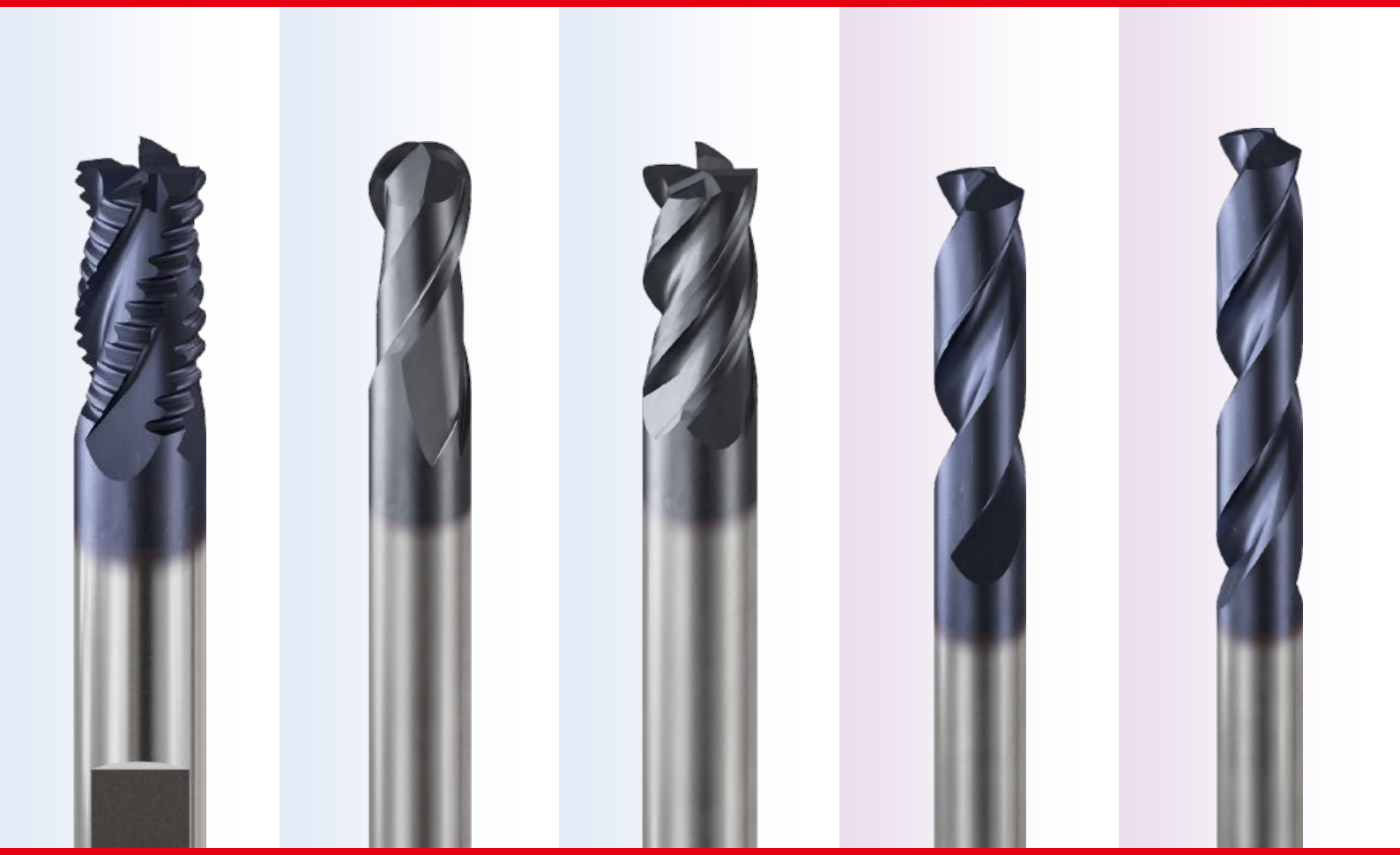
YGI-0225

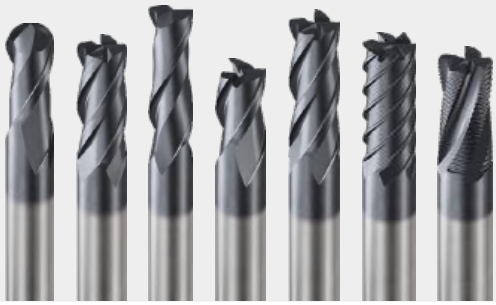
NEW CENTURY

UTENSILI DA TAGLIO

FRESATURA / FORATURA



FRESATURA & FORATURA

FOTO	TIPOLOGIA
	SUPER HARDENED
	***FRESE RIVESTITE PER IMPIEGHI GENERICI***
	FRESE RIVESTITE PER TAGLIO PESANTE
	FRESE RIVESTITE PER MATERIALI TEMPRATI
	PUNTE RIVESTITE PER IMPIEGHI GENERICI

FRESATURA & FORATURA

DESCRIZIONE	PAG.
Progettato per offrire una straordinaria tenacità e resistenza all'usura, superando le frese HSS standard in termini di prestazioni.	4
Una soluzione estremamente efficace per aumentare la produttività e l'efficienza durante il taglio di diversi materiali.	32
Il design geometrico ottimizzato riduce le vibrazioni durante la lavorazione di materiali versatili come acciai, acciai legati, acciai inossidabili ecc.	60
Geometria e rivestimento ottimizzato per lavorazioni di materiali Temprati fino a 65 HRc.	64
Punte con prezzo competitivo per impieghi generici.	84

NEW CENTURY

GUIDA ALLA SELEZIONE

HSS
SUPER HARDENED

Progettato per offrire una straordinaria tenacità e resistenza all'usura, superando le frese in HSS standard in termini di prestazioni

CODICE	ESH570 EHC570	ESH571 EHC571	ESH573 EHC573
N° TAGLIENTI	2	2	3
ANGOLO D'ELICA	≈ 30°	≈ 30°	≈ 30°
FORMA DEL TAGLIENTE	SPIGOLO VIVO	SPIGOLO VIVO	SPIGOLO VIVO
DIM. MIN	D2.0	D2.0	D2.0
DIM. MAX	D32.0	D32.0	D32.0
PAG	6	7	8
	CORTA	LUNGA	CORTA
	Lucido / TiAlN	Lucido / TiAlN	Lucido / TiAlN

◎: Specifico ○: Adatto

Parametri di taglio: p.19

ISO	VDI 3323	Descrizione materiale	Composizione / Struttura / Trattamento		HB	HRc	ESH570 EHC570 Lucido	ESH570 EHC570 TiAlN	ESH571 EHC571 Lucido	ESH571 EHC571 TiAlN	ESH573 EHC573 Lucido	ESH573 EHC573 TiAlN
P	1	Acciai non legati	0.15% C	Ricotto	125		◎	◎	◎	◎	◎	◎
	2		0.45% C	Ricotto	190	13	◎	◎	◎	◎	◎	◎
	3		0.45% C	Bonificato	250	25	◎	◎	◎	◎	◎	◎
	4		0.75% C	Ricotto	270	28	◎	◎	◎	◎	◎	◎
	5		0.75% C	Bonificato	300	32	◎	◎	◎	◎	◎	◎
	6	Acciai basso legati		Ricotto	180	10	◎	◎	◎	◎	◎	◎
	7			Bonificato	275	29	◎	◎	◎	◎	◎	◎
	8			Bonificato	300	32	◎	◎	◎	◎	◎	◎
	9			Bonificato	350	38	○	○	○	○	○	○
	10	Acciai alto legati e acciai da utensili		Ricotto	200	15	◎	◎	◎	◎	◎	◎
	11			Bonificato	325	35	○	○	○	○	○	○
M	12	Acciai Inox	Ferritico / Martensitico	Ricotto	200	15						
	13		Martensitico	Bonificato	240	23						
	14		Austenitico		180	10						
K	15	Ghisa grigia	Perlitico / Ferritico		180	10						
	16		Perlitico (Martensitico)		260	26						
	17	Ghisa nodulare	Ferritica		160	3						
	18		Perlitica		250	25						
	19	Ghisa malleabile	Ferritica		130							
	20		Perlitica		230	21						
N	21	Lega di Alluminio	Non Trattabile		60		○	○	○	○	○	○
	22		Trattabile	Temprato	100		○	○	○	○	○	○
	23	Alluminio fuso, legato	≤ 12% Si, Non Trattabile		75		○	○	○	○	○	○
	24		≤ 12% Si, Trattabile	Temprato	90		○	○	○	○	○	○
	25		> 12% Si, Non Trattabile		130		○	○	○	○	○	○
	26	Rame e leghe di rame (Bronzo/Ottone)	Leghe, PB>1%		110							
	27		CuZn, CuSnZn (Ottone)		90							
	28		CuSn, rame senza piombo e rame elettrolitico		100							
	29	Materiali non ferrosi	Duroplastic, Plastiche rinforzate fibra									
	30		Gomma, Legno, etc.									
S	31	Super leghe resistenti al calore	Base Fe	Ricotto	200	15						
	32			Invecchiato	280	30						
	33		Base Ni o Co	Ricotto	250	25						
	34			Invecchiato	350	38						
	35			Fuso	320	34						
	36	Leghe di titanio	Titanio puro		400 Rm							
	37		Alpha + Beta Leghe	Temprato	1050 Rm							
H	38	Acciai temprati		Temprato	550	55						
	39			Temprato	630	60						
	40	Fusione di ghisa		Fuso	400	42						
	41	Ghisa indurita		Temprato	550	55						

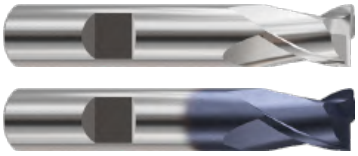
ESH516 EHC516	ESH595 EHC595	ESH596 EHC596	ESH597 EHC597	ESH598 EHC598	ESH535 EHC535	ESH751 EHC751	ESH752 EHC752	ESH753 EHC753	ESH762 EHC762		
3	4	6	4	6	2	3-6	3-6	3-6	3-6		
≈ 30°	≈ 30°	≈ 30°	≈ 30°	≈ 30°	≈ 30°	30°	30°	30°	30°		
SPIGOLO VIVO	SPIGOLO VIVO	SPIGOLO VIVO	SPIGOLO VIVO	SPIGOLO VIVO	SEMISFERICA	SGROSSATURA	SGROSSATURA	SGROSSATURA	SGROSSATURA		
D2.0	D2.0	D21.0	D2.0	D22.0	R1.0	D6.0	D6.0	D6.0	D6.0		
D32.0	D30.0	D32.0	D30.0	D32.0	R12.5	D32.0	D32.0	D32.0	D32.0		
9	10	11	12	13	14	15	16	17	18		
LUNGA	CORTA	CORTA	LUNGA	LUNGA	CORTA	CORTA	LUNGA	CORTA	LUNGA		
Lucido TiAlN	Lucido TiAlN	Lucido TiAlN	Lucido TiAlN	Lucido TiAlN	Lucido TiAlN	Lucido TiAlN	Lucido TiAlN	Lucido TiAlN	Lucido TiAlN		
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	1	P
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	2	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	3	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	4	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	5	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	6	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	7	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	8	
○	○	○	○	○	○	○	○	○	○	9	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	10	
○	○	○	○	○	○	○	○	○	○	11	
										12	M
										13	
										14	
										15	K
										16	
										17	
										18	
										19	
										20	
○	○	○	○	○	○	○	○	○	○	21	N
○	○	○	○	○	○	○	○	○	○	22	
○	○	○	○	○	○	○	○	○	○	23	
○	○	○	○	○	○	○	○	○	○	24	
○	○	○	○	○	○	○	○	○	○	25	
										26	
										27	
										28	
										29	
										30	
										31	S
										32	
										33	
										34	
										35	
										36	
										37	
										38	H
										39	
										40	
										41	

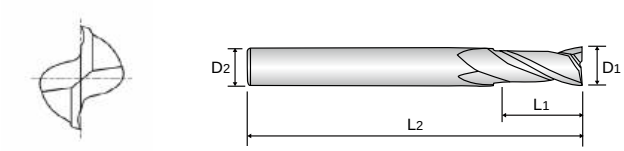
SUPER HARDENED

NEW CENTURY

HSS, 2 FLUTE HELIX SHORT LENGTH
HSS, 2 TAGLIENTI, SERIE CORTA

► Progettato per lavorare acciai al carbonio e acciai legati.





p.19~20

Tolleranze secondo DIN 7160 & 7161

	Tolleranza in µm					
	Diametro in mm					
	Da 1 a 3	Oltre 3 a 6	Oltre 6 a 10	Oltre 10 a 18	Oltre 18 a 13	Oltre 30 a 50
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

ESH570 EHC570 SERIES

Unità: mm

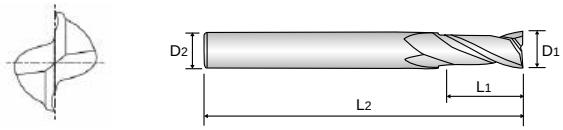
CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
Lucido	TiAlN	D_1	D_2	L_1	L_2
ESH570020	EHC570020	2.0	6	4	48
ESH570030	EHC570030	3.0	6	5	49
ESH570040	EHC570040	4.0	6	7	51
ESH570050	EHC570050	5.0	6	8	52
ESH570060	EHC570060	6.0	6	8	52
ESH570070	EHC570070	7.0	10	10	60
ESH570080	EHC570080	8.0	10	11	61
ESH570090	EHC570090	9.0	10	11	61
ESH570100	EHC570100	10.0	10	13	63
ESH570110	EHC570110	11.0	12	13	70
ESH570120	EHC570120	12.0	12	16	73
ESH570130	EHC570130	13.0	12	16	73
ESH570140	EHC570140	14.0	12	16	73
ESH570150	EHC570150	15.0	12	16	73
ESH570160	EHC570160	16.0	16	19	79
ESH570170	EHC570170	17.0	16	19	79
ESH570180	EHC570180	18.0	16	19	79
ESH570190	EHC570190	19.0	16	19	79
ESH570200	EHC570200	20.0	20	22	88
ESH570210	EHC570210	21.0	20	22	88
ESH570220	EHC570220	22.0	20	22	88
ESH570230	EHC570230	23.0	25	22	88
ESH570240	EHC570240	24.0	25	26	102
ESH570250	EHC570250	25.0	25	26	102
ESH570280	EHC570280	28.0	25	26	102
ESH570300	EHC570300	30.0	25	26	102
ESH570320	EHC570320	32.0	32	32	112

SUPER HARDENED

NEW CENTURY

HSS, 2 FLUTE HELIX LONG LENGTH
HSS, 2 TAGLIENTI, SERIE LUNGA

► Progettato per lavorare acciai al carbonio e acciai legati.



p.19~20

Tolleranze secondo DIN 7160 & 7161

	Tolleranza in µm					
	Diametro in mm					
	Da 1 a 3	Oltre 3 a 6	Oltre 6 a 10	Oltre 10 a 18	Oltre 18 a 13	Oltre 30 a 50
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

ESH571 EHC571 SERIES

Unità: mm

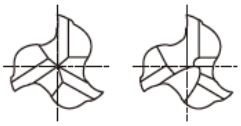
CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
Lucido	TiAlN	D_1	D_2	L_1	L_2
ESH571020	**EHC571020**	**2.0**	6	7	51
ESH571030	**EHC571030**	**3.0**	6	8	52
ESH571040	**EHC571040**	**4.0**	6	11	55
ESH571050	**EHC571050**	**5.0**	6	13	57
ESH571060	**EHC571060**	**6.0**	6	13	57
ESH571070	**EHC571070**	**7.0**	10	16	66
ESH571080	**EHC571080**	**8.0**	10	19	69
ESH571090	**EHC571090**	**9.0**	10	19	69
ESH571100	**EHC571100**	**10.0**	10	22	72
ESH571110	**EHC571110**	**11.0**	12	22	79
ESH571120	**EHC571120**	**12.0**	12	26	83
ESH571130	**EHC571130**	**13.0**	12	26	83
ESH571140	**EHC571140**	**14.0**	12	26	83
ESH571150	**EHC571150**	**15.0**	12	26	83
ESH571160	**EHC571160**	**16.0**	16	32	92
ESH571170	**EHC571170**	**17.0**	16	32	92
ESH571180	**EHC571180**	**18.0**	16	32	92
ESH571190	**EHC571190**	**19.0**	16	32	92
ESH571200	**EHC571200**	**20.0**	20	38	104
ESH571210	**EHC571210**	**21.0**	20	38	104
ESH571220	**EHC571220**	**22.0**	20	38	104
ESH571230	**EHC571230**	**23.0**	20	38	104
ESH571240	**EHC571240**	**24.0**	25	45	121
ESH571250	**EHC571250**	**25.0**	25	45	121
ESH571280	**EHC571280**	**28.0**	25	45	121
ESH571300	**EHC571300**	**30.0**	25	45	121
ESH571320	**EHC571320**	**32.0**	32	53	133

SUPER HARDENED

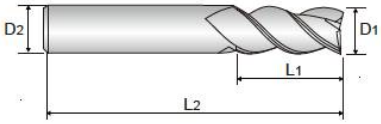
NEW CENTURY

HSS, 3 FLUTE HELIX SHORT LENGTH
HSS, 3 TAGLIENTI, SERIE CORTA

► Progettato per lavorare acciai al carbonio e acciai legati.



Fino a Ø3mm Oltre Ø3mm



Tolleranze secondo DIN 7160 & 7161

	Tolleranza in µm					
	Diametro in mm					
	Da 1 a 3	Oltre 3 a 6	Oltre 6 a 10	Oltre 10 a 18	Oltre 18 a 13	Oltre 30 a 50
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

p.21~23

ESH573 EHC573 SERIES

Unità: mm

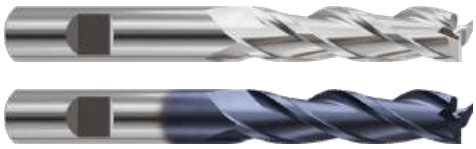
CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
Lucido	TiAlN	D_1	D_2	L_1	L_2
ESH573020	EHC573020	2.0	6	7	51
ESH573030	EHC573030	3.0	6	8	52
ESH573040	EHC573040	4.0	6	11	55
ESH573050	EHC573050	5.0	6	13	57
ESH573060	EHC573060	6.0	6	13	57
ESH573070	EHC573070	7.0	10	16	66
ESH573080	EHC573080	8.0	10	19	69
ESH573090	EHC573090	9.0	10	19	69
ESH573100	EHC573100	10.0	10	22	72
ESH573110	EHC573110	11.0	12	22	79
ESH573120	EHC573120	12.0	12	26	83
ESH573130	EHC573130	13.0	12	26	83
ESH573140	EHC573140	14.0	12	26	83
ESH573150	EHC573150	15.0	12	26	83
ESH573160	EHC573160	16.0	16	32	92
ESH573170	EHC573170	17.0	16	32	92
ESH573180	EHC573180	18.0	16	32	92
ESH573190	EHC573190	19.0	16	32	92
ESH573200	EHC573200	20.0	20	38	104
ESH573210	EHC573210	21.0	20	38	104
ESH573220	EHC573220	22.0	20	38	104
ESH573230	EHC573230	23.0	20	38	104
ESH573240	EHC573240	24.0	25	45	121
ESH573250	EHC573250	25.0	25	45	121
ESH573280	EHC573280	28.0	25	45	121
ESH573300	EHC573300	30.0	25	45	121
ESH573320	EHC573320	32.0	32	53	133

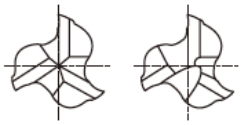
SUPER HARDENED

NEW CENTURY

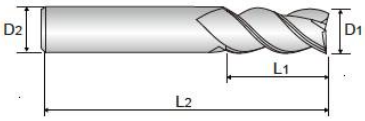
HSS, 3 FLUTE HELIX LONG LENGTH
HSS, 3 TAGLIENTI, SERIE LUNGA

► Progettato per lavorare acciai al carbonio e acciai legati.





Fino a Ø3mm Oltre Ø3mm



Tolleranze secondo DIN 7160 & 7161

	Tolleranza in µm					
	Diametro in mm					
	Da 1 a 3	Oltre 3 a 6	Oltre 6 a 10	Oltre 10 a 18	Oltre 18 a 13	Oltre 30 a 50
e8	- 14 - 28	- 20 - 38	- 25 - 47	- 32 - 59	- 40 - 73	- 50 - 89
h6	0 - 6	0 - 8	0 - 9	0 - 11	0 - 13	0 - 16

PREMIUM HSS | DIN 844 | 3 | ≈30°

p.21~23

ESH516 EHC516 SERIES

Unità: mm

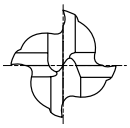
CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
Lucido	TiAlN	D_1	D_2	L_1	L_2
ESH516020	**EHC516020**	**2.0**	6	10	54
ESH516030	**EHC516030**	**3.0**	6	12	56
ESH516040	**EHC516040**	**4.0**	6	19	63
ESH516050	**EHC516050**	**5.0**	6	24	68
ESH516060	**EHC516060**	**6.0**	6	24	68
ESH516070	**EHC516070**	**7.0**	10	30	80
ESH516080	**EHC516080**	**8.0**	10	38	88
ESH516090	**EHC516090**	**9.0**	10	38	88
ESH516100	**EHC516100**	**10.0**	10	45	95
ESH516110	**EHC516110**	**11.0**	12	45	102
ESH516120	**EHC516120**	**12.0**	12	53	110
ESH516130	**EHC516130**	**13.0**	12	53	110
ESH516140	**EHC516140**	**14.0**	12	53	110
ESH516150	**EHC516150**	**15.0**	12	53	110
ESH516160	**EHC516160**	**16.0**	16	63	123
ESH516170	**EHC516170**	**17.0**	16	63	123
ESH516180	**EHC516180**	**18.0**	16	63	123
ESH516190	**EHC516190**	**19.0**	16	63	123
ESH516200	**EHC516200**	**20.0**	20	75	141
ESH516220	**EHC516220**	**22.0**	20	75	141
ESH516240	**EHC516240**	**24.0**	25	90	166
ESH516250	**EHC516250**	**25.0**	25	90	166
ESH516260	**EHC516260**	**26.0**	25	90	166
ESH516280	**EHC516280**	**28.0**	25	90	166
ESH516300	**EHC516300**	**30.0**	25	90	166
ESH516320	**EHC516320**	**32.0**	32	106	186

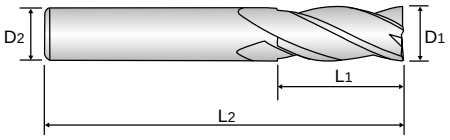
SUPER HARDENED

NEW CENTURY

HSS, 4 FLUTE HELIX SHORT LENGTH
HSS, 4 TAGLIENTI, SERIE CORTA

► Progettato per lavorare acciai al carbonio e acciai legati.





p.25~26

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ + 0.04	h6

ESH595 EHC595 SERIES

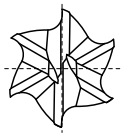
Unità: mm

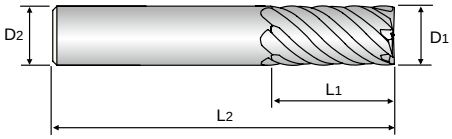
CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
Lucido	TiAlN	D_1	D_2	L_1	L_2
ESH595020	**EHC595020**	**2.0**	6	7	51
ESH595030	**EHC595030**	**3.0**	6	8	52
ESH595040	**EHC595040**	**4.0**	6	11	55
ESH595050	**EHC595050**	**5.0**	6	13	57
ESH595060	**EHC595060**	**6.0**	6	13	57
ESH595070	**EHC595070**	**7.0**	10	16	66
ESH595080	**EHC595080**	**8.0**	10	19	69
ESH595090	**EHC595090**	**9.0**	10	19	69
ESH595100	**EHC595100**	**10.0**	10	22	72
ESH595110	**EHC595110**	**11.0**	12	22	79
ESH595120	**EHC595120**	**12.0**	12	26	83
ESH595130	**EHC595130**	**13.0**	12	26	83
ESH595140	**EHC595140**	**14.0**	12	26	83
ESH595150	**EHC595150**	**15.0**	12	26	83
ESH595160	**EHC595160**	**16.0**	16	32	92
ESH595170	**EHC595170**	**17.0**	16	32	92
ESH595180	**EHC595180**	**18.0**	16	32	92
ESH595190	**EHC595190**	**19.0**	16	32	92
ESH595920	**EHC595920**	**20.0**	16	38	98
ESH595200	**EHC595200**	**20.0**	20	38	104
ESH595210	**EHC595210**	**21.0**	20	38	104
ESH595220	**EHC595220**	**22.0**	20	38	104
ESH595230	**EHC595230**	**23.0**	20	38	104
ESH595240	**EHC595240**	**24.0**	25	45	121
ESH595250	**EHC595250**	**25.0**	25	45	121
ESH595280	**EHC595280**	**28.0**	25	45	121
ESH595300	**EHC595300**	**30.0**	25	45	121

NEW CENTURY

HSS, 6 FLUTE HELIX SHORT LENGTH
HSS, 6 TAGLIENTI, SERIE CORTA

► Progettato per lavorare acciai al carbonio e acciai legati.





p.27

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ + 0.04	h6

ESH596 EHC596 SERIES

Unità: mm

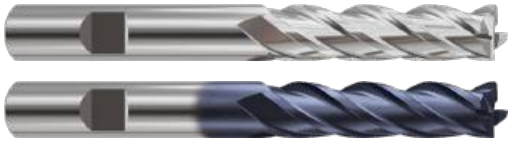
CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
Lucido	TiAlN	D_1	D_2	L_1	L_2
ESH596210	**EHC596210**	**21.0**	20	38	104
ESH596220	**EHC596220**	**22.0**	20	38	104
ESH596230	**EHC596230**	**23.0**	20	38	104
ESH596240	**EHC596240**	**24.0**	25	45	121
ESH596250	**EHC596250**	**25.0**	25	45	121
ESH596260	**EHC596260**	**26.0**	25	45	121
ESH596280	**EHC596280**	**28.0**	25	45	121
ESH596300	**EHC596300**	**30.0**	25	45	121
ESH596320	**EHC596320**	**32.0**	32	53	133

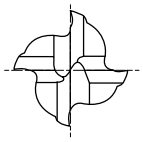
SUPER HARDENED

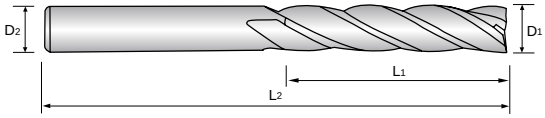
NEW CENTURY

HSS, 4 FLUTE HELIX LONG LENGTH
HSS, 4 TAGLIENTI, SERIE LUNGA

► Progettato per lavorare acciai al carbonio e acciai legati.







p.25~26

Diam. Fresa	Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
Fino a Ø6	0 ~ + 0.04	h6
Oltre a Ø6	0 ~ + 0.05	

ESH597 EHC597 SERIES

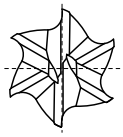
Unità: mm

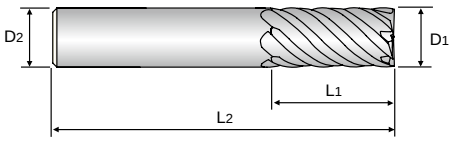
CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
Lucido	TiAlN	D_1	D_2	L_1	L_2
ESH597020	**EHC597020**	**2.0**	6	10	54
ESH597030	**EHC597030**	**3.0**	6	12	56
ESH597040	**EHC597040**	**4.0**	6	19	63
ESH597050	**EHC597050**	**5.0**	6	24	68
ESH597060	**EHC597060**	**6.0**	6	24	68
ESH597070	**EHC597070**	**7.0**	10	30	80
ESH597080	**EHC597080**	**8.0**	10	38	88
ESH597090	**EHC597090**	**9.0**	10	38	88
ESH597100	**EHC597100**	**10.0**	10	45	95
ESH597110	**EHC597110**	**11.0**	12	45	102
ESH597120	**EHC597120**	**12.0**	12	53	110
ESH597130	**EHC597130**	**13.0**	12	53	110
ESH597140	**EHC597140**	**14.0**	12	53	110
ESH597150	**EHC597150**	**15.0**	12	53	110
ESH597160	**EHC597160**	**16.0**	16	63	123
ESH597170	**EHC597170**	**17.0**	16	63	123
ESH597180	**EHC597180**	**18.0**	16	63	123
ESH597190	**EHC597190**	**19.0**	16	63	123
ESH597200	**EHC597200**	**20.0**	20	75	141
ESH597220	**EHC597220**	**22.0**	20	75	141
ESH597240	**EHC597240**	**24.0**	25	90	166
ESH597250	**EHC597250**	**25.0**	25	90	166
ESH597260	**EHC597260**	**26.0**	25	90	166
ESH597280	**EHC597280**	**28.0**	25	90	166
ESH597300	**EHC597300**	**30.0**	25	90	166

NEW CENTURY

HSS, 6 FLUTE HELIX LONG LENGTH
HSS, 6 TAGLIENTI, SERIE LUNGA

► Progettato per lavorare acciai al carbonio e acciai legati.





p.27

Diam. Fresa	Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
Fino a Ø6	0 ~ + 0.04	h6
Oltre a Ø6	0 ~ + 0.05	

ESH598 EHC598 SERIES

Unità: mm

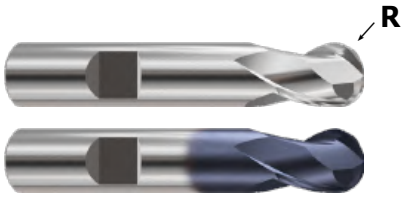
CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
Lucido	TiAlN	D_1	D_2	L_1	L_2
ESH598220	**EHC598220**	**22.0**	20	75	141
ESH598240	**EHC598240**	**24.0**	25	90	166
ESH598250	**EHC598250**	**25.0**	25	90	166
ESH598260	**EHC598260**	**26.0**	25	90	166
ESH598280	**EHC598280**	**28.0**	25	90	166
ESH598300	**EHC598300**	**30.0**	25	90	166
ESH598320	**EHC598320**	**32.0**	32	106	186

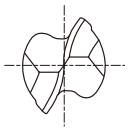
SUPER HARDENED

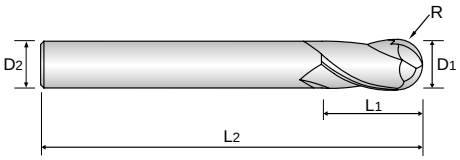
NEW CENTURY

HSS, 2 FLUTE BALL NOSE HELIX SHORT LENGTH
HSS, 2 TAGLIENTI, SEMISFERICA, SERIE CORTA

► Progettato per lavorare acciai al carbonio e acciai legati.







p.28~29

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.03	h6

ESH535 EHC535 SERIES

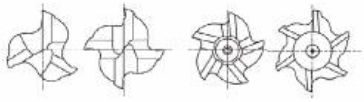
Unità: mm

CODICE		Raggio	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
Lucido	TiAlN	R	D_1	D_2	L_1	L_2
ESH535020	**EHC535020**	R1.0	**2.0**	6	4	48
ESH535030	**EHC535030**	R1.5	**3.0**	6	5	49
ESH535040	**EHC535040**	R2.0	**4.0**	6	7	51
ESH535050	**EHC535050**	R2.5	**5.0**	6	8	52
ESH535060	**EHC535060**	R3.0	**6.0**	6	8	52
ESH535070	**EHC535070**	R3.5	**7.0**	10	10	60
ESH535080	**EHC535080**	R4.0	**8.0**	10	11	61
ESH535090	**EHC535090**	R4.5	**9.0**	10	11	61
ESH535100	**EHC535100**	R5.0	**10.0**	10	13	63
ESH535110	**EHC535110**	R5.5	**11.0**	12	13	70
ESH535120	**EHC535120**	R6.0	**12.0**	12	16	73
ESH535130	**EHC535130**	R6.5	**13.0**	12	16	73
ESH535140	**EHC535140**	R7.0	**14.0**	12	16	73
ESH535150	**EHC535150**	R7.5	**15.0**	12	16	73
ESH535160	**EHC535160**	R8.0	**16.0**	16	19	79
ESH535170	**EHC535170**	R8.5	**17.0**	16	19	79
ESH535180	**EHC535180**	R9.0	**18.0**	16	19	79
ESH535190	**EHC535190**	R9.5	**19.0**	16	19	79
ESH535200	**EHC535200**	R10.0	**20.0**	20	22	88
ESH535220	**EHC535220**	R11.0	**22.0**	20	22	88
ESH535240	**EHC535240**	R12.0	**24.0**	25	26	102
ESH535250	**EHC535250**	R12.5	**25.0**	25	26	102

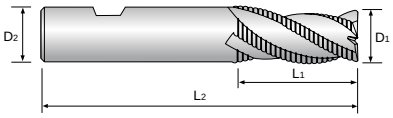
NEW CENTURY

HSS, MULTI FLUTE SHORT LENGTH ROUGHING - COARSE
HSS, MULTI TAGLIENTE, SERIE CORTA, PER SGROSSATURA, BOMBATO GROSSO

► Progettato per lavorare acciai al carbonio e acciai legati.
► Fino a Ø20 : tagliente al centro.



Fino a Ø20mm Oltre Ø20mm



p.30~31

ESH751 EHC751 SERIES

Unità: mm

CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale	N° Taglienti	Smusso
Lucido	TiAlN	D1	D2	L1	L2		
ESH751060	**EHC751060**	**6.0**	6	13	57	3	0.25
ESH751070	**EHC751070**	**7.0**	10	16	66	3	0.25
ESH751080	**EHC751080**	**8.0**	10	19	69	3	0.25
ESH751090	**EHC751090**	**9.0**	10	19	69	3	0.34
ESH751100	**EHC751100**	**10.0**	10	22	72	4	0.34
ESH751110	**EHC751110**	**11.0**	12	22	79	4	0.50
ESH751120	**EHC751120**	**12.0**	12	26	83	4	0.50
ESH751130	**EHC751130**	**13.0**	12	26	83	4	0.50
ESH751140	**EHC751140**	**14.0**	12	26	83	4	0.55
ESH751150	**EHC751150**	**15.0**	12	26	83	4	0.55
ESH751160	**EHC751160**	**16.0**	16	32	92	4	0.55
ESH751170	**EHC751170**	**17.0**	16	32	92	4	0.55
ESH751180	**EHC751180**	**18.0**	16	32	92	4	0.55
ESH751190	**EHC751190**	**19.0**	16	32	92	4	0.55
ESH751200	**EHC751200**	**20.0**	20	38	104	4	0.55
ESH751220	**EHC751220**	**22.0**	20	38	104	5	0.55
ESH751240	**EHC751240**	**24.0**	25	45	121	5	0.55
ESH751250	**EHC751250**	**25.0**	25	45	121	5	0.55
ESH751260	**EHC751260**	**26.0**	25	45	121	6	0.55
ESH751280	**EHC751280**	**28.0**	25	45	121	6	0.70
ESH751300	**EHC751300**	**30.0**	25	45	121	6	0.70
ESH751320	**EHC751320**	**32.0**	32	53	133	6	0.70

Tolleranze secondo DIN 7160 & 7161

Tolleranza in µm						
Diametro in mm						
	Da 1 a 3	Oltre 3 a 6	Oltre 6 a 10	Oltre 10 a 18	Oltre 18 a 13	Oltre 30 a 50
js12	±50	±60	±75	±90	±105	±125
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

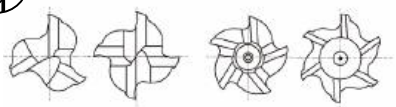
SUPER HARDENED

NEW CENTURY

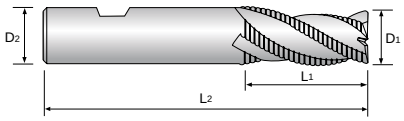
HSS, MULTI FLUTE LONG LENGTH ROUGHING - COARSE

HSS, MULTI TAGLIENTE, SERIE LUNGA, PER SGROSSATURA, BOMBATO GROSSO

► Progettato per lavorare acciai al carbonio e acciai legati.
► Fino a Ø20 : tagliente al centro.



Fino a Ø20mm Oltre a Ø20mm



p.30~31

ESH752 EHC752 SERIES

Unità: mm

CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale	N° Taglienti	Smusso
Lucido	TiAlN	D_1	D_2	L_1	L_2		
ESH752060	**EHC752060**	**6.0**	6	24	68	3	0.25
ESH752070	**EHC752070**	**7.0**	10	30	80	3	0.25
ESH752080	**EHC752080**	**8.0**	10	38	88	3	0.25
ESH752090	**EHC752090**	**9.0**	10	38	88	3	0.34
ESH752100	**EHC752100**	**10.0**	10	45	95	4	0.34
ESH752110	**EHC752110**	**11.0**	12	45	102	4	0.50
ESH752120	**EHC752120**	**12.0**	12	53	110	4	0.50
ESH752130	**EHC752130**	**13.0**	12	53	110	4	0.50
ESH752140	**EHC752140**	**14.0**	12	53	110	4	0.55
ESH752150	**EHC752150**	**15.0**	12	53	110	4	0.55
ESH752160	**EHC752160**	**16.0**	16	63	123	4	0.55
ESH752170	**EHC752170**	**17.0**	16	63	123	4	0.55
ESH752180	**EHC752180**	**18.0**	16	63	123	4	0.55
ESH752190	**EHC752190**	**19.0**	16	63	123	4	0.55
ESH752200	**EHC752200**	**20.0**	20	75	141	4	0.55
ESH752220	**EHC752220**	**22.0**	20	75	141	5	0.55
ESH752240	**EHC752240**	**24.0**	25	90	166	5	0.55
ESH752250	**EHC752250**	**25.0**	25	90	166	5	0.55
ESH752260	**EHC752260**	**26.0**	25	90	166	6	0.55
ESH752280	**EHC752280**	**28.0**	25	90	166	6	0.70
ESH752300	**EHC752300**	**30.0**	25	90	166	6	0.70
ESH752320	**EHC752320**	**32.0**	32	106	186	6	0.70

Tolleranze secondo DIN 7160 & 7161

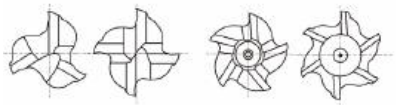
Tolleranza in µm						
Diametro in mm						
	Da 1 a 3	Oltre 3 a 6	Oltre 6 a 10	Oltre 10 a 18	Oltre 18 a 13	Oltre 30 a 50
js12	±50	±60	±75	±90	±105	±125
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

NEW CENTURY

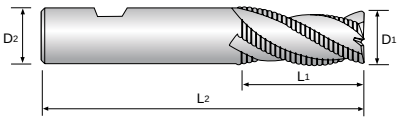
HSS, MULTI FLUTE SHORT LENGTH ROUGHING - FINE

HSS, MULTI TAGLIENTE, SERIE CORTA, PER SGROSSATURA, BOMBATO FINE

► Progettato per lavorare acciai al carbonio e acciai legati.
► Fino a Ø20 : tagliente al centro.



Fino a Ø20mm Oltre a Ø20mm



p.30~31

ESH753 EHC753 SERIES

Unità: mm

CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale	N° Taglienti	Smusso
Lucido	TiAlN	D1	D2	L1	L2		
ESH753060	**EHC753060**	**6.0**	6	13	57	3	0.25
ESH753070	**EHC753070**	**7.0**	10	16	66	3	0.25
ESH753080	**EHC753080**	**8.0**	10	19	69	3	0.25
ESH753090	**EHC753090**	**9.0**	10	19	69	3	0.34
ESH753100	**EHC753100**	**10.0**	10	22	72	4	0.34
ESH753110	**EHC753110**	**11.0**	12	22	79	4	0.50
ESH753120	**EHC753120**	**12.0**	12	26	83	4	0.50
ESH753130	**EHC753130**	**13.0**	12	26	83	4	0.50
ESH753140	**EHC753140**	**14.0**	12	26	83	4	0.55
ESH753150	**EHC753150**	**15.0**	12	26	83	4	0.55
ESH753160	**EHC753160**	**16.0**	16	32	92	4	0.55
ESH753170	**EHC753170**	**17.0**	16	32	92	4	0.55
ESH753180	**EHC753180**	**18.0**	16	32	92	4	0.55
ESH753190	**EHC753190**	**19.0**	16	32	92	4	0.55
ESH753200	**EHC753200**	**20.0**	20	38	104	4	0.55
ESH753220	**EHC753220**	**22.0**	20	38	104	5	0.55
ESH753240	**EHC753240**	**24.0**	25	45	121	5	0.55
ESH753250	**EHC753250**	**25.0**	25	45	121	5	0.55
ESH753260	**EHC753260**	**26.0**	25	45	121	6	0.55
ESH753280	**EHC753280**	**28.0**	25	45	121	6	0.70
ESH753300	**EHC753300**	**30.0**	25	45	121	6	0.70
ESH753320	**EHC753320**	**32.0**	32	53	133	6	0.70

Tolleranze secondo DIN 7160 & 7161

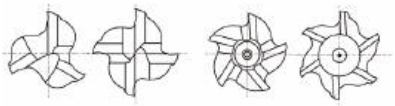
Tolleranza in µm						
Diametro in mm						
	Da 1 a 3	Oltre 3 a 6	Oltre 6 a 10	Oltre 10 a 18	Oltre 18 a 13	Oltre 30 a 50
js12	±50	±60	±75	±90	±105	±125
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

SUPER HARDENED

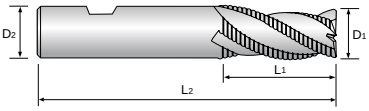
NEW CENTURY

HSS, MULTI FLUTE LONG LENGTH ROUGHING - FINE
HSS, MULTI TAGLIENTE, SERIE LUNGA, PER SGROSSATURA, BOMBATO FINE

► Progettato per lavorare acciai al carbonio e acciai legati.
► Fino a Ø20 : tagliente al centro.



Fino a Ø20mm Oltre a Ø20mm



p.30~31

ESH762 EHC762 SERIES

Unità: mm

CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale	N° Taglienti	Smusso
Lucido	TiAlN	D1	D2	L1	L2		
ESH762060	**EHC762060**	**6.0**	6	24	68	3	0.25
ESH762070	**EHC762070**	**7.0**	10	30	80	3	0.25
ESH762080	**EHC762080**	**8.0**	10	38	88	3	0.25
ESH762090	**EHC762090**	**9.0**	10	38	88	3	0.34
ESH762100	**EHC762100**	**10.0**	10	45	95	4	0.34
ESH762110	**EHC762110**	**11.0**	12	45	102	4	0.50
ESH762120	**EHC762120**	**12.0**	12	53	110	4	0.50
ESH762130	**EHC762130**	**13.0**	12	53	110	4	0.50
ESH762140	**EHC762140**	**14.0**	12	53	110	4	0.55
ESH762150	**EHC762150**	**15.0**	12	53	110	4	0.55
ESH762160	**EHC762160**	**16.0**	16	63	123	4	0.55
ESH762170	**EHC762170**	**17.0**	16	63	123	4	0.55
ESH762180	**EHC762180**	**18.0**	16	63	123	4	0.55
ESH762190	**EHC762190**	**19.0**	16	63	123	4	0.55
ESH762200	**EHC762200**	**20.0**	20	75	141	4	0.55
ESH762220	**EHC762220**	**22.0**	20	75	141	5	0.55
ESH762240	**EHC762240**	**24.0**	25	90	166	5	0.55
ESH762250	**EHC762250**	**25.0**	25	90	166	5	0.55
ESH762260	**EHC762260**	**26.0**	25	90	166	6	0.55
ESH762280	**EHC762280**	**28.0**	25	90	166	6	0.70
ESH762300	**EHC762300**	**30.0**	25	90	166	6	0.70
ESH762320	**EHC762320**	**32.0**	32	106	186	6	0.70

Tolleranze secondo DIN 7160 & 7161

Tolleranza in µm						
Diametro in mm						
	Da 1 a 3	Oltre 3 a 6	Oltre 6 a 10	Oltre 10 a 18	Oltre 18 a 13	Oltre 30 a 50
js12	±50	±60	±75	±90	±105	±125
h6	0 -6	0 -8	0 -9	0 -11	0 -13	0 -16

PARAMETRI DI TAGLIO INDICATIVI

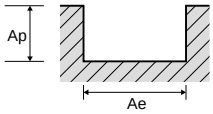
ESH570 / ESH571 SERIES

2 TAGLIENTI - CAVA

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0
P	1	Acciai non legati	1D	0.5D	Vc	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
					fz	0.004	0.008	0.013	0.020	0.025	0.036	0.045	0.061	0.069	0.079	0.079	0.089	0.100	0.100	0.100	0.100	0.100
					n	5600	3500	2800	2200	1800	1400	1100	900	800	700	630	560	500	450	400	350	350
					Vf	40	55	70	90	90	100	100	110	110	110	100	100	100	90	80	70	70
	2		1D	0.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.003	0.007	0.013	0.019	0.025	0.041	0.050	0.063	0.064	0.080	0.090	0.100	0.100	0.100	0.100	0.097	0.098
					n	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310	280
					Vf	30	45	55	70	80	90	90	100	90	90	90	90	90	80	70	60	55
	3		1D	0.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20
					fz	0.004	0.008	0.013	0.019	0.025	0.039	0.050	0.063	0.071	0.078	0.088	0.088	0.100	0.097	0.098	0.100	0.102
					n	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250	220
					Vf	30	40	45	60	60	70	80	80	80	70	70	70	70	60	55	50	45
	4		1D	0.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20
					fz	0.004	0.008	0.013	0.019	0.025	0.039	0.050	0.063	0.071	0.078	0.088	0.088	0.100	0.097	0.098	0.100	0.102
					n	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250	220
					Vf	30	40	45	60	60	70	80	80	80	70	70	70	70	60	55	50	45
	5		1D	0.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.003	0.006	0.014	0.019	0.025	0.040	0.050	0.063	0.071	0.080	0.090	0.102	0.102	0.097	0.094	0.094	0.107
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	15	20	30	35	40	45	45	50	50	45	45	45	45	35	30	30	30
	6	Acciai basso legati	1D	0.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.003	0.007	0.013	0.019	0.025	0.041	0.050	0.063	0.064	0.080	0.090	0.100	0.100	0.100	0.100	0.097	0.098
					n	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310	280
					Vf	30	45	55	70	80	90	90	100	90	90	90	90	90	80	70	60	55
	7		1D	0.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20
					fz	0.004	0.008	0.013	0.019	0.025	0.039	0.050	0.063	0.071	0.078	0.088	0.088	0.100	0.097	0.098	0.100	0.102
					n	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250	220
					Vf	30	40	45	60	60	70	80	80	80	70	70	70	70	60	55	50	45
	8		1D	0.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.003	0.006	0.014	0.019	0.025	0.040	0.050	0.063	0.071	0.080	0.090	0.102	0.102	0.097	0.094	0.094	0.107
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	15	20	30	35	40	45	45	50	50	45	45	45	45	35	30	30	30
	9		1D	0.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.003	0.006	0.014	0.019	0.025	0.040	0.050	0.063	0.071	0.080	0.090	0.102	0.102	0.097	0.094	0.094	0.107
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	15	20	30	35	40	45	45	50	50	45	45	45	45	35	30	30	30
	10	Acciai alto legati e acciai da utensili	1D	0.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.003	0.007	0.013	0.019	0.025	0.041	0.050	0.063	0.064	0.080	0.090	0.100	0.100	0.100	0.100	0.097	0.098
					n	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310	280
					Vf	30	45	55	70	80	90	90	100	90	90	90	90	90	80	70	60	55
	11.1		1D	0.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.003	0.006	0.014	0.019	0.025	0.040	0.050	0.063	0.071	0.080	0.090	0.102	0.102	0.097	0.094	0.094	0.107
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	15	20	30	35	40	45	45	50	50	45	45	45	45	35	30	30	30
N	21	Lega di Alluminio	1D	0.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.065	0.076	0.08	0.088	0.097	0.1	0.107	0.117	0.123	0.123	0.12
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	160	250	290	310	310	390	400	380	350	350	350	320	300	280	270	270	240
	22		1D	0.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.065	0.076	0.08	0.088	0.097	0.1	0.107	0.117	0.123	0.123	0.12
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	160	250	290	310	310	390	400	380	350	350	350	320	300	280	270	270	240
	23	Alluminio fuso, legato	1D	0.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.065	0.076	0.08	0.088	0.097	0.1	0.107	0.117	0.123	0.123	0.12
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	160	250	290	310	310	390	400	380	350	350	350	320	300	280	270	270	240
	24		1D	0.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.065	0.076	0.08	0.088	0.097	0.1	0.107	0.117	0.123	0.123	0.12
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	160	250	290	310	310	390	400	380	350	350	350	320	300	280	270	270	240
	25		1D	0.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.065	0.076	0.08	0.088	0.097	0.1	0.107	0.117	0.123	0.123	0.12
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	160	250	290	310	310	390	400	380	350	350	350	320	300	280	270	270	240

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



PARAMETRI DI TAGLIO INDICATIVI

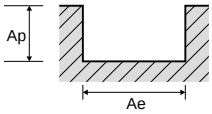
EHC570 / EHC571 SERIES

2 TAGLIENTI - CAVA

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0
P	1	Acciai non legati	1D	0.5D	Vc	50	45	50	50	45	50	50	45	50	50	50	50	50	50	50	45	50
					fz	0.004	0.008	0.013	0.020	0.025	0.036	0.045	0.062	0.070	0.078	0.078	0.088	0.100	0.096	0.100	0.100	0.100
					n	7850	4900	3900	3100	2500	1950	1550	1250	1100	1000	900	800	700	650	550	500	500
					Vf	55	75	100	125	125	140	140	155	155	155	140	140	140	125	110	100	100
	2		1D	0.5D	Vc	40	40	40	40	40	40	40	40	45	40	40	40	45	45	45	40	40
					fz	0.003	0.007	0.012	0.020	0.024	0.040	0.050	0.064	0.063	0.078	0.089	0.096	0.096	0.100	0.100	0.094	0.094
					n	6300	4500	3100	2500	2250	1550	1250	1100	1000	800	700	650	650	550	500	450	400
					Vf	40	65	75	100	110	125	125	140	125	125	125	125	125	110	100	85	75
	3		1D	0.5D	Vc	35	35	30	35	30	30	35	35	35	35	30	35	35	35	35	35	30
					fz	0.004	0.008	0.013	0.019	0.025	0.040	0.050	0.061	0.069	0.077	0.091	0.091	0.100	0.094	0.094	0.100	0.108
					n	5600	3500	2500	2250	1700	1250	1100	900	800	650	550	550	500	450	400	350	300
					Vf	40	55	65	85	85	100	110	110	110	100	100	100	100	85	75	70	65
	4		1D	0.5D	Vc	35	35	30	35	30	30	35	35	35	35	30	35	35	35	35	35	30
					fz	0.004	0.008	0.013	0.019	0.025	0.040	0.050	0.061	0.069	0.077	0.091	0.091	0.100	0.094	0.094	0.100	0.108
					n	5600	3500	2500	2250	1700	1250	1100	900	800	650	550	550	500	450	400	350	300
					Vf	40	55	65	85	85	100	110	110	110	100	100	100	100	85	75	70	65
	5		1D	0.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.003	0.007	0.013	0.020	0.025	0.041	0.050	0.064	0.070	0.081	0.093	0.108	0.108	0.100	0.100	0.100	0.100
					n	3100	2250	1550	1250	1100	800	650	550	500	400	350	300	300	250	200	200	200
					Vf	20	30	40	50	55	65	65	70	70	65	65	65	65	50	40	40	40
	6	Acciai basso legati	1D	0.5D	Vc	40	40	40	40	40	40	40	40	45	40	40	40	45	45	45	40	40
					fz	0.003	0.007	0.012	0.020	0.024	0.040	0.050	0.064	0.063	0.078	0.089	0.096	0.096	0.100	0.100	0.094	0.094
					n	6300	4500	3100	2500	2250	1550	1250	1100	1000	800	700	650	650	550	500	450	400
					Vf	40	65	75	100	110	125	125	140	125	125	125	125	125	110	100	85	75
	7		1D	0.5D	Vc	35	35	30	35	30	30	35	35	35	35	30	35	35	35	35	35	30
					fz	0.004	0.008	0.013	0.019	0.025	0.040	0.050	0.061	0.069	0.077	0.091	0.091	0.100	0.094	0.094	0.100	0.108
					n	5600	3500	2500	2250	1700	1250	1100	900	800	650	550	550	500	450	400	350	300
					Vf	40	55	65	85	85	100	110	110	110	100	100	100	100	85	75	70	65
	8		1D	0.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.003	0.007	0.013	0.020	0.025	0.041	0.050	0.064	0.070	0.081	0.093	0.108	0.108	0.100	0.100	0.100	0.100
					n	3100	2250	1550	1250	1100	800	650	550	500	400	350	300	300	250	200	200	200
					Vf	20	30	40	50	55	65	65	70	70	65	65	65	65	50	40	40	40
	9		1D	0.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.003	0.007	0.013	0.020	0.025	0.041	0.050	0.064	0.070	0.081	0.093	0.108	0.108	0.100	0.100	0.100	0.100
					n	3100	2250	1550	1250	1100	800	650	550	500	400	350	300	300	250	200	200	200
					Vf	20	30	40	50	55	65	65	70	70	65	65	65	65	50	40	40	40
	10	Acciai alto legati e acciai da utensili	1D	0.5D	Vc	40	40	40	40	40	40	40	40	45	40	40	40	45	45	45	40	40
					fz	0.003	0.007	0.012	0.020	0.024	0.040	0.050	0.064	0.063	0.078	0.089	0.096	0.096	0.100	0.100	0.094	0.094
					n	6300	4500	3100	2500	2250	1550	1250	1100	1000	800	700	650	650	550	500	450	400
					Vf	40	65	75	100	110	125	125	140	125	125	125	125	125	110	100	85	75
	11.1		1D	0.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.003	0.007	0.013	0.020	0.025	0.041	0.050	0.064	0.070	0.081	0.093	0.108	0.108	0.100	0.100	0.100	0.100
					n	3100	2250	1550	1250	1100	800	650	550	500	400	350	300	300	250	200	200	200
					Vf	20	30	40	50	55	65	65	70	70	65	65	65	65	50	40	40	40
N	21	Lega di Alluminio	1D	0.5D	Vc	105	145	140	140	150	140	135	130	135	140	140	140	135	135	135	145	140
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.064	0.076	0.079	0.088	0.098	0.1	0.108	0.115	0.123	0.123	0.12
					n	16800	15400	11200	8800	7850	5600	4350	3500	3100	2800	2500	2250	1950	1700	1550	1550	1400
					Vf	225	350	405	435	435	545	560	530	490	490	490	450	420	390	380	380	335
	22		1D	0.5D	Vc	105	145	140	140	150	140	135	130	135	140	140	140	135	135	135	145	140
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.064	0.076	0.079	0.088	0.098	0.1	0.108	0.115	0.123	0.123	0.12
					n	16800	15400	11200	8800	7850	5600	4350	3500	3100	2800	2500	2250	1950	1700	1550	1550	1400
					Vf	225	350	405	435	435	545	560	530	490	490	490	450	420	390	380	380	335
	23	Alluminio fuso, legato	1D	0.5D	Vc	105	145	140	140	150	140	135	130	135	140	140	140	135	135	135	145	140
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.064	0.076	0.079	0.088	0.098	0.1	0.108	0.115	0.123	0.123	0.12
					n	16800	15400	11200	8800	7850	5600	4350	3500	3100	2800	2500	2250	1950	1700	1550	1550	1400
					Vf	225	350	405	435	435	545	560	530	490	490	490	450	420	390	380	380	335
	24		1D	0.5D	Vc	105	145	140	140	150	140	135	130	135	140	140	140	135	135	135	145	140
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.064	0.076	0.079	0.088	0.098	0.1	0.108	0.115	0.123	0.123	0.12
					n	16800	15400	11200	8800	7850	5600	4350	3500	3100	2800	2500	2250	1950	1700	1550	1550	1400
					Vf	225	350	405	435	435	545	560	530	490	490	490	450	420	390	380	380	335
	25		1D	0.5D	Vc	105	145	140	140	150	140	135	130	135	140	140	140	135	135	135	145	140
					fz	0.007	0.011	0.018	0.025	0.028	0.049	0.064	0.076	0.079	0.088	0.098	0.1	0.108	0.115	0.123	0.123	0.12
					n	16800	15400	11200	8800	7850	5600	4350	3500	3100	2800	2500	2250	1950	1700	1550	1550	1400
					Vf	225	350	405	435	435	545	560	530	490	490	490	450	420	390	380	380	335

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



PARAMETRI DI TAGLIO INDICATIVI

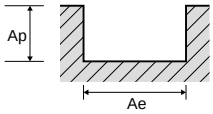
ESH573 / ESH516 SERIES

3 TAGLIENTI - CAVA

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0
P	1	Acciai non legati	1D	0.5D	Vc	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
					fz	0.002	0.005	0.007	0.012	0.015	0.021	0.027	0.037	0.042	0.048	0.048	0.054	0.060	0.059	0.058	0.057	0.057
					n	5600	3500	2800	2200	1800	1400	1100	900	800	700	630	560	500	450	400	350	350
					Vf	35	50	60	80	80	90	90	100	100	100	90	90	90	80	70	60	60
	2		1D	0.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.002	0.004	0.007	0.010	0.014	0.021	0.026	0.033	0.033	0.042	0.047	0.052	0.052	0.054	0.052	0.054	0.054
					n	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310	280
					Vf	25	35	45	55	65	70	70	80	70	70	70	70	70	65	55	50	45
	3		1D	0.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20
					fz	0.002	0.003	0.006	0.008	0.011	0.019	0.023	0.029	0.033	0.037	0.042	0.042	0.048	0.043	0.042	0.040	0.045
					n	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250	220
					Vf	20	25	30	40	40	50	55	55	55	50	50	50	50	40	35	30	30
	4		1D	0.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20
					fz	0.002	0.003	0.006	0.008	0.011	0.019	0.023	0.029	0.033	0.037	0.042	0.042	0.048	0.043	0.042	0.040	0.045
					n	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250	220
					Vf	20	25	30	40	40	50	55	55	55	50	50	50	50	40	35	30	30
	5		1D	0.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.002	0.003	0.006	0.007	0.010	0.018	0.022	0.029	0.033	0.036	0.040	0.045	0.045	0.037	0.042	0.042	0.048
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	10	15	20	20	25	30	30	35	35	30	30	30	30	20	20	20	20
	6	Acciai basso legati	1D	0.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.002	0.004	0.007	0.010	0.014	0.021	0.026	0.033	0.033	0.042	0.047	0.052	0.052	0.054	0.052	0.054	0.054
					n	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310	280
					Vf	25	35	45	55	65	70	70	80	70	70	70	70	70	65	55	50	45
	7		1D	0.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20
					fz	0.002	0.003	0.006	0.008	0.011	0.019	0.023	0.029	0.033	0.037	0.042	0.042	0.048	0.043	0.042	0.040	0.045
					n	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250	220
					Vf	20	25	30	40	40	50	55	55	55	50	50	50	50	40	35	30	30
	8		1D	0.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.002	0.003	0.006	0.007	0.010	0.018	0.022	0.029	0.033	0.036	0.040	0.045	0.045	0.037	0.042	0.042	0.048
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	10	15	20	20	25	30	30	35	35	30	30	30	30	20	20	20	20
	9		1D	0.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.002	0.003	0.006	0.007	0.010	0.018	0.022	0.029	0.033	0.036	0.040	0.045	0.045	0.037	0.042	0.042	0.048
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	10	15	20	20	25	30	30	35	35	30	30	30	30	20	20	20	20
	10	Acciai alto legati e acciai da utensili	1D	0.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.002	0.004	0.007	0.010	0.014	0.021	0.026	0.033	0.033	0.042	0.047	0.052	0.052	0.054	0.052	0.054	0.054
					n	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310	280
					Vf	25	35	45	55	65	70	70	80	70	70	70	70	70	65	55	50	45
	11.1		1D	0.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.002	0.003	0.006	0.007	0.010	0.018	0.022	0.029	0.033	0.036	0.040	0.045	0.045	0.037	0.042	0.042	0.048
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	10	15	20	20	25	30	30	35	35	30	30	30	30	20	20	20	20
N	21	Lega di Alluminio	1D	0.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.003	0.005	0.008	0.011	0.013	0.022	0.029	0.035	0.036	0.04	0.044	0.046	0.048	0.053	0.055	0.055	0.053
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	110	170	200	210	210	260	270	260	240	240	240	220	200	190	180	180	160
	22		1D	0.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.003	0.005	0.008	0.011	0.013	0.022	0.029	0.035	0.036	0.04	0.044	0.046	0.048	0.053	0.055	0.055	0.053
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	110	170	200	210	210	260	270	260	240	240	240	220	200	190	180	180	160
	23	Alluminio fuso, legato	1D	0.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.003	0.005	0.008	0.011	0.013	0.022	0.029	0.035	0.036	0.04	0.044	0.046	0.048	0.053	0.055	0.055	0.053
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	110	170	200	210	210	260	270	260	240	240	240	220	200	190	180	180	160
	24		1D	0.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.003	0.005	0.008	0.011	0.013	0.022	0.029	0.035	0.036	0.04	0.044	0.046	0.048	0.053	0.055	0.055	0.053
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	110	170	200	210	210	260	270	260	240	240	240	220	200	190	180	180	160
	25		1D	0.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.003	0.005	0.008	0.011	0.013	0.022	0.029	0.035	0.036	0.04	0.044	0.046	0.048	0.053	0.055	0.055	0.053
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	110	170	200	210	210	260	270	260	240	240	240	220	200	190	180	180	160

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



PARAMETRI DI TAGLIO INDICATIVI

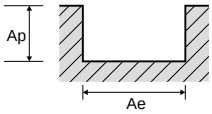
EHC573 / EHC516 SERIES

3 TAGLIENTI - CAVA

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0
P	1	Acciai non legati	1D	0.5D	Vc	50	45	50	50	45	50	45	50	50	50	50	50	50	50	50	45	50
					fz	0.002	0.005	0.007	0.012	0.015	0.021	0.028	0.036	0.042	0.048	0.047	0.053	0.060	0.058	0.060	0.058	0.058
					n	7900	4900	3900	3100	2500	2000	1500	1300	1100	980	880	780	700	630	560	490	490
					Vf	50	70	85	110	110	125	125	140	140	140	125	125	125	110	100	85	85
	2		1D	0.5D	Vc	40	40	40	40	40	40	40	40	45	40	40	40	45	45	45	40	40
					fz	0.002	0.004	0.006	0.010	0.014	0.022	0.028	0.033	0.034	0.043	0.048	0.053	0.053	0.054	0.051	0.054	0.056
					n	6300	4500	3100	2500	2200	1500	1300	1100	980	780	700	630	630	560	490	430	390
					Vf	35	50	60	75	90	100	110	110	100	100	100	100	100	90	75	70	65
	3		1D	0.5D	Vc	35	35	30	35	30	35	35	35	35	30	30	35	35	35	35	35	30
					fz	0.002	0.003	0.005	0.008	0.011	0.018	0.023	0.028	0.032	0.037	0.042	0.042	0.048	0.043	0.043	0.038	0.043
					n	5600	3500	2500	2200	1700	1300	1100	880	780	630	560	560	490	430	390	350	310
					Vf	30	35	40	55	55	70	75	75	75	70	70	70	70	55	50	40	40
	4		1D	0.5D	Vc	35	35	30	35	30	35	35	35	35	30	30	35	35	35	35	35	30
					fz	0.002	0.003	0.005	0.008	0.011	0.018	0.023	0.028	0.032	0.037	0.042	0.042	0.048	0.043	0.043	0.038	0.043
					n	5600	3500	2500	2200	1700	1300	1100	880	780	630	560	560	490	430	390	350	310
					Vf	30	35	40	55	55	70	75	75	75	70	70	70	70	55	50	40	40
	5		1D	0.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.002	0.003	0.007	0.008	0.011	0.017	0.021	0.030	0.034	0.034	0.038	0.043	0.043	0.040	0.045	0.045	0.050
					n	3100	2200	1500	1300	1100	780	630	560	490	390	350	310	310	250	220	220	200
					Vf	15	20	30	30	35	40	40	50	50	40	40	40	40	30	30	30	30
	6	Acciai basso legati	1D	0.5D	Vc	40	40	40	40	40	40	40	40	45	40	40	40	45	45	45	40	40
					fz	0.002	0.004	0.006	0.010	0.014	0.022	0.028	0.033	0.034	0.043	0.048	0.053	0.053	0.054	0.051	0.054	0.056
					n	6300	4500	3100	2500	2200	1500	1300	1100	980	780	700	630	630	560	490	430	390
					Vf	35	50	60	75	90	100	110	110	100	100	100	100	100	90	75	70	65
	7		1D	0.5D	Vc	35	35	30	35	30	35	35	35	35	30	30	35	35	35	35	35	30
					fz	0.002	0.003	0.005	0.008	0.011	0.018	0.023	0.028	0.032	0.037	0.042	0.042	0.048	0.043	0.043	0.038	0.043
					n	5600	3500	2500	2200	1700	1300	1100	880	780	630	560	560	490	430	390	350	310
					Vf	30	35	40	55	55	70	75	75	75	70	70	70	70	55	50	40	40
	8		1D	0.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.002	0.003	0.007	0.008	0.011	0.017	0.021	0.030	0.034	0.034	0.038	0.043	0.043	0.040	0.045	0.045	0.050
					n	3100	2200	1500	1300	1100	780	630	560	490	390	350	310	310	250	220	220	200
					Vf	15	20	30	30	35	40	40	50	50	40	40	40	40	30	30	30	30
	9		1D	0.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.002	0.003	0.007	0.008	0.011	0.017	0.021	0.030	0.034	0.034	0.038	0.043	0.043	0.040	0.045	0.045	0.050
					n	3100	2200	1500	1300	1100	780	630	560	490	390	350	310	310	250	220	220	200
					Vf	15	20	30	30	35	40	40	50	50	40	40	40	40	30	30	30	30
	10	Acciai alto legati e acciai da utensili	1D	0.5D	Vc	40	40	40	40	40	40	40	40	45	40	40	40	45	45	45	40	40
					fz	0.002	0.004	0.006	0.010	0.014	0.022	0.028	0.033	0.034	0.043	0.048	0.053	0.053	0.054	0.051	0.054	0.056
					n	6300	4500	3100	2500	2200	1500	1300	1100	980	780	700	630	630	560	490	430	390
					Vf	35	50	60	75	90	100	110	110	100	100	100	100	100	90	75	70	65
	11.1		1D	0.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.002	0.003	0.007	0.008	0.011	0.017	0.021	0.030	0.034	0.034	0.038	0.043	0.043	0.040	0.045	0.045	0.050
					n	3100	2200	1500	1300	1100	780	630	560	490	390	350	310	310	250	220	220	200
					Vf	15	20	30	30	35	40	40	50	50	40	40	40	40	30	30	30	30
N	21	Lega di Alluminio	1D	0.5D	Vc	105	145	140	140	145	140	135	130	135	140	140	140	135	135	130	140	140
					fz	0.003	0.005	0.008	0.011	0.012	0.021	0.029	0.034	0.037	0.04	0.045	0.047	0.048	0.053	0.056	0.056	0.054
					n	16800	15400	11200	8800	7800	5600	4300	3500	3100	2800	2500	2200	1950	1700	1500	1500	1400
					Vf	150	240	280	290	290	360	380	360	340	340	340	310	280	270	250	250	225
	22		1D	0.5D	Vc	105	145	140	140	145	140	135	130	135	140	140	140	135	135	130	140	140
					fz	0.003	0.005	0.008	0.011	0.012	0.021	0.029	0.034	0.037	0.04	0.045	0.047	0.048	0.053	0.056	0.056	0.054
					n	16800	15400	11200	8800	7800	5600	4300	3500	3100	2800	2500	2200	1950	1700	1500	1500	1400
					Vf	150	240	280	290	290	360	380	360	340	340	340	310	280	270	250	250	225
	23	Alluminio fuso, legato	1D	0.5D	Vc	105	145	140	140	145	140	135	130	135	140	140	140	135	135	130	140	140
					fz	0.003	0.005	0.008	0.011	0.012	0.021	0.029	0.034	0.037	0.04	0.045	0.047	0.048	0.053	0.056	0.056	0.054
					n	16800	15400	11200	8800	7800	5600	4300	3500	3100	2800	2500	2200	1950	1700	1500	1500	1400
					Vf	150	240	280	290	290	360	380	360	340	340	340	310	280	270	250	250	225
	24		1D	0.5D	Vc	105	145	140	140	145	140	135	130	135	140	140	140	135	135	130	140	140
					fz	0.003	0.005	0.008	0.011	0.012	0.021	0.029	0.034	0.037	0.04	0.045	0.047	0.048	0.053	0.056	0.056	0.054
					n	16800	15400	11200	8800	7800	5600	4300	3500	3100	2800	2500	2200	1950	1700	1500	1500	1400
					Vf	150	240	280	290	290	360	380	360	340	340	340	310	280	270	250	250	225
	25		1D	0.5D	Vc	105	145	140	140	145	140	135	130	135	140	140	140	135	135	130	140	140
					fz	0.003	0.005	0.008	0.011	0.012	0.021	0.029	0.034	0.037	0.04	0.045	0.047	0.048	0.053	0.056	0.056	0.054
					n	16800	15400	11200	8800	7800	5600	4300	3500	3100	2800	2500	2200	1950	1700	1500	1500	1400
					Vf	150	240	280	290	290	360	380	360	340	340	340	310	280	270	250	250	225

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



PARAMETRI DI TAGLIO INDICATIVI

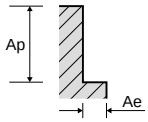
ESH573 / ESH516 SERIES

3 TAGLIENTI - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0
P	1	Acciai non legati	1D	1.5D	Vc	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
					fz	0.004	0.008	0.013	0.020	0.025	0.036	0.045	0.061	0.069	0.079	0.079	0.089	0.100	0.100	0.100	0.100	0.100
					n	5600	3500	2800	2200	1800	1400	1100	900	800	700	630	560	500	450	400	350	350
					Vf	60	80	105	135	135	150	150	165	165	165	150	150	150	135	120	105	105
	2		1D	1.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.044	0.056	0.057	0.071	0.080	0.089	0.089	0.092	0.090	0.086	0.089
					n	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310	280
					Vf	40	60	75	95	110	120	120	135	120	120	120	120	120	110	95	80	75
	3		1D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20
					fz	0.003	0.006	0.009	0.014	0.018	0.030	0.038	0.048	0.054	0.059	0.067	0.067	0.076	0.070	0.071	0.073	0.076
					n	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250	220
					Vf	35	45	50	65	65	80	90	90	90	80	80	80	80	65	60	55	50
	4		1D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20
					fz	0.003	0.006	0.009	0.014	0.018	0.030	0.038	0.048	0.054	0.059	0.067	0.067	0.076	0.070	0.071	0.073	0.076
					n	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250	220
					Vf	35	45	50	65	65	80	90	90	90	80	80	80	80	65	60	55	50
	5		1D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.002	0.004	0.009	0.013	0.019	0.030	0.037	0.046	0.052	0.060	0.067	0.076	0.076	0.065	0.063	0.063	0.071
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	15	20	30	35	45	50	50	55	55	50	50	50	50	35	30	30	30
	6	Acciai basso legati	1D	1.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.044	0.056	0.057	0.071	0.080	0.089	0.089	0.092	0.090	0.086	0.089
					n	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310	280
					Vf	40	60	75	95	110	120	120	135	120	120	120	120	120	110	95	80	75
	7		1D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	20
					fz	0.003	0.006	0.009	0.014	0.018	0.030	0.038	0.048	0.054	0.059	0.067	0.067	0.076	0.070	0.071	0.073	0.076
					n	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250	220
					Vf	35	45	50	65	65	80	90	90	90	80	80	80	80	65	60	55	50
	8		1D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.002	0.004	0.009	0.013	0.019	0.030	0.037	0.046	0.052	0.060	0.067	0.076	0.076	0.065	0.063	0.063	0.071
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	15	20	30	35	45	50	50	55	55	50	50	50	50	35	30	30	30
	9		1D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.002	0.004	0.009	0.013	0.019	0.030	0.037	0.046	0.052	0.060	0.067	0.076	0.076	0.065	0.063	0.063	0.071
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	15	20	30	35	45	50	50	55	55	50	50	50	50	35	30	30	30
	10	Acciai alto legati e acciai da utensili	1D	1.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.044	0.056	0.057	0.071	0.080	0.089	0.089	0.092	0.090	0.086	0.089
					n	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310	280
					Vf	40	60	75	95	110	120	120	135	120	120	120	120	120	110	95	80	75
	11.1		1D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.002	0.004	0.009	0.013	0.019	0.030	0.037	0.046	0.052	0.060	0.067	0.076	0.076	0.065	0.063	0.063	0.071
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	15	20	30	35	45	50	50	55	55	50	50	50	50	35	30	30	30
N	21	Lega di Alluminio	1D	1.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.048	0.057	0.061	0.067	0.074	0.075	0.081	0.089	0.091	0.091	0.09
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	180	280	330	350	350	440	450	430	400	400	400	360	340	320	300	300	270
	22		1D	1.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.048	0.057	0.061	0.067	0.074	0.075	0.081	0.089	0.091	0.091	0.09
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	180	280	330	350	350	440	450	430	400	400	400	360	340	320	300	300	270
	23	Alluminio fuso, legato	1D	1.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.048	0.057	0.061	0.067	0.074	0.075	0.081	0.089	0.091	0.091	0.09
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	180	280	330	350	350	440	450	430	400	400	400	360	340	320	300	300	270
	24		1D	1.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.048	0.057	0.061	0.067	0.074	0.075	0.081	0.089	0.091	0.091	0.09
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	180	280	330	350	350	440	450	430	400	400	400	360	340	320	300	300	270
	25		1D	1.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105	100
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.048	0.057	0.061	0.067	0.074	0.075	0.081	0.089	0.091	0.091	0.09
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100	1000
					Vf	180	280	330	350	350	440	450	430	400	400	400	360	340	320	300	300	270

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



NEW CENTURY

PARAMETRI DI TAGLIO INDICATIVI

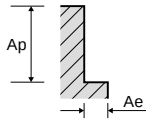
EHC573 / EHC516 SERIES

3 TAGLIENTI - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0
P	1	Acciai non legati	1D	1.5D	Vc	50	45	50	50	45	50	45	50	50	50	50	50	50	50	50	45	50
					fz	0.004	0.007	0.012	0.020	0.025	0.035	0.047	0.059	0.070	0.078	0.080	0.090	0.100	0.101	0.101	0.099	0.099
					n	7900	4900	3900	3100	2500	2000	1500	1300	1100	980	880	780	700	630	560	490	490
					Vf	85	110	145	190	190	210	210	230	230	230	210	210	210	190	170	145	145
	2		1D	1.5D	Vc	40	40	40	40	40	40	40	40	45	40	40	40	45	45	45	40	40
					fz	0.003	0.006	0.011	0.017	0.023	0.038	0.044	0.058	0.058	0.073	0.081	0.090	0.090	0.092	0.088	0.085	0.090
					n	6300	4500	3100	2500	2200	1500	1300	1100	980	780	700	630	630	560	490	430	390
					Vf	55	85	105	130	155	170	170	190	170	170	170	170	170	155	130	110	105
	3		1D	1.5D	Vc	35	35	30	35	30	35	35	35	35	30	30	35	35	35	35	35	30
					fz	0.003	0.006	0.009	0.014	0.018	0.028	0.038	0.047	0.053	0.058	0.065	0.065	0.075	0.070	0.073	0.071	0.075
					n	5600	3500	2500	2200	1700	1300	1100	880	780	630	560	560	490	430	390	350	310
					Vf	50	60	70	90	90	110	125	125	125	110	110	110	110	90	85	75	70
	4		1D	1.5D	Vc	35	35	30	35	30	35	35	35	35	30	30	35	35	35	35	35	30
					fz	0.003	0.006	0.009	0.014	0.018	0.028	0.038	0.047	0.053	0.058	0.065	0.065	0.075	0.070	0.073	0.071	0.075
					n	5600	3500	2500	2200	1700	1300	1100	880	780	630	560	560	490	430	390	350	310
					Vf	50	60	70	90	90	110	125	125	125	110	110	110	110	90	85	75	70
	5		1D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.002	0.005	0.009	0.013	0.018	0.030	0.037	0.045	0.051	0.060	0.067	0.075	0.075	0.067	0.061	0.061	0.067
					n	3100	2200	1500	1300	1100	780	630	560	490	390	350	310	310	250	220	220	200
					Vf	20	30	40	50	60	70	70	75	75	70	70	70	70	50	40	40	40
	6	Acciai basso legati	1D	1.5D	Vc	40	40	40	40	40	40	40	40	45	40	40	40	45	45	45	40	40
					fz	0.003	0.006	0.011	0.017	0.023	0.038	0.044	0.058	0.058	0.073	0.081	0.090	0.090	0.092	0.088	0.085	0.090
					n	6300	4500	3100	2500	2200	1500	1300	1100	980	780	700	630	630	560	490	430	390
					Vf	55	85	105	130	155	170	170	190	170	170	170	170	170	155	130	110	105
	7		1D	1.5D	Vc	35	35	30	35	30	35	35	35	35	30	30	35	35	35	35	35	30
					fz	0.003	0.006	0.009	0.014	0.018	0.028	0.038	0.047	0.053	0.058	0.065	0.065	0.075	0.070	0.073	0.071	0.075
					n	5600	3500	2500	2200	1700	1300	1100	880	780	630	560	560	490	430	390	350	310
					Vf	50	60	70	90	90	110	125	125	125	110	110	110	110	90	85	75	70
	8		1D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.002	0.005	0.009	0.013	0.018	0.030	0.037	0.045	0.051	0.060	0.067	0.075	0.075	0.067	0.061	0.061	0.067
					n	3100	2200	1500	1300	1100	780	630	560	490	390	350	310	310	250	220	220	200
					Vf	20	30	40	50	60	70	70	75	75	70	70	70	70	50	40	40	40
	9		1D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.002	0.005	0.009	0.013	0.018	0.030	0.037	0.045	0.051	0.060	0.067	0.075	0.075	0.067	0.061	0.061	0.067
					n	3100	2200	1500	1300	1100	780	630	560	490	390	350	310	310	250	220	220	200
					Vf	20	30	40	50	60	70	70	75	75	70	70	70	70	50	40	40	40
	10	Acciai alto legati e acciai da utensili	1D	1.5D	Vc	40	40	40	40	40	40	40	40	45	40	40	40	45	45	45	40	40
					fz	0.003	0.006	0.011	0.017	0.023	0.038	0.044	0.058	0.058	0.073	0.081	0.090	0.090	0.092	0.088	0.085	0.090
					n	6300	4500	3100	2500	2200	1500	1300	1100	980	780	700	630	630	560	490	430	390
					Vf	55	85	105	130	155	170	170	190	170	170	170	170	170	155	130	110	105
	11.1		1D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.002	0.005	0.009	0.013	0.018	0.030	0.037	0.045	0.051	0.060	0.067	0.075	0.075	0.067	0.061	0.061	0.067
					n	3100	2200	1500	1300	1100	780	630	560	490	390	350	310	310	250	220	220	200
					Vf	20	30	40	50	60	70	70	75	75	70	70	70	70	50	40	40	40
N	21	Lega di Alluminio	1D	1.5D	Vc	105	145	140	140	145	140	135	130	135	140	140	140	135	135	130	140	140
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.049	0.057	0.06	0.067	0.075	0.076	0.082	0.088	0.093	0.093	0.09
					n	16800	15400	11200	8800	7800	5600	4300	3500	3100	2800	2500	2200	1950	1700	1500	1500	1400
					Vf	250	390	460	490	490	620	630	600	560	560	560	500	480	450	420	420	380
	22		1D	1.5D	Vc	105	145	140	140	145	140	135	130	135	140	140	140	135	135	130	140	140
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.049	0.057	0.06	0.067	0.075	0.076	0.082	0.088	0.093	0.093	0.09
					n	16800	15400	11200	8800	7800	5600	4300	3500	3100	2800	2500	2200	1950	1700	1500	1500	1400
					Vf	250	390	460	490	490	620	630	600	560	560	560	500	480	450	420	420	380
	23	Alluminio fuso, legato	1D	1.5D	Vc	105	145	140	140	145	140	135	130	135	140	140	140	135	135	130	140	140
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.049	0.057	0.06	0.067	0.075	0.076	0.082	0.088	0.093	0.093	0.09
					n	16800	15400	11200	8800	7800	5600	4300	3500	3100	2800	2500	2200	1950	1700	1500	1500	1400
					Vf	250	390	460	490	490	620	630	600	560	560	560	500	480	450	420	420	380
	24		1D	1.5D	Vc	105	145	140	140	145	140	135	130	135	140	140	140	135	135	130	140	140
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.049	0.057	0.06	0.067	0.075	0.076	0.082	0.088	0.093	0.093	0.09
					n	16800	15400	11200	8800	7800	5600	4300	3500	3100	2800	2500	2200	1950	1700	1500	1500	1400
					Vf	250	390	460	490	490	620	630	600	560	560	560	500	480	450	420	420	380
	25		1D	1.5D	Vc	105	145	140	140	145	140	135	130	135	140	140	140	135	135	130	140	140
					fz	0.005	0.008	0.014	0.019	0.021	0.037	0.049	0.057	0.06	0.067	0.075	0.076	0.082	0.088	0.093	0.093	0.09
					n	16800	15400	11200	8800	7800	5600	4300	3500	3100	2800	2500	2200	1950	1700	1500	1500	1400
					Vf	250	390	460	490	490	620	630	600	560	560	560	500	480	450	420	420	380

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



PARAMETRI DI TAGLIO INDICATIVI

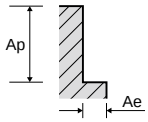
ESH595 / ESH597 SERIES

4 TAGLIENTI - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0
P	1	Acciai non legati	0.1D	1.5D	Vc	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35	35
					fz	0.004	0.008	0.013	0.020	0.025	0.036	0.045	0.061	0.069	0.079	0.079	0.089	0.100	0.100	0.100	0.100
					n	5600	3500	2800	2200	1800	1400	1100	900	800	700	630	560	500	450	400	350
					Vf	80	110	140	180	180	200	200	220	220	220	200	200	200	180	160	140
	2		0.1D	1.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057	0.071	0.080	0.089	0.089	0.091	0.089	0.089
					n	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310
					Vf	55	80	100	125	145	160	160	180	160	160	160	160	160	145	125	110
	3		0.1D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
					fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054	0.058	0.066	0.066	0.075	0.073	0.071	0.075
					n	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250
					Vf	45	60	65	90	90	105	120	120	120	105	105	105	105	90	80	75
	4		0.1D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
					fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054	0.058	0.066	0.066	0.075	0.073	0.071	0.075
					n	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250
					Vf	45	60	65	90	90	105	120	120	120	105	105	105	105	90	80	75
	5		0.1D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.002	0.005	0.010	0.014	0.019	0.029	0.036	0.047	0.054	0.058	0.065	0.074	0.074	0.069	0.070	0.070
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160
					Vf	20	30	45	50	60	65	65	75	75	65	65	65	65	50	45	45
	6	Acciai basso legati	0.1D	1.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057	0.071	0.080	0.089	0.089	0.091	0.089	0.089
					n	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310
					Vf	55	80	100	125	145	160	160	180	160	160	160	160	160	145	125	110
	7		0.1D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
					fz	0.003	0.006	0.009	0.014	0.019	0.029	0.038	0.048	0.054	0.058	0.066	0.066	0.075	0.073	0.071	0.075
					n	4000	2500	1800	1600	1200	900	800	630	560	450	400	400	350	310	280	250
					Vf	45	60	65	90	90	105	120	120	120	105	105	105	105	90	80	75
	8		0.1D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.002	0.005	0.010	0.014	0.019	0.029	0.036	0.047	0.054	0.058	0.065	0.074	0.074	0.069	0.070	0.070
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160
					Vf	20	30	45	50	60	65	65	75	75	65	65	65	65	50	45	45
	9		0.1D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.002	0.005	0.010	0.014	0.019	0.029	0.036	0.047	0.054	0.058	0.065	0.074	0.074	0.069	0.070	0.070
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160
					Vf	20	30	45	50	60	65	65	75	75	65	65	65	65	50	45	45
	10	Acciai alto legati e acciai da utensili	0.1D	1.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.003	0.006	0.011	0.017	0.023	0.036	0.044	0.056	0.057	0.071	0.080	0.089	0.089	0.091	0.089	0.089
					n	4500	3200	2200	1800	1600	1100	900	800	700	560	500	450	450	400	350	310
					Vf	55	80	100	125	145	160	160	180	160	160	160	160	160	145	125	110
	11.1		0.1D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.002	0.005	0.010	0.014	0.019	0.029	0.036	0.047	0.054	0.058	0.065	0.074	0.074	0.069	0.070	0.070
					n	2200	1600	1100	900	800	560	450	400	350	280	250	220	220	180	160	160
					Vf	20	30	45	50	60	65	65	75	75	65	65	65	65	50	45	45
N	21	Lega di Alluminio	0.1D	1.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	0.066	0.074	0.075	0.08	0.088	0.091	0.091
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100
					Vf	240	380	440	470	470	580	600	570	530	530	530	480	450	420	400	400
	22		0.1D	1.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	0.066	0.074	0.075	0.08	0.088	0.091	0.091
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100
					Vf	240	380	440	470	470	580	600	570	530	530	530	480	450	420	400	400
	23	Alluminio fuso, legato	0.1D	1.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	0.066	0.074	0.075	0.08	0.088	0.091	0.091
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100
					Vf	240	380	440	470	470	580	600	570	530	530	530	480	450	420	400	400
	24		0.1D	1.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	0.066	0.074	0.075	0.08	0.088	0.091	0.091
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100
					Vf	240	380	440	470	470	580	600	570	530	530	530	480	450	420	400	400
	25		0.1D	1.5D	Vc	75	105	100	100	105	100	95	95	95	100	100	100	95	95	95	105
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	0.066	0.074	0.075	0.08	0.088	0.091	0.091
					n	12000	11000	8000	6300	5600	4000	3100	2500	2200	2000	1800	1600	1400	1200	1100	1100
					Vf	240	380	440	470	470	580	600	570	530	530	530	480	450	420	400	400

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



PARAMETRI DI TAGLIO INDICATIVI

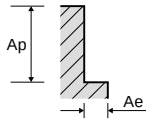
EHC595 / EHC597 SERIES

4 TAGLIENTI - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0
P	1	Acciai non legati	0.1D	1.5D	Vc	50	50	50	50	45	50	50	45	50	50	50	50	50	50	50	45
					fz	0.004	0.008	0.013	0.020	0.025	0.036	0.045	0.062	0.070	0.078	0.078	0.088	0.100	0.096	0.102	0.098
					n	7850	4900	3900	3100	2500	1950	1550	1250	1100	1000	900	800	700	650	550	500
					Vf	110	155	195	250	250	280	280	310	310	310	280	280	280	250	225	195
	2		0.1D	1.5D	Vc	40	40	40	40	40	40	40	40	45	40	40	40	45	45	45	40
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045	0.057	0.056	0.070	0.080	0.087	0.087	0.093	0.088	0.086
					n	6300	4500	3100	2500	2250	1550	1250	1100	1000	800	700	650	650	550	500	450
					Vf	75	110	140	175	205	225	225	250	225	225	225	225	225	205	175	155
	3		0.1D	1.5D	Vc	35	35	30	35	30	30	35	35	35	35	30	35	35	35	35	35
					fz	0.003	0.006	0.009	0.014	0.018	0.029	0.039	0.047	0.053	0.056	0.066	0.066	0.073	0.069	0.069	0.075
					n	5600	3500	2500	2250	1700	1250	1100	900	800	650	550	550	500	450	400	350
					Vf	65	85	90	125	125	145	170	170	170	145	145	145	145	125	110	105
	4		0.1D	1.5D	Vc	35	35	30	35	30	30	35	35	35	35	30	35	35	35	35	35
					fz	0.003	0.006	0.009	0.014	0.018	0.029	0.039	0.047	0.053	0.056	0.066	0.066	0.073	0.069	0.069	0.075
					n	5600	3500	2500	2250	1700	1250	1100	900	800	650	550	550	500	450	400	350
					Vf	65	85	90	125	125	145	170	170	170	145	145	145	145	125	110	105
	5		0.1D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.002	0.004	0.010	0.014	0.019	0.028	0.035	0.048	0.053	0.056	0.064	0.075	0.075	0.070	0.081	0.081
					n	3100	2250	1550	1250	1100	800	650	550	500	400	350	300	300	250	200	200
					Vf	30	40	65	70	85	90	90	105	105	90	90	90	90	70	65	65
	6	Acciai basso legati	0.1D	1.5D	Vc	40	40	40	40	40	40	40	40	45	40	40	40	45	45	45	40
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045	0.057	0.056	0.070	0.080	0.087	0.087	0.093	0.088	0.086
					n	6300	4500	3100	2500	2250	1550	1250	1100	1000	800	700	650	650	550	500	450
					Vf	75	110	140	175	205	225	225	250	225	225	225	225	225	205	175	155
	7		0.1D	1.5D	Vc	35	35	30	35	30	30	35	35	35	35	30	35	35	35	35	35
					fz	0.003	0.006	0.009	0.014	0.018	0.029	0.039	0.047	0.053	0.056	0.066	0.066	0.073	0.069	0.069	0.075
					n	5600	3500	2500	2250	1700	1250	1100	900	800	650	550	550	500	450	400	350
					Vf	65	85	90	125	125	145	170	170	170	145	145	145	145	125	110	105
	8		0.1D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.002	0.004	0.010	0.014	0.019	0.028	0.035	0.048	0.053	0.056	0.064	0.075	0.075	0.070	0.081	0.081
					n	3100	2250	1550	1250	1100	800	650	550	500	400	350	300	300	250	200	200
					Vf	30	40	65	70	85	90	90	105	105	90	90	90	90	70	65	65
	9		0.1D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.002	0.004	0.010	0.014	0.019	0.028	0.035	0.048	0.053	0.056	0.064	0.075	0.075	0.070	0.081	0.081
					n	3100	2250	1550	1250	1100	800	650	550	500	400	350	300	300	250	200	200
					Vf	30	40	65	70	85	90	90	105	105	90	90	90	90	70	65	65
	10	Acciai alto legati e acciai da utensili	0.1D	1.5D	Vc	40	40	40	40	40	40	40	40	45	40	40	40	45	45	45	40
					fz	0.003	0.006	0.011	0.018	0.023	0.036	0.045	0.057	0.056	0.070	0.080	0.087	0.087	0.093	0.088	0.086
					n	6300	4500	3100	2500	2250	1550	1250	1100	1000	800	700	650	650	550	500	450
					Vf	75	110	140	175	205	225	225	250	225	225	225	225	225	205	175	155
	11.1		0.1D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.002	0.004	0.010	0.014	0.019	0.028	0.035	0.048	0.053	0.056	0.064	0.075	0.075	0.070	0.081	0.081
					n	3100	2250	1550	1250	1100	800	650	550	500	400	350	300	300	250	200	200
					Vf	30	40	65	70	85	90	90	105	105	90	90	90	90	70	65	65
N	21	Lega di Alluminio	0.1D	1.5D	Vc	105	145	140	140	150	140	135	130	135	140	140	140	135	135	135	145
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	0.066	0.074	0.074	0.081	0.087	0.09	0.09
					n	16800	15400	11200	8800	7850	5600	4350	3500	3100	2800	2500	2250	1950	1700	1550	1550
					Vf	335	530	615	660	660	810	840	800	740	740	740	670	630	590	560	560
	22		0.1D	1.5D	Vc	105	145	140	140	150	140	135	130	135	140	140	140	135	135	135	145
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	0.066	0.074	0.074	0.081	0.087	0.09	0.09
					n	16800	15400	11200	8800	7850	5600	4350	3500	3100	2800	2500	2250	1950	1700	1550	1550
					Vf	335	530	615	660	660	810	840	800	740	740	740	670	630	590	560	560
	23	Alluminio fuso, legato	0.1D	1.5D	Vc	105	145	140	140	150	140	135	130	135	140	140	140	135	135	135	145
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	0.066	0.074	0.074	0.081	0.087	0.09	0.09
					n	16800	15400	11200	8800	7850	5600	4350	3500	3100	2800	2500	2250	1950	1700	1550	1550
					Vf	335	530	615	660	660	810	840	800	740	740	740	670	630	590	560	560
	24		0.1D	1.5D	Vc	105	145	140	140	150	140	135	130	135	140	140	140	135	135	135	145
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	0.066	0.074	0.074	0.081	0.087	0.09	0.09
					n	16800	15400	11200	8800	7850	5600	4350	3500	3100	2800	2500	2250	1950	1700	1550	1550
					Vf	335	530	615	660	660	810	840	800	740	740	740	670	630	590	560	560
	25		0.1D	1.5D	Vc	105	145	140	140	150	140	135	130	135	140	140	140	135	135	135	145
					fz	0.005	0.009	0.014	0.019	0.021	0.036	0.048	0.057	0.06	0.066	0.074	0.074	0.081	0.087	0.09	0.09
					n	16800	15400	11200	8800	7850	5600	4350	3500	3100	2800	2500	2250	1950	1700	1550	1550
					Vf	335	530	615	660	660	810	840	800	740	740	740	670	630	590	560	560

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



PARAMETRI DI TAGLIO INDICATIVI

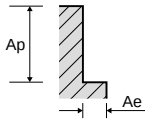
ESH596 / ESH598 SERIES — 6 TAGLIENTI - FIANCO

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 22.0	25.0	28.0	30.0	32.0
P	1	Acciai non legati	0.1D	1.5D	Vc	35	35	35	35	35
					fz	0.067	0.067	0.067	0.067	0.067
					n	500	450	400	350	350
					Vf	200	180	160	140	140
	2		0.1D	1.5D	Vc	30	30	30	30	30
					fz	0.089	0.091	0.089	0.089	0.089
					n	450	400	350	310	280
					Vf	160	145	125	110	100
	3		0.1D	1.5D	Vc	25	25	25	25	25
					fz	0.075	0.073	0.071	0.075	0.074
					n	350	310	280	250	220
					Vf	105	90	80	75	65
	4		0.1D	1.5D	Vc	25	25	25	25	25
					fz	0.075	0.073	0.071	0.075	0.074
					n	350	310	280	250	220
					Vf	105	90	80	75	65
	5		0.1D	1.5D	Vc	15	15	15	15	15
					fz	0.074	0.069	0.070	0.070	0.080
					n	220	180	160	160	140
					Vf	65	50	45	45	45
	6	Acciai basso legati	0.1D	1.5D	Vc	30	30	30	30	30
					fz	0.089	0.091	0.089	0.089	0.089
					n	450	400	350	310	280
					Vf	160	145	125	110	100
	7		0.1D	1.5D	Vc	25	25	25	25	25
					fz	0.075	0.073	0.071	0.075	0.074
					n	350	310	280	250	220
					Vf	105	90	80	75	65
	8		0.1D	1.5D	Vc	15	15	15	15	15
					fz	0.074	0.069	0.070	0.070	0.080
					n	220	180	160	160	140
					Vf	65	50	45	45	45
	9		0.1D	1.5D	Vc	15	15	15	15	15
					fz	0.074	0.069	0.070	0.070	0.080
					n	220	180	160	160	140
					Vf	65	50	45	45	45
	10	Acciai alto legati e acciai da utensili	0.1D	1.5D	Vc	30	30	30	30	30
					fz	0.089	0.091	0.089	0.089	0.089
					n	450	400	350	310	280
					Vf	160	145	125	110	100
	11.1		0.1D	1.5D	Vc	15	15	15	15	15
					fz	0.074	0.069	0.070	0.070	0.080
					n	220	180	160	160	140
					Vf	65	50	45	45	45
N	21	Lega di Alluminio	0.1D	1.5D	Vc	95	95	95	105	100
					fz	0.08	0.088	0.091	0.091	0.09
					n	1400	1200	1100	1100	1000
					Vf	450	420	400	400	360
	22		0.1D	1.5D	Vc	95	95	95	105	100
					fz	0.08	0.088	0.091	0.091	0.09
					n	1400	1200	1100	1100	1000
					Vf	450	420	400	400	360
	23	Alluminio fuso, legato	0.1D	1.5D	Vc	95	95	95	105	100
					fz	0.08	0.088	0.091	0.091	0.09
					n	1400	1200	1100	1100	1000
					Vf	450	420	400	400	360
	24		0.1D	1.5D	Vc	95	95	95	105	100
					fz	0.08	0.088	0.091	0.091	0.09
					n	1400	1200	1100	1100	1000
					Vf	450	420	400	400	360
	25		0.1D	1.5D	Vc	95	95	95	105	100
					fz	0.08	0.088	0.091	0.091	0.09
					n	1400	1200	1100	1100	1000
					Vf	450	420	400	400	360

EHC596 / EHC598 SERIES

Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 22.0	25.0	28.0	30.0	32.0
0.1D	1.5D	Vc	50	50	50	45	50
		fz	0.067	0.064	0.068	0.065	0.065
		n	700	650	550	500	500
		Vf	280	250	225	195	195
0.1D	1.5D	Vc	45	45	45	40	40
		fz	0.058	0.062	0.058	0.057	0.058
		n	650	550	500	450	400
		Vf	225	205	175	155	140
0.1D	1.5D	Vc	35	35	35	35	30
		fz	0.048	0.046	0.046	0.050	0.050
		n	500	450	400	350	300
		Vf	145	125	110	105	90
0.1D	1.5D	Vc	35	35	35	35	30
		fz	0.048	0.046	0.046	0.050	0.050
		n	500	450	400	350	300
		Vf	145	125	110	105	90
0.1D	1.5D	Vc	20	20	20	20	20
		fz	0.050	0.047	0.054	0.054	0.054
		n	300	250	200	200	200
		Vf	90	70	65	65	65
0.1D	1.5D	Vc	45	45	45	40	40
		fz	0.058	0.062	0.058	0.057	0.058
		n	650	550	500	450	400
		Vf	225	205	175	155	140
0.1D	1.5D	Vc	35	35	35	35	30
		fz	0.048	0.046	0.046	0.050	0.050
		n	500	450	400	350	300
		Vf	145	125	110	105	90
0.1D	1.5D	Vc	20	20	20	20	20
		fz	0.050	0.047	0.054	0.054	0.054
		n	300	250	200	200	200
		Vf	90	70	65	65	65
0.1D	1.5D	Vc	20	20	20	20	20
		fz	0.050	0.047	0.054	0.054	0.054
		n	300	250	200	200	200
		Vf	90	70	65	65	65
0.1D	1.5D	Vc	45	45	45	40	40
		fz	0.058	0.062	0.058	0.057	0.058
		n	650	550	500	450	400
		Vf	225	205	175	155	140
0.1D	1.5D	Vc	20	20	20	20	20
		fz	0.050	0.047	0.054	0.054	0.054
		n	300	250	200	200	200
		Vf	90	70	65	65	65
0.1D	1.5D	Vc	135	135	135	145	140
		fz	0.054	0.058	0.06	0.06	0.06
		n	1950	1700	1550	1550	1400
		Vf	630	590	560	560	505
0.1D	1.5D	Vc	135	135	135	145	140
		fz	0.054	0.058	0.06	0.06	0.06
		n	1950	1700	1550	1550	1400
		Vf	630	590	560	560	505
0.1D	1.5D	Vc	135	135	135	145	140
		fz	0.054	0.058	0.06	0.06	0.06
		n	1950	1700	1550	1550	1400
		Vf	630	590	560	560	505
0.1D	1.5D	Vc	135	135	135	145	140
		fz	0.054	0.058	0.06	0.06	0.06
		n	1950	1700	1550	1550	1400
		Vf	630	590	560	560	505
0.1D	1.5D	Vc	135	135	135	145	140
		fz	0.054	0.058	0.06	0.06	0.06
		n	1950	1700	1550	1550	1400
		Vf	630	590	560	560	505

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



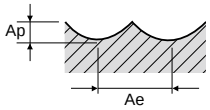
PARAMETRI DI TAGLIO INDICATIVI

ESH535 SERIES — 2 TAGLIENTI SEMISFERICA

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1	Acciai non legati	0.5D	0.3D	Vc	40	40	40	40	40	40	40	40	40
					fz	0.011	0.018	0.031	0.050	0.069	0.085	0.094	0.117	0.130
					n	4500	3200	2200	1600	1300	1000	800	600	500
					Vf	95	115	135	160	180	170	150	140	130
	2		0.5D	0.3D	Vc	30	30	30	30	30	30	30	30	30
					fz	0.010	0.017	0.026	0.044	0.060	0.066	0.083	0.085	0.088
					n	3400	2400	1700	1200	1000	800	600	500	400
					Vf	70	80	90	105	120	105	100	85	70
	3		0.5D	0.3D	Vc	20	20	20	20	20	15	20	20	15
					fz	0.008	0.013	0.023	0.036	0.054	0.061	0.079	0.083	0.091
					n	2000	1400	1000	700	560	450	350	300	220
					Vf	30	35	45	50	60	55	55	50	40
	4		0.5D	0.3D	Vc	20	20	20	20	20	15	20	20	15
					fz	0.008	0.013	0.023	0.036	0.054	0.061	0.079	0.083	0.091
					n	2000	1400	1000	700	560	450	350	300	220
					Vf	30	35	45	50	60	55	55	50	40
	5		0.5D	0.3D	Vc	15	15	15	15	15	10	15	15	15
					fz	0.007	0.013	0.018	0.030	0.044	0.055	0.070	0.088	0.094
					n	1400	1000	700	500	400	320	250	200	160
					Vf	20	25	25	30	35	35	35	35	30
	6	Acciai basso legati	0.5D	0.3D	Vc	30	30	30	30	30	30	30	30	30
					fz	0.010	0.017	0.026	0.044	0.060	0.066	0.083	0.085	0.088
					n	3400	2400	1700	1200	1000	800	600	500	400
					Vf	70	80	90	105	120	105	100	85	70
	7		0.5D	0.3D	Vc	20	20	20	20	20	15	20	20	15
					fz	0.008	0.013	0.023	0.036	0.054	0.061	0.079	0.083	0.091
					n	2000	1400	1000	700	560	450	350	300	220
					Vf	30	35	45	50	60	55	55	50	40
	8		0.5D	0.3D	Vc	15	15	15	15	15	10	15	15	15
					fz	0.007	0.013	0.018	0.030	0.044	0.055	0.070	0.088	0.094
					n	1400	1000	700	500	400	320	250	200	160
					Vf	20	25	25	30	35	35	35	35	30
	9		0.5D	0.3D	Vc	15	15	15	15	15	10	15	15	15
					fz	0.007	0.013	0.018	0.030	0.044	0.055	0.070	0.088	0.094
					n	1400	1000	700	500	400	320	250	200	160
					Vf	20	25	25	30	35	35	35	35	30
	10	Acciai alto legati e acciai da utensili	0.5D	0.3D	Vc	30	30	30	30	30	30	30	30	30
					fz	0.010	0.017	0.026	0.044	0.060	0.066	0.083	0.085	0.088
					n	3400	2400	1700	1200	1000	800	600	500	400
					Vf	70	80	90	105	120	105	100	85	70
	11.1		0.5D	0.3D	Vc	15	15	15	15	15	10	15	15	15
					fz	0.007	0.013	0.018	0.030	0.044	0.055	0.070	0.088	0.094
					n	1400	1000	700	500	400	320	250	200	160
					Vf	20	25	25	30	35	35	35	35	30
N	21	Lega di Alluminio	0.5D	0.3D	Vc	105	100	105	100	100	95	100	100	100
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096
					n	11000	8000	5600	4000	3200	2500	2000	1600	1300
					Vf	230	260	280	350	360	340	300	280	250
	22		0.5D	0.3D	Vc	105	100	105	100	100	95	100	100	100
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096
					n	11000	8000	5600	4000	3200	2500	2000	1600	1300
					Vf	230	260	280	350	360	340	300	280	250
	23	Alluminio fuso, legato	0.5D	0.3D	Vc	105	100	105	100	100	95	100	100	100
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096
					n	11000	8000	5600	4000	3200	2500	2000	1600	1300
					Vf	230	260	280	350	360	340	300	280	250
	24		0.5D	0.3D	Vc	105	100	105	100	100	95	100	100	100
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096
					n	11000	8000	5600	4000	3200	2500	2000	1600	1300
					Vf	230	260	280	350	360	340	300	280	250
	25		0.5D	0.3D	Vc	105	100	105	100	100	95	100	100	100
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.088	0.096
					n	11000	8000	5600	4000	3200	2500	2000	1600	1300
					Vf	230	260	280	350	360	340	300	280	250

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



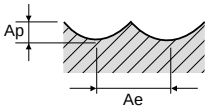
PARAMETRI DI TAGLIO INDICATIVI

EHC535 SERIES 2 TAGLIENTI SEMISFERICA

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 3.0	4.0	6.0	8.0	10.0	12.0	16.0	20.0	25.0
P	1	Acciai non legati	0.7D	0.3D	Vc	60	55	60	55	55	55	55	55	55
					fz	0.011	0.018	0.031	0.050	0.069	0.086	0.095	0.115	0.129
					n	6300	4500	3100	2250	1800	1400	1100	850	700
					Vf	135	160	190	225	250	240	210	195	180
	2		0.7D	0.3D	Vc	45	40	45	45	45	40	45	45	45
					fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091
					n	4750	3350	2400	1700	1400	1100	850	700	550
					Vf	100	110	125	145	170	145	140	120	100
	3		0.7D	0.3D	Vc	25	25	25	25	25	25	25	25	25
					fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092
					n	2800	1950	1400	1000	800	650	500	400	300
					Vf	40	50	65	70	85	75	75	70	55
	4		0.7D	0.3D	Vc	25	25	25	25	25	25	25	25	25
					fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092
					n	2800	1950	1400	1000	800	650	500	400	300
					Vf	40	50	65	70	85	75	75	70	55
	5		0.7D	0.3D	Vc	20	20	20	20	15	15	20	20	15
					fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.100
					n	1950	1400	1000	700	550	450	350	300	200
					Vf	30	35	35	40	50	50	50	50	40
	6	Acciai basso legati	0.7D	0.3D	Vc	45	40	45	45	45	40	45	45	45
					fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091
					n	4750	3350	2400	1700	1400	1100	850	700	550
					Vf	100	110	125	145	170	145	140	120	100
	7		0.7D	0.3D	Vc	25	25	25	25	25	25	25	25	25
					fz	0.007	0.013	0.023	0.035	0.053	0.058	0.075	0.088	0.092
					n	2800	1950	1400	1000	800	650	500	400	300
					Vf	40	50	65	70	85	75	75	70	55
	8		0.7D	0.3D	Vc	20	20	20	20	15	15	20	20	15
					fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.100
					n	1950	1400	1000	700	550	450	350	300	200
					Vf	30	35	35	40	50	50	50	50	40
	9		0.7D	0.3D	Vc	20	20	20	20	15	15	20	20	15
					fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.100
					n	1950	1400	1000	700	550	450	350	300	200
					Vf	30	35	35	40	50	50	50	50	40
	10	Acciai alto legati e acciai da utensili	0.7D	0.3D	Vc	45	40	45	45	45	40	45	45	45
					fz	0.011	0.016	0.026	0.043	0.061	0.066	0.082	0.086	0.091
					n	4750	3350	2400	1700	1400	1100	850	700	550
					Vf	100	110	125	145	170	145	140	120	100
	11.1		0.7D	0.3D	Vc	20	20	20	20	15	15	20	20	15
					fz	0.008	0.013	0.018	0.029	0.045	0.056	0.071	0.083	0.100
					n	1950	1400	1000	700	550	450	350	300	200
					Vf	30	35	35	40	50	50	50	50	40
N	21	Lega di Alluminio	0.7D	0.3D	Vc	145	140	150	140	140	130	140	140	140
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097
					n	15400	11200	7850	5600	4500	3500	2800	2250	1800
					Vf	320	365	390	490	505	475	420	390	350
	22		0.7D	0.3D	Vc	145	140	150	140	140	130	140	140	140
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097
					n	15400	11200	7850	5600	4500	3500	2800	2250	1800
					Vf	320	365	390	490	505	475	420	390	350
	23	Alluminio fuso, legato	0.7D	0.3D	Vc	145	140	150	140	140	130	140	140	140
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097
					n	15400	11200	7850	5600	4500	3500	2800	2250	1800
					Vf	320	365	390	490	505	475	420	390	350
	24		0.7D	0.3D	Vc	145	140	150	140	140	130	140	140	140
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097
					n	15400	11200	7850	5600	4500	3500	2800	2250	1800
					Vf	320	365	390	490	505	475	420	390	350
	25		0.7D	0.3D	Vc	145	140	150	140	140	130	140	140	140
					fz	0.01	0.016	0.025	0.044	0.056	0.068	0.075	0.087	0.097
					n	15400	11200	7850	5600	4500	3500	2800	2250	1800
					Vf	320	365	390	490	505	475	420	390	350

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



PARAMETRI DI TAGLIO INDICATIVI

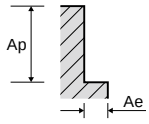
ESH751/ESH752/ESH753/ESH762 SERIES

MULTITAGLIENTE A SGROSSARE - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0
P	1	Acciai non legati	0.5D	1.5D	Vc	35	35	35	35	35	35	35	35	35	35	35	35	35
					fz	0.015	0.025	0.034	0.050	0.056	0.064	0.071	0.080	0.088	0.098	0.088	0.100	0.100
					n	1800	1400	1100	900	800	700	630	560	500	450	400	350	350
					Vf	80	105	150	180	180	180	180	180	220	220	210	210	210
	2		0.5D	1.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.013	0.023	0.033	0.044	0.050	0.063	0.070	0.078	0.076	0.085	0.076	0.086	0.095
					n	1600	1100	900	800	700	560	500	450	450	400	350	310	280
					Vf	60	75	120	140	140	140	140	140	170	170	160	160	160
	3		0.5D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	20
					fz	0.015	0.024	0.034	0.044	0.049	0.061	0.069	0.069	0.080	0.090	0.077	0.087	0.098
					n	1200	900	800	630	560	450	400	400	350	310	280	250	220
					Vf	55	65	110	110	110	110	110	110	140	140	130	130	130
	4		0.5D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	20
					fz	0.015	0.024	0.034	0.044	0.049	0.061	0.069	0.069	0.080	0.090	0.077	0.087	0.098
					n	1200	900	800	630	560	450	400	400	350	310	280	250	220
					Vf	55	65	110	110	110	110	110	110	140	140	130	130	130
	5		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.013	0.021	0.033	0.044	0.050	0.063	0.070	0.080	0.077	0.094	0.089	0.089	0.101
					n	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	30	35	60	70	70	70	70	70	85	85	85	85	85
	6	Acciai basso legati	0.5D	1.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.013	0.023	0.033	0.044	0.050	0.063	0.070	0.078	0.076	0.085	0.076	0.086	0.095
					n	1600	1100	900	800	700	560	500	450	450	400	350	310	280
					Vf	60	75	120	140	140	140	140	140	170	170	160	160	160
	7		0.5D	1.5D	Vc	25	25	25	25	25	25	25	25	25	25	25	25	20
					fz	0.015	0.024	0.034	0.044	0.049	0.061	0.069	0.069	0.080	0.090	0.077	0.087	0.098
					n	1200	900	800	630	560	450	400	400	350	310	280	250	220
					Vf	55	65	110	110	110	110	110	110	140	140	130	130	130
	8		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.013	0.021	0.033	0.044	0.050	0.063	0.070	0.080	0.077	0.094	0.089	0.089	0.101
					n	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	30	35	60	70	70	70	70	70	85	85	85	85	85
	9		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.013	0.021	0.033	0.044	0.050	0.063	0.070	0.080	0.077	0.094	0.089	0.089	0.101
					n	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	30	35	60	70	70	70	70	70	85	85	85	85	85
	10	Acciai alto legati e acciai da utensili	0.5D	1.5D	Vc	30	30	30	30	30	30	30	30	30	30	30	30	30
					fz	0.013	0.023	0.033	0.044	0.050	0.063	0.070	0.078	0.076	0.085	0.076	0.086	0.095
					n	1600	1100	900	800	700	560	500	450	450	400	350	310	280
					Vf	60	75	120	140	140	140	140	140	170	170	160	160	160
	11.1		0.5D	1.5D	Vc	15	15	15	15	15	15	15	15	15	15	15	15	15
					fz	0.013	0.021	0.033	0.044	0.050	0.063	0.070	0.080	0.077	0.094	0.089	0.089	0.101
					n	800	560	450	400	350	280	250	220	220	180	160	160	140
					Vf	30	35	60	70	70	70	70	70	85	85	85	85	85
N	21	Lega di Alluminio	0.5D	1.5D	Vc	85	80	80	75	80	80	80	75	75	80	80	85	80
					fz	0.015	0.025	0.035	0.05	0.058	0.07	0.084	0.104	0.085	0.09	0.094	0.098	0.104
					n	4500	3100	2500	2000	1800	1600	1400	1200	1100	1000	900	900	800
					Vf	200	230	350	400	420	450	470	500	470	450	510	530	500
	22		0.5D	1.5D	Vc	85	80	80	75	80	80	80	75	75	80	80	85	80
					fz	0.015	0.025	0.035	0.05	0.058	0.07	0.084	0.104	0.085	0.09	0.094	0.098	0.104
					n	4500	3100	2500	2000	1800	1600	1400	1200	1100	1000	900	900	800
					Vf	200	230	350	400	420	450	470	500	470	450	510	530	500
	23	Alluminio fuso, legato	0.5D	1.5D	Vc	85	80	80	75	80	80	80	75	75	80	80	85	80
					fz	0.015	0.025	0.035	0.05	0.058	0.07	0.084	0.104	0.085	0.09	0.094	0.098	0.104
					n	4500	3100	2500	2000	1800	1600	1400	1200	1100	1000	900	900	800
					Vf	200	230	350	400	420	450	470	500	470	450	510	530	500
	24		0.5D	1.5D	Vc	85	80	80	75	80	80	80	75	75	80	80	85	80
					fz	0.015	0.025	0.035	0.05	0.058	0.07	0.084	0.104	0.085	0.09	0.094	0.098	0.104
					n	4500	3100	2500	2000	1800	1600	1400	1200	1100	1000	900	900	800
					Vf	200	230	350	400	420	450	470	500	470	450	510	530	500
	25		0.5D	1.5D	Vc	85	80	80	75	80	80	80	75	75	80	80	85	80
					fz	0.015	0.025	0.035	0.05	0.058	0.07	0.084	0.104	0.085	0.09	0.094	0.098	0.104
					n	4500	3100	2500	2000	1800	1600	1400	1200	1100	1000	900	900	800
					Vf	200	230	350	400	420	450	470	500	470	450	510	530	500

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



PARAMETRI DI TAGLIO INDICATIVI

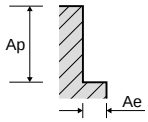
EHC751/EHC752/EHC753/EHC762 SERIES

MULTITAGLIENTE A SGROSSARE - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	22.0	25.0	28.0	30.0	32.0
P	1	Acciai non legati	0.5D	1.5D	Vc	45	50	50	45	50	50	50	50	50	50	50	45	50
					fz	0.015	0.025	0.034	0.050	0.057	0.063	0.069	0.078	0.089	0.095	0.089	0.098	0.098
					n	2500	1950	1550	1250	1100	1000	900	800	700	650	550	500	500
					Vf	110	145	210	250	250	250	250	250	310	310	295	295	295
	2		0.5D	1.5D	Vc	40	40	40	40	45	40	40	40	45	45	45	40	40
					fz	0.013	0.023	0.034	0.044	0.049	0.061	0.070	0.075	0.074	0.087	0.075	0.083	0.094
					n	2250	1550	1250	1100	1000	800	700	650	650	550	500	450	400
					Vf	85	105	170	195	195	195	195	195	240	240	225	225	225
	3		0.5D	1.5D	Vc	30	30	35	35	35	35	30	35	35	35	35	35	30
					fz	0.015	0.024	0.035	0.043	0.048	0.060	0.070	0.070	0.078	0.087	0.075	0.086	0.100
					n	1700	1250	1100	900	800	650	550	550	500	450	400	350	300
					Vf	75	90	155	155	155	155	155	155	195	195	180	180	180
	4		0.5D	1.5D	Vc	30	30	35	35	35	35	30	35	35	35	35	35	30
					fz	0.015	0.024	0.035	0.043	0.048	0.060	0.070	0.070	0.078	0.087	0.075	0.086	0.100
					n	1700	1250	1100	900	800	650	550	550	500	450	400	350	300
					Vf	75	90	155	155	155	155	155	155	195	195	180	180	180
	5		0.5D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.012	0.021	0.033	0.045	0.050	0.063	0.071	0.083	0.080	0.096	0.091	0.091	0.100
					n	1100	800	650	550	500	400	350	300	300	250	220	220	200
					Vf	40	50	85	100	100	100	100	100	120	120	120	120	120
	6	Acciai basso legati	0.5D	1.5D	Vc	40	40	40	40	45	40	40	40	45	45	45	40	40
					fz	0.013	0.023	0.034	0.044	0.049	0.061	0.070	0.075	0.074	0.087	0.075	0.083	0.094
					n	2250	1550	1250	1100	1000	800	700	650	650	550	500	450	400
					Vf	85	105	170	195	195	195	195	195	240	240	225	225	225
	7		0.5D	1.5D	Vc	30	30	35	35	35	35	30	35	35	35	35	35	30
					fz	0.015	0.024	0.035	0.043	0.048	0.060	0.070	0.070	0.078	0.087	0.075	0.086	0.100
					n	1700	1250	1100	900	800	650	550	550	500	450	400	350	300
					Vf	75	90	155	155	155	155	155	155	195	195	180	180	180
	8		0.5D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.012	0.021	0.033	0.045	0.050	0.063	0.071	0.083	0.080	0.096	0.091	0.091	0.100
					n	1100	800	650	550	500	400	350	300	300	250	220	220	200
					Vf	40	50	85	100	100	100	100	100	120	120	120	120	120
	9		0.5D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.012	0.021	0.033	0.045	0.050	0.063	0.071	0.083	0.080	0.096	0.091	0.091	0.100
					n	1100	800	650	550	500	400	350	300	300	250	220	220	200
					Vf	40	50	85	100	100	100	100	100	120	120	120	120	120
	10	Acciai alto legati e acciai da utensili	0.5D	1.5D	Vc	40	40	40	40	45	40	40	40	45	45	45	40	40
					fz	0.013	0.023	0.034	0.044	0.049	0.061	0.070	0.075	0.074	0.087	0.075	0.083	0.094
					n	2250	1550	1250	1100	1000	800	700	650	650	550	500	450	400
					Vf	85	105	170	195	195	195	195	195	240	240	225	225	225
	11.1		0.5D	1.5D	Vc	20	20	20	20	20	20	20	20	20	20	20	20	20
					fz	0.012	0.021	0.033	0.045	0.050	0.063	0.071	0.083	0.080	0.096	0.091	0.091	0.100
					n	1100	800	650	550	500	400	350	300	300	250	220	220	200
					Vf	40	50	85	100	100	100	100	100	120	120	120	120	120
N	21	Lega di Alluminio	0.5D	1.5D	Vc	120	110	110	105	110	115	110	105	105	110	110	120	110
					fz	0.015	0.025	0.035	0.05	0.059	0.07	0.085	0.103	0.085	0.09	0.095	0.099	0.106
					n	6300	4350	3500	2800	2500	2250	1950	1700	1550	1400	1250	1250	1100
					Vf	280	320	490	560	590	630	660	700	660	630	715	740	700
	22		0.5D	1.5D	Vc	120	110	110	105	110	115	110	105	105	110	110	120	110
					fz	0.015	0.025	0.035	0.05	0.059	0.07	0.085	0.103	0.085	0.09	0.095	0.099	0.106
					n	6300	4350	3500	2800	2500	2250	1950	1700	1550	1400	1250	1250	1100
					Vf	280	320	490	560	590	630	660	700	660	630	715	740	700
	23	Alluminio fuso, legato	0.5D	1.5D	Vc	120	110	110	105	110	115	110	105	105	110	110	120	110
					fz	0.015	0.025	0.035	0.05	0.059	0.07	0.085	0.103	0.085	0.09	0.095	0.099	0.106
					n	6300	4350	3500	2800	2500	2250	1950	1700	1550	1400	1250	1250	1100
					Vf	280	320	490	560	590	630	660	700	660	630	715	740	700
	24		0.5D	1.5D	Vc	120	110	110	105	110	115	110	105	105	110	110	120	110
					fz	0.015	0.025	0.035	0.05	0.059	0.07	0.085	0.103	0.085	0.09	0.095	0.099	0.106
					n	6300	4350	3500	2800	2500	2250	1950	1700	1550	1400	1250	1250	1100
					Vf	280	320	490	560	590	630	660	700	660	630	715	740	700
	25		0.5D	1.5D	Vc	120	110	110	105	110	115	110	105	105	110	110	120	110
					fz	0.015	0.025	0.035	0.05	0.059	0.07	0.085	0.103	0.085	0.09	0.095	0.099	0.106
					n	6300	4350	3500	2800	2500	2250	1950	1700	1550	1400	1250	1250	1100
					Vf	280	320	490	560	590	630	660	700	660	630	715	740	700

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



NEW CENTURY

GUIDA ALLA SELEZIONE

MD
FRESE
Impieghi generici

Una soluzione estremamente efficace per aumentare
la produttività e l'efficienza durante il taglio di diversi materiali

CODICE	G9F44	G9J56	G9J62
N° TAGLIENTI	2	2	2
ANGOLO D'ELICA	30°	30°	30°
FORMA DEL TAGLIENTE	SEMISFERICA	SEMISFERICA	SEMISFERICA
DIM. MIN	R1.0	R1.5	R0.25
DIM. MAX	R10.0	R6.0	R2.0
PAG	34	35	36
	CORTA	-	PER NERVATURE
	X-Coating	X-Coating	X-Coating

◎: Specifico ○: Adatto

Parametri di taglio: p.47

ISO	VDI 3323	Descrizione materiale	Composizione / Struttura / Trattamento		HB	HRc	G9F44	G9J56	G9J62
P	1	Acciai non legati	0.15% C	Ricotto	125		◎	◎	◎
	2		0.45% C	Ricotto	190	13	◎	◎	◎
	3		0.45% C	Bonificato	250	25	◎	◎	◎
	4		0.75% C	Ricotto	270	28	◎	◎	◎
	5		0.75% C	Bonificato	300	32	◎	◎	◎
	6	Acciai basso legati		Ricotto	180	10	◎	◎	◎
	7			Bonificato	275	29	◎	◎	◎
	8			Bonificato	300	32	◎	◎	◎
	9			Bonificato	350	38	◎	◎	◎
	10	Acciai alto legati e acciai da utensili		Ricotto	200	15	◎	◎	◎
	11			Bonificato	325	35	◎	◎	◎
M	12	Acciai Inox	Ferritico / Martensitico	Ricotto	200	15			
	13		Martensitico	Bonificato	240	23			
	14		Austenitico		180	10			
K	15	Ghisa grigia	Perlitico / Ferritico		180	10	○	○	
	16		Perlitico (Martensitico)		260	26	○	○	
	17	Ghisa nodulare	Ferritica		160	3	○	○	
	18		Perlitica		250	25	○	○	
	19	Ghisa malleabile	Ferritica		130		○	○	
	20		Perlitica		230	21	○	○	
N	21	Lega di Alluminio	Non Trattabile		60				
	22		Trattabile	Temprato	100				
	23	Alluminio fuso, legato	≤ 12% Si, Non Trattabile		75				
	24		≤ 12% Si, Trattabile	Temprato	90				
	25		> 12% Si, Non Trattabile		130				
	26	Rame e leghe di rame (Bronzo/Ottone)	Leghe, PB>1%		110				
	27		CuZn, CuSnZn (Ottone)		90				
	28		CuSn, rame senza piombo e rame elettrolitico		100				
	29	Materiali non ferrosi	Duroplastic, Plastiche rinforzate fibra						
	30		Gomma, Legno, etc.						
S	31	Super leghe resistenti al calore	Base Fe	Ricotto	200	15			
	32			Invecchiato	280	30			
	33		Base Ni o Co	Ricotto	250	25			
	34			Invecchiato	350	38			
	35			Fuso	320	34			
	36	Leghe di titanio	Titanio puro		400 Rm				
	37		Alpha + Beta Leghe	Temprato	1050 Rm				
H	38	Acciai temprati		Temprato	550	55	◎	◎	◎
	39			Temprato	630	60	○	○	○
	40	Fusione di ghisa		Fuso	400	42	◎	◎	◎
	41	Ghisa indurita		Temprato	550	55	○	○	○

G9J57	G9F41	G9J54	G9J61	G9J59	G9F43	G9F42	G9J55	G9J58	G9J60		
4	2	2	2	3	3	4	4	6	3-4		
30°	30°	30°	30°	30°	30°	30°	30°	45°	20°		
TORICA	SPIGOLO VIVO	SPIGOLO VIVO	SPIGOLO VIVO	SPIGOLO VIVO	SPIGOLO VIVO	SPIGOLO VIVO	SPIGOLO VIVO	SPIGOLO VIVO	SGROSSATURA		
D2.0	D1.0	D3.0	D0.4	D2.0	D1.0	D1.0	D3.0	D6.0	D6.0		
D12.0	D20.0	D12.0	D4.0	D12.0	D20.0	D20.0	D12.0	D16.0	D20.0		
37	**38**	**39**	**40**	**41**	**42**	**43**	**44**	**45**	**46**		
-	CORTA	-	LUNGA	CORTA	CORTA	CORTA	-	-	FINE		
X-Coating	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating	X-Coating		
◎	◎	◎	◎	◎	◎	◎	◎		◎	1	P
◎	◎	◎	◎	◎	◎	◎	◎		◎	2	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	3	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	4	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	5	
◎	◎	◎	◎	◎	◎	◎	◎		◎	6	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	7	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	8	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	9	
◎	◎	◎	◎	◎	◎	◎	◎		◎	10	
◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	11	
										12	M
										13	
	○	○		○	○	○	○		○	14	
○	○	○		○	○	○	○	◎	○	15	K
○	○	○		○	○	○	○	◎	○	16	
○	○	○		○	○	○	○	◎	○	17	
○	○	○		○	○	○	○	◎	○	18	
○	○	○		○	○	○	○	◎	○	19	
○	○	○		○	○	○	○	◎	○	20	
										21	N
										22	
										23	
										24	
										25	
										26	
										27	
										28	
										29	
										30	
										31	S
										32	
										33	
										34	
										35	
										36	
										37	
◎	○	○	◎	○	○	○	○	○		381	H
○			○					○		382	
◎	○	○	◎	○	○	○	○	◎		40	
○			○					○		41	

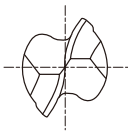
FRESE per IMPIEGHI GENERICI

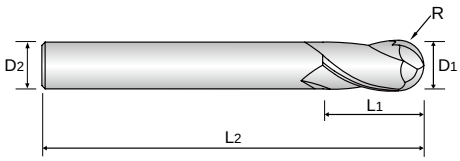
NEW CENTURY

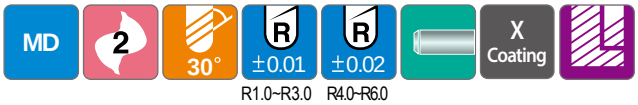
CARBIDE, 2 FLUTE 30° HELIX BALL NOSE

MD, 2 TAGLIENTI, ELICA 30°, SEMISFERICA, SERIE CORTA

- ► Progettato per applicazioni generali su acciai al carbonio, acciai da utensile, acciai legati e acciai inox.
- ► Adatto per lavorazioni ad alta velocità a secco e refrigerate.
- ► Progettato per la fresatura di scanalature con fondo arrotondato, raccordi e contorni speciali.







p.47

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.030	h6

G9F44 SERIES

Unità: mm

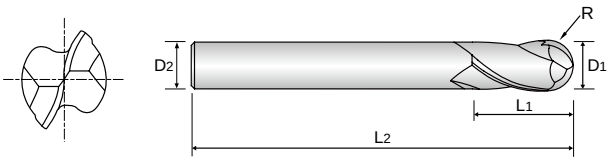
CODICE	Raggio	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	R	D_1	D_2	L_1	L_2
G9F44020N	R1.0	**2.0**	4	5	50
G9F44030N	R1.5	**3.0**	4	6	50
G9F44040N	R2.0	**4.0**	6	8	50
G9F44050N	R2.5	**5.0**	6	10	50
G9F44060N	R3.0	**6.0**	6	12	50
G9F44080N	R4.0	**8.0**	8	14	60
G9F44100N	R5.0	**10.0**	10	20	75
G9F44120N	R6.0	**12.0**	12	24	75
G9F44160N	R8.0	**16.0**	16	32	75
G9F44200N	R10.0	**20.0**	20	32	75

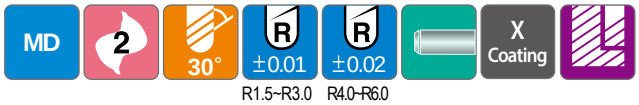
NEW CENTURY

CARBIDE, 2 FLUTE 30° HELIX BALL NOSE

MD, 2 TAGLIENTI, ELICA 30°, SEMISFERICA

- ► Progettato per applicazioni generali su acciai al carbonio, acciai da utensile, acciai legati e acciai inox.
- ► Adatto per lavorazioni ad alta velocità a secco e refrigerate.
- ► Progettato per la fresatura di scanalature con fondo arrotondato, raccordi e contorni speciali.





p.47

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.030	h6

G9J56 SERIES

Unità: mm

CODICE	Raggio	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	R	D_1	D_2	L_1	L_2
G9J56999N	R1.5	**3.0**	3	5	75
G9J56998N	R2.0	**4.0**	4	8	75
G9J56997N	R2.5	**5.0**	5	10	75
G9J56996N	R3.0	**6.0**	6	12	100
G9J56995N	R4.0	**8.0**	8	16	100
G9J56994N	R5.0	**10.0**	10	20	100
G9J56993N	R6.0	**12.0**	12	24	100

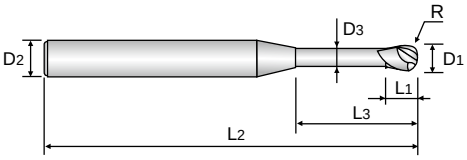
FRESE per IMPIEGHI GENERICI

NEW CENTURY

CARBIDE, 2 FLUTE 30° HELIX BALL NOSE, FOR RIB PROCESSING

MD, 2 TAGLIENTI, ELICA 30°, SEMISFERICA, SCARICATA PER NERVATURE

- ► Progettato per applicazioni generali su acciai al carbonio, acciai da utensile, acciai legati e acciai inox.
- ► Adatto per lavorazioni ad alta velocità a secco e refrigerate.
- ► Progettato per la fresatura di scanalature con fondo arrotondato, raccordi e contorni speciali.



p.48~49

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.030	h6

G9J62 SERIES

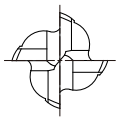
Unità: mm

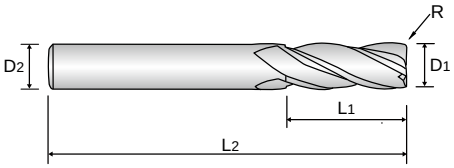
CODICE	Raggio	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza scarico	Lunghezza totale	Diametro scarico
	R	D_1	D_2	L_1	L_3	L_2	D_3
G9J62999N	R0.25	**0.5**	4	0.75	2	50	0.45
G9J62998N	R0.3	**0.6**	4	0.9	6	50	0.55
G9J62997N	R0.4	**0.8**	4	1.2	6	50	0.75
G9J62996N	R0.4	**0.8**	4	1.2	8	50	0.75
G9J62995N	R0.5	**1.0**	4	1.5	6	50	0.95
G9J62994N	R0.5	**1.0**	4	1.5	8	50	0.95
G9J62993N	R0.5	**1.0**	4	1.5	10	50	0.95
G9J62992N	R0.5	**1.0**	4	1.5	12	50	0.95
G9J62991N	R0.75	**1.5**	4	2.3	6	50	1.45
G9J62990N	R0.75	**1.5**	4	2.3	8	50	1.45
G9J62989N	R0.75	**1.5**	4	2.3	10	50	1.45
G9J62988N	R0.75	**1.5**	4	2.3	12	50	1.45
G9J62987N	R0.8	**1.6**	4	2.4	8	50	1.55
G9J62986N	R1.0	**2.0**	4	3	8	50	1.95
G9J62985N	R1.0	**2.0**	4	3	10	50	1.95
G9J62984N	R1.0	**2.0**	4	3	12	50	1.95
G9J62983N	R1.0	**2.0**	4	3	14	50	1.95
G9J62982N	R1.0	**2.0**	4	3	16	50	1.95
G9J62981N	R1.0	**2.0**	4	3	20	50	1.95
G9J62980N	R1.5	**3.0**	6	4.5	10	50	2.85
G9J62979N	R1.5	**3.0**	6	4.5	12	50	2.85
G9J62978N	R1.5	**3.0**	6	4.5	16	60	2.85
G9J62977N	R1.5	**3.0**	6	4.5	20	60	2.85
G9J62976N	R1.5	**3.0**	6	4.5	25	75	2.85
G9J62975N	R2.0	**4.0**	6	6	12	50	3.85
G9J62974N	R2.0	**4.0**	6	6	25	75	3.85
G9J62973N	R2.0	**4.0**	6	6	30	75	3.85

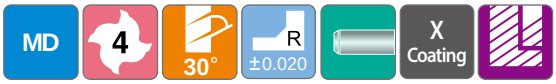
NEW CENTURY

CARBIDE, 4 FLUTE 30° HELIX CORNER RADIUS
MD, 4 TAGLIENTI, ELICA 30°, TORICA

- ► Progettato per applicazioni generali su acciai al carbonio, acciai da utensile, acciai legati e acciai inox.
- ► Adatto per lavorazioni ad alta velocità a secco e refrigerate.
- ► Il design a 4 taglienti consente di ottenere finiture migliori sui pezzi lavorati.
- ► Previene la scheggiatura nelle lavorazioni ad alta velocità grazie al raggio di smusso.







p.50

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.030	h6

G9J57 SERIES

Unità: mm

CODICE	Raggio	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	R	D_1	D_2	L_1	L_2
G9J57999N	R0.2	**2.0**	4	6	50
G9J57998N	R0.3	**2.0**	4	6	50
G9J57997N	R0.5	**2.0**	4	6	50
G9J57996N	R0.2	**3.0**	4	8	50
G9J57995N	R0.3	**3.0**	4	8	50
G9J57994N	R0.5	**3.0**	4	8	50
G9J57993N	R1.0	**3.0**	4	8	50
G9J57992N	R0.2	**4.0**	4	10	50
G9J57991N	R0.3	**4.0**	4	10	50
G9J57990N	R0.5	**4.0**	4	10	50
G9J57989N	R1.0	**4.0**	4	10	50
G9J57898N	R0.2	**5.0**	6	13	50
G9J57897N	R0.3	**5.0**	6	13	50
G9J57896N	R0.5	**5.0**	6	13	50
G9J57895N	R1.0	**5.0**	6	13	50
G9J57894N	R0.2	**6.0**	6	15	50
G9J57893N	R0.3	**6.0**	6	15	50
G9J57892N	R0.5	**6.0**	6	15	50
G9J57891N	R1.0	**6.0**	6	15	50
G9J57890N	R0.5	**8.0**	8	20	60
G9J57889N	R1.0	**8.0**	8	20	60
G9J57888N	R1.5	**8.0**	8	20	60
G9J57887N	R2.0	**8.0**	8	20	60
G9J57886N	R2.5	**8.0**	8	20	60
G9J57885N	R0.5	**10.0**	10	25	75
G9J57884N	R1.0	**10.0**	10	25	75
G9J57883N	R1.5	**10.0**	10	25	75
G9J57882N	R2.0	**10.0**	10	25	75
G9J57881N	R2.5	**10.0**	10	25	75
G9J57880N	R0.5	**12.0**	12	30	75
G9J57879N	R1.0	**12.0**	12	30	75
G9J57878N	R1.5	**12.0**	12	30	75
G9J57877N	R2.0	**12.0**	12	30	75
G9J57876N	R2.5	**12.0**	12	30	75

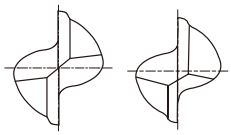
FRESE per IMPIEGHI GENERICI

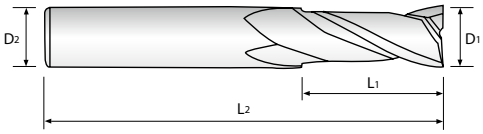
NEW CENTURY

CARBIDE, 2 FLUTE 30° HELIX SHORT LENGTH

MD, 2 TAGLIENTI, ELICA 30°, SERIE CORTA

► Progettato per applicazioni generali su acciai al carbonio, acciai da utensile, acciai legati e acciai inox.
► Adatto per lavorazioni ad alta velocità a secco e refrigerate.





p.51

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.030	h6

G9F41 SERIES

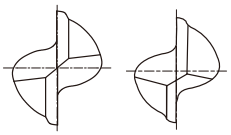
Unità: mm

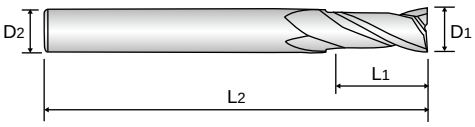
CODICE	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	D_1	D_2	L_1	L_2
G9F41010N	**1.0**	4	3	50
G9F41999N	**1.5**	4	4	50
G9F41020N	**2.0**	4	6	50
G9F41998N	**2.5**	4	8	50
G9F41030N	**3.0**	4	8	50
G9F41997N	**3.5**	4	10	50
G9F41040N	**4.0**	4	11	50
G9F41996N	**4.5**	4.5	12	50
G9F41050N	**5.0**	6	13	50
G9F41995N	**5.5**	5.5	15	50
G9F41060N	**6.0**	6	16	50
G9F41994N	**7.0**	7	20	60
G9F41080N	**8.0**	8	20	60
G9F41993N	**9.0**	9	20	60
G9F41100N	**10.0**	10	25	75
G9F41120N	**12.0**	12	32	75
G9F41140N	**14.0**	14	32	75
G9F41160N	**16.0**	16	32	75
G9F41200N	**20.0**	20	32	100

NEW CENTURY

CARBIDE, 2 FLUTE 30° HELIX
MD, 2 TAGLIENTI, ELICA 30°

► Progettato per applicazioni generali su acciai al carbonio, acciai da utensile, acciai legati e acciai inox.
► Adatto per lavorazioni ad alta velocità a secco e refrigerate.





p.51

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.030	h6

G9J54 SERIES

Unità: mm

CODICE	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	D_1	D_2	L_1	L_2
G9J54999N	**3.0**	3	10	75
G9J54998N	**4.0**	4	12	75
G9J54997N	**5.0**	5	20	75
G9J54996N	**6.0**	6	20	75
G9J54995N	**8.0**	8	25	75
G9J54994N	**10.0**	10	40	100
G9J54993N	**12.0**	12	45	100

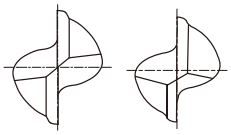
FRESE per IMPIEGHI GENERICI

NEW CENTURY

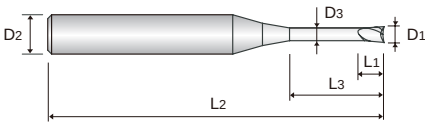
CARBIDE, 2 FLUTE 30° HELIX LONG LENGTH

MD, 2 TAGLIENTI, ELICA 30°, SERIE LUNGA

- ► Progettato per applicazioni generali su acciai al carbonio, acciai da utensile, acciai legati.
- ► Adatto per lavorazioni ad alta velocità a secco e refrigerate.
- ► Il design a 2 taglienti consente di ottenere finiture migliori sui pezzi lavorati.



Fino a Ø3mm Oltre Ø3mm



p.52~53

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.030	h6

G9J61 SERIES

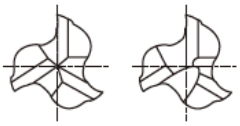
Unità: mm

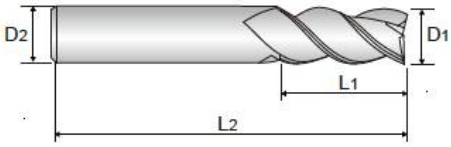
CODICE	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza scarico	Lunghezza totale	Diametro scarico
	D_1	D_2	L_1	L_3	L_2	D_3
G9J61999N	**0.4**	4	0.7	2	50	0.37
G9J61998N	**0.4**	4	0.7	4	50	0.37
G9J61997N	**0.5**	4	0.75	2	50	0.45
G9J61996N	**0.5**	4	0.75	6	50	0.45
G9J61995N	**0.7**	4	1.1	4	50	0.65
G9J61994N	**0.7**	4	1.1	6	50	0.65
G9J61993N	**0.8**	4	1.2	6	50	0.75
G9J61992N	**1.0**	4	1.5	6	50	0.95
G9J61991N	**1.0**	4	1.5	8	50	0.95
G9J61990N	**1.0**	4	1.5	10	50	0.95
G9J61989N	**1.0**	4	1.5	12	50	0.95
G9J61988N	**1.2**	4	1.8	6	50	1.15
G9J61987N	**1.2**	4	1.8	8	50	1.15
G9J61986N	**1.2**	4	1.8	12	50	1.15
G9J61985N	**1.5**	4	2.3	6	50	1.45
G9J61984N	**1.5**	4	2.3	8	50	1.45
G9J61983N	**1.5**	4	2.3	10	50	1.45
G9J61982N	**1.5**	4	2.3	12	50	1.45
G9J61981N	**1.5**	4	2.3	16	50	1.45
G9J61980N	**1.5**	4	2.3	20	50	1.45
G9J61979N	**2.0**	4	3	6	50	1.95
G9J61978N	**2.0**	4	3	10	50	1.95
G9J61977N	**2.0**	4	3	12	50	1.95
G9J61976N	**2.0**	4	3	14	50	1.95
G9J61975N	**2.0**	4	3	16	50	1.95
G9J61974N	**2.0**	4	3	18	50	1.95
G9J61973N	**2.0**	4	3	20	50	1.95
G9J61972N	**2.5**	4	3.7	12	50	2.4
G9J61971N	**2.5**	4	3.7	16	50	2.4
G9J61970N	**2.5**	4	3.7	20	50	2.4
G9J61969N	**3.0**	6	4.5	12	50	2.85
G9J61968N	**3.0**	6	4.5	16	60	2.85
G9J61967N	**3.0**	6	4.5	20	60	2.85
G9J61966N	**3.0**	6	4.5	25	75	2.85
G9J61965N	**4.0**	6	6	12	50	3.85
G9J61964N	**4.0**	6	6	16	60	3.85
G9J61963N	**4.0**	6	6	20	75	3.85
G9J61962N	**4.0**	6	6	25	75	3.85

NEW CENTURY

CARBIDE, 3 FLUTE 30° HELIX SHORT LENGTH
MD, 3 TAGLIENTI, ELICA 30°, SERIE CORTA

► Progettato per applicazioni generali su acciai al carbonio, acciai da utensile, acciai legati e acciai inox.
► Adatto per lavorazioni ad alta velocità a secco e refrigerate.





p.54~55

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.030	h6

G9J59 SERIES

Unità: mm

CODICE	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	D_1	D_2	L_1	L_2
G9J59999N	**2.0**	6	4	35
G9J59998N	**2.5**	6	5	36
G9J59997N	**3.0**	6	5	36
G9J59996N	**3.5**	6	6	37
G9J59995N	**4.0**	6	7	38
G9J59994N	**5.0**	6	8	39
G9J59993N	**6.0**	6	8	39
G9J59992N	**8.0**	8	11	43
G9J59991N	**10.0**	10	13	50
G9J59990N	**12.0**	12	15	55

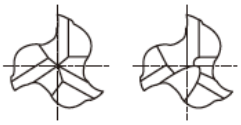
FRESE per IMPIEGHI GENERICI

NEW CENTURY

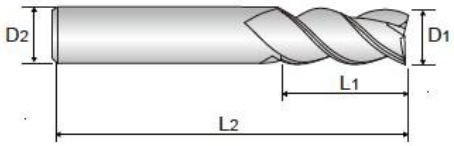
CARBIDE, 3 FLUTE 30° HELIX SHORT LENGTH

MD, 3 TAGLIENTI, ELICA 30°, SERIE CORTA

► Progettato per applicazioni generali su acciai al carbonio, acciai da utensile, acciai legati e acciai inox.
► Adatto per lavorazioni ad alta velocità a secco e refrigerate.



Fino a Ø3mm Oltre Ø3mm



p.54~55

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.030	h6

G9F43 SERIES

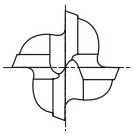
Unità: mm

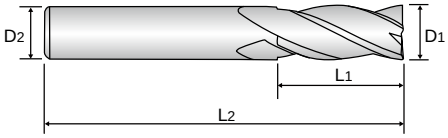
CODICE	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	D_1	D_2	L_1	L_2
G9F43010N	**1.0**	4	3	50
G9F43020N	**2.0**	4	6	50
G9F43030N	**3.0**	4	8	50
G9F43040N	**4.0**	4	11	50
G9F43050N	**5.0**	6	13	50
G9F43060N	**6.0**	6	16	50
G9F43080N	**8.0**	8	20	60
G9F43100N	**10.0**	10	25	75
G9F43120N	**12.0**	12	32	75
G9F43140N	**14.0**	14	32	75
G9F43160N	**16.0**	16	32	75
G9F43200N	**20.0**	20	32	100

NEW CENTURY

CARBIDE, 4 FLUTE 30° HELIX SHORT LENGTH
MD, 4 TAGLIENTI, ELICA 30°, SERIE CORTA

- ► Progettato per applicazioni generali su acciai al carbonio, acciai da utensile, acciai legati e acciai inox.
- ► Adatto per lavorazioni ad alta velocità a secco e refrigerate.
- ► Il design a 4 taglienti consente di ottenere finiture migliori sui pezzi lavorati.





p.56

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.030	h6

G9F42 SERIES

Unità: mm

CODICE	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	D_1	D_2	L_1	L_2
G9F42010N	**1.0**	4	3	50
G9F42999N	**1.5**	4	4	50
G9F42020N	**2.0**	4	6	50
G9F42998N	**2.5**	4	8	50
G9F42030N	**3.0**	4	8	50
G9F42997N	**3.5**	4	10	50
G9F42040N	**4.0**	4	11	50
G9F42996N	**4.5**	4.5	12	50
G9F42050N	**5.0**	6	13	50
G9F42060N	**6.0**	6	16	50
G9F42995N	**7.0**	7	20	60
G9F42080N	**8.0**	8	20	60
G9F42994N	**9.0**	9	20	60
G9F42100N	**10.0**	10	25	75
G9F42120N	**12.0**	12	32	75
G9F42140N	**14.0**	14	32	75
G9F42160N	**16.0**	16	32	75
G9F42200N	**20.0**	20	32	100

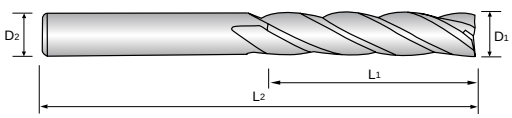
FRESE per IMPIEGHI GENERICI

NEW CENTURY

CARBIDE, 4 FLUTE 30° HELIX

MD, 4 TAGLIENTI, ELICA 30°

- ► Progettato per applicazioni generali su acciai al carbonio, acciai da utensile, acciai legati e acciai inox.
- ► Adatto per lavorazioni ad alta velocità a secco e refrigerate.
- ► Il design a 4 taglienti consente di ottenere finiture migliori sui pezzi lavorati.



p.56

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.030	h6

G9J55 SERIES

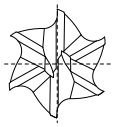
Unità: mm

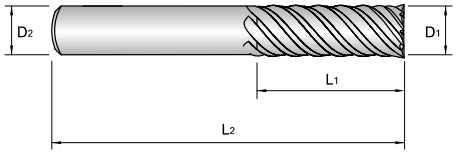
CODICE	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	D_1	D_2	L_1	L_2
G9J55999N	**3.0**	3	10	75
G9J55998N	**4.0**	4	12	75
G9J55997N	**5.0**	5	20	75
G9J55996N	**6.0**	6	20	75
G9J55995N	**8.0**	8	25	75
G9J55994N	**10.0**	10	40	100
G9J55993N	**12.0**	12	45	100

NEW CENTURY

CARBIDE, 6 FLUTE 45° HELIX
MD, 6 TAGLIENTI, ELICA 45°

- ► Taglio ad alta velocità e fresatura di finitura con elevata velocità di avanzamento.
- ► Ottime finiture superficiali.
- ► Adatto per lavorazioni ad alta velocità a secco e refrigerate.





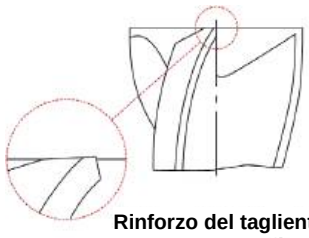
p.57

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.030	h5

G9J58 SERIES

Unità: mm

CODICE	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	D1	D2	L1	L2
G9J58999N	**6.0**	6	15	50
G9J58998N	**8.0**	8	20	60
G9J58997N	**10.0**	10	25	75
G9J58996N	**12.0**	12	30	75
G9J58995N	**16.0**	16	40	100



Rinforzo del tagliente

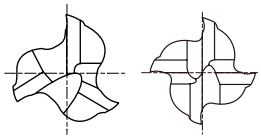
FRESE per IMPIEGHI GENERICI

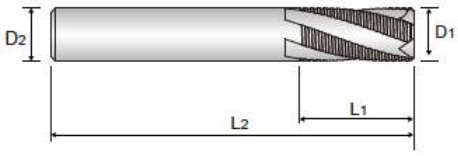
NEW CENTURY

CARBIDE, MULTI FLUTE 20° HELIX ROUGHING - FINE

MD, MULTI TAGLIENTE, ELICA 20°, PER SGROSSATURA, BOMBATO FINE

- ► Progettata per lavorare acciai da utensile, acciai legati, acciai per stampi e altri materiali induriti.
- ► Fresatura ad alta velocità su acciai induriti.
- ► Adatto per lavorazioni ad alta velocità a secco e refrigerate.
- ► Evacuazione rapida dei trucioli.





p.58

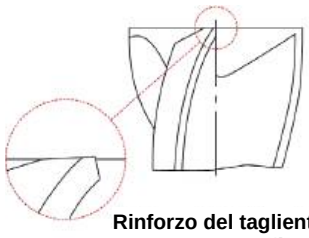
G9J60 SERIES

Unità: mm

CODICE	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale	Smusso	N° Taglienti
	D_1	D_2	L_1	L_2		
G9J60999	**6.0**	6	16	57	0.38	3
G9J60998	**8.0**	8	16	63	0.38	3
G9J60997	**10.0**	10	22	72	0.60	4
G9J60996	**12.0**	12	26	83	0.60	4
G9J60995	**16.0**	16	32	92	0.60	4
G9J60994	**20.0**	20	38	104	0.60	4

Tolleranze secondo DIN 7160 & 7161

	Tolleranza in µm				
	Diametro in mm				
	Da 1 a 3	Oltre 3 a 6	Oltre 6 a 10	Oltre 10 a 18	Oltre 18 a 13
h10	0 - 40	0 - 48	0 - 58	0 - 70	0 - 84
h5	0 - 4	0 - 5	0 - 6	0 - 8	0 - 9



Rinforzo del tagliente

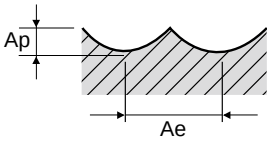
PARAMETRI DI TAGLIO INDICATIVI

G9F44 / G9J56 SERIES

2 TAGLIENTI SEMISFERICA

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Acciai non legati	0.2D	D1~D6 =0.2mm D8~D20 =0.3mm	Vc	84	116	121	132	148	166	185	204	221	242
					fz	0.026	0.025	0.035	0.045	0.060	0.089	0.122	0.150	0.181	0.200
					n	13350	12300	9650	8400	7850	6600	5900	5400	4400	3850
					Vf	690	620	680	755	940	1180	1435	1620	1590	1540
	5		0.2D	D1~D6 =0.2mm D8~D20 =0.3mm	Vc	62	87	97	105	120	133	148	160	173	188
					fz	0.023	0.023	0.031	0.040	0.060	0.080	0.100	0.121	0.141	0.159
					n	9900	9250	7700	6700	6350	5300	4700	4250	3450	3000
					Vf	450	420	485	530	760	850	940	1026	975	955
	6-7	Acciai basso legati	0.2D	D1~D6 =0.2mm D8~D20 =0.3mm	Vc	84	116	121	132	148	166	185	204	221	242
					fz	0.026	0.025	0.035	0.045	0.060	0.089	0.122	0.150	0.181	0.200
					n	13350	12300	9650	8400	7850	6600	5900	5400	4400	3850
					Vf	690	620	680	755	940	1180	1435	1620	1590	1540
	8-9		0.2D	D1~D6 =0.2mm D8~D20 =0.3mm	Vc	62	87	97	105	120	133	148	160	173	188
					fz	0.023	0.023	0.031	0.040	0.060	0.080	0.100	0.121	0.141	0.159
					n	9900	9250	7700	6700	6350	5300	4700	4250	3450	3000
					Vf	450	420	485	530	760	850	940	1026	975	955
	10	Acciai alto legati e acciai da utensili	0.2D	D1~D6 =0.2mm D8~D20 =0.3mm	Vc	84	116	121	132	148	166	185	204	221	242
					fz	0.026	0.025	0.035	0.045	0.060	0.089	0.122	0.150	0.181	0.200
					n	13350	12300	9650	8400	7850	6600	5900	5400	4400	3850
					Vf	690	620	680	755	940	1180	1435	1620	1590	1540
	11.1 ~ 11.2		0.2D	D1~D6 =0.2mm D8~D20 =0.3mm	Vc	62	87	97	105	120	133	148	160	173	188
					fz	0.023	0.023	0.031	0.040	0.060	0.080	0.100	0.121	0.141	0.159
					n	9900	9250	7700	6700	6350	5300	4700	4250	3450	3000
					Vf	450	420	485	530	760	850	940	1026	975	955
K	15-16	Ghisa grigia	0.7D	0.3D	Vc	71	72	70	71	69	68	69	72	70	72
					fz	0.011	0.016	0.028	0.039	0.053	0.092	0.113	0.130	0.177	0.196
					n	11350	7600	5550	4500	3650	2700	2200	1900	1400	1150
					Vf	240	250	310	355	390	495	495	495	495	450
	17-18	Ghisa nodulare	0.7D	0.3D	Vc	71	72	70	71	69	68	69	72	70	72
					fz	0.011	0.016	0.028	0.039	0.053	0.092	0.113	0.130	0.177	0.196
					n	11350	7600	5550	4500	3650	2700	2200	1900	1400	1150
					Vf	240	250	310	355	390	495	495	495	495	450
	19-20	Ghisa malleabile	0.7D	0.3D	Vc	71	72	70	71	69	68	69	72	70	72
					fz	0.011	0.016	0.028	0.039	0.053	0.092	0.113	0.130	0.177	0.196
					n	11350	7600	5550	4500	3650	2700	2200	1900	1400	1150
					Vf	240	250	310	355	390	495	495	495	495	450
H	38.1	Acciai temprati	0.2D	D1~D6 =0.2mm D8~D20 =0.3mm	Vc	62	87	97	105	120	133	148	160	173	188
					fz	0.023	0.023	0.031	0.040	0.060	0.080	0.100	0.121	0.141	0.159
					n	9900	9250	7700	6700	6350	5300	4700	4250	3450	3000
					Vf	450	420	485	530	760	850	940	1026	975	955
	38.2		0.2D	D1~D6 =0.2mm D8~D20 =0.3mm	Vc	27	39	49	53	55	55	60	60	63	66
					fz	0.016	0.016	0.021	0.024	0.029	0.047	0.054	0.070	0.090	0.107
					n	4300	4100	3900	3350	2900	2200	1900	1600	1250	1050
					Vf	135	135	160	160	170	205	205	225	225	225
	40	Fusione di ghisa	0.2D	D1~D6 =0.2mm D8~D20 =0.3mm	Vc	62	87	97	105	120	133	148	160	173	188
					fz	0.023	0.023	0.031	0.040	0.060	0.080	0.100	0.121	0.141	0.159
					n	9900	9250	7700	6700	6350	5300	4700	4250	3450	3000
					Vf	450	420	485	530	760	850	940	1026	975	955
	41	Ghisa indurita	0.2D	D1~D6 =0.2mm D8~D20 =0.3mm	Vc	27	39	49	53	55	55	60	60	63	66
					fz	0.016	0.016	0.021	0.024	0.029	0.047	0.054	0.070	0.090	0.107
					n	4300	4100	3900	3350	2900	2200	1900	1600	1250	1050
					Vf	135	135	160	160	170	205	205	225	225	225



PARAMETRI DI TAGLIO INDICATIVI

G9J62 SERIES

2 TAGLIENTI SEMISFERICA - PER NERVATURE

ISO	VDI 3323	Materiale da lavorare	Parametri	Diametri (Ø) 0.4	0.5	0.6	0.8	1.0	1.2	1.4	1.5
P	1-4	Acciai non legati	Vc	38~49	48~61	58~73	77~98	87~111	87~112	90~110	87~109
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	0.004~0.010	0.005~0.013	0.006~0.015	0.007~0.017
			n	30600~38950	30600~38950	30600~38950	30600~38950	27800~35250	23200~29650	20400~25050	18550~23200
			Vf	180~490	180~490	225~630	225~630	250~690	250~770	250~770	250~770
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.062~0.125	0.070~0.135
	5		Vc	28~35	35~44	42~52	56~70	64~79	63~80	65~77	63~81
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006	0.003~0.008	0.004~0.009	0.004~0.011	0.005~0.011
			n	22250~27800	22250~27800	22250~27800	22250~27800	20400~25000	16700~21300	14850~17600	13450~17150
			Vf	90~270	90~270	110~350	110~350	130~390	130~390	130~390	130~390
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.062~0.125	0.070~0.135
	6-7	Acciai basso legati	Vc	38~49	48~61	58~73	77~98	87~111	87~112	90~110	87~109
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	0.004~0.010	0.005~0.013	0.006~0.015	0.007~0.017
			n	30600~38950	30600~38950	30600~38950	30600~38950	27800~35250	23200~29650	20400~25050	18550~23200
			Vf	180~490	180~490	225~630	225~630	250~690	250~770	250~770	250~770
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.062~0.125	0.070~0.135
	8-9		Vc	28~35	35~44	42~52	56~70	64~79	63~80	65~77	63~81
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006	0.003~0.008	0.004~0.009	0.004~0.011	0.005~0.011
			n	22250~27800	22250~27800	22250~27800	22250~27800	20400~25000	16700~21300	14850~17600	13450~17150
			Vf	90~270	90~270	110~350	110~350	130~390	130~390	130~390	130~390
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.062~0.125	0.070~0.135
	10	Acciai alto legati e acciai da utensili	Vc	38~49	48~61	58~73	77~98	87~111	87~112	90~110	87~109
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.004~0.008	0.004~0.010	0.005~0.013	0.006~0.015	0.007~0.017
			n	30600~38950	30600~38950	30600~38950	30600~38950	27800~35250	23200~29650	20400~25050	18550~23200
			Vf	180~490	180~490	225~630	225~630	250~690	250~770	250~770	250~770
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.062~0.125	0.070~0.135
	11.1 - 11.2		Vc	28~35	35~44	42~52	56~70	64~79	63~80	65~77	63~81
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006	0.003~0.008	0.004~0.009	0.004~0.011	0.005~0.011
			n	22250~27800	22250~27800	22250~27800	22250~27800	20400~25000	16700~21300	14850~17600	13450~17150
			Vf	90~270	90~270	110~350	110~350	130~390	130~390	130~390	130~390
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.062~0.125	0.070~0.135
H	38.1 38.2	Acciai temprati	Vc	17~22	22~28	26~33	35~44	39~51	40~51	41~51	41~50
			fz	0.003~0.005	0.003~0.005	0.004~0.006	0.004~0.006	0.005~0.008	0.006~0.009	0.007~0.011	0.007~0.012
			n	13900~17600	13900~17600	13900~17600	13900~17600	12500~16200	10650~13450	9250~11600	8800~10650
			Vf	90~180	90~180	110~225	110~225	130~250	130~250	130~250	130~250
			Ap	0.004~0.007	0.005~0.009	0.005~0.011	0.007~0.014	0.009~0.018	0.010~0.022	0.012~0.025	0.014~0.028
	40	Fusione di ghisa	Vc	28~35	35~44	42~52	56~70	64~79	63~80	65~77	63~81
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006	0.003~0.008	0.004~0.009	0.004~0.011	0.005~0.011
			n	22250~27800	22250~27800	22250~27800	22250~27800	20400~25000	16700~21300	14850~17600	13450~17150
			Vf	90~270	90~270	110~350	110~350	130~390	130~390	130~390	130~390
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.062~0.125	0.070~0.135
	41	Ghisa indurita	Vc	17~22	22~28	26~33	35~44	39~51	40~51	41~51	41~50
			fz	0.003~0.005	0.003~0.005	0.004~0.006	0.004~0.006	0.005~0.008	0.006~0.009	0.007~0.011	0.007~0.012
			n	13900~17600	13900~17600	13900~17600	13900~17600	12500~16200	10650~13450	9250~11600	8800~10650
			Vf	90~180	90~180	110~225	110~225	130~250	130~250	130~250	130~250
			Ap	0.004~0.007	0.005~0.009	0.005~0.011	0.007~0.014	0.009~0.018	0.010~0.022	0.012~0.025	0.014~0.028

▶ SEGUE

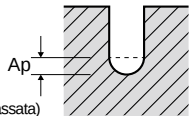
PARAMETRI DI TAGLIO INDICATIVI

G9J62 SERIES

2 TAGLIENTI SEMISFERICA - PER NERVATURE

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)
Ap = (mm)

Parametri	Diametri (Ø)						
	1.6	1.8	2.0	3.0	4.0	5.0	6.0
Vc	88~117	94~120	93~117	96~123	105~139	102~131	105~139
fz	0.007~0.017	0.007~0.018	0.008~0.021	0.012~0.030	0.015~0.035	0.019~0.046	0.023~0.052
n	17600~23200	16700~21300	14850~18550	10200~13000	8350~11100	6500~8350	5550~7400
Vf	250~770	250~770	250~770	250~770	250~770	250~770	250~770
Ap	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
Vc	65~81	66~84	67~85	66~83	71~96	73~95	70~96
fz	0.005~0.012	0.006~0.013	0.006~0.014	0.009~0.022	0.012~0.026	0.014~0.032	0.018~0.038
n	13000~16200	11600~14850	10650~13450	6950~8800	5650~7600	4650~6050	3700~5100
Vf	130~390	130~390	130~390	130~390	130~390	130~390	130~390
Ap	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
Vc	88~117	94~120	93~117	96~123	105~139	102~131	105~139
fz	0.007~0.017	0.007~0.018	0.008~0.021	0.012~0.030	0.015~0.035	0.019~0.046	0.023~0.052
n	17600~23200	16700~21300	14850~18550	10200~13000	8350~11100	6500~8350	5550~7400
Vf	250~770	250~770	250~770	250~770	250~770	250~770	250~770
Ap	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
Vc	65~81	66~84	67~85	66~83	71~96	73~95	70~96
fz	0.005~0.012	0.006~0.013	0.006~0.014	0.009~0.022	0.012~0.026	0.014~0.032	0.018~0.038
n	13000~16200	11600~14850	10650~13450	6950~8800	5650~7600	4650~6050	3700~5100
Vf	130~390	130~390	130~390	130~390	130~390	130~390	130~390
Ap	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
Vc	88~117	94~120	93~117	96~123	105~139	102~131	105~139
fz	0.007~0.017	0.007~0.018	0.008~0.021	0.012~0.030	0.015~0.035	0.019~0.046	0.023~0.052
n	17600~23200	16700~21300	14850~18550	10200~13000	8350~11100	6500~8350	5550~7400
Vf	250~770	250~770	250~770	250~770	250~770	250~770	250~770
Ap	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
Vc	65~81	66~84	67~85	66~83	71~96	73~95	70~96
fz	0.005~0.012	0.006~0.013	0.006~0.014	0.009~0.022	0.012~0.026	0.014~0.032	0.018~0.038
n	13000~16200	11600~14850	10650~13450	6950~8800	5650~7600	4650~6050	3700~5100
Vf	130~390	130~390	130~390	130~390	130~390	130~390	130~390
Ap	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
Vc	42~51	42~52	44~52	44~52	46~58	47~60	43~61
fz	0.008~0.012	0.009~0.014	0.009~0.015	0.014~0.023	0.018~0.027	0.022~0.033	0.028~0.038
n	8350~10200	7400~9250	6950~8350	4650~5550	3700~4650	3000~3800	2300~3250
Vf	130~250	130~250	130~250	130~250	130~250	130~250	130~250
Ap	0.015~0.030	0.016~0.032	0.018~0.035	0.028~0.055	0.035~0.070	0.044~0.088	0.053~0.105
Vc	65~81	66~84	67~85	66~83	71~96	73~95	70~96
fz	0.005~0.012	0.006~0.013	0.006~0.014	0.009~0.022	0.012~0.026	0.014~0.032	0.018~0.038
n	13000~16200	11600~14850	10650~13450	6950~8800	5650~7600	4650~6050	3700~5100
Vf	130~390	130~390	130~390	130~390	130~390	130~390	130~390
Ap	0.075~0.145	0.080~0.160	0.090~0.180	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
Vc	42~51	42~52	44~52	44~52	46~58	47~60	43~61
fz	0.008~0.012	0.009~0.014	0.009~0.015	0.014~0.023	0.018~0.027	0.022~0.033	0.028~0.038
n	8350~10200	7400~9250	6950~8350	4650~5550	3700~4650	3000~3800	2300~3250
Vf	130~250	130~250	130~250	130~250	130~250	130~250	130~250
Ap	0.015~0.030	0.016~0.032	0.018~0.035	0.028~0.055	0.035~0.070	0.044~0.088	0.053~0.105



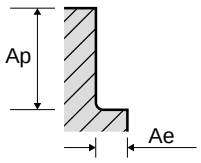
(Profondità di passata)

PARAMETRI DI TAGLIO INDICATIVI

G9J57 SERIES — 4 TAGLIENTI TORICA - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1-4	Acciai non legati	0.05D	2.0D	Vc	55	61	65	70	73	73	63	62
					fz	0.011	0.014	0.022	0.026	0.030	0.042	0.061	0.059
					n	8754	6450	5200	4450	3850	2900	2000	1650
					Vf	385	185	225	230	230	245	245	195
	5		0.05D	2.0D	Vc	35	39	42	45	46	46	50	53
					fz	0.010	0.017	0.023	0.034	0.040	0.053	0.061	0.063
					n	5570	4150	3350	2850	2450	1850	1600	1400
					Vf	223	140	155	195	195	195	195	175
	6-7	Acciai basso legati	0.05D	2.0D	Vc	55	61	65	70	73	73	63	62
					fz	0.011	0.014	0.022	0.026	0.030	0.042	0.061	0.059
					n	8754	6450	5200	4450	3850	2900	2000	1650
					Vf	385	185	225	230	230	245	245	195
	8-9		0.05D	2.0D	Vc	35	39	42	45	46	46	50	53
					fz	0.010	0.017	0.023	0.034	0.040	0.053	0.061	0.063
					n	5570	4150	3350	2850	2450	1850	1600	1400
					Vf	223	140	155	195	195	195	195	175
	10	Acciai alto legati e acciai da utensili	0.05D	2.0D	Vc	55	61	65	70	73	73	63	62
					fz	0.011	0.014	0.022	0.026	0.030	0.042	0.061	0.059
					n	8754	6450	5200	4450	3850	2900	2000	1650
					Vf	385	185	225	230	230	245	245	195
	11.1 - 11.2		0.05D	2.0D	Vc	35	39	42	45	46	46	50	53
					fz	0.010	0.017	0.023	0.034	0.040	0.053	0.061	0.063
					n	5570	4150	3350	2850	2450	1850	1600	1400
					Vf	223	140	155	195	195	195	195	175
K	15-16	Ghisa grigia	0.05D	2.0D	Vc	55	61	65	70	73	73	63	62
					fz	0.011	0.014	0.022	0.026	0.030	0.042	0.061	0.059
					n	8754	6450	5200	4450	3850	2900	2000	1650
					Vf	385	185	225	230	230	245	245	195
	17-18	Ghisa nodulare	0.05D	2.0D	Vc	55	61	65	70	73	73	63	62
					fz	0.011	0.014	0.022	0.026	0.030	0.042	0.061	0.059
					n	8754	6450	5200	4450	3850	2900	2000	1650
					Vf	385	185	225	230	230	245	245	195
	19-20	Ghisa malleabile	0.05D	2.0D	Vc	55	61	65	70	73	73	63	62
					fz	0.011	0.014	0.022	0.026	0.030	0.042	0.061	0.059
					n	8754	6450	5200	4450	3850	2900	2000	1650
					Vf	385	185	225	230	230	245	245	195
H	38.1 38.2	Acciai temprati	0.02D	2.0D	Vc	25	29	31	35	36	38	36	36
					fz	0.009	0.016	0.020	0.026	0.030	0.038	0.050	0.042
					n	3979	3050	2500	2200	1900	1500	1150	950
					Vf	143	95	100	115	115	115	115	80
	40	Fusione di ghisa	0.05D	2.0D	Vc	35	39	42	45	46	46	50	53
					fz	0.010	0.017	0.023	0.034	0.040	0.053	0.061	0.063
					n	5570	4150	3350	2850	2450	1850	1600	1400
					Vf	223	140	155	195	195	195	195	175
	41	Ghisa indurita	0.05D	2.0D	Vc	25	29	31	35	36	38	36	36
					fz	0.009	0.016	0.020	0.026	0.030	0.038	0.050	0.042
					n	3979	3050	2500	2200	1900	1500	1150	950
					Vf	143	95	100	115	115	115	115	80



PARAMETRI DI TAGLIO INDICATIVI

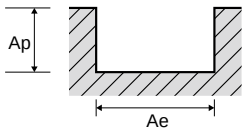
G9F41 / G9J54 SERIES

2 TAGLIENTI - CAVA

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	8.0	9.0	10.0	12.0	14.0	16.0	20.0
P	1-4	Acciai non legati	1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	49	48	53	58	62	66	70	72	73	75	77	77	78	76	74	75	81	80	79
					fz	0.004	0.008	0.010	0.012	0.014	0.020	0.025	0.028	0.031	0.035	0.040	0.048	0.056	0.060	0.064	0.065	0.062	0.063	0.062
					n	15450	10100	8500	7380	6600	6000	5550	5090	4650	4340	4100	3770	3100	2690	2350	2000	1850	1600	1250
					Vf	115	160	170	180	190	240	275	285	290	305	325	360	350	325	300	260	230	200	155
	5		1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	29	28	35	37	39	41	43	43	43	45	47	46	46	46	46	47	51	50	47
					fz	0.004	0.008	0.010	0.013	0.016	0.020	0.024	0.027	0.031	0.036	0.041	0.045	0.050	0.050	0.050	0.048	0.048	0.050	0.050
					n	9200	6000	5550	4710	4100	3730	3400	3040	2750	2600	2500	2250	1850	1630	1450	1250	1150	1000	750
					Vf	70	90	110	120	130	150	165	165	170	190	205	205	185	165	145	120	110	100	75
	6-7	Acciai basso legati	1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	49	48	53	58	62	66	70	72	73	75	77	77	78	76	74	75	81	80	79
					fz	0.004	0.008	0.010	0.012	0.014	0.020	0.025	0.028	0.031	0.035	0.040	0.048	0.056	0.060	0.064	0.065	0.062	0.063	0.062
					n	15450	10100	8500	7380	6600	6000	5550	5090	4650	4340	4100	3770	3100	2690	2350	2000	1850	1600	1250
					Vf	115	160	170	180	190	240	275	285	290	305	325	360	350	325	300	260	230	200	155
	8-9		1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	29	28	35	37	39	41	43	43	43	45	47	46	46	46	46	47	51	50	47
					fz	0.004	0.008	0.010	0.013	0.016	0.020	0.024	0.027	0.031	0.036	0.041	0.045	0.050	0.050	0.050	0.048	0.048	0.050	0.050
					n	9200	6000	5550	4710	4100	3730	3400	3040	2750	2600	2500	2250	1850	1630	1450	1250	1150	1000	750
					Vf	70	90	110	120	130	150	165	165	170	190	205	205	185	165	145	120	110	100	75
	10	Acciai alto legati e acciai da utensili	1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	49	48	53	58	62	66	70	72	73	75	77	77	78	76	74	75	81	80	79
					fz	0.004	0.008	0.010	0.012	0.014	0.020	0.025	0.028	0.031	0.035	0.040	0.048	0.056	0.060	0.064	0.065	0.062	0.063	0.062
					n	15450	10100	8500	7380	6600	6000	5550	5090	4650	4340	4100	3770	3100	2690	2350	2000	1850	1600	1250
					Vf	115	160	170	180	190	240	275	285	290	305	325	360	350	325	300	260	230	200	155
	11.1 - 11.2		1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	29	28	35	37	39	41	43	43	43	45	47	46	46	46	46	47	51	50	47
					fz	0.004	0.008	0.010	0.013	0.016	0.020	0.024	0.027	0.031	0.036	0.041	0.045	0.050	0.050	0.050	0.048	0.048	0.050	0.050
					n	9200	6000	5550	4710	4100	3730	3400	3040	2750	2600	2500	2250	1850	1630	1450	1250	1150	1000	750
					Vf	70	90	110	120	130	150	165	165	170	190	205	205	185	165	145	120	110	100	75
M	14.1	Acciai Inox	1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	24	29	29	30	32	34	36	36	36	38	40	39	39	39	39	40	40	38	38
					fz	0.004	0.007	0.009	0.012	0.016	0.020	0.025	0.028	0.032	0.036	0.039	0.046	0.053	0.055	0.058	0.057	0.061	0.067	0.063
					n	7700	6050	4650	3820	3400	3090	2850	2550	2300	2200	2100	1910	1550	1380	1250	1050	900	750	600
					Vf	55	85	85	90	110	125	140	140	145	160	165	175	165	150	145	120	110	100	75
K	15-16	Ghisa grigia	1.0D	1.0D	Vc	63	61	63	62	62	62	62	62	62	61	60	60	60	62	63	58	62	60	60
					fz	0.005	0.008	0.012	0.015	0.018	0.021	0.024	0.027	0.030	0.037	0.043	0.052	0.061	0.069	0.078	0.103	0.120	0.144	0.192
					n	20200	13050	10100	7890	6550	5640	4950	4390	3950	3530	3200	2940	2400	2190	2000	1550	1400	1200	950
					Vf	220	220	240	235	240	240	240	240	240	260	275	305	295	305	310	320	335	345	365
	17-18	Ghisa nodulare	1.0D	1.0D	Vc	63	61	63	62	62	62	62	62	62	61	60	60	60	62	63	58	62	60	60
					fz	0.005	0.008	0.012	0.015	0.018	0.021	0.024	0.027	0.030	0.037	0.043	0.052	0.061	0.069	0.078	0.103	0.120	0.144	0.192
					n	20200	13050	10100	7890	6550	5640	4950	4390	3950	3530	3200	2940	2400	2190	2000	1550	1400	1200	950
					Vf	220	220	240	235	240	240	240	240	240	260	275	305	295	305	310	320	335	345	365
	19-20	Ghisa malleabile	1.0D	1.0D	Vc	63	61	63	62	62	62	62	62	62	61	60	60	60	62	63	58	62	60	60
					fz	0.005	0.008	0.012	0.015	0.018	0.021	0.024	0.027	0.030	0.037	0.043	0.052	0.061	0.069	0.078	0.103	0.120	0.144	0.192
					n	20200	13050	10100	7890	6550	5640	4950	4390	3950	3530	3200	2940	2400	2190	2000	1550	1400	1200	950
					Vf	220	220	240	235	240	240	240	240	240	260	275	305	295	305	310	320	335	345	365
H	38.1 40	Acciai temprati Fusione di ghisa	1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	29	28	35	37	39	41	43	43	43	45	47	46	46	46	46	47	51	50	47
					fz	0.004	0.008	0.010	0.013	0.016	0.020	0.024	0.027	0.031	0.036	0.041	0.045	0.050	0.050	0.050	0.048	0.048	0.050	0.050
					n	9200	6000	5550	4710	4100	3730	3400	3040	2750	2600	2500	2250	1850	1630	1450	1250	1150	1000	750
					Vf	70	90	110	120	130	150	165	165	170	190	205	205	185	165	145	120	110	100	75

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



PARAMETRI DI TAGLIO INDICATIVI

G9J61 SERIES

2 TAGLIENTI - PER NERVATURE

ISO	VDI 3323	Materiale da lavorare	Parametri	Diametri (Ø) 0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.2
P	1-4	Acciai non legati	Vc	38~49	48~61	58~73	67~86	66~86	68~87	70~87	68~84
			fz	0.003~0.006	0.003~0.006	0.004~0.007	0.004~0.007	0.005~0.009	0.006~0.012	0.006~0.015	0.008~0.020
			n	30600~38930	30600~38930	30600~38930	30600~38930	26400~34300	24100~30600	22250~27800	18100~22250
			Vf	200~440	200~440	250~570	250~570	280~630	280~720	280~810	280~890
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100
	5		Vc	28~35	35~44	42~52	49~61	48~61	50~63	48~61	49~59
			fz	0.002~0.006	0.002~0.006	0.002~0.008	0.002~0.008	0.003~0.010	0.005~0.012	0.006~0.015	0.007~0.019
			n	22250~27800	22250~27800	22250~27800	22250~27800	19000~24100	17600~22250	15300~19450	13000~15750
			Vf	90~340	90~340	110~440	110~440	120~480	160~540	190~590	190~590
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100
	6-7	Acciai basso legati	Vc	38~49	48~61	58~73	67~86	66~86	68~87	70~87	68~84
			fz	0.003~0.006	0.003~0.006	0.004~0.007	0.004~0.007	0.005~0.009	0.006~0.012	0.006~0.015	0.008~0.020
			n	30600~38930	30600~38930	30600~38930	30600~38930	26400~34300	24100~30600	22250~27800	18100~22250
			Vf	200~440	200~440	250~570	250~570	280~630	280~720	280~810	280~890
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100
	8-9		Vc	28~35	35~44	42~52	49~61	48~61	50~63	48~61	49~59
			fz	0.002~0.006	0.002~0.006	0.002~0.008	0.002~0.008	0.003~0.010	0.005~0.012	0.006~0.015	0.007~0.019
			n	22250~27800	22250~27800	22250~27800	22250~27800	19000~24100	17600~22250	15300~19450	13000~15750
			Vf	90~340	90~340	110~440	110~440	120~480	160~540	190~590	190~590
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100
	10	Acciai alto legati e acciai da utensili	Vc	38~49	48~61	58~73	67~86	66~86	68~87	70~87	68~84
			fz	0.003~0.006	0.003~0.006	0.004~0.007	0.004~0.007	0.005~0.009	0.006~0.012	0.006~0.015	0.008~0.020
			n	30600~38930	30600~38930	30600~38930	30600~38930	26400~34300	24100~30600	22250~27800	18100~22250
			Vf	200~440	200~440	250~570	250~570	280~630	280~720	280~810	280~890
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100
	11.1 - 11.2		Vc	28~35	35~44	42~52	49~61	48~61	50~63	48~61	49~59
			fz	0.002~0.006	0.002~0.006	0.002~0.008	0.002~0.008	0.003~0.010	0.005~0.012	0.006~0.015	0.007~0.019
			n	22250~27800	22250~27800	22250~27800	22250~27800	19000~24100	17600~22250	15300~19450	13000~15750
			Vf	90~340	90~340	110~440	110~440	120~480	160~540	190~590	190~590
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100
H	38.1 38.2	Acciai temprati	Vc	17~21	22~26	26~31	31~37	30~36	30~35	31~39	31~38
			fz	0.001~0.003	0.001~0.003	0.001~0.003	0.001~0.003	0.002~0.005	0.002~0.005	0.004~0.005	0.004~0.006
			n	13900~16700	13900~16700	13900~16700	13900~16700	12050~14350	10650~12500	9750~12500	8350~10200
			Vf	30~90	30~90	40~110	40~110	45~130	50~130	70~130	70~130
			Ap	0.004~0.008	0.004~0.009	0.005~0.011	0.006~0.013	0.007~0.015	0.008~0.016	0.009~0.018	0.010~0.022
	40	Fusione di ghisa	Vc	28~35	35~44	42~52	49~61	48~61	50~63	48~61	49~59
			fz	0.002~0.006	0.002~0.006	0.002~0.008	0.002~0.008	0.003~0.010	0.005~0.012	0.006~0.015	0.007~0.019
			n	22250~27800	22250~27800	22250~27800	22250~27800	19000~24100	17600~22250	15300~19450	13000~15750
			Vf	90~340	90~340	110~440	110~440	120~480	160~540	190~590	190~590
			Ap	0.007~0.018	0.009~0.022	0.011~0.026	0.012~0.031	0.014~0.035	0.030~0.060	0.045~0.090	0.055~0.100
	41	Ghisa indurita	Vc	17~21	22~26	26~31	31~37	30~36	30~35	31~39	31~38
			fz	0.001~0.003	0.001~0.003	0.001~0.003	0.001~0.003	0.002~0.005	0.002~0.005	0.004~0.005	0.004~0.006
			n	13900~16700	13900~16700	13900~16700	13900~16700	12050~14350	10650~12500	9750~12500	8350~10200
			Vf	30~90	30~90	40~110	40~110	45~130	50~130	70~130	70~130
			Ap	0.004~0.008	0.004~0.009	0.005~0.011	0.006~0.013	0.007~0.015	0.008~0.016	0.009~0.018	0.010~0.022

▶ SEGUE

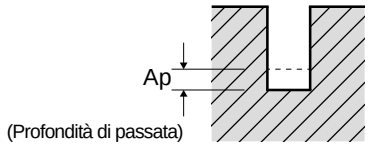
PARAMETRI DI TAGLIO INDICATIVI

G9J61 SERIES

2 TAGLIENTI - PER NERVATURE

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)
Ap = (mm)

ISO	VDI 3323	Materiale da lavorare	Parametri	Diametri (Ø) 1.4	1.5	1.6	1.8	2.0	2.5	3.0	4.0	5.0	6.0
P	1-4	Acciai non legati	Vc	69~86	68~87	70~88	74~94	73~90	73~95	16~92	76~93	73~95	88~96
			fz	0.009~0.023	0.010~0.024	0.010~0.025	0.011~0.027	0.012~0.031	0.015~0.037	0.082~0.046	0.023~0.060	0.030~0.074	0.030~0.087
			n	15750~19450	14350~18550	13900~17600	13000~16700	11600~14350	9250~12050	1700~9750	6050~7400	4650~6050	4650~5100
			Vf	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890
			Ap	0.062~0.125	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	5		Vc	49~61	48~63	51~63	52~63	52~64	51~66	52~66	52~64	51~65	53~70
			fz	0.009~0.021	0.009~0.022	0.009~0.024	0.010~0.027	0.011~0.029	0.015~0.035	0.017~0.042	0.023~0.058	0.029~0.071	0.034~0.080
			n	11100~13900	10200~13450	10200~12500	9250~11100	8350~10200	6500~8350	5550~6950	4150~5100	3250~4150	2800~3700
			Vf	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590
			Ap	0.062~0.125	0.070~0.135	0.075~0.140	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	6-7	Acciai basso legati	Vc	69~86	68~87	70~88	74~94	73~90	73~95	16~92	76~93	73~95	88~96
			fz	0.009~0.023	0.010~0.024	0.010~0.025	0.011~0.027	0.012~0.031	0.015~0.037	0.082~0.046	0.023~0.060	0.030~0.074	0.030~0.087
			n	15750~19450	14350~18550	13900~17600	13000~16700	11600~14350	9250~12050	1700~9750	6050~7400	4650~6050	4650~5100
			Vf	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890
			Ap	0.062~0.125	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	8-9		Vc	49~61	48~63	51~63	52~63	52~64	51~66	52~66	52~64	51~65	53~70
			fz	0.009~0.021	0.009~0.022	0.009~0.024	0.010~0.027	0.011~0.029	0.015~0.035	0.017~0.042	0.023~0.058	0.029~0.071	0.034~0.080
			n	11100~13900	10200~13450	10200~12500	9250~11100	8350~10200	6500~8350	5550~6950	4150~5100	3250~4150	2800~3700
			Vf	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590
			Ap	0.062~0.125	0.070~0.135	0.075~0.140	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	10	Acciai alto legati e acciai da utensili	Vc	69~86	68~87	70~88	74~94	73~90	73~95	16~92	76~93	73~95	88~96
			fz	0.009~0.023	0.010~0.024	0.010~0.025	0.011~0.027	0.012~0.031	0.015~0.037	0.082~0.046	0.023~0.060	0.030~0.074	0.030~0.087
			n	15750~19450	14350~18550	13900~17600	13000~16700	11600~14350	9250~12050	1700~9750	6050~7400	4650~6050	4650~5100
			Vf	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890	280~890
			Ap	0.062~0.125	0.070~0.135	0.075~0.145	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	11.1 - 11.2		Vc	49~61	48~63	51~63	52~63	52~64	51~66	52~66	52~64	51~65	53~70
			fz	0.009~0.021	0.009~0.022	0.009~0.024	0.010~0.027	0.011~0.029	0.015~0.035	0.017~0.042	0.023~0.058	0.029~0.071	0.034~0.080
			n	11100~13900	10200~13450	10200~12500	9250~11100	8350~10200	6500~8350	5550~6950	4150~5100	3250~4150	2800~3700
			Vf	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590
			Ap	0.062~0.125	0.070~0.135	0.075~0.140	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
H	38.1 38.2	Acciai temprati	Vc	31~39	31~37	30~40	31~39	32~41	33~40	31~39	31~41	32~41	35~53
			fz	0.005~0.007	0.005~0.008	0.006~0.008	0.006~0.009	0.007~0.010	0.008~0.013	0.011~0.016	0.014~0.020	0.017~0.025	0.019~0.023
			n	6950~8800	6500~7900	6050~7900	5550~6950	5100~6500	4150~5100	3250~4150	2500~3250	2050~2600	1850~2800
			Vf	70~130	70~130	70~130	70~130	70~130	70~130	70~130	70~130	70~130	70~130
			Ap	0.012~0.025	0.014~0.028	0.015~0.030	0.016~0.032	0.018~0.035	0.022~0.045	0.028~0.055	0.036~0.072	0.045~0.090	0.054~0.108
	40	Fusione di ghisa	Vc	49~61	48~63	51~63	52~63	52~64	51~66	52~66	52~64	51~65	53~70
			fz	0.009~0.021	0.009~0.022	0.009~0.024	0.010~0.027	0.011~0.029	0.015~0.035	0.017~0.042	0.023~0.058	0.029~0.071	0.034~0.080
			n	11100~13900	10200~13450	10200~12500	9250~11100	8350~10200	6500~8350	5550~6950	4150~5100	3250~4150	2800~3700
			Vf	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590	190~590
			Ap	0.062~0.125	0.070~0.135	0.075~0.140	0.080~0.160	0.090~0.180	0.112~0.235	0.135~0.270	0.180~0.360	0.225~0.450	0.270~0.540
	41	Ghisa indurita	Vc	31~39	31~37	30~40	31~39	32~41	33~40	31~39	31~41	32~41	35~53
			fz	0.005~0.007	0.005~0.008	0.006~0.008	0.006~0.009	0.007~0.010	0.008~0.013	0.011~0.016	0.014~0.020	0.017~0.025	0.019~0.023
			n	6950~8800	6500~7900	6050~7900	5550~6950	5100~6500	4150~5100	3250~4150	2500~3250	2050~2600	1850~2800
			Vf	70~130	70~130	70~130	70~130	70~130	70~130	70~130	70~130	70~130	70~130
			Ap	0.012~0.025	0.014~0.028	0.015~0.030	0.016~0.032	0.018~0.035	0.022~0.045	0.028~0.055	0.036~0.072	0.045~0.090	0.054~0.108



(Profondità di passata)

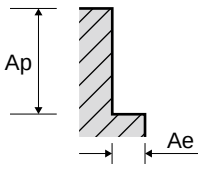
PARAMETRI DI TAGLIO INDICATIVI

G9F43 / G9J59 SERIES

3 TAGLIENTI - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 1.0	2.0	2.5	3.0	3.5	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-4	Acciai non legati	0.05D	1.0D	Vc	49	53	58	62	66	70	73	77	78	74	75	81	80	79
					fz	0.005	0.012	0.014	0.017	0.024	0.030	0.037	0.048	0.068	0.077	0.078	0.075	0.075	0.075
					n	15450	8500	7385	6600	600	5550	4650	4100	3100	2350	2000	1850	1600	1250
					Vf	210	305	310	340	430	500	520	590	630	540	470	415	360	280
	5		0.05D	1.0D	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.005	0.012	0.016	0.019	0.024	0.029	0.037	0.049	0.060	0.061	0.057	0.058	0.060	0.062
					n	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					Vf	125	200	225	235	270	300	305	370	335	265	215	200	180	140
	6-7	Acciai basso legati	0.05D	1.0D	Vc	49	53	58	62	66	70	73	77	78	74	75	81	80	79
					fz	0.005	0.012	0.014	0.017	0.024	0.030	0.037	0.048	0.068	0.077	0.078	0.075	0.075	0.075
					n	15450	8500	7385	6600	600	5550	4650	4100	3100	2350	2000	1850	1600	1250
					Vf	210	305	310	340	430	500	520	590	630	540	470	415	360	280
	8-9		0.05D	1.0D	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.005	0.012	0.016	0.019	0.024	0.029	0.037	0.049	0.060	0.061	0.057	0.058	0.060	0.062
					n	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					Vf	125	200	225	235	270	300	305	370	335	265	215	200	180	140
	10	Acciai alto legati e acciai da utensili	0.05D	1.0D	Vc	49	53	58	62	66	70	73	77	78	74	75	81	80	79
					fz	0.005	0.012	0.014	0.017	0.024	0.030	0.037	0.048	0.068	0.077	0.078	0.075	0.075	0.075
					n	15450	8500	7385	6600	600	5550	4650	4100	3100	2350	2000	1850	1600	1250
					Vf	210	305	310	340	430	500	520	590	630	540	470	415	360	280
	11.1 - 11.2		0.05D	1.0D	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.005	0.012	0.016	0.019	0.024	0.029	0.037	0.049	0.060	0.061	0.057	0.058	0.060	0.062
					n	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					Vf	125	200	225	235	270	300	305	370	335	265	215	200	180	140
M	14.1	Acciai Inox	0.05D	1.0D	Vc	24	29	30	32	34	36	36	40	39	39	40	40	38	38
					fz	0.004	0.011	0.015	0.020	0.024	0.029	0.038	0.042	0.057	0.071	0.068	0.074	0.080	0.078
					n	7700	4650	3820	3400	3090	2850	2300	2100	1550	1250	1050	900	750	600
					Vf	100	155	170	200	225	250	265	265	265	265	215	200	180	140
K	15-16	Ghisa grigia	0.05D	1.0D	Vc	63	63	62	62	62	62	62	60	60	63	58	62	60	60
					fz	0.006	0.013	0.017	0.020	0.023	0.027	0.033	0.047	0.068	0.085	0.114	0.132	0.158	0.212
					n	20200	10100	7895	6550	5640	4950	3950	3200	2400	2000	1550	1400	1200	950
					Vf	365	395	405	395	390	395	395	455	490	510	530	555	570	605
	17-18	Ghisa nodulare	0.05D	1.0D	Vc	63	63	62	62	62	62	62	60	60	63	58	62	60	60
					fz	0.006	0.013	0.017	0.020	0.023	0.027	0.033	0.047	0.068	0.085	0.114	0.132	0.158	0.212
					n	20200	10100	7895	6550	5640	4950	3950	3200	2400	2000	1550	1400	1200	950
					Vf	365	395	405	395	390	395	395	455	490	510	530	555	570	605
	19-20	Ghisa malleabile	0.05D	1.0D	Vc	63	63	62	62	62	62	62	60	60	63	58	62	60	60
					fz	0.006	0.013	0.017	0.020	0.023	0.027	0.033	0.047	0.068	0.085	0.114	0.132	0.158	0.212
					n	20200	10100	7895	6550	5640	4950	3950	3200	2400	2000	1550	1400	1200	950
					Vf	365	395	405	395	390	395	395	455	490	510	530	555	570	605
H	38.1	Acciai temprati	0.05D	1.0D	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.005	0.012	0.016	0.019	0.024	0.029	0.037	0.049	0.060	0.061	0.057	0.058	0.060	0.062
					n	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					Vf	125	200	225	235	270	300	305	370	335	265	215	200	180	140
	40	Fusione di ghisa	0.05D	1.0D	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.005	0.012	0.016	0.019	0.024	0.029	0.037	0.049	0.060	0.061	0.057	0.058	0.060	0.062
					n	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					Vf	125	200	225	235	270	300	305	370	335	265	215	200	180	140



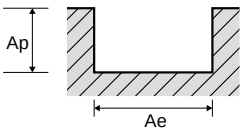
PARAMETRI DI TAGLIO INDICATIVI

G9F43 / G9J59 SERIES

3 TAGLIENTI - CAVA

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 1.0	2.0	2.5	3.0	3.5	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0
P	1-4	Acciai non legati	1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	49	53	58	62	66	70	73	77	78	74	75	81	80	79
					fz	0.004	0.010	0.012	0.014	0.019	0.025	0.031	0.040	0.056	0.064	0.065	0.062	0.063	0.062
					n	15450	8500	7385	6600	6000	5550	4650	4100	3100	2350	2000	1850	1600	1250
					Vf	175	255	265	285	340	415	435	490	525	450	390	345	300	235
	5		1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.004	0.010	0.013	0.016	0.020	0.024	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					n	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					Vf	105	165	185	195	225	250	255	310	280	220	180	165	150	115
	6-7	Acciai basso legati	1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	49	53	58	62	66	70	73	77	78	74	75	81	80	79
					fz	0.004	0.010	0.012	0.014	0.019	0.025	0.031	0.040	0.056	0.064	0.065	0.062	0.063	0.062
					n	15450	8500	7385	6600	6000	5550	4650	4100	3100	2350	2000	1850	1600	1250
					Vf	175	255	265	285	340	415	435	490	525	450	390	345	300	235
	8-9		1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.004	0.010	0.013	0.016	0.020	0.024	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					n	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					Vf	105	165	185	195	225	250	255	310	280	220	180	165	150	115
	10	Acciai alto legati e acciai da utensili	1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	49	53	58	62	66	70	73	77	78	74	75	81	80	79
					fz	0.004	0.010	0.012	0.014	0.019	0.025	0.031	0.040	0.056	0.064	0.065	0.062	0.063	0.062
					n	15450	8500	7385	6600	6000	5550	4650	4100	3100	2350	2000	1850	1600	1250
					Vf	175	255	265	285	340	415	435	490	525	450	390	345	300	235
	11.1 - 11.2		1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.004	0.010	0.013	0.016	0.020	0.024	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					n	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					Vf	105	165	185	195	225	250	255	310	280	220	180	165	150	115
M	14.1	Acciai Inox	1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	24	29	30	32	34	36	36	40	39	39	40	40	38	38
					fz	0.004	0.009	0.012	0.016	0.020	0.025	0.032	0.039	0.053	0.058	0.057	0.061	0.067	0.063
					n	7700	4650	3820	3400	3090	2850	2300	2100	1550	1250	1050	900	750	600
					Vf	85	130	140	165	185	210	220	220	220	220	180	165	150	115
K	15-16	Ghisa grigia	1.0D	1D	Vc	63	63	62	62	62	62	62	60	60	63	58	62	60	60
					fz	0.005	0.012	0.015	0.018	0.021	0.024	0.030	0.043	0.061	0.078	0.103	0.120	0.144	0.192
					n	20200	10100	7895	6550	5640	4950	3950	3200	2400	2000	1550	1400	1200	950
					Vf	330	360	355	360	355	360	360	415	445	465	480	505	520	550
	17-18	Ghisa nodulare	1.0D	1D	Vc	63	63	62	62	62	62	62	60	60	63	58	62	60	60
					fz	0.005	0.012	0.015	0.018	0.021	0.024	0.030	0.043	0.061	0.078	0.103	0.120	0.144	0.192
					n	20200	10100	7895	6550	5640	4950	3950	3200	2400	2000	1550	1400	1200	950
					Vf	330	360	355	360	355	360	360	415	445	465	480	505	520	550
	19-20	Ghisa malleabile	1.0D	1D	Vc	63	63	62	62	62	62	62	60	60	63	58	62	60	60
					fz	0.005	0.012	0.015	0.018	0.021	0.024	0.030	0.043	0.061	0.078	0.103	0.120	0.144	0.192
					n	20200	10100	7895	6550	5640	4950	3950	3200	2400	2000	1550	1400	1200	950
					Vf	330	360	355	360	355	360	360	415	445	465	480	505	520	550
H	38.1	Acciai temprati	1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.004	0.010	0.013	0.016	0.020	0.024	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					n	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					Vf	105	165	185	195	225	250	255	310	280	220	180	165	150	115
	40	Fusione di ghisa	1.0D	0.5D (Fino a Ø3 : 0.2D)	Vc	29	35	37	39	41	43	43	47	46	46	47	51	50	47
					fz	0.004	0.010	0.013	0.016	0.020	0.024	0.031	0.041	0.050	0.050	0.048	0.048	0.050	0.050
					n	9200	5550	4710	4100	3730	3400	2750	2500	1850	1450	1250	1150	1000	750
					Vf	105	165	185	195	225	250	255	310	280	220	180	165	150	115



PARAMETRI DI TAGLIO INDICATIVI

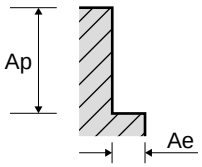
G9F42 / G9J55 SERIES

4 TAGLIENTI - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	6.0	7.0	8.0	9.0	10.0	12.0	14.0	16.0	20.0
P	1-4	Acciai non legati	0.1D	1.0D	Vc	60	60	67	72	77	82	87	89	91	96	96	97	96	93	96	99	101	97
					fz	0.002	0.005	0.006	0.007	0.009	0.014	0.019	0.021	0.024	0.030	0.037	0.043	0.045	0.047	0.047	0.047	0.048	0.047
					n	19000	12750	10650	9165	8200	7460	6950	6295	5800	5100	4365	3850	3395	2950	2550	2250	2000	1550
					Vf	160	230	260	255	290	420	525	530	550	605	645	655	611	560	475	425	380	290
	5		0.1D	1.0D	Vc	35	36	44	46	49	51	53	53	54	58	58	58	58	58	58	62	63	60
					fz	0.002	0.004	0.006	0.007	0.009	0.014	0.019	0.021	0.024	0.031	0.035	0.038	0.037	0.037	0.037	0.038	0.037	0.038
					n	11050	7600	6950	5855	5150	4640	4250	3750	3450	3100	2640	2300	2050	1850	1550	1400	1250	950
					Vf	90	125	155	165	185	260	325	315	330	380	370	350	305	275	230	210	185	145
	6-7	Acciai basso legati	0.1D	1.0D	Vc	60	60	67	72	77	82	87	89	91	96	96	97	96	93	96	99	101	97
					fz	0.002	0.005	0.006	0.007	0.009	0.014	0.019	0.021	0.024	0.030	0.037	0.043	0.045	0.047	0.047	0.047	0.048	0.047
					n	19000	12750	10650	9165	8200	7460	6950	6295	5800	5100	4365	3850	3395	2950	2550	2250	2000	1550
					Vf	160	230	260	255	290	420	525	530	550	605	645	655	611	560	475	425	380	290
	8-9		0.1D	1.0D	Vc	35	36	44	46	49	51	53	53	54	58	58	58	58	58	58	62	63	60
					fz	0.002	0.004	0.006	0.007	0.009	0.014	0.019	0.021	0.024	0.031	0.035	0.038	0.037	0.037	0.037	0.038	0.037	0.038
					n	11050	7600	6950	5855	5150	4640	4250	3750	3450	3100	2640	2300	2050	1850	1550	1400	1250	950
					Vf	90	125	155	165	185	260	325	315	330	380	370	350	305	275	230	210	185	145
	10	Acciai alto legati e acciai da utensili	0.1D	1.0D	Vc	60	60	67	72	77	82	87	89	91	96	96	97	96	93	96	99	101	97
					fz	0.002	0.005	0.006	0.007	0.009	0.014	0.019	0.021	0.024	0.030	0.037	0.043	0.045	0.047	0.047	0.047	0.048	0.047
					n	19000	12750	10650	9165	8200	7460	6950	6295	5800	5100	4365	3850	3395	2950	2550	2250	2000	1550
					Vf	160	230	260	255	290	420	525	530	550	605	645	655	611	560	475	425	380	290
	11.1 ~ 11.2		0.1D	1.0D	Vc	35	36	44	46	49	51	53	53	54	58	58	58	58	58	58	62	63	60
					fz	0.002	0.004	0.006	0.007	0.009	0.014	0.019	0.021	0.024	0.031	0.035	0.038	0.037	0.037	0.037	0.038	0.037	0.038
					n	11050	7600	6950	5855	5150	4640	4250	3750	3450	3100	2640	2300	2050	1850	1550	1400	1250	950
					Vf	90	125	155	165	185	260	325	315	330	380	370	350	305	275	230	210	185	145
M	14.1	Acciai Inox	0.1D	1.0D	Vc	29	36	36	38	40	42	45	45	46	49	49	49	48	47	47	51	53	47
					fz	0.002	0.004	0.006	0.007	0.009	0.013	0.018	0.021	0.024	0.029	0.035	0.042	0.044	0.046	0.044	0.045	0.044	0.047
					n	9350	7600	5800	4840	4250	3820	3550	3185	2900	2600	2230	1950	1700	1500	1250	1150	1050	750
					Vf	80	130	130	135	155	200	260	270	275	300	315	325	300	275	220	205	185	140
K	15-16	Ghisa grigia	0.1D	1.5.0D	Vc	63	61	63	62	62	62	62	62	62	60	60	60	62	63	58	62	60	60
					fz	0.008	0.013	0.017	0.022	0.026	0.031	0.035	0.040	0.044	0.065	0.079	0.092	0.104	0.116	0.156	0.182	0.219	0.295
					n	20200	13050	10100	4895	6550	5640	4950	4385	3950	3200	2730	2400	2195	2000	1550	1400	1200	950
					Vf	670	670	690	695	690	700	690	700	690	830	865	880	915	930	970	1020	1050	1120
	17-18	Ghisa nodulare	0.1D	1.5.0D	Vc	63	61	63	62	62	62	62	62	62	60	60	60	62	63	58	62	60	60
					fz	0.008	0.013	0.017	0.022	0.026	0.031	0.035	0.040	0.044	0.065	0.079	0.092	0.104	0.116	0.156	0.182	0.219	0.295
					n	20200	13050	10100	4895	6550	5640	4950	4385	3950	3200	2730	2400	2195	2000	1550	1400	1200	950
					Vf	670	670	690	695	690	700	690	700	690	830	865	880	915	930	970	1020	1050	1120
	19-20	Ghisa malleabile	0.1D	1.5.0D	Vc	63	61	63	62	62	62	62	62	62	60	60	60	62	63	58	62	60	60
					fz	0.008	0.013	0.017	0.022	0.026	0.031	0.035	0.040	0.044	0.065	0.079	0.092	0.104	0.116	0.156	0.182	0.219	0.295
					n	20200	13050	10100	4895	6550	5640	4950	4385	3950	3200	2730	2400	2195	2000	1550	1400	1200	950
					Vf	670	670	690	695	690	700	690	700	690	830	865	880	915	930	970	1020	1050	1120
H	38.1	Acciai temprati	0.1D	1.0D	Vc	35	36	44	46	49	51	53	53	54	58	58	58	58	58	58	62	63	60
					fz	0.002	0.004	0.006	0.007	0.009	0.014	0.019	0.021	0.024	0.031	0.035	0.038	0.037	0.037	0.037	0.038	0.037	0.038
					n	11050	7600	6950	5855	5150	4640	4250	3750	3450	3100	2640	2300	2050	1850	1550	1400	1250	950
					Vf	90	125	155	165	185	260	325	315	330	380	370	350	305	275	230	210	185	145
	40	Fusione di ghisa	0.1D	1.0D	Vc	35	36	44	46	49	51	53	53	54	58	58	58	58	58	58	62	63	60
					fz	0.002	0.004	0.006	0.007	0.009	0.014	0.019	0.021	0.024	0.031	0.035	0.038	0.037	0.037	0.037	0.038	0.037	0.038
					n	11050	7600	6950	5855	5150	4640	4250	3750	3450	3100	2640	2300	2050	1850	1550	1400	1250	950
					Vf	90	125	155	165	185	260	325	315	330	380	370	350	305	275	230	210	185	145

※ Per le frese serie lunga ed extra lunga, ridurre l'avanzamento del 50% circa



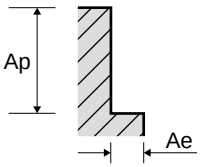
PARAMETRI DI TAGLIO INDICATIVI

G9J58 SERIES

6 TAGLIENTI - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 6.0	8.0	10.0	12.0	16.0
P	3-4	Acciai non legati	0.05D	1.5D	Vc	105	106	104	107	106
					fz	0.030	0.038	0.045	0.053	0.062
					n	5590	4210	3320	2835	2105
					Vf	995	960	900	895	785
	5		0.03D	1.5D	Vc	70	71	70	71	71
					fz	0.030	0.038	0.045	0.053	0.062
					n	3725	2810	2215	1890	1405
					Vf	675	640	600	600	520
	7	Acciai basso legati	0.05D	1.5D	Vc	105	106	104	107	106
					fz	0.030	0.038	0.045	0.053	0.062
					n	5590	4210	3320	2835	2105
					Vf	995	960	900	895	785
	8-9		0.03D	1.5D	Vc	70	71	70	71	71
					fz	0.030	0.038	0.045	0.053	0.062
					n	3725	2810	2215	1890	1405
					Vf	675	640	600	600	520
	11.1 11.2	Acciai alto legati e acciai da utensili	0.03D	1.5D	Vc	70	71	70	71	71
					fz	0.030	0.038	0.045	0.053	0.062
					n	3725	2810	2215	1890	1405
					Vf	675	640	600	600	520
K	15-16	Ghisa grigia	0.05D	1.5D	Vc	105	106	104	107	106
					fz	0.030	0.038	0.045	0.053	0.062
					n	5590	4210	3320	2835	2105
					Vf	995	960	900	895	785
	17-18	Ghisa nodulare	0.05D	1.5D	Vc	105	106	104	107	106
					fz	0.030	0.038	0.045	0.053	0.062
					n	5590	4210	3320	2835	2105
					Vf	995	960	900	895	785
	19-20	Ghisa malleabile	0.05D	1.5D	Vc	105	106	104	107	106
					fz	0.030	0.038	0.045	0.053	0.062
					n	5590	4210	3320	2835	2105
					Vf	995	960	900	895	785
H	38.1	Acciai temprati	0.03D	1.5D	Vc	54	54	54	54	54
					fz	0.023	0.029	0.033	0.039	0.046
					n	2860	2160	1730	1440	1080
					Vf	400	370	340	340	300
	38.2		0.02D	1.0D	Vc	43	44	43	43	44
					fz	0.018	0.023	0.027	0.032	0.038
					n	2270	1730	1380	1135	865
					Vf	250	235	220	215	195
	40	Fusione di ghisa	0.03D	1.5D	Vc	70	71	70	71	71
					fz	0.030	0.038	0.045	0.053	0.062
					n	3725	2810	2215	1890	1405
					Vf	675	640	600	600	520
	41	Ghisa indurita	0.02D	1.0D	Vc	43	44	43	43	44
					fz	0.018	0.023	0.027	0.032	0.038
					n	2270	1730	1380	1135	865
					Vf	250	235	220	215	195

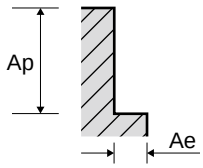


PARAMETRI DI TAGLIO INDICATIVI

G9J60 SERIES — MULTI TAGLIENTE PER SGROSSATURA - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Acciai non legati	0.3D	1.5D	Vc	265	262	260	271	271	271
					fz	0.050	0.067	0.063	0.075	0.100	0.113
					n	14040	10440	8280	7200	5400	4320
					Vf	2090	2090	2090	2160	2160	1945
	5		0.3D	1.5D	Vc	210	208	215	204	217	204
					fz	0.023	0.030	0.028	0.033	0.040	0.039
					n	11160	8280	6840	5400	4320	3240
					Vf	755	755	755	720	685	505
	6-7	Acciai basso legati	0.3D	1.5D	Vc	265	262	260	271	271	271
					fz	0.050	0.067	0.063	0.075	0.100	0.113
					n	14040	10440	8280	7200	5400	4320
					Vf	2090	2090	2090	2160	2160	1945
	8-9		0.3D	1.5D	Vc	210	208	215	204	217	204
					fz	0.023	0.030	0.028	0.033	0.040	0.039
					n	11160	8280	6840	5400	4320	3240
					Vf	755	755	755	720	685	505
	10	Acciai alto legati e acciai da utensili	0.3D	1.5D	Vc	265	262	260	271	271	271
					fz	0.050	0.067	0.063	0.075	0.100	0.113
					n	14040	10440	8280	7200	5400	4320
					Vf	2090	2090	2090	2160	2160	1945
	11.1		0.3D	1.5D	Vc	210	208	215	204	217	204
					fz	0.023	0.030	0.028	0.033	0.040	0.039
					n	11160	8280	6840	5400	4320	3240
					Vf	755	755	755	720	685	505
M	14.1	Acciai Inox	0.3D	1.5D	Vc	143	143	144	143	149	136
					fz	0.023	0.030	0.028	0.034	0.042	0.038
					n	7560	5670	4590	3780	2970	2160
					Vf	515	515	515	515	500	325
K	15-16	Ghisa grigia	0.3D	1.5D	Vc	265	262	260	271	271	271
					fz	0.050	0.067	0.063	0.075	0.100	0.113
					n	14040	10440	8280	7200	5400	4320
					Vf	2090	2090	2090	2160	2160	1945
	17-18	Ghisa nodulare	0.3D	1.5D	Vc	265	262	260	271	271	271
					fz	0.050	0.067	0.063	0.075	0.100	0.113
					n	14040	10440	8280	7200	5400	4320
					Vf	2090	2090	2090	2160	2160	1945
	19-20	Ghisa malleabile	0.3D	1.5D	Vc	265	262	260	271	271	271
					fz	0.050	0.067	0.063	0.075	0.100	0.113
					n	14040	10440	8280	7200	5400	4320
					Vf	2090	2090	2090	2160	2160	1945



NEW CENTURY

NEW CENTURY

GUIDA ALLA SELEZIONE

NEW

MD FRESE per taglio pesante

Il design geometrico ottimizzato riduce le vibrazioni durante la lavorazione di materiali versatili come acciai, acciai legati, acciai inossidabili, ecc.

CODICE	G9J64 G9J65	G9J66 G9J67
N° TAGLIENTI	4	4
ANGOLO D'ELICA	35°/37°	35°/37°
FORMA DEL TAGLIENTE	SPIGOLO VIVO	SPIGOLO VIVO
DIM. MIN	D3.0	D3.0
DIM. MAX	D20.0	D20.0
PAG	61	62
	CORTA	LUNGA
	X-Coating	X-Coating

◎: Specifico ○: Adatto

Parametri di taglio: p.63

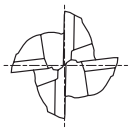
ISO	VDI 3323	Descrizione materiale	Composizione / Struttura / Trattamento		HB	HRc	G9J64 G9J65	G9J66 G9J67
P	1	Acciai non legati	0.15% C	Ricotto	125		◎	◎
	2		0.45% C	Ricotto	190	13	◎	◎
	3		0.45% C	Bonificato	250	25	◎	◎
	4		0.75% C	Ricotto	270	28	◎	◎
	5		0.75% C	Bonificato	300	32	◎	◎
	6	Acciai basso legati		Ricotto	180	10	◎	◎
	7			Bonificato	275	29	◎	◎
	8			Bonificato	300	32	◎	◎
	9			Bonificato	350	38	◎	◎
	10	Acciai alto legati e acciai da utensili		Ricotto	200	15	◎	◎
	11			Bonificato	325	35	◎	◎
M	12	Acciai Inox	Ferritico / Martensitico	Ricotto	200	15	○	○
	13		Martensitico	Bonificato	240	23	○	○
	14		Austenitico		180	10	○	○
K	15	Ghisa grigia	Perlitico / Ferritico		180	10	○	○
	16		Perlitico (Martensitico)		260	26	○	○
	17	Ghisa nodulare	Ferritica		160	3	○	○
	18		Perlitica		250	25	○	○
	19	Ghisa malleabile	Ferritica		130		○	○
	20		Perlitica		230	21	○	○
N	21	Lega di Alluminio	Non Trattabile		60			
	22		Trattabile	Temprato	100			
	23	Alluminio fuso, legato	≤ 12% Si, Non Trattabile		75			
	24		≤ 12% Si, Trattabile	Temprato	90			
	25		> 12% Si, Non Trattabile		130			
	26	Rame e leghe di rame (Bronzo/Ottone)	Leghe, PB>1%		110			
	27		CuZn, CuSnZn (Ottone)		90			
	28		CuSn, rame senza piombo e rame elettrolitico		100			
	29	Materiali non ferrosi	Duroplastic, Plastiche rinforzate fibra					
	30		Gomma, Legno, etc.					
S	31	Super leghe resistenti al calore	Base Fe	Ricotto	200	15	○	○
	32			Invecchiato	280	30	○	○
	33		Base Ni o Co	Ricotto	250	25	○	○
	34			Invecchiato	350	38	○	○
	35			Fuso	320	34	○	○
	36	Leghe di titanio	Titanio puro		400 Rm		○	○
	37		Alpha + Beta Leghe	Temprato	1050 Rm		○	○
H	38	Acciai temprati		Temprato	550	55		
	39			Temprato	630	60		
	40	Fusione di ghisa		Fuso	400	42		
	41	Ghisa indurita		Temprato	550	55		

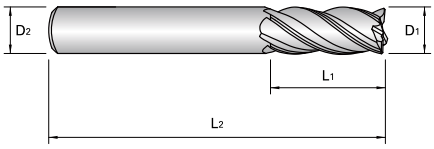
FRESE per TAGLIO PESANTE

NEW CENTURY

CARBIDE, 4 FLUTE MULTIPLE HELIX SHORT LENGTH
MD, 4 TAGLIENTI, EVOLVENTE VARIABILE, SERIE CORTA

- ► Nuovo rivestimento che migliora la resistenza al calore e all'ossidazione.
- ► Elica multipla progettata per una formazione ottimale dei trucioli e una migliore evacuazione.
- ► Geometria unica applicata per ridurre le vibrazioni.





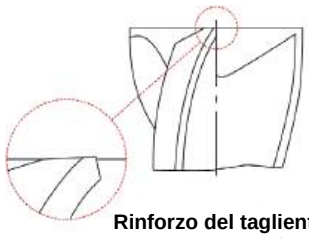
p.63

Tolleranza diam. fresa (mm)	Tolleranza diam. gambo
0 ~ - 0.030	h5

G9J64 G9J65 SERIES

Unità: mm

CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
Gambo cilindrico	Tratto piano	D_1	D_2	L_1	L_2
G9J64030	**G9J65030**	**3.0**	6	5	50
G9J64040	**G9J65040**	**4.0**	6	8	54
G9J64050	**G9J65050**	**5.0**	6	9	54
G9J64060	**G9J65060**	**6.0**	6	10	54
G9J64080	**G9J65080**	**8.0**	8	12	58
G9J64100	**G9J65100**	**10.0**	10	14	66
G9J64120	**G9J65120**	**12.0**	12	16	73
G9J64160	**G9J65160**	**16.0**	16	22	82
G9J64200	**G9J65200**	**20.0**	20	26	92



Rinforzo del tagliente

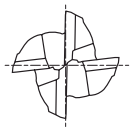
FRESE per TAGLIO PESANTE

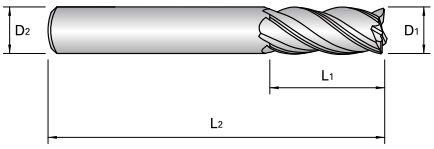
NEW CENTURY

CARBIDE, 4 FLUTE MULTIPLE HELIX LONG LENGTH

MD, 4 TAGLIENTI, EVOLVENTE VARIABILE, SERIE LUNGA

- ► Nuovo rivestimento che migliora la resistenza al calore e all'ossidazione.
- ► Elica multipla progettata per una formazione ottimale dei trucioli e una migliore evacuazione.
- ► Geometria unica applicata per ridurre le vibrazioni.





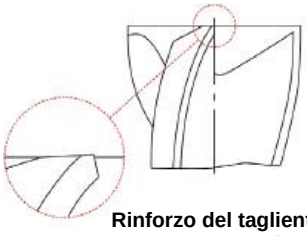
p.63

Tolleranza diam. fresa (mm)	Tolleranza diam. gambo
0 ~ - 0.030	h5

G9J66 G9J67 SERIES

Unità: mm

CODICE		Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
Gambo cilindrico	Tratto piano	D_1	D_2	L_1	L_2
G9J66030	**G9J67030**	**3.0**	6	8	57
G9J66040	**G9J67040**	**4.0**	6	11	57
G9J66050	**G9J67050**	**5.0**	6	13	57
G9J66060	**G9J67060**	**6.0**	6	13	57
G9J66080	**G9J67080**	**8.0**	8	19	63
G9J66100	**G9J67100**	**10.0**	10	22	72
G9J66120	**G9J67120**	**12.0**	12	26	83
G9J66160	**G9J67160**	**16.0**	16	32	92
G9J66200	**G9J67200**	**20.0**	20	38	104



Rinforzo del tagliente

PARAMETRI DI TAGLIO INDICATIVI

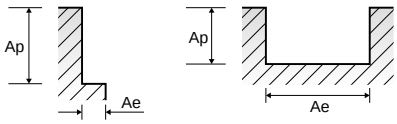
G9J64, G9J65, G9J66, G9J67 SERIES

4 TAGLIENTI

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	FIANCO Ae	FIANCO Ap	CAVA Ae	CAVA Ap	Parametri	Diametri (Ø) 3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Acciai non legati	0.3D	1.5D (1.2D)	1D	0.8D	Vc	106	106	106	106	106	118	118	118	118
							fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.053	0.065
							n	11291	8470	6776	5642	4235	3745	3122	2338	1869
							Vf	228	270	298	361	459	571	588	497	487
	5		0.3D	1.5D (1.2D)	1D	0.8D	Vc	75	75	75	75	75	82	82	82	82
							fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.053	0.065
							n	7945	5957	4767	3976	2982	2604	2170	1631	1302
							Vf	158	189	210	256	322	396	410	347	340
	6-7	Acciai basso legati	0.3D	1.5D (1.2D)	1D	0.8D	Vc	106	106	106	106	106	118	118	118	118
							fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.053	0.065
							n	11291	8470	6776	5642	4235	3745	3122	2338	1869
							Vf	228	270	298	361	459	571	588	497	487
	8-9		0.3D	1.5D (1.2D)	1D	0.8D	Vc	75	75	75	75	75	82	82	82	82
							fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.053	0.065
							n	7945	5957	4767	3976	2982	2604	2170	1631	1302
							Vf	158	189	210	256	322	396	410	347	340
	10 - 11.1	Acciai alto legati e acciai da utensili	0.3D	1.5D (1.2D)	1D	0.8D	Vc	45	45	45	45	45	49	49	49	49
							fz	0.003	0.006	0.008	0.011	0.019	0.027	0.032	0.037	0.045
							n	4753	3563	2849	2380	1785	1561	1302	973	777
							Vf	56	84	91	105	137	168	168	144	140
M	12-13	Acciai Inox	0.1D	1.5D (1.2D)	1D	0.8D	Vc	104	104	104	104	104	104	104	104	104
							fz	0.004	0.006	0.009	0.013	0.022	0.034	0.039	0.045	0.055
							n	10990	8246	6594	5495	4123	3297	2751	2058	1652
							Vf	175	200	238	287	364	448	427	371	364
	14.1		0.3D	1.5D (1.2D)	1D	0.8D	Vc	74	74	74	74	74	74	74	74	74
							fz	0.005	0.008	0.013	0.018	0.028	0.048	0.055	0.062	0.077
							n	7875	5908	4725	3934	2954	2359	1967	1477	1183
							Vf	158	189	245	284	329	455	434	368	364
	14.2		0.3D	1.5D (1.2D)	1D	0.8D	Vc	67	67	67	67	67	67	67	67	67
							fz	0.005	0.008	0.013	0.018	0.028	0.048	0.055	0.062	0.076
							n	7056	5292	4235	3528	2646	2114	1764	1323	1057
							Vf	140	168	221	256	298	406	389	329	322
K	15-16	Ghisa grigia	0.3D	1.5D (1.2D)	1D	0.8D	Vc	78	78	78	78	78	86	86	86	86
							fz	0.006	0.01	0.014	0.02	0.034	0.048	0.058	0.065	0.081
							n	8316	6237	4991	4158	3122	2744	2282	1715	1372
							Vf	200	249	280	333	424	525	529	445	445
	17-18	Ghisa nodulare	0.3D	1.5D (1.2D)	1D	0.8D	Vc	78	78	78	78	78	86	86	86	86
							fz	0.006	0.01	0.014	0.02	0.034	0.048	0.058	0.065	0.081
							n	8316	6237	4991	4158	3122	2744	2282	1715	1372
							Vf	200	249	280	333	424	525	529	445	445
	19-20	Ghisa malleabile	0.3D	1.5D (1.2D)	1D	0.8D	Vc	78	78	78	78	78	86	86	86	86
							fz	0.006	0.01	0.014	0.02	0.034	0.048	0.058	0.065	0.081
							n	8316	6237	4991	4158	3122	2744	2282	1715	1372
							Vf	200	249	280	333	424	525	529	445	445

*( ): Serie corta



NEW CENTURY

GUIDA ALLA SELEZIONE

NEW

MD
FRESE
per materiali temprati

Geometria e rivestimento ottimizzato per lavorazioni di materiali Temprati fino a 65 HRc.

CODICE	GFJ69	GFJ68
N° TAGLIENTI	2	2
ANGOLO D'ELICA	30°	30°
FORMA DEL TAGLIENTE	SEMISFERICA	SEMISFERICA
DIM. MIN	R0.2	R0.1
DIM. MAX	R2.0	R6.0
PAG	66	69
	LUNGA	-
	Z-VG Coating	Z-VG Coating

◎: Specifico ○: Adatto

Parametri di taglio: p.75

ISO	VDI 3323	Descrizione materiale	Composizione / Struttura / Trattamento		HB	HRc		
P	1	Acciai non legati	0.15% C	Ricotto	125			
	2		0.45% C	Ricotto	190	13		
	3		0.45% C	Bonificato	250	25		
	4		0.75% C	Ricotto	270	28		
	5		0.75% C	Bonificato	300	32	○	○
	6	Acciai basso legati		Ricotto	180	10		
	7			Bonificato	275	29		
	8			Bonificato	300	32	○	○
	9			Bonificato	350	38	○	○
	10	Acciai alto legati e acciai da utensili		Ricotto	200	15		
	11			Bonificato	325	35	◎	◎
M	12	Acciai Inox	Ferritico / Martensitico	Ricotto	200	15		
	13		Martensitico	Bonificato	240	23		
	14		Austenitico		180	10		
K	15	Ghisa grigia	Perlitico / Ferritico		180	10		
	16		Perlitico (Martensitico)		260	26		
	17	Ghisa nodulare	Ferritica		160	3		
	18		Perlitica		250	25		
	19	Ghisa malleabile	Ferritica		130			
	20		Perlitica		230	21		
N	21	Lega di Alluminio	Non Trattabile		60			
	22		Trattabile	Temprato	100			
	23	Alluminio fuso, legato	≤ 12% Si, Non Trattabile		75			
	24		≤ 12% Si, Trattabile	Temprato	90			
	25		> 12% Si, Non Trattabile		130			
	26	Rame e leghe di rame (Bronzo/Ottone)	Leghe, PB>1%		110			
	27		CuZn, CuSnZn (Ottone)		90			
	28		CuSn, rame senza piombo e rame elettrolitico		100			
	29	Materiali non ferrosi	Duroplastic, Plastiche rinforzate fibra					
	30		Gomma, Legno, etc.					
S	31	Super leghe resistenti al calore	Base Fe	Ricotto	200	15		
	32			Invecchiato	280	30		
	33		Base Ni o Co	Ricotto	250	25		
	34			Invecchiato	350	38		
	35			Fuso	320	34		
	36	Leghe di titanio	Titanio puro		400 Rm			
	37		Alpha + Beta Leghe	Temprato	1050 Rm			
H	38	Acciai temprati		Temprato	550	55	◎	◎
	39			Temprato	630	60	◎	◎
	40	Fusione di ghisa		Fuso	400	42	◎	◎
	41	Ghisa indurita		Temprato	550	55	◎	◎

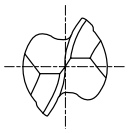
GFJ70	GFJ71	GFJ74	GFJ72	GFJ73		
4	4	6	2	4		
30°	30°	45°	30°	30°		
TORICA	TORICA	TORICA	SPIGOLO VIVO	SPIGOLO VIVO		
D6.0	D3.0	D6.0	D0.4	D1.0		
D12.0	D12.0	D20.0	D20.0	D20.0		
70	**71**	**72**	**73**	**74**		
-	CORTA	CORTA	EXTRA CORTA	EXTRA CORTA		
Z-VG Coating	Z-VG Coating	Z-VG Coating	Z-VG Coating	Z-VG Coating		
					1	P
					2	
					3	
					4	
○	○	○	○	○	5	
					6	
					7	
○	○	○	○	○	8	
○	○	○	○	○	9	
					10	
◎	◎	◎	◎	◎	11	
					12	M
					13	
					14	
					15	K
					16	
					17	
					18	
					19	
					20	
					21	N
					22	
					23	
					24	
					25	
					26	
					27	
					28	
					29	
					30	
					31	S
					32	
					33	
					34	
					35	
					36	
					37	
◎	◎	◎	◎	◎	38	H
◎	◎	◎	◎	◎	39	
◎	◎	◎	◎	◎	40	
◎	◎	◎	◎	◎	41	

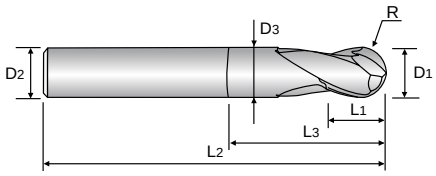
FRESE per MATERIALI TEMPRATI

NEW CENTURY

CARBIDE, 2 FLUTE BALL NOSE LONG LENGTH
MD, 2 TAGLIENTI, SEMISFERICA, SERIE LUNGA

► Progettato per lavorare materiali altamente induriti, taglio a secco e taglio ad alta velocità.
► Offre costantemente una finitura eccezionale del pezzo lavorato e vanta un'elevata resistenza all'usura.





p.75

Diam. Fresa	Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
Fino a Ø4	0 ~ - 0.012	h5

GFJ69 SERIES

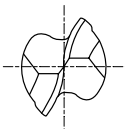
Unità: mm

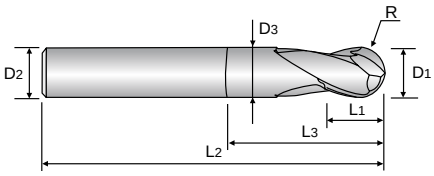
CODICE	Raggio	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza scarico	Lunghezza totale	Diametro scarico
	R	D_1	D_2	L_1	L_3	L_2	D_3
GFJ69004010	R0.2	**0.4**	4	0.4	1	45	0.37
GFJ69004020	R0.2	**0.4**	4	0.4	2	45	0.37
GFJ69004030	R0.2	**0.4**	4	0.4	3	45	0.37
GFJ69004040	R0.2	**0.4**	4	0.4	4	45	0.37
GFJ69004050	R0.2	**0.4**	4	0.4	5	45	0.37
GFJ69005020	R0.25	**0.5**	4	0.5	2	45	0.45
GFJ69005040	R0.25	**0.5**	4	0.5	4	45	0.45
GFJ69005060	R0.25	**0.5**	4	0.5	6	45	0.45
GFJ69005080	R0.25	**0.5**	4	0.5	8	45	0.45
GFJ69006020	R0.3	**0.6**	4	0.6	2	45	0.55
GFJ69006030	R0.3	**0.6**	4	0.6	3	45	0.55
GFJ69006040	R0.3	**0.6**	4	0.6	4	45	0.55
GFJ69006050	R0.3	**0.6**	4	0.6	5	45	0.55
GFJ69006060	R0.3	**0.6**	4	0.6	6	45	0.55
GFJ69006080	R0.3	**0.6**	4	0.6	8	45	0.55
GFJ69006100	R0.3	**0.6**	4	0.6	10	45	0.55
GFJ69008020	R0.4	**0.8**	4	0.8	2	45	0.75
GFJ69008040	R0.4	**0.8**	4	0.8	4	45	0.75
GFJ69008060	R0.4	**0.8**	4	0.8	6	45	0.75
GFJ69008080	R0.4	**0.8**	4	0.8	8	45	0.75
GFJ69008100	R0.4	**0.8**	4	0.8	10	45	0.75
GFJ69010030	R0.5	**1.0**	4	1	3	45	0.95
GFJ69010040	R0.5	**1.0**	4	1	4	45	0.95
GFJ69010050	R0.5	**1.0**	4	1	5	45	0.95
GFJ69010060	R0.5	**1.0**	4	1	6	45	0.95
GFJ69010070	R0.5	**1.0**	4	1	7	45	0.95
GFJ69010080	R0.5	**1.0**	4	1	8	45	0.95
GFJ69010100	R0.5	**1.0**	4	1	10	45	0.95
GFJ69010120	R0.5	**1.0**	4	1	12	45	0.95
GFJ69010140	R0.5	**1.0**	4	1	14	50	0.95

► SEGUE

CARBIDE, 2 FLUTE BALL NOSE LONG LENGTH
MD, 2 TAGLIENTI, SEMISFERICA, SERIE LUNGA

► Progettato per lavorare acciai, acciai inossidabili, titanio e superleghe resistenti al calore.
► Geometria ad onda a passo fine per lavorazioni ad alta velocità di acciai induriti.





p.75

Diam. Fresa	Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
Fino a Ø4	0 ~ - 0.012	h5

GFJ69 SERIES

Unità: mm

CODICE	Raggio	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza scarico	Lunghezza totale	Diametro scarico
	R	D_1	D_2	L_1	L_3	L_2	D_3
GFJ69010160	R0.5	**1.0**	4	1	16	50	0.95
GFJ69010200	R0.5	**1.0**	4	1	20	55	0.95
GFJ69012060	R0.6	**1.2**	4	1.2	6	45	1.15
GFJ69012080	R0.6	**1.2**	4	1.2	8	45	1.15
GFJ69012100	R0.6	**1.2**	4	1.2	10	45	1.15
GFJ69012120	R0.6	**1.2**	4	1.2	12	45	1.15
GFJ69015060	R0.75	**1.5**	4	1.5	6	45	1.45
GFJ69015080	R0.75	**1.5**	4	1.5	8	45	1.45
GFJ69015100	R0.75	**1.5**	4	1.5	10	45	1.45
GFJ69015120	R0.75	**1.5**	4	1.5	12	45	1.45
GFJ69015140	R0.75	**1.5**	4	1.5	14	50	1.45
GFJ69015160	R0.75	**1.5**	4	1.5	16	50	1.45
GFJ69015200	R0.75	**1.5**	4	1.5	20	55	1.45
GFJ69020040	R1.0	**2.0**	4	2	4	45	1.95
GFJ69020060	R1.0	**2.0**	4	2	6	45	1.95
GFJ69020080	R1.0	**2.0**	4	2	8	45	1.95
GFJ69020100	R1.0	**2.0**	4	2	10	45	1.95
GFJ69020120	R1.0	**2.0**	4	2	12	50	1.95
GFJ69020140	R1.0	**2.0**	4	2	14	50	1.95
GFJ69020160	R1.0	**2.0**	4	2	16	50	1.95
GFJ69020180	R1.0	**2.0**	4	2	18	55	1.95
GFJ69020200	R1.0	**2.0**	4	2	20	55	1.95
GFJ69020220	R1.0	**2.0**	4	2	22	60	1.95
GFJ69020260	R1.0	**2.0**	4	2	26	70	1.95
GFJ69020300	R1.0	**2.0**	4	2	30	70	1.95
GFJ69030120	R1.5	**3.0**	6	3	12	50	2.85
GFJ69030140	R1.5	**3.0**	6	3	14	55	2.85
GFJ69030160	R1.5	**3.0**	6	3	16	55	2.85
GFJ69030180	R1.5	**3.0**	6	3	18	60	2.85
GFJ69030200	R1.5	**3.0**	6	3	20	60	2.85

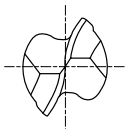
► SEGUE

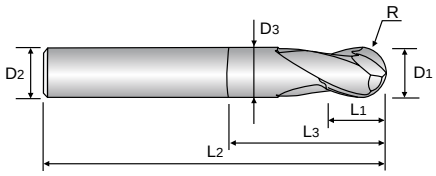
FRESE per MATERIALI TEMPRATI

NEW CENTURY

CARBIDE, 2 FLUTE BALL NOSE LONG LENGTH
MD, 2 TAGLIENTI, SEMISFERICA, SERIE LUNGA

► Progettato per lavorare materiali altamente induriti, taglio a secco e taglio ad alta velocità.
► Offre costantemente una finitura eccezionale del pezzo lavorato e vanta un'elevata resistenza all'usura.





p.75

Diam. Fresa	Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
Fino a Ø4	0 ~ - 0.012	h5

GFJ69 SERIES

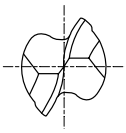
Unità: mm

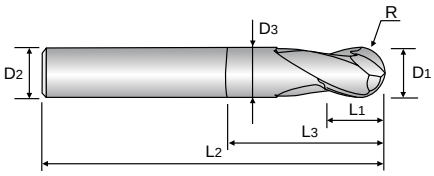
CODICE	Raggio	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza scarico	Lunghezza totale	Diametro scarico
	R	D_1	D_2	L_1	L_3	L_2	D_3
GFJ69030260	R1.5	**3.0**	6	3	26	70	2.85
GFJ69030300	R1.5	**3.0**	6	3	30	70	2.85
GFJ69030360	R1.5	**3.0**	6	3	36	80	2.85
GFJ69040120	R2.0	**4.0**	6	4	12	60	3.85
GFJ69040160	R2.0	**4.0**	6	4	16	60	3.85
GFJ69040200	R2.0	**4.0**	6	4	20	65	3.85
GFJ69040260	R2.0	**4.0**	6	4	26	70	3.85
GFJ69040300	R2.0	**4.0**	6	4	30	70	3.85
GFJ69040360	R2.0	**4.0**	6	4	36	80	3.85
GFJ69040400	R2.0	**4.0**	6	4	40	90	3.85
GFJ69040460	R2.0	**4.0**	6	4	46	90	3.85
GFJ69040500	R2.0	**4.0**	6	4	50	100	3.85

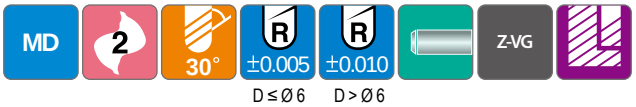
NEW CENTURY

CARBIDE, 2 FLUTE BALL NOSE
MD, 2 TAGLIENTI, SEMISFERICA

► Progettato per lavorare materiali altamente induriti, taglio a secco e taglio ad alta velocità.
► Offre costantemente una finitura eccezionale del pezzo lavorato e vanta un'elevata resistenza all'usura.







p.76

Diam. Fresa	Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
Fino a Ø6	0 ~ - 0.012	h5
Oltre a Ø6	0 ~ - 0.015	

GFJ68 SERIES

Unità: mm

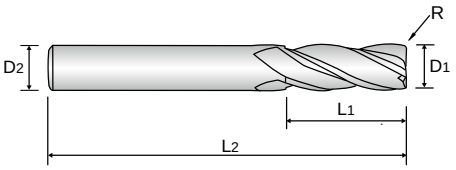
CODICE	Raggio	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza scarico	Lunghezza totale	Diametro scarico
	R	D_1	D_2	L_1	L_3	L_2	D_3
GFJ68002	R0.1	**0.2**	4	0.3	-	40	-
GFJ68003	R0.15	**0.3**	4	0.5	-	40	-
GFJ68004	R0.2	**0.4**	4	0.6	-	40	-
GFJ68005	R0.25	**0.5**	4	0.7	-	40	-
GFJ68006	R0.3	**0.6**	4	0.9	-	40	-
GFJ68007	R0.35	**0.7**	4	1.1	-	40	-
GFJ68008	R0.4	**0.8**	4	1.2	-	40	-
GFJ68009	R0.45	**0.9**	4	1.4	-	40	-
GFJ68010	R0.5	**1.0**	6	1.5	3	50	0.95
GFJ68015	R0.75	**1.5**	6	2	4	50	1.45
GFJ68020	R1.0	**2.0**	6	2.5	5	50	1.95
GFJ68025	R1.25	**2.5**	6	3	7	50	2.4
GFJ68030	R1.5	**3.0**	6	4	10	60	2.85
GFJ68040	R2.0	**4.0**	6	5	10	60	3.85
GFJ68050	R2.5	**5.0**	6	6	12	60	4.85
GFJ68060	R3.0	**6.0**	6	7	15	60	5.85
GFJ68080	R4.0	**8.0**	8	9	15	60	7.7
GFJ68080080	R4.0	**8.0**	8	9	15	80	7.7
GFJ68100	R5.0	**10.0**	10	11	25	60	9.7
GFJ68100080	R5.0	**10.0**	10	11	25	80	9.7
GFJ68120	R6.0	**12.0**	12	14	25	80	11.7

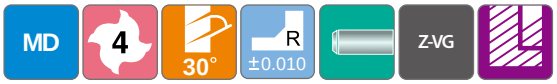
FRESE per MATERIALI TEMPRATI

NEW CENTURY

CARBIDE, 4 FLUTE CORNER RADIUS
MD, 4 TAGLIENTI, TORICA

► Progettato per lavorare materiali altamente induriti, taglio a secco e taglio ad alta velocità.
► Offre costantemente una finitura eccezionale del pezzo lavorato e vanta un'elevata resistenza all'usura.





p.77

Diam. Fresa	Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
Fino a Ø6	0 ~ - 0.012	h5
Oltre a Ø6	0 ~ - 0.015	

GFJ70 SERIES

Unità: mm

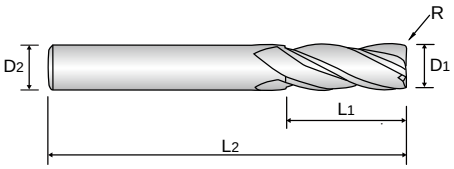
CODICE	Raggio	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	R	D_1	D_2	L_1	L_2
GFJ7006005	R0.5	**6.0**	6	15	90
GFJ7006010	R1.0	**6.0**	6	15	90
GFJ7008005	R0.5	**8.0**	8	20	100
GFJ7008010	R1.0	**8.0**	8	20	100
GFJ7010005	R0.5	**10.0**	10	25	100
GFJ7010010	R1.0	**10.0**	10	25	100
GFJ7010020	R2.0	**10.0**	10	25	100
GFJ7012005	R0.5	**12.0**	12	30	110
GFJ7012010	R1.0	**12.0**	12	30	110
GFJ7012020	R2.0	**12.0**	12	30	110

FRESE per MATERIALI TEMPRATI

NEW CENTURY

CARBIDE, 4 FLUTE CORNER RADIUS SHORT LENGTH
MD, 4 TAGLIENTI, TORICA, SERIE CORTA

► Progettato per lavorare materiali altamente induriti, taglio a secco e taglio ad alta velocità.
► Offre costantemente una finitura eccezionale del pezzo lavorato e vanta un'elevata resistenza all'usura.



p.78

Diam. Fresa	Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
Fino a Ø6	0 ~ - 0.012	h5
Oltre a Ø6	0 ~ - 0.015	

GFJ71 SERIES

Unità: mm

CODICE	Raggio	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	R	D_1	D_2	L_1	L_2
GFJ7103002	R0.2	**3.0**	6	8	50
GFJ7103003	R0.3	**3.0**	6	8	50
GFJ7103005	R0.5	**3.0**	6	8	50
GFJ7104002	R0.2	**4.0**	6	11	50
GFJ7104003	R0.3	**4.0**	6	11	50
GFJ7104005	R0.5	**4.0**	6	11	50
GFJ7105002	R0.2	**5.0**	6	13	50
GFJ7106002	R0.2	**6.0**	6	16	50
GFJ7106005	R0.5	**6.0**	6	16	50
GFJ7106010	R1.0	**6.0**	6	16	50
GFJ7108003	R0.3	**8.0**	8	20	60
GFJ7108005	R0.5	**8.0**	8	20	60
GFJ7108010	R1.0	**8.0**	8	20	60
GFJ7108015	R1.5	**8.0**	8	20	60
GFJ7108020	R2.0	**8.0**	8	20	60
GFJ7110003	R0.3	**10.0**	10	25	75
GFJ7110005	R0.5	**10.0**	10	25	75
GFJ7110010	R1.0	**10.0**	10	25	75
GFJ7110015	R1.5	**10.0**	10	25	75
GFJ7110020	R2.0	**10.0**	10	25	75
GFJ7112005	R0.5	**12.0**	12	32	75
GFJ7112010	R1.0	**12.0**	12	32	75
GFJ7112015	R1.5	**12.0**	12	32	75
GFJ7112020	R2.0	**12.0**	12	32	75

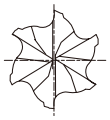
FRESE per MATERIALI TEMPRATI

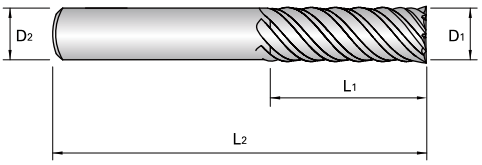
NEW CENTURY

CARBIDE, 6 FLUTE 45° HELIX SHORT LENGTH

MD, 6 TAGLIENTI, ELICA 45°, SERIE CORTA

► Progettato per lavorare materiali altamente induriti, taglio a secco e taglio ad alta velocità.
► Offre costantemente una finitura eccezionale del pezzo lavorato e vanta un'elevata resistenza all'usura.





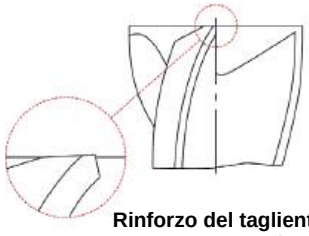
p.79

Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
0 ~ - 0.020	h5

GFJ74 SERIES

Unità: mm

CODICE	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza totale
	D_1	D_2	L_1	L_2
GFJ74060	**6.0**	6	16	50
GFJ74080	**8.0**	8	19	60
GFJ74100	**10.0**	10	22	75
GFJ74120	**12.0**	12	26	75
GFJ74140	**14.0**	14	30	90
GFJ74160	**16.0**	16	32	100
GFJ74180	**18.0**	18	38	100
GFJ74200	**20.0**	20	38	100



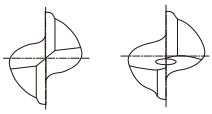
Rinforzo del tagliente

FRESE per MATERIALI TEMPRATI

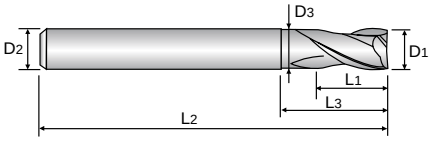
NEW CENTURY

CARBIDE, 2 FLUTE STUB LENGTH
MD, 2 TAGLIENTI, SERIE EXTRA CORTA

► Progettato per lavorare materiali altamente induriti, taglio a secco e taglio ad alta velocità.
► Offre costantemente una finitura eccezionale del pezzo lavorato e vanta un'elevata resistenza all'usura.



Fino a Ø3mm Oltre Ø3mm



p.80~81

Diam. Fresa	Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
Fino a Ø6	0 ~ - 0.012	h5
Oltre a Ø6	0 ~ - 0.015	

GFJ72 SERIES

Unità: mm

CODICE	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza scarico	Lunghezza totale	Diametro scarico
	D_1	D_2	L_1	L_3	L_2	D_3
GFJ72004	**0.4**	4	0.8	-	40	-
GFJ72005	**0.5**	4	1	-	40	-
GFJ72006	**0.6**	4	1.2	-	40	-
GFJ72007	**0.7**	4	1.4	-	40	-
GFJ72008	**0.8**	4	1.6	-	40	-
GFJ72009	**0.9**	4	2	-	40	-
GFJ72010	**1.0**	6	1.5	3	50	0.95
GFJ72015	**1.5**	6	1.7	4	50	1.45
GFJ72020	**2.0**	6	2	5	50	1.95
GFJ72025	**2.5**	6	2.5	6	55	2.4
GFJ72030	**3.0**	6	3	8	55	2.85
GFJ72035	**3.5**	6	3.5	9	55	3.35
GFJ72040	**4.0**	6	4	10	55	3.85
GFJ72050	**5.0**	6	5	13	55	4.85
GFJ72060	**6.0**	6	6	15	55	5.85
GFJ72080	**8.0**	8	8	20	65	7.7
GFJ72100	**10.0**	10	10	25	75	9.7
GFJ72120	**12.0**	12	12	28	85	11.7
GFJ72160	**16.0**	16	16	32	90	15.7
GFJ72200	**20.0**	20	20	40	105	19.7

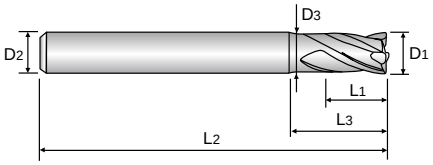
FRESE per MATERIALI TEMPRATI

NEW CENTURY

CARBIDE, 4 FLUTE STUB LENGTH

MD, 4 TAGLIENTI, SERIE EXTRA CORTA

► Progettato per lavorare materiali altamente induriti, taglio a secco e taglio ad alta velocità.
► Offre costantemente una finitura eccezionale del pezzo lavorato e vanta un'elevata resistenza all'usura.



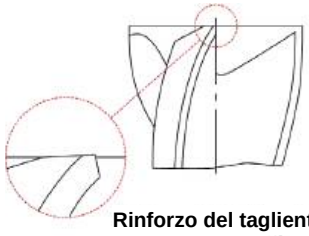
p.82

Diam. Fresa	Tolleranza diametro fresa (mm)	Tolleranza diametro gambo
Fino a Ø6	0 ~ - 0.012	h5
Oltre a Ø6	0 ~ - 0.015	

GFJ73 SERIES

Unità: mm

CODICE	Diametro fresa	Diametro gambo	Lunghezza tagliente	Lunghezza scarico	Lunghezza totale	Diametro scarico
	D_1	D_2	L_1	L_3	L_2	D_3
GFJ73010	**1.0**	6	1.5	3	50	0.95
GFJ73020	**2.0**	6	2	5	50	1.95
GFJ73030	**3.0**	6	3	8	55	2.85
GFJ73040	**4.0**	6	4	10	55	3.85
GFJ73050	**5.0**	6	5	13	55	4.85
GFJ73060	**6.0**	6	6	15	55	5.85
GFJ73080	**8.0**	8	8	20	65	7.7
GFJ73100	**10.0**	10	10	25	75	9.7
GFJ73120	**12.0**	12	12	28	85	11.7
GFJ73160	**16.0**	16	16	32	90	15.7
GFJ73200	**20.0**	20	20	40	105	19.7



Rinforzo del tagliente

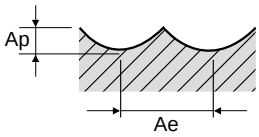
PARAMETRI DI TAGLIO INDICATIVI

GFJ69 SERIES

2 TAGLIENTI SEMISFERICA

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)
Ap = (mm)

ISO	VDI 3323	Materiale da lavorare	Parametri	Diametri (Ø) 0.4	0.5	0.6	0.8	1	1.2	1.5	2.0	3.0	4.0
P	1-4	Acciai non legati	Vc	51~57	64~72	76~86	102~115	116~130	116~131	111~128	123~137	127~143	139~164
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.031~0.008	0.005~0.01	0.006~0.013	0.007~0.017	0.009~0.021	0.013~0.031	0.015~0.036
			n	40550~45650	40450~45650	40550~45650	40750~45650	36850~41300	30700~34800	23450~27150	19650~21750	13500~15200	11050~13050
			Vf	245~590	245~590	310~760	2515~760	340~835	340~935	340~935	340~935	340~935	340~935
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360
	5		Vc	37~41	46~51	56~61	74~82	85~92	83~94	84~95	89~99	87~87	94~112
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006	0.003~0.008	0.004~0.009	0.005~0.012	0.006~0.015	0.009~0.025	0.011~0.026
			n	29500~32600	29500~32600	29500~32600	29500~32600	27050~29350	22100~25000	17800~20100	14150~15750	9200~9250	7500~8900
			Vf	125~325	125~325	145~420	145~405	170~465	170~465	170~465	170~465	170~465	170~465
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360
	6-7	Acciai basso legati	Vc	51~57	64~72	76~86	102~115	116~130	116~131	111~128	123~137	127~143	139~164
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.031~0.008	0.005~0.01	0.006~0.013	0.007~0.017	0.009~0.021	0.013~0.031	0.015~0.036
			n	40550~45650	40450~45650	40550~45650	40750~45650	36850~41300	30700~34800	23450~27150	19650~21750	13500~15200	11050~13050
			Vf	245~590	245~590	310~760	2515~760	340~835	340~935	340~935	340~935	340~935	340~935
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360
	8-9		Vc	37~41	46~51	56~61	74~82	85~92	83~94	84~95	89~99	87~87	94~112
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006	0.003~0.008	0.004~0.009	0.005~0.012	0.006~0.015	0.009~0.025	0.011~0.026
			n	29500~32600	29500~32600	29500~32600	29500~32600	27050~29350	22100~25000	17800~20100	14150~15750	9200~9250	7500~8900
			Vf	125~325	125~325	145~420	145~405	170~465	170~465	170~465	170~465	170~465	170~465
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360
	10	Acciai alto legati e acciai da utensili	Vc	51~57	64~72	76~86	102~115	116~130	116~131	111~128	123~137	127~143	139~164
			fz	0.003~0.006	0.003~0.006	0.004~0.008	0.031~0.008	0.005~0.01	0.006~0.013	0.007~0.017	0.009~0.021	0.013~0.031	0.015~0.036
			n	40550~45650	40450~45650	40550~45650	40750~45650	36850~41300	30700~34800	23450~27150	19650~21750	13500~15200	11050~13050
			Vf	245~590	245~590	310~760	2515~760	340~835	340~935	340~935	340~935	340~935	340~935
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360
	11.1 - 11.2		Vc	37~41	46~51	56~61	74~82	85~92	83~94	84~95	89~99	87~87	94~112
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006	0.003~0.008	0.004~0.009	0.005~0.012	0.006~0.015	0.009~0.025	0.011~0.026
			n	29500~32600	29500~32600	29500~32600	29500~32600	27050~29350	22100~25000	17800~20100	14150~15750	9200~9250	7500~8900
			Vf	125~325	125~325	145~420	145~405	170~465	170~465	170~465	170~465	170~465	170~465
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360
H	38.1 - 38.2	Acciai temprati	Vc	23~26	29~32	35~39	46~52	52~60	53~59	55~58	58~55	58~61	62~68
			fz	0.003~0.005	0.003~0.005	0.004~0.007	0.004~0.007	0.005~0.008	0.006~0.009	0.007~0.012	0.009~0.017	0.014~0.023	0.017~0.028
			n	18450~20650	18450~20650	18450~20650	18450~20650	16600~19000	14150~15750	11650~12400	9200~8750	6150~6500	4900~5450
			Vf	125~215	125~215	145~270	145~270	170~305	170~295	170~295	170~305	170~305	170~305
			Ap	0.004~0.007	0.005~0.009	0.005~0.011	0.007~0.014	0.009~0.018	0.010~0.022	0.014~0.028	0.018~0.035	0.028~0.055	0.035~0.070
	40	Fusione di ghisa	Vc	37~41	46~51	56~61	74~82	85~92	83~94	84~95	89~99	87~87	94~112
			fz	0.002~0.005	0.002~0.005	0.002~0.006	0.002~0.006	0.003~0.008	0.004~0.009	0.005~0.012	0.006~0.015	0.009~0.025	0.011~0.026
			n	29500~32600	29500~32600	29500~32600	29500~32600	27050~29350	22100~25000	17800~20100	14150~15750	9200~9250	7500~8900
			Vf	125~325	125~325	145~420	145~405	170~465	170~465	170~465	170~465	170~465	170~465
			Ap	0.018~0.036	0.023~0.045	0.027~0.054	0.036~0.072	0.045~0.090	0.055~0.100	0.070~0.135	0.090~0.180	0.135~0.270	0.180~0.360
	41	Ghisa indurita	Vc	23~26	29~32	35~39	46~52	52~60	53~59	55~58	58~55	58~61	62~68
			fz	0.003~0.005	0.003~0.005	0.004~0.007	0.004~0.007	0.005~0.008	0.006~0.009	0.007~0.012	0.009~0.017	0.014~0.023	0.017~0.028
			n	18450~20650	18450~20650	18450~20650	18450~20650	16600~19000	14150~15750	11650~12400	9200~8750	6150~6500	4900~5450
			Vf	125~215	125~215	145~270	145~270	170~305	170~295	170~295	170~305	170~305	170~305
			Ap	0.004~0.007	0.005~0.009	0.005~0.011	0.007~0.014	0.009~0.018	0.010~0.022	0.014~0.028	0.018~0.035	0.028~0.055	0.035~0.070

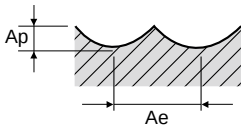


PARAMETRI DI TAGLIO INDICATIVI

GFJ68 SERIES — 2 TAGLIENTI SEMISFERICA

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 0.2	0.3	0.4	0.5	0.6	0.8	1.0	1.5	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	5	Acciai non legati	0.05D	0.02D	Vc	16	25	33	41	49	66	82	124	164	164	164	153	138	147	154	138
					fz	0.013	0.016	0.021	0.026	0.032	0.043	0.053	0.059	0.063	0.100	0.133	0.171	0.192	0.207	0.218	0.234
					n	26,250	26,250	26,250	26,250	26,250	26,250	26,250	26,250	26,100	17,400	13,050	9,750	7,300	5,850	4,900	3,650
					Vf	695	865	1095	1385	1675	2250	2770	3120	3290	3465	3465	3340	2800	2425	2135	1705
	8-9	Acciai basso legati	0.05D	0.02D	Vc	16	25	33	41	49	66	82	124	164	164	164	153	138	147	154	138
					fz	0.013	0.016	0.021	0.026	0.032	0.043	0.053	0.059	0.063	0.100	0.133	0.171	0.192	0.207	0.218	0.234
					n	26,250	26,250	26,250	26,250	26,250	26,250	26,250	26,250	26,100	17,400	13,050	9,750	7,300	5,850	4,900	3,650
					Vf	695	865	1095	1385	1675	2250	2770	3120	3290	3465	3465	3340	2800	2425	2135	1705
	11.1	Acciai alto legati e acciai da utensili	0.05D	0.02D	Vc	16	25	33	41	49	66	82	124	164	164	164	153	138	147	154	138
					fz	0.013	0.016	0.021	0.026	0.032	0.043	0.053	0.059	0.063	0.100	0.133	0.171	0.192	0.207	0.218	0.234
					n	26,250	26,250	26,250	26,250	26,250	26,250	26,250	26,250	26,100	17,400	13,050	9,750	7,300	5,850	4,900	3,650
					Vf	695	865	1095	1385	1675	2250	2770	3120	3290	3465	3465	3340	2800	2425	2135	1705
	11.2		0.05D	0.02D	Vc	16	25	33	41	49	66	82	119	158	157	158	147	133	141	146	132
					fz	0.012	0.015	0.019	0.023	0.028	0.036	0.046	0.052	0.055	0.092	0.122	0.151	0.168	0.180	0.192	0.206
					n	26,250	26,250	26,250	26,250	26,250	26,250	26,250	25,200	25,100	16,700	12,550	9,350	7,050	5,600	4,650	3,500
					Vf	605	780	980	1215	1445	1905	2425	2600	2770	3060	3060	2820	2370	2020	1790	1445
H	38.1	Acciai temprati	0.05D	0.02D	Vc	16	25	33	41	49	66	82	119	158	157	158	147	133	141	146	132
					fz	0.012	0.015	0.019	0.023	0.028	0.036	0.046	0.052	0.055	0.092	0.122	0.151	0.168	0.180	0.192	0.206
					n	26,250	26,250	26,250	26,250	26,250	26,250	26,250	25,200	25,100	16,700	12,550	9,350	7,050	5,600	4,650	3,500
					Vf	605	780	980	1215	1445	1905	2425	2600	2770	3060	3060	2820	2370	2020	1790	1445
	38.2		0.05D	0.02D	Vc	15	22	30	37	45	59	74	106	132	131	132	124	109	119	124	111
					fz	0.012	0.015	0.018	0.023	0.027	0.037	0.046	0.051	0.055	0.083	0.110	0.137	0.154	0.164	0.175	0.186
					n	23,650	23,650	23,650	23,650	23,650	23,650	23,650	22,600	21,000	13,900	10,500	7,900	5,800	4,750	3,950	2,950
					Vf	555	695	865	1095	1270	1735	2185	2310	2310	2310	2310	2165	1790	1560	1385	1095
	39.1		0.05D	0.02D	Vc	13	20	26	33	40	53	66	92	116	116	116	112	99	106	108	100
					fz	0.011	0.013	0.017	0.021	0.025	0.033	0.041	0.046	0.049	0.074	0.099	0.124	0.138	0.148	0.159	0.169
					n	21,000	21,000	21,000	21,000	21,000	21,000	21,000	19,450	18,400	12,350	9,200	7,100	5,250	4,200	3,450	2,650
					Vf	445	560	695	865	1040	1385	1735	1790	1820	1820	1820	1760	1445	1240	1095	895
	39.2		0.05D	0.02D	Vc	12	17	23	29	35	46	58	82	106	104	106	95	87	93	96	87
					fz	0.011	0.013	0.016	0.020	0.025	0.033	0.041	0.045	0.048	0.073	0.096	0.122	0.135	0.145	0.157	0.157
					n	18,400	18,400	18,400	18,400	18,400	18,400	18,400	17,350	16,800	11,050	8,400	6,050	4,600	3,700	3,050	2,300
					Vf	390	485	605	750	925	1215	1500	1560	1615	1615	1615	1475	1240	1070	955	720
	40	Fusione di ghisa	0.05D	0.02D	Vc	16	25	33	41	49	66	82	119	158	157	158	147	133	141	146	132
					fz	0.012	0.015	0.019	0.023	0.028	0.036	0.046	0.052	0.055	0.092	0.122	0.151	0.168	0.180	0.192	0.206
					n	26,250	26,250	26,250	26,250	26,250	26,250	26,250	25,200	25,100	16,700	12,550	9,350	7,050	5,600	4,650	3,500
					Vf	605	780	980	1215	1445	1905	2425	2600	2770	3060	3060	2820	2370	2020	1790	1445
	41	Ghisa indurita	0.05D	0.02D	Vc	15	22	30	37	45	59	74	106	132	131	132	124	109	119	124	111
					fz	0.012	0.015	0.018	0.023	0.027	0.037	0.046	0.051	0.055	0.083	0.110	0.137	0.154	0.164	0.175	0.186
					n	23,650	23,650	23,650	23,650	23,650	23,650	23,650	22,600	21,000	13,900	10,500	7,900	5,800	4,750	3,950	2,950
					Vf	555	695	865	1095	1270	1735	2185	2310	2310	2310	2310	2165	1790	1560	1385	1095

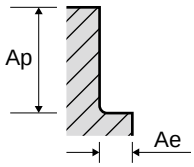


PARAMETRI DI TAGLIO INDICATIVI

GFJ70 SERIES — 4 TAGLIENTI TORICA - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 6.0	8.0	10.0	12.0
P	1-4	Acciai non legati	0.1D	1.0D	Vc	110	111	107	109
					fz	0.030	0.042	0.047	0.047
					n	5,850	4,400	3,400	2,900
					Vf	695	745	640	545
	5		0.02D	1.0D	Vc	67	67	66	66
					fz	0.030	0.038	0.038	0.038
					n	3,550	2,650	2,100	1,750
					Vf	430	400	315	265
	6-7	Acciai basso legati	0.1D	1.0D	Vc	110	111	107	109
					fz	0.030	0.042	0.047	0.047
					n	5,850	4,400	3,400	2,900
					Vf	695	745	640	545
	8-9		0.02D	1.0D	Vc	67	67	66	66
					fz	0.030	0.038	0.038	0.038
					n	3,550	2,650	2,100	1,750
					Vf	430	400	315	265
	10	Acciai alto legati e acciai da utensili	0.1D	1.0D	Vc	110	111	107	109
					fz	0.030	0.042	0.047	0.047
					n	5,850	4,400	3,400	2,900
					Vf	695	745	640	545
	11.1 - 11.2		0.02D	1.0D	Vc	67	67	66	66
					fz	0.030	0.038	0.038	0.038
					n	3,550	2,650	2,100	1,750
					Vf	430	400	315	265
M	14.1	Acciai Inox	0.1D	1.0D	Vc	57	55	55	55
					fz	0.029	0.042	0.045	0.043
					n	3,000	2,200	1,750	1,450
					Vf	345	370	315	250
H	38.1 - 38.2	Acciai temprati	0.02D	1.0D	Vc	40	44	46	45
					fz	0.010	0.016	0.016	0.018
					n	2,100	1,750	1,450	1,200
					Vf	85	115	95	85
	39.1 - 39.2		0.02D	1.0D	Vc	22	23	22	23
					fz	0.012	0.015	0.014	0.017
					n	1,150	900	700	600
					Vf	55	55	40	40
	40	Fusione di ghisa	0.02D	1.0D	Vc	67	67	66	66
					fz	0.030	0.038	0.038	0.038
					n	3,550	2,650	2,100	1,750
					Vf	430	400	315	265
	41	Acciai temprati Ghisa indurita	0.02D	1.0D	Vc	40	44	46	45
					fz	0.010	0.016	0.016	0.018
					n	2,100	1,750	1,450	1,200
					Vf	85	115	95	85

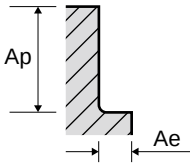


PARAMETRI DI TAGLIO INDICATIVI

GFJ71 SERIES — 4 TAGLIENTI TORICA - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	1-4	Acciai non legati	0.1D	1.0D	Vc	88	100	104	110	111	107	109
					fz	0.009	0.019	0.024	0.030	0.042	0.047	0.047
					n	9,350	7,950	6,600	5,850	4,400	3,400	2,900
					Vf	335	600	630	695	745	640	545
	5		0.02D	1.0D	Vc	55	61	62	67	67	66	66
					fz	0.009	0.019	0.024	0.030	0.038	0.038	0.038
					n	5,850	4,850	3,950	3,550	2,650	2,100	1,750
					Vf	210	370	380	430	400	315	265
	6-7	Acciai basso legati	0.1D	1.0D	Vc	88	100	104	110	111	107	109
					fz	0.009	0.019	0.024	0.030	0.042	0.047	0.047
					n	9,350	7,950	6,600	5,850	4,400	3,400	2,900
					Vf	335	600	630	695	745	640	545
	8-9		0.02D	1.0D	Vc	55	61	62	67	67	66	66
					fz	0.009	0.019	0.024	0.030	0.038	0.038	0.038
					n	5,850	4,850	3,950	3,550	2,650	2,100	1,750
					Vf	210	370	380	430	400	315	265
	10	Acciai alto legati e acciai da utensili	0.1D	1.0D	Vc	88	100	104	110	111	107	109
					fz	0.009	0.019	0.024	0.030	0.042	0.047	0.047
					n	9,350	7,950	6,600	5,850	4,400	3,400	2,900
					Vf	335	600	630	695	745	640	545
	11.1 - 11.2		0.02D	1.0D	Vc	55	61	62	67	67	66	66
					fz	0.009	0.019	0.024	0.030	0.038	0.038	0.038
					n	5,850	4,850	3,950	3,550	2,650	2,100	1,750
					Vf	210	370	380	430	400	315	265
M	14.1	Acciai Inox	0.1D	1.0D	Vc	46	51	52	57	55	55	55
					fz	0.009	0.018	0.024	0.029	0.042	0.045	0.043
					n	4,850	4,050	3,300	3,000	2,200	1,750	1,450
					Vf	180	295	315	345	370	315	250
H	38.1 - 38.2	Acciai temprati	0.02D	1.0D	Vc	33	39	38	40	44	46	45
					fz	0.005	0.005	0.008	0.010	0.016	0.016	0.018
					n	3,550	3,100	2,450	2,100	1,750	1,450	1,200
					Vf	65	65	75	85	115	95	85
	39.1 - 39.2		0.02D	1.0D	Vc	19	19	20	22	23	22	23
					fz	0.007	0.009	0.011	0.012	0.015	0.014	0.017
					n	2,000	1,550	1,300	1,150	900	700	600
					Vf	55	55	55	55	55	40	40
	40	Fusione di ghisa	0.02D	1.0D	Vc	55	61	62	67	67	66	66
					fz	0.009	0.019	0.024	0.030	0.038	0.038	0.038
					n	5,850	4,850	3,950	3,550	2,650	2,100	1,750
					Vf	210	370	380	430	400	315	265
	41	Acciai temprati Ghisa indurita	0.02D	1.0D	Vc	33	39	38	40	44	46	45
					fz	0.005	0.005	0.008	0.010	0.016	0.016	0.018
					n	3,550	3,100	2,450	2,100	1,750	1,450	1,200
					Vf	65	65	75	85	115	95	85



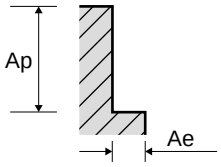
PARAMETRI DI TAGLIO INDICATIVI

GFJ74 SERIES

6 TAGLIENTI - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 6.0	8.0	10.0	12.0	16.0	20.0
P	1-4	Acciai non legati	0.05D	1.5D	Vc	123	123	121	124	123	123
					fz	0.030	0.038	0.045	0.053	0.062	0.069
					n	6,500	4,900	3,850	3,300	2,450	1,950
					Vf	1,165	1,125	1,050	1,050	915	810
	5		0.05D	1.5D	Vc	82	83	82	83	83	82
					fz	0.030	0.038	0.045	0.053	0.062	0.069
					n	4,350	3,300	2,600	2,200	1,650	1,300
					Vf	790	745	705	705	610	540
	6-7	Acciai basso legati	0.05D	1.5D	Vc	123	123	121	124	123	123
					fz	0.030	0.038	0.045	0.053	0.062	0.069
					n	6,500	4,900	3,850	3,300	2,450	1,950
					Vf	1,165	1,125	1,050	1,050	915	810
	8-9		0.03D	1.5D	Vc	82	83	82	83	83	82
					fz	0.030	0.038	0.045	0.053	0.062	0.069
					n	4,350	3,300	2,600	2,200	1,650	1,300
					Vf	790	745	705	705	610	540
	10	Acciai alto legati e acciai da utensili	0.05D	1.5D	Vc	123	123	121	124	123	123
					fz	0.030	0.038	0.045	0.053	0.062	0.069
					n	6,500	4,900	3,850	3,300	2,450	1,950
					Vf	1,165	1,125	1,050	1,050	915	810
	11.1 - 11.2		0.05D	1.5D	Vc	82	83	82	83	83	82
					fz	0.030	0.038	0.045	0.053	0.062	0.069
					n	4,350	3,300	2,600	2,200	1,650	1,300
					Vf	790	745	705	705	610	540
H	38.1	Acciai temprati	0.03D	1.5D	Vc	82	83	82	83	83	82
					fz	0.030	0.038	0.045	0.053	0.062	0.069
					n	4,350	3,300	2,600	2,200	1,650	1,300
					Vf	790	745	705	705	610	540
	38.2 - 39.1		0.03D	1.5D	Vc	63	63	63	62	63	63
					fz	0.023	0.029	0.033	0.040	0.047	0.053
					n	3,350	2,500	2,000	1,650	1,250	1,000
					Vf	460	430	400	400	350	315
	39.2		0.02D	1.5D	Vc	50	50	50	49	50	50
					fz	0.019	0.023	0.027	0.032	0.038	0.044
					n	2,650	2,000	1,600	1,300	1,000	800
					Vf	295	275	255	250	225	210
	40	Fusione di ghisa	0.03D	1.5D	Vc	82	83	82	83	83	82
					fz	0.030	0.038	0.045	0.053	0.062	0.069
					n	4,350	3,300	2,600	2,200	1,650	1,300
					Vf	790	745	705	705	610	540



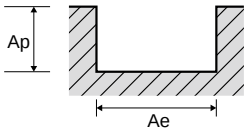
PARAMETRI DI TAGLIO INDICATIVI

GFJ72 SERIES

2 TAGLIENTI - CAVA

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 0.5	0.6	0.8	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	5	Acciai non legati	1.0D	0.05D	Vc	31	37	50	59	82	81	82	97	97	98	96	98
					fz	0.003	0.004	0.006	0.007	0.012	0.018	0.025	0.030	0.033	0.044	0.052	0.061
					n	19,700	19,700	19,700	18,900	13,100	8,600	6,550	6,200	5,150	3,900	3,050	2,600
					Vf	135	175	220	275	315	315	325	370	345	345	315	315
	8-9	Acciai basso legati	1.0D	0.05D	Vc	31	37	50	59	82	81	82	97	97	98	96	98
					fz	0.003	0.004	0.006	0.007	0.012	0.018	0.025	0.030	0.033	0.044	0.052	0.061
					n	19700	19700	19700	18900	13100	8600	6550	6200	5150	3900	3050	2600
					Vf	135	175	220	275	315	315	325	370	345	345	315	315
	11.1	Acciai alto legati e acciai da utensili	1.0D	0.05D	Vc	31	37	50	59	82	81	82	97	97	98	96	98
					fz	0.003	0.004	0.006	0.007	0.012	0.018	0.025	0.030	0.033	0.044	0.052	0.061
					n	19,700	19,700	19,700	18,900	13,100	8,600	6,550	6,200	5,150	3,900	3,050	2,600
					Vf	135	175	220	275	315	315	325	370	345	345	315	315
	11.2		1.0D	0.05D	Vc	28	33	44	47	64	64	65	77	76	77	77	77
					fz	0.003	0.004	0.005	0.007	0.012	0.018	0.025	0.030	0.035	0.043	0.051	0.061
					n	17,700	17,700	17,700	14,950	10,250	6,800	5,200	4,900	4,050	3,050	2,450	2,050
					Vf	105	135	160	210	250	250	265	295	285	265	250	250
H	38.1	Acciai temprati	1.0D	0.05D	Vc	28	33	44	47	64	64	65	77	76	77	77	77
					fz	0.003	0.004	0.005	0.007	0.012	0.018	0.025	0.030	0.035	0.043	0.051	0.061
					n	17,700	17,700	17,700	14,950	10,250	6,800	5,200	4,900	4,050	3,050	2,450	2,050
					Vf	105	135	160	210	250	250	265	295	285	265	250	250
	38.2		1.0D	0.05D	Vc	25	30	30	32	43	43	43	51	51	52	50	53
					fz	0.003	0.003	0.004	0.007	0.012	0.018	0.025	0.029	0.033	0.041	0.050	0.057
					n	15,750	15,750	11,800	10,050	6,900	4,550	3,450	3,250	2,700	2,050	1,600	1,400
					Vf	85	105	105	135	160	160	170	190	180	170	160	160
	39.1		1.0D	0.05D	Vc	20	22	25	25	36	35	36	39	40	40	39	40
					fz	0.002	0.003	0.003	0.005	0.008	0.013	0.018	0.021	0.025	0.030	0.036	0.043
					n	13,000	11,800	9,850	8,050	5,700	3,750	2,850	2,500	2,100	1,600	1,250	1,050
					Vf	55	60	65	85	95	95	100	105	105	95	90	90
	39.2		1.0D	0.05D	Vc	15	19	19	20	27	28	28	31	31	31	31	32
					fz	0.002	0.002	0.003	0.004	0.007	0.010	0.015	0.016	0.020	0.026	0.028	0.032
					n	9,850	9,850	7,500	6,300	4,350	2,950	2,200	2,000	1,650	1,250	1,000	850
					Vf	30	40	40	55	60	60	65	65	65	65	55	55
	40	Fusione di ghisa	1.0D	0.05D	Vc	28	33	44	47	64	64	65	77	76	77	77	77
					fz	0.003	0.004	0.005	0.007	0.012	0.018	0.025	0.030	0.035	0.043	0.051	0.061
					n	17,700	17,700	17,700	14,950	10,250	6,800	5,200	4,900	4,050	3,050	2,450	2,050
					Vf	105	135	160	210	250	250	265	295	285	265	250	250
	41	Ghisa indurita	1.0D	0.05D	Vc	25	30	30	32	43	43	43	51	51	52	50	53
					fz	0.003	0.003	0.004	0.007	0.012	0.018	0.025	0.029	0.033	0.041	0.050	0.057
					n	15,750	15,750	11,800	10,050	6,900	4,550	3,450	3,250	2,700	2,050	1,600	1,400
					Vf	85	105	105	135	160	160	170	190	180	170	160	160



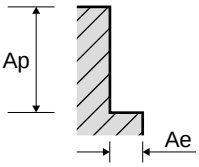
PARAMETRI DI TAGLIO INDICATIVI

GFJ72 SERIES

2 TAGLIENTI - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 0.5	0.6	0.8	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0
P	5	Acciai non legati	0.03D	1.0D	Vc	31	37	50	59	82	81	82	97	97	98	96	98
					fz	0.002	0.003	0.004	0.010	0.017	0.026	0.035	0.043	0.049	0.063	0.072	0.085
					n	19,700	19,700	19,700	18,900	13,100	8,600	6,550	6,200	5,150	3,900	3,050	2,600
					Vf	95	125	160	390	440	440	460	535	500	490	440	440
	8-9	Acciai basso legati	0.03D	1.0D	Vc	31	37	50	59	82	81	82	97	97	98	96	98
					fz	0.002	0.003	0.004	0.010	0.017	0.026	0.035	0.043	0.049	0.063	0.072	0.085
					n	19,700	19,700	19,700	18,900	13,100	8,600	6,550	6,200	5,150	3,900	3,050	2,600
					Vf	95	125	160	390	440	440	460	535	500	490	440	440
	11.1	Acciai alto legati e acciai da utensili	0.03D	1.0D	Vc	31	37	50	59	82	81	82	97	97	98	96	98
					fz	0.002	0.003	0.004	0.010	0.017	0.026	0.035	0.043	0.049	0.063	0.072	0.085
					n	19,700	19,700	19,700	18,900	13,100	8,600	6,550	6,200	5,150	3,900	3,050	2,600
					Vf	95	125	160	390	440	440	460	535	500	490	440	440
	11.2		0.02D	1.0D	Vc	28	33	44	47	64	64	65	77	76	77	77	77
					fz	0.002	0.003	0.003	0.010	0.017	0.026	0.036	0.043	0.051	0.062	0.072	0.087
					n	17,700	17,700	17,700	14,950	10,250	6,800	5,200	4,900	4,050	3,050	2,450	2,050
					Vf	75	95	115	305	355	355	370	425	410	380	355	355
H	38.1	Acciai temprati	0.02D	1.0D	Vc	28	33	44	47	64	64	65	77	76	77	77	77
					fz	0.002	0.003	0.003	0.010	0.017	0.026	0.036	0.043	0.051	0.062	0.072	0.087
					n	17,700	17,700	17,700	14,950	10,250	6,800	5,200	4,900	4,050	3,050	2,450	2,050
					Vf	75	95	115	305	355	355	370	425	410	380	355	355
	38.2		0.02D	1.0D	Vc	25	30	30	32	43	43	43	51	51	52	50	53
					fz	0.002	0.002	0.003	0.009	0.016	0.024	0.033	0.041	0.046	0.056	0.069	0.079
					n	15,750	15,750	11,800	10,050	6,900	4,550	3,450	3,250	2,700	2,050	1,600	1,400
					Vf	60	75	75	190	220	220	230	265	250	230	220	220
	39.1		0.02D	1.0D	Vc	20	22	25	25	36	35	36	39	40	40	39	40
					fz	0.001	0.002	0.002	0.007	0.012	0.018	0.025	0.029	0.035	0.042	0.050	0.060
					n	13,000	11,800	9,850	8,050	5,700	3,750	2,850	2,500	2,100	1,600	1,250	1,050
					Vf	35	40	40	115	135	135	140	145	145	135	125	125
	39.2		0.02D	1.0D	Vc	15	19	19	20	27	28	28	31	31	31	31	32
					fz	0.001	0.002	0.002	0.006	0.010	0.014	0.020	0.024	0.029	0.034	0.043	0.050
					n	9,850	9,850	7,500	6,300	4,350	2,950	2,200	2,000	1,650	1,250	1,000	850
					Vf	20	30	30	75	85	85	90	95	95	85	85	85
	40	Fusione di ghisa	0.02D	1.0D	Vc	28	33	44	47	64	64	65	77	76	77	77	77
					fz	0.002	0.003	0.003	0.010	0.017	0.026	0.036	0.043	0.051	0.062	0.072	0.087
					n	17,700	17,700	17,700	14,950	10,250	6,800	5,200	4,900	4,050	3,050	2,450	2,050
					Vf	75	95	115	305	355	355	370	425	410	380	355	355
	41	Ghisa indurita	0.02D	1.0D	Vc	25	30	30	32	43	43	43	51	51	52	50	53
					fz	0.002	0.002	0.003	0.009	0.016	0.024	0.033	0.041	0.046	0.056	0.069	0.079
					n	15,750	15,750	11,800	10,050	6,900	4,550	3,450	3,250	2,700	2,050	1,600	1,400
					Vf	60	75	75	190	220	220	230	265	250	230	220	220



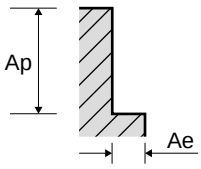
PARAMETRI DI TAGLIO INDICATIVI

GFJ73 SERIES

4 TAGLIENTI - FIANCO

Vc = (m/min.)
fz = (mm/dente)
n = (giri/min.)
Vf = (mm/min.)

ISO	VDI 3323	Materiale da lavorare	Ae(mm)	Ap(mm)	Parametri	Diametri (Ø) 1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	16.0	20.0
P	5	Acciai non legati	0.03D	1.0D	Vc	79	110	108	110	130	130	131	129	132	128	129
					fz	0.008	0.014	0.022	0.030	0.035	0.041	0.052	0.062	0.072	0.085	0.091
					n	25,200	17,500	11,450	8,750	8,250	6,900	5,200	4,100	3,500	2,550	2,050
					Vf	855	1010	1010	1040	1155	1125	1085	1010	1010	865	750
	8-9	Acciai basso legati	0.03D	1.0D	Vc	79	110	108	110	130	130	131	129	132	128	129
					fz	0.008	0.014	0.022	0.030	0.035	0.041	0.052	0.062	0.072	0.085	0.091
					n	25,200	17,500	11,450	8,750	8,250	6,900	5,200	4,100	3,500	2,550	2,050
					Vf	855	1010	1010	1040	1155	1125	1085	1010	1010	865	750
	11.1	Acciai alto legati e acciai da utensili	0.03D	1.0D	Vc	79	110	108	110	130	130	131	129	132	128	129
					fz	0.008	0.014	0.022	0.030	0.035	0.041	0.052	0.062	0.072	0.085	0.091
					n	25,200	17,500	11,450	8,750	8,250	6,900	5,200	4,100	3,500	2,550	2,050
					Vf	855	1010	1010	1040	1155	1125	1085	1010	1010	865	750
	11.2		0.02D	1.0D	Vc	63	86	86	87	103	103	103	102	104	103	104
					fz	0.008	0.013	0.020	0.027	0.033	0.037	0.048	0.056	0.066	0.077	0.085
					n	19,950	13,650	9,100	6,950	6,550	5,450	4,100	3,250	2,750	2,050	1,650
					Vf	605	720	720	750	865	810	780	730	730	635	560
H	38.1	Acciai temprati	0.02D	1.0D	Vc	63	86	86	87	103	103	103	102	104	103	104
					fz	0.008	0.013	0.020	0.027	0.033	0.037	0.048	0.056	0.066	0.077	0.085
					n	19,950	13,650	9,100	6,950	6,550	5,450	4,100	3,250	2,750	2,050	1,650
					Vf	605	720	720	750	865	810	780	730	730	635	560
	38.2		0.02D	1.0D	Vc	42	58	57	58	68	68	69	68	70	68	69
					fz	0.008	0.013	0.020	0.028	0.033	0.038	0.047	0.056	0.066	0.078	0.085
					n	13,400	9,200	6,050	4,600	4,350	3,600	2,750	2,150	1,850	1,350	1,100
					Vf	410	485	485	510	580	550	520	485	485	420	375
	39.1		0.02D	1.0D	Vc	34	48	47	48	53	53	53	53	53	53	53
					fz	0.006	0.010	0.015	0.020	0.025	0.029	0.036	0.040	0.049	0.058	0.065
					n	10,750	7,600	5,000	3,800	3,350	2,800	2,100	1,700	1,400	1,050	850
					Vf	250	300	300	310	335	325	300	275	275	245	220
	39.2		0.02D	1.0D	Vc	26	36	37	37	42	41	43	42	41	43	44
					fz	0.005	0.008	0.012	0.017	0.020	0.023	0.028	0.033	0.040	0.046	0.052
					n	8,400	5,800	3,950	2,950	2,700	2,200	1,700	1,350	1,100	850	700
					Vf	155	185	185	195	215	205	190	180	175	155	145
	40	Fusione di ghisa	0.02D	1.0D	Vc	63	86	86	87	103	103	103	102	104	103	104
					fz	0.008	0.013	0.020	0.027	0.033	0.037	0.048	0.056	0.066	0.077	0.085
					n	19,950	13,650	9,100	6,950	6,550	5,450	4,100	3,250	2,750	2,050	1,650
					Vf	605	720	720	750	865	810	780	730	730	635	560
	41	Ghisa indurita	0.02D	1.0D	Vc	42	58	57	58	68	68	69	68	70	68	69
					fz	0.008	0.013	0.020	0.028	0.033	0.038	0.047	0.056	0.066	0.078	0.085
					n	13,400	9,200	6,050	4,600	4,350	3,600	2,750	2,150	1,850	1,350	1,100
					Vf	410	485	485	510	580	550	520	485	485	420	375



NEW CENTURY

NEW CENTURY

GUIDA ALLA SELEZIONE

NEW

MD, PUNTE per impieghi generici

Punte con prezzo competitivo per impieghi generici.

CODICE	DH223	DH224
PROFONDITÀ FORATURA	3XD	5XD
LUNGHEZZA	CORTA	LUNGA
DIM. MIN	D3.0	D1.0
DIM. MAX	D20.0	D20.0
PAG	85	87
TRATTAMENTO SUPERFICIALE	TiAlN	

◎: Specifico ○: Adatto

Parametri di taglio: p.89

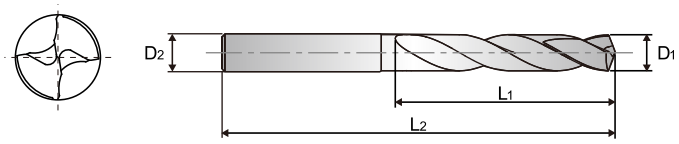
ISO	VDI 3323	Descrizione materiale	Composizione / Struttura / Trattamento		HB	HRc	DH223	DH224
P	1	Acciai non legati	0.15% C	Ricotto	125			
	2		0.45% C	Ricotto	190	13	◎	◎
	3		0.45% C	Bonificato	250	25	◎	◎
	4		0.75% C	Ricotto	270	28	◎	◎
	5		0.75% C	Bonificato	300	32	○	○
	6	Acciai basso legati		Ricotto	180	10	◎	◎
	7			Bonificato	275	29	◎	◎
	8			Bonificato	300	32	○	○
	9			Bonificato	350	38	○	○
	10	Acciai alto legati e acciai da utensili		Ricotto	200	15	◎	◎
	11			Bonificato	325	35	○	○
M	12	Acciai Inox	Ferritico / Martensitico	Ricotto	200	15	○	○
	13		Martensitico	Bonificato	240	23	○	○
	14		Austenitico		180	10		
K	15	Ghisa grigia	Perlitico / Ferritico		180	10	◎	◎
	16		Perlitico (Martensitico)		260	26	○	○
	17	Ghisa nodulare	Ferritica		160	3	◎	◎
	18		Perlitica		250	25	○	○
	19	Ghisa malleabile	Ferritica		130		◎	◎
	20		Perlitica		230	21	○	○
N	21	Lega di Alluminio	Non Trattabile		60			
	22		Trattabile	Temprato	100			
	23	Alluminio fuso, legato	≤ 12% Si, Non Trattabile		75			
	24		≤ 12% Si, Trattabile	Temprato	90			
	25		> 12% Si, Non Trattabile		130			
	26	Rame e leghe di rame (Bronzo/Ottone)	Leghe, PB>1%		110			
	27		CuZn, CuSnZn (Ottone)		90			
	28		CuSn, rame senza piombo e rame elettrolitico		100			
	29	Materiali non ferrosi	Duroplastic, Plastiche rinforzate fibra					
	30		Gomma, Legno, etc.					
S	31	Super leghe resistenti al calore	Base Fe	Ricotto	200	15		
	32			Invecchiato	280	30		
	33		Base Ni o Co	Ricotto	250	25		
	34			Invecchiato	350	38		
	35			Fuso	320	34		
	36	Leghe di titanio	Titanio puro		400 Rm			
	37		Alpha + Beta Leghe	Temprato	1050 Rm			
H	38	Acciai temprati		Temprato	550	55	○	○
	39			Temprato	630	60		
	40	Fusione di ghisa		Fuso	400	42		
	41	Ghisa indurita		Temprato	550	55		

CARBIDE, DRILLS for GENERAL without COOLANT HOLES

PUNTE ELICOIDALI IN MD, IMPIEGHI GENERICI SENZA FORI DI REFRIGERAZIONE

3 × D

- ► Foratura per acciaio, acciaio fuso, ghisa, ghisa malleabile.
- ► Autocentrante e rottura dei trucioli mediante speciale rastremazione.
- ► Forma ad onda e tagliente negativo per bassa spinta, coppia stabile e lunga durata dell'utensile.
- ► Forma ottimizzata del tagliente per resistenza alla foratura ed evacuazione fluida dei trucioli.



DIN 6537 | MD | 30° | h6 | m7 | 140°

p.89

DH223 SERIES

Unità: mm

CODICE	Diametro punta	Diametro gambo	Lungh. elica	Lungh. totale
TiAlN	D_1	D_2	L_1	L_2
DH2230300	3.0	6	20	62
DH2230310	3.1	6	20	62
DH2230320	3.2	6	20	62
DH2230330	3.3	6	20	62
DH2230340	3.4	6	20	62
DH2230350	3.5	6	20	62
DH2230360	3.6	6	20	62
DH2230370	3.7	6	20	62
DH2230380	3.8	6	24	66
DH2230390	3.9	6	24	66
DH2230400	4.0	6	24	66
DH2230410	4.1	6	24	66
DH2230420	4.2	6	24	66
DH2230430	4.3	6	24	66
DH2230440	4.4	6	24	66
DH2230450	4.5	6	24	66
DH2230460	4.6	6	24	66
DH2230470	4.7	6	24	66
DH2230480	4.8	6	28	66
DH2230490	4.9	6	28	66
DH2230500	5.0	6	28	66
DH2230510	5.1	6	28	66
DH2230520	5.2	6	28	66
DH2230530	5.3	6	28	66
DH2230540	5.4	6	28	66
DH2230550	5.5	6	28	66
DH2230560	5.6	6	28	66
DH2230570	5.7	6	28	66
DH2230580	5.8	6	28	66
DH2230590	5.9	6	28	66
DH2230600	6.0	6	28	66
DH2230610	6.1	8	34	79

CODICE	Diametro punta	Diametro gambo	Lungh. elica	Lungh. totale
TiAlN	D_1	D_2	L_1	L_2
DH2230620	6.2	8	34	79
DH2230630	6.3	8	34	79
DH2230640	6.4	8	34	79
DH2230650	6.5	8	34	79
DH2230660	6.6	8	34	79
DH2230670	6.7	8	34	79
DH2230680	6.8	8	34	79
DH2230690	6.9	8	34	79
DH2230700	7.0	8	34	79
DH2230710	7.1	8	41	79
DH2230720	7.2	8	41	79
DH2230730	7.3	8	41	79
DH2230740	7.4	8	41	79
DH2230750	7.5	8	41	79
DH2230760	7.6	8	41	79
DH2230770	7.7	8	41	79
DH2230780	7.8	8	41	79
DH2230790	7.9	8	41	79
DH2230800	8.0	8	41	79
DH2230810	8.1	10	47	89
DH2230820	8.2	10	47	89
DH2230830	8.3	10	47	89
DH2230840	8.4	10	47	89
DH2230850	8.5	10	47	89
DH2230860	8.6	10	47	89
DH2230870	8.7	10	47	89
DH2230880	8.8	10	47	89
DH2230890	8.9	10	47	89
DH2230900	9.0	10	47	89
DH2230910	9.1	10	47	89
DH2230920	9.2	10	47	89
DH2230930	9.3	10	47	89

► SEGUE

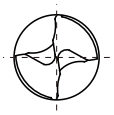
NEW CENTURY

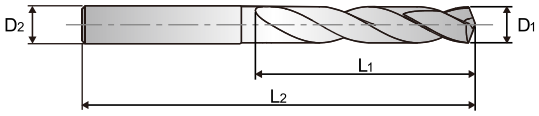
CARBIDE, DRILLS for GENERAL without COOLANT HOLES

PUNTE ELICOIDALI IN MD, IMPIEGHI GENERICI SENZA FORI DI REFRIGERAZIONE

3 × D

- ► Foratura per acciaio, acciaio fuso, ghisa, ghisa malleabile.
- ► Autocentrante e rottura dei trucioli mediante speciale rastremazione.
- ► Forma ad onda e tagliente negativo per bassa spinta, coppia stabile e lunga durata dell'utensile.
- ► Forma ottimizzata del tagliente per resistenza alla foratura ed evacuazione fluida dei trucioli.





p.89

DH223 SERIES

Unità: mm

CODICE	Diametro punta	Diametro gambo	Lungh. elica	Lungh. totale
TiAlN	D1	D2	L1	L2
DH2230940	9.4	10	47	89
DH2230950	9.5	10	47	89
DH2230960	9.6	10	47	89
DH2230970	9.7	10	47	89
DH2230980	9.8	10	47	89
DH2230990	9.9	10	47	89
DH2231000	10.0	10	47	89
DH2231010	10.1	12	55	102
DH2231020	10.2	12	55	102
DH2231030	10.3	12	55	102
DH2231040	10.4	12	55	102
DH2231050	10.5	12	55	102
DH2231060	10.6	12	55	102
DH2231070	10.7	12	55	102
DH2231080	10.8	12	55	102
DH2231090	10.9	12	55	102
DH2231100	11.0	12	55	102
DH2231110	11.1	12	55	102
DH2231120	11.2	12	55	102
DH2231130	11.3	12	55	102
DH2231140	11.4	12	55	102
DH2231150	11.5	12	55	102

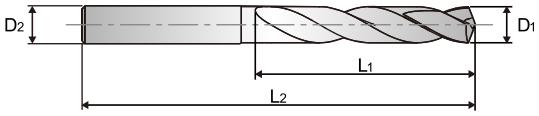
CODICE	Diametro punta	Diametro gambo	Lungh. elica	Lungh. totale
TiAlN	D1	D2	L1	L2
DH2231160	11.6	12	55	102
DH2231170	11.7	12	55	102
DH2231180	11.8	12	55	102
DH2231190	11.9	12	55	102
DH2231200	12.0	12	55	102
DH2231250	12.5	14	60	107
DH2231300	13.0	14	60	107
DH2231350	13.5	14	60	107
DH2231400	14.0	14	60	107
DH2231450	14.5	16	65	115
DH2231500	15.0	16	65	115
DH2231550	15.5	16	65	115
DH2231600	16.0	16	65	115
DH2231650	16.5	18	73	123
DH2231700	17.0	18	73	123
DH2231750	17.5	18	73	123
DH2231800	18.0	18	73	123
DH2231850	18.5	20	79	131
DH2231900	19.0	20	79	131
DH2231950	19.5	20	79	131
DH2232000	20.0	20	79	131

CARBIDE, DRILLS for GENERAL without COOLANT HOLES

PUNTE ELICOIDALI IN MD, IMPIEGHI GENERICI SENZA FORI DI REFRIGERAZIONE

5 × D

- ► Foratura per acciaio, acciaio fuso, ghisa, ghisa malleabile.
- ► Autocentrante e rottura dei trucioli mediante speciale rastremazione.
- ► Forma ad onda e tagliente negativo per bassa spinta, coppia stabile e lunga durata dell'utensile.
- ► Forma ottimizzata del tagliente per resistenza alla foratura ed evacuazione fluida dei trucioli.



p.89

DH224 SERIES

Unità: mm

CODICE	Diametro punta	Diametro gambo	Lungh. elica	Lungh. totale
TiAlN	D1	D2	L1	L2
DH2240100	1.0	3	8	55
DH2240110	1.1	3	12	55
DH2240120	1.2	3	12	55
DH2240130	1.3	3	12	55
DH2240140	1.4	3	12	55
DH2240150	1.5	3	16	55
DH2240160	1.6	3	16	55
DH2240170	1.7	3	16	55
DH2240180	1.8	3	16	55
DH2240183	1.83	3	16	55
DH2240190	1.9	3	16	55
DH2240200	2.0	4	21	57
DH2240210	2.1	4	21	57
DH2240220	2.2	4	21	57
DH2240230	2.3	4	21	57
DH2240240	2.4	4	21	57
DH2240250	2.5	4	21	57
DH2240260	2.6	4	21	57
DH2240270	2.7	4	21	57
DH2240280	2.8	4	21	57
DH2240290	2.9	4	21	57
DH2240300	3.0	6	28	66
DH2240310	3.1	6	28	66
DH2240320	3.2	6	28	66
DH2240325	3.25	6	28	66
DH2240330	3.3	6	28	66
DH2240340	3.4	6	28	66
DH2240350	3.5	6	28	66
DH2240360	3.6	6	28	66
DH2240370	3.7	6	28	66
DH2240375	3.75	6	28	66
DH2240380	3.8	6	36	74
DH2240390	3.9	6	36	74
DH2240400	4.0	6	36	74
DH2240410	4.1	6	36	74
DH2240415	4.15	6	36	74
DH2240420	4.2	6	36	74
DH2240430	4.3	6	36	74

CODICE	Diametro punta	Diametro gambo	Lungh. elica	Lungh. totale
TiAlN	D1	D2	L1	L2
DH2240440	4.4	6	36	74
DH2240450	4.5	6	36	74
DH2240460	4.6	6	36	74
DH2240465	4.65	6	36	74
DH2240470	4.7	6	36	74
DH2240475	4.75	6	36	74
DH2240480	4.8	6	44	82
DH2240490	4.9	6	44	82
DH2240500	5.0	6	44	82
DH2240510	5.1	6	44	82
DH2240520	5.2	6	44	82
DH2240530	5.3	6	44	82
DH2240540	5.4	6	44	82
DH2240550	5.5	6	44	82
DH2240555	5.55	6	44	82
DH2240560	5.6	6	44	82
DH2240565	5.65	6	44	82
DH2240570	5.7	6	44	82
DH2240575	5.75	6	44	82
DH2240580	5.8	6	44	82
DH2240590	5.9	6	44	82
DH2240600	6.0	6	44	82
DH2240610	6.1	8	53	91
DH2240620	6.2	8	53	91
DH2240630	6.3	8	53	91
DH2240640	6.4	8	53	91
DH2240650	6.5	8	53	91
DH2240655	6.55	8	53	91
DH2240660	6.6	8	53	91
DH2240665	6.65	8	53	91
DH2240670	6.7	8	53	91
DH2240680	6.8	8	53	91
DH2240690	6.9	8	53	91
DH2240700	7.0	8	53	91
DH2240710	7.1	8	53	91
DH2240720	7.2	8	53	91
DH2240730	7.3	8	53	91
DH2240740	7.4	8	53	91

► SEGUE

PUNTE per IMPIEGHI GENERICI

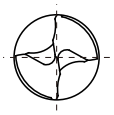
NEW CENTURY

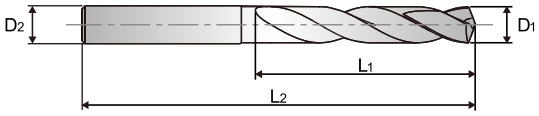
CARBIDE, DRILLS for GENERAL without COOLANT HOLES

PUNTE ELICOIDALI IN MD, IMPIEGHI GENERICI SENZA FORI DI REFRIGERAZIONE

5 × D

- ► Foratura per acciaio, acciaio fuso, ghisa, ghisa malleabile.
- ► Autocentrante e rottura dei trucioli mediante speciale rastremazione.
- ► Forma ad onda e tagliente negativo per bassa spinta, coppia stabile e lunga durata dell'utensile.
- ► Forma ottimizzata del tagliente per resistenza alla foratura ed evacuazione fluida dei trucioli.





p.89

DH224 SERIES

Unità: mm

CODICE	Diametro punta	Diametro gambo	Lungh. elica	Lungh. totale
TiAlN	D1	D2	L1	L2
DH2240750	7.5	8	53	91
DH2240760	7.6	8	53	91
DH2240765	7.65	8	53	91
DH2240770	7.7	8	53	91
DH2240780	7.8	8	53	91
DH2240790	7.9	8	53	91
DH2240800	8.0	8	53	91
DH2240810	8.1	10	61	103
DH2240820	8.2	10	61	103
DH2240830	8.3	10	61	103
DH2240840	8.4	10	61	103
DH2240850	8.5	10	61	103
DH2240860	8.6	10	61	103
DH2240870	8.7	10	61	103
DH2240880	8.8	10	61	103
DH2240890	8.9	10	61	103
DH2240900	9.0	10	61	103
DH2240910	9.1	10	61	103
DH2240920	9.2	10	61	103
DH2240930	9.3	10	61	103
DH2240940	9.4	10	61	103
DH2240950	9.5	10	61	103
DH2240960	9.6	10	61	103
DH2240965	9.65	10	61	103
DH2240970	9.7	10	61	103
DH2240980	9.8	10	61	103
DH2240990	9.9	10	61	103
DH2241000	10.0	10	61	103
DH2241010	10.1	12	71	118
DH2241020	10.2	12	71	118
DH2241030	10.3	12	71	118
DH2241040	10.4	12	71	118
DH2241050	10.5	12	71	118
DH2241060	10.6	12	71	118
DH2241070	10.7	12	71	118
DH2241080	10.8	12	71	118
DH2241090	10.9	12	71	118
DH2241100	11.0	12	71	118
DH2241110	11.1	12	71	118

CODICE	Diametro punta	Diametro gambo	Lungh. elica	Lungh. totale
TiAlN	D1	D2	L1	L2
DH2241120	11.2	12	71	118
DH2241125	11.25	12	71	118
DH2241130	11.3	12	71	118
DH2241140	11.4	12	71	118
DH2241150	11.5	12	71	118
DH2241160	11.6	12	71	118
DH2241170	11.7	12	71	118
DH2241180	11.8	12	71	118
DH2241190	11.9	12	71	118
DH2241200	12.0	12	71	118
DH2241210	12.1	14	77	124
DH2241230	12.3	14	77	124
DH2241250	12.5	14	77	124
DH2241280	12.8	14	77	124
DH2241300	13.0	14	77	124
DH2241325	13.25	14	77	124
DH2241350	13.5	14	77	124
DH2241400	14.0	14	77	124
DH2241410	14.1	16	83	133
DH2241450	14.5	16	83	133
DH2241500	15.0	16	83	133
DH2241525	15.25	16	83	133
DH2241550	15.5	16	83	133
DH2241560	15.6	16	83	133
DH2241600	16.0	16	83	133
DH2241650	16.5	18	93	143
DH2241680	16.8	18	93	143
DH2241700	17.0	18	93	143
DH2241725	17.25	18	93	143
DH2241750	17.5	18	93	143
DH2241760	17.6	18	93	143
DH2241800	18.0	18	93	143
DH2241850	18.5	20	101	153
DH2241880	18.8	20	101	153
DH2241900	19.0	20	101	153
DH2241925	19.25	20	101	153
DH2241950	19.5	20	101	153
DH2241960	19.6	20	101	153
DH2242000	20.0	20	101	153

PARAMETRI DI TAGLIO INDICATIVI

DH223, DH224 SERIES

n = (giri/min.)
Fn = (mm/giri)

ISO	VDI 3323	Materiale da lavorare	Vc (m/min)	Parametri	Diametri (mm)		Vc (m/min)	Parametri	Diametri (mm)										
			1.0~2.9		1.0	2.0	3.0~20.0		3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
P	2	Acciai non legati	70	n	22,280	11,140	100	n	10,610	7,960	6,370	5,310	3,980	3,180	2,650	2,270	1,990	1,770	1,590
				Fn	0.03-0.05	0.05-0.07		Fn	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	3		70	n	22,280	11,140	100	n	10,610	7,960	6,370	5,310	3,980	3,180	2,650	2,270	1,990	1,770	1,590
				Fn	0.03-0.05	0.05-0.07		Fn	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	4		70	n	22,280	11,140	100	n	10,610	7,960	6,370	5,310	3,980	3,180	2,650	2,270	1,990	1,770	1,590
				Fn	0.03-0.05	0.05-0.07		Fn	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	5		60	n	19,100	9,550	80	n	8,490	6,370	5,090	4,240	3,180	2,550	2,120	1,820	1,590	1,410	1,270
				Fn	0.03-0.05	0.05-0.07		Fn	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	6	Acciai basso legati	70	n	22,280	11,140	100	n	10,610	7,960	6,370	5,310	3,980	3,180	2,650	2,270	1,990	1,770	1,590
				Fn	0.03-0.05	0.05-0.07		Fn	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	7		60	n	19,100	9,550	80	n	8,490	6,370	5,090	4,240	3,180	2,550	2,120	1,820	1,590	1,410	1,270
				Fn	0.03-0.05	0.05-0.07		Fn	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	8		60	n	19,100	9,550	80	n	8,490	6,370	5,090	4,240	3,180	2,550	2,120	1,820	1,590	1,410	1,270
				Fn	0.02-0.04	0.03-0.05		Fn	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	8		30	n	9,550	4,770	40	n	4,240	3,180	2,550	2,120	1,590	1,270	1,060	910	800	710	640
				Fn	0.02-0.04	0.03-0.05		Fn	0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
	10	Acciai alto legati e acciai da utensili	50	n	15,920	7,960	70	n	7,430	5,570	4,460	3,710	2,790	2,230	1,860	1,590	1,390	1,240	1,110
				Fn	0.03-0.05	0.05-0.07		Fn	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
	11		30	n	9,550	4,770	40	n	4,240	3,180	2,550	2,120	1,590	1,270	1,060	910	800	710	640
				Fn	0.02-0.04	0.03-0.05		Fn	0.03-0.08	0.05-0.11	0.08-0.14	0.10-0.16	0.12-0.18	0.13-0.19	0.14-0.20	0.15-0.21	0.16-0.22	0.17-0.25	0.18-0.28
M	12	Acciai Inox	50	n	15,920	7,960	70	n	7,430	5,570	4,460	3,710	2,790	2,230	1,860	1,590	1,390	1,240	1,110
				Fn	0.03-0.05	0.05-0.07		Fn	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	13		35	n	11,140	5,570	45	n	4,770	3,580	2,860	2,390	1,790	1,430	1,190	1,020	900	800	720
				Fn	0.02-0.04	0.03-0.05		Fn	0.04-0.10	0.07-0.13	0.10-0.16	0.12-0.18	0.14-0.20	0.15-0.23	0.17-0.25	0.18-0.26	0.19-0.27	0.20-0.30	0.22-0.32
K	15	Ghisa grigia	70	n	22,280	11,140	100	n	10,610	7,960	6,370	5,310	3,980	3,180	2,650	2,270	1,990	1,770	1,590
				Fn	0.04-0.06	0.04-0.06		Fn	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	16		65	n	20,690	10,350	80	n	8,490	6,370	5,090	4,240	3,180	2,550	2,120	1,820	1,590	1,410	1,270
				Fn	0.04-0.06	0.04-0.06		Fn	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	17	Ghisa nodulare	70	n	22,280	11,140	100	n	10,610	7,960	6,370	5,310	3,980	3,180	2,650	2,270	1,990	1,770	1,590
				Fn	0.04-0.06	0.04-0.06		Fn	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	18		50	n	15,920	7,960	70	n	7,430	5,570	4,460	3,710	2,790	2,230	1,860	1,590	1,390	1,240	1,110
				Fn	0.04-0.06	0.04-0.06		Fn	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
	19	Ghisa malleabile	60	n	19,100	9,550	80	n	8,490	6,370	5,090	4,240	3,180	2,550	2,120	1,820	1,590	1,410	1,270
				Fn	0.04-0.06	0.04-0.06		Fn	0.08-0.14	0.12-0.18	0.15-0.22	0.20-0.26	0.22-0.28	0.25-0.33	0.27-0.35	0.29-0.37	0.31-0.39	0.32-0.42	0.34-0.44
	20		50	n	15,920	7,960	70	n	7,430	5,570	4,460	3,710	2,790	2,230	1,860	1,590	1,390	1,240	1,110
				Fn	0.03-0.05	0.05-0.07		Fn	0.06-0.12	0.08-0.14	0.14-0.20	0.16-0.22	0.18-0.24	0.19-0.27	0.21-0.29	0.23-0.31	0.25-0.33	0.28-0.38	0.30-0.40
H	38	Acciai temprati	20	n	6,370	3,180	25	n	2,650	1,990	1,590	1,330	990	800	660	570	500	440	400
				Fn	0.01-0.02	0.01-0.03		Fn	0.01-0.03	0.01-0.04	0.02-0.05	0.03-0.06	0.03-0.06	0.04-0.07	0.04-0.08	0.05-0.09	0.05-0.09	0.05-0.10	0.05-0.10

NEW CENTURY

NOTE

NOTE

NEW CENTURY

NEW CENTURY

YG1 ITALY Srl

Via di Valle Caia n° 109 - Roma - 00134(Rm)
Telefono: 06.71300335
Web: http:/www.yg1.it E-mail: info@yg1.it

Distribuita da: