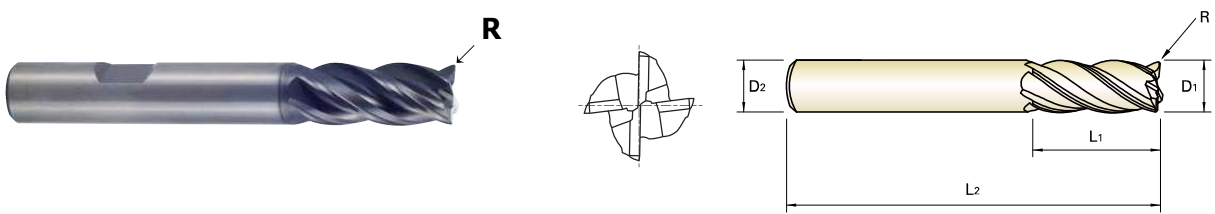




**CARBIDE, 4 FLUTE CORNER RADIUS LONG LENGTH**

- VOLLHARTMETALL, 4 SCHNEIDEN ECKENRADIUS LANG
- CARBURE, 4 DENTS, SÉRIE LONGUE, RAYONNÉE
- MD, 4 TAGLIENTI SERIE LUNGA TORICA

- ▶ Special flute geometry and multiple helix eliminate vibrations
- ▶ Die spezielle Schneidengeometrie und der ungleiche Drill verhindern Vibrationen
- ▶ Excellent performance for Stainless Steels, Mild Steels, Cast Iron, Low/Medium hardness materials under HRC40
- ▶ Exzellente Leistung in Edelmetallen, Baustählen, Guss und Stählen unter 40HRC



Unit : mm

EDP No.	Corner Radius		Mill Diameter	Shank Diameter	Length of Cut	Overall Length
	PLAIN	FLAT	R	D1	D2	L1
GMF58030	GMF59030	R0.3	3.0	6	8	57
GMF58901	GMF59901	R0.5	3.0	6	8	57
GMF58040	GMF59040	R0.3	4.0	6	11	57
GMF58902	GMF59902	R0.5	4.0	6	11	57
GMF58050	GMF59050	R0.3	5.0	6	13	57
GMF58903	GMF59903	R0.5	5.0	6	13	57
GMF58060	GMF59060	R0.3	6.0	6	13	57
GMF58904	GMF59904	R0.5	6.0	6	13	57
GMF58905	GMF59905	R1.0	6.0	6	13	57
GMF58080	GMF59080	R0.5	8.0	8	19	63
GMF58906	GMF59906	R1.0	8.0	8	19	63
GMF58100	GMF59100	R0.5	10.0	10	22	72
GMF58907	GMF59907	R1.0	10.0	10	22	72
GMF58120	GMF59120	R0.5	12.0	12	26	83
GMF58908	GMF59908	R1.0	12.0	12	26	83
GMF58909	GMF59909	R2.0	12.0	12	26	83
GMF58140	GMF59140	R0.5	14.0	14	26	83
GMF58160	GMF59160	R1.0	16.0	16	32	92
GMF58912	GMF59912	R2.0	16.0	16	32	92
GMF58913	GMF59913	R3.0	16.0	16	32	92
GMF58180	GMF59180	R1.0	18.0	18	32	92
GMF58200	GMF59200	R1.0	20.0	20	38	104
GMF58916	GMF59916	R2.0	20.0	20	38	104
GMF58917	GMF59917	R3.0	20.0	20	38	104
GMF58250	GMF59250	R1.0	25.0	25	38	104

Mill Dia. Tolerance (mm)	Shank Dia. Tolerance
Up to Ø12	0 ~ - 0.02
Over Ø12	0 ~ - 0.03
	h5
	* Shank Dia. ≥ Ø12 : h6

◎ : Excellent ○ : Good

ISO Material Description	P											M				K				
	Non-alloy steel					Low alloy steel				High alloyed steel, and tool steel		Stainless steel				Grey cast iron		Nodular cast iron		Malleable cast iron
VDI 3323	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
HRc		13	25	28	32	10	29	32	38	15	35	15	23	10	10	26	3	25		21
HB	125	190	250	270	300	180	275	300	350	200	325	200	240	180	180	260	160	250	130	230
Recommend	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎	◎

ISO Material Description	N										S							H			
	Aluminum-wrought alloy		Aluminum-cast, alloyed			Copper and Copper Alloys (Bronze / Brass)		Non Metallic Materials			Heat Resistant Super Alloys					Titanium Alloys		Hardened steel	Chilled Cast Iron	Hardened Cast Iron	
VDI 3323	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41
HRc											15	30	25	38	34			55	60	42	55
HB	60	100	75	90	130	110	90	100			200	280	250	350	320	400 Rm	1050 Rm	550	630	400	550
Recommend											○	○	○	○	○	○	○				

<b>GMF52</b>	<b>GMF54</b>	<b>GMF56</b>	<b>GMF58</b>	<b>GMF60</b>	<b>GMF62</b>
<b>GMF53</b>	<b>GMF55</b>	<b>GMF57</b>	<b>GMF59</b>	<b>GMF61</b>	<b>GMF63</b>

**4 FLUTE - SIDE & SLOTTING**

Vc = m/min.  
 fz = mm/tooth  
 RPM = rev./min.  
 FEED = mm/min.

ISO	VDI 3323	Material Description	Ae		Ap		Parameter	Diameter (Ø)																																																								
			Side	Slotting	Side	Slotting		3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0	25.0																																													
								Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED	Vc	fz	RPM	FEED																																					
P	1-4	Non-alloy steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	152	152	152	152	152	168	168	168	168	168	168	168	168	168	fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064	RPM	16128	12096	9677	8064	6048	5348	4456	3820	3342	2971	2674	2139	FEED	323	387	426	516	653	813	838	749	709	701	695	548				
	5						Vc	107	107	107	107	107	117	117	117	117	117	117	117	117	117	117	117	117	fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064	RPM	11353	8515	6812	5677	4257	3724	3104	2660	2328	2069	1862	1490	FEED	227	272	300	363	460	566	583	521	493	488	484	381	
	6-7	Low alloy steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	152	152	152	152	152	168	168	168	168	168	168	168	168	168	fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064	RPM	16128	12096	9677	8064	6048	5348	4456	3820	3342	2971	2674	2139	FEED	323	387	426	516	653	813	838	749	709	701	695	548				
							8-9	Vc	107	107	107	107	107	117	117	117	117	117	117	117	117	117	117	117	117	fz	0.005	0.008	0.011	0.016	0.027	0.038	0.047	0.049	0.053	0.059	0.065	0.064	RPM	11353	8515	6812	5677	4257	3724	3104	2660	2328	2069	1862	1490	FEED	227	272	300	363	460	566	583	521	493	488	484	381
	10-11.1	High alloyed steel, and tool steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	64	64	64	64	64	70	70	70	70	70	70	70	70	70	70	fz	0.003	0.006	0.008	0.011	0.019	0.027	0.032	0.034	0.037	0.041	0.045	0.045	RPM	6791	5093	4074	3395	2546	2228	1857	1592	1393	1238	1114	891	FEED	81	122	130	149	194	241	238	216	206	203	201	160			
M	12-13	Stainless steel	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	148	148	148	148	148	148	148	148	148	148	148	148	148	148	fz	0.004	0.006	0.009	0.013	0.022	0.034	0.039	0.042	0.045	0.05	0.055	0.055	RPM	15703	11777	9422	7852	5889	4711	3926	3365	2944	2617	2355	1884	FEED	251	283	339	408	518	641	612	565	530	523	518	415				
	14.1						Vc	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106	fz	0.005	0.008	0.013	0.018	0.028	0.048	0.055	0.059	0.062	0.07	0.077	0.077	RPM	11247	8435	6748	5623	4218	3374	2812	2410	2109	1874	1687	1350	FEED	225	270	351	405	472	648	619	569	523	525	520	416
	14.2						Vc	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95	fz	0.005	0.008	0.013	0.018	0.028	0.048	0.055	0.059	0.062	0.069	0.076	0.076	RPM	10080	7560	6048	5040	3780	3024	2520	2160	1890	1680	1512	1210	FEED	202	242	314	363	423	581	554	510	469	464	460
K	15-20	Grey cast iron	0.5D	1.0D	1.5D (1.2D)	1.0D (0.8D)	Vc	112	112	112	112	112	123	123	123	123	123	123	123	123	123	fz	0.006	0.01	0.014	0.02	0.034	0.048	0.058	0.061	0.065	0.073	0.081	0.079	RPM	11884	8913	7130	5942	4456	3915	3263	2797	2447	2175	1958	1566	FEED	285	357	399	475	606	752	757	682	636	635	634	495				
S	31-35	Heat Resistant Super Alloys	0.25D	1.0D	1.0D	0.5D	Vc	26	26	26	26	26	26	26	26	26	26	26	26	26	26	fz	0.005	0.007	0.008	0.012	0.019	0.033	0.038	0.04	0.043	0.048	0.054	0.052	RPM	2759	2069	1655	1379	1035	828	690	591	517	460	414	331	FEED	55	58	53	66	79	109	105	95	89	88	89	69				
	36-37	Titanium Alloys	0.4D	1.0D	1.0D	0.5D	Vc	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	fz	0.004	0.007	0.011	0.016	0.025	0.042	0.05	0.053	0.055	0.062	0.068	0.069	RPM	6154	4615	3692	3077	2308	1846	1538	1319	1154	1026	923	738	FEED	98	129	162	197	231	310	308	280	254	254	251	204			

\*( ) : Short length & Neck type

