3X.1X25X60X6	3.0	0.1	60	2.50	25.00	6	2.86	26.10	27.01	27.98	29.03	libero	34,65
3X.1X30X70X6	3.0	0.1	70	2.50	30.00	6	2.86	31.27	32.36	33.52	34.78	libero	37,00
3X.1X35X70X6	3.0	0.1	70	2.50	35.00	6	2.86	36.44	37.71	39.06	40.53	libero	38,50
3X.2X4X50X6	3.0	0.2	50	2.50	4.00	6	2.86	4.39	4.54	4.70	4.86	5.24	31,00
3X.2X6X50X6	3.0	0.2	50	2.50	6.00	6	2.86	6.46	6.68	6.91	7.16	7.73	31,00
3X.2X8X50X6	3.0	0.2	50	2.50	8.00	6	2.86	8.53	8.82	9.13	9.46	10.22	31,00
3X.2X10X50X6	3.0	0.2	50	2.50	10.00	6	2.86	10.59	10.96	11.35	11.76	12.70	31,00
3X.2X12X50X6	3.0	0.2	50	2.50	12.00	6	2.86	12.66	13.10	13.56	14.06	15.19	31,40
3X.2X16X60X6	3.0	0.2	60	2.50	16.00	6	2.86	16.80	17.38	18.00	18.66	20.16	32,90
3X.2X20X60X6	3.0	0.2	60	2.50	20.00	6	2.86	20.93	21.65	22.43	23.26	25.13	34,00
3X.2X25X60X6	3.0	0.2	60	2.50	25.00	6	2.86	26.10	27.00	27.97	29.01	libero	34,65
3X.2X30X70X6	3.0	0.2	70	2.50	30.00	6	2.86	31.27	32.35	33.51	34.76	libero	37,00
3X.2X35X70X6	3.0	0.2	70	2.50	35.00	6	2.86	36.44	37.70	39.05	40.51	libero	38,50

Per Acciai Temprati ≤68 HRC
For Hardened Steels ≤68 HRC

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Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
1433HP	d ₁	R	l ₁	l ₂	l ₃	d ₂	d ₃	30'	1°	1°30'	2°	3°	€
3X.3X4X50X6	3.0	0.3	50	2.50	4.00	6	2.86	4.39	4.53	4.69	4.85	5.22	31,00
3X.3X6X50X6	3.0	0.3	50	2.50	6.00	6	2.86	6.46	6.67	6.90	7.15	7.71	31,00
3X.3X8X50X6	3.0	0.3	50	2.50	8.00	6	2.86	8.52	8.81	9.12	9.45	10.19	31,00
3X.3X10X50X6	3.0	0.3	50	2.50	10.00	6	2.86	10.59	10.95	11.34	11.75	12.68	31,00
3X.3X12X50X6	3.0	0.3	50	2.50	12.00	6	2.86	12.66	13.09	13.55	14.05	15.16	31,40
3X.3X16X60X6	3.0	0.3	60	2.50	16.00	6	2.86	16.79	17.37	17.99	18.65	20.14	32,90
3X.3X20X60X6	3.0	0.3	60	2.50	20.00	6	2.86	20.93	21.65	22.42	23.25	25.11	34,00
3X.3X25X60X6	3.0	0.3	60	2.50	25.00	6	2.86	26.10	27.00	27.96	29.00	libero	34,65
3X.3X30X70X6	3.0	0.3	70	2.50	30.00	6	2.86	31.26	32.34	33.50	34.75	libero	37,00
3X.3X35X70X6	3.0	0.3	70	2.50	35.00	6	2.86	36.43	37.69	39.04	40.50	libero	38,50
3X.5X4X50X6	3.0	0.5	50	2.50	4.00	6	2.86	4.38	4.52	4.66	4.82	5.17	31,00
3X.5X6X50X6	3.0	0.5	50	2.50	6.00	6	2.86	6.45	6.66	6.88	7.12	7.66	31,00
3X.5X8X50X6	3.0	0.5	50	2.50	8.00	6	2.86	8.52	8.80	9.10	9.42	10.14	31,00
3X.5X10X50X6	3.0	0.5	50	2.50	10.00	6	2.86	10.58	10.94	11.31	11.72	12.63	31,00
3X.5X12X50X6	3.0	0.5	50	2.50	12.00	6	2.86	12.65	13.08	13.53	14.02	15.12	31,40
3X.5X16X60X6	3.0	0.5	60	2.50	16.00	6	2.86	16.79	17.35	17.96	18.62	20.09	32,90
3X.5X20X60X6	3.0	0.5	60	2.50	20.00	6	2.86	20.92	21.63	22.40	23.22	25.06	34,00
3X.5X25X60X6	3.0	0.5	60	2.50	25.00	6	2.86	26.09	26.98	27.94	28.97	libero	34,65
3X.5X30X70X6	3.0	0.5	70	2.50	30.00	6	2.86	31.26	32.33	33.48	34.72	libero	37,00
3X.5X35X70X6	3.0	0.5	70	2.50	35.00	6	2.86	36.43	37.68	39.02	40.47	libero	38,50
3X1X8X50X6	3.0	1.0	50	2.50	8.00	6	2.86	8.50	8.76	9.04	9.34	10.02	31,00
3X1X10X50X6	3.0	1.0	50	2.50	10.00	6	2.86	10.57	10.90	11.26	11.64	12.51	31,00
3X1X12X50X6	3.0	1.0	50	2.50	12.00	6	2.86	12.64	13.04	13.48	13.94	14.99	31,40
3X1X16X60X6	3.0	1.0	60	2.50	16.00	6	2.86	16.77	17.32	17.91	18.54	19.97	32,90
3X1X20X60X6	3.0	1.0	60	2.50	20.00	6	2.86	20.90	21.60	22.34	23.14	24.94	34,00
3X1X25X60X6	3.0	1.0	60	2.50	25.00	6	2.86	26.07	26.95	27.88	28.89	libero	34,65
3X1X30X70X6	3.0	1.0	70	2.50	30.00	6	2.86	31.24	32.30	33.43	34.64	libero	37,00
3X1X35X70X6	3.0	1.0	70	2.50	35.00	6	2.86	36.41	37.64	38.97	40.39	libero	38,50
4X.1X8X50X6	4.0	0.1	50	3.50	8.00	6	3.80	8.65	8.94	9.26	9.61	10.38	31,40
4X.1X10X50X6	4.0	0.1	50	3.50	10.00	6	3.80	10.71	11.08	11.48	11.91	12.87	31,40
4X.1X12X50X6	4.0	0.1	50	3.50	12.00	6	3.80	12.78	13.22	13.70	14.21	15.35	31,40
4X.1X16X60X6	4.0	0.1	60	3.50	16.00	6	3.80	16.92	17.50	18.13	18.81	libero	32,55
4X.1X20X60X6	4.0	0.1	60	3.50	20.00	6	3.80	21.05	21.78	22.56	23.41	libero	34,00
4X.1X25X60X6	4.0	0.1	60	3.50	25.00	6	3.80	26.22	27.13	28.11	libero	libero	34,65
4X.1X30X70X6	4.0	0.1	70	3.50	30.00	6	3.80	31.39	32.48	33.65	libero	libero	37,00
4X.1X40X80X6	4.0	0.1	80	3.50	40.00	6	3.80	41.72	43.17	libero	libero	libero	41,50
4X.2X8X50X6	4.0	0.2	50	3.50	8.00	6	3.80	8.64	8.94	9.25	9.59	10.36	31,40
4X.2X10X50X6	4.0	0.2	50	3.50	10.00	6	3.80	10.71	11.08	11.47	11.89	12.84	31,40
4X.2X12X50X6	4.0	0.2	50	3.50	12.00	6	3.80	12.78	13.22	13.69	14.19	15.33	31,40
4X.2X16X60X6	4.0	0.2	60	3.50	16.00	6	3.80	16.91	17.50	18.12	18.79	libero	32,55
4X.2X20X60X6	4.0	0.2	60	3.50	20.00	6	3.80	21.05	21.77	22.55	23.39	libero	34,00
4X.2X25X60X6	4.0	0.2	60	3.50	25.00	6	3.80	26.22	27.12	28.09	libero	libero	34,65
4X.2X30X70X6	4.0	0.2	70	3.50	30.00	6	3.80	31.38	32.47	33.64	libero	libero	37,00

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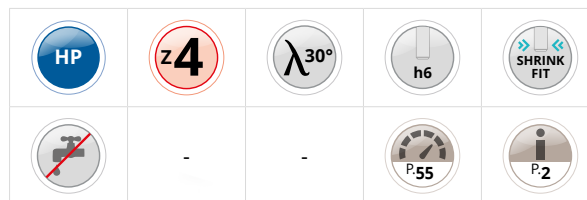
Codice d'ordine Order Code 1433HP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	4X.2X40X80X6	4.0	0.2	80	3.50	40.00	6	3.80	41.72	43.17	libero	libero	libero
4X.3X8X50X6	4.0	0.3	50	3.50	8.00	6	3.80	8.64	8.93	9.24	9.58	10.33	31,40
4X.3X10X50X6	4.0	0.3	50	3.50	10.00	6	3.80	10.71	11.07	11.46	11.88	12.82	31,40
4X.3X12X50X6	4.0	0.3	50	3.50	12.00	6	3.80	12.77	13.21	13.68	14.18	15.30	31,40
4X.3X16X60X6	4.0	0.3	60	3.50	16.00	6	3.80	16.91	17.49	18.11	18.78	libero	32,55
4X.3X20X60X6	4.0	0.3	60	3.50	20.00	6	3.80	21.04	21.77	22.54	23.38	libero	34,00
4X.3X25X60X6	4.0	0.3	60	3.50	25.00	6	3.80	26.21	27.12	28.08	libero	libero	34,65
4X.3X30X70X6	4.0	0.3	70	3.50	30.00	6	3.80	31.38	32.46	33.63	libero	libero	37,00
4X.3X40X80X6	4.0	0.3	80	3.50	40.00	6	3.80	41.72	43.16	libero	libero	libero	41,50
4X.5X8X50X6	4.0	0.5	50	3.50	8.00	6	3.80	8.63	8.92	9.22	9.55	10.28	31,40
4X.5X10X50X6	4.0	0.5	50	3.50	10.00	6	3.80	10.70	11.06	11.44	11.85	12.77	31,40
4X.5X12X50X6	4.0	0.5	50	3.50	12.00	6	3.80	12.77	13.20	13.65	14.15	15.26	31,40
4X.5X16X60X6	4.0	0.5	60	3.50	16.00	6	3.80	16.90	17.47	18.09	18.75	libero	32,55
4X.5X20X60X6	4.0	0.5	60	3.50	20.00	6	3.80	21.04	21.75	22.52	23.35	libero	34,00
4X.5X25X60X6	4.0	0.5	60	3.50	25.00	6	3.80	26.21	27.10	28.06	29.10	libero	34,65
4X.5X30X70X6	4.0	0.5	70	3.50	30.00	6	3.80	31.37	32.45	33.60	libero	libero	37,00
4X.5X40X80X6	4.0	0.5	80	3.50	40.00	6	3.80	41.71	43.15	libero	libero	libero	41,50
4X1X8X50X6	4.0	1.0	50	3.50	8.00	6	3.80	8.62	8.88	9.17	9.47	10.16	31,40
4X1X10X50X6	4.0	1.0	50	3.50	10.00	6	3.80	10.68	11.02	11.38	11.77	12.65	31,40
4X1X12X50X6	4.0	1.0	50	3.50	12.00	6	3.80	12.75	13.16	13.60	14.07	15.13	31,40
4X1X16X60X6	4.0	1.0	60	3.50	16.00	6	3.80	16.89	17.44	18.03	18.67	libero	32,55
4X1X20X60X6	4.0	1.0	60	3.50	20.00	6	3.80	21.02	21.72	22.47	23.27	libero	34,00
4X1X25X60X6	4.0	1.0	60	3.50	25.00	6	3.80	26.19	27.07	28.01	29.02	libero	34,65
4X1X30X70X6	4.0	1.0	70	3.50	30.00	6	3.80	31.36	32.42	33.55	libero	libero	37,00
4X1X40X80X6	4.0	1.0	80	3.50	40.00	6	3.80	41.69	43.11	libero	libero	libero	41,50
5X.1X20X60X6	5.0	0.1	60	4.00	20.00	6	4.75	21.15	21.88	libero	libero	libero	34,00
5X.1X40X80X6	5.0	0.1	80	4.00	40.00	6	4.75	41.82	libero	libero	libero	libero	46,30
5X.2X20X60X6	5.0	0.2	60	4.00	20.00	6	4.75	21.14	21.87	libero	libero	libero	34,00
5X.2X40X80X6	5.0	0.2	80	4.00	40.00	6	4.75	41.82	libero	libero	libero	libero	46,30
5X.3X20X60X6	5.0	0.3	60	4.00	20.00	6	4.75	21.14	21.87	libero	libero	libero	34,00
5X.3X40X80X6	5.0	0.3	80	4.00	40.00	6	4.75	41.81	libero	libero	libero	libero	46,30
5X.5X20X60X6	5.0	0.5	60	4.00	20.00	6	4.75	21.13	21.85	libero	libero	libero	34,00
5X.5X40X80X6	5.0	0.5	80	4.00	40.00	6	4.75	41.81	libero	libero	libero	libero	46,30
5X1X20X60X6	5.0	1.0	60	4.00	20.00	6	4.75	21.12	21.82	libero	libero	libero	34,00
5X1X40X80X6	5.0	1.0	80	4.00	40.00	6	4.75	41.79	libero	libero	libero	libero	46,30
6X.1X12X50X6	6.0	0.1	50	5.00	12.00	6	5.70	libero	libero	libero	libero	libero	33,50
6X.1X16X60X6	6.0	0.1	60	5.00	16.00	6	5.70	libero	libero	libero	libero	libero	34,25
6X.1X20X60X6	6.0	0.1	60	5.00	20.00	6	5.70	libero	libero	libero	libero	libero	34,25
6X.1X30X70X6	6.0	0.1	70	5.00	30.00	6	5.70	libero	libero	libero	libero	libero	37,15
6X.2X12X50X6	6.0	0.2	50	5.00	12.00	6	5.70	libero	libero	libero	libero	libero	33,50
6X.2X16X60X6	6.0	0.2	60	5.00	16.00	6	5.70	libero	libero	libero	libero	libero	34,25
6X.2X20X60X6	6.0	0.2	60	5.00	20.00	6	5.70	libero	libero	libero	libero	libero	34,25
6X.2X30X70X6	6.0	0.2	70	5.00	30.00	6	5.70	libero	libero	libero	libero	libero	37,15

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 1433HP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30'	1°	1°30'	2°	3°	€
6X.3X12X50X6	6.0	0.3	50	5.00	12.00	6	5.70	libero	libero	libero	libero	libero	33,50
6X.3X16X60X6	6.0	0.3	60	5.00	16.00	6	5.70	libero	libero	libero	libero	libero	34,25
6X.3X20X60X6	6.0	0.3	60	5.00	20.00	6	5.70	libero	libero	libero	libero	libero	34,25
6X.3X30X70X6	6.0	0.3	70	5.00	30.00	6	5.70	libero	libero	libero	libero	libero	37,15
6X.5X12X50X6	6.0	0.5	50	5.00	12.00	6	5.70	libero	libero	libero	libero	libero	33,50
6X.5X16X60X6	6.0	0.5	60	5.00	16.00	6	5.70	libero	libero	libero	libero	libero	34,25
6X.5X20X60X6	6.0	0.5	60	5.00	20.00	6	5.70	libero	libero	libero	libero	libero	34,25
6X.5X30X70X6	6.0	0.5	70	5.00	30.00	6	5.70	libero	libero	libero	libero	libero	37,15
6X1X12X50X6	6.0	1.0	50	5.00	12.00	6	5.70	libero	libero	libero	libero	libero	33,50
6X1X16X60X6	6.0	1.0	60	5.00	16.00	6	5.70	libero	libero	libero	libero	libero	34,25
6X1X20X60X6	6.0	1.0	60	5.00	20.00	6	5.70	libero	libero	libero	libero	libero	34,25
6X1X30X70X6	6.0	1.0	70	5.00	30.00	6	5.70	libero	libero	libero	libero	libero	37,15
6X1.5X20X60X6	6.0	1.5	60	5.00	20.00	6	5.70	libero	libero	libero	libero	libero	34,25
6X1.5X30X70X6	6.0	1.5	70	5.00	30.00	6	5.70	libero	libero	libero	libero	libero	37,15
8X.2X24X65X8	8.0	0.2	65	8.00	24.00	8	7.60	libero	libero	libero	libero	libero	37,15
8X.3X24X65X8	8.0	0.3	65	8.00	24.00	8	7.60	libero	libero	libero	libero	libero	37,15
8X.5X24X65X8	8.0	0.5	65	8.00	24.00	8	7.60	libero	libero	libero	libero	libero	37,15
8X1X24X65X8	8.0	1.0	65	8.00	24.00	8	7.60	libero	libero	libero	libero	libero	37,15
8X1.5X24X65X8	8.0	1.5	65	8.00	24.00	8	7.60	libero	libero	libero	libero	libero	37,15
10X.5X25X70X10	10.0	0.5	70	10.00	25.00	10	9.50	libero	libero	libero	libero	libero	50,70
10X1X10X70X10	10.0	1.0	70	10.00	25.00	10	9.50	libero	libero	libero	libero	libero	50,70
12X.5X12X80X12	12.0	0.5	80	12.00	25.00	12	11.50	libero	libero	libero	libero	libero	69,70
12X1X12X80X12	12.0	1.0	80	12.00	25.00	12	11.50	libero	libero	libero	libero	libero	69,70

1434HP

Frese toriche in metallo duro integrale micrograna.
Corner radius end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

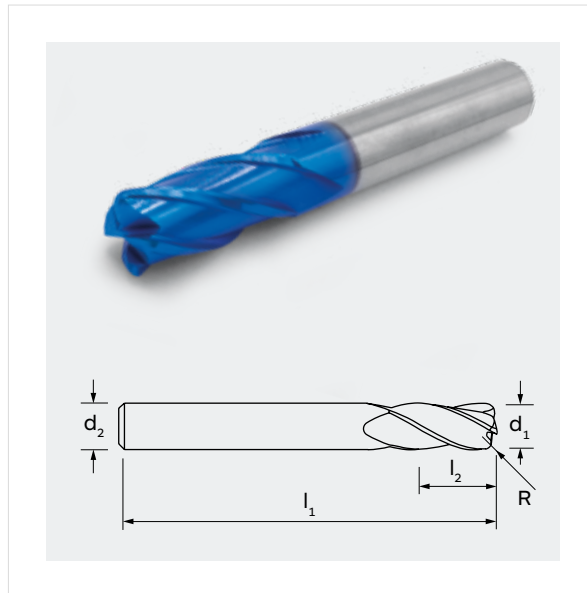


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d≤6: 0/-0.01	±0.01
d>6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
●	-	○	-	-	●	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1434HP	d ₁	R	l ₁	l ₂	d ₂	€
1.5X.2X4X45X4	1.5	0.2	45	4	4	25,60
1.5X.3X4X45X4	1.5	0.3	45	4	4	25,60
2X.2X6X45X4	2.0	0.2	45	6	4	25,60
2X.3X6X45X4	2.0	0.3	45	6	4	25,60
2X.5X6X45X4	2.0	0.5	45	6	4	25,60
3X.2X8X60X6	3.0	0.2	60	8	6	33,80
3X.3X8X60X6	3.0	0.3	60	8	6	33,80
3X.5X8X60X6	3.0	0.5	60	8	6	33,80
4X.2X11X60X6	4.0	0.2	60	11	6	34,25
4X.3X11X60X6	4.0	0.3	60	11	6	34,25
4X.5X11X60X6	4.0	0.5	60	11	6	34,25
4X1X11X60X6	4.0	1.0	60	11	6	34,25
5X.5X11X60X6	5.0	0.5	60	11	6	37,55
6X.2X15X70X6	6.0	0.2	70	15	6	39,20
6X.3X15X70X6	6.0	0.3	70	15	6	39,20
6X.5X15X70X6	6.0	0.5	70	15	6	39,20
6X1X15X70X6	6.0	1.0	70	15	6	39,20
6X1.5X15X70X6	6.0	1.5	70	15	6	39,20

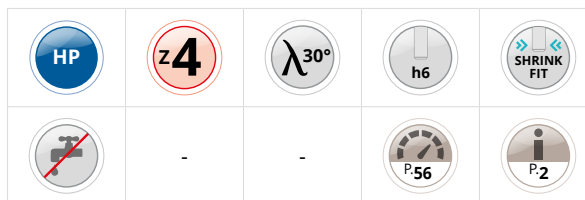
La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1434HP	d_1	R	l_1	l_2	d_2	€
8X.2X19X80X8	8.0	0.2	80	19	8	47,40
8X.3X19X80X8	8.0	0.3	80	19	8	47,40
8X.5X19X80X8	8.0	0.5	80	19	8	47,40
8X1X19X80X8	8.0	1.0	80	19	8	47,40
10X.5X22X80X10	10.0	0.5	80	22	10	56,40
10X1X22X80X10	10.0	1.0	80	22	10	56,40
10X1.5X22X80X10	10.0	1.5	80	22	10	56,40
12X.5X26X80X12	12.0	0.5	80	26	12	71,90
12X1X26X80X12	12.0	1.0	80	26	12	71,90
12X2X26X80X12	12.0	2.0	80	26	12	71,90

14334HP

Frese toriche a collo lungo in metallo duro integrale micrograna.

Corner radius end mills long neck in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

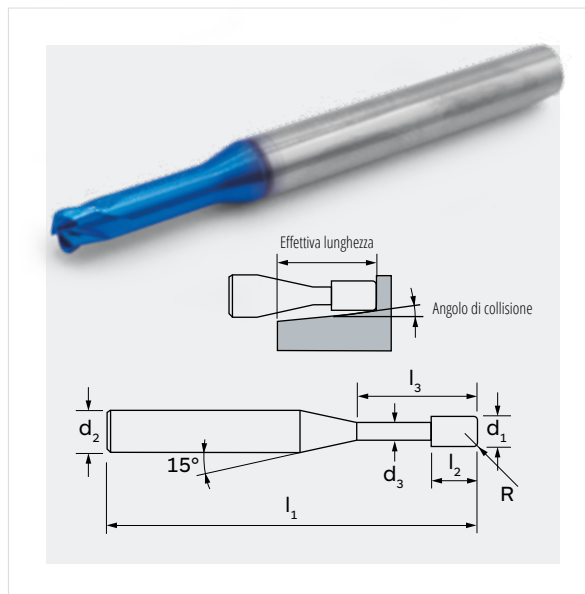


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d≤6: 0/-0.01 d>6: 0/-0.015	±0.01

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
●	-	○	-	-	●	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code 14334HP	Diametro fresa End mill diameter d ₁	Raggio fresa End mill radius R	Lunghezza totale Overall length l ₁	Lunghezza di taglio Length of cut l ₂	Lunghezza utile Length of reach l ₃	Diametro attacco Shank diameter d ₂	Diametro collo Neck diameter d ₃	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price €
								30°	1°	1°30'	2°	3°	
1X.05X4X45X4	1.0	0.05	45	0.80	4.00	4	0.95	4.22	4.37	4.53	4.69	5.07	29,10
1X.05X5X45X4	1.0	0.05	45	0.80	5.00	4	0.95	5.26	5.44	5.63	5.84	6.31	29,10
1X.05X6X45X4	1.0	0.05	45	0.80	6.00	4	0.95	6.29	6.51	6.74	6.99	7.56	29,10
1X.05X8X45X4	1.0	0.05	45	0.80	8.00	4	0.95	8.36	8.65	8.96	9.29	10.04	29,10
1X.05X10X45X4	1.0	0.05	45	0.80	10.00	4	0.95	10.43	10.79	11.18	11.59	12.53	29,75
1X.05X12X45X4	1.0	0.05	45	0.80	12.00	4	0.95	12.49	12.93	13.39	13.89	15.02	29,75
1X.05X16X50X4	1.0	0.05	50	0.80	16.00	4	0.95	16.63	17.21	17.83	18.49	19.99	31,00
1X.1X4X45X4	1.0	0.1	45	0.80	4.00	4	0.95	4.22	4.37	4.52	4.69	5.06	29,10
1X.1X5X45X4	1.0	0.1	45	0.80	5.00	4	0.95	5.26	5.44	5.63	5.84	6.30	29,10
1X.1X6X45X4	1.0	0.1	45	0.80	6.00	4	0.95	6.29	6.51	6.74	6.99	7.55	29,10
1X.1X8X45X4	1.0	0.1	45	0.80	8.00	4	0.95	8.36	8.65	8.95	9.29	10.03	29,10
1X.1X10X45X4	1.0	0.1	45	0.80	10.00	4	0.95	10.42	10.78	11.17	11.59	12.52	29,75
1X.1X12X45X4	1.0	0.1	45	0.80	12.00	4	0.95	12.49	12.92	13.39	13.89	15.00	29,75
1X.1X16X50X4	1.0	0.1	50	0.80	16.00	4	0.95	16.63	17.20	17.82	18.48	19.98	31,00
1X.2X4X45X4	1.0	0.2	45	0.80	4.00	4	0.95	4.22	4.36	4.51	4.67	5.03	29,10
1X.2X5X45X4	1.0	0.2	45	0.80	5.00	4	0.95	5.25	5.43	5.62	5.82	6.28	29,10
1X.2X6X45X4	1.0	0.2	45	0.80	6.00	4	0.95	6.29	6.50	6.73	6.97	7.52	29,10
1X.2X8X45X4	1.0	0.2	45	0.80	8.00	4	0.95	8.35	8.64	8.94	9.27	10.01	29,10

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno.					Prezzo utensile Tool Price
								The effective under-neck length for the various draft angles.					
								30°	1°	1°30'	2°	3°	
14334HP	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
1X.2X10X45X4	1.0	0.2	45	0.80	10.00	4	0.95	10.42	10.78	11.16	11.57	12.49	29,75
1X.2X12X45X4	1.0	0.2	45	0.80	12.00	4	0.95	12.49	12.92	13.38	13.87	14.98	29,75
1X.2X16X50X4	1.0	0.2	50	0.80	16.00	4	0.95	16.62	17.20	17.81	18.47	19.95	31,00
1X.3X4X45X4	1.0	0.3	45	0.80	4.00	4	0.95	4.22	4.35	4.50	4.66	5.01	29,10
1X.3X5X45X4	1.0	0.3	45	0.80	5.00	4	0.95	5.25	5.42	5.61	5.81	6.25	29,10
1X.3X6X45X4	1.0	0.3	45	0.80	6.00	4	0.95	6.28	6.49	6.72	6.96	7.50	29,10
1X.3X8X45X4	1.0	0.3	45	0.80	8.00	4	0.95	8.35	8.63	8.93	9.26	9.98	29,10
1X.3X10X45X4	1.0	0.3	45	0.80	10.00	4	0.95	10.42	10.77	11.15	11.56	12.47	29,75
1X.3X12X45X4	1.0	0.3	45	0.80	12.00	4	0.95	12.49	12.91	13.37	13.86	14.96	29,75
1X.3X16X50X4	1.0	0.3	50	0.80	16.00	4	0.95	16.62	17.19	17.80	18.46	19.93	31,00
1.2X.1X4X45X4	1.2	0.1	45	1.00	4.00	4	1.14	4.24	4.39	4.54	4.71	5.08	29,10
1.2X.1X6X45X4	1.2	0.1	45	1.00	6.00	4	1.14	6.31	6.53	6.76	7.01	7.57	29,10
1.2X.1X8X45X4	1.2	0.1	45	1.00	8.00	4	1.14	8.38	8.67	8.97	9.31	10.06	29,10
1.2X.1X12X45X4	1.2	0.1	45	1.00	12.00	4	1.14	12.51	12.94	13.41	13.91	15.03	29,75
1.2X.2X4X45X4	1.2	0.2	45	1.00	4.00	4	1.14	4.24	4.38	4.53	4.69	5.06	29,10
1.2X.2X6X45X4	1.2	0.2	45	1.00	6.00	4	1.14	6.31	6.52	6.75	6.99	7.54	29,10
1.2X.2X8X45X4	1.2	0.2	45	1.00	8.00	4	1.14	8.37	8.66	8.96	9.29	10.03	29,10
1.2X.2X12X45X4	1.2	0.2	45	1.00	12.00	4	1.14	12.51	12.94	13.40	13.89	15.00	29,75
1.2X.3X4X45X4	1.2	0.3	45	1.00	4.00	4	1.14	4.24	4.37	4.52	4.68	5.03	29,10
1.2X.3X6X45X4	1.2	0.3	45	1.00	6.00	4	1.14	6.30	6.51	6.74	6.98	7.52	29,10
1.2X.3X8X45X4	1.2	0.3	45	1.00	8.00	4	1.14	8.37	8.65	8.95	9.28	10.01	29,10
1.2X.3X12X45X4	1.2	0.3	45	1.00	12.00	4	1.14	12.50	12.93	13.39	13.88	14.98	29,75
1.5X.1X6X45X4	1.5	0.1	45	1.35	6.00	4	1.44	6.31	6.53	6.76	7.01	7.57	29,10
1.5X.1X8X45X4	1.5	0.1	45	1.35	8.00	4	1.44	8.38	8.67	8.97	9.31	10.06	29,10
1.5X.1X12X45X4	1.5	0.1	45	1.35	12.00	4	1.44	12.51	12.94	13.41	13.91	15.03	29,75
1.5X.1X16X50X4	1.5	0.1	50	1.35	16.00	4	1.44	16.65	17.22	17.84	18.51	20.00	31,00
1.5X.1X20X50X4	1.5	0.1	50	1.35	20.00	4	1.44	20.78	21.50	22.27	23.11	libero	31,00
1.5X.2X6X45X4	1.5	0.2	45	1.35	6.00	4	1.44	6.31	6.52	6.75	6.99	7.54	29,10
1.5X.2X8X45X4	1.5	0.2	45	1.35	8.00	4	1.44	8.37	8.66	8.96	9.29	10.03	29,10
1.5X.2X12X45X4	1.5	0.2	45	1.35	12.00	4	1.44	12.51	12.94	13.40	13.89	15.00	29,75
1.5X.2X16X50X4	1.5	0.2	50	1.35	16.00	4	1.44	16.64	17.22	17.83	18.49	19.98	31,00
1.5X.2X20X50X4	1.5	0.2	50	1.35	20.00	4	1.44	20.78	21.49	22.26	23.09	libero	31,00
1.5X.3X6X45X4	1.5	0.3	45	1.35	6.00	4	1.44	6.30	6.51	6.74	6.98	7.52	29,10
1.5X.3X8X45X4	1.5	0.3	45	1.35	8.00	4	1.44	8.37	8.65	8.95	9.28	10.01	29,10
1.5X.3X12X45X4	1.5	0.3	45	1.35	12.00	4	1.44	12.50	12.93	13.39	13.88	14.98	29,75
1.5X.3X16X50X4	1.5	0.3	50	1.35	16.00	4	1.44	16.64	17.21	17.82	18.48	19.95	31,00
1.5X.3X20X50X4	1.5	0.3	50	1.35	20.00	4	1.44	20.77	21.49	22.25	23.08	libero	31,00
1.5X.5X6X45X4	1.5	0.5	45	1.35	6.00	4	1.44	6.30	6.50	6.71	6.95	7.47	29,10
1.5X.5X8X45X4	1.5	0.5	45	1.35	8.00	4	1.44	8.36	8.64	8.93	9.25	9.96	29,10
1.5X.5X12X45X4	1.5	0.5	45	1.35	12.00	4	1.44	12.50	12.92	13.36	13.85	14.93	29,75
1.5X.5X16X50X4	1.5	0.5	50	1.35	16.00	4	1.44	16.63	17.19	17.80	18.45	19.90	31,00
1.5X.5X20X50X4	1.5	0.5	50	1.35	20.00	4	1.44	20.77	21.47	22.23	23.05	libero	31,00
2X.1X6X45X4	2.0	0.1	45	1.70	6.00	4	1.92	6.35	6.57	6.80	7.05	7.62	29,10

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Codice d'ordine Order Code 14334HP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
2X.1X8X45X4	2.0	0.1	45	1.70	8.00	4	1.92	8.42	8.71	9.02	9.35	10.10	29,10
2X.1X10X45X4	2.0	0.1	45	1.70	10.00	4	1.92	10.48	10.84	11.23	11.65	12.59	29,75
2X.1X12X45X4	2.0	0.1	45	1.70	12.00	4	1.92	12.55	12.98	13.45	13.95	15.07	29,75
2X.1X16X50X4	2.0	0.1	50	1.70	16.00	4	1.92	16.68	17.26	17.88	18.55	libero	31,00
2X.1X20X50X4	2.0	0.1	50	1.70	20.00	4	1.92	20.82	21.54	22.32	23.15	libero	31,00
2X.1X25X60X4	2.0	0.1	60	1.70	25.00	4	1.92	25.99	26.89	27.86	libero	libero	32,35
2X.2X6X45X4	2.0	0.2	45	1.70	6.00	4	1.92	6.34	6.56	6.79	7.04	7.59	29,10
2X.2X8X45X4	2.0	0.2	45	1.70	8.00	4	1.92	8.41	8.70	9.01	9.34	10.08	29,10
2X.2X10X45X4	2.0	0.2	45	1.70	10.00	4	1.92	10.48	10.84	11.22	11.64	12.56	29,75
2X.2X12X45X4	2.0	0.2	45	1.70	12.00	4	1.92	12.55	12.98	13.44	13.93	15.05	29,75
2X.2X16X50X4	2.0	0.2	50	1.70	16.00	4	1.92	16.68	17.26	17.87	18.53	libero	31,00
2X.2X20X50X4	2.0	0.2	50	1.70	20.00	4	1.92	20.82	21.53	22.31	23.13	libero	31,00
2X.2X25X60X4	2.0	0.2	60	1.70	25.00	4	1.92	25.98	26.88	27.85	28.88	libero	32,35
2X.3X6X45X4	2.0	0.3	45	1.70	6.00	4	1.92	6.34	6.55	6.78	7.02	7.57	29,10
2X.3X8X45X4	2.0	0.3	45	1.70	8.00	4	1.92	8.41	8.69	8.99	9.32	10.05	29,10
2X.3X10X45X4	2.0	0.3	45	1.70	10.00	4	1.92	10.48	10.83	11.21	11.62	12.54	29,75
2X.3X12X45X4	2.0	0.3	45	1.70	12.00	4	1.92	12.54	12.97	13.43	13.92	15.03	29,75
2X.3X16X50X4	2.0	0.3	50	1.70	16.00	4	1.92	16.68	17.25	17.86	18.52	libero	31,00
2X.3X20X50X4	2.0	0.3	50	1.70	20.00	4	1.92	20.81	21.53	22.29	23.12	libero	31,00
2X.3X25X60X4	2.0	0.3	60	1.70	25.00	4	1.92	25.98	26.88	27.84	28.87	libero	32,35
2X.5X6X45X4	2.0	0.5	45	1.70	6.00	4	1.92	6.33	6.54	6.76	6.99	7.52	29,10
2X.5X8X45X4	2.0	0.5	45	1.70	8.00	4	1.92	8.40	8.68	8.97	9.29	10.00	29,10
2X.5X10X45X4	2.0	0.5	45	1.70	10.00	4	1.92	10.47	10.82	11.19	11.59	12.49	29,75
2X.5X12X45X4	2.0	0.5	45	1.70	12.00	4	1.92	12.54	12.96	13.41	13.89	14.98	29,75
2X.5X16X50X4	2.0	0.5	50	1.70	16.00	4	1.92	16.67	17.23	17.84	18.49	libero	31,00
2X.5X20X50X4	2.0	0.5	50	1.70	20.00	4	1.92	20.81	21.51	22.27	23.09	libero	31,00
2X.5X25X60X4	2.0	0.5	60	1.70	25.00	4	1.92	25.97	26.86	27.81	28.84	libero	32,35
2.5X.1X10X45X4	2.5	0.1	45	2.00	10.00	4	2.39	10.54	10.90	11.29	11.71	12.66	29,75
2.5X.1X16X50X4	2.5	0.1	50	2.00	16.00	4	2.39	16.74	17.32	17.94	18.61	libero	31,00
2.5X.1X25X60X4	2.5	0.1	60	2.00	25.00	4	2.39	26.05	26.95	27.92	libero	libero	32,35
2.5X.2X10X45X4	2.5	0.2	45	2.00	10.00	4	2.39	10.54	10.90	11.28	11.70	12.63	29,75
2.5X.2X16X50X4	2.5	0.2	50	2.00	16.00	4	2.39	16.74	17.32	17.93	18.60	libero	31,00
2.5X.2X25X60X4	2.5	0.2	60	2.00	25.00	4	2.39	26.04	26.94	27.91	libero	libero	32,35
2.5X.3X10X45X4	2.5	0.3	45	2.00	10.00	4	2.39	10.53	10.89	11.27	11.68	12.61	29,75
2.5X.3X16X50X4	2.5	0.3	50	2.00	16.00	4	2.39	16.74	17.31	17.92	18.58	libero	31,00
2.5X.3X25X60X4	2.5	0.3	60	2.00	25.00	4	2.39	26.04	26.94	27.90	libero	libero	32,35
2.5X.5X10X45X4	2.5	0.5	45	2.00	10.00	4	2.39	10.53	10.88	11.25	11.65	12.56	29,75
2.5X.5X16X50X4	2.5	0.5	50	2.00	16.00	4	2.39	16.73	17.29	17.90	18.55	libero	31,00
2.5X.5X25X60X4	2.5	0.5	60	2.00	25.00	4	2.39	26.03	26.92	27.88	libero	libero	32,35
3X.1X10X50X6	3.0	0.1	50	2.50	10.00	6	2.86	10.60	10.96	11.36	11.78	12.73	31,10
3X.1X12X50X6	3.0	0.1	50	2.50	12.00	6	2.86	12.67	13.10	13.57	14.08	15.21	31,10
3X.1X16X60X6	3.0	0.1	60	2.50	16.00	6	2.86	16.80	17.38	18.01	18.68	20.19	32,65
3X.1X20X60X6	3.0	0.1	60	2.50	20.00	6	2.86	20.93	21.66	22.44	23.28	25.16	34,15

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Codice d'ordine Order Code 14334HP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
3X.1X25X60X6	3.0	0.1	60	2.50	25.00	6	2.86	26.10	27.01	27.98	29.03	libero	36,90
3X.1X30X70X6	3.0	0.1	70	2.50	30.00	6	2.86	31.27	32.36	33.52	34.78	libero	38,90
3X.1X35X70X6	3.0	0.1	70	2.50	35.00	6	2.86	36.44	37.71	39.06	40.53	libero	38,90
3X.2X10X50X6	3.0	0.2	50	2.50	10.00	6	2.86	10.59	10.96	11.35	11.76	12.70	31,10
3X.2X12X50X6	3.0	0.2	50	2.50	12.00	6	2.86	12.66	13.10	13.56	14.06	15.19	31,10
3X.2X16X60X6	3.0	0.2	60	2.50	16.00	6	2.86	16.80	17.38	18.00	18.66	20.16	32,65
3X.2X20X60X6	3.0	0.2	60	2.50	20.00	6	2.86	20.93	21.65	22.43	23.26	25.13	34,15
3X.2X25X60X6	3.0	0.2	60	2.50	25.00	6	2.86	26.10	27.00	27.97	29.01	libero	36,90
3X.2X30X70X6	3.0	0.2	70	2.50	30.00	6	2.86	31.27	32.35	33.51	34.76	libero	38,90
3X.2X35X70X6	3.0	0.2	70	2.50	35.00	6	2.86	36.44	37.70	39.05	40.51	libero	38,90
3X.3X10X50X6	3.0	0.3	50	2.50	10.00	6	2.86	10.59	10.95	11.34	11.75	12.68	31,10
3X.3X12X50X6	3.0	0.3	50	2.50	12.00	6	2.86	12.66	13.09	13.55	14.05	15.16	31,10
3X.3X16X60X6	3.0	0.3	60	2.50	16.00	6	2.86	16.79	17.37	17.99	18.65	20.14	32,65
3X.3X20X60X6	3.0	0.3	60	2.50	20.00	6	2.86	20.93	21.65	22.42	23.25	25.11	34,15
3X.3X25X60X6	3.0	0.3	60	2.50	25.00	6	2.86	26.10	27.00	27.96	29.00	libero	36,90
3X.3X30X70X6	3.0	0.3	70	2.50	30.00	6	2.86	31.26	32.34	33.50	34.75	libero	38,90
3X.3X35X70X6	3.0	0.3	70	2.50	35.00	6	2.86	36.43	37.69	39.04	40.50	libero	38,90
3X.5X10X50X6	3.0	0.5	50	2.50	10.00	6	2.86	10.58	10.94	11.31	11.72	12.63	31,10
3X.5X12X50X6	3.0	0.5	50	2.50	12.00	6	2.86	12.65	13.08	13.53	14.02	15.12	31,10
3X.5X16X60X6	3.0	0.5	60	2.50	16.00	6	2.86	16.79	17.35	17.96	18.62	20.09	32,65
3X.5X20X60X6	3.0	0.5	60	2.50	20.00	6	2.86	20.92	21.63	22.40	23.22	25.06	34,15
3X.5X25X60X6	3.0	0.5	60	2.50	25.00	6	2.86	26.09	26.98	27.94	28.97	libero	36,90
3X.5X30X70X6	3.0	0.5	70	2.50	30.00	6	2.86	31.26	32.33	33.48	34.72	libero	38,90
3X.5X35X70X6	3.0	0.5	70	2.50	35.00	6	2.86	36.43	37.68	39.02	40.47	libero	38,90
3X1X10X50X6	3.0	1.0	50	2.50	10.00	6	2.86	10.57	10.90	11.26	11.64	12.51	31,10
3X1X12X50X6	3.0	1.0	50	2.50	12.00	6	2.86	12.64	13.04	13.48	13.94	14.99	31,10
3X1X16X60X6	3.0	1.0	60	2.50	16.00	6	2.86	16.77	17.32	17.91	18.54	19.97	32,65
3X1X20X60X6	3.0	1.0	60	2.50	20.00	6	2.86	20.90	21.60	22.34	23.14	24.94	34,15
3X1X25X60X6	3.0	1.0	60	2.50	25.00	6	2.86	26.07	26.95	27.88	28.89	libero	36,90
3X1X30X70X6	3.0	1.0	70	2.50	30.00	6	2.86	31.24	32.30	33.43	34.64	libero	38,90
3X1X35X70X6	3.0	1.0	70	2.50	35.00	6	2.86	36.41	37.64	38.97	40.39	libero	38,90
4X.1X12X50X6	4.0	0.1	50	4.00	12.00	6	3.80	12.78	13.22	13.70	14.21	15.35	32,30
4X.1X16X60X6	4.0	0.1	60	4.00	16.00	6	3.80	16.92	17.50	18.13	18.81	libero	32,90
4X.1X20X60X6	4.0	0.1	60	4.00	20.00	6	3.80	21.05	21.78	22.56	23.41	libero	34,15
4X.1X25X60X6	4.0	0.1	60	4.00	25.00	6	3.80	26.22	27.13	28.11	libero	libero	36,90
4X.1X30X70X6	4.0	0.1	70	4.00	30.00	6	3.80	31.39	32.48	33.65	libero	libero	38,90
4X.1X35X70X6	4.0	0.1	70	4.00	35.00	6	3.80	36.56	37.83	libero	libero	libero	40,00
4X.1X40X80X6	4.0	0.1	80	4.00	40.00	6	3.80	41.72	43.17	libero	libero	libero	42,00
4X.2X12X50X6	4.0	0.2	50	4.00	12.00	6	3.80	12.78	13.22	13.69	14.19	15.33	32,30
4X.2X16X60X6	4.0	0.2	60	4.00	16.00	6	3.80	16.91	17.50	18.12	18.79	libero	32,90
4X.2X20X60X6	4.0	0.2	60	4.00	20.00	6	3.80	21.05	21.77	22.55	23.39	libero	34,15
4X.2X25X60X6	4.0	0.2	60	4.00	25.00	6	3.80	26.22	27.12	28.09	libero	libero	36,90
4X.2X30X70X6	4.0	0.2	70	4.00	30.00	6	3.80	31.38	32.47	33.64	libero	libero	38,90

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Codice d'ordine Order Code 14334HP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	4X.2X35X70X6	4.0	0.2	70	4.00	35.00	6	3.80	36.55	37.82	libero	libero	libero
4X.2X40X80X6	4.0	0.2	80	4.00	40.00	6	3.80	41.72	43.17	libero	libero	libero	42,00
4X.3X12X50X6	4.0	0.3	50	4.00	12.00	6	3.80	12.77	13.21	13.68	14.18	15.30	32,30
4X.3X16X60X6	4.0	0.3	60	4.00	16.00	6	3.80	16.91	17.49	18.11	18.78	libero	32,90
4X.3X20X60X6	4.0	0.3	60	4.00	20.00	6	3.80	21.04	21.77	22.54	23.38	libero	34,15
4X.3X25X60X6	4.0	0.3	60	4.00	25.00	6	3.80	26.21	27.12	28.08	libero	libero	36,90
4X.3X30X70X6	4.0	0.3	70	4.00	30.00	6	3.80	31.38	32.46	33.63	libero	libero	38,90
4X.3X35X70X6	4.0	0.3	70	4.00	35.00	6	3.80	36.55	37.81	libero	libero	libero	40,00
4X.3X40X80X6	4.0	0.3	80	4.00	40.00	6	3.80	41.72	43.16	libero	libero	libero	42,00
4X.5X12X50X6	4.0	0.5	50	4.00	12.00	6	3.80	12.77	13.20	13.65	14.15	15.26	32,30
4X.5X16X60X6	4.0	0.5	60	4.00	16.00	6	3.80	16.90	17.47	18.09	18.75	libero	32,90
4X.5X20X60X6	4.0	0.5	60	4.00	20.00	6	3.80	21.04	21.75	22.52	23.35	libero	34,15
4X.5X25X60X6	4.0	0.5	60	4.00	25.00	6	3.80	26.21	27.10	28.06	29.10	libero	36,90
4X.5X30X70X6	4.0	0.5	70	4.00	30.00	6	3.80	31.37	32.45	33.60	libero	libero	38,90
4X.5X35X70X6	4.0	0.5	70	4.00	35.00	6	3.80	36.54	37.80	libero	libero	libero	40,00
4X.5X40X80X6	4.0	0.5	80	4.00	40.00	6	3.80	41.71	43.15	libero	libero	libero	42,00
4X1X12X50X6	4.0	1.0	50	4.00	12.00	6	3.80	12.75	13.16	13.60	14.07	15.13	32,30
4X1X16X60X6	4.0	1.0	60	4.00	16.00	6	3.80	16.89	17.44	18.03	18.67	libero	32,90
4X1X20X60X6	4.0	1.0	60	4.00	20.00	6	3.80	21.02	21.72	22.47	23.27	libero	34,15
4X1X25X60X6	4.0	1.0	60	4.00	25.00	6	3.80	26.19	27.07	28.01	29.02	libero	36,90
4X1X30X70X6	4.0	1.0	70	4.00	30.00	6	3.80	31.36	32.42	33.55	libero	libero	38,90
4X1X35X70X6	4.0	1.0	70	4.00	35.00	6	3.80	36.53	37.76	39.09	libero	libero	40,00
4X1X40X80X6	4.0	1.0	80	4.00	40.00	6	3.80	41.69	43.11	libero	libero	libero	42,00
5X.1X20X60X6	5.0	0.1	60	5.00	20.00	6	4.75	21.15	21.88	libero	libero	libero	34,40
5X.1X40X80X6	5.0	0.1	80	5.00	40.00	6	4.75	41.82	libero	libero	libero	libero	42,00
5X.2X20X60X6	5.0	0.2	60	5.00	20.00	6	4.75	21.14	21.87	libero	libero	libero	34,40
5X.2X40X80X6	5.0	0.2	80	5.00	40.00	6	4.75	41.82	libero	libero	libero	libero	42,00
5X.3X20X60X6	5.0	0.3	60	5.00	20.00	6	4.75	21.14	21.87	libero	libero	libero	34,40
5X.3X40X80X6	5.0	0.3	80	5.00	40.00	6	4.75	41.81	libero	libero	libero	libero	42,00
5X.5X20X60X6	5.0	0.5	60	5.00	20.00	6	4.75	21.13	21.85	libero	libero	libero	34,40
5X.5X40X80X6	5.0	0.5	80	5.00	40.00	6	4.75	41.81	libero	libero	libero	libero	42,00
5X1X20X60X6	5.0	1.0	60	5.00	20.00	6	4.75	21.12	21.82	libero	libero	libero	34,40
5X1X40X80X6	5.0	1.0	80	5.00	40.00	6	4.75	41.79	libero	libero	libero	libero	42,00
6X.1X20X60X6	6.0	0.1	60	6.00	20.00	6	5.70	libero	libero	libero	libero	libero	34,40
6X.1X40X80X6	6.0	0.1	80	6.00	40.00	6	5.70	libero	libero	libero	libero	libero	42,00
6X.2X20X60X6	6.0	0.2	60	6.00	20.00	6	5.70	libero	libero	libero	libero	libero	34,40
6X.2X40X80X6	6.0	0.2	80	6.00	40.00	6	5.70	libero	libero	libero	libero	libero	42,00
6X.3X20X60X6	6.0	0.3	60	6.00	20.00	6	5.70	libero	libero	libero	libero	libero	34,40
6X.3X40X80X6	6.0	0.3	80	6.00	40.00	6	5.70	libero	libero	libero	libero	libero	42,00
6X.5X20X60X6	6.0	0.5	60	6.00	20.00	6	5.70	libero	libero	libero	libero	libero	34,40
6X.5X40X80X6	6.0	0.5	80	6.00	40.00	6	5.70	libero	libero	libero	libero	libero	42,00
6X1X20X60X6	6.0	1.0	60	6.00	20.00	6	5.70	libero	libero	libero	libero	libero	34,40
6X1X40X80X6	6.0	1.0	80	6.00	40.00	6	5.70	libero	libero	libero	libero	libero	42,00

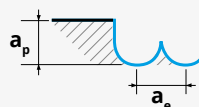
La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 14334HP	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30'	1°	1°30'	2°	3°	€
8X.3X25X65X8	8.0	0.3	65	9.00	25.00	8	7.60	libero	libero	libero	libero	libero	42,80
8X.5X25X65X8	8.0	0.5	65	9.00	25.00	8	7.60	libero	libero	libero	libero	libero	42,80
8X1X25X65X8	8.0	1.0	65	9.00	25.00	8	7.60	libero	libero	libero	libero	libero	42,80
8X1.5X25X65X8	8.0	1.5	65	9.00	25.00	8	7.60	libero	libero	libero	libero	libero	42,80
10X.5X25X70X10	10.0	0.5	70	11.00	25.00	10	9.50	libero	libero	libero	libero	libero	54,90
10X1X25X70X10	10.0	1.0	70	11.00	25.00	10	9.50	libero	libero	libero	libero	libero	54,90
10X1.5X25X70X10	10.0	1.5	70	11.00	25.00	10	9.50	libero	libero	libero	libero	libero	54,90
10X2X25X70X10	10.0	2.0	70	11.00	25.00	10	9.50	libero	libero	libero	libero	libero	54,90
12X.5X30X80X12	12.0	0.5	80	12.00	30.00	12	11.50	libero	libero	libero	libero	libero	71,90
12X1X30X80X12	12.0	1.0	80	12.00	30.00	12	11.50	libero	libero	libero	libero	libero	71,90
12X1.5X30X80X12	12.0	1.5	80	12.00	30.00	12	11.50	libero	libero	libero	libero	libero	71,90
12X2X30X80X12	12.0	2.0	80	12.00	30.00	12	11.50	libero	libero	libero	libero	libero	71,90

416RHP

Z2

Frese sferiche in metallo duro integrale micrograna.
Ball nose end mills in solid carbide micro grain.



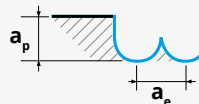
		Acciai Temprati Hardened Steels															
Durezza Hardness		≤ 55 HRc				55 - 62 HRc				62 - 65 HRc				65 - 68 HRc			
R	n	V _f	a _p	a _e	n	V _f	a _p	a _e	n	V _f	a _p	a _e	n	V _f	a _p	a _e	
	(min ⁻¹)	(mm/min)	(mm)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(mm)	
0,10	60.000	180	0,003	0,005	60.000	180	0,002	0,003	60.000	120	0,002	0,003	45.000	60	0,002	0,003	
0,15	60.000	330	0,006	0,008	45.000	300	0,004	0,007	43.500	160	0,003	0,003	32.500	80	0,003	0,005	
0,20	50.000	480	0,010	0,020	37.500	400	0,007	0,012	35.000	220	0,005	0,008	26.250	110	0,005	0,008	
0,25	44.000	630	0,015	0,040	33.000	520	0,010	0,020	30.000	280	0,007	0,010	22.500	140	0,007	0,010	
0,30	40.000	1.000	0,030	0,130	30.000	1.100	0,020	0,100	26.500	700	0,010	0,075	20.000	380	0,010	0,075	
0,40	35.000	1.500	0,060	0,210	27.000	1.500	0,040	0,170	23.500	950	0,020	0,120	17.500	480	0,020	0,120	
0,50	30.000	1.600	0,200	0,400	24.000	1.800	0,100	0,30	21.000	1.600	0,050	0,200	16.000	800	0,050	0,200	
0,75	30.000	2.400	0,250	0,550	17.000	1.800	0,120	0,400	15.000	1.600	0,060	0,290	11.250	850	0,060	0,290	
1,40	28.000	2.700	0,300	0,700	14.000	2.000	0,150	0,500	12.250	1.800	0,080	0,350	9.200	800	0,080	0,350	
1,25	21.000	2.800	0,400	1,000	10.500	2.000	0,200	0,700	9.200	1.700	0,120	0,550	6.900	900	0,120	0,550	
2,00	18.000	3.000	0,500	1,300	9.000	2.100	0,250	0,950	7.900	1.800	0,150	0,750	5.900	900	0,150	0,750	
2,50	15.600	3.000	0,500	1,500	7.800	2.100	0,250	1,050	6.800	1.900	0,160	0,880	5.100	900	0,150	0,880	
3,00	13.000	3.300	0,600	1,800	6.500	2.300	0,300	0,300	5.700	2.000	0,200	1,000	4.300	1.000	0,200	1,000	
4,00	9.500	2.800	0,700	2,100	5.200	2.100	0,400	0,700	4.500	1.800	0,250	1,350	3.400	900	0,250	1,350	
5,00	7.500	2.300	0,800	2,500	4.300	2.800	0,500	2,100	3.750	1.600	0,300	1,700	2.800	850	0,300	1,700	
6,00	6.200	1.800	0,900	3,000	3.600	1.600	0,600	2,600	3.150	1.400	0,350	2,000	2.350	680	0,350	2,000	

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

431RHP

Z2

Frese sferiche a collo lungo in Metallo Duro Integrale micrograna.
Ball nose long neck end mills in solid carbide micro grain.



		Acciai Temprati Hardened Steels															
Durezza Hardness		≤ 55 HRc				55 - 62 HRc				62 - 65 HRc				65 - 68 HRc			
R + I ₃	n	V _f	a _p	a _e	n	V _f	a _p	a _e	n	V _f	a _p	a _e	n	V _f	a _p	a _e	
	(min ⁻¹)	(mm/min)	(mm)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(mm)	
0,50 5	30.000	1.600	0,010	0,30	24.000	1.800	0,050	0,20	21.000	1.600	0,03	0,17	16.000	800	0,030	0,17	
0,50 10	14.800	320	0,018	0,13	14.800	400	0,010	0,09	14.700	320	0,01	0,09	11.100	160	0,010	0,09	
0,75 3	30.000	2.450	0,250	0,55	17.000	1.800	0,120	0,40	15.000	1.600	0,06	0,29	11.250	850	0,060	0,29	
0,75 10	23.500	1.200	0,100	0,35	15.000	1.100	0,045	0,25	14.000	1.000	0,03	0,21	10.500	500	0,030	0,21	
1,00 4	28.000	2.700	0,300	0,70	14.000	2.000	0,150	0,50	12.250	1.800	0,08	0,35	9.200	800	0,080	0,35	
1,00 10	28.000	2.700	0,200	0,60	14.000	2.000	0,100	0,40	12.250	1.800	0,06	0,30	9.200	800	0,060	0,30	
1,00 20	8.650	360	0,035	0,25	8.650	450	0,020	0,19	8.560	340	0,02	0,19	6.400	170	0,020	0,19	
1,50 10	21.000	2.800	0,300	0,90	10.500	2.000	0,150	0,65	9.200	1.700	0,10	0,50	6.900	900	0,100	0,50	
1,50 20	14.500	1.300	0,180	0,70	9.250	1.300	0,100	0,50	8.400	1.050	0,75	0,45	6.450	500	0,075	0,45	
2,00 20	18.000	3.000	0,400	1,20	9.000	2.100	0,200	0,85	7.900	1.800	0,13	0,70	5.900	900	0,130	0,70	
2,00 30	7.000	500	0,100	0,60	7.000	600	0,060	0,45	7.000	500	0,06	0,45	5.250	240	0,060	0,45	
3,00 15	13.000	3.500	0,600	1,80	6.500	2.500	0,300	1,30	5.700	2.200	0,20	1,00	4.300	1.100	0,200	1,00	
4,00 25	9.500	2.800	0,700	2,10	5.200	2.100	0,400	1,70	4.500	1.800	0,25	1,35	3.400	900	0,250	1,35	
5,00 30	7.500	2.300	0,800	2,50	4.300	2.800	0,500	2,10	3.750	1.600	0,30	1,70	2.800	850	0,300	1,70	
6,00 30	6.200	1.800	0,900	3,00	3.600	1.600	0,600	2,60	3.150	1.400	0,35	2,00	2.350	680	0,350	2,00	

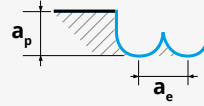
• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

Per Acciai Temprati ≤68 HRc
For Hardened Steels ≤68 HRc

430RHP

Z2

Frese sferiche a collo conico in metallo duro integrale micrograna.
Ball nose tapered neck end mills in solid carbide micro grain



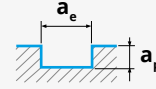
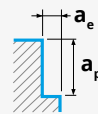
Durezza Hardness	Acciai ≤1300 N/mm ² Steels ≤1300 N/mm ²				Acciai Temprati Hardened Steels							
					≤ 55 HRc				55 - 68 HRc			
R + I ₃	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
0,5 8	17.000	1.300	0,035	≤ 0.1D	17.000	1.000	0,030	≤ 0.08D	16.000	820	0,025	≤ 0.06D
1,0 20	9.000	1.000	0,050	≤ 0.1D	9.000	1.000	0,045	≤ 0.08D	9.000	880	0,035	≤ 0.06D
1,0 30	7.000	800	0,035	≤ 0.1D	7.000	780	0,030	≤ 0.08D	7.000	640	0,025	≤ 0.06D
1,5 20	8.000	1.300	0,070	≤ 0.1D	7.000	1.200	0,060	≤ 0.08D	7.000	1.100	0,050	≤ 0.06D
1,5 50	5.000	800	0,030	≤ 0.1D	5.000	750	0,025	≤ 0.08D	5.000	650	0,023	≤ 0.06D
2,0 40	3.500	600	0,065	≤ 0.1D	3.200	530	0,050	≤ 0.08D	3.200	500	0,043	≤ 0.06D
2,0 60	3.000	450	0,045	≤ 0.1D	2.800	400	0,040	≤ 0.08D	2.800	350	0,031	≤ 0.06D
3,0 30	7.000	1.050	0,100	≤ 0.1D	6.000	950	0,080	≤ 0.08D	6.000	850	0,058	≤ 0.06D
3,0 50	3.900	700	0,060	≤ 0.1D	3.400	650	0,050	≤ 0.08D	3.400	550	0,040	≤ 0.06D
4,0 35	7.000	1.100	0,140	≤ 0.1D	6.000	1.000	0,100	≤ 0.08D	6.000	800	0,082	≤ 0.06D
4,0 50	3.200	650	0,080	≤ 0.1D	2.900	550	0,065	≤ 0.08D	2.900	450	0,040	≤ 0.06D

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1412HP

Z2

Frese a testa piana in metallo duro integrale micrograna.
Square end mills in solid carbide micro grain.



Durezza Hardness	Acciai Temprati Hardened Steels											
	55 - 62 HRc				62 - 65 HRc				65~68 HRc			
d ₁	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)

Valori in tabella per contornatura | Table value for side Milling

1	20.500	310	1	0,03	16.000	190	0,5	0,02	12.500	125	0,5	0,02
2	14.500	370	2	0,06	11.000	230	1,0	0,04	9.500	165	1,0	0,04
3	9.500	370	3	0,09	7.500	230	1,5	0,06	6.400	165	1,5	0,06
4	7.200	385	4	0,12	5.600	240	2,0	0,08	4.750	170	2,0	0,08
5	6.400	410	5	0,15	5.100	260	2,5	0,10	4.450	190	2,5	0,10
6	5.300	400	6	0,18	4.200	255	3,0	0,12	3.700	185	3,0	0,12
8	4.000	365	8	0,24	3.200	235	4,0	0,16	2.800	170	4,0	0,16
10	3.200	340	10	0,30	2.550	220	5,0	0,20	2.200	160	5,0	0,20
12	2.650	340	12	0,36	2.100	220	6,0	0,24	1.860	160	6,0	0,24

• Per cave: valori (a_p ≤ 0.05xD) (a_e 1xD) mantendo giri e avanzamento riportati in tabella. Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti.
• For slot milling: values (a_p ≤ 0.05D) (a_e 1xD), maintaining the RPM and feed shown in the table. Contact the technical department for more details on the missing diameters.

1430HP

Z2

Frese a testa piana a collo lungo in Metallo Duro Integrale micrograna.

Square end mills long neck in solid carbide micro grain.



Durezza Hardness	Acciai ≤1100 N/mm ² Steels ≤1100 N/mm ²				Acciai Temprati Hardened Steels											
					≤ 45 HRC				≤ 55 HRC				55 - 68 HRC			
$d_1 + I_3$	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)

Valori in tabella per contornatura | Table value for side Milling

0,1	0,3	30.000	15	0,004	-	30.000	16	0,002	-	-	-	-	-	-	-	-	-
0,2	0,5	56.000	310	0,005	0,090	56.000	270	0,003	0,090	44.800	180	0,002	0,090	15.000	10	0,001	0,090
0,3	1,0	60.000	500	0,008	0,060	60.000	400	0,006	0,060	52.100	330	0,004	0,060	14.600	14	0,003	0,060
0,4	1,0	57.700	640	0,010	0,025	48.100	470	0,008	0,025	38.500	320	0,005	0,025	14.300	17	0,003	0,025
0,5	2,0	54.000	760	0,016	0,070	40.600	510	0,014	0,070	32.500	350	0,010	0,070	14.000	20	0,005	0,070
1,0	10,0	16.200	400	0,009	0,009	13.800	300	0,007	0,009	11.000	210	0,005	0,009	6.500	12	0,003	0,009
1,5	10,0	22.100	1.000	0,065	0,040	16.300	640	0,051	0,040	13.000	440	0,036	0,040	9.600	95	0,020	0,040
2,0	10,0	12.600	700	0,040	0,100	9.700	470	0,031	0,100	7.800	330	0,022	0,100	9.600	45	0,013	0,100
2,5	10,0	11.100	860	0,061	0,600	8.600	590	0,048	0,600	6.900	400	0,034	0,600	9.600	116	0,020	0,600
3,0	10,0	9.600	930	0,083	0,750	7.200	620	0,064	0,750	5.800	430	0,046	0,750	8.000	222	0,027	0,750
4,0	10,0	8.000	1.000	0,120	1,300	5.900	690	0,085	1,300	4.700	460	0,066	1,300	6.000	420	0,040	1,300
5,0	30,0	3.400	510	0,085	0,200	2.500	340	0,066	0,200	2.000	230	0,047	0,200	4.800	69	0,028	0,200
6,0	40,0	2.300	410	0,074	0,170	1.700	260	0,058	0,170	1.300	170	0,041	0,170	4.000	75	0,024	0,170
8,0	40,0	2.000	410	0,100	0,200	1.500	250	0,800	0,200	1.100	160	0,060	0,200	3.400	84	0,035	0,200

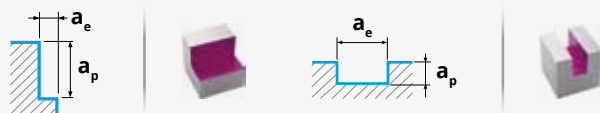
- Per cave: valori (a_e - n - V_f riportati in tabella) per (a_e 1xD), mantenendo giri e avanzamento riportati in tabella. Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti.
- For slot milling: values (a_e - n - V_f shown in table) for (a_e 1xD), maintaining the RPM and feed shown in the table. Contact the technical department for more details on the missing diameters.

1414HP

Z4

Frese a testa piana in metallo duro integrale micrograna.

Square end mills in solid carbide micro grain.



Durezza Hardness	Acciai Temprati Hardened Steels											
	≤ 45 HRC				≤ 55 HRC				55 - 68 HRC			
d_1	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)

Valori in tabella per contornatura | Table value for side Milling

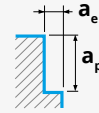
1,0	40.000	2.800	0,060	0,030	32.000	2.300	0,06	0,030	16.000	680	0,05	0,030
1,5	40.000	4.300	0,120	0,045	32.000	3.300	0,08	0,045	10.600	600	0,08	0,045
2,0	30.000	4.300	0,180	0,060	24.000	3.300	0,10	0,060	8.100	480	0,10	0,060
2,5	24.000	3.700	0,250	0,075	19.000	2.800	0,13	0,075	6.400	430	0,13	0,075
3,0	20.000	3.300	0,300	0,150	16.000	2.500	0,15	0,150	5.400	360	0,15	0,150
4,0	15.000	2.800	0,400	0,200	12.000	2.200	0,20	0,200	4.000	430	0,20	0,200
5,0	12.000	2.200	0,500	0,250	9.000	1.600	0,25	0,250	3.200	360	0,20	0,250
6,0	10.000	1.900	0,600	0,300	7.000	1.200	0,30	0,300	2.700	300	0,20	0,300
8,0	8.000	1.300	0,800	0,400	5.600	1.000	0,40	0,400	2.000	220	0,20	0,400
10,0	6.400	1.200	1,000	0,500	4.500	900	0,50	0,500	1.600	190	0,30	0,500
12,0	6.400	1.000	1,000	0,500	3.800	800	0,50	0,500	1.300	150	0,30	0,500

- Per cave: valori (a_e - n - V_f riportati in tabella) per (a_e 1xD), mantenendo giri e avanzamento riportati in tabella. Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti.
- For slot milling: values (a_e - n - V_f shown in table) for (a_e 1xD), maintaining the RPM and feed shown in the table. Contact the technical department for more details on the missing diameters.

1416HP

Z6

Frese a testa piana in metallo duro integrale micrograna.
Square end mills in solid carbide micro grain.



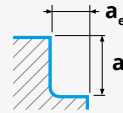
Durezza Hardness	Acciai ≤1100 N/mm ² Steels ≤1100 N/mm ²				Acciai Temprati Hardened Steels											
					≤ 45 HRC				≤ 55 HRC				55 - 68 HRC			
d ₁	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
6	3.180	1.530	18	0,06	2.650	640	18	0,06	2.650	480	18	0,06	2.120	380	18	0,06
8	2.390	1.510	24	0,08	1.990	600	24	0,08	1.990	480	24	0,08	1.590	380	24	0,08
10	1.910	1.380	30	0,10	1.590	570	30	0,10	1.590	480	30	0,10	1.270	380	30	0,10
12	1.590	1.240	36	0,12	1.320	550	36	0,12	1.320	480	36	0,12	1.060	380	36	0,12
16	1.190	1.040	48	0,16	990	480	48	0,16	990	420	48	0,16	800	340	48	0,16
20	760	970	60	0,20	640	460	60	0,20	640	410	60	0,20	510	330	60	0,20

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1432HP

Z2

Frese toriche in metallo duro integrale micrograna.
Corner radius end mills in solid carbide micro grain.



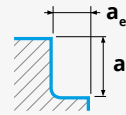
Durezza Hardness	Acciai Temprati Hardened Steels												
	55 - 62 HRC				62 - 65 HRC				65~68 HRC				
d ₁ + R	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	
0,8	0,2	25.000	100	0,04	0,15	19.000	65	0,02	0,12	16.000	40	0,02	0,12
1,0	0,3	20.500	248	0,10	0,30	16.000	152	0,05	0,20	12.500	100	0,05	0,20
1,5	0,1	16.500	265	0,12	0,35	13.000	168	0,07	0,30	10.500	118	0,07	0,30
2,0	0,1	14.500	296	0,15	0,40	11.000	184	0,10	0,35	9.500	132	0,10	0,30
3,0	0,1	9.500	300	0,20	0,50	7.500	188	0,15	0,55	6.400	134	0,12	0,45
	0,5	9.500	300	0,22	0,50	7.500	188	0,15	0,55	6.400	134	0,12	0,45
	1,0	9.500	300	0,25	0,70	7.500	188	0,20	0,65	6.400	134	0,16	0,55
4,0	0,1	7.200	308	0,25	0,95	5.600	192	0,15	0,75	4.750	136	0,15	0,65
	0,5	7.200	308	0,25	0,95	5.600	192	0,15	0,75	4.750	136	0,15	0,65
	1,0	7.200	308	0,30	1,20	5.600	192	0,20	1,00	4.750	136	0,20	0,90
5,0	0,1	6.400	328	0,20	0,90	5.100	208	0,15	0,70	4.450	152	0,15	0,85
	0,5	6.400	328	0,20	0,90	5.100	208	0,15	0,70	4.450	152	0,15	0,85
	1,0	6.400	328	0,25	1,10	5.100	208	0,20	0,90	4.450	152	0,20	1,00
6,0	0,5	5.300	320	0,30	1,30	4.200	204	0,20	0,80	3.700	148	0,20	0,80
	1,0	5.300	320	0,30	1,30	4.200	204	0,20	0,80	3.700	148	0,20	0,80
	2,5	5.300	320	0,30	1,40	4.200	204	0,25	1,20	3.700	148	0,25	1,20
8,0	0,5	4.000	292	0,30	1,70	3.200	188	0,25	1,35	2.800	136	0,25	1,35
	1,0	4.000	292	0,30	1,70	3.200	188	0,25	1,35	2.800	136	0,25	1,35
	3,0	4.000	292	0,40	2,00	3.200	188	0,25	1,50	2.800	136	0,30	1,40
10,0	0,5	3.200	272	0,50	2,10	2.550	176	0,30	1,70	2.200	128	0,30	1,50
	1,0	3.200	272	0,50	2,10	2.550	176	0,30	1,70	2.200	128	0,30	1,50
	2,5	3.200	272	0,60	2,40	2.550	176	0,30	1,80	2.200	128	0,30	1,60
12,0	0,5	2.650	272	0,80	2,50	2.100	176	0,40	2,00	1.860	128	0,35	1,80
	1,0	2.650	272	0,80	2,50	2.100	176	0,40	2,00	1.860	128	0,35	1,80
	2,0	2.650	272	1,00	2,60	2.100	176	0,50	2,10	1.860	128	0,40	2,00
	3,0	2.650	272	1,00	2,60	2.100	176	0,50	2,10	1.860	128	0,40	2,00

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1433HP

Z2

Frese toriche a collo lungo in Metallo Duro Integrale micrograna.
Corner radius long neck end mills in solid carbide micro grain.



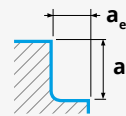
Durezza Hardness	Acciai ≤ 1100 N/mm ² Steels ≤ 1100 N/mm ²				Acciai Temprati Hardened Steels							
					≤ 55 HRC				55 - 68 HRC			
$d_1 + R + l_3$	n (min ⁻¹)	V_f (mm/min)	a_p (mm)	a_e (mm)	n (min ⁻¹)	V_f (mm/min)	a_p (mm)	a_e (mm)	n (min ⁻¹)	V_f (mm/min)	a_p (mm)	a_e (mm)
0,2 0,02 1	42.500	705	0,006	0,020	37.500	553	0,004	0,020	35.000	452	0,001	0,015
0,5 0,10 3	26.438	634	0,022	0,110	23.328	473	0,020	0,110	21.773	381	0,008	0,110
0,8 0,10 8	20.808	642	0,005	0,088	18.360	504	0,004	0,088	17.136	411	0,002	0,088
1,0 0,10 10	19.278	1.039	0,011	0,123	17.010	815	0,013	0,123	15.876	666	0,006	0,123
1,5 0,50 20	13.328	613	0,005	0,106	11.760	540	0,006	0,106	10.976	428	0,003	0,106
2,0 0,50 20	11.246	1.137	0,017	0,194	9.923	801	0,023	0,194	9.261	653	0,014	0,194
2,5 0,50 30	11.246	1.137	0,011	0,176	9.923	801	0,016	0,176	9.261	936	0,010	0,176
3,0 0,50 30	8.568	1.079	0,049	0,371	7.560	771	0,049	0,371	7.056	621	0,028	0,352
4,0 1,00 30	7.781	1.218	0,028	0,671	6.866	860	0,041	0,671	6.408	702	0,030	0,708
5,0 1,00 20	9.336	2.029	0,106	1,346	8.237	1.433	0,150	1,346	7.688	1.170	0,110	1,346
6,0 1,00 20	7.781	2.030	0,476	1,356	6.866	1.433	0,186	1,356	6.408	1.170	0,145	1,356

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1434HP

Z4

Frese toriche in metallo duro integrale micrograna.
Corner radius end mills in solid carbide micro grain.



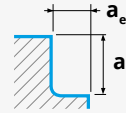
Durezza Hardness	Acciai ≤ 1100 N/mm ² Steels ≤ 1100 N/mm ²				Acciai Temprati Hardened Steels							
					≤ 55 HRC				55 - 68 HRC			
$d_1 + R$	n (min ⁻¹)	V_f (mm/min)	a_p (mm)	a_e (mm)	n (min ⁻¹)	V_f (mm/min)	a_p (mm)	a_e (mm)	n (min ⁻¹)	V_f (mm/min)	a_p (mm)	a_e (mm)
3 0,2	11.500	1.800	0,082	0,595	10.700	1.800	0,051	0,595	9.100	620	0,038	0,476
4 0,2	9.500	1.370	0,091	1,000	7.900	1.330	0,071	1,000	9.400	740	0,043	0,700
6 0,2	6.000	1.470	0,153	2,004	3.500	850	0,153	1,114	3.000	650	0,060	1,114
8 0,2	4.800	1.600	0,184	2,540	2.900	680	0,184	1,320	2.400	650	0,087	1,320
10 0,5	3.840	1.750	0,210	2,730	2.300	540	0,220	1,430	1.900	460	0,094	1,450
12 0,5	3.000	1.800	0,230	2,700	1.800	430	0,240	1,490	1.600	450	0,110	1,500

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

14334HP

Z4

Frese toriche a collo lungo in Metallo Duro Integrale micrograna.
Corner radius end mills long neck in solid carbide micro grain.



Per Acciai Temprati ≤68 HRC
For Hardened Steels ≤68 HRC

		Acciai Temprati Hardened Steels							
Durezza Hardness		≤ 55 HRC				55 - 68 HRC			
$d_1 + R + l_3$	n (min ⁻¹)	V_f (mm/min)	a_p (mm)	a_e (mm)	n (min ⁻¹)	V_f (mm/min)	a_p (mm)	a_e (mm)	

1	0,05	4	23.000	1.800	0,04	0,30	14.000	1.000	0,02	0,20
	0,10		23.000	1.800	0,04	0,30	14.000	1.000	0,02	0,20
	0,20		23.000	1.800	0,04	0,30	14.000	1.000	0,02	0,20
	0,30		23.000	1.800	0,04	0,30	14.000	1.000	0,02	0,20
1,5	0,10	6	20.000	1.600	0,04	0,40	14.000	1.000	0,02	0,20
	0,20		20.000	1.600	0,04	0,40	14.000	1.000	0,02	0,20
	0,30		20.000	1.600	0,04	0,40	14.000	1.000	0,02	0,20
	0,50		20.000	1.600	0,04	0,40	14.000	1.000	0,02	0,20
2	0,10	6	18.000	1.800	0,06	0,60	12.000	1.200	0,03	0,30
	0,20		18.000	1.800	0,06	0,60	12.000	1.200	0,03	0,30
	0,30		18.000	1.800	0,06	0,60	12.000	1.200	0,03	0,30
	0,50		18.000	1.800	0,06	0,60	12.000	1.200	0,03	0,30
2,5	0,10	10	14.000	1.600	0,07	0,70	7.500	1.000	0,03	0,50
	0,20		14.000	1.600	0,07	0,70	7.500	1.000	0,03	0,50
	0,30		14.000	1.600	0,07	0,70	7.500	1.000	0,03	0,50
	0,50		14.000	1.600	0,07	0,70	7.500	1.000	0,03	0,50
3	0,10	12	12.000	1.600	0,08	0,80	7.200	1.000	0,04	0,50
	0,20		12.000	1.600	0,08	0,80	7.200	1.000	0,04	0,50
	0,30		12.000	1.600	0,08	0,80	7.200	1.000	0,04	0,50
	0,50		12.000	1.600	0,08	0,80	7.200	1.000	0,04	0,50
	1,00		12.000	1.600	0,08	0,80	7.200	1.000	0,04	0,50
4	0,10	12	9.500	2.200	0,15	1,20	7.000	1.400	0,06	0,80
		16	8.000	1.800	0,10	1,00	6.000	1.200	0,05	0,60
	0,20	12	9.500	2.200	0,15	1,20	7.000	1.400	0,06	0,80
		16	8.000	1.800	0,10	1,00	6.000	1.200	0,05	0,60
	0,30	12	9.500	2.200	0,15	1,20	7.000	1.400	0,06	0,80
		16	8.000	1.800	0,10	1,00	6.000	1.200	0,05	0,60
	0,50	12	9.500	2.200	0,15	1,20	7.000	1.400	0,06	0,80
		16	8.000	1.800	0,10	1,00	6.000	1.200	0,05	0,60
	1,00	12	9.500	2.200	0,15	1,20	7.000	1.400	0,06	0,80
		16	8.000	1.800	0,10	1,00	6.000	1.200	0,05	0,60
5	0,10	20	6.000	1.500	0,10	2,00	4.000	1.000	0,05	1,00
		40	3.000	850	0,05	1,00	2.000	500	0,01	0,30
	0,20	20	6.000	1.500	0,10	2,00	4.000	1.000	0,05	1,00
		40	3.000	850	0,05	1,00	2.000	500	0,01	0,30
	0,30	20	6.000	1.500	0,10	2,00	4.000	1.000	0,05	1,00
		40	3.000	850	0,05	1,00	2.000	500	0,01	0,30
	0,50	20	6.000	1.500	0,10	2,00	4.000	1.000	0,05	1,00
		40	3.000	850	0,05	1,00	2.000	500	0,01	0,30
1,00	20	6.000	1.500	0,10	2,00	4.000	1.000	0,05	1,00	
	40	3.000	850	0,05	1,00	2.000	500	0,01	0,30	

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters



Evolution
FRESE · END MILLS

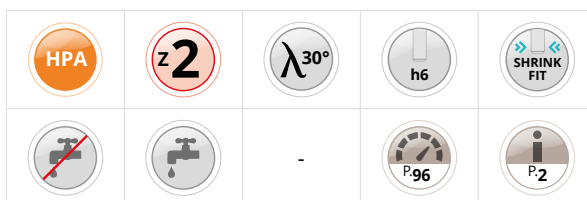
Talicarb



FRESE PER ACCIAI TEMPRATI FINO A 55 HRC
End Mills for hardened steels up to 55 HRC

416RHPA

Frese sferiche in metallo duro integrale micrograna.
Ball nose end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

-	-	-		-
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Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	R ≤ 0.25: 0/-0.005
d > 6: 0/-0.015	R > 0.25: 0/-0.01

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
●	●	●	-	●	●	● Raccomandato - Most suitable
○	○	○	-	○	○	○ Possibile - Possible



Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
416RHPA	d ₁	R	l ₁	l ₂	d ₂	€
.2X.4X45X4	0.2	0.1	45	0.4	4	32,25
.3X.6X45X4	0.3	0.15	45	0.6	4	30,60
.4X.8X45X4	0.4	0.2	45	0.8	4	30,60
.5X1X45X4	0.5	0.25	45	1	4	26,45
.6X1.2X45X4	0.6	0.3	45	1.2	4	25,70
.7X1.5X45X4	0.7	0.35	45	1.5	4	25,70
.8X2X45X4	0.8	0.4	45	2	4	24,80
1X2.5X45X4	1.0	0.5	45	2.5	4	22,30
1X2.5X50X6	1.0	0.5	50	2.5	6	26,95
1.2X3X45X4	1.2	0.6	45	3	4	22,30
1.5X3X45X4	1.5	0.75	45	3	4	22,30
1.5X3X50X6	1.5	0.75	50	3	6	26,95
2X5X45X4	2.0	1.0	45	5	4	23,90
2X5X50X6	2.0	1.0	50	5	6	26,95
2.5X6X45X4	2.5	1.25	45	6	4	23,90
2.5X6X50X6	2.5	1.25	50	6	6	32,00
3X8X50X4	3.0	1.5	50	8	4	23,90
3X8X60X6	3.0	1.5	60	8	6	28,95

La gamma prosegue nella pagina successiva | The range continues on the next page >>

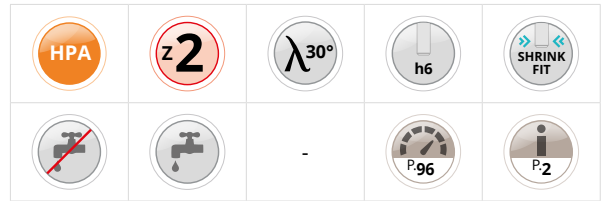
Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
416RHPA	d₁	R	l₁	l₂	d₂	€
3.5X8X50X4	3.5	1.75	50	8	4	26,05
4X8X60X4	4.0	2.0	60	8	4	24,70
4X8X60X6	4.0	2.0	60	8	6	28,95
5X10X70X6	5.0	2.5	70	10	6	31,75
6X12X60X6	6.0	3.0	60	12	6	30,35
6X12X70X6	6.0	3.0	70	12	6	33,85
6X12X80X6	6.0	3.0	80	12	6	34,65
6X12X90X6	6.0	3.0	90	12	6	38,15
6X12X100X6	6.0	3.0	100	12	6	39,00
7X14X80X8	7.0	3.5	80	14	8	40,90
8X14X60X8	8.0	4.0	60	14	8	35,25
8X14X80X8	8.0	4.0	80	14	8	40,50
8X14X90X8	8.0	4.0	90	14	8	44,60
8X14X100X8	8.0	4.0	100	14	8	47,10
8X14X110X8	8.0	4.0	110	14	8	50,80
9X16X100X10	9.0	4.5	100	16	10	59,00
10X18X70X10	10.0	5.0	70	18	10	47,70
10X18X90X10	10.0	5.0	90	18	10	55,10
10X18X100X10	10.0	5.0	100	18	10	59,00
12X22X75X12	12.0	6.0	75	22	12	64,50
12X22X100X12	12.0	6.0	100	22	12	78,30
12X22X110X12	12.0	6.0	110	22	12	83,40
12X22X130X12	12.0	6.0	130	22	12	93,30
14X24X105X14	14.0	7.0	105	24	14	109,50
16X30X105X16	16.0	8.0	105	30	16	139,50
16X30X160X16	16.0	8.0	160	30	16	190,50
20X38X160X20	20.0	10.0	160	38	20	285,00

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

431RHPA

Frese sferiche a collo lungo in metallo duro integrale micrograna.

Ball nose long neck end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

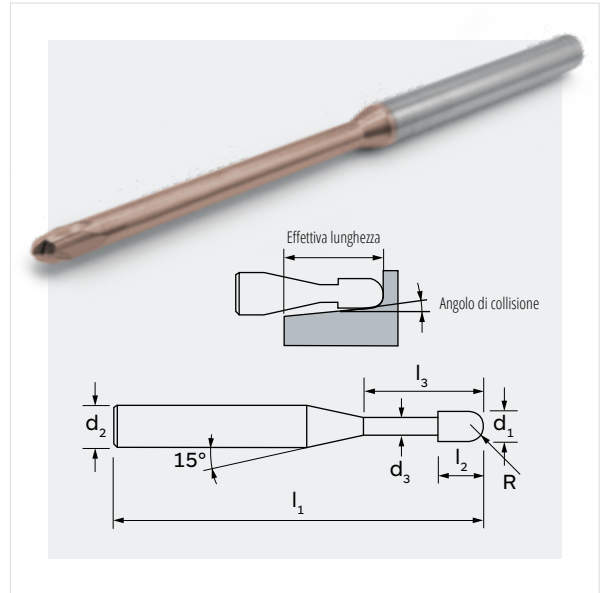
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Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	R ≤ 0.25: 0/-0.005
d > 6: 0/-0.015	R > 0.25: 0/-0.01

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
						● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code 431RHPA	Diametro fresa End mill diameter d₁	Raggio fresa End mill radius R	Lunghezza totale Overall length l₁	Lunghezza di taglio Length of cut l₂	Lunghezza utile Length of reach l₃	Diametro attacco Shank diameter d₂	Diametro collo Neck diameter d₃	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price €
								30°	1°	1°30'	2°	3°	
.2X.1X.5X45X4	0.2	0.1	45	0.15	0.50	4	0.18	0.55	0.56	0.58	0.6	0.64	35,15
.2X.1X.75X45X4	0.2	0.1	45	0.15	0.75	4	0.18	0.81	0.83	0.86	0.89	0.95	35,15
.2X.1X1X45X4	0.2	0.1	45	0.15	1.00	4	0.18	1.06	1.1	1.13	1.17	1.26	35,15
.2X.1X1.25X45X4	0.2	0.1	45	0.15	1.25	4	0.18	1.32	1.37	1.41	1.46	1.57	35,15
.2X.1X1.5X45X4	0.2	0.1	45	0.15	1.50	4	0.18	1.58	1.63	1.69	1.75	1.88	35,15
.2X.1X2X45X4	0.2	0.1	45	0.15	2.00	4	0.18	2.1	2.17	2.24	2.32	2.5	35,15
.2X.1X2.5X45X4	0.2	0.1	45	0.15	2.50	4	0.18	2.61	2.7	2.8	2.9	3.12	35,15
.2X.1X3X45X4	0.2	0.1	45	0.15	3.00	4	0.18	3.13	3.24	3.35	3.47	3.75	35,15
.3X.15X.5X45X4	0.3	0.15	45	0.25	0.50	4	0.28	0.55	0.56	0.57	0.59	0.63	33,65
.3X.15X.75X45X4	0.3	0.15	45	0.25	0.75	4	0.28	0.80	0.83	0.85	0.88	0.94	33,65
.3X.15X1X45X4	0.3	0.15	45	0.25	1.00	4	0.28	1.06	1.09	1.13	1.17	1.25	33,65
.3X.15X1.25X45X4	0.3	0.15	45	0.25	1.25	4	0.28	1.32	1.36	1.41	1.45	1.56	33,65
.3X.15X1.5X45X4	0.3	0.15	45	0.25	1.50	4	0.28	1.58	1.63	1.68	1.74	1.87	33,65
.3X.15X2X45X4	0.3	0.15	45	0.25	2.00	4	0.28	2.10	2.16	2.24	2.32	2.49	33,65
.3X.15X2.5X45X4	0.3	0.15	45	0.25	2.50	4	0.28	2.61	2.70	2.79	2.89	3.11	33,65
.3X.15X3X45X4	0.3	0.15	45	0.25	3.00	4	0.28	3.13	3.23	3.35	3.47	3.73	33,65
.4X.2X1X45X4	0.4	0.2	45	0.30	1.00	4	0.37	1.08	1.11	1.14	1.18	1.26	32,55
.4X.2X1.5X45X4	0.4	0.2	45	0.30	1.50	4	0.37	1.60	1.65	1.70	1.75	1.88	32,55

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 431RHPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
.4X.2X2X45X4	0.4	0.2	45	0.30	2.00	4	0.37	2.11	2.18	2.25	2.33	2.50	32,55
.4X.2X2.5X45X4	0.4	0.2	45	0.30	2.50	4	0.37	2.63	2.72	2.81	2.90	3.12	32,55
.4X.2X3X45X4	0.4	0.2	45	0.30	3.00	4	0.37	3.15	3.25	3.36	3.48	3.75	32,55
.4X.2X3.5X45X4	0.4	0.2	45	0.30	3.50	4	0.37	3.66	3.78	3.91	4.05	4.37	32,55
.4X.2X4X45X4	0.4	0.2	45	0.30	4.00	4	0.37	4.18	4.32	4.47	4.63	4.99	32,55
.4X.2X4.5X45X4	0.4	0.2	45	0.30	4.50	4	0.37	4.70	4.85	5.02	5.20	5.61	32,55
.4X.2X5X45X4	0.4	0.2	45	0.30	5.00	4	0.37	5.21	5.39	5.58	5.78	6.23	32,55
.4X.2X6X45X4	0.4	0.2	45	0.30	6.00	4	0.37	6.25	6.46	6.69	6.93	7.47	32,55
.4X.2X8X45X4	0.4	0.2	45	0.30	8.00	4	0.37	8.32	8.60	8.90	9.23	9.96	32,55
.5X.25X1X45X4	0.5	0.25	45	0.35	1.00	4	0.47	1.08	1.11	1.14	1.17	1.25	29,00
.5X.25X1.5X45X4	0.5	0.25	45	0.35	1.50	4	0.47	1.59	1.64	1.69	1.75	1.87	29,00
.5X.25X2X45X4	0.5	0.25	45	0.35	2.00	4	0.47	2.11	2.18	2.25	2.32	2.49	29,00
.5X.25X2.5X45X4	0.5	0.25	45	0.35	2.50	4	0.47	2.63	2.71	2.80	2.90	3.11	29,00
.5X.25X3X45X4	0.5	0.25	45	0.35	3.00	4	0.47	3.15	3.25	3.35	3.47	3.73	29,00
.5X.25X4X45X4	0.5	0.25	45	0.35	4.00	4	0.47	4.18	4.32	4.46	4.62	4.98	29,00
.5X.25X5X45X4	0.5	0.25	45	0.35	5.00	4	0.47	5.21	5.39	5.57	5.77	6.22	29,00
.5X.25X6X45X4	0.5	0.25	45	0.35	6.00	4	0.47	6.25	6.46	6.68	6.92	7.46	29,00
.5X.25X8X45X4	0.5	0.25	45	0.35	8.00	4	0.47	8.31	8.59	8.90	9.22	9.95	29,00
.5X.25X10X45X4	0.5	0.25	45	0.35	10.00	4	0.47	10.38	10.73	11.11	11.52	12.44	29,00
.6X.3X1X45X4	0.6	0.3	45	0.40	1.00	4	0.57	1.08	1.10	1.13	1.16	1.23	27,75
.6X.3X2X45X4	0.6	0.3	45	0.40	2.00	4	0.57	2.11	2.17	2.24	2.31	2.48	27,75
.6X.3X2.5X45X4	0.6	0.3	45	0.40	2.50	4	0.57	2.63	2.71	2.80	2.89	3.10	27,75
.6X.3X3X45X4	0.6	0.3	45	0.40	3.00	4	0.57	3.14	3.24	3.35	3.46	3.72	27,75
.6X.3X3.5X45X4	0.6	0.3	45	0.40	3.50	4	0.57	3.66	3.78	3.90	4.04	4.34	27,75
.6X.3X4X45X4	0.6	0.3	45	0.40	4.00	4	0.57	4.18	4.31	4.46	4.61	4.96	27,75
.6X.3X4.5X45X4	0.6	0.3	45	0.40	4.50	4	0.57	4.69	4.85	5.01	5.19	5.59	27,75
.6X.3X5X45X4	0.6	0.3	45	0.40	5.00	4	0.57	5.21	5.38	5.57	5.76	6.21	27,75
.6X.3X5.5X45X4	0.6	0.3	45	0.40	5.50	4	0.57	5.73	5.92	6.12	6.34	6.83	27,75
.6X.3X6X45X4	0.6	0.3	45	0.40	6.00	4	0.57	6.24	6.45	6.67	6.91	7.45	27,75
.6X.3X8X45X4	0.6	0.3	45	0.40	8.00	4	0.57	8.31	8.59	8.89	9.21	9.94	27,75
.6X.3X10X45X4	0.6	0.3	45	0.40	10.00	4	0.57	10.38	10.73	11.11	11.51	12.42	27,75
.6X.3X12X45X4	0.6	0.3	45	0.40	12.00	4	0.57	12.45	12.87	13.32	13.81	14.91	27,75
.7X.35X2X45X4	0.7	0.35	45	0.45	2.00	4	0.66	2.13	2.19	2.26	2.33	2.49	27,75
.7X.35X4X45X4	0.7	0.35	45	0.45	4.00	4	0.66	4.20	4.33	4.47	4.63	4.98	27,75
.7X.35X6X45X4	0.7	0.35	45	0.45	6.00	4	0.66	6.26	6.47	6.69	6.93	7.46	27,75
.7X.35X8X45X4	0.7	0.35	45	0.45	8.00	4	0.66	8.33	8.61	8.91	9.23	9.95	27,75
.8X.4X2X45X4	0.8	0.4	45	0.50	2.00	4	0.77	2.11	2.17	2.23	2.30	2.45	27,25
.8X.4X3X45X4	0.8	0.4	45	0.50	3.00	4	0.77	3.14	3.24	3.34	3.45	3.70	27,25
.8X.4X4X45X4	0.8	0.4	45	0.50	4.00	4	0.77	4.17	4.31	4.45	4.60	4.94	27,25
.8X.4X5X45X4	0.8	0.4	45	0.50	5.00	4	0.77	5.21	5.38	5.56	5.75	6.18	27,25
.8X.4X6X45X4	0.8	0.4	45	0.50	6.00	4	0.77	6.24	6.45	6.66	6.90	7.43	27,25
.8X.4X8X45X4	0.8	0.4	45	0.50	8.00	4	0.77	8.31	8.58	8.88	9.20	9.91	27,25
.8X.4X10X45X4	0.8	0.4	45	0.50	10.00	4	0.77	10.38	10.72	11.10	11.50	12.40	27,25

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Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

Codice d'ordine Order Code 431RHPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	.8X.4X12X45X4	0.8	0.4	45	0.50	12.00	4	0.77	12.44	12.86	13.31	13.80	14.89
.9X.45X2X45X4	0.9	0.45	45	0.60	2.00	4	0.85	2.14	2.20	2.27	2.33	2.49	27,25
.9X.45X4X45X4	0.9	0.45	45	0.60	4.00	4	0.85	4.21	4.34	4.48	4.63	4.97	27,25
.9X.45X6X45X4	0.9	0.45	45	0.60	6.00	4	0.85	6.28	6.48	6.70	6.93	7.46	27,25
.9X.45X8X45X4	0.9	0.45	45	0.60	8.00	4	0.85	8.35	8.62	8.92	9.23	9.95	27,25
.9X.45X10X45X4	0.9	0.45	45	0.60	10.00	4	0.85	10.41	10.76	11.13	11.53	12.43	27,25
1X.5X2X45X4	1.0	0.5	45	0.80	2.00	4	0.95	2.14	2.20	2.26	2.33	2.48	25,60
1X.5X3X45X4	1.0	0.5	45	0.80	3.00	4	0.95	3.18	3.27	3.37	3.48	3.72	25,60
1X.5X4X45X4	1.0	0.5	45	0.80	4.00	4	0.95	4.21	4.34	4.48	4.63	4.96	25,60
1X.5X4X50X6	1.0	0.5	50	0.80	4.00	6	0.95	4.21	4.34	4.48	4.63	4.96	30,55
1X.5X5X45X4	1.0	0.5	45	0.80	5.00	4	0.95	5.24	5.41	5.59	5.78	6.21	25,60
1X.5X6X45X4	1.0	0.5	45	0.80	6.00	4	0.95	6.28	6.48	6.69	6.93	7.45	25,60
1X.5X6X50X6	1.0	0.5	50	0.80	6.00	6	0.95	6.28	6.48	6.69	6.93	7.45	30,55
1X.5X8X45X4	1.0	0.5	45	0.80	8.00	4	0.95	8.34	8.62	8.91	9.23	9.93	25,60
1X.5X8X50X6	1.0	0.5	50	0.80	8.00	6	0.95	8.34	8.62	8.91	9.23	9.93	30,55
1X.5X10X45X4	1.0	0.5	45	0.80	10.00	4	0.95	10.41	10.76	11.13	11.53	12.42	25,60
1X.5X10X50X6	1.0	0.5	50	0.80	10.00	6	0.95	10.41	10.76	11.13	11.53	12.42	30,55
1X.5X12X45X4	1.0	0.5	45	0.80	12.00	4	0.95	12.48	12.90	13.34	13.83	14.91	25,60
1X.5X12X50X6	1.0	0.5	50	0.80	12.00	6	0.95	12.48	12.90	13.34	13.83	14.91	30,55
1X.5X14X45X4	1.0	0.5	45	0.80	14.00	4	0.95	14.55	15.04	15.56	16.13	17.39	25,60
1X.5X16X50X4	1.0	0.5	50	0.80	16.00	4	0.95	16.61	17.17	17.78	18.43	19.88	26,35
1X.5X16X60X6	1.0	0.5	60	0.80	16.00	6	0.95	16.61	17.17	17.78	18.43	19.88	32,15
1X.5X18X50X4	1.0	0.5	50	0.80	18.00	4	0.95	18.68	19.31	19.99	20.72	22.37	27,25
1X.5X20X50X4	1.0	0.5	50	0.80	20.00	4	0.95	20.75	21.45	22.21	23.02	24.85	27,25
1X.5X20X60X6	1.0	0.5	60	0.80	20.00	6	0.95	20.75	21.45	22.21	23.02	24.85	32,15
1.2X.6X4X45X4	1.2	0.6	45	1.20	4.00	4	1.14	4.23	4.35	4.49	4.63	4.96	25,60
1.2X.6X6X45X4	1.2	0.6	45	1.20	6.00	4	1.14	6.29	6.49	6.70	6.93	7.45	25,60
1.2X.6X8X45X4	1.2	0.6	45	1.20	8.00	4	1.14	8.36	8.63	8.92	9.23	9.93	25,60
1.2X.6X10X45X4	1.2	0.6	45	1.20	10.00	4	1.14	10.43	10.77	11.14	11.53	12.42	25,60
1.2X.6X12X45X4	1.2	0.6	45	1.20	12.00	4	1.14	12.49	12.91	13.35	13.83	14.91	25,60
1.2X.6X16X50X4	1.2	0.6	50	1.20	16.00	4	1.14	16.63	17.19	17.79	18.43	19.88	26,35
1.2X.6X20X50X4	1.2	0.6	50	1.20	20.00	4	1.14	20.76	21.47	22.22	23.03	24.85	27,25
1.5X.75X3X45X4	1.5	0.75	45	1.35	3.00	4	1.44	3.19	3.27	3.36	3.46	3.68	25,60
1.5X.75X4X45X4	1.5	0.75	45	1.35	4.00	4	1.44	4.22	4.34	4.47	4.61	4.92	25,60
1.5X.75X4X50X6	1.5	0.75	50	1.35	4.00	6	1.44	4.22	4.34	4.47	4.61	4.92	30,55
1.5X.75X6X45X4	1.5	0.75	45	1.35	6.00	4	1.44	6.29	6.48	6.69	6.91	7.41	25,60
1.5X.75X6X50X6	1.5	0.75	50	1.35	6.00	6	1.44	6.29	6.48	6.69	6.91	7.41	30,55
1.5X.75X8X45X4	1.5	0.75	45	1.35	8.00	4	1.44	8.35	8.62	8.90	9.21	9.90	25,60
1.5X.75X8X50X6	1.5	0.75	50	1.35	8.00	6	1.44	8.35	8.62	8.90	9.21	9.90	30,55
1.5X.75X10X45X4	1.5	0.75	45	1.35	10.00	4	1.44	10.42	10.76	11.12	11.51	12.38	25,60
1.5X.75X10X50X6	1.5	0.75	50	1.35	10.00	6	1.44	10.42	10.76	11.12	11.51	12.38	30,55
1.5X.75X12X45X4	1.5	0.75	45	1.35	12.00	4	1.44	12.49	12.90	13.34	13.81	14.87	25,60
1.5X.75X12X50X6	1.5	0.75	50	1.35	12.00	6	1.44	12.49	12.90	13.34	13.81	14.87	30,55

Per Acciai Temprati s55 HRC
For Hardened Steels s55 HRC

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 431RHPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
1.5X.75X14X45X4	1.5	0.75	45	1.35	14.00	4	1.44	14.56	15.04	15.55	16.11	17.36	25,60
1.5X.75X16X50X4	1.5	0.75	50	1.35	16.00	4	1.44	16.62	17.18	17.77	18.41	19.84	26,35
1.5X.75X16X60X6	1.5	0.75	60	1.35	16.00	6	1.44	16.62	17.18	17.77	18.41	19.84	32,15
1.5X.75X20X50X4	1.5	0.75	50	1.35	20.00	4	1.44	20.76	21.46	22.20	23.01	libero	27,25
1.5X.75X20X60X6	1.5	0.75	60	1.35	20.00	6	1.44	20.76	21.46	22.20	23.01	24.81	32,15
1.5X.75X25X60X4	1.5	0.75	60	1.35	25.00	4	1.44	25.93	26.80	27.75	28.76	libero	28,00
1.5X.75X30X70X4	1.5	0.75	70	1.35	30.00	4	1.44	31.10	32.15	33.29	34.51	libero	30,25
1.6X.8X6X45X4	1.6	0.8	45	1.60	6.00	4	1.55	6.27	6.46	6.66	6.88	7.38	27,75
1.6X.8X8X45X4	1.6	0.8	45	1.60	8.00	4	1.55	8.33	8.60	8.88	9.18	9.86	27,75
1.6X.8X10X45X4	1.6	0.8	45	1.60	10.00	4	1.55	10.40	10.74	11.09	11.48	12.35	27,75
1.6X.8X12X45X4	1.6	0.8	45	1.60	12.00	4	1.55	12.47	12.88	13.31	13.78	14.83	27,75
1.6X.8X16X50X4	1.6	0.8	50	1.60	16.00	4	1.55	16.60	17.15	17.74	18.38	19.81	29,10
1.6X.8X20X50X4	1.6	0.8	50	1.60	20.00	4	1.55	20.74	21.43	22.18	22.98	libero	29,10
2X1X4X45X4	2.0	1.0	45	1.80	4.00	4	1.92	4.25	4.36	4.49	4.62	4.91	26,10
2X1X5X45X4	2.0	1.0	45	1.80	5.00	4	1.92	5.28	5.43	5.59	5.77	6.15	26,10
2X1X6X45X4	2.0	1.0	45	1.80	6.00	4	1.92	6.32	6.50	6.70	6.92	7.40	26,10
2X1X6X50X6	2.0	1.0	50	1.80	6.00	6	1.92	6.32	6.50	6.70	6.92	7.40	30,55
2X1X8X45X4	2.0	1.0	45	1.80	8.00	4	1.92	8.38	8.64	8.92	9.22	9.88	26,10
2X1X8X50X6	2.0	1.0	50	1.80	8.00	6	1.92	8.38	8.64	8.92	9.22	9.88	30,55
2X1X10X45X4	2.0	1.0	45	1.80	10.00	4	1.92	10.45	10.78	11.14	11.52	12.37	26,10
2X1X10X50X6	2.0	1.0	50	1.80	10.00	6	1.92	10.45	10.78	11.14	11.52	12.37	30,55
2X1X12X45X4	2.0	1.0	45	1.80	12.00	4	1.92	12.52	12.92	13.35	13.82	14.86	26,10
2X1X12X50X6	2.0	1.0	50	1.80	12.00	6	1.92	12.52	12.92	13.35	13.82	14.86	30,55
2X1X14X45X4	2.0	1.0	45	1.80	14.00	4	1.92	14.59	15.06	15.57	16.11	17.34	26,10
2X1X16X50X4	2.0	1.0	50	1.80	16.00	4	1.92	16.65	17.20	17.79	18.41	19.83	26,35
2X1X16X60X6	2.0	1.0	60	1.80	16.00	6	1.92	16.65	17.20	17.79	18.41	19.83	32,00
2X1X18X50X4	2.0	1.0	50	1.80	18.00	4	1.92	18.72	19.34	20.00	20.71	libero	27,25
2X1X20X50X4	2.0	1.0	50	1.80	20.00	4	1.92	20.79	21.48	22.22	23.01	libero	27,25
2X1X20X60X6	2.0	1.0	60	1.80	20.00	6	1.92	20.79	21.48	22.22	23.01	24.80	32,00
2X1X25X60X4	2.0	1.0	60	1.80	25.00	4	1.92	25.96	26.83	27.76	28.76	libero	28,40
2X1X25X60X6	2.0	1.0	60	1.80	25.00	6	1.92	25.96	26.83	27.76	28.76	31.02	32,00
2X1X30X70X4	2.0	1.0	70	1.80	30.00	4	1.92	31.13	32.18	33.30	libero	libero	29,75
2X1X35X70X4	2.0	1.0	70	1.80	35.00	4	1.92	36.29	37.52	38.84	libero	libero	29,75
2X1X40X80X4	2.0	1.0	80	1.80	40.00	4	1.92	41.46	42.87	libero	libero	libero	32,65
2.5X1.25X8X45X4	2.5	1.25	45	2.50	8.00	4	2.39	8.43	8.68	8.95	9.24	9.89	26,60
2.5X1.25X10X45X4	2.5	1.25	45	2.50	10.00	4	2.39	10.50	10.82	11.17	11.54	12.38	26,60
2.5X1.25X12X45X4	2.5	1.25	45	2.50	12.00	4	2.39	12.57	12.96	13.39	13.84	14.86	26,60
2.5X1.25X16X50X4	2.5	1.25	50	2.50	16.00	4	2.39	16.70	17.24	17.82	18.44	libero	26,35
2.5X1.25X20X50X4	2.5	1.25	50	2.50	20.00	4	2.39	20.84	21.52	22.25	libero	libero	27,25
2.5X1.25X25X60X4	2.5	1.25	60	2.50	25.00	4	2.39	26.01	26.87	27.79	libero	libero	28,40
3X1.5X6X50X6	3.0	1.5	50	3.00	6.00	6	2.86	6.42	6.59	6.77	6.97	7.41	31,00
3X1.5X8X50X6	3.0	1.5	50	3.00	8.00	6	2.86	8.48	8.73	8.99	9.27	9.90	31,00
3X1.5X10X50X6	3.0	1.5	50	3.00	10.00	6	2.86	10.55	10.87	11.21	11.57	12.39	31,00

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

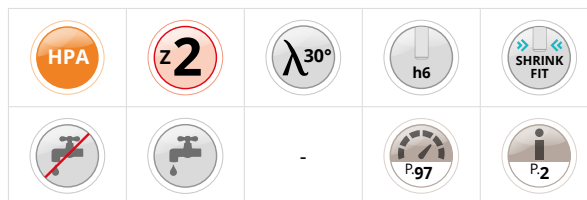
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Codice d'ordine Order Code 431RHPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30'	1°	1°30'	2°	3°	€
3X1.5X12X50X6	3.0	1.5	50	3.00	12.00	6	2.86	12.62	13.01	13.42	13.87	14.87	31,00
3X1.5X14X50X6	3.0	1.5	50	3.00	14.00	6	2.86	14.69	15.15	15.64	16.17	17.36	31,00
3X1.5X16X60X6	3.0	1.5	60	3.00	16.00	6	2.86	16.75	17.28	17.86	18.47	19.85	32,90
3X1.5X18X60X6	3.0	1.5	60	3.00	18.00	6	2.86	18.82	19.42	20.07	20.77	22.33	32,90
3X1.5X20X60X6	3.0	1.5	60	3.00	20.00	6	2.86	20.89	21.56	22.29	23.07	24.82	32,90
3X1.5X25X60X6	3.0	1.5	60	3.00	25.00	6	2.86	26.06	26.91	27.83	28.82	libero	32,90
3X1.5X30X70X6	3.0	1.5	70	3.00	30.00	6	2.86	31.22	32.26	33.37	34.57	libero	36,75
3X1.5X35X70X6	3.0	1.5	70	3.00	35.00	6	2.86	36.39	37.61	38.91	40.32	libero	38,65
3X1.5X40X80X6	3.0	1.5	80	3.00	40.00	6	2.86	41.56	42.96	44.45	libero	libero	40,80
3X1.5X50X100X6	3.0	1.5	100	3.00	50.00	6	2.86	51.90	53.65	55.54	libero	libero	44,50
3.5X1.75X15X60X6	3.5	1.75	60	3.50	15.00	6	3.35	15.73	16.22	16.74	17.30	18.56	33,90
3.5X1.75X20X60X6	3.5	1.75	60	3.50	20.00	6	3.35	20.90	21.57	22.28	23.05	24.78	33,90
3.5X1.75X25X60X6	3.5	1.75	60	3.50	25.00	6	3.35	26.07	26.91	27.82	28.80	libero	34,25
3.5X1.75X30X70X6	3.5	1.75	70	3.50	30.00	6	3.35	31.24	32.26	33.37	34.55	libero	36,75
3.5X1.75X40X80X6	3.5	1.75	80	3.50	40.00	6	3.35	41.57	42.96	44.45	libero	libero	40,80
4X2X10X50X6	4.0	2.0	50	4.00	10.00	6	3.80	10.65	10.95	11.28	11.62	12.40	31,30
4X2X12X50X6	4.0	2.0	50	4.00	12.00	6	3.80	12.72	13.09	13.49	13.92	14.89	31,30
4X2X16X60X6	4.0	2.0	60	4.00	16.00	6	3.80	16.85	17.37	17.93	18.52	19.86	32,90
4X2X20X60X6	4.0	2.0	60	4.00	20.00	6	3.80	20.99	21.65	22.36	23.12	libero	32,90
4X2X25X60X6	4.0	2.0	60	4.00	25.00	6	3.80	26.16	27.00	27.90	28.87	libero	32,90
4X2X30X70X6	4.0	2.0	70	4.00	30.00	6	3.80	31.32	32.35	33.44	libero	libero	37,15
4X2X35X70X6	4.0	2.0	70	4.00	35.00	6	3.80	36.49	37.69	38.98	libero	libero	38,65
4X2X40X80X6	4.0	2.0	80	4.00	40.00	6	3.80	41.66	43.04	libero	libero	libero	41,30
4X2X50X100X6	4.0	2.0	100	4.00	50.00	6	3.80	52.00	53.74	libero	libero	libero	44,50
6X3X15X60X6	6.0	3.0	60	7.00	15.00	6	5.70	libero	libero	libero	libero	libero	32,65
6X3X20X60X6	6.0	3.0	60	7.00	20.00	6	5.70	libero	libero	libero	libero	libero	32,65
6X3X30X110X6	6.0	3.0	110	7.00	30.00	6	5.70	libero	libero	libero	libero	libero	44,10
8X4X10X60X8	8.0	4.0	60	10.00	20.00	8	7.60	libero	libero	libero	libero	libero	39,65
8X4X30X100X8	8.0	4.0	100	10.00	30.00	8	7.60	libero	libero	libero	libero	libero	48,30
10X5X25X70X10	10.0	5.0	70	12.00	25.00	10	9.50	libero	libero	libero	libero	libero	50,10
10X5X35X100X10	10.0	5.0	100	12.00	35.00	10	9.50	libero	libero	libero	libero	libero	61,10
12X6X30X80X12	12.0	6.0	80	14.00	30.00	12	11.50	libero	libero	libero	libero	libero	68,10
12X6X40X110X12	12.0	6.0	110	14.00	40.00	12	11.50	libero	libero	libero	libero	libero	84,50

Per Acciai Temprati s55 HRC
For Hardened Steels s55 HRC

1412HPA

Frese a testa piana in metallo duro integrale micrograna.
Square end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:



Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	
d > 6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
●	●	●	●	●	●	●

● **Raccomandato** - Most suitable
○ **Possibile** - Possible



Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

Codice d'ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1412HPA	d ₁	l ₁	l ₂	d ₂	€
.2X.3X45X4	0.2	45	0.3	4	27,60
.3X.5X45X4	0.3	45	0.5	4	22,80
.4X.8X45X4	0.4	45	0.8	4	22,80
.5X1X45X4	0.5	45	1	4	17,40
.6X1.2X45X4	0.6	45	1.2	4	17,40
.7X1.4X45X4	0.7	45	1.4	4	19,65
.8X1.6X45X4	0.8	45	1.6	4	17,40
1X2.5X45X4	1.0	45	2.5	4	16,35
1X2.5X45X6	1.0	45	2.5	6	18,50
1.2X3X45X4	1.2	45	3	4	18,90
1.5X4X45X4	1.5	45	4	4	16,35
1.5X4X45X6	1.5	45	4	6	18,50
2X6X45X4	2.0	45	6	4	16,35
2X6X45X6	2.0	45	6	6	18,50
2.5X8X45X4	2.5	45	8	4	17,65
2.5X8X45X6	2.5	45	8	6	19,15
3X8X45X4	3.0	45	8	4	17,65
3X8X45X6	3.0	45	8	6	18,50

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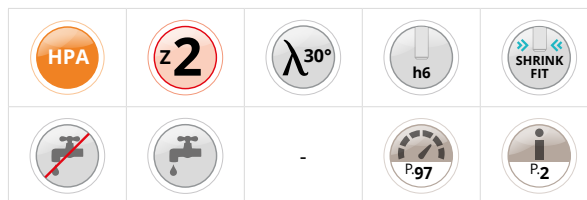
Codice d'ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1412HPA	d ₁	l ₁	l ₂	d ₂	€
3.5X8X45X4	3.5	45	8	4	20,90
4X10X45X4	4.0	45	10	4	17,65
4X10X45X6	4.0	45	10	6	19,15
4.5X10X45X6	4.5	45	10	6	25,45
5X13X50X6	5.0	50	13	6	22,65
5.5X13X50X6	5.5	50	13	6	26,95
6X15X50X6	6.0	50	15	6	22,65
6.5X15X60X8	6.5	60	15	8	32,95
7X16X60X8	7.0	60	16	8	31,90
7.5X16X60X8	7.5	60	16	8	32,95
8X19X60X8	8.0	60	19	8	30,75
8.5X19X70X10	8.5	70	19	10	46,70
9X19X70X10	9.0	70	19	10	49,00
9.5X19X70X10	9.5	70	19	10	49,00
10X22X70X10	10.0	70	22	10	48,80
10.5X22X75X12	10.5	75	22	12	64,40
11X22X75X12	11.0	75	22	12	64,80
12X26X75X12	12.0	75	26	12	63,40
14X26X80X14	14.0	80	26	14	88,10
16X35X100X16	16.0	100	35	16	136,50
20X40X100X20	20.0	100	40	20	202,00

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

1430HPA

Frese a testa piana a collo lungo in metallo duro integrale micrograna.

Square end mills long neck in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

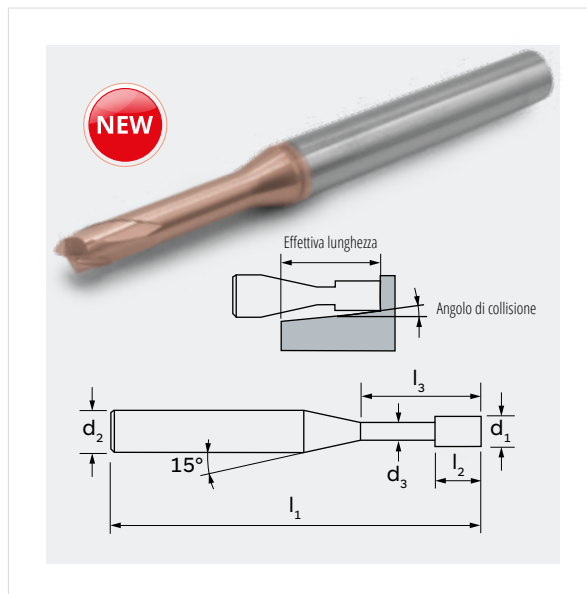


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	
d > 6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
○	○	○	-	○	●	● Raccomandato - Most suitable ○ Possibile - Possible



Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

Codice d'ordine Order Code 1430HPA	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price €
							30'	1°	1°30'	2°	3°	
.1X.3X45X4	0.1	45	0.15	0.30	4	0.085	0.33	0.35	0.36	0.37	0.40	41,80
.1X.5X45X4	0.1	45	0.15	0.50	4	0.085	0.54	0.56	0.58	0.60	0.65	41,80
.1X1X45X4	0.1	45	0.15	1.00	4	0.085	1.06	1.09	1.13	1.18	1.27	41,80
.15X.3X45X4	0.15	45	0.20	0.30	4	0.13	0.34	0.36	0.37	0.38	0.41	37,15
.15X.5X45X4	0.15	45	0.20	0.50	4	0.13	0.55	0.57	0.59	0.61	0.66	37,15
.15X1X45X4	0.15	45	0.20	1.00	4	0.13	1.07	1.10	1.14	1.19	1.28	37,15
.2X.5X45X4	0.2	45	0.30	0.50	4	0.18	0.55	0.57	0.59	0.61	0.66	30,35
.2X1X45X4	0.2	45	0.30	1.00	4	0.18	1.07	1.10	1.14	1.19	1.28	30,35
.2X1.5X45X4	0.2	45	0.30	1.50	4	0.18	1.58	1.64	1.70	1.76	1.91	30,35
.2X2X45X4	0.2	45	0.30	2.00	4	0.18	2.10	2.17	2.25	2.34	2.53	30,35
.2X3X45X4	0.2	45	0.30	3.00	4	0.18	3.13	3.24	3.36	3.49	3.77	30,35
.2X4X45X4	0.2	45	0.30	4.00	4	0.18	4.17	4.31	4.47	4.64	5.01	30,35
.3X1X45X4	0.3	45	0.40	1.00	4	0.28	1.07	1.10	1.14	1.19	1.28	29,10
.3X1.5X45X4	0.3	45	0.40	1.50	4	0.28	1.58	1.64	1.70	1.76	1.91	29,10
.3X2X45X4	0.3	45	0.40	2.00	4	0.28	2.10	2.17	2.25	2.34	2.53	29,10
.3X3X45X4	0.3	45	0.40	3.00	4	0.28	3.13	3.24	3.36	3.49	3.77	29,10
.3X4X45X4	0.3	45	0.40	4.00	4	0.28	4.17	4.31	4.47	4.64	5.01	29,10
.3X6X45X4	0.3	45	0.40	6.00	4	0.28	6.24	6.45	6.69	6.94	7.50	29,10

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Codice d'ordine Order Code 1430HPA	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
.3X8X45X4	0.3	45	0.40	8.00	4	0.28	8.30	8.59	8.90	9.24	9.99	29,10
.4X1X45X4	0.4	45	0.60	1.00	4	0.37	1.09	1.12	1.17	1.21	1.31	26,70
.4X1.5X45X4	0.4	45	0.60	1.50	4	0.37	1.60	1.66	1.72	1.78	1.93	26,70
.4X2X45X4	0.4	45	0.60	2.00	4	0.37	2.12	2.19	2.27	2.36	2.55	26,70
.4X2.5X45X4	0.4	45	0.60	2.50	4	0.37	2.64	2.73	2.83	2.93	3.17	26,70
.4X3X45X4	0.4	45	0.60	3.00	4	0.37	3.15	3.26	3.38	3.51	3.79	26,70
.4X3.5X45X4	0.4	45	0.60	3.50	4	0.37	3.67	3.80	3.94	4.08	4.42	26,70
.4X4X45X4	0.4	45	0.60	4.00	4	0.37	4.19	4.33	4.49	4.66	5.04	26,70
.4X5X45X4	0.4	45	0.60	5.00	4	0.37	5.22	5.40	5.60	5.81	6.28	26,70
.4X6X45X4	0.4	45	0.60	6.00	4	0.37	6.25	6.47	6.71	6.96	7.52	26,70
.4X8X45X4	0.4	45	0.60	8.00	4	0.37	8.32	8.61	8.92	9.26	10.01	26,70
.4X10X45X4	0.4	45	0.60	10.00	4	0.37	10.39	10.75	11.14	11.56	12.50	28,45
.4X12X45X4	0.4	45	0.60	12.00	4	0.37	12.46	12.89	13.36	13.86	14.98	28,45
.5X1X45X4	0.5	45	0.70	1.00	4	0.47	1.09	1.12	1.17	1.21	1.31	23,90
.5X1.5X45X4	0.5	45	0.70	1.50	4	0.47	1.60	1.66	1.72	1.78	1.93	23,90
.5X2X45X4	0.5	45	0.70	2.00	4	0.47	2.12	2.19	2.27	2.36	2.55	23,90
.5X2.5X45X4	0.5	45	0.70	2.50	4	0.47	2.64	2.73	2.83	2.93	3.17	23,90
.5X3X45X4	0.5	45	0.70	3.00	4	0.47	3.15	3.26	3.38	3.51	3.79	23,90
.5X3.5X45X4	0.5	45	0.70	3.50	4	0.47	3.67	3.80	3.94	4.08	4.42	23,90
.5X4X45X4	0.5	45	0.70	4.00	4	0.47	4.19	4.33	4.49	4.66	5.04	23,90
.5X5X45X4	0.5	45	0.70	5.00	4	0.47	5.22	5.40	5.60	5.81	6.28	23,90
.5X6X45X4	0.5	45	0.70	6.00	4	0.47	6.25	6.47	6.71	6.96	7.52	23,90
.5X8X45X4	0.5	45	0.70	8.00	4	0.47	8.32	8.61	8.92	9.26	10.01	23,90
.5X10X45X4	0.5	45	0.70	10.00	4	0.47	10.39	10.75	11.14	11.56	12.50	25,70
.5X12X45X4	0.5	45	0.70	12.00	4	0.47	12.46	12.89	13.36	13.86	14.98	25,70
.6X1.5X45X4	0.6	45	0.70	1.50	4	0.57	1.60	1.66	1.72	1.78	1.93	23,90
.6X2X45X4	0.6	45	0.70	2.00	4	0.57	2.12	2.19	2.27	2.36	2.55	23,90
.6X3X45X4	0.6	45	0.70	3.00	4	0.57	3.15	3.26	3.38	3.51	3.79	23,90
.6X4X45X4	0.6	45	0.70	4.00	4	0.57	4.19	4.33	4.49	4.66	5.04	23,90
.6X5X45X4	0.6	45	0.70	5.00	4	0.57	5.22	5.40	5.60	5.81	6.28	23,90
.6X6X45X4	0.6	45	0.70	6.00	4	0.57	6.25	6.47	6.71	6.96	7.52	23,90
.6X8X45X4	0.6	45	0.70	8.00	4	0.57	8.32	8.61	8.92	9.26	10.01	23,90
.6X10X45X4	0.6	45	0.70	10.00	4	0.57	10.39	10.75	11.14	11.56	12.50	24,30
.6X12X45X4	0.6	45	0.70	12.00	4	0.57	12.46	12.89	13.36	13.86	14.98	24,30
.6X16X50X4	0.6	50	0.70	16.00	4	0.57	16.59	17.17	17.79	18.46	19.95	25,55
.7X2X45X4	0.7	45	0.80	2.00	4	0.66	2.14	2.21	2.29	2.38	2.57	23,40
.7X3X45X4	0.7	45	0.80	3.00	4	0.66	3.17	3.28	3.40	3.53	3.82	23,40
.7X4X45X4	0.7	45	0.80	4.00	4	0.66	4.21	4.35	4.51	4.68	5.06	23,40
.7X6X45X4	0.7	45	0.80	6.00	4	0.66	6.27	6.49	6.73	6.98	7.55	23,40
.7X8X45X4	0.7	45	0.80	8.00	4	0.66	8.34	8.63	8.94	9.28	10.03	23,40
.7X10X45X4	0.7	45	0.80	10.00	4	0.66	10.41	10.77	11.16	11.58	12.52	23,90
.8X2X45X4	0.8	45	1.00	2.00	4	0.77	2.12	2.19	2.27	2.36	2.55	23,40
.8X3X45X4	0.8	45	1.00	3.00	4	0.77	3.15	3.26	3.38	3.51	3.79	23,40

Per Acciai Temprati s55 HRC
For Hardened Steels s55 HRC

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Codice d'ordine Order Code 1430HPA	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
.8X4X45X4	0.8	45	1.00	4.00	4	0.77	4.19	4.33	4.49	4.66	5.04	23,40
.8X5X45X4	0.8	45	1.00	5.00	4	0.77	5.22	5.40	5.60	5.81	6.28	23,40
.8X6X45X4	0.8	45	1.00	6.00	4	0.77	6.25	6.47	6.71	6.96	7.52	23,40
.8X8X45X4	0.8	45	1.00	8.00	4	0.77	8.32	8.61	8.92	9.26	10.01	23,40
.8X10X45X4	0.8	45	1.00	10.00	4	0.77	10.39	10.75	11.14	11.56	12.50	23,40
.8X12X45X4	0.8	45	1.00	12.00	4	0.77	12.46	12.89	13.36	13.86	14.98	23,90
.8X16X50X4	0.8	50	1.00	16.00	4	0.77	16.59	17.17	17.79	18.46	19.95	25,95
.8X20X50X4	0.8	50	1.00	20.00	4	0.77	20.73	21.45	22.22	23.06	24.93	25,95
.8X25X60X4	0.8	60	1.00	25.00	4	0.77	25.89	26.80	27.76	28.81	Libero	26,55
.9X2X45X4	0.9	45	1.10	2.00	4	0.85	2.16	2.23	2.32	2.40	2.60	23,40
.9X4X45X4	0.9	45	1.10	4.00	4	0.85	4.23	4.37	4.53	4.70	5.08	23,40
.9X6X45X4	0.9	45	1.10	6.00	4	0.85	6.29	6.51	6.75	7.00	7.57	23,40
.9X8X45X4	0.9	45	1.10	8.00	4	0.85	8.36	8.65	8.96	9.30	10.06	23,40
.9X10X45X4	0.9	45	1.10	10.00	4	0.85	10.43	10.79	11.18	11.60	12.54	23,90
1X2X45X4	1.0	45	1.20	2.00	4	0.95	2.16	2.23	2.32	2.40	2.60	21,40
1X3X45X4	1.0	45	1.20	3.00	4	0.95	3.19	3.30	3.42	3.55	3.84	21,40
1X4X45X4	1.0	45	1.20	4.00	4	0.95	4.23	4.37	4.53	4.70	5.08	21,40
1X5X45X4	1.0	45	1.20	5.00	4	0.95	5.26	5.44	5.64	5.85	6.33	21,40
1X6X45X4	1.0	45	1.20	6.00	4	0.95	6.29	6.51	6.75	7.00	7.57	21,40
1X8X45X4	1.0	45	1.20	8.00	4	0.95	8.36	8.65	8.96	9.30	10.06	21,40
1X10X45X4	1.0	45	1.20	10.00	4	0.95	10.43	10.79	11.18	11.60	12.54	23,15
1X12X45X4	1.0	45	1.20	12.00	4	0.95	12.50	12.93	13.40	13.90	15.03	23,15
1X14X45X4	1.0	45	1.20	14.00	4	0.95	14.56	15.07	15.61	16.20	17.52	23,15
1X16X50X4	1.0	50	1.20	16.00	4	0.95	16.63	17.21	17.83	18.50	20.00	23,80
1X18X50X4	1.0	50	1.20	18.00	4	0.95	18.70	19.35	20.05	20.80	22.49	23,80
1X20X50X4	1.0	50	1.20	20.00	4	0.95	20.76	21.49	22.26	23.10	24.97	23,80
1X25X60X4	1.0	60	1.20	25.00	4	0.95	25.93	26.84	27.81	28.85	Libero	25,05
1X30X70X4	1.0	70	1.20	30.00	4	0.95	31.10	32.19	33.35	34.60	Libero	27,10
1.2X4X45X4	1.2	45	1.50	4.00	4	1.14	4.25	4.39	4.55	4.72	5.11	21,40
1.2X6X45X4	1.2	45	1.50	6.00	4	1.14	6.31	6.53	6.77	7.02	7.59	21,40
1.2X8X45X4	1.2	45	1.50	8.00	4	1.14	8.38	8.67	8.99	9.32	10.08	21,40
1.2X10X45X4	1.2	45	1.50	10.00	4	1.14	10.45	10.81	11.20	11.62	12.57	22,30
1.2X12X45X4	1.2	45	1.50	12.00	4	1.14	12.51	12.95	13.42	13.92	15.05	22,30
1.2X16X50X4	1.2	50	1.50	16.00	4	1.14	16.65	17.23	17.85	18.52	20.02	23,15
1.2X20X50X4	1.2	50	1.50	20.00	4	1.14	20.78	21.51	22.29	23.12	25.00	23,15
1.2X25X60X4	1.2	60	1.50	25.00	4	1.14	25.95	26.86	27.83	28.87	Libero	25,05
1.5X4X45X4	1.5	45	1.80	4.00	4	1.44	4.25	4.39	4.55	4.72	5.11	21,40
1.5X6X45X4	1.5	45	1.80	6.00	4	1.44	6.31	6.53	6.77	7.02	7.59	21,40
1.5X8X45X4	1.5	45	1.80	8.00	4	1.44	8.38	8.67	8.99	9.32	10.08	21,40
1.5X10X45X4	1.5	45	1.80	10.00	4	1.44	10.45	10.81	11.20	11.62	12.57	22,30
1.5X12X45X4	1.5	45	1.80	12.00	4	1.44	12.51	12.95	13.42	13.92	15.05	22,30
1.5X16X50X4	1.5	50	1.80	16.00	4	1.44	16.65	17.23	17.85	18.52	20.02	23,15
1.5X18X50X4	1.5	50	1.80	18.00	4	1.44	18.72	19.37	20.07	20.82	22.51	23,15

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

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Codice d'ordine Order Code 1430HPA	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
1.5X20X50X4	1.5	50	1.80	20.00	4	1.44	20.78	21.51	22.29	23.12	Libero	23,15
1.5X25X60X4	1.5	60	1.80	25.00	4	1.44	25.95	26.86	27.83	28.87	Libero	25,05
1.5X30X70X4	1.5	70	1.80	30.00	4	1.44	31.12	32.21	33.37	34.62	Libero	27,10
1.5X40X80X4	1.5	80	1.80	40.00	4	1.44	41.46	42.90	44.45	Libero	Libero	29,20
1.6X8X45X4	1.6	45	2.00	8.00	4	1.55	8.36	8.65	8.96	9.30	10.06	23,15
1.6X10X45X4	1.6	45	2.00	10.00	4	1.55	10.43	10.79	11.18	11.60	12.54	23,15
1.6X12X45X4	1.6	45	2.00	12.00	4	1.55	12.50	12.93	13.40	13.90	15.03	23,15
1.6X14X45X4	1.6	45	2.00	14.00	4	1.55	14.56	15.07	15.61	16.20	17.52	23,15
1.6X16X50X4	1.6	50	2.00	16.00	4	1.55	16.63	17.21	17.83	18.50	20.00	23,80
1.6X18X50X4	1.6	50	2.00	18.00	4	1.55	18.70	19.35	20.05	20.80	22.49	23,80
1.6X20X50X4	1.6	50	2.00	20.00	4	1.55	20.76	21.49	22.26	23.10	Libero	23,80
1.8X8X45X4	1.8	45	2.20	8.00	4	1.75	8.36	8.65	8.96	9.30	10.06	23,15
1.8X10X45X4	1.8	45	2.20	10.00	4	1.75	10.43	10.79	11.18	11.60	12.54	23,15
1.8X12X45X4	1.8	45	2.20	12.00	4	1.75	12.50	12.93	13.40	13.90	15.03	23,15
1.8X14X45X4	1.8	45	2.20	14.00	4	1.75	14.56	15.07	15.61	16.20	17.52	23,15
1.8X16X50X4	1.8	50	2.20	16.00	4	1.75	16.63	17.21	17.83	18.50	20.00	23,80
1.8X18X50X4	1.8	50	2.20	18.00	4	1.75	18.70	19.35	20.05	20.80	Libero	23,80
1.8X20X50X4	1.8	50	2.20	20.00	4	1.75	20.76	21.49	22.26	23.10	Libero	23,80
2X4X45X4	2.0	45	2.50	4.00	4	1.92	4.28	4.43	4.59	4.77	5.15	21,40
2X6X45X4	2.0	45	2.50	6.00	4	1.92	6.35	6.57	6.81	7.07	7.64	21,40
2X8X45X4	2.0	45	2.50	8.00	4	1.92	8.42	8.71	9.03	9.37	10.13	21,40
2X10X45X4	2.0	45	2.50	10.00	4	1.92	10.49	10.85	11.24	11.67	12.61	21,40
2X12X45X4	2.0	45	2.50	12.00	4	1.92	12.55	12.99	13.46	13.96	15.10	21,40
2X14X45X4	2.0	45	2.50	14.00	4	1.92	14.62	15.13	15.68	16.26	17.58	21,40
2X16X50X4	2.0	50	2.50	16.00	4	1.92	16.69	17.27	17.89	18.56	Libero	22,65
2X18X50X4	2.0	50	2.50	18.00	4	1.92	18.76	19.41	20.11	20.86	Libero	22,65
2X20X50X4	2.0	50	2.50	20.00	4	1.92	20.82	21.55	22.33	23.16	Libero	22,65
2X25X60X4	2.0	60	2.50	25.00	4	1.92	25.99	26.90	27.87	Libero	Libero	24,30
2X30X70X4	2.0	70	2.50	30.00	4	1.92	31.16	32.25	33.41	Libero	Libero	27,10
2X40X80X4	2.0	80	2.50	40.00	4	1.92	41.50	42.94	Libero	Libero	Libero	29,20
2.5X10X45X4	2.5	45	3.00	10.00	4	2.39	10.54	10.91	11.31	11.73	12.68	22,30
2.5X12X45X4	2.5	45	3.00	12.00	4	2.39	12.61	13.05	13.52	14.03	Libero	22,30
2.5X16X50X4	2.5	50	3.00	16.00	4	2.39	16.75	17.33	17.96	18.63	Libero	23,40
2.5X20X50X4	2.5	50	3.00	20.00	4	2.39	20.88	21.61	22.39	Libero	Libero	23,40
2.5X25X60X4	2.5	60	3.00	25.00	4	2.39	26.05	26.96	27.93	Libero	Libero	24,30
2.5X30X70X4	2.5	70	3.00	30.00	4	2.39	31.22	32.31	Libero	Libero	Libero	27,10
3X8X50X6	3.0	50	4.00	8.00	6	2.86	8.53	8.83	9.15	9.49	10.26	24,70
3X10X50X6	3.0	50	4.00	10.00	6	2.86	10.60	10.97	11.37	11.79	12.75	24,70
3X12X50X6	3.0	50	4.00	12.00	6	2.86	12.67	13.11	13.58	14.09	15.24	24,70
3X16X60X6	3.0	60	4.00	16.00	6	2.86	16.80	17.39	18.02	18.69	20.21	24,80
3X20X60X6	3.0	60	4.00	20.00	6	2.86	20.94	21.67	22.45	23.29	25.18	27,45
3X25X60X6	3.0	60	4.00	25.00	6	2.86	26.11	27.02	27.99	29.04	Libero	27,45
3X30X70X6	3.0	70	4.00	30.00	6	2.86	31.28	32.36	33.53	34.79	Libero	32,25

Per Acciai Temprati s55 HRC
For Hardened Steels s55 HRC

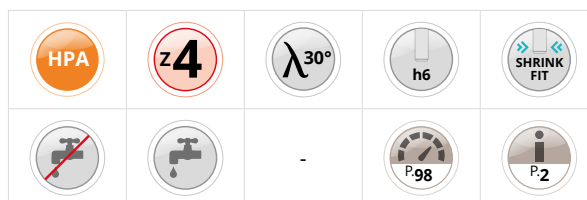
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Codice d'ordine Order Code 1430HPA	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	l₁	l₂	l₃	d₂	d₃	30'	1°	1°30'	2°	3°	€
3X35X70X6	3.0	70	4.00	35.00	6	2.86	36.44	37.71	39.08	40.54	Libero	35,50
3X40X80X6	3.0	80	4.00	40.00	6	2.86	41.61	43.06	44.62	Libero	Libero	36,65
4X12X50X6	4.0	50	5.00	12.00	6	3.80	12.78	13.23	13.71	14.22	15.38	27,70
4X14X50X6	4.0	50	5.00	14.00	6	3.80	14.85	15.37	15.93	16.52	17.86	27,70
4X16X60X6	4.0	60	5.00	16.00	6	3.80	16.92	17.51	18.14	18.82	Libero	28,35
4X20X60X6	4.0	60	5.00	20.00	6	3.80	21.05	21.79	22.57	23.42	Libero	29,75
4X25X60X6	4.0	60	5.00	25.00	6	3.80	26.22	27.14	28.12	Libero	Libero	29,75
4X30X70X6	4.0	70	5.00	30.00	6	3.80	31.39	32.48	33.66	Libero	Libero	32,75
4X35X70X6	4.0	70	5.00	35.00	6	3.80	36.56	37.83	Libero	Libero	Libero	35,90
4X40X80X6	4.0	80	5.00	40.00	6	3.80	41.73	43.18	Libero	Libero	Libero	37,15
4X50X100X6	4.0	100	5.00	50.00	6	3.80	52.06	53.88	Libero	Libero	Libero	41,70
5X16X60X6	5.0	60	7.50	16.00	6	4.75	17.02	17.61	18.25	Libero	Libero	30,00
5X20X60X6	5.0	60	7.50	20.00	6	4.75	21.15	21.89	Libero	Libero	Libero	30,00
5X25X60X6	5.0	60	7.50	25.00	6	4.75	26.32	27.24	Libero	Libero	Libero	32,25
5X30X70X6	5.0	70	7.50	30.00	6	4.75	31.49	Libero	Libero	Libero	Libero	34,50
5X35X70X6	5.0	70	7.50	35.00	6	4.75	36.66	Libero	Libero	Libero	Libero	36,40
5X40X80X6	5.0	80	7.50	40.00	6	4.75	41.82	Libero	Libero	Libero	Libero	36,90
5X50X100X6	5.0	100	7.50	50.00	6	4.75	52.16	Libero	Libero	Libero	Libero	41,70
6X15X60X6	6.0	60	9.00	15.00	6	5.70	Libero	Libero	Libero	Libero	Libero	30,35
6X20X60X6	6.0	60	9.00	20.00	6	5.70	Libero	Libero	Libero	Libero	Libero	30,35
6X30X70X6	6.0	70	9.00	30.00	6	5.70	Libero	Libero	Libero	Libero	Libero	34,25
6X40X80X6	6.0	80	9.00	40.00	6	5.70	Libero	Libero	Libero	Libero	Libero	38,30
8X20X80X8	8.0	80	12.00	20.00	8	7.60	Libero	Libero	Libero	Libero	Libero	43,70
8X30X80X8	8.0	80	12.00	30.00	8	7.60	Libero	Libero	Libero	Libero	Libero	43,70
8X40X100X8	8.0	100	12.00	40.00	8	7.60	Libero	Libero	Libero	Libero	Libero	49,30

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

1414HPA

Frese a testa piana in metallo duro integrale micrograna.
Square end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

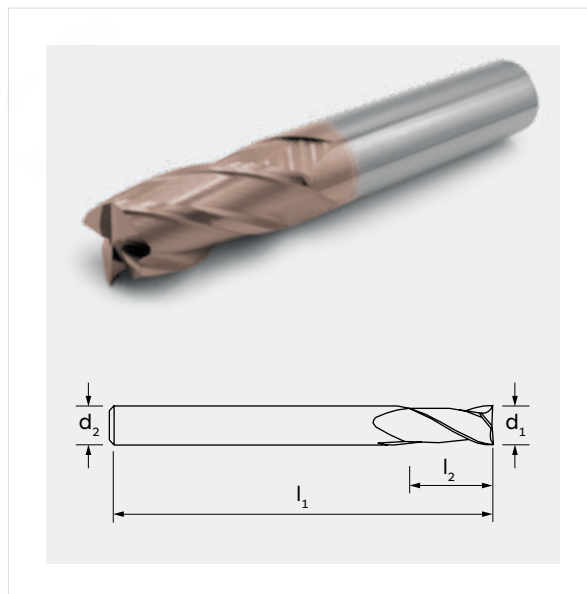


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	
d > 6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
●	●	●	-	●	●	● Raccomandato - Most suitable
○	○	○	-	○	○	○ Possibile - Possible



Codice d'ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1414HPA	d ₁	l ₁	l ₂	d ₂	€
1X2.5X45X4	1	45	2.5	4	20,20
1X2.5X45X6	1	45	2.5	6	23,10
1.5X4X45X4	1.5	45	4	4	20,20
1.5X4X45X6	1.5	45	4	6	23,10
2X6X45X4	2	45	6	4	20,55
2X6X45X6	2	45	6	6	23,10
2.5X8X45X4	2.5	45	8	4	20,55
2.5X8X45X6	2.5	45	8	6	23,10
3X8X45X4	3	45	8	4	21,20
3X8X45X6	3	45	8	6	24,10
3.5X8X45X4	3.5	45	8	4	20,80
4X10X45X4	4	45	10	4	20,80
4X10X45X6	4	45	10	6	24,35
4.5X10X45X6	4.5	45	10	6	26,25
5X13X50X6	5	50	13	6	26,60
5.5X13X50X6	5.5	50	13	6	28,90
6X15X50X6	6	50	15	6	25,75
6.5X15X50X8	6.5	50	15	8	31,20

La gamma prosegue nella pagina successiva | The range continues on the next page >>

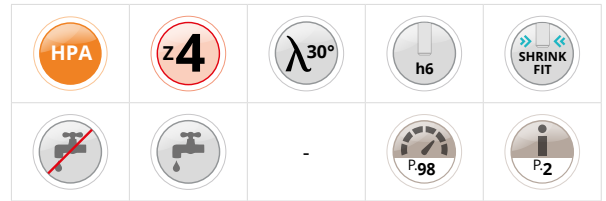
Codice d'ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1414HPA	d_1	l_1	l_2	d_2	€
7X16X60X8	7	60	16	8	33,70
7.5X16X60X8	7.5	60	16	8	34,00
8X19X60X8	8	60	19	8	33,70
8.5X19X70X10	8.5	70	19	10	45,20
9X19X70X10	9	70	19	10	46,60
10X22X70X10	10	70	22	10	48,60
10.5X22X75X12	10.5	75	22	12	64,20
12X26X75X12	12	75	26	12	65,00
14X26X80X14	14	80	26	14	91,10
16X35X100X16	16	100	35	16	138,00
20X40X100X20	20	100	40	20	208,00

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

1414LHPA

Frese a testa piana serie lunga in metallo duro integrale micrograna.

Square end mills long series in solid carbide micro grain.



Strategie di fresatura | Milling strategies:



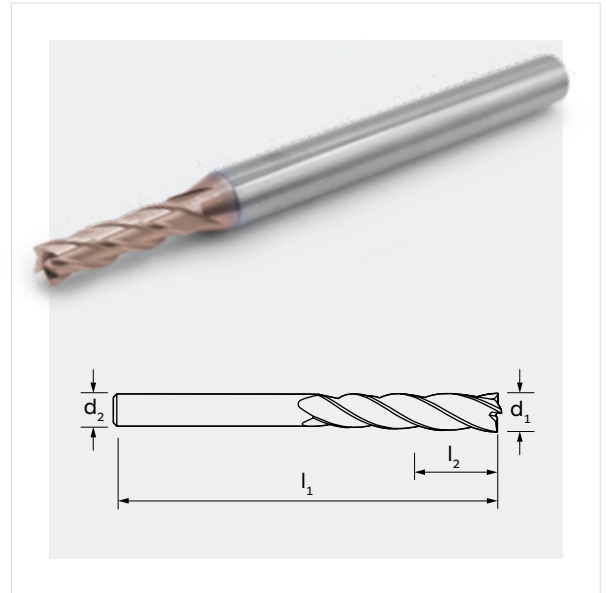
Tolleranze | Tolerances:

Diametro di taglio | Cutting Diameter **Raggio | Radius**

d ≤ 6: 0/-0.01
d > 6: 0/-0.015

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	● Raccomandato - Most suitable
○	○	○	-	○	●	○ Possibile - Possible



Ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1414LHPA	d ₁	l ₁	l ₂	d ₂	€

2X10X60X6	2	60	10	6	29,30
3X15X70X6	3	70	15	6	31,30
3X20X70X6	3	70	20	6	33,05
4X15X70X6	4	70	15	6	31,55
4X20X70X6	4	70	20	6	33,05
5X25X70X6	5	70	25	6	34,90
6X20X70X6	6	70	20	6	33,40
6X30X80X6	6	80	30	6	38,30
8X30X80X8	8	80	30	8	41,00
8X35X90X8	8	90	35	8	44,50
8X40X90X8	8	90	40	8	47,20
10X35X90X10	10	90	35	10	57,10
10X40X90X10	10	90	40	10	57,50
10X50X100X10	10	100	50	10	61,30
10X60X110X10	10	110	60	10	65,50
12X30X90X12	12	90	30	12	73,70
12X40X100X12	12	100	40	12	79,50
12X60X105X12	12	105	60	12	83,40
16X55X105X16	16	105	55	16	163,50
20X80X160X20	20	160	80	20	315,00

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

1360HPA

Frese a testa piana in metallo duro integrale micrograna.
Square end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

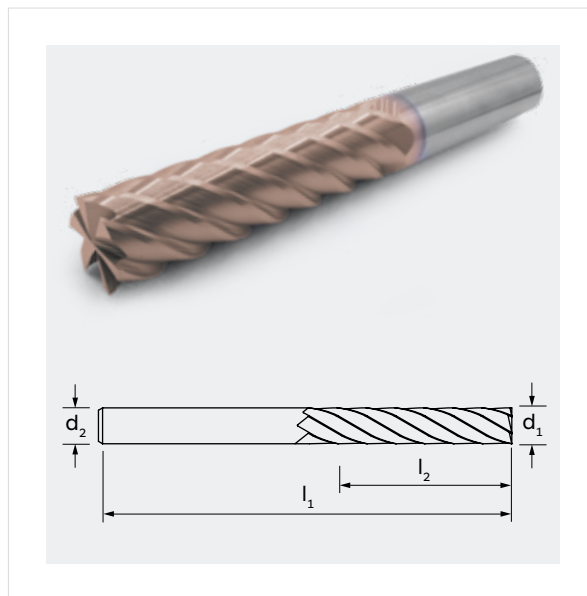


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
$d \leq 6$: 0/-0.01	
$d > 6$: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
●	●	●	-	●	●	● Raccomandato - Most suitable ○ Possibile - Possible



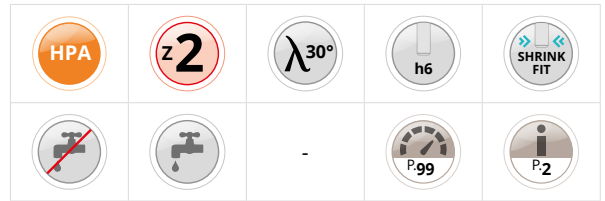
Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

Codice d'ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1360HPA	d_1	l_1	l_2	d_2	€
6X15X50X6	6	50	15	6	30,65
6X20X60X6	6	60	20	6	34,75
6X25X65X6	6	65	25	6	40,50
6X30X70X6	6	70	30	6	43,30
8X25X65X8	8	65	25	8	43,00
8X30X70X8	8	70	30	8	46,20
8X35X90X8	8	90	35	8	53,70
8X40X90X8	8	90	40	8	53,70
10X35X80X10	10	80	35	10	58,30
10X45X100X10	10	100	45	10	69,60
10X55X110X10	10	110	55	10	74,50
12X40X90X12	12	90	40	12	76,30
12X50X100X12	12	100	50	12	82,40
12X60X105X12	12	105	60	12	87,70
16X45X100X16	16	100	45	16	148,50
16X50X105X16	16	105	50	16	153,50
16X80X150X16	16	150	80	16	204,00
20X50X105X20	20	105	50	20	230,00
20X80X150X20	20	150	80	20	311,00
20X100X160X20	20	160	100	20	327,00

1433HPA

Frese toriche a collo lungo in metallo duro integrale micrograna.

Corner radius long neck end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:



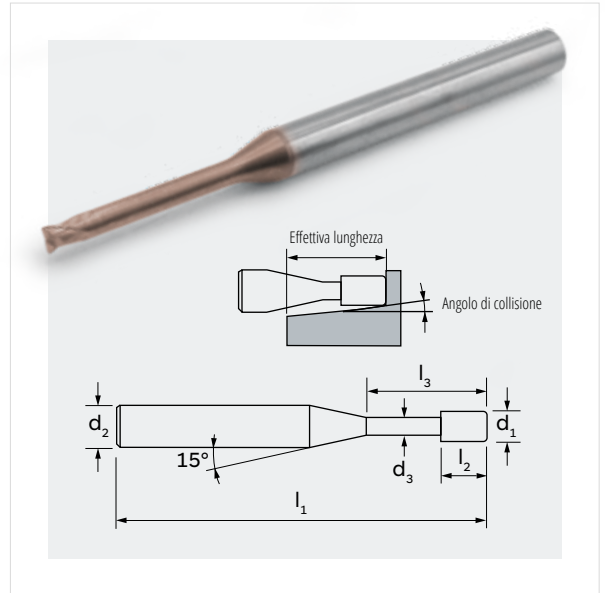
Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	±0.01
d > 6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
●	●	●	●	●	●	●

● **Raccomandato** - Most suitable
○ **Possibile** - Possible



Codice d'ordine Order Code 1433HPA	Diametro fresa End mill diameter d₁	Raggio fresa End mill radius R	Lunghezza totale Overall length l₁	Lunghezza di taglio Length of cut l₂	Lunghezza utile Length of reach l₃	Diametro attacco Shank diameter d₂	Diametro collo Neck diameter d₃	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price €
								30°	1°	1°30'	2°	3°	
.2X.02X.5X45X4	0.2	0.02	45	0.15	0.50	4	0.18	0.55	0.57	0.59	0.61	0.66	36,65
.2X.02X1X45X4	0.2	0.02	45	0.15	1.00	4	0.18	1.07	1.10	1.14	1.18	1.28	36,65
.2X.02X2X45X4	0.2	0.02	45	0.15	2.00	4	0.18	2.10	2.17	2.25	2.33	2.52	36,65
.2X.05X.5X45X4	0.2	0.05	45	0.15	0.50	4	0.18	0.55	0.57	0.59	0.61	0.65	36,65
.2X.05X1X45X4	0.2	0.05	45	0.15	1.00	4	0.18	1.07	1.10	1.14	1.18	1.27	36,65
.2X.05X1.5X45X4	0.2	0.05	45	0.15	1.50	4	0.18	1.58	1.64	1.69	1.76	1.89	36,65
.2X.05X2X45X4	0.2	0.05	45	0.15	2.00	4	0.18	2.10	2.17	2.25	2.33	2.52	36,65
.3X.02X1X45X4	0.3	0.02	45	0.25	1.00	4	0.28	1.07	1.10	1.14	1.18	1.28	35,15
.3X.02X2X45X4	0.3	0.02	45	0.25	2.00	4	0.28	2.10	2.17	2.25	2.33	2.52	35,15
.3X.02X3X45X4	0.3	0.02	45	0.25	3.00	4	0.28	3.13	3.24	3.36	3.48	3.77	35,15
.3X.05X1X45X4	0.3	0.05	45	0.25	1.00	4	0.28	1.07	1.10	1.14	1.18	1.27	35,15
.3X.05X1.5X45X4	0.3	0.05	45	0.25	1.50	4	0.28	1.58	1.64	1.69	1.76	1.89	35,15
.3X.05X2X45X4	0.3	0.05	45	0.25	2.00	4	0.28	2.10	2.17	2.25	2.33	2.52	35,15
.3X.05X2.5X45X4	0.3	0.05	45	0.25	2.50	4	0.28	2.62	2.71	2.80	2.91	3.14	35,15
.3X.05X3X45X4	0.3	0.05	45	0.25	3.00	4	0.28	3.13	3.24	3.36	3.48	3.76	35,15
.4X.02X1X45X4	0.4	0.02	45	0.30	1.00	4	0.37	1.09	1.12	1.16	1.21	1.30	32,65
.4X.02X2X45X4	0.4	0.02	45	0.30	2.00	4	0.37	2.12	2.19	2.27	2.36	2.55	32,65
.4X.02X3X45X4	0.4	0.02	45	0.30	3.00	4	0.37	3.15	3.26	3.38	3.51	3.79	32,65

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 1433HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
.4X.02X4X45X4	0.4	0.02	45	0.30	4.00	4	0.37	4.19	4.33	4.49	4.66	5.03	32,65
.4X.05X1X45X4	0.4	0.05	45	0.30	1.00	4	0.37	1.08	1.12	1.16	1.20	1.30	32,65
.4X.05X2X45X4	0.4	0.05	45	0.30	2.00	4	0.37	2.12	2.19	2.27	2.35	2.54	32,65
.4X.05X3X45X4	0.4	0.05	45	0.30	3.00	4	0.37	3.15	3.26	3.38	3.50	3.78	32,65
.4X.05X4X45X4	0.4	0.05	45	0.30	4.00	4	0.37	4.19	4.33	4.48	4.65	5.03	32,65
.4X.1X1X45X4	0.4	0.1	45	0.30	1.00	4	0.37	1.08	1.12	1.15	1.19	1.28	32,65
.4X.1X2X45X4	0.4	0.1	45	0.30	2.00	4	0.37	2.12	2.19	2.26	2.34	2.53	32,65
.4X.1X3X45X4	0.4	0.1	45	0.30	3.00	4	0.37	3.15	3.26	3.37	3.49	3.77	32,65
.4X.1X4X45X4	0.4	0.1	45	0.30	4.00	4	0.37	4.18	4.33	4.48	4.64	5.01	32,65
.5X.02X1X45X4	0.5	0.02	45	0.40	1.00	4	0.47	1.09	1.12	1.16	1.21	1.30	29,00
.5X.02X2X45X4	0.5	0.02	45	0.40	2.00	4	0.47	2.12	2.19	2.27	2.36	2.55	29,00
.5X.02X3X45X4	0.5	0.02	45	0.40	3.00	4	0.47	3.15	3.26	3.38	3.51	3.79	29,00
.5X.02X4X45X4	0.5	0.02	45	0.40	4.00	4	0.47	4.19	4.33	4.49	4.66	5.03	29,00
.5X.02X5X45X4	0.5	0.02	45	0.40	5.00	4	0.47	5.22	5.40	5.60	5.81	6.28	29,00
.5X.05X1X45X4	0.5	0.05	45	0.40	1.00	4	0.47	1.08	1.12	1.16	1.20	1.30	29,00
.5X.05X2X45X4	0.5	0.05	45	0.40	2.00	4	0.47	2.12	2.19	2.27	2.35	2.54	29,00
.5X.05X3X45X4	0.5	0.05	45	0.40	3.00	4	0.47	3.15	3.26	3.38	3.50	3.78	29,00
.5X.05X4X45X4	0.5	0.05	45	0.40	4.00	4	0.47	4.19	4.33	4.48	4.65	5.03	29,00
.5X.05X5X45X4	0.5	0.05	45	0.40	5.00	4	0.47	5.22	5.40	5.59	5.80	6.27	29,00
.5X.1X1X45X4	0.5	0.1	45	0.40	1.00	4	0.47	1.08	1.12	1.15	1.19	1.28	29,00
.5X.1X2X45X4	0.5	0.1	45	0.40	2.00	4	0.47	2.12	2.19	2.26	2.34	2.53	29,00
.5X.1X3X45X4	0.5	0.1	45	0.40	3.00	4	0.47	3.15	3.26	3.37	3.49	3.77	29,00
.5X.1X4X45X4	0.5	0.1	45	0.40	4.00	4	0.47	4.18	4.33	4.48	4.64	5.01	29,00
.5X.1X5X45X4	0.5	0.1	45	0.40	5.00	4	0.47	5.22	5.40	5.59	5.79	6.26	29,00
.6X.02X2X45X4	0.6	0.02	45	0.50	2.00	4	0.57	2.12	2.19	2.27	2.36	2.55	29,00
.6X.02X4X45X4	0.6	0.02	45	0.50	4.00	4	0.57	4.19	4.33	4.49	4.66	5.03	29,00
.6X.02X6X45X4	0.6	0.02	45	0.50	6.00	4	0.57	6.25	6.47	6.70	6.96	7.52	29,00
.6X.05X2X45X4	0.6	0.05	45	0.50	2.00	4	0.57	2.12	2.19	2.27	2.35	2.54	29,00
.6X.05X4X45X4	0.6	0.05	45	0.50	4.00	4	0.57	4.19	4.33	4.48	4.65	5.03	29,00
.6X.05X6X45X4	0.6	0.05	45	0.50	6.00	4	0.57	6.25	6.47	6.70	6.95	7.51	29,00
.6X.1X2X45X4	0.6	0.1	45	0.50	2.00	4	0.57	2.12	2.19	2.26	2.34	2.53	29,00
.6X.1X4X45X4	0.6	0.1	45	0.50	4.00	4	0.57	4.18	4.33	4.48	4.64	5.01	29,00
.6X.1X6X45X4	0.6	0.1	45	0.50	6.00	4	0.57	6.25	6.47	6.70	6.94	7.50	29,00
.7X.05X4X45X4	0.7	0.05	45	0.55	4.00	4	0.66	4.21	4.35	4.51	4.67	5.05	27,75
.7X.05X6X45X4	0.7	0.05	45	0.55	6.00	4	0.66	6.27	6.49	6.72	6.97	7.53	27,75
.7X.1X4X45X4	0.7	0.1	45	0.55	4.00	4	0.66	4.20	4.35	4.50	4.67	5.04	27,75
.7X.1X6X45X4	0.7	0.1	45	0.55	6.00	4	0.66	6.27	6.49	6.72	6.96	7.52	27,75
.8X.02X2X45X4	0.8	0.02	45	0.65	2.00	4	0.77	2.12	2.19	2.27	2.36	2.55	27,75
.8X.02X4X45X4	0.8	0.02	45	0.65	4.00	4	0.77	4.19	4.33	4.49	4.66	5.03	27,75
.8X.02X6X45X4	0.8	0.02	45	0.65	6.00	4	0.77	6.25	6.47	6.70	6.96	7.52	27,75
.8X.02X8X45X4	0.8	0.02	45	0.65	8.00	4	0.77	8.32	8.61	8.92	9.26	10.00	27,75
.8X.05X2X45X4	0.8	0.05	45	0.65	2.00	4	0.77	2.12	2.19	2.27	2.35	2.54	27,75
.8X.05X4X45X4	0.8	0.05	45	0.65	4.00	4	0.77	4.19	4.33	4.48	4.65	5.03	27,75

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 1433HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	.8X.05X6X45X4	0.8	0.05	45	0.65	6.00	4	0.77	6.25	6.47	6.70	6.95	7.51
.8X.05X8X45X4	0.8	0.05	45	0.65	8.00	4	0.77	8.32	8.61	8.92	9.25	10.00	27,75
.8X.1X2X45X4	0.8	0.1	45	0.65	2.00	4	0.77	2.12	2.19	2.26	2.34	2.53	27,75
.8X.1X4X45X4	0.8	0.1	45	0.65	4.00	4	0.77	4.18	4.33	4.48	4.64	5.01	27,75
.8X.1X6X45X4	0.8	0.1	45	0.65	6.00	4	0.77	6.25	6.47	6.70	6.94	7.50	27,75
.8X.1X8X45X4	0.8	0.1	45	0.65	8.00	4	0.77	8.32	8.61	8.91	9.24	9.99	27,75
.8X.2X2X45X4	0.8	0.2	45	0.65	2.00	4	0.77	2.11	2.18	2.25	2.33	2.50	27,75
.8X.2X4X45X4	0.8	0.2	45	0.65	4.00	4	0.77	4.18	4.32	4.47	4.63	4.99	27,75
.8X.2X6X45X4	0.8	0.2	45	0.65	6.00	4	0.77	6.25	6.46	6.69	6.93	7.47	27,75
.8X.2X8X45X4	0.8	0.2	45	0.65	8.00	4	0.77	8.32	8.60	8.90	9.23	9.96	27,75
.9X.1X4X45X4	0.9	0.1	45	0.70	4.00	4	0.85	4.22	4.37	4.52	4.69	5.06	27,75
.9X.1X8X45X4	0.9	0.1	45	0.70	8.00	4	0.85	8.36	8.65	8.95	9.29	10.03	27,75
1X.02X2X45X4	1.0	0.02	45	0.80	2.00	4	0.95	2.16	2.23	2.31	2.40	2.59	26,60
1X.02X4X45X4	1.0	0.02	45	0.80	4.00	4	0.95	4.23	4.37	4.53	4.70	5.08	26,60
1X.02X6X45X4	1.0	0.02	45	0.80	6.00	4	0.95	6.29	6.51	6.75	7.00	7.56	26,60
1X.02X8X45X4	1.0	0.02	45	0.80	8.00	4	0.95	8.36	8.65	8.96	9.30	10.05	26,60
1X.02X10X45X4	1.0	0.02	45	0.80	10.00	4	0.95	10.43	10.79	11.18	11.60	12.54	27,25
1X.05X2X45X4	1.0	0.05	45	0.80	2.00	4	0.95	2.16	2.23	2.31	2.39	2.59	26,60
1X.05X4X45X4	1.0	0.05	45	0.80	4.00	4	0.95	4.22	4.37	4.53	4.69	5.07	26,60
1X.05X6X45X4	1.0	0.05	45	0.80	6.00	4	0.95	6.29	6.51	6.74	6.99	7.56	26,60
1X.05X8X45X4	1.0	0.05	45	0.80	8.00	4	0.95	8.36	8.65	8.96	9.29	10.04	26,60
1X.05X10X45X4	1.0	0.05	45	0.80	10.00	4	0.95	10.43	10.79	11.18	11.59	12.53	27,25
1X.05X12X45X4	1.0	0.05	45	0.80	12.00	4	0.95	12.49	12.93	13.39	13.89	15.02	27,25
1X.05X16X50X4	1.0	0.05	50	0.80	16.00	4	0.95	16.63	17.21	17.83	18.49	19.99	27,35
1X.05X20X50X4	1.0	0.05	50	0.80	20.00	4	0.95	20.76	21.48	22.26	23.09	24.96	28,00
1X.1X2X45X4	1.0	0.1	45	0.80	2.00	4	0.95	2.16	2.23	2.30	2.39	2.57	26,60
1X.1X4X45X4	1.0	0.1	45	0.80	4.00	4	0.95	4.22	4.37	4.52	4.69	5.06	26,60
1X.1X6X45X4	1.0	0.1	45	0.80	6.00	4	0.95	6.29	6.51	6.74	6.99	7.55	26,60
1X.1X8X45X4	1.0	0.1	45	0.80	8.00	4	0.95	8.36	8.65	8.95	9.29	10.03	26,60
1X.1X10X45X4	1.0	0.1	45	0.80	10.00	4	0.95	10.42	10.78	11.17	11.59	12.52	27,25
1X.1X12X45X4	1.0	0.1	45	0.80	12.00	4	0.95	12.49	12.92	13.39	13.89	15.00	27,25
1X.1X16X50X4	1.0	0.1	50	0.80	16.00	4	0.95	16.63	17.20	17.82	18.48	19.98	27,35
1X.1X20X50X4	1.0	0.1	50	0.80	20.00	4	0.95	20.76	21.48	22.25	23.08	24.95	28,00
1X.2X2X45X4	1.0	0.2	45	0.80	2.00	4	0.95	2.15	2.22	2.29	2.37	2.55	26,60
1X.2X4X45X4	1.0	0.2	45	0.80	4.00	4	0.95	4.22	4.36	4.51	4.67	5.03	26,60
1X.2X6X45X4	1.0	0.2	45	0.80	6.00	4	0.95	6.29	6.50	6.73	6.97	7.52	26,60
1X.2X8X45X4	1.0	0.2	45	0.80	8.00	4	0.95	8.35	8.64	8.94	9.27	10.01	26,60
1X.2X10X45X4	1.0	0.2	45	0.80	10.00	4	0.95	10.42	10.78	11.16	11.57	12.49	27,25
1X.2X12X45X4	1.0	0.2	45	0.80	12.00	4	0.95	12.49	12.92	13.38	13.87	14.98	27,25
1X.2X16X50X4	1.0	0.2	50	0.80	16.00	4	0.95	16.62	17.20	17.81	18.47	19.95	27,35
1X.2X20X50X4	1.0	0.2	50	0.80	20.00	4	0.95	20.76	21.47	22.24	23.07	24.93	28,00
1X.3X2X45X4	1.0	0.3	45	0.80	2.00	4	0.95	2.15	2.21	2.28	2.36	2.52	26,60
1X.3X4X45X4	1.0	0.3	45	0.80	4.00	4	0.95	4.22	4.35	4.50	4.66	5.01	26,60

Per Acciai Temprati s55 HRC
For Hardened Steels s55 HRC

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Codice d'ordine Order Code 1433HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	1X.3X6X45X4	1.0	0.3	45	0.80	6.00	4	0.95	6.28	6.49	6.72	6.96	7.50
1X.3X8X45X4	1.0	0.3	45	0.80	8.00	4	0.95	8.35	8.63	8.93	9.26	9.98	26,60
1X.3X10X45X4	1.0	0.3	45	0.80	10.00	4	0.95	10.42	10.77	11.15	11.56	12.47	27,25
1X.3X12X45X4	1.0	0.3	45	0.80	12.00	4	0.95	12.49	12.91	13.37	13.86	14.96	27,25
1X.3X16X50X4	1.0	0.3	50	0.80	16.00	4	0.95	16.62	17.19	17.80	18.46	19.93	27,35
1X.3X20X50X4	1.0	0.3	50	0.80	20.00	4	0.95	20.75	21.47	22.23	23.05	24.90	28,00
1.2X.1X4X45X4	1.2	0.1	45	1.00	4.00	4	1.14	4.24	4.39	4.54	4.71	5.08	26,60
1.2X.1X6X45X4	1.2	0.1	45	1.00	6.00	4	1.14	6.31	6.53	6.76	7.01	7.57	26,60
1.2X.1X10X45X4	1.2	0.1	45	1.00	10.00	4	1.14	10.44	10.80	11.19	11.61	12.54	27,25
1.2X.2X4X45X4	1.2	0.2	45	1.00	4.00	4	1.14	4.24	4.38	4.53	4.69	5.06	26,60
1.2X.2X6X45X4	1.2	0.2	45	1.00	6.00	4	1.14	6.31	6.52	6.75	6.99	7.54	26,60
1.2X.2X10X45X4	1.2	0.2	45	1.00	10.00	4	1.14	10.44	10.80	11.18	11.59	12.52	27,25
1.2X.3X4X45X4	1.2	0.3	45	1.00	4.00	4	1.14	4.24	4.37	4.52	4.68	5.03	26,60
1.2X.3X6X45X4	1.2	0.3	45	1.00	6.00	4	1.14	6.30	6.51	6.74	6.98	7.52	26,60
1.2X.3X10X45X4	1.2	0.3	45	1.00	10.00	4	1.14	10.44	10.79	11.17	11.58	12.49	27,25
1.5X.05X3X45X4	1.5	0.05	45	1.50	3.00	4	1.44	3.21	3.32	3.44	3.57	3.85	26,60
1.5X.05X4X45X4	1.5	0.05	45	1.50	4.00	4	1.44	4.24	4.39	4.55	4.72	5.09	26,60
1.5X.05X6X45X4	1.5	0.05	45	1.50	6.00	4	1.44	6.31	6.53	6.76	7.02	7.58	26,60
1.5X.05X8X45X4	1.5	0.05	45	1.50	8.00	4	1.44	8.38	8.67	8.98	9.32	10.07	26,60
1.5X.05X10X45X4	1.5	0.05	45	1.50	10.00	4	1.44	10.45	10.81	11.20	11.61	12.55	27,25
1.5X.05X12X45X4	1.5	0.05	45	1.50	12.00	4	1.44	12.51	12.95	13.41	13.91	15.04	27,25
1.5X.05X16X50X4	1.5	0.05	50	1.50	16.00	4	1.44	16.65	17.23	17.85	18.51	20.01	27,35
1.5X.05X20X50X4	1.5	0.05	50	1.50	20.00	4	1.44	20.78	21.50	22.28	23.11	libero	28,00
1.5X.1X3X45X4	1.5	0.1	45	1.50	3.00	4	1.44	3.21	3.32	3.43	3.56	3.84	26,60
1.5X.1X4X45X4	1.5	0.1	45	1.50	4.00	4	1.44	4.24	4.39	4.54	4.71	5.08	26,60
1.5X.1X6X45X4	1.5	0.1	45	1.50	6.00	4	1.44	6.31	6.53	6.76	7.01	7.57	26,60
1.5X.1X8X45X4	1.5	0.1	45	1.50	8.00	4	1.44	8.38	8.67	8.97	9.31	10.06	26,60
1.5X.1X10X45X4	1.5	0.1	45	1.50	10.00	4	1.44	10.44	10.80	11.19	11.61	12.54	27,25
1.5X.1X12X45X4	1.5	0.1	45	1.50	12.00	4	1.44	12.51	12.94	13.41	13.91	15.03	27,25
1.5X.1X16X50X4	1.5	0.1	50	1.50	16.00	4	1.44	16.65	17.22	17.84	18.51	20.00	27,35
1.5X.1X20X50X4	1.5	0.1	50	1.50	20.00	4	1.44	20.78	21.50	22.27	23.11	libero	28,00
1.5X.2X3X45X4	1.5	0.2	45	1.50	3.00	4	1.44	3.20	3.31	3.42	3.54	3.81	26,60
1.5X.2X4X45X4	1.5	0.2	45	1.50	4.00	4	1.44	4.24	4.38	4.53	4.69	5.06	26,60
1.5X.2X6X45X4	1.5	0.2	45	1.50	6.00	4	1.44	6.31	6.52	6.75	6.99	7.54	26,60
1.5X.2X8X45X4	1.5	0.2	45	1.50	8.00	4	1.44	8.37	8.66	8.96	9.29	10.03	26,60
1.5X.2X10X45X4	1.5	0.2	45	1.50	10.00	4	1.44	10.44	10.80	11.18	11.59	12.52	27,25
1.5X.2X12X45X4	1.5	0.2	45	1.50	12.00	4	1.44	12.51	12.94	13.40	13.89	15.00	27,25
1.5X.2X16X50X4	1.5	0.2	50	1.50	16.00	4	1.44	16.64	17.22	17.83	18.49	19.98	27,25
1.5X.2X20X50X4	1.5	0.2	50	1.50	20.00	4	1.44	20.78	21.49	22.26	23.09	libero	27,35
1.5X.3X3X45X4	1.5	0.3	45	1.50	3.00	4	1.44	3.20	3.30	3.41	3.53	3.79	26,60
1.5X.3X4X45X4	1.5	0.3	45	1.50	4.00	4	1.44	4.24	4.37	4.52	4.68	5.03	26,60
1.5X.3X6X45X4	1.5	0.3	45	1.50	6.00	4	1.44	6.30	6.51	6.74	6.98	7.52	26,60
1.5X.3X8X45X4	1.5	0.3	45	1.50	8.00	4	1.44	8.37	8.65	8.95	9.28	10.01	26,60

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 1433HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	1.5X.3X10X45X4	1.5	0.3	45	1.50	10.00	4	1.44	10.44	10.79	11.17	11.58	12.49
1.5X.3X12X45X4	1.5	0.3	45	1.50	12.00	4	1.44	12.50	12.93	13.39	13.88	14.98	27,25
1.5X.3X16X50X4	1.5	0.3	50	1.50	16.00	4	1.44	16.64	17.21	17.82	18.48	19.95	27,35
1.5X.3X20X50X4	1.5	0.3	50	1.50	20.00	4	1.44	20.77	21.49	22.25	23.08	libero	28,00
1.5X.5X3X45X4	1.5	0.5	45	1.50	3.00	4	1.44	3.19	3.29	3.39	3.50	3.74	26,60
1.5X.5X4X45X4	1.5	0.5	45	1.50	4.00	4	1.44	4.23	4.36	4.50	4.65	4.99	26,60
1.5X.5X6X45X4	1.5	0.5	45	1.50	6.00	4	1.44	6.30	6.50	6.71	6.95	7.47	26,60
1.5X.5X8X45X4	1.5	0.5	45	1.50	8.00	4	1.44	8.36	8.64	8.93	9.25	9.96	26,60
1.5X.5X10X45X4	1.5	0.5	45	1.50	10.00	4	1.44	10.43	10.78	11.15	11.55	12.44	27,25
1.5X.5X12X45X4	1.5	0.5	45	1.50	12.00	4	1.44	12.50	12.92	13.36	13.85	14.93	27,25
1.5X.5X16X50X4	1.5	0.5	50	1.50	16.00	4	1.44	16.63	17.19	17.80	18.45	19.90	27,35
1.5X.5X20X50X4	1.5	0.5	50	1.50	20.00	4	1.44	20.77	21.47	22.23	23.05	libero	28,00
2X.05X4X45X4	2.0	0.05	45	1.70	4.00	4	1.92	4.28	4.43	4.59	4.76	5.14	26,60
2X.05X6X45X4	2.0	0.05	45	1.70	6.00	4	1.92	6.35	6.57	6.80	7.06	7.63	26,60
2X.05X8X45X4	2.0	0.05	45	1.70	8.00	4	1.92	8.42	8.71	9.02	9.36	10.11	26,60
2X.05X10X45X4	2.0	0.05	45	1.70	10.00	4	1.92	10.48	10.85	11.24	11.66	12.60	27,25
2X.05X12X45X4	2.0	0.05	45	1.70	12.00	4	1.92	12.55	12.99	13.45	13.96	15.09	27,25
2X.05X16X50X4	2.0	0.05	50	1.70	16.00	4	1.92	16.69	17.27	17.89	18.56	libero	27,50
2X.05X20X50X4	2.0	0.05	50	1.70	20.00	4	1.92	20.82	21.54	22.32	23.16	libero	28,00
2X.1X4X45X4	2.0	0.1	45	1.70	4.00	4	1.92	4.28	4.43	4.58	4.75	5.13	26,60
2X.1X6X45X4	2.0	0.1	45	1.70	6.00	4	1.92	6.35	6.57	6.80	7.05	7.62	26,60
2X.1X8X45X4	2.0	0.1	45	1.70	8.00	4	1.92	8.42	8.71	9.02	9.35	10.10	26,60
2X.1X10X45X4	2.0	0.1	45	1.70	10.00	4	1.92	10.48	10.84	11.23	11.65	12.59	26,60
2X.1X12X45X4	2.0	0.1	45	1.70	12.00	4	1.92	12.55	12.98	13.45	13.95	15.07	27,25
2X.1X16X50X4	2.0	0.1	50	1.70	16.00	4	1.92	16.68	17.26	17.88	18.55	libero	27,50
2X.1X20X50X4	2.0	0.1	50	1.70	20.00	4	1.92	20.82	21.54	22.32	23.15	libero	28,00
2X.2X4X45X4	2.0	0.2	45	1.70	4.00	4	1.92	4.28	4.42	4.57	4.74	5.10	26,60
2X.2X6X45X4	2.0	0.2	45	1.70	6.00	4	1.92	6.34	6.56	6.79	7.04	7.59	26,60
2X.2X8X45X4	2.0	0.2	45	1.70	8.00	4	1.92	8.41	8.70	9.01	9.34	10.08	26,60
2X.2X10X45X4	2.0	0.2	45	1.70	10.00	4	1.92	10.48	10.84	11.22	11.64	12.56	27,25
2X.2X12X45X4	2.0	0.2	45	1.70	12.00	4	1.92	12.55	12.98	13.44	13.93	15.05	27,25
2X.2X16X50X4	2.0	0.2	50	1.70	16.00	4	1.92	16.68	17.26	17.87	18.53	libero	27,50
2X.2X20X50X4	2.0	0.2	50	1.70	20.00	4	1.92	20.82	21.53	22.31	23.13	libero	28,00
2X.3X4X45X4	2.0	0.3	45	1.70	4.00	4	1.92	4.27	4.41	4.56	4.72	5.08	26,60
2X.3X6X45X4	2.0	0.3	45	1.70	6.00	4	1.92	6.34	6.55	6.78	7.02	7.57	26,60
2X.3X8X45X4	2.0	0.3	45	1.70	8.00	4	1.92	8.41	8.69	8.99	9.32	10.05	26,60
2X.3X10X45X4	2.0	0.3	45	1.70	10.00	4	1.92	10.48	10.83	11.21	11.62	12.54	27,25
2X.3X12X45X4	2.0	0.3	45	1.70	12.00	4	1.92	12.54	12.97	13.43	13.92	15.03	27,25
2X.3X16X50X4	2.0	0.3	50	1.70	16.00	4	1.92	16.68	17.25	17.86	18.52	libero	27,50
2X.3X20X50X4	2.0	0.3	50	1.70	20.00	4	1.92	20.81	21.53	22.29	23.12	libero	28,00
2X.5X4X45X4	2.0	0.5	45	1.70	4.00	4	1.92	4.27	4.40	4.54	4.69	5.03	26,60
2X.5X6X45X4	2.0	0.5	45	1.70	6.00	4	1.92	6.33	6.54	6.76	6.99	7.52	26,60
2X.5X8X45X4	2.0	0.5	45	1.70	8.00	4	1.92	8.40	8.68	8.97	9.29	10.00	26,60

Per Acciai Temprati s55 HRC
For Hardened Steels s55 HRC

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Codice d'ordine Order Code 1433HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
2X.5X10X45X4	2.0	0.5	45	1.70	10.00	4	1.92	10.47	10.82	11.19	11.59	12.49	27,25
2X.5X12X45X4	2.0	0.5	45	1.70	12.00	4	1.92	12.54	12.96	13.41	13.89	14.98	27,25
2X.5X16X50X4	2.0	0.5	50	1.70	16.00	4	1.92	16.67	17.23	17.84	18.49	libero	27,50
2X.5X20X50X4	2.0	0.5	50	1.70	20.00	4	1.92	20.81	21.51	22.27	23.09	libero	28,00
2.5X.1X10X45X4	2.5	0.1	45	2.00	10.00	4	2.39	10.54	10.90	11.29	11.71	12.66	25,60
2.5X.1X20X50X4	2.5	0.1	50	2.00	20.00	4	2.39	20.88	21.60	22.38	libero	libero	26,60
2.5X.1X30X70X4	2.5	0.1	70	2.00	30.00	4	2.39	31.21	32.30	libero	libero	libero	31,30
2.5X.2X10X45X4	2.5	0.2	45	2.00	10.00	4	2.39	10.54	10.90	11.28	11.70	12.63	25,60
2.5X.2X20X50X4	2.5	0.2	50	2.00	20.00	4	2.39	20.87	21.59	22.37	libero	libero	26,60
2.5X.2X30X70X4	2.5	0.2	70	2.00	30.00	4	2.39	31.21	32.29	libero	libero	libero	31,30
2.5X.3X10X45X4	2.5	0.3	45	2.00	10.00	4	2.39	10.53	10.89	11.27	11.68	12.61	25,60
2.5X.3X20X50X4	2.5	0.3	50	2.00	20.00	4	2.39	20.87	21.59	22.36	libero	libero	26,60
2.5X.3X30X70X4	2.5	0.3	70	2.00	30.00	4	2.39	31.21	32.28	libero	libero	libero	31,30
2.5X.5X10X45X4	2.5	0.5	45	2.00	10.00	4	2.39	10.53	10.88	11.25	11.65	12.56	25,60
2.5X.5X20X50X4	2.5	0.5	50	2.00	20.00	4	2.39	20.86	21.57	22.33	libero	libero	26,60
2.5X.5X30X70X4	2.5	0.5	70	2.00	30.00	4	2.39	31.20	32.27	libero	libero	libero	31,30
3X.05X4X50X6	3.0	0.05	50	4.00	4.00	6	2.86	4.40	4.55	4.71	4.89	5.28	28,40
3X.05X6X50X6	3.0	0.05	50	4.00	6.00	6	2.86	6.47	6.69	6.93	7.19	7.77	28,40
3X.05X8X50X6	3.0	0.05	50	4.00	8.00	6	2.86	8.53	8.83	9.15	9.49	10.25	28,40
3X.05X10X50X6	3.0	0.05	50	4.00	10.00	6	2.86	10.60	10.97	11.36	11.79	12.74	28,40
3X.05X12X50X6	3.0	0.05	50	4.00	12.00	6	2.86	12.67	13.11	13.58	14.09	15.23	29,00
3X.05X16X60X6	3.0	0.05	60	4.00	16.00	6	2.86	16.80	17.39	18.01	18.69	20.20	30,35
3X.05X20X60X6	3.0	0.05	60	4.00	20.00	6	2.86	20.94	21.66	22.45	23.29	25.17	31,10
3X.1X4X50X6	3.0	0.1	50	4.00	4.00	6	2.86	4.40	4.55	4.71	4.88	5.27	28,40
3X.1X6X50X6	3.0	0.1	50	4.00	6.00	6	2.86	6.46	6.69	6.92	7.18	7.75	28,40
3X.1X8X50X6	3.0	0.1	50	4.00	8.00	6	2.86	8.53	8.82	9.14	9.48	10.24	28,40
3X.1X10X50X6	3.0	0.1	50	4.00	10.00	6	2.86	10.60	10.96	11.36	11.78	12.73	28,40
3X.1X12X50X6	3.0	0.1	50	4.00	12.00	6	2.86	12.67	13.10	13.57	14.08	15.21	29,00
3X.1X16X60X6	3.0	0.1	60	4.00	16.00	6	2.86	16.80	17.38	18.01	18.68	20.19	30,35
3X.1X20X60X6	3.0	0.1	60	4.00	20.00	6	2.86	20.93	21.66	22.44	23.28	25.16	31,10
3X.1X25X60X6	3.0	0.1	60	4.00	25.00	6	2.86	26.10	27.01	27.98	29.03	libero	31,65
3X.1X30X70X6	3.0	0.1	70	4.00	30.00	6	2.86	31.27	32.36	33.52	34.78	libero	36,25
3X.1X35X70X6	3.0	0.1	70	4.00	35.00	6	2.86	36.44	37.71	39.06	40.53	libero	37,15
3X.2X4X50X6	3.0	0.2	50	4.00	4.00	6	2.86	4.39	4.54	4.70	4.86	5.24	30,10
3X.2X6X50X6	3.0	0.2	50	4.00	6.00	6	2.86	6.46	6.68	6.91	7.16	7.73	30,10
3X.2X8X50X6	3.0	0.2	50	4.00	8.00	6	2.86	8.53	8.82	9.13	9.46	10.22	30,10
3X.2X10X50X6	3.0	0.2	50	4.00	10.00	6	2.86	10.59	10.96	11.35	11.76	12.70	30,10
3X.2X12X50X6	3.0	0.2	50	4.00	12.00	6	2.86	12.66	13.10	13.56	14.06	15.19	30,35
3X.2X16X60X6	3.0	0.2	60	4.00	16.00	6	2.86	16.80	17.38	18.00	18.66	20.16	31,75
3X.2X20X60X6	3.0	0.2	60	4.00	20.00	6	2.86	20.93	21.65	22.43	23.26	25.13	32,15
3X.2X25X60X6	3.0	0.2	60	4.00	25.00	6	2.86	26.10	27.00	27.97	29.01	libero	33,90
3X.2X30X70X6	3.0	0.2	70	4.00	30.00	6	2.86	31.27	32.35	33.51	34.76	libero	36,25
3X.2X35X70X6	3.0	0.2	70	4.00	35.00	6	2.86	36.44	37.70	39.05	40.51	libero	36,25

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

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Codice d'ordine Order Code 1433HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	3X.3X4X50X6	3.0	0.3	50	4.00	4.00	6	2.86	4.39	4.53	4.69	4.85	5.22
3X.3X6X50X6	3.0	0.3	50	4.00	6.00	6	2.86	6.46	6.67	6.90	7.15	7.71	30,10
3X.3X8X50X6	3.0	0.3	50	4.00	8.00	6	2.86	8.52	8.81	9.12	9.45	10.19	30,10
3X.3X10X50X6	3.0	0.3	50	4.00	10.00	6	2.86	10.59	10.95	11.34	11.75	12.68	30,10
3X.3X12X50X6	3.0	0.3	50	4.00	12.00	6	2.86	12.66	13.09	13.55	14.05	15.16	30,35
3X.3X16X60X6	3.0	0.3	60	4.00	16.00	6	2.86	16.79	17.37	17.99	18.65	20.14	31,75
3X.3X20X60X6	3.0	0.3	60	4.00	20.00	6	2.86	20.93	21.65	22.42	23.25	25.11	32,15
3X.3X25X60X6	3.0	0.3	60	4.00	25.00	6	2.86	26.10	27.00	27.96	29.00	libero	33,90
3X.3X30X70X6	3.0	0.3	70	4.00	30.00	6	2.86	31.26	32.34	33.50	34.75	libero	36,25
3X.3X35X70X6	3.0	0.3	70	4.00	35.00	6	2.86	36.43	37.69	39.04	40.50	libero	37,65
3X.5X4X50X6	3.0	0.5	50	4.00	4.00	6	2.86	4.38	4.52	4.66	4.82	5.17	30,10
3X.5X6X50X6	3.0	0.5	50	4.00	6.00	6	2.86	6.45	6.66	6.88	7.12	7.66	30,10
3X.5X8X50X6	3.0	0.5	50	4.00	8.00	6	2.86	8.52	8.80	9.10	9.42	10.14	30,10
3X.5X10X50X6	3.0	0.5	50	4.00	10.00	6	2.86	10.58	10.94	11.31	11.72	12.63	30,10
3X.5X12X50X6	3.0	0.5	50	4.00	12.00	6	2.86	12.65	13.08	13.53	14.02	15.12	30,35
3X.5X16X60X6	3.0	0.5	60	4.00	16.00	6	2.86	16.79	17.35	17.96	18.62	20.09	31,75
3X.5X20X60X6	3.0	0.5	60	4.00	20.00	6	2.86	20.92	21.63	22.40	23.22	25.06	32,15
3X.5X25X60X6	3.0	0.5	60	4.00	25.00	6	2.86	26.09	26.98	27.94	28.97	libero	33,90
3X.5X30X70X6	3.0	0.5	70	4.00	30.00	6	2.86	31.26	32.33	33.48	34.72	libero	36,25
3X.5X35X70X6	3.0	0.5	70	4.00	35.00	6	2.86	36.43	37.68	39.02	40.47	libero	37,65
3X1X8X50X6	3.0	1.0	50	4.00	8.00	6	2.86	8.50	8.76	9.04	9.34	10.02	30,10
3X1X10X50X6	3.0	1.0	50	4.00	10.00	6	2.86	10.57	10.90	11.26	11.64	12.51	30,10
3X1X12X50X6	3.0	1.0	50	4.00	12.00	6	2.86	12.64	13.04	13.48	13.94	14.99	30,35
3X1X16X60X6	3.0	1.0	60	4.00	16.00	6	2.86	16.77	17.32	17.91	18.54	19.97	31,75
3X1X20X60X6	3.0	1.0	60	4.00	20.00	6	2.86	20.90	21.60	22.34	23.14	24.94	32,15
3X1X25X60X6	3.0	1.0	60	4.00	25.00	6	2.86	26.07	26.95	27.88	28.89	libero	33,90
3X1X30X70X6	3.0	1.0	70	4.00	30.00	6	2.86	31.24	32.30	33.43	34.64	libero	36,25
3X1X35X70X6	3.0	1.0	70	4.00	35.00	6	2.86	36.41	37.64	38.97	40.39	libero	37,65
4X.1X8X50X6	4.0	0.1	50	5.00	8.00	6	3.80	8.65	8.94	9.26	9.61	10.38	30,25
4X.1X10X50X6	4.0	0.1	50	5.00	10.00	6	3.80	10.71	11.08	11.48	11.91	12.87	30,25
4X.1X12X50X6	4.0	0.1	50	5.00	12.00	6	3.80	12.78	13.22	13.70	14.21	15.35	30,25
4X.1X16X60X6	4.0	0.1	60	5.00	16.00	6	3.80	16.92	17.50	18.13	18.81	libero	31,75
4X.1X20X60X6	4.0	0.1	60	5.00	20.00	6	3.80	21.05	21.78	22.56	23.41	libero	32,15
4X.1X25X60X6	4.0	0.1	60	5.00	25.00	6	3.80	26.22	27.13	28.11	libero	libero	33,90
4X.1X30X70X6	4.0	0.1	70	5.00	30.00	6	3.80	31.39	32.48	33.65	libero	libero	36,25
4X.1X40X80X6	4.0	0.1	80	5.00	40.00	6	3.80	41.72	43.17	libero	libero	libero	40,30
4X.2X8X50X6	4.0	0.2	50	5.00	8.00	6	3.80	8.64	8.94	9.25	9.59	10.36	30,25
4X.2X10X50X6	4.0	0.2	50	5.00	10.00	6	3.80	10.71	11.08	11.47	11.89	12.84	30,25
4X.2X12X50X6	4.0	0.2	50	5.00	12.00	6	3.80	12.78	13.22	13.69	14.19	15.33	30,25
4X.2X16X60X6	4.0	0.2	60	5.00	16.00	6	3.80	16.91	17.50	18.12	18.79	libero	31,75
4X.2X20X60X6	4.0	0.2	60	5.00	20.00	6	3.80	21.05	21.77	22.55	23.39	libero	32,15
4X.2X25X60X6	4.0	0.2	60	5.00	25.00	6	3.80	26.22	27.12	28.09	libero	libero	33,90
4X.2X30X70X6	4.0	0.2	70	5.00	30.00	6	3.80	31.38	32.47	33.64	libero	libero	36,25

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

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Codice d'ordine Order Code 1433HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
4X.2X40X80X6	4.0	0.2	80	5.00	40.00	6	3.80	41.72	43.17	libero	libero	libero	40,30
4X.3X8X50X6	4.0	0.3	50	5.00	8.00	6	3.80	8.64	8.93	9.24	9.58	10.33	30,25
4X.3X10X50X6	4.0	0.3	50	5.00	10.00	6	3.80	10.71	11.07	11.46	11.88	12.82	30,25
4X.3X12X50X6	4.0	0.3	50	5.00	12.00	6	3.80	12.77	13.21	13.68	14.18	15.30	30,25
4X.3X16X60X6	4.0	0.3	60	5.00	16.00	6	3.80	16.91	17.49	18.11	18.78	libero	31,75
4X.3X20X60X6	4.0	0.3	60	5.00	20.00	6	3.80	21.04	21.77	22.54	23.38	libero	32,15
4X.3X25X60X6	4.0	0.3	60	5.00	25.00	6	3.80	26.21	27.12	28.08	libero	libero	33,90
4X.3X30X70X6	4.0	0.3	70	5.00	30.00	6	3.80	31.38	32.46	33.63	libero	libero	36,25
4X.3X40X80X6	4.0	0.3	80	5.00	40.00	6	3.80	41.72	43.16	libero	libero	libero	40,30
4X.5X8X50X6	4.0	0.5	50	5.00	8.00	6	3.80	8.63	8.92	9.22	9.55	10.28	30,25
4X.5X10X50X6	4.0	0.5	50	5.00	10.00	6	3.80	10.70	11.06	11.44	11.85	12.77	30,25
4X.5X12X50X6	4.0	0.5	50	5.00	12.00	6	3.80	12.77	13.20	13.65	14.15	15.26	30,25
4X.5X16X60X6	4.0	0.5	60	5.00	16.00	6	3.80	16.90	17.47	18.09	18.75	libero	31,75
4X.5X20X60X6	4.0	0.5	60	5.00	20.00	6	3.80	21.04	21.75	22.52	23.35	libero	32,15
4X.5X25X60X6	4.0	0.5	60	5.00	25.00	6	3.80	26.21	27.10	28.06	29.10	libero	33,90
4X.5X30X70X6	4.0	0.5	70	5.00	30.00	6	3.80	31.37	32.45	33.60	libero	libero	36,25
4X.5X40X80X6	4.0	0.5	80	5.00	40.00	6	3.80	41.71	43.15	libero	libero	libero	40,30
4X1X8X50X6	4.0	1.0	50	5.00	8.00	6	3.80	8.62	8.88	9.17	9.47	10.16	30,25
4X1X10X50X6	4.0	1.0	50	5.00	10.00	6	3.80	10.68	11.02	11.38	11.77	12.65	30,25
4X1X12X50X6	4.0	1.0	50	5.00	12.00	6	3.80	12.75	13.16	13.60	14.07	15.13	30,25
4X1X16X60X6	4.0	1.0	60	5.00	16.00	6	3.80	16.89	17.44	18.03	18.67	libero	31,75
4X1X20X60X6	4.0	1.0	60	5.00	20.00	6	3.80	21.02	21.72	22.47	23.27	libero	32,15
4X1X25X60X6	4.0	1.0	60	5.00	25.00	6	3.80	26.19	27.07	28.01	29.02	libero	33,90
4X1X30X70X6	4.0	1.0	70	5.00	30.00	6	3.80	31.36	32.42	33.55	libero	libero	36,25
4X1X40X80X6	4.0	1.0	80	5.00	40.00	6	3.80	41.69	43.11	libero	libero	libero	40,30
5X.1X20X60X6	5.0	0.1	60	4.00	20.00	6	4.75	21.15	21.88	libero	libero	libero	33,05
5X.1X40X80X6	5.0	0.1	80	4.00	40.00	6	4.75	41.82	libero	libero	libero	libero	42,90
5X.2X20X60X6	5.0	0.2	60	4.00	20.00	6	4.75	21.14	21.87	libero	libero	libero	33,05
5X.2X40X80X6	5.0	0.2	80	4.00	40.00	6	4.75	41.82	libero	libero	libero	libero	42,90
5X.3X20X60X6	5.0	0.3	60	4.00	20.00	6	4.75	21.14	21.87	libero	libero	libero	33,05
5X.3X40X80X6	5.0	0.3	80	4.00	40.00	6	4.75	41.81	libero	libero	libero	libero	42,90
5X.5X20X60X6	5.0	0.5	60	4.00	20.00	6	4.75	21.13	21.85	libero	libero	libero	33,05
5X.5X40X80X6	5.0	0.5	80	4.00	40.00	6	4.75	41.81	libero	libero	libero	libero	42,90
5X1X20X60X6	5.0	1.0	60	4.00	20.00	6	4.75	21.12	21.82	libero	libero	libero	33,05
5X1X40X80X6	5.0	1.0	80	4.00	40.00	6	4.75	41.79	libero	libero	libero	libero	42,90
6X.1X12X50X6	6.0	0.1	50	8.00	12.00	6	5.70	libero	libero	libero	libero	libero	33,05
6X.1X16X60X6	6.0	0.1	60	8.00	16.00	6	5.70	libero	libero	libero	libero	libero	33,05
6X.1X20X60X6	6.0	0.1	60	8.00	20.00	6	5.70	libero	libero	libero	libero	libero	33,05
6X.1X30X70X6	6.0	0.1	70	8.00	30.00	6	5.70	libero	libero	libero	libero	libero	36,55
6X.2X12X50X6	6.0	0.2	50	8.00	12.00	6	5.70	libero	libero	libero	libero	libero	31,00
6X.2X16X60X6	6.0	0.2	60	8.00	16.00	6	5.70	libero	libero	libero	libero	libero	33,05
6X.2X20X60X6	6.0	0.2	60	8.00	20.00	6	5.70	libero	libero	libero	libero	libero	33,05
6X.2X30X70X6	6.0	0.2	70	8.00	30.00	6	5.70	libero	libero	libero	libero	libero	36,55

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

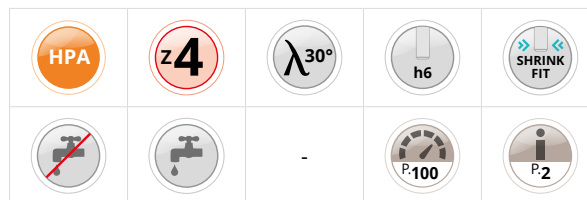
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Codice d'ordine Order Code 1433HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30'	1°	1°30'	2°	3°	€
6X.3X12X50X6	6.0	0.3	50	8.00	12.00	6	5.70	libero	libero	libero	libero	libero	31,00
6X.3X16X60X6	6.0	0.3	60	8.00	16.00	6	5.70	libero	libero	libero	libero	libero	33,05
6X.3X20X60X6	6.0	0.3	60	8.00	20.00	6	5.70	libero	libero	libero	libero	libero	33,05
6X.3X30X70X6	6.0	0.3	70	8.00	30.00	6	5.70	libero	libero	libero	libero	libero	36,55
6X.5X12X50X6	6.0	0.5	50	8.00	12.00	6	5.70	libero	libero	libero	libero	libero	31,00
6X.5X16X60X6	6.0	0.5	60	8.00	16.00	6	5.70	libero	libero	libero	libero	libero	33,05
6X.5X20X60X6	6.0	0.5	60	8.00	20.00	6	5.70	libero	libero	libero	libero	libero	33,05
6X.5X30X70X6	6.0	0.5	70	8.00	30.00	6	5.70	libero	libero	libero	libero	libero	36,55
6X1X12X50X6	6.0	1.0	50	8.00	12.00	6	5.70	libero	libero	libero	libero	libero	31,00
6X1X16X60X6	6.0	1.0	60	8.00	16.00	6	5.70	libero	libero	libero	libero	libero	33,05
6X1X20X60X6	6.0	1.0	60	8.00	20.00	6	5.70	libero	libero	libero	libero	libero	33,05
6X1X30X70X6	6.0	1.0	70	8.00	30.00	6	5.70	libero	libero	libero	libero	libero	36,55
6X1.5X20X60X6	6.0	1.5	60	8.00	20.00	6	5.70	libero	libero	libero	libero	libero	33,05
6X1.5X30X70X6	6.0	1.5	70	8.00	30.00	6	5.70	libero	libero	libero	libero	libero	36,55
8X.2X24X65X8	8.0	0.2	65	12.00	24.00	8	7.60	libero	libero	libero	libero	libero	35,40
8X.3X24X65X8	8.0	0.3	65	12.00	24.00	8	7.60	libero	libero	libero	libero	libero	35,40
8X.5X24X65X8	8.0	0.5	65	12.00	24.00	8	7.60	libero	libero	libero	libero	libero	35,40
8X1X24X65X8	8.0	1.0	65	12.00	24.00	8	7.60	libero	libero	libero	libero	libero	35,40
8X1.5X24X65X8	8.0	1.5	65	12.00	24.00	8	7.60	libero	libero	libero	libero	libero	35,40
10X.5X25X70X10	10.0	0.5	70	15.00	25.00	10	9.50	libero	libero	libero	libero	libero	49,40
10X1X25X70X10	10.0	1.0	70	15.00	25.00	10	9.50	libero	libero	libero	libero	libero	49,40
12X.5X25X80X12	12.0	0.5	80	15.00	25.00	12	11.50	libero	libero	libero	libero	libero	67,80
12X1X25X80X12	12.0	1.0	80	15.00	25.00	12	11.50	libero	libero	libero	libero	libero	67,80

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

1434HPA

Frese toriche in metallo duro integrale micrograna.
Corner radius end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:



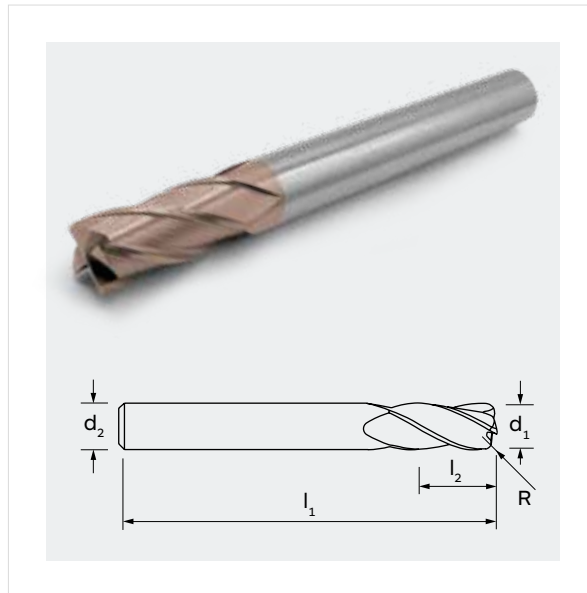
Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d≤6: 0/-0.01	±0.01
d>6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
●	●	●	-	●	●	● ●
○	○	○	-	○	○	○ ○

● **Raccomandato** - Most suitable
○ **Possibile** - Possible



Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1434HPA	d ₁	R	l ₁	l ₂	d ₂	€
1.5X.2X4X45X4	1.5	0.2	45	4	4	24,35
1.5X.3X4X45X4	1.5	0.3	45	4	4	24,35
2X.2X6X45X4	2.0	0.2	45	6	4	24,35
2X.3X6X45X4	2.0	0.3	45	6	4	24,35
2X.5X6X45X4	2.0	0.5	45	6	4	24,35
3X.2X8X60X6	3.0	0.2	60	8	6	32,15
3X.3X8X60X6	3.0	0.3	60	8	6	32,15
3X.5X8X60X6	3.0	0.5	60	8	6	32,15
4X.2X11X70X6	4.0	0.2	70	11	6	33,30
4X.3X11X70X6	4.0	0.3	70	11	6	33,30
4X.5X11X70X6	4.0	0.5	70	11	6	33,30
4X1X11X70X6	4.0	1.0	70	11	6	33,30
5X.5X11X70X6	5.0	0.5	70	11	6	35,75
6X.2X13X80X6	6.0	0.2	80	13	6	36,65
6X.3X13X60X6	6.0	0.3	60	13	6	33,90
6X.3X13X80X6	6.0	0.3	80	13	6	36,65
6X.5X13X60X6	6.0	0.5	60	13	6	33,90
6X.5X13X80X6	6.0	0.5	80	13	6	36,65

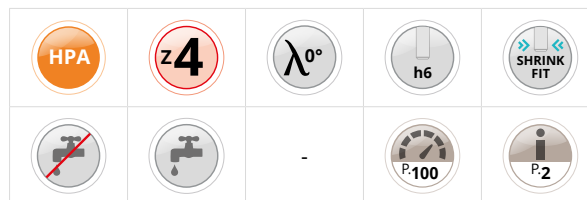
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Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1434HPA	d₁	R	l₁	l₂	d₂	€
6X1X13X60X6	6.0	1.0	60	13	6	33,90
6X1X13X80X6	6.0	1.0	80	13	6	36,65
6X1.5X13X80X6	6.0	1.5	80	13	6	35,25
8X.2X19X90X8	8.0	0.2	90	19	8	46,20
8X.3X19X90X8	8.0	0.3	90	19	8	46,20
8X.5X19X70X8	8.0	0.5	70	19	8	41,10
8X.5X19X90X8	8.0	0.5	90	19	8	46,20
8X1X19X70X8	8.0	1.0	70	19	8	41,10
8X1X19X90X8	8.0	1.0	90	19	8	46,20
10X.5X22X75X10	10.0	0.5	75	22	10	52,80
10X.5X22X100X10	10.0	0.5	100	22	10	60,40
10X1X22X75X10	10.0	1.0	75	22	10	52,80
10X1X22X100X10	10.0	1.0	100	22	10	60,40
10X1.5X22X100X10	10.0	1.5	100	22	10	60,40
12X.5X26X80X12	12.0	0.5	80	26	12	70,70
12X.5X26X110X12	12.0	0.5	110	26	12	86,70
12X1X26X80X12	12.0	1.0	80	26	12	70,70
12X1X26X110X12	12.0	1.0	110	26	12	86,70
12X2X26X110X12	12.0	2.0	110	26	12	86,70

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

1440HPA

Frese toriche in metallo duro integrale micrograna.
Corner radius end mills in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

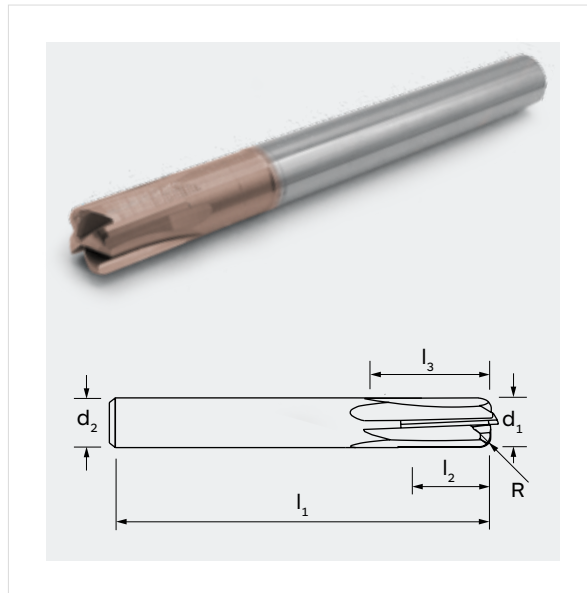


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d≤6: 0/-0.01	±0.01
d>6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
○	○	○	-	○	○	● Raccomandato - Most suitable ○ Possibile - Possible



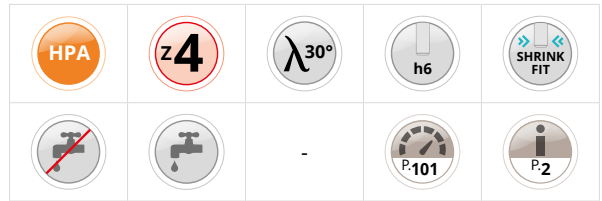
Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1440HPA	d ₁	R	l ₁	l ₂	l ₃	d ₂	€
6X1X16X60X6	6.0	1.0	60	9	16	6	33,90
8X1X25X65X8	8.0	1.0	65	12	25	8	43,70
10X2X25X70X10	10.0	2.0	70	15	25	10	55,10
10X2X30X100X10	10.0	2.0	100	15	30	10	67,30
12X2X30X70X12	12.0	2.0	70	18	30	12	65,60
12X2X35X100X12	12.0	2.0	100	18	35	12	76,20

14334HPA

Frese toriche a collo lungo in metallo duro integrale micrograna.

Corner radius end mills long neck in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

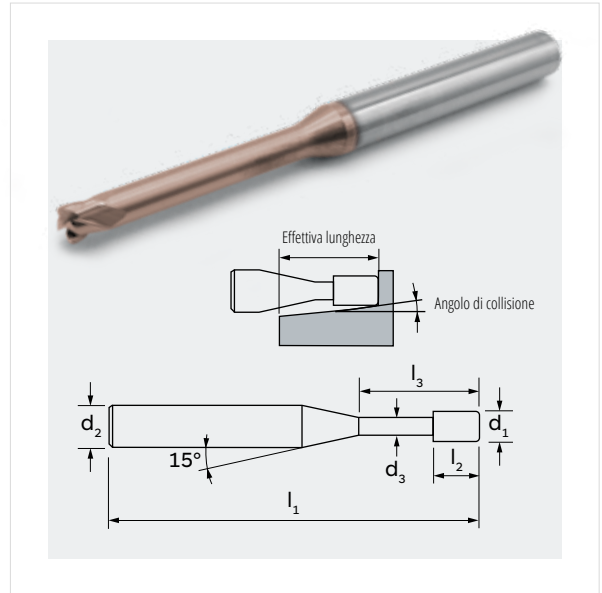


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	±0.01
d > 6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
○	○	○	-	○	●	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code 14334HPA	Diametro fresa End mill diameter d₁	Raggio fresa End mill radius R	Lunghezza totale Overall length l₁	Lunghezza di taglio Length of cut l₂	Lunghezza utile Length of reach l₃	Diametro attacco Shank diameter d₂	Diametro collo Neck diameter d₃	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price €
								30'	1°	1°30'	2°	3°	
1X.05X4X45X4	1.0	0.05	45	0.80	4.00	4	0.95	4.22	4.37	4.53	4.69	5.07	27,25
1X.05X5X45X4	1.0	0.05	45	0.80	5.00	4	0.95	5.26	5.44	5.63	5.84	6.31	27,25
1X.05X6X45X4	1.0	0.05	45	0.80	6.00	4	0.95	6.29	6.51	6.74	6.99	7.56	27,25
1X.05X8X45X4	1.0	0.05	45	0.80	8.00	4	0.95	8.36	8.65	8.96	9.29	10.04	27,25
1X.05X10X45X4	1.0	0.05	45	0.80	10.00	4	0.95	10.43	10.79	11.18	11.59	12.53	27,75
1X.05X12X45X4	1.0	0.05	45	0.80	12.00	4	0.95	12.49	12.93	13.39	13.89	15.02	27,75
1X.05X16X50X4	1.0	0.05	50	0.80	16.00	4	0.95	16.63	17.21	17.83	18.49	19.99	27,75
1X.1X4X45X4	1.0	0.1	45	0.80	4.00	4	0.95	4.22	4.37	4.52	4.69	5.06	27,25
1X.1X5X45X4	1.0	0.1	45	0.80	5.00	4	0.95	5.26	5.44	5.63	5.84	6.30	27,25
1X.1X6X45X4	1.0	0.1	45	0.80	6.00	4	0.95	6.29	6.51	6.74	6.99	7.55	27,25
1X.1X8X45X4	1.0	0.1	45	0.80	8.00	4	0.95	8.36	8.65	8.95	9.29	10.03	27,25
1X.1X10X45X4	1.0	0.1	45	0.80	10.00	4	0.95	10.42	10.78	11.17	11.59	12.52	27,75
1X.1X12X45X4	1.0	0.1	45	0.80	12.00	4	0.95	12.49	12.92	13.39	13.89	15.00	27,75
1X.1X16X50X4	1.0	0.1	50	0.80	16.00	4	0.95	16.63	17.20	17.82	18.48	19.98	27,75
1X.2X4X45X4	1.0	0.2	45	0.80	4.00	4	0.95	4.22	4.36	4.51	4.67	5.03	27,25
1X.2X5X45X4	1.0	0.2	45	0.80	5.00	4	0.95	5.25	5.43	5.62	5.82	6.28	27,25
1X.2X6X45X4	1.0	0.2	45	0.80	6.00	4	0.95	6.29	6.50	6.73	6.97	7.52	27,25
1X.2X8X45X4	1.0	0.2	45	0.80	8.00	4	0.95	8.35	8.64	8.94	9.27	10.01	27,25

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Codice d'ordine Order Code 14334HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
	1X.2X10X45X4	1.0	0.2	45	0.80	10.00	4	0.95	10.42	10.78	11.16	11.57	12.49
1X.2X12X45X4	1.0	0.2	45	0.80	12.00	4	0.95	12.49	12.92	13.38	13.87	14.98	27,75
1X.2X16X50X4	1.0	0.2	50	0.80	16.00	4	0.95	16.62	17.20	17.81	18.47	19.95	29,30
1X.3X4X45X4	1.0	0.3	45	0.80	4.00	4	0.95	4.22	4.35	4.50	4.66	5.01	27,25
1X.3X5X45X4	1.0	0.3	45	0.80	5.00	4	0.95	5.25	5.42	5.61	5.81	6.25	27,25
1X.3X6X45X4	1.0	0.3	45	0.80	6.00	4	0.95	6.28	6.49	6.72	6.96	7.50	27,25
1X.3X8X45X4	1.0	0.3	45	0.80	8.00	4	0.95	8.35	8.63	8.93	9.26	9.98	27,25
1X.3X10X45X4	1.0	0.3	45	0.80	10.00	4	0.95	10.42	10.77	11.15	11.56	12.47	27,75
1X.3X12X45X4	1.0	0.3	45	0.80	12.00	4	0.95	12.49	12.91	13.37	13.86	14.96	27,75
1X.3X16X50X4	1.0	0.3	50	0.80	16.00	4	0.95	16.62	17.19	17.80	18.46	19.93	29,30
1.2X.1X4X45X4	1.2	0.1	45	1.00	4.00	4	1.14	4.24	4.39	4.54	4.71	5.08	27,25
1.2X.1X6X45X4	1.2	0.1	45	1.00	6.00	4	1.14	6.31	6.53	6.76	7.01	7.57	27,25
1.2X.1X8X45X4	1.2	0.1	45	1.00	8.00	4	1.14	8.38	8.67	8.97	9.31	10.06	27,25
1.2X.1X12X45X4	1.2	0.1	45	1.00	12.00	4	1.14	12.51	12.94	13.41	13.91	15.03	27,75
1.2X.2X4X45X4	1.2	0.2	45	1.00	4.00	4	1.14	4.24	4.38	4.53	4.69	5.06	27,25
1.2X.2X6X45X4	1.2	0.2	45	1.00	6.00	4	1.14	6.31	6.52	6.75	6.99	7.54	27,25
1.2X.2X8X45X4	1.2	0.2	45	1.00	8.00	4	1.14	8.37	8.66	8.96	9.29	10.03	27,25
1.2X.2X12X45X4	1.2	0.2	45	1.00	12.00	4	1.14	12.51	12.94	13.40	13.89	15.00	27,75
1.2X.3X4X45X4	1.2	0.3	45	1.00	4.00	4	1.14	4.24	4.37	4.52	4.68	5.03	27,25
1.2X.3X6X45X4	1.2	0.3	45	1.00	6.00	4	1.14	6.30	6.51	6.74	6.98	7.52	27,25
1.2X.3X8X45X4	1.2	0.3	45	1.00	8.00	4	1.14	8.37	8.65	8.95	9.28	10.01	27,25
1.2X.3X12X45X4	1.2	0.3	45	1.00	12.00	4	1.14	12.50	12.93	13.39	13.88	14.98	27,75
1.5X.1X6X45X4	1.5	0.1	45	1.35	6.00	4	1.44	6.31	6.53	6.76	7.01	7.57	27,25
1.5X.1X8X45X4	1.5	0.1	45	1.35	8.00	4	1.44	8.38	8.67	8.97	9.31	10.06	27,25
1.5X.1X12X45X4	1.5	0.1	45	1.35	12.00	4	1.44	12.51	12.94	13.41	13.91	15.03	27,25
1.5X.1X16X50X4	1.5	0.1	50	1.35	16.00	4	1.44	16.65	17.22	17.84	18.51	20.00	29,30
1.5X.1X20X50X4	1.5	0.1	50	1.35	20.00	4	1.44	20.78	21.50	22.27	23.11	libero	29,30
1.5X.2X6X45X4	1.5	0.2	45	1.35	6.00	4	1.44	6.31	6.52	6.75	6.99	7.54	27,25
1.5X.2X8X45X4	1.5	0.2	45	1.35	8.00	4	1.44	8.37	8.66	8.96	9.29	10.03	27,25
1.5X.2X12X45X4	1.5	0.2	45	1.35	12.00	4	1.44	12.51	12.94	13.40	13.89	15.00	27,25
1.5X.2X16X50X4	1.5	0.2	50	1.35	16.00	4	1.44	16.64	17.22	17.83	18.49	19.98	29,30
1.5X.2X20X50X4	1.5	0.2	50	1.35	20.00	4	1.44	20.78	21.49	22.26	23.09	libero	29,30
1.5X.3X6X45X4	1.5	0.3	45	1.35	6.00	4	1.44	6.30	6.51	6.74	6.98	7.52	27,25
1.5X.3X8X45X4	1.5	0.3	45	1.35	8.00	4	1.44	8.37	8.65	8.95	9.28	10.01	27,25
1.5X.3X12X45X4	1.5	0.3	45	1.35	12.00	4	1.44	12.50	12.93	13.39	13.88	14.98	27,25
1.5X.3X16X50X4	1.5	0.3	50	1.35	16.00	4	1.44	16.64	17.21	17.82	18.48	19.95	29,30
1.5X.3X20X50X4	1.5	0.3	50	1.35	20.00	4	1.44	20.77	21.49	22.25	23.08	libero	29,30
1.5X.5X6X45X4	1.5	0.5	45	1.35	6.00	4	1.44	6.30	6.50	6.71	6.95	7.47	27,25
1.5X.5X8X45X4	1.5	0.5	45	1.35	8.00	4	1.44	8.36	8.64	8.93	9.25	9.96	27,25
1.5X.5X12X45X4	1.5	0.5	45	1.35	12.00	4	1.44	12.50	12.92	13.36	13.85	14.93	27,75
1.5X.5X16X50X4	1.5	0.5	50	1.35	16.00	4	1.44	16.63	17.19	17.80	18.45	19.90	29,30
1.5X.5X20X50X4	1.5	0.5	50	1.35	20.00	4	1.44	20.77	21.47	22.23	23.05	libero	29,30
2X.1X6X45X4	2.0	0.1	45	1.70	6.00	4	1.92	6.35	6.57	6.80	7.05	7.62	27,75

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

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Codice d'ordine Order Code 14334HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
2X.1X8X45X4	2.0	0.1	45	1.70	8.00	4	1.92	8.42	8.71	9.02	9.35	10.10	27,75
2X.1X10X45X4	2.0	0.1	45	1.70	10.00	4	1.92	10.48	10.84	11.23	11.65	12.59	28,40
2X.1X12X45X4	2.0	0.1	45	1.70	12.00	4	1.92	12.55	12.98	13.45	13.95	15.07	28,40
2X.1X16X50X4	2.0	0.1	50	1.70	16.00	4	1.92	16.68	17.26	17.88	18.55	libero	29,30
2X.1X20X50X4	2.0	0.1	50	1.70	20.00	4	1.92	20.82	21.54	22.32	23.15	libero	29,30
2X.1X25X60X4	2.0	0.1	60	1.70	25.00	4	1.92	25.99	26.89	27.86	libero	libero	31,30
2X.2X6X45X4	2.0	0.2	45	1.70	6.00	4	1.92	6.34	6.56	6.79	7.04	7.59	27,75
2X.2X8X45X4	2.0	0.2	45	1.70	8.00	4	1.92	8.41	8.70	9.01	9.34	10.08	27,75
2X.2X10X45X4	2.0	0.2	45	1.70	10.00	4	1.92	10.48	10.84	11.22	11.64	12.56	28,40
2X.2X12X45X4	2.0	0.2	45	1.70	12.00	4	1.92	12.55	12.98	13.44	13.93	15.05	28,40
2X.2X16X50X4	2.0	0.2	50	1.70	16.00	4	1.92	16.68	17.26	17.87	18.53	libero	29,30
2X.2X20X50X4	2.0	0.2	50	1.70	20.00	4	1.92	20.82	21.53	22.31	23.13	libero	29,30
2X.2X25X60X4	2.0	0.2	60	1.70	25.00	4	1.92	25.98	26.88	27.85	28.88	libero	31,30
2X.3X6X45X4	2.0	0.3	45	1.70	6.00	4	1.92	6.34	6.55	6.78	7.02	7.57	27,75
2X.3X8X45X4	2.0	0.3	45	1.70	8.00	4	1.92	8.41	8.69	8.99	9.32	10.05	27,75
2X.3X10X45X4	2.0	0.3	45	1.70	10.00	4	1.92	10.48	10.83	11.21	11.62	12.54	28,40
2X.3X12X45X4	2.0	0.3	45	1.70	12.00	4	1.92	12.54	12.97	13.43	13.92	15.03	28,40
2X.3X16X50X4	2.0	0.3	50	1.70	16.00	4	1.92	16.68	17.25	17.86	18.52	libero	29,30
2X.3X20X50X4	2.0	0.3	50	1.70	20.00	4	1.92	20.81	21.53	22.29	23.12	libero	29,30
2X.3X25X60X4	2.0	0.3	60	1.70	25.00	4	1.92	25.98	26.88	27.84	28.87	libero	31,30
2X.5X6X45X4	2.0	0.5	45	1.70	6.00	4	1.92	6.33	6.54	6.76	6.99	7.52	27,75
2X.5X8X45X4	2.0	0.5	45	1.70	8.00	4	1.92	8.40	8.68	8.97	9.29	10.00	27,75
2X.5X10X45X4	2.0	0.5	45	1.70	10.00	4	1.92	10.47	10.82	11.19	11.59	12.49	28,40
2X.5X12X45X4	2.0	0.5	45	1.70	12.00	4	1.92	12.54	12.96	13.41	13.89	14.98	28,40
2X.5X16X50X4	2.0	0.5	50	1.70	16.00	4	1.92	16.67	17.23	17.84	18.49	libero	29,30
2X.5X20X50X4	2.0	0.5	50	1.70	20.00	4	1.92	20.81	21.51	22.27	23.09	libero	29,30
2X.5X25X60X4	2.0	0.5	60	1.70	25.00	4	1.92	25.97	26.86	27.81	28.84	libero	31,30
2.5X.1X10X45X4	2.5	0.1	45	2.00	10.00	4	2.39	10.54	10.90	11.29	11.71	12.66	28,40
2.5X.1X16X50X4	2.5	0.1	50	2.00	16.00	4	2.39	16.74	17.32	17.94	18.61	libero	29,30
2.5X.1X25X60X4	2.5	0.1	60	2.00	25.00	4	2.39	26.05	26.95	27.92	libero	libero	31,30
2.5X.2X10X45X4	2.5	0.2	45	2.00	10.00	4	2.39	10.54	10.90	11.28	11.70	12.63	28,40
2.5X.2X16X50X4	2.5	0.2	50	2.00	16.00	4	2.39	16.74	17.32	17.93	18.60	libero	29,30
2.5X.2X25X60X4	2.5	0.2	60	2.00	25.00	4	2.39	26.04	26.94	27.91	libero	libero	31,30
2.5X.3X10X45X4	2.5	0.3	45	2.00	10.00	4	2.39	10.53	10.89	11.27	11.68	12.61	28,40
2.5X.3X16X50X4	2.5	0.3	50	2.00	16.00	4	2.39	16.74	17.31	17.92	18.58	libero	29,30
2.5X.3X25X60X4	2.5	0.3	60	2.00	25.00	4	2.39	26.04	26.94	27.90	libero	libero	31,30
2.5X.5X10X45X4	2.5	0.5	45	2.00	10.00	4	2.39	10.53	10.88	11.25	11.65	12.56	28,40
2.5X.5X16X50X4	2.5	0.5	50	2.00	16.00	4	2.39	16.73	17.29	17.90	18.55	libero	29,30
2.5X.5X25X60X4	2.5	0.5	60	2.00	25.00	4	2.39	26.03	26.92	27.88	libero	libero	31,30
3X.1X10X50X6	3.0	0.1	50	2.50	10.00	6	2.86	10.60	10.96	11.36	11.78	12.73	29,75
3X.1X12X50X6	3.0	0.1	50	2.50	12.00	6	2.86	12.67	13.10	13.57	14.08	15.21	29,75
3X.1X16X60X6	3.0	0.1	60	2.50	16.00	6	2.86	16.80	17.38	18.01	18.68	20.19	31,40
3X.1X20X60X6	3.0	0.1	60	2.50	20.00	6	2.86	20.93	21.66	22.44	23.28	25.16	32,15

Per Acciai Temprati s55 HRC
For Hardened Steels s55 HRC

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Codice d'ordine Order Code 14334HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
3X.1X25X60X6	3.0	0.1	60	2.50	25.00	6	2.86	26.10	27.01	27.98	29.03	libero	34,55
3X.1X30X70X6	3.0	0.1	70	2.50	30.00	6	2.86	31.27	32.36	33.52	34.78	libero	36,40
3X.1X35X70X6	3.0	0.1	70	2.50	35.00	6	2.86	36.44	37.71	39.06	40.53	libero	37,65
3X.2X10X50X6	3.0	0.2	50	2.50	10.00	6	2.86	10.59	10.96	11.35	11.76	12.70	29,75
3X.2X12X50X6	3.0	0.2	50	2.50	12.00	6	2.86	12.66	13.10	13.56	14.06	15.19	29,75
3X.2X16X60X6	3.0	0.2	60	2.50	16.00	6	2.86	16.80	17.38	18.00	18.66	20.16	31,40
3X.2X20X60X6	3.0	0.2	60	2.50	20.00	6	2.86	20.93	21.65	22.43	23.26	25.13	32,15
3X.2X25X60X6	3.0	0.2	60	2.50	25.00	6	2.86	26.10	27.00	27.97	29.01	libero	34,55
3X.2X30X70X6	3.0	0.2	70	2.50	30.00	6	2.86	31.27	32.35	33.51	34.76	libero	36,40
3X.2X35X70X6	3.0	0.2	70	2.50	35.00	6	2.86	36.44	37.70	39.05	40.51	libero	37,65
3X.3X10X50X6	3.0	0.3	50	2.50	10.00	6	2.86	10.59	10.95	11.34	11.75	12.68	29,75
3X.3X12X50X6	3.0	0.3	50	2.50	12.00	6	2.86	12.66	13.09	13.55	14.05	15.16	29,75
3X.3X16X60X6	3.0	0.3	60	2.50	16.00	6	2.86	16.79	17.37	17.99	18.65	20.14	31,40
3X.3X20X60X6	3.0	0.3	60	2.50	20.00	6	2.86	20.93	21.65	22.42	23.25	25.11	32,15
3X.3X25X60X6	3.0	0.3	60	2.50	25.00	6	2.86	26.10	27.00	27.96	29.00	libero	34,55
3X.3X30X70X6	3.0	0.3	70	2.50	30.00	6	2.86	31.26	32.34	33.50	34.75	libero	36,40
3X.3X35X70X6	3.0	0.3	70	2.50	35.00	6	2.86	36.43	37.69	39.04	40.50	libero	37,65
3X.5X10X50X6	3.0	0.5	50	2.50	10.00	6	2.86	10.58	10.94	11.31	11.72	12.63	29,75
3X.5X12X50X6	3.0	0.5	50	2.50	12.00	6	2.86	12.65	13.08	13.53	14.02	15.12	29,75
3X.5X16X60X6	3.0	0.5	60	2.50	16.00	6	2.86	16.79	17.35	17.96	18.62	20.09	31,40
3X.5X20X60X6	3.0	0.5	60	2.50	20.00	6	2.86	20.92	21.63	22.40	23.22	25.06	32,15
3X.5X25X60X6	3.0	0.5	60	2.50	25.00	6	2.86	26.09	26.98	27.94	28.97	libero	34,55
3X.5X30X70X6	3.0	0.5	70	2.50	30.00	6	2.86	31.26	32.33	33.48	34.72	libero	36,40
3X.5X35X70X6	3.0	0.5	70	2.50	35.00	6	2.86	36.43	37.68	39.02	40.47	libero	37,65
3X1X10X50X6	3.0	1.0	50	2.50	10.00	6	2.86	10.57	10.90	11.26	11.64	12.51	29,75
3X1X12X50X6	3.0	1.0	50	2.50	12.00	6	2.86	12.64	13.04	13.48	13.94	14.99	29,75
3X1X16X60X6	3.0	1.0	60	2.50	16.00	6	2.86	16.77	17.32	17.91	18.54	19.97	31,40
3X1X20X60X6	3.0	1.0	60	2.50	20.00	6	2.86	20.90	21.60	22.34	23.14	24.94	32,15
3X1X25X60X6	3.0	1.0	60	2.50	25.00	6	2.86	26.07	26.95	27.88	28.89	libero	34,55
3X1X30X70X6	3.0	1.0	70	2.50	30.00	6	2.86	31.24	32.30	33.43	34.64	libero	36,40
3X1X35X70X6	3.0	1.0	70	2.50	35.00	6	2.86	36.41	37.64	38.97	40.39	libero	37,65
4X.1X10X50X6	4.0	0.1	50	4.00	10.00	6	3.80	10.71	11.08	11.48	11.91	12.87	30,75
4X.1X12X50X6	4.0	0.1	50	4.00	12.00	6	3.80	12.78	13.22	13.70	14.21	15.35	30,75
4X.1X16X60X6	4.0	0.1	60	4.00	16.00	6	3.80	16.92	17.50	18.13	18.81	libero	32,15
4X.1X20X60X6	4.0	0.1	60	4.00	20.00	6	3.80	21.05	21.78	22.56	23.41	libero	33,40
4X.1X25X60X6	4.0	0.1	60	4.00	25.00	6	3.80	26.22	27.13	28.11	libero	libero	34,90
4X.1X30X70X6	4.0	0.1	70	4.00	30.00	6	3.80	31.39	32.48	33.65	libero	libero	39,55
4X.1X35X70X6	4.0	0.1	70	4.00	35.00	6	3.80	36.56	37.83	libero	libero	libero	37,65
4X.1X40X80X6	4.0	0.1	80	4.00	40.00	6	3.80	41.72	43.17	libero	libero	libero	40,80
4X.2X10X50X6	4.0	0.2	50	4.00	10.00	6	3.80	10.71	11.08	11.47	11.89	12.84	30,75
4X.2X12X50X6	4.0	0.2	50	4.00	12.00	6	3.80	12.78	13.22	13.69	14.19	15.33	30,75
4X.2X16X60X6	4.0	0.2	60	4.00	16.00	6	3.80	16.91	17.50	18.12	18.79	libero	32,15
4X.2X20X60X6	4.0	0.2	60	4.00	20.00	6	3.80	21.05	21.77	22.55	23.39	libero	33,40

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

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Codice d'ordine Order Code 14334HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sformo. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30°	1°	1°30'	2°	3°	€
4X.2X25X60X6	4.0	0.2	60	4.00	25.00	6	3.80	26.22	27.12	28.09	libero	libero	34,90
4X.2X30X70X6	4.0	0.2	70	4.00	30.00	6	3.80	31.38	32.47	33.64	libero	libero	38,30
4X.2X35X70X6	4.0	0.2	70	4.00	35.00	6	3.80	36.55	37.82	libero	libero	libero	38,30
4X.2X40X80X6	4.0	0.2	80	4.00	40.00	6	3.80	41.72	43.17	libero	libero	libero	40,80
4X.3X10X50X6	4.0	0.3	50	4.00	10.00	6	3.80	10.71	11.07	11.46	11.88	12.82	30,75
4X.3X12X50X6	4.0	0.3	50	4.00	12.00	6	3.80	12.77	13.21	13.68	14.18	15.30	30,75
4X.3X16X60X6	4.0	0.3	60	4.00	16.00	6	3.80	16.91	17.49	18.11	18.78	libero	32,15
4X.3X20X60X6	4.0	0.3	60	4.00	20.00	6	3.80	21.04	21.77	22.54	23.38	libero	33,40
4X.3X25X60X6	4.0	0.3	60	4.00	25.00	6	3.80	26.21	27.12	28.08	libero	libero	34,90
4X.3X30X70X6	4.0	0.3	70	4.00	30.00	6	3.80	31.38	32.46	33.63	libero	libero	38,30
4X.3X35X70X6	4.0	0.3	70	4.00	35.00	6	3.80	36.55	37.81	libero	libero	libero	38,30
4X.3X40X80X6	4.0	0.3	80	4.00	40.00	6	3.80	41.72	43.16	libero	libero	libero	40,80
4X.5X10X50X6	4.0	0.5	50	4.00	10.00	6	3.80	10.70	11.06	11.44	11.85	12.77	30,75
4X.5X12X50X6	4.0	0.5	50	4.00	12.00	6	3.80	12.77	13.20	13.65	14.15	15.26	30,75
4X.5X16X60X6	4.0	0.5	60	4.00	16.00	6	3.80	16.90	17.47	18.09	18.75	libero	32,15
4X.5X20X60X6	4.0	0.5	60	4.00	20.00	6	3.80	21.04	21.75	22.52	23.35	libero	33,40
4X.5X25X60X6	4.0	0.5	60	4.00	25.00	6	3.80	26.21	27.10	28.06	29.10	libero	34,90
4X.5X30X70X6	4.0	0.5	70	4.00	30.00	6	3.80	31.37	32.45	33.60	libero	libero	38,30
4X.5X35X70X6	4.0	0.5	70	4.00	35.00	6	3.80	36.54	37.80	libero	libero	libero	38,30
4X.5X40X80X6	4.0	0.5	80	4.00	40.00	6	3.80	41.71	43.15	libero	libero	libero	40,80
4X1X10X50X6	4.0	1.0	50	4.00	10.00	6	3.80	10.68	11.02	11.38	11.77	12.65	30,75
4X1X12X50X6	4.0	1.0	50	4.00	12.00	6	3.80	12.75	13.16	13.60	14.07	15.13	30,75
4X1X16X60X6	4.0	1.0	60	4.00	16.00	6	3.80	16.89	17.44	18.03	18.67	libero	32,15
4X1X20X60X6	4.0	1.0	60	4.00	20.00	6	3.80	21.02	21.72	22.47	23.27	libero	33,40
4X1X25X60X6	4.0	1.0	60	4.00	25.00	6	3.80	26.19	27.07	28.01	29.02	libero	34,90
4X1X30X70X6	4.0	1.0	70	4.00	30.00	6	3.80	31.36	32.42	33.55	libero	libero	38,30
4X1X35X70X6	4.0	1.0	70	4.00	35.00	6	3.80	36.53	37.76	39.09	libero	libero	38,30
4X1X40X80X6	4.0	1.0	80	4.00	40.00	6	3.80	41.69	43.11	libero	libero	libero	40,80
5X.1X20X60X6	5.0	0.1	60	5.00	20.00	6	4.75	21.15	21.88	libero	libero	libero	33,05
5X.1X40X80X6	5.0	0.1	80	5.00	40.00	6	4.75	41.82	libero	libero	libero	libero	40,80
5X.2X12X50X6	5.0	0.2	50	5.00	12.00	6	4.75	12.87	13.32	13.79	14.30	libero	30,75
5X.2X16X60X6	5.0	0.2	60	5.00	16.00	6	4.75	17.01	17.59	18.22	libero	libero	32,15
5X.2X20X60X6	5.0	0.2	60	5.00	20.00	6	4.75	21.14	21.87	libero	libero	libero	33,05
5X.2X40X80X6	5.0	0.2	80	5.00	40.00	6	4.75	41.82	libero	libero	libero	libero	40,80
5X.3X20X60X6	5.0	0.3	60	5.00	20.00	6	4.75	21.14	21.87	libero	libero	libero	33,05
5X.3X40X80X6	5.0	0.3	80	5.00	40.00	6	4.75	41.81	libero	libero	libero	libero	40,80
5X.5X12X50X6	5.0	0.5	50	5.00	12.00	6	4.75	12.86	13.30	13.76	14.25	libero	30,75
5X.5X16X60X6	5.0	0.5	60	5.00	16.00	6	4.75	17.00	17.57	18.19	libero	libero	32,15
5X.5X20X60X6	5.0	0.5	60	5.00	20.00	6	4.75	21.13	21.85	libero	libero	libero	33,05
5X.5X40X80X6	5.0	0.5	80	5.00	40.00	6	4.75	41.81	libero	libero	libero	libero	40,80
5X1X20X60X6	5.0	1.0	60	5.00	20.00	6	4.75	21.12	21.82	libero	libero	libero	33,05
5X1X40X80X6	5.0	1.0	80	5.00	40.00	6	4.75	41.79	libero	libero	libero	libero	40,80
6X.1X20X60X6	6.0	0.1	60	6.00	20.00	6	5.70	libero	libero	libero	libero	libero	33,40

Per Acciai Temprati s55 HRC
For Hardened Steels s55 HRC

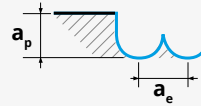
La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 14334HPA	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Effettiva lunghezza sotto collo, per diversi gradi di angolo di sforno. The effective under-neck length for the various draft angles.					Prezzo utensile Tool Price
	d₁	R	l₁	l₂	l₃	d₂	d₃	30'	1°	1°30'	2°	3°	€
6X.1X40X80X6	6.0	0.1	80	6.00	40.00	6	5.70	libero	libero	libero	libero	libero	41,30
6X.2X16X60X6	6.0	0.2	60	6.00	16.00	6	5.70	libero	libero	libero	libero	libero	32,15
6X.2X20X60X6	6.0	0.2	60	6.00	20.00	6	5.70	libero	libero	libero	libero	libero	33,40
6X.2X40X80X6	6.0	0.2	80	6.00	40.00	6	5.70	libero	libero	libero	libero	libero	41,30
6X.3X16X60X6	6.0	0.3	60	6.00	16.00	6	5.70	libero	libero	libero	libero	libero	32,15
6X.3X20X60X6	6.0	0.3	60	6.00	20.00	6	5.70	libero	libero	libero	libero	libero	33,40
6X.3X40X80X6	6.0	0.3	80	6.00	40.00	6	5.70	libero	libero	libero	libero	libero	41,30
6X.5X16X60X6	6.0	0.5	60	6.00	16.00	6	5.70	libero	libero	libero	libero	libero	32,15
6X.5X20X60X6	6.0	0.5	60	6.00	20.00	6	5.70	libero	libero	libero	libero	libero	33,40
6X.5X40X80X6	6.0	0.5	80	6.00	40.00	6	5.70	libero	libero	libero	libero	libero	41,30
6X1X16X60X6	6.0	1.0	60	6.00	16.00	6	5.70	libero	libero	libero	libero	libero	32,15
6X1X20X60X6	6.0	1.0	60	6.00	20.00	6	5.70	libero	libero	libero	libero	libero	33,40
6X1X40X80X6	6.0	1.0	80	6.00	40.00	6	5.70	libero	libero	libero	libero	libero	41,30
8X.3X25X65X8	8.0	0.3	65	9.00	25.00	8	7.60	libero	libero	libero	libero	libero	41,00
8X.5X25X65X8	8.0	0.5	65	9.00	25.00	8	7.60	libero	libero	libero	libero	libero	41,00
8X1X25X65X8	8.0	1.0	65	9.00	25.00	8	7.60	libero	libero	libero	libero	libero	41,00
8X1.5X25X65X8	8.0	1.5	65	9.00	25.00	8	7.60	libero	libero	libero	libero	libero	41,00
10X.5X25X70X10	10.0	0.5	70	11.00	25.00	10	9.50	libero	libero	libero	libero	libero	51,40
10X1X25X70X10	10.0	1.0	70	11.00	25.00	10	9.50	libero	libero	libero	libero	libero	51,40
10X1.5X25X70X10	10.0	1.5	70	11.00	25.00	10	9.50	libero	libero	libero	libero	libero	51,40
10X2X25X70X10	10.0	2.0	70	11.00	25.00	10	9.50	libero	libero	libero	libero	libero	51,40
12X.5X30X80X12	12.0	0.5	80	12.00	30.00	12	11.50	libero	libero	libero	libero	libero	70,10
12X1X30X80X12	12.0	1.0	80	12.00	30.00	12	11.50	libero	libero	libero	libero	libero	70,10
12X1.5X30X80X12	12.0	1.5	80	12.00	30.00	12	11.50	libero	libero	libero	libero	libero	70,10
12X2X30X80X12	12.0	2.0	80	12.00	30.00	12	11.50	libero	libero	libero	libero	libero	70,10

416RHPA

Z2

Frese sferiche in Metallo Duro Integrale micrograna.
Ball nose end mills in solid carbide micro grain.



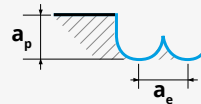
Durezza Hardness	Acciai Temprati Hardened Steels							
	≤ 45 HRC				≤ 55 HRC			
R	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
0,10	54.000	330	0,02	0,050	44.000	345	0,016	0,040
0,15	54.000	715	0,03	0,075	44.300	575	0,025	0,060
0,20	54.000	880	0,04	0,100	44.300	700	0,030	0,085
0,25	53.000	1.250	0,05	0,150	43.500	1.000	0,040	0,120
0,30	48.500	1.020	0,06	0,155	40.500	810	0,048	0,124
0,40	45.000	1.085	0,08	0,200	37.500	870	0,064	0,160
0,50	38.500	1.560	0,10	0,300	36.900	1.250	0,080	0,240
0,75	25.380	1.600	0,15	0,450	28.700	1.280	0,120	0,360
1,00	30.370	1.850	0,20	0,600	24.600	1.480	0,160	0,480
1,25	28.700	1.600	0,25	0,640	27.900	1.280	0,200	0,430
2,00	17.670	2.450	0,40	1,380	17.140	1.960	0,320	1,100
2,50	16.500	2.570	0,50	1,800	16.000	2.060	0,400	1,500
3,00	15.500	2.700	0,60	2,300	15.000	2.160	0,480	1,870
4,00	10.900	2.300	0,80	3,100	10.600	1.840	0,640	2,480
5,00	8.900	2.200	1,00	3,750	8.700	1.780	0,800	3,000
6,00	6.670	1.850	1,20	4,400	6.480	1.480	0,960	3,500

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

431RHPA

Z2

Frese sferiche a collo lungo in Metallo Duro Integrale micrograna.
Ball nose end mills long neck in solid carbide micro grain.



Durezza Hardness	Acciai Temprati Hardened Steels							
	≤ 45 HRC				≤ 55 HRC			
R + I ₃	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
0,10 1,5	42.000	230	0,003	0,0040	42.000	180	0,003	0,004
0,15 5,0	24.000	180	0,003	0,0030	20.000	140	0,003	0,003
0,20 5,0	25.000	310	0,008	0,0100	22.000	240	0,006	0,010
0,25 10,0	24.000	380	0,007	0,0100	24.000	310	0,005	0,010
0,30 10,0	20.000	300	0,005	0,0200	19.000	260	0,004	0,020
0,40 10,0	24.000	390	0,020	0,0500	16.000	340	0,015	0,050
0,50 10,0	13.600	500	0,020	0,0556	12.500	380	0,014	0,056
0,75 18,0	10.100	420	0,022	0,1100	8.000	360	0,020	0,110
1,00 20,0	13.300	500	0,060	0,1100	10.600	500	0,055	0,110
1,50 20,0	10.300	1.230	0,145	0,3200	7.100	940	0,120	0,310
2,00 30,0	7.400	1.150	0,200	0,3200	5.500	880	0,150	0,300
2,50 25,0	7.000	1.150	0,300	0,5500	5.000	900	0,220	0,550
3,00 30,0	6.000	1.400	0,300	0,6500	4.200	990	0,220	0,650
4,00 30,0	5.800	940	0,300	0,7500	4.000	720	0,160	0,600
5,00 35,0	4.500	900	0,350	0,8500	3.800	680	0,150	0,600
6,00 40,0	3.800	800	0,400	0,8500	3.400	650	0,200	0,003

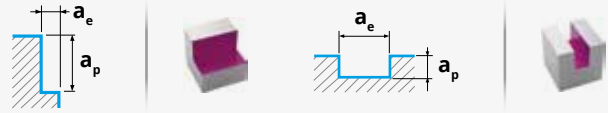
• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

1412HPA

Z2

Frese a testa piana in Metallo Duro Integrale micrograna.
Square end mills in solid carbide micro grain.



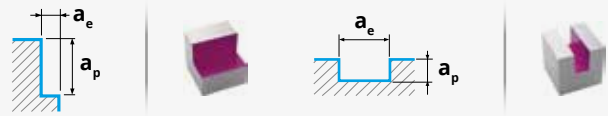
		Acciai Temprati Hardened Steels											
Durezza Hardness		≤ 45 HRC								≤ 55 HRC			
d ₁	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	
	Fresatura di cave Slot Milling				Contornatura Side Milling				Contornatura Side Milling				
0.5	45.000	280	0,050	0,500	45.000	280	0,050	0,250	40.000	220	0,025	0,250	
1	38.000	570	0,100	1,000	38.000	570	0,100	0,500	25.500	360	0,050	0,500	
2	26.000	680	0,200	2,000	26.000	680	0,200	1,000	17.500	420	0,100	1,000	
3	17.300	680	0,300	3,000	17.300	680	0,300	1,500	11.000	420	0,150	1,500	
4	13.200	700	0,400	4,000	13.200	700	0,400	2,000	8.800	440	0,200	2,000	
5	12.500	805	0,500	5,000	12.500	805	0,500	2,500	8.300	500	0,250	2,500	
6	10.300	770	0,600	6,000	10.300	770	0,600	3,000	6.900	480	0,300	3,000	
8	7,800	720	0,800	8,000	7,800	720	0,800	4,000	5.200	445	0,400	4,000	
10	6.150	680	1,000	10,000	6.150	680	1,000	5,000	4.100	415	0,500	5,000	
12	5.250	680	1,200	12,000	5.250	680	1,200	6,000	3.500	415	0,600	6,000	

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1430HPA

Z2

Frese a testa piana a collo lungo in Metallo Duro Integrale micrograna.
Square end mills long neck in solid carbide micro grain.



		Acciai Temprati Hardened Steels							
Durezza Hardness		≤ 45 HRC				≤ 55 HRC			
R + I ₃	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	
	Valori in tabella per contornatura Table value for side Milling								

0,2	0,5	56.000	270	0,003	0,160	44.800	180	0,002	0,144
0,3	1,0	60.000	400	0,006	0,100	52.100	330	0,004	0,090
0,4	1,0	48.100	470	0,008	0,055	38.500	320	0,005	0,050
0,5	2,0	40.600	510	0,014	0,095	32.500	350	0,010	0,085
0,8	6,0	19.800	370	0,010	0,025	15.800	250	0,007	0,020
1,0	10,0	13.800	300	0,007	0,015	11.000	210	0,012	0,012
1,5	10,0	11.200	390	0,021	0,065	8.900	270	0,055	0,055
2,0	10,0	9.700	470	0,031	0,200	7.800	330	0,020	0,180
2,5	10,0	8.600	590	0,048	0,450	6.900	400	0,034	0,430
3,0	10,0	7.200	620	0,064	1,000	5.800	430	0,046	0,900
4,0	12,0	5.100	600	0,080	1,800	4.100	410	0,050	1,600
5,0	30,0	2.500	340	0,066	0,280	2.000	230	0,047	0,260
6,0	40,0	1.700	260	0,058	0,250	1.300	170	0,041	0,228
8,0	40,0	1.500	250	0,080	0,200	1.100	160	0,060	0,180

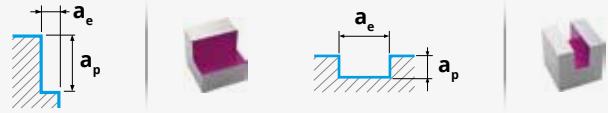
• Per cave: valori (a_p - n - V_f riportati in tabella) per (a_e 1xD), mantenendo giri e avanzamento riportati in tabella. Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti.
• For slot milling: values (a_p - n - V_f shown in table) for (a_e 1xD), maintaining the RPM and feed shown in the table. Contact the technical department for more details on the missing diameters.

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

1414HPA

Z4

Frese a testa piana in metallo duro integrale micrograna.
Square end mills in solid carbide micro grain.



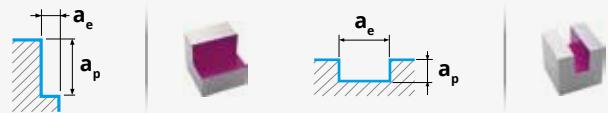
		Acciai Temprati Hardened Steels							
Durezza Hardness		≤ 45 HRC				≤ 55 HRC			
d ₁		n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
Valori in tabella per contornatura Table value for side Milling									
1,0	7.500	140	2,50	0,050	5.500	50	2	0,02	
1,5	7.000	150	3,75	0,075	5.000	55	3	0,03	
2,0	6.800	160	5,00	0,100	4.500	60	4	0,04	
3,0	4.900	180	7,50	0,150	3.000	75	6	0,06	
4,0	4.000	300	10,00	0,200	2.500	100	8	0,08	
5,0	3.200	320	12,50	0,250	2.000	110	10	0,10	
6,0	3.000	320	15,00	0,300	1.800	120	12	0,12	
8,0	2.100	320	20,00	0,400	1.400	150	16	0,16	
10,0	1.700	260	25,00	0,500	1.200	130	20	0,20	
12,0	1.400	220	30,00	0,600	1.000	120	24	0,24	
↓ Valori (a _p) (a _e) per cave Values (a _p) (a _e) for Slot Milling									

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1414LHPA

Z4

Frese a testa piana serie lunga in Metallo Duro Integrale micrograna.
Square end mills long series in solid carbide micro grain.



		Acciai Temprati Hardened Steels							
Durezza Hardness		≤ 45 HRC				≤ 55 HRC			
d ₁		n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
Valori in tabella per contornatura Table value for side Milling									
2	6.800	160	5,0	0,10	4.500	60	4	0,04	
3	4.900	180	7,5	0,15	3.000	75	6	0,06	
4	4.000	300	10,0	0,20	2.500	100	8	0,08	
5	3.200	320	12,5	0,25	2.000	110	10	0,10	
6	3.000	320	15,0	0,30	1.800	120	12	0,12	
8	2.100	320	20,0	0,40	1.400	150	16	0,16	
10	1.700	260	25,0	0,50	1.200	130	20	0,20	
12	1.400	220	30,0	0,60	1.000	120	24	0,24	
↓ Valori (a _p) (a _e) per cave Values (a _p) (a _e) for Slot Milling									

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1360HPA

Z6

Frese a testa piana in metallo duro integrale micrograna.
Square end mills in solid carbide micro grain.

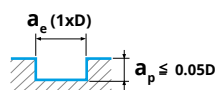
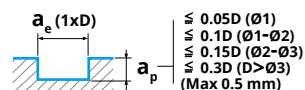


		Acciai Temprati Hardened Steels							
Durezza Hardness		≤ 45 HRC				≤ 55 HRC			
d ₁	n	V _f	a _p	a _e	n	V _f	a _p	a _e	
	(min ⁻¹)	(mm/min)	(mm)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(mm)	

Valori in tabella per contornatura | Table value for side Milling

1,0	7.500	140	2,50	0,050	5.500	50	2	0,02
1,5	7.000	150	3,75	0,075	5.000	55	3	0,03
2,0	6.800	160	5,00	0,100	4.500	60	4	0,04
3,0	4.900	180	7,50	0,150	3.000	75	6	0,06
4,0	4.000	300	10,00	0,200	2.500	100	8	0,08
5,0	3.200	320	12,50	0,250	2.000	110	10	0,10
6,0	3.000	320	15,00	0,300	1.800	120	12	0,12
8,0	2.100	320	20,00	0,400	1.400	150	16	0,16
10,0	1.700	260	25,00	0,500	1.200	130	20	0,20
12,0	1.400	220	30,00	0,600	1.000	120	24	0,24

↓ Valori (a_p) (a_e) per cave | Values (a_p) (a_e) for Slot Milling

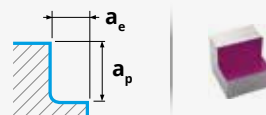


• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1433HPA

Z2

Frese toriche a collo lungo in Metallo Duro Integrale micrograna.
Corner radius end mills long neck in solid carbide micro grain.



		Acciai Temprati Hardened Steels							
Durezza Hardness		<45 HRC				<55 HRC			
d ₁ + R + I ₃	n	V _f	a _p	a _e	n	V _f	a _p	a _e	
	(min ⁻¹)	(mm/min)	(mm)	(mm)	(min ⁻¹)	(mm/min)	(mm)	(mm)	

0,8 0,02 8	11.000	230	0,004	0,077	9.300	160	0,003	0,077
1,0 0,02 10	7.500	270	0,009	0,107	6.500	230	0,011	0,107
1,5 0,10 10	7.200	640	0,027	0,245	6.600	550	0,036	0,245
2,0 0,05 12	8.000	700	0,026	0,383	7.200	630	0,037	0,383
3,0 0,05 12	9.000	980	0,089	0,536	8.500	760	0,089	0,570
4,0 0,10 20	5.900	850	0,046	0,765	5.000	730	0,068	0,765
6,0 0,10 20	5.200	1.060	0,414	1,179	3.100	900	0,162	1,179
8,0 1,00 22	4.800	940	0,364	1,320	2.800	790	0,143	1,320
10,0 1,00 24	3.900	800	0,310	1,430	2.400	670	0,121	1,430
12,0 1,00 26	3.300	670	0,260	1,760	2.000	560	0,102	1,760

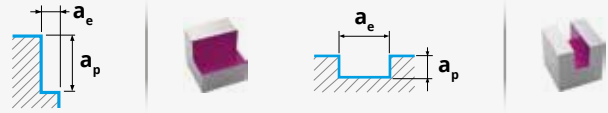
• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

1434HPA

Z4

Frese toriche in metallo duro integrale micrograna.
Corner radius end mills in solid carbide micro grain.

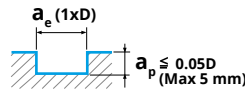
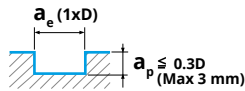


		Acciai Temprati Hardened Steels							
Durezza Hardness		≤ 45 HRC				≤ 55 HRC			
d ₁ + R		n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)

Valori in tabella per contornatura | Table value for side Milling

2	0,2	3.600	70	5,0	0,10	2.200	35	4	0,04
3	0,2	2.900	80	7,5	0,15	1.800	40	6	0,06
4	0,2	2.300	90	10,0	0,20	1.400	50	8	0,08
5	0,5	2.000	120	12,5	0,25	1.300	60	10	0,10
6	0,2	1.700	150	15,0	0,30	1.100	70	12	0,12
8	0,2	1.300	150	20,0	0,40	900	70	16	0,16
10	0,5	1.100	150	25,0	0,50	700	70	20	0,20
12	0,5	900	120	30,0	0,60	570	60	24	0,24

↓ Valori (a_p) (a_e) per cave | Values (a_p) (a_e) for Slot Milling

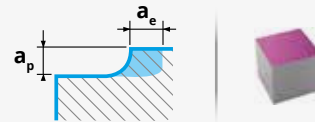


• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1440HPA

Z4

Frese toriche in metallo duro integrale micrograna.
Corner radius end mills in solid carbide micro grain.



		Acciai al carbonio-Acciai inossidabili Carbon Steels-Alloy Steels				Acciai Pretemprati-Temprati Prehardened-Hardened Steels				Acciai Temprati Hardened Steels			
Durezza Hardness		30 HRC				30~45 HRC				45~55 HRC			
d ₁ + R		n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

Per Acciai Temprati ≤55 HRC
For Hardened Steels ≤55 HRC

14334HPA

Z4

Frese toriche a collo lungo in Metallo Duro Integrale micrograna.
Corner radius end mills long neck in solid carbide micro grain.



Durezza Hardness	Acciai Pretemprati-Temprati Prehardened-Hardened Steels				Acciai Temprati Hardened Steels				
	30~45 HRC				45~55 HRC				
$d_1 + R + l_3$	n (min ⁻¹)	V_f (mm/min)	a_p (mm)	a_e (mm)	n (min ⁻¹)	V_f (mm/min)	a_p (mm)	a_e (mm)	
1,0 0,05 4	11.700	1.100	0,033	0,230	10.200	910	0,026	0,207	
1,5 0,10 6	9.900	1.100	0,035	0,413	9.000	1.000	0,032	0,378	
2,0 0,10 12	7.800	880	0,039	0,344	7.200	820	0,037	0,344	
2,5 0,10 16	6.600	1.000	0,041	0,230	6.400	570	0,026	0,191	
3,0 0,10 20	7.100	1.300	0,049	0,493	6.700	1.300	0,031	0,493	
4,0 0,10 20	6.200	1.200	0,060	0,800	5.200	1.120	0,047	0,800	
6,0 0,10 20	4.900	1.470	0,153	2,004	2.900	850	0,153	1,114	
8,0 0,30 25	4.000	1.600	0,184	2,540	2.400	680	0,184	1,320	
10,0 0,50 25	3.200	1.750	0,210	2,730	1.900	540	0,220	1,430	
12,0 0,50 30	2.500	1.800	0,230	2,700	1.500	430	0,240	1,490	

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

Per Acciai Temprati <55 HRC
For Hardened Steels <55 HRC



Evolution
FRESE · END MILLS

Talcarb

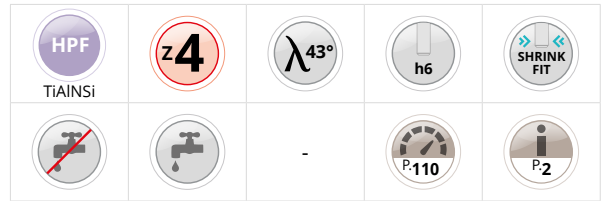


FRESE PER LAVORAZIONI UNIVERSALI
End Mills for universal machining

1700-1703HPF

Frese a testa piana in metallo duro integrale micrograna per fresature trocoidali.

Square end mills in solid carbide micro grain for trochoidal milling.



Strategie di fresatura | Milling strategies:



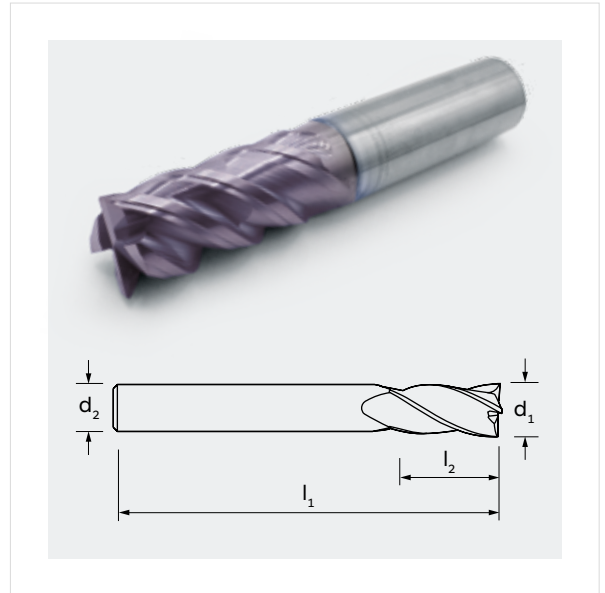
Tolleranze | Tolerances:

Diametro di taglio | Cutting Diameter **Raggio | Radius**

d ≤ 6: 0/-0.01
d > 6: 0/-0.015

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	● Raccomandato - Most suitable ○ Possibile - Possible
●	●	-	-	○	-	



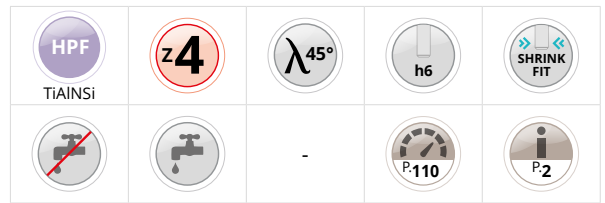
Per lavorazioni universali
For universal machining

Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Codice d'ordine e prezzo Order code and price			
				1700HPF		1703HPF	
d ₁	l ₁	l ₂	d ₂	HA 6535	HB 6535	€	€
3	57	8	6	1700HPF3	1703HPF3	89,80	89,80
4	57	11	6	1700HPF4	1703HPF4	89,80	89,80
5	57	13	6	1700HPF5	1703HPF5	89,80	89,80
6	57	13	6	1700HPF6	1703HPF6	89,80	89,80
8	64	21	8	1700HPF8	1703HPF8	99,00	99,00
10	72	22	10	1700HPF10	1703HPF10	106,00	106,00
12	83	26	12	1700HPF12	1703HPF12	130,50	130,50
16	92	36	16	1700HPF16	1703HPF16	234,00	234,00
20	104	41	20	1700HPF20	1703HPF20	350,00	350,00

1705-1706HPF

Frese a testa piana a scarico corto in M.D.I. micrograna per fresature trocoidali.

Square end mills short neck in solid carbide micro grain for trochoidal milling.



Strategie di fresatura | Milling strategies:



Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d≤6: 0/-0.01	
d>6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
●	●	-	-	●	-	● Raccomandato - Most suitable ○ Possibile - Possible



Per lavorazioni universali
For universal machining

Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Diametro collo Neck diameter	Codice d'ordine e prezzo Order code and price			
						1705HPF	1706HPF		
d ₁	l ₁	l ₂	l ₃	d ₂	d ₃	€	€		
3	57	7	13	6	2,8	1705HPF3	87,50	1706HPF3	93,60
4	57	8	16	6	3,7	1705HPF4	87,50	1706HPF4	93,60
5	57	10	18	6	4,6	1705HPF5	87,50	1706HPF5	93,60
6	57	10	20	6	5,5	1705HPF6	87,50	1706HPF6	93,60
8	63	16	26	8	7,4	1705HPF8	130,00	1706HPF8	135,00
10	72	19	31	10	9,2	1705HPF10	144,50	1706HPF10	149,00
12	83	24	37	12	11	1705HPF12	170,50	1706HPF12	175,50
16	92	32	43	16	15	1705HPF16	248,00	1706HPF16	252,50
20	104	39	53	20	19	1705HPF20	321,00	1706HPF20	326,00

1707-1708HPF

Frese a testa piana in metallo duro integrale micrograna ad elica variabile.

Square end mills in solid carbide micro grain with variable helix.



Strategie di fresatura | Milling strategies:



Tolleranze | Tolerances:

Diametro di taglio | Cutting Diameter **Raggio | Radius**

d ≤ 6: 0/-0.01
d > 6: 0/-0.015

Gruppo materiali lavorabili | Group of working materials:



P	M	K	N	S	H	● Raccomandato - Most suitable
●	●	●	-	-	-	○ Possibile - Possible



Per lavorazioni universali
For universal machining

Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Codice d'ordine e prezzo Order code and price			
				1707HPF		1708HPF	
d ₁	l ₁	l ₂	d ₂	HA 6535	HB 6535	€	€
2	54	6	6	1707HPF2	1708HPF2	52,20	57,60
2.5	54	6	6	1707HPF2.5	1708HPF2.5	52,20	57,60
3	57	7	6	1707HPF3	1708HPF3	52,20	57,60
3.5	57	7	6	1707HPF3.5	1708HPF3.5	52,20	57,60
4	57	8	6	1707HPF4	1708HPF4	52,20	57,60
4.5	57	8	6	1707HPF4.5	1708HPF4.5	52,20	57,60
5	57	10	6	1707HPF5	1708HPF5	52,20	57,60
5.5	57	10	6	1707HPF5.5	1708HPF5.5	52,20	57,60
6	57	10	6	1707HPF6	1708HPF6	52,20	57,60
6.5	63	13	8	1707HPF6.5	1708HPF6.5	67,50	72,00
7	63	13	8	1707HPF7	1708HPF7	67,50	72,00
7.5	63	16	8	1707HPF7.5	1708HPF7.5	67,50	72,00
8	63	16	8	1707HPF8	1708HPF8	67,50	72,00
8.5	72	16	10	1707HPF8.5	1708HPF8.5	105,00	109,00
9	72	16	10	1707HPF9	1708HPF9	105,00	109,00
9.5	72	19	10	1707HPF9.5	1708HPF9.5	105,00	109,00
10	72	19	10	1707HPF10	1708HPF10	105,00	109,00
11	83	22	12	1707HPF11	1708HPF11	123,00	127,00

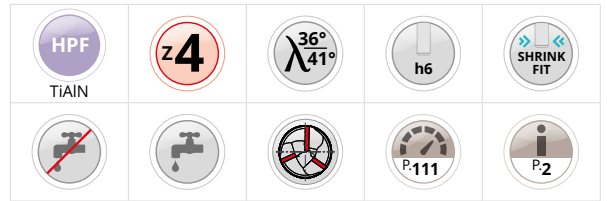
La gamma prosegue nella pagina successiva | The range continues on the next page >>

Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Codice d'ordine e prezzo Order code and price			
				1707HPF 		1708HPF 	
d_1	l_1	l_2	d_2	€	€	€	€
12	83	22	12	1707HPF12	123,00	1708HPF12	127,00
13	83	22	14	1707HPF13	150,50	1708HPF13	154,50
14	83	22	14	1707HPF14	150,50	1708HPF14	154,50
15	92	26	16	1707HPF15	208,50	1708HPF15	212,50
16	92	26	16	1707HPF16	208,50	1708HPF16	212,50
20	104	32	20	1707HPF20	256,50	1708HPF20	261,00

1701HPF

Frese a testa piana in M.D.I. micrograna passo differenziato ed elica variabile per lavorazioni universali.

Square end mills in solid carbide micro grain with unequal pitch and variable helix for universal machining.



Strategie di fresatura | Milling strategies:

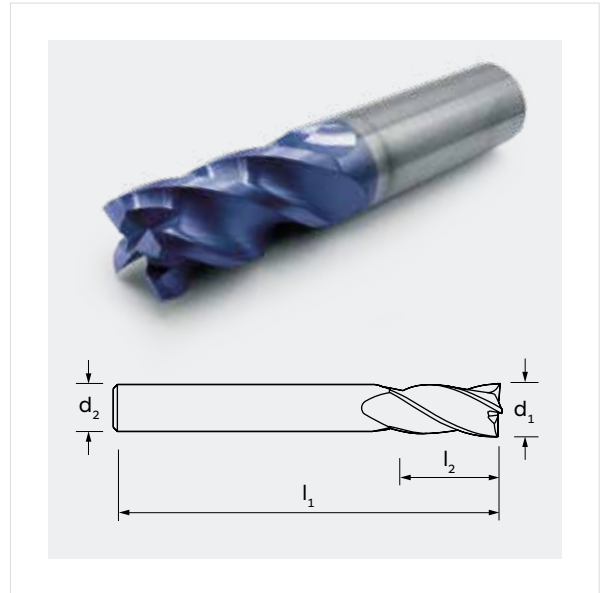


Tolleranze | Tolerances:

Diametro di taglio	Cutting Diameter	Raggio	Radius
d ≤ 6:	0/-0.01		
d > 6:	0/-0.015		

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
●	●	-	-	●	-	● Raccomandato - Most suitable ○ Possibile - Possible

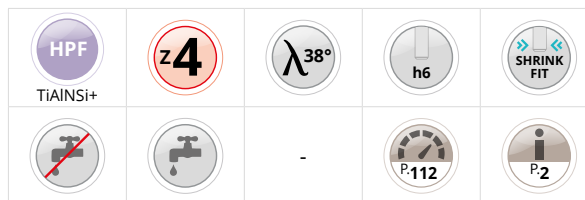


Per lavorazioni universali
For universal machining

Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Codice d'ordine+€ Order code+€	
				1701HPF	€
d ₁	l ₁	l ₂	d ₂		
3	50	8	6	1701HPF3	41,00
4	50	11	6	1701HPF4	41,00
5	50	13	6	1701HPF5	41,00
6	50	16	6	1701HPF6	41,00
8	60	20	8	1701HPF8	42,50
10	72	22	10	1701HPF10	53,30
12	75	26	12	1701HPF12	65,80
14	83	26	14	1701HPF14	102,50
16	100	36	16	1701HPF16	109,00
20	100	38	20	1701HPF20	189,00

1702-1704HPF

Frese a testa piana in M.D.I. micrograna con rompitruciolo per lavorazioni di grossatura universali.
Square end mills in solid carbide micro grain with chipbreaker for universal roughing machining.



Strategie di fresatura | Milling strategies:

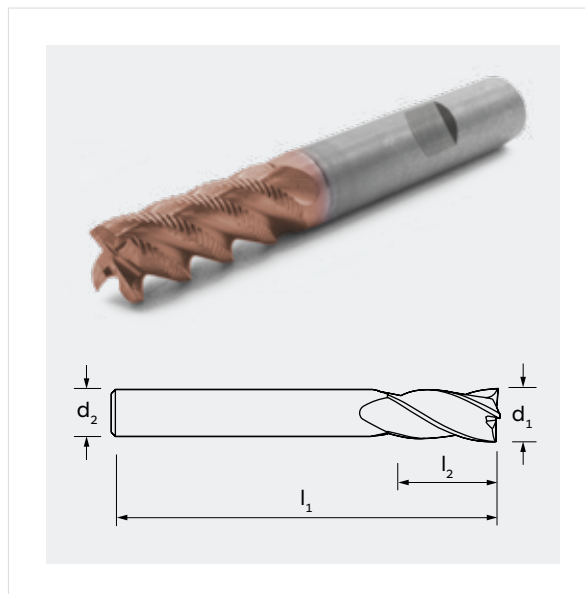


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	
d > 6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
●	●	-	-	●	-	● Raccomandato - Most suitable ○ Possibile - Possible

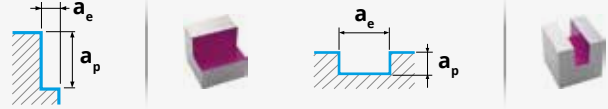


Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Numero Eliche Flute Number	Codice d'ordine e prezzo Order code and price			
					1702HPF	€	1704HPF	€
d ₁	l ₁	l ₂	d ₂	Z				
3	57	8	6	3	1702HPF3	95,60	1704HPF3	95,60
4	57	11	6	3	1702HPF4	95,60	1704HPF4	95,60
5	57	13	6	4	1702HPF5	95,60	1704HPF5	95,60
6	57	13	6	4	1702HPF6	95,60	1704HPF6	95,60
8	63	21	8	4	1702HPF8	92,80	1704HPF8	92,80
10	72	23	10	4	1702HPF10	101,50	1704HPF10	101,50
12	83	26	12	4	1702HPF12	131,50	1704HPF12	131,50
14	83	26	14	4	1702HPF14	260,00	1704HPF14	260,00
16	92	32	16	6	1702HPF16	293,00	1704HPF16	293,00
18	92	36	18	4	1702HPF18	345,00	1704HPF18	345,00
20	104	38	20	6	1702HPF20	388,00	1704HPF20	388,00

1700HPF - 1703HPF

Z4

Frese a testa piana in metallo duro integrale micrograna per lavorazioni trocoidali universali.
Square end mills in solid carbide micro grain for universal trochoidal machining.



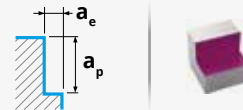
d ₁	Acciai ≤1100 N/mm ² Steels ≤1100 N/mm ²				Acciai Inossidabili Stainless Steel				Acciai ≤1100 N/mm ² Steels ≤1100 N/mm ²				Acciai Inossidabili Stainless Steel			
	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
	Contornatura Side Milling								Cave Slotting Milling							
3	14.331	1.146	3,6	1,05	9.023	433	3,6	1,05	10.616	425	2,3	3	6.900	166	2,3	3
4	10.748	1.290	4,8	1,40	6.768	541	4,8	1,40	7.962	414	4,0	4	5.175	207	4,0	4
5	8.599	1.204	6,0	1,75	5.414	541	6,0	1,75	6.369	382	5,0	5	4.140	215	5,0	5
6	7.166	1.146	7,2	2,10	4.512	469	7,2	2,10	5.308	425	6,0	6	3.450	221	6,0	6
8	5.374	1.075	9,6	2,80	3.384	406	9,6	2,80	3.981	478	8,0	8	2.588	207	8,0	8
10	4.299	1.118	12,0	3,50	2.707	433	12,0	3,50	3.185	510	10,0	10	2.070	207	10,0	10
12	3.583	1.075	14,4	4,20	2.256	451	14,4	4,20	2.654	478	12,0	12	1.725	207	12,0	12
16	2.687	914	19,2	5,60	1.692	372	19,2	5,60	1.990	398	16,0	16	1.294	181	16,0	16
20	2.150	860	24,0	7,00	1.354	352	24,0	7,00	1.592	382	20,0	20	1.035	166	20,0	20

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1705HPF - 1706HPF

Z4

Frese a testa piana in metallo duro integrale micrograna per lavorazioni trocoidali universali.
Square end mills in solid carbide micro grain for universal trochoidal machining.



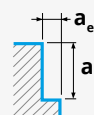
d ₁	Acciai ≤1100 N/mm ² Steels ≤1100 N/mm ²				Acciai Inossidabili Stainless Steel				HRSA e Titanio HRSA & Titanium			
	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
3	12.739	510	3,9	1,05	8.493	272	3,9	1,05	4.246	136	3,9	1,05
4	9.554	573	5,2	1,40	6.369	280	5,2	1,40	3.185	140	5,2	1,40
5	7.643	611	6,5	1,75	5.096	265	6,5	1,75	2.548	132	6,5	1,75
6	6.369	637	7,8	2,10	4.246	289	7,8	2,10	2.123	144	7,8	2,10
8	4.777	573	10,4	2,80	3.185	318	10,4	2,80	1.592	159	10,4	2,80
10	3.822	688	13,0	3,50	2.548	357	13,0	3,50	1.274	178	13,0	3,50
12	3.185	637	15,6	4,20	2.123	340	15,6	4,20	1.062	170	15,6	4,20
16	2.389	573	20,8	5,60	1.592	318	20,8	5,60	796	159	20,8	5,60
20	1.911	535	26,0	7,00	1.274	306	26,0	7,00	637	153	26,0	7,00

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1707HPF - 1708HPF

Z3

Frese a testa piana in metallo duro integrale micrograna ad elica variabile per lavorazioni universali.
Square end mills in solid carbide micro grain with variable helix for universal machining.



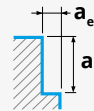
d ₁	Acciai ≤1100 N/mm ² Steels ≤1100 N/mm ²				Acciai Inossidabili Stainless Steel				Ghisa Cast Iron			
	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
2	15.924	239	2,6	1,0	12.739	191	2,6	1,0	19.904	299	2,6	1,0
3	10.616	255	3,9	1,5	8.493	204	3,9	1,5	13.270	318	3,9	1,5
4	7.962	287	5,2	2,0	6.369	153	5,2	2,0	9.952	358	5,2	2,0
5	6.369	287	6,5	2,5	5.096	153	6,5	2,5	7.962	358	6,5	2,5
6	5.308	287	7,8	3,0	4.246	127	7,8	3,0	6.635	358	7,8	3,0
7	4.550	300	9,1	3,5	3.640	164	9,1	3,5	5.687	375	9,1	3,5
8	3.981	299	10,4	4,0	3.185	143	10,4	4,0	4.976	373	10,4	4,0
9	3.539	297	11,7	4,5	2.831	170	11,7	4,5	4.423	372	11,7	4,5
10	3.185	334	13,0	5,0	2.548	153	13,0	5,0	3.981	418	13,0	5,0
11	2.895	330	14,3	5,5	2.316	174	14,3	5,5	3.619	413	14,3	5,5
12	2.654	318	15,6	6,0	2.123	159	15,6	6,0	3.317	398	15,6	6,0
13	2.450	294	16,9	6,5	1.960	176	16,9	6,5	3.062	367	16,9	6,5
14	2.275	307	18,2	7,0	1.820	164	18,2	7,0	2.843	384	18,2	7,0
15	2.123	318	19,5	7,5	1.699	178	19,5	7,5	2.654	398	19,5	7,5
16	1.990	311	20,8	8,0	1.592	167	20,8	8,0	2.488	388	20,8	8,0
20	1.592	287	26,0	10,0	1.274	172	26,0	10,0	1.990	358	26,0	10,0

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1701HPF

Z4

Frese a testa piana in metallo duro integrale micrograna passo differenziato ed elica variabile per lavorazioni universali.
Square end mills in solid carbide micro grain with unequal pitch and variable helix for universal machining.



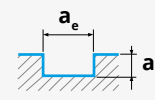
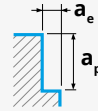
d ₁	Acciai ≤1100 N/mm ² Steels ≤1100 N/mm ²				Acciai Inossidabili Stainless Steel				HRSA e Titanio HRSA & Titanium			
	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
4	8.758	420	6,0	0,80	6.369	306	6,0	0,80	3.185	153	6,0	0,80
6	5.839	420	9,0	1,20	4.246	306	9,0	1,20	2.123	153	9,0	1,20
8	4.379	403	12,0	1,60	3.185	293	12,0	1,60	1.592	146	12,0	1,60
10	3.503	392	15,0	2,00	2.548	285	15,0	2,00	1.274	143	15,0	2,00
12	2.919	409	18,0	2,40	2.123	297	18,0	2,40	1.062	149	18,0	2,40
14	2.502	400	21,0	2,80	1.820	291	21,0	2,80	910	146	21,0	2,80
16	2.189	394	24,0	3,20	1.592	287	24,0	3,20	796	143	24,0	3,20
18	1.946	405	27,0	3,60	1.415	294	27,0	3,60	708	147	27,0	3,60
20	1.752	420	30,0	4,00	1.274	306	30,0	4,00	637	153	30,0	4,00

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1702HPF - 1704HPF

Z (3-4-6)

Frese a testa piana in metallo duro integrale micrograna con rompitrucciolo per lavorazioni di sgrossatura universali.
 Square end mills in solid carbide micro grain with chipbreaker for universal roughing machining.



d ₁	Acciai ≤1100 N/mm ² Steels ≤1100 N/mm ²				Acciai Inossidabili Stainless Steel				HRSA e Titanio HRSA & Titanium			
	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
Contornatura Side Milling												
3	13.270	597	3,3	1,5	5.308	159	3,3	1,5	4.246	127	3,3	1,5
4	9.952	597	4,4	2,0	9.952	448	4,4	2,0	9.952	448	4,4	2,0
5	7.962	796	5,5	2,5	7.962	637	5,5	2,5	7.962	637	5,5	2,5
6	6.635	796	6,6	3,0	6.635	663	6,6	3,0	6.635	663	6,6	3,0
8	4.976	796	8,8	4,0	4.976	597	8,8	4,0	4.976	597	8,8	4,0
10	3.981	796	11,0	5,0	3.981	557	11,0	5,0	3.981	557	11,0	5,0
12	3.317	663	13,2	6,0	3.317	531	13,2	6,0	3.317	531	13,2	6,0
16	2.488	821	17,6	8,0	2.488	597	17,6	8,0	2.488	597	17,6	8,0
20	1.990	717	22,0	10,0	1.990	537	22,0	10,0	1.990	537	22,0	10,0

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

Cave Slotting Milling												
3	7.962	358	3	3	4.246	127	3	3	3.185	96	3	3
4	5.971	358	4	4	3.185	143	4	4	2.389	107	4	4
5	4.777	478	5	5	2.548	204	5	5	1.911	153	5	5
6	3.981	478	6	6	2.123	212	6	6	1.592	159	6	6
8	2.986	478	8	8	1.592	191	8	8	1.194	143	8	8
10	2.389	478	10	10	1.274	178	10	10	955	134	10	10
12	1.990	398	12	12	1.062	170	12	12	796	127	12	12
16	1.493	493	16	16	796	191	16	16	597	143	16	16
20	1.194	430	20	20	637	172	20	20	478	129	20	20

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

Per lavorazioni universali
For universal machining



Evolution
FRESE · END MILLS

Talcarb



HPV

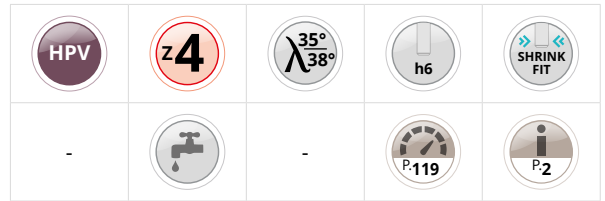


FRESE PER ACCIAI INOSSIDABILI E LEGHE DI TITANIO
End Mills for Stainless Steels and Titanium Alloys

1319HPV

Frese a testa piana in metallo duro integrale micrograna ad elica variabile.

Square end mills in solid carbide micro grain with variable helix.



Strategie di fresatura | Milling strategies:

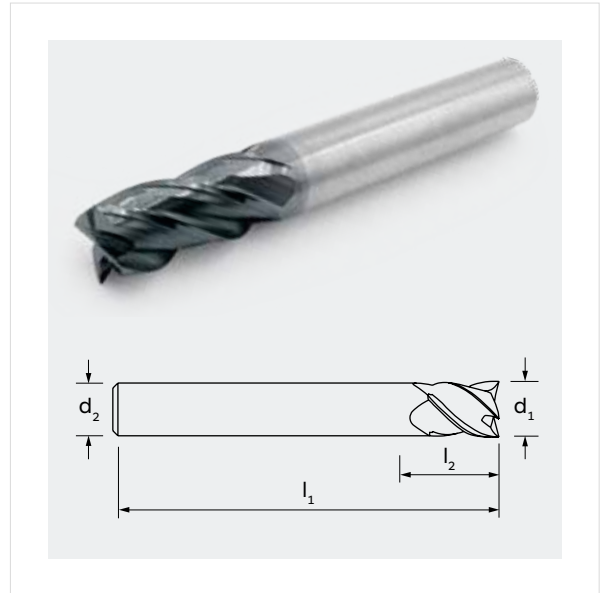


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	
d > 6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
-	●	-	-	●	-	● Raccomandato - Most suitable ○ Possibile - Possible



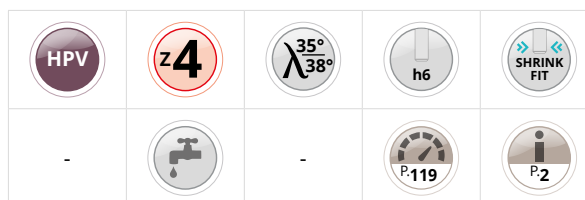
Codice d'ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1319HPV	d ₁	l ₁	l ₂	d ₂	€
1X2.5X50X4	1	50	2.5	4	37,90
1.5X4X50X4	1.5	50	4	4	37,90
2X6X50X4	2	50	6	4	50,90
2.5X7X50X4	2.5	50	7	4	50,90
3X10X60X6	3	60	10	6	57,40
4X12X60X6	4	60	12	6	57,40
5X15X60X6	5	60	15	6	59,10
6X15X50X6	6	50	15	6	50,90
6X20X70X6	6	70	20	6	64,10
8X19X60X8	8	60	19	8	50,00
10X22X70X10	10	70	22	10	53,80
12X26X75X12	12	75	26	12	68,00

Per Acciai Inossidabili e leghe di Titanio
For Stainless Steels and Titanium alloys

319RHPV

Frese toriche in metallo duro integrale micrograna ad elica variabile.

Corner radius end mills in S.C. micro grain with variable helix.



Strategie di fresatura | Milling strategies:



Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	±0.01
d > 6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
-	●	-	-	●	-	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
319RHPV	d ₁	R	l ₁	l ₂	d ₂	€
1X.1X2.5X50X4	1.0	0.1	50	2.5	4	44,70
1X.2X2.5X50X4	1.0	0.2	50	2.5	4	44,70
1.5X.1X4X50X4	1.5	0.1	50	4.0	4	44,70
1.5X.2X4X50X4	1.5	0.1	50	4.0	4	44,70
2X.1X6X50X4	2.0	0.1	50	6.0	4	60,00
2X.2X6X50X4	2.0	0.2	50	6.0	4	60,00
2.5X.2X7X50X4	2.5	0.2	50	7.0	4	60,00
3X.2X10X60X6	3.0	0.2	60	10	6	67,60
3X.5X10X60X6	3.0	0.5	60	10	6	67,60
4X.2X12X60X6	4.0	0.2	60	12	6	67,60
4X.5X12X60X6	4.0	0.5	60	12	6	67,60
5X.2X15X60X6	5.0	0.2	60	15	6	70,10
5X.5X15X60X6	5.0	0.5	60	15	6	70,10
6X.3X15X60X6	6.0	0.3	60	15	6	70,10
6X.5X15X60X6	6.0	0.5	60	15	6	70,10
6X1X15X60X6	6.0	1.0	60	15	6	70,10
8X.3X20X80X8	8.0	0.3	80	20	8	68,20
8X.5X20X80X8	8.0	0.5	80	20	8	68,20

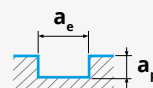
La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Diametro attacco Shank diameter	Prezzo utensile Tool Price
319HPV	d₁	R	l₁	l₂	d₂	€
8X1X20X80X8	8.0	1.0	80	20	8	68,20
10X.3X25X80X10	10.0	0.3	80	25	10	70,10
10X.5X25X80X10	10.0	0.5	80	25	10	70,10
10X1X25X80X10	10.0	1.0	80	25	10	70,10
10X1.5X25X80X10	10.0	1.5	80	25	10	70,10
10X2X25X80X10	10.0	2.0	80	25	10	70,10
12X.5X30X80X12	12.0	0.5	80	30	12	79,40
12X1X30X80X12	12.0	1.0	80	30	12	79,40
12X1.5X30X80X12	12.0	1.5	80	30	12	79,40
12X2X30X80X12	12.0	2.0	80	30	12	79,40

1319HPV

Z4

Frese a testa piana in metallo duro integrale micrograna.
Square end mills in solid carbide micro grain.



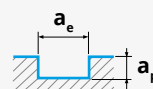
Durezza Hardness	Acciai Legati - Ghisa Alloy Steels - Cast Iron				Acciai Inos. Serie 300 - Titanio Stainless Steels 300 Series - Titanium				Acciai Inossidabili Serie 400 Stainless Steels 400 Series			
	~HB230											
d ₁	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
1,0	40.500	300	1	1	20.000	250	1	1	28.000	160	1	1
1,5	27.000	300	1,5	1,5	13.000	180	1,5	1,5	18.500	160	1,5	1,5
2,0	20.300	300	2	2	10.000	150	2	2	14.000	160	2	2
2,5	16.200	300	2,5	2,5	8.000	120	2,5	2,5	11.000	165	2,5	2,5
3,0	13.500	275	3	3	6.690	105	3	3	9.350	145	3	3
4,0	10.100	370	4	4	5.050	135	4	4	7.000	185	4	4
5,0	8.090	410	5	5	4.050	165	5	5	5.600	230	5	5
6,0	6.750	480	6	6	3.350	190	6	6	4.700	265	6	6
8,0	5.050	620	8	8	2.500	250	8	8	3.500	340	8	8
10,0	4.050	780	10	10	2.050	320	10	10	2.800	430	10	10
12,0	3.370	750	12	12	1.680	310	12	12	2.350	435	12	12

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

319RHPV

Z4

Frese toriche in metallo duro integrale micrograna.
Corner radius end mills in solid carbide micro grain.



Durezza Hardness	Acciai Legati - Ghisa Alloy Steels - Cast Iron				Acciai Inos. Serie 300 - Titanio Stainless Steels 300 Series - Titanium				Acciai Inossidabili Serie 400 Stainless Steels 400 Series			
	~HB230											
d ₁	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
1,0	40.500	300	1	1	20.000	250	1	1	28.000	160	1	1
1,5	27.000	300	1,5	1,5	13.000	180	1,5	1,5	18.500	160	1,5	1,5
2,0	20.300	300	2	2	10.000	150	2	2	14.000	160	2	2
2,5	16.200	300	2,5	2,5	8.000	120	2,5	2,5	11.000	165	2,5	2,5
3,0	13.500	275	3	3	6.690	105	3	3	9.350	145	3	3
4,0	10.100	370	4	4	5.050	135	4	4	7.000	185	4	4
5,0	8.090	410	5	5	4.050	165	5	5	5.600	230	5	5
6,0	6.750	480	6	6	3.350	190	6	6	4.700	265	6	6
8,0	5.050	620	8	8	2.500	250	8	8	3.500	340	8	8
10,0	4.050	780	10	10	2.050	320	10	10	2.800	430	10	10
120	3.370	750	12	12	1.680	310	12	12	2.350	435	12	12

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters



Evolution
FRESE · END MILLS

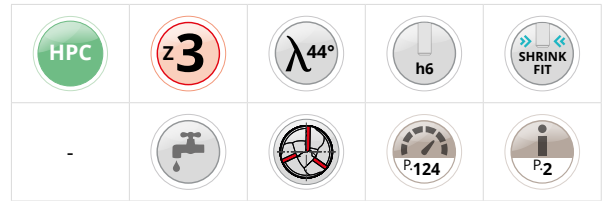
Talicarb



FRESE PER ALLUMINIO
End mills for Aluminium

1267HPC

Frese a testa piana in metallo duro integrale micrograna a passo differenziato.
 Square end mills in solid carbide micro grain with unequal pitch.



Strategie di fresatura | Milling strategies:



Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
f8	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
-	-	-	●	-	-	● Raccomandato - Most suitable ○ Possibile - Possible

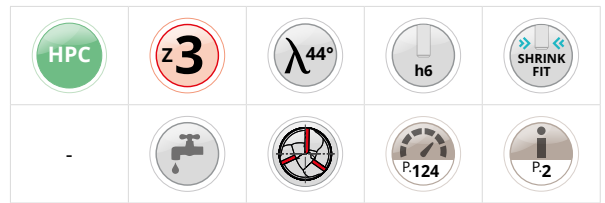


Codice d'ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1267HPC	d ₁ (f8)	l ₁	l ₂	l ₃	d ₂	€
1267HPC4	4	57	5,2	12	6	48,20
1267HPC5	5	57	6,5	15	6	48,20
1267HPC6	6	62	7,8	18	6	53,90
1267HPC8	8	68	10,4	24	8	76,30
1267HPC10	10	80	13,0	30	10	110,50
1267HPC12	12	93	15,6	36	12	146,00
1267HPC16	16	108	20,8	48	16	212,00
1267HPC20	20	126	26,0	60	20	343,00

Per Alluminio
For Aluminium

1268HPC

Frese a testa piana a scarico lungo in M.D.I. micrograna a passo differenziato.
 Square end mills long neck in S.C. micro grain with unequal pitch.



Strategie di fresatura | Milling strategies:



Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
f8	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
-	-	-	●	-	-	● Raccomandato - Most suitable ○ Possibile - Possible



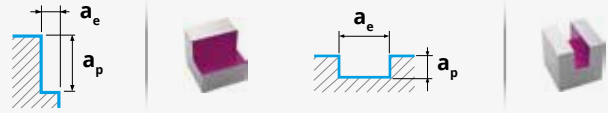
Codice d'ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Lunghezza codolo Length of shank	Diametro attacco Shank diameter	Diametro collo Neck diameter	Prezzo utensile Tool Price
1268HPC	d ₁ (f8)	l ₁	l ₂	l ₃	l ₄	d ₂	d ₃	€
1268HPC4	4	60	8	16	43	6	3.8	52,60
1268HPC5	5	63	10	20	43	6	4.7	56,30
1268HPC6	6	72	12	24	48	6	5.4	67,10
1268HPC8	8	80	16	32	48	8	7.2	94,40
1268HPC10	10	88	20	40	48	10	9.0	124,50
1268HPC12	12	100	24	48	52	12	11.0	158,50
1268HPC16	16	125	32	64	61	16	15.0	340,00
1268HPC20	20	141	40	80	61	20	19.0	468,00

Per Alluminio
For Aluminium

1267HPC

Z3

Frese a testa piana in metallo duro integrale micrograna.
Square end mill in solid carbide micro grain.



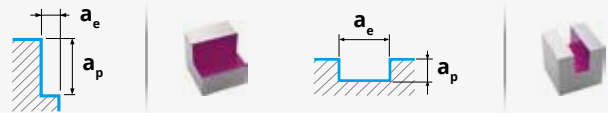
		Alluminio e materiali non ferrosi Aluminum and Non ferrous materials								
d ₁	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)		
	Contornatura Side Milling				Cave Slot Milling					
4	28.662	3.439	6,0	2,0	28.662	3.439	6,0	4		
5	22.930	3.783	7,5	2,5	22.930	3.783	7,5	5		
6	19.108	4.013	9,0	3,0	19.108	4.013	9,0	6		
8	14.331	4.084	12,0	4,0	14.331	4.084	12,0	8		
10	11.465	4.127	15,0	5,0	11.465	4.127	15,0	10		
12	9.554	3.869	18,0	6,0	9.554	3.869	18,0	12		
16	7.166	3.225	24,0	8,0	7.166	3.225	24,0	16		
20	5.732	3.010	30,0	10,0	5.732	3.010	30,0	20		

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1268HPC

Z3

Frese a testa piana a collo lungo in metallo duro integrale micrograna.
Square long neck end mills in solid carbide micro grain.



		Alluminio e materiali non ferrosi Aluminum and Non ferrous materials								
d ₁	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)		
	Contornatura Side Milling				Cave Slot Milling					
4	28.662	2.580	6,0	1,2	18.312	1.483	2,0	4		
5	22.930	3.096	7,5	1,5	14.650	1.538	2,5	5		
6	19.108	3.153	9,0	1,8	12.208	1.465	3,0	6		
8	14.331	3.225	12,0	2,4	9.156	1.511	4,0	8		
10	11.465	3.096	15,0	3,0	7.325	1.538	5,0	10		
12	9.554	3.296	18,0	3,6	6.104	1.465	6,0	12		
16	7.166	2.580	24,0	4,8	4.578	1.305	8,0	16		
20	5.732	2.494	30,0	6,0	3.662	1.209	10,0	20		

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters



Evolution
FRESE · END MILLS

Talicarb

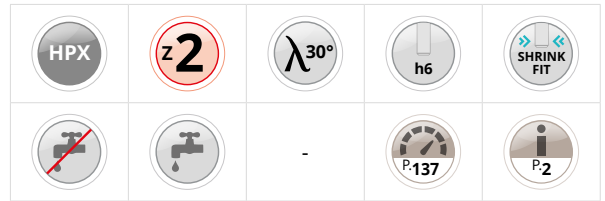


FRESE PER GRAFITE
End mills for Graphite

402RHPX

Frese sferiche a collo lungo in metallo duro integrale micrograna.

Ball nose end mills long neck in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

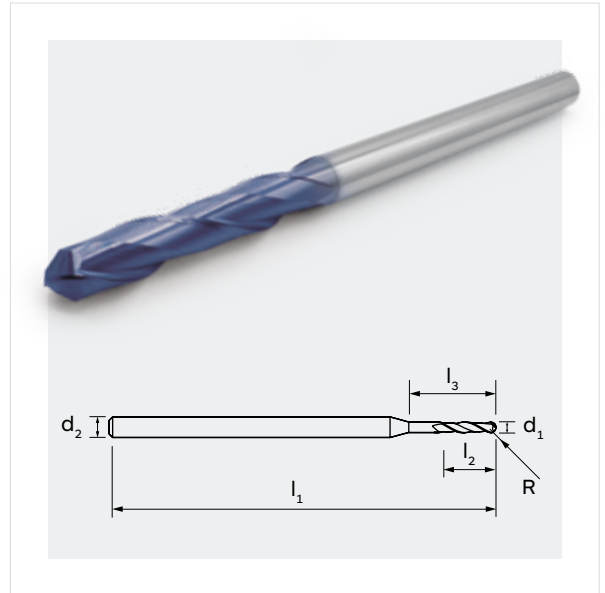
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Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d≤6: 0/-0.01	R≤0.25: 0/-0.005
d>6: 0/-0.015	R>0.25: 0/-0.01

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
-	-	-	-	-	●	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Prezzo utensile Tool Price
402RHPX	d ₁	R	l ₁	l ₂	l ₃	d ₂	€
.5X.25X2X50X4	0.5	0.25	50	2	-	4	45,70
.5X.25X2X5X50X4	0.5	0.25	50	2	5	4	48,30
1X.5X5X60X4	1.0	0.5	60	5	-	4	38,90
1X.5X5X10X60X4	1.0	0.5	60	5	10	4	42,90
1X.5X5X15X60X4	1.0	0.5	60	5	15	4	45,70
1X.5X5X20X80X4	1.0	0.5	80	5	20	4	48,30
1X.5X5X25X80X4	1.0	0.5	80	5	25	4	48,30
1.5X.75X10X60X4	1.5	0.75	60	10	-	4	38,90
1.5X.75X10X15X60X4	1.5	0.75	60	10	15	4	42,90
1.5X.75X10X20X60X4	1.5	0.75	60	10	20	4	42,90
2X1X10X60X4	2.0	1.0	60	10	-	4	33,65
2X1X10X20X60X4	2.0	1.0	60	10	20	4	36,25
2X1X10X30X80X4	2.0	1.0	80	10	30	4	40,30
2X1X10X40X80X4	2.0	1.0	100	10	30	4	51,10
2X1X10X30X100X4	2.0	1.0	80	10	40	4	46,10
2X1X10X40X100X4	2.0	1.0	100	10	40	4	51,10
2.5X1.25X10X20X70X4	2.5	1.25	70	10	20	4	45,70
3X1.5X10X20X70X4	3.0	1.5	70	10	20	4	40,30

La gamma prosegue nella pagina successiva | The range continues on the next page >>

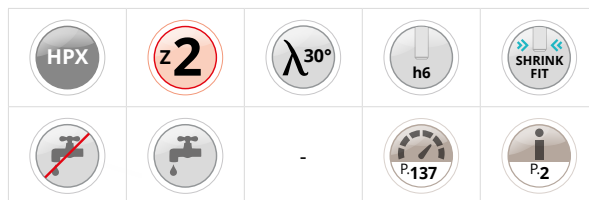
Per Grafite
For Graphite

Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Prezzo utensile Tool Price
402RHPX	d₁	R	l₁	l₂	l₃	d₂	€
3X1.5X10X30X80X4	3.0	1.5	80	10	30	4	40,30
4X2X20X80X4	4.0	2.0	80	20	-	4	40,30
4X2X20X100X4	4.0	2.0	100	20	-	4	51,10
4X2X20X130X4	4.0	2.0	130	20	-	4	64,50
5X2.5X25X100X6	5.0	2.5	100	25	-	6	47,10
6X3X30X80X6	6.0	3.0	80	30	-	6	41,50
6X3X30X100X6	6.0	3.0	100	30	-	6	47,10
6X3X40X150X6	6.0	3.0	150	40	-	6	60,50
8X4X45X120X8	8.0	4.0	120	45	-	8	53,80
8X4X45X150X8	8.0	4.0	150	45	-	8	62,70
10X5X50X120X10	10.0	5.0	120	50	-	10	70,10
10X5X50X150X10	10.0	5.0	150	50	-	10	76,20
12X6X50X130X12	12.0	6.0	130	50	-	12	70,10
12X6X50X150X12	12.0	6.0	150	50	-	12	91,60

1402HPX

Frese a testa piana a collo lungo in metallo duro integrale micrograna.

Square end mills long neck in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

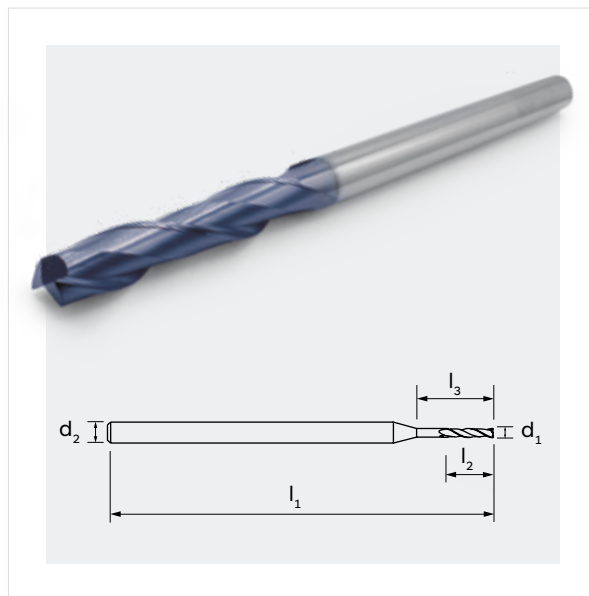


Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d ≤ 6: 0/-0.01	
d > 6: 0/-0.015	

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
-	-	-	-	-	●	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Prezzo utensile Tool Price
1402HPX	d ₁	l ₁	l ₂	l ₃	d ₂	€
.5X.7X6X50X4	0.5	50	1	-	4	33,90
.5X1X50X4	0.5	50	2	-	4	32,55
.5X2X50X4	0.5	50	0.7	6	4	33,90
1X5X60X4	1	60	5	-	4	29,00
1X5X10X60X4	1	60	5	10	4	31,40
1X5X15X60X4	1	60	5	15	4	31,40
1X5X20X60X4	1	60	5	20	4	31,40
1.5X10X60X4	1.5	60	10	-	4	27,75
1.5X10X15X60X4	1.5	60	10	15	4	30,25
1.5X10X20X60X4	1.5	60	10	20	4	30,25
2X10X60X4	2	60	10	-	4	25,35
2X10X15X60X4	2	60	10	15	4	27,75
2X10X20X60X4	2	60	10	20	4	27,75
2X10X25X70X4	2	70	10	25	4	32,65
2X10X30X80X4	2	80	10	30	4	32,65
3X15X70X4	3	70	15	-	4	27,75
3X15X25X75X4	3	75	15	25	4	30,25
3X15X30X80X4	3	80	15	30	4	31,10

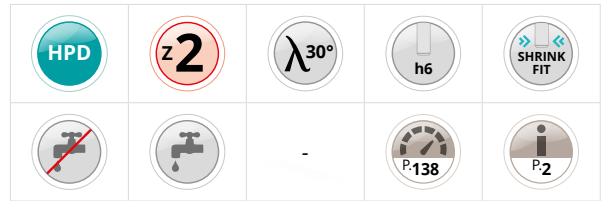
La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code 1402HPX	Diametro fresa End mill diameter	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Prezzo utensile Tool Price
	d₁	l₁	l₂	l₃	d₂	€
4X20X80X4	4	80	20	-	4	31,10
4X20X100X4	4	100	20	-	4	42,30
5X30X100X6	5	100	30	-	6	45,60
6X30X100X6	6	100	30	-	6	42,90
6X40X150X6	6	150	40	-	6	54,40
8X45X150X8	8	150	45	-	8	58,20
10X50X150X10	10	150	50	-	10	67,00
12X60X150X12	12	150	60	-	12	84,40

422RHPD

Frese sferiche a collo lungo in metallo duro integrale micrograna.

Ball nose end mills long neck in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

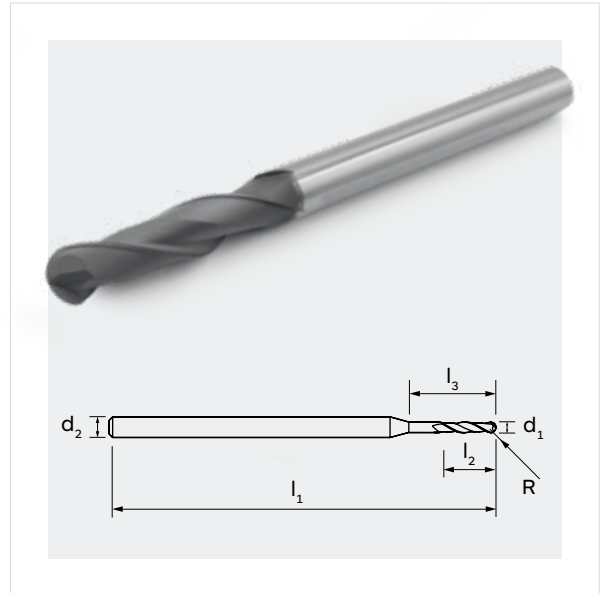
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Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d≤6: 0/-0.01	R≤0.25: 0/-0.005
d>6: 0/-0.015	R>0.25: 0/-0.01

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
-	-	-	-	-	●	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Prezzo utensile Tool Price
422RHPD	d ₁	R	l ₁	l ₂	l ₃	d ₂	€
.5X.25X2X45X4	0.5	0.25	45	2	-	4	54,00
.5X.25X2X3X45X4	0.5	0.25	45	2	3	4	55,00
.5X.25X2X4X45X4	0.5	0.25	45	2	4	4	55,00
.5X.25X2X5X45X4	0.5	0.25	45	2	5	4	55,00
.5X.25X2X6X45X4	0.5	0.25	45	2	6	4	56,20
.5X.25X2X8X45X4	0.5	0.25	45	2	8	4	56,20
.6X.3X2X45X4	0.6	0.3	45	2	-	4	52,80
.6X.3X2X3X45X4	0.6	0.3	45	2	3	4	53,60
.6X.3X2X4X45X4	0.6	0.3	45	2	4	4	53,60
.6X.3X2X5X45X4	0.6	0.3	45	2	5	4	53,60
.6X.3X2X6X45X4	0.6	0.3	45	2	6	4	53,60
.6X.3X2X8X45X4	0.6	0.3	45	2	8	4	53,60
.6X.3X2X10X45X4	0.6	0.3	45	2	10	4	53,60
.6X.3X2X12X45X4	0.6	0.3	45	2	12	4	55,70
.8X.4X3X45X4	0.8	0.4	45	3	-	4	52,60
.8X.4X3X4X45X4	0.8	0.4	45	3	4	4	54,10
.8X.4X3X5X45X4	0.8	0.4	45	3	5	4	54,10
.8X.4X3X6X45X4	0.8	0.4	45	3	6	4	54,10

La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code	Diámetro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diámetro attacco Shank diameter	Prezzo utensile Tool Price
422RHPD	d ₁	R	l ₁	l ₂	l ₃	d ₂	€
.8X.4X3X8X45X4	0.8	0.4	45	3	8	4	54,10
.8X.4X3X10X45X4	0.8	0.4	45	3	10	4	54,10
.8X.4X3X15X45X4	0.8	0.4	45	3	15	4	54,10
.8X.4X3X20X50X4	0.8	0.4	50	3	20	4	54,10
1X.5X3X60X4	1.0	0.5	60	3	-	4	46,00
1X.5X3X4X60X4	1.0	0.5	60	3	4	4	48,20
1X.5X3X5X60X4	1.0	0.5	60	3	5	4	48,20
1X.5X3X6X60X4	1.0	0.5	60	3	6	4	48,20
1X.5X3X8X60X4	1.0	0.5	60	3	8	4	48,20
1X.5X3X10X60X4	1.0	0.5	60	3	10	4	48,20
1X.5X3X12X60X4	1.0	0.5	60	3	12	4	48,20
1X.5X3X15X60X4	1.0	0.5	60	3	15	4	48,20
1X.5X3X20X60X4	1.0	0.5	60	3	20	4	48,20
1X.5X3X25X80X4	1.0	0.5	80	3	25	4	51,60
1X.5X3X30X80X4	1.0	0.5	80	3	30	4	51,60
1X.5X3X35X80X4	1.0	0.5	80	3	35	4	51,60
1X.5X3X40X80X4	1.0	0.5	80	3	40	4	54,40
1.5X.75X6X60X4	1.5	0.75	60	6	-	4	46,00
1.5X.75X6X8X60X4	1.5	0.75	60	6	8	4	48,20
1.5X.75X6X10X60X4	1.5	0.75	60	6	10	4	48,20
1.5X.75X6X12X60X4	1.5	0.75	60	6	12	4	48,20
1.5X.75X6X15X60X4	1.5	0.75	60	6	15	4	48,20
1.5X.75X6X20X60X4	1.5	0.75	60	6	20	4	48,20
1.5X.75X6X25X80X4	1.5	0.75	80	6	25	4	51,60
1.5X.75X6X30X80X4	1.5	0.75	80	6	30	4	51,60
1.5X.75X6X35X80X4	1.5	0.75	80	6	35	4	51,60
1.5X.75X6X40X80X4	1.5	0.75	80	6	40	4	54,40
2X1X8X60X4	2.0	1.0	60	8	-	4	47,10
2X1X8X10X80X4	2.0	1.0	80	8	10	4	49,20
2X1X8X15X80X4	2.0	1.0	80	8	15	4	49,20
2X1X8X20X80X4	2.0	1.0	80	8	20	4	49,20
2X1X8X25X80X4	2.0	1.0	80	8	25	4	51,60
2X1X8X30X80X4	2.0	1.0	80	8	30	4	51,60
2X1X8X35X80X4	2.0	1.0	80	8	35	4	51,60
2X1X8X40X80X4	2.0	1.0	80	8	40	4	51,60
2X1X8X45X100X4	2.0	1.0	100	8	45	4	54,10
2X1X8X50X100X4	2.0	1.0	100	8	50	4	54,10
2X1X8X60X100X4	2.0	1.0	100	8	60	4	56,90
3X1.5X12X20X100X4	3.0	1.5	100	12	20	4	52,80
3X1.5X12X25X100X4	3.0	1.5	100	12	25	4	52,80
3X1.5X12X30X100X4	3.0	1.5	100	12	30	4	52,80
3X1.5X12X35X100X4	3.0	1.5	100	12	35	4	54,50
3X1.5X12X40X100X4	3.0	1.5	100	12	40	4	54,50

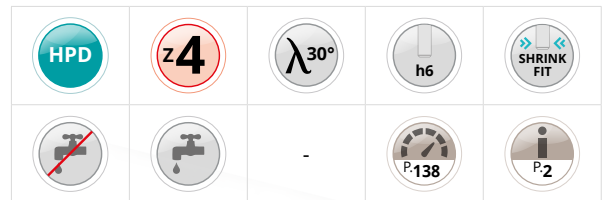
La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Prezzo utensile Tool Price
422RHPD	d₁	R	l₁	l₂	l₃	d₂	€
3X1.5X12X50X100X4	3.0	1.5	100	12	50	4	54,50
3X1.5X12X60X100X4	3.0	1.5	100	12	60	4	57,40
4X2X16X60X4	4.0	2.0	60	16	-	4	51,10
4X2X16X80X4	4.0	2.0	80	16	-	4	54,40
4X2X16X30X80X4	4.0	2.0	80	16	30	4	58,30
4X2X16X100X4	4.0	2.0	100	16	-	4	58,90
4X2X16X40X100X4	4.0	2.0	100	16	40	4	62,30
4X2X16X130X4	4.0	2.0	130	16	-	4	62,30
4X2X16X40X130X4	4.0	2.0	130	16	40	4	65,80
4X2X16X150X4	4.0	2.0	150	16	-	4	65,80
4X2X16X50X150X4	4.0	2.0	150	16	50	4	68,90
5X2.5X16X20X105X6	5.0	2.5	105	16	20	6	69,20
6X3X25X75X6	6.0	3.0	75	25	-	6	63,90
6X3X25X105X6	6.0	3.0	105	25	-	6	70,30
6X3X25X40X105X6	6.0	3.0	105	25	40	6	72,70
6X3X25X150X6	6.0	3.0	150	25	-	6	80,30
6X3X25X50X150X6	6.0	3.0	150	25	50	6	82,30
8X4X30X105X8	8.0	4.0	105	30	-	8	108,00
8X4X35X150X8	8.0	4.0	150	35	-	8	120,00
10X5X35X105X10	10.0	5.0	105	35	-	10	136,50
10X5X40X150X10	10.0	5.0	150	40	-	10	153,00
12X6X50X150X12	12.0	6.0	150	50	-	12	207,50

424RHPD

Frese sferiche a collo lungo in metallo duro integrale micrograna.

Ball nose end mills long neck in solid carbide micro grain.



Strategie di fresatura | Milling strategies:

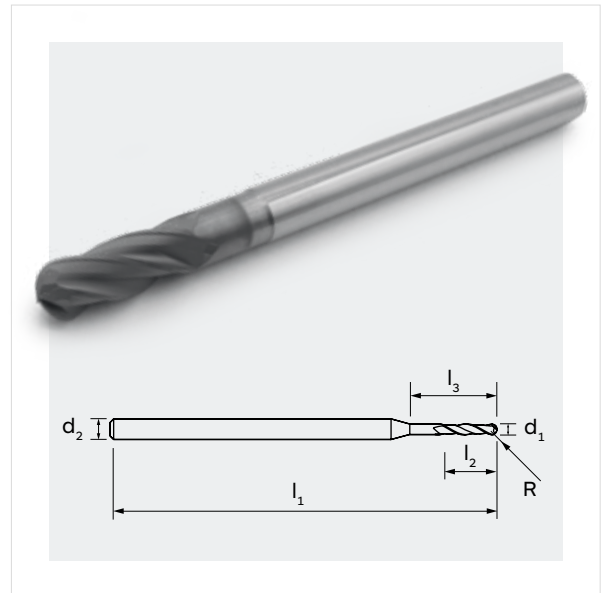
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Tolleranze | Tolerances:

Diametro di taglio Cutting Diameter	Raggio Radius
d≤6: 0/-0.01	R≤0.25: 0/-0.005
d>6: 0/-0.015	R>0.25: 0/-0.01

Gruppo materiali lavorabili | Group of working materials:

P	M	K	N	S	H	
-	-	-	-	-	●	● Raccomandato - Most suitable ○ Possibile - Possible



Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Prezzo utensile Tool Price
424RHPD	d ₁	R	l ₁	l ₂	l ₃	d ₂	€
1.5X.75X4.5X60X4	1.5	0.75	60	4.5	-	4	53,00
1.5X.75X4.5X10X60X4	1.5	0.75	60	4.5	10	4	54,50
1.5X.75X4.5X15X60X4	1.5	0.75	60	4.5	15	4	54,50
1.5X.75X4.5X20X60X4	1.5	0.75	60	4.5	20	4	54,50
1.5X.75X4.5X25X60X4	1.5	0.75	60	4.5	25	4	56,50
2X1X6X60X4	2	1.0	60	6	-	4	53,00
2X1X6X10X80X4	2	1.0	80	6	10	4	54,90
2X1X6X20X80X4	2	1.0	80	6	20	4	54,90
2X1X6X30X80X4	2	1.0	80	6	30	4	54,90
2X1X6X40X80X4	2	1.0	80	6	40	4	57,40
3X1.5X8X60X4	3	1.5	60	8	-	4	53,00
3X1.5X8X15X100X4	3	1.5	100	8	15	4	58,90
3X1.5X8X20X100X4	3	1.5	100	8	20	4	58,90
3X1.5X8X30X100X4	3	1.5	100	8	30	4	58,90
3X1.5X8X40X100X4	3	1.5	100	8	40	4	61,10
3X1.5X8X50X100X4	3	1.5	100	8	50	4	61,10
4X2X16X60X4	4	2.0	60	16	-	4	57,40
4X2X16X80X4	4	2.0	80	16	-	4	60,80

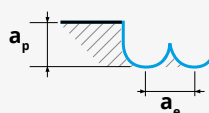
La gamma prosegue nella pagina successiva | The range continues on the next page >>

Codice d'ordine Order Code	Diametro fresa End mill diameter	Raggio fresa End mill radius	Lunghezza totale Overall length	Lunghezza di taglio Length of cut	Lunghezza utile Length of reach	Diametro attacco Shank diameter	Prezzo utensile Tool Price
424RHPD	d₁	R	l₁	l₂	l₃	d₂	€
4X2X16X100X4	4	2.0	100	16	-	4	65,60
4X2X16X130X4	4	2.0	130	16	-	4	69,00
6X3X16X25X75X6	6	3.0	75	16	25	6	70,40
6X3X16X25X105X6	6	3.0	105	16	25	6	76,70
6X3X16X30X150X6	6	3.0	150	16	30	6	87,10
8X4X20X30X75X8	8	4.0	75	20	30	8	103,00
8X4X20X30X105X8	8	4.0	105	20	30	8	111,00
8X4X20X35X150X8	8	4.0	150	20	35	8	123,00
8X4X20X40X200X8	8	4.0	200	20	40	8	135,00
10X5X22X35X75X10	10	5.0	75	22	35	10	128,50
10X5X22X35X105X10	10	5.0	105	22	35	10	139,00
10X5X22X40X160X10	10	5.0	160	22	40	10	159,50
10X5X22X50X200X10	10	5.0	200	22	50	10	173,00
12X6X25X50X105X12	12	6.0	105	25	50	12	187,50
12X6X25X50X150X12	12	6.0	150	25	50	12	211,00
12X6X25X60X200X12	12	6.0	200	25	60	12	235,50

402RHPX

Z2

Frese sferiche a collo lungo in metallo duro integrale micrograna.
Ball nose end mills long neck in solid carbide micro grain.



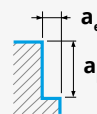
R	Grafite Graphite			
	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
0,25	32.000	1.000	0,50	0,08
0,50	32.000	1.600	1,00	0,15
0,75	28.000	1.600	1,50	0,23
1,00	24.000	1.600	2,00	0,30
1,50	16.000	1.600	3,00	0,45
2,00	12.000	1.600	4,00	0,60
2,50	9.600	1.400	5,00	0,75
3,00	8.000	1.200	6,00	0,90
4,00	6.400	640	8,00	1,20
5,00	5.200	650	10,00	1,50
6,00	4.300	600	12,00	1,80
5,00	3.200	280	10,00	1,50
6,00	2.700	330	12,00	1,80

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

1402HPX

Z2

Frese a testa piana a collo lungo in metallo duro integrale micrograna.
Square end mills long neck in solid carbide micro grain.



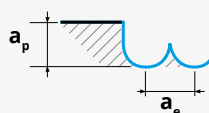
d ₁	Grafite Graphite			
	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
2	8.000	250	2,0	0,2
3	8.000	380	3,0	0,3
4	8.000	510	4,0	0,4
5	8.000	640	5,0	0,5
6	8.000	770	6,0	0,6
8	8.000	1.000	8,0	0,8
10	8.000	1.250	10,0	1,0

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

422RHPD

Z2

Frese sferiche a collo lungo in metallo duro integrale micrograna.
Ball nose end mills long neck in solid carbide micro grain.



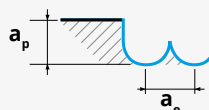
d ₁	Grafite Graphite			
	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
1,5	16.000	320	0,20	0,30
2,0	16.000	592	0,40	0,40
3,0	16.000	960	0,60	0,60
40	16.000	1.520	0,80	0,80
6,0	15.000	2.100	1,20	1,20
8,0	13.000	2.210	1,60	1,60
10,0	12.000	2.280	2,00	2,00
120	10.000	2.300	2,40	2,40

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

424RHPD

Z4

Frese sferiche a collo lungo in metallo duro integrale micrograna.
Ball nose end mills long neck in solid carbide micro grain.



d ₁	Grafite Graphite			
	n (min ⁻¹)	V _f (mm/min)	a _p (mm)	a _e (mm)
1,5	16.000	700	0,20	0,30
2,0	16.000	1.200	0,40	0,40
3,0	16.000	2.000	0,60	0,60
4,0	16.000	3.100	0,80	0,80
6,0	15.000	4.400	1,20	1,20
80	13.000	4.500	1,60	1,60
10,0	12.000	4.600	2,00	2,00
12,0	10.000	4.700	2,40	2,40

• Contattare l'ufficio tecnico per maggiori dettagli sui diametri mancanti | Contact the technical department for more details on the missing diameters

Tabella conversione resistenza e durezza

Conversion table of tensile strength and hardness

N/mm ²	Rockwell HRC	Vickers HV	Brinell HB
-	68	940	-
-	67	900	-
-	66	865	-
-	65	832	-
-	64	800	-
-	63	772	-
-	62	746	-
-	61	720	-
-	60	697	-
-	59	674	-
-	58	653	-
-	57	633	-
-	56	613	-
2075	55	595	-
2015	54	577	-
1950	53	560	-
1880	52	544	-500
1820	51	528	-487
1760	50	513	-475
1695	49	498	-464
1635	48	484	451
1580	47	471	442
1530	46	458	432
1480	45	446	421
1435	44	434	409
1385	43	423	400
1340	42	412	390
1295	41	402	381
1250	40	392	371
1215	39	382	362

N/mm ²	Rockwell HRC	Vickers HV	Brinell HB
1180	38	372	353
1160	37	363	344
1115	36	354	336
1080	35	345	327
1055	34	336	319
1025	33	327	311
1000	32	318	301
980	31	310	294
950	30	302	286
930	29	294	279
910	28	286	271
880	27	279	264
860	26	272	258
840	25	266	253
825	24	260	247
805	23	254	243
785	22	248	237
770	21	243	231
760	20	238	226
730	18	230	219
705	-16	222	212
675	-14	213	203
650	-12	204	194
620	-10	196	187
600	-8	188	179
580	-6	180	171
550	-4	173	165
530	-2	166	158
515	0	160	152

A series of horizontal lines for writing, spanning the width of the page. The lines are evenly spaced and extend from the left margin to the right margin. The page is also overlaid with a large, faint, stylized graphic of a circular fan or wheel with curved segments, positioned centrally.

Lined area for notes, consisting of 25 horizontal lines.

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Angelo Ghezzi & C SpA

Via Privata Gorlich, 1 • 20037 Paderno Dugnano (MI) • Italy • Tel. +39 02 9189314
www.angeloghezzi.it • info@angeloghezzi.it

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