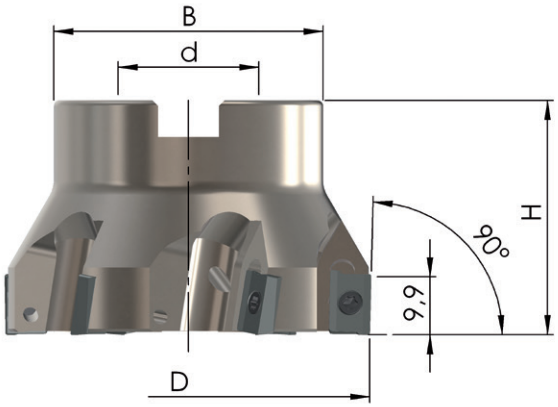
B03 Eckfräser 90° *Step mills, Fraises à 90°, Frese per spallamenti retti*

Aufsteckfräser *Shell type mills, Fraises à alésage, Frese per attacco a manicotto*

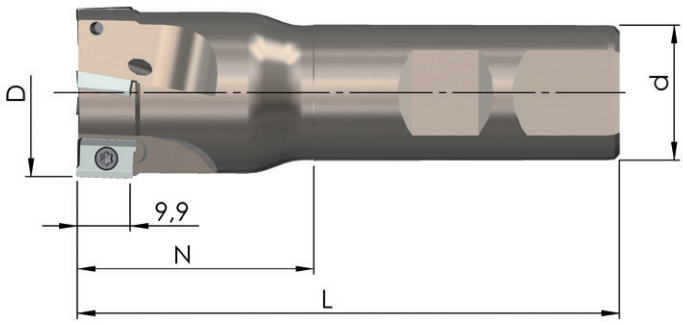


Bestell-Nr. *Order-No., Référence, Codice*	D	H	d	B	Z	MS
90PP-040-10-16-5	40	40	16	38	5	MS-8x25-912
90PP-040-10-22-5	40	40	22	38	5	MS-10x25-912
90PP-050-10-5	50	40	22	46	5	MS-10x25-912
90PP-063-10-6	63	40	22	46	6	MS-10x25-912
90PP-080-10-7	80	50	27	58	7	MS-12x35-912
Enge Teilung *close pitch, à pas réduit, a passo stretto:*						
90PP-040-10-16-6	40	40	16	38	6	MS-8x25-912
90PP-040-10-22-6	40	40	22	38	6	MS-10x25-912
90PP-050-10-6	50	40	22	46	6	MS-10x25-912
90PP-063-10-7	63	40	22	46	7	MS-10x25-912
90PP-080-10-8	80	50	27	58	8	MS-12x35-912
90PP-100-10-9	100	50	32	78	9	MS-16x30-912

MS= Mittenschraube *Central screw, Vis centrale, Vite centrale di fissaggio*

B03 Eckfräser 90° *Step mills, Fraises à 90°, Frese per spallamenti retti*

Schaftfräser DIN 1835-B *Shank type mills, Fraises à queue Weldon, Frese a gambo Weldon*

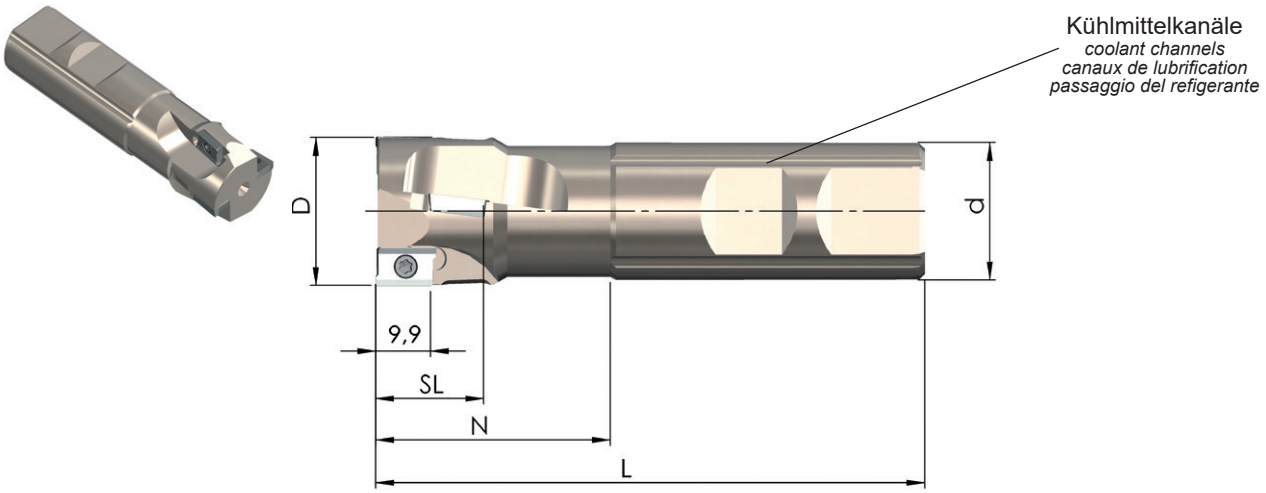


Bestell-Nr. *Order-No., Référence, Codice*	D	N	L	d	Z
90PP-12-10-1	12	27	100	25	1
90PP-14-10-1	14	27	100	25	1
90PP-16-10-1	16	30	100	25	1
90PP-20-10-2	20	30	100	25	2
90PP-25-10-3	25	37	100	25	3
90PP-32-10-4	32	43	100	25	4
90PP-40-10-5	40	43	100	25	5
Enge Teilung *close pitch, à pas réduit, a passo stretto:*					
90PP-16-10-2	16	27	100	25	2
90PP-18-10-2	18	27	100	25	2
90PP-20-10-3	20	26	100	25	3
90PP-22-10-3	22	26	100	25	3
90PP-25-10-4	25	41	100	25	4
90PP-28-10-4	28	41	100	25	4
90PP-30-10-4	30	41	100	25	4
90PP-32-10-5	32	41	100	25	5
90PP-36-10-5	36	41	100	25	5
90PP-40-10-6	40	41	100	25	6
Lange Ausführung *long version, version longue, versione lunga*					
90PP-22-10-3-L	22	41	115	25	3
90PP-28-10-4-L	28	60	118	25	4
90PP-32-10-5-L	32	60	120	25	5

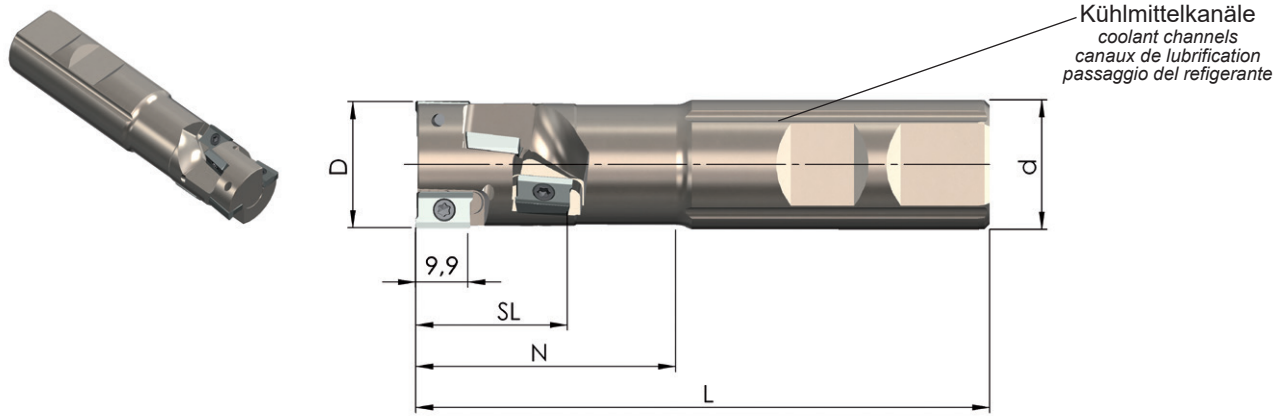
B03 Vielzahnfräser

Multi-Tooth milling cutters, Fraises multi-dents (hérisson), Frese a riccio

Schaftfräser DIN 1835-B *Shank type mills, Fraises à queue Weldon, Frese a gambo Weldon*



Bestell-Nr. *Order-No., Référence, Codice*	D	SL	N	L	d	$Z_{eff.}$	ZZ
VZF 25-20-2	25	20	42	100	25	2	4
VZF 28-20-2	28	20	43	100	25	2	4
VZF 32-40-2	32	40	60	120	25	2	8



Enge Teilung *close pitch, à pas réduit, a passo stretto:*

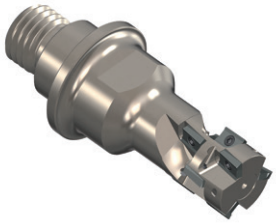
Bestell-Nr. *Order-No., Référence, Codice*	D	SL	N	L	d	$Z_{eff.}$	ZZ
VZF 16-19-1	16	19	27	90	25	1	2
VZF 20-19-2	20	19	37	100	25	2	4
VZF 25-29-2	25	29	50	110	25	2	6
VZF 32-48-3	32	48	67	130	32	3	15

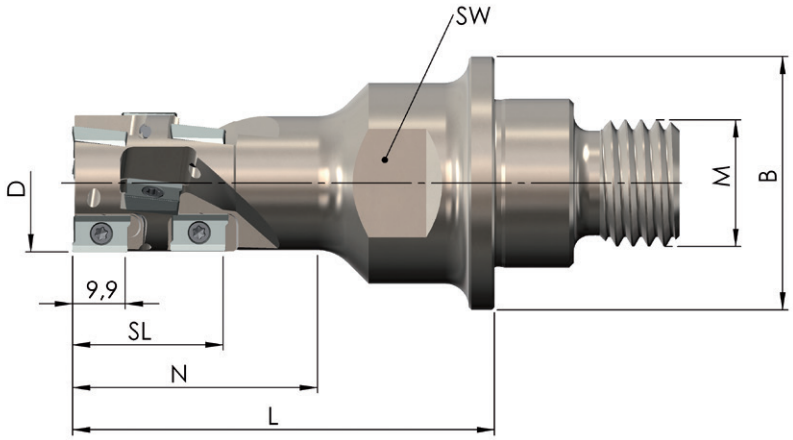
B03 Vielzahnfräser

Multi-Tooth milling cutters, Fraises multi-dents (hérisson), Frese a riccio

Adapterversion

Adapter version, Version adaptateur, Versione con giunto di prolungamento

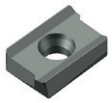
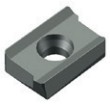
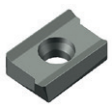




Bestell-Nr. *Order-No., Référence, Codice*	D	SL	N	L	B	M	SW	$Z_{eff.}$	ZZ
VZF 45-40-3 AD	45	40	62	70	48	24	36	3	12
Enge Teilung *close pitch, à pas réduit, a passo stretto:*									
VZF 28-29-3 AD	28	29	46	80	48	24	32	3	9
VZF 32-38-3 AD	32	38	57	90	48	24	32	3	12
VZF 40-48-4 AD	40	48	80	90	48	24	32	4	20
VZF 50-57-4 AD	50	57	-	100	48	24	41	4	24

Fräswendeplatten und Schnittdaten

Milling inserts and parameters, Plaquettes de fraisage et paramètres, Inserti e parametri di taglio

			HT50 (code 22)	Ti20 (code 1)	HT35 (code 19)	KT28 (code 23)	HS20 (code 7)	KD16 (code 16)	
	**JMB03-71-** 10,0x7,0x3,18 M S	Order-No.	**B03EX -22-A**	**B03FZ -01-A**					
		f_z [mm]	0,10 (0,10-0,30)	0,10 (0,10-0,30)					
	JMB03-71- 10,0x7,0x3,18 U	Order-No.					**B03DZ -07-A**		
		f_z [mm]					0,10 (0,10-0,30)		
	JMB03-73- 10,0x7,0x3,18 M S	Order-No.	**B03OD -22-A**	**B03PE -01-A**					
		f_z [mm]	0,10 (0,10-0,30)	0,10 (0,10-0,30)					
	JMB03-72- 10,7x7,0x3,97 H M	Order-No.	**B03JS -22-A**	**B03LA -01-A**		**B03KB -23-A**			
			Achtung: Nenn-ø 0,2mm größer u. Konturfehler von ca. 1°! *Attention: 0,2 mm major nominal-Ø and contour error of ca. 1°!* *N.B.: diamétre nominal = +0,2 mm et erreur de perpendicularité +~1°!* *Attenzione: Il ø nominale aumenta di 0,2 mm con un errore angolare di c.a. 1°!*						
		f_z [mm]	0,15 (0,10-0,30)	0,15 (0,10-0,30)		0,15 (0,10-0,30)			
	JMB03-74- 10,7x7,0x3,97 H M	Order-No.	**B03TH -22-A**			**B03UK -23-A**			
			Achtung: Nenn-ø 0,2mm größer u. Konturfehler von ca. 1°! *Attention: 0,2 mm major nominal-Ø and contour error of ca. 1°!* *N.B.: diamétre nominal = +0,2 mm et erreur de perpendicularité +~1°!* *Attenzione: Il ø nominale aumenta di 0,2 mm con un errore angolare di c.a. 1°!*						
		f_z [mm]	0,15 (0,10-0,30)			0,15 (0,10-0,30)			
	**JMB03-71A-** 10,0x7,0x3,18 S	Order-No.		**B03HA -01-A**					
		f_z [mm]		0,15 (0,10-0,30)					
	JMB03-71A- 10,0x7,0x3,18 U	Order-No.					**B03GR -07-A**		
		f_z [mm]					0,10 (0,10-0,30)		
	JMB03-72A- 10,0x7,0x3,97 S	Order-No.	**B03MB -22-A**					**B03NC -16-A**	
			Achtung: Nenn-ø 0,2mm größer u. Konturfehler von ca. 1°! *Attention: 0,2 mm major nominal-Ø and contour error of ca. 1°!* *N.B.: diamétre nominal = +0,2 mm et erreur de perpendicularité +~1°!* *Attenzione: Il ø nominale aumenta di 0,2 mm con un errore angolare di c.a. 1°!*						
		f_z [mm]	0,15 (0,10-0,30)					0,15 (0,10-0,30)	
	**JMB03-73A-** 10,0x7,0x3,18 S	Order-No.			**B03RF -19-A**				
		f_z [mm]			0,10 (0,10-0,30)				
	JMB03-73A- 10,0x7,0x3,18 U	Order-No.					**B03SK -07-A**		
		f_z [mm]					0,10 (0,10-0,30)		
			20	20	20	20	20	10	

B03 Fräswendeplatten und Schnittdaten

Milling inserts and parameters, Plaquettes de fraisage et paramètres, Inserti e parametri di taglio

v_c [m/min]	**Stahl** *Steel Acier Acciaio*	**Rostfrei** *Stainless Acier inoxydable Inossidabile*	**Guss** *Cast iron Fonte Ghisa*	**NE-Metalle** *Non-ferrous metals Non ferreux Metalli non ferrosi*	**Hochwarmfest** *Highly heat-resistant Superalliages Resistente al calore*	**Gehärtet** *Tempered Aciers traités Temprato*
HT50	220 (160 - 300)	200 (100 - 300)	240 (200 - 300)			
Ti20	250 (220 - 280)	220 (180 - 300)	260 (180 - 350)			
HT35	160 (120 - 220)	200 (100 - 300)			60 (40 - 200)	
KT28			260 (180 - 350)			80 (40 - 120)
HS20				400 (300 - 600)		
KD16				600 (500 - 1000)		

Ersatzteile *Spare parts, Pièces de rechange, Parti di ricambio*

SS 3,0-1 (M = 1,7-1,8 Nm)	**T 09**	**Fett** *Grease, Graisse, Grasso*

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