MRF

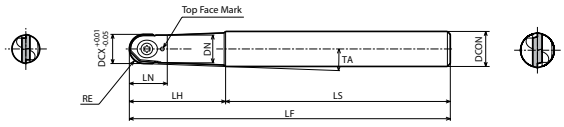


Fig. 1

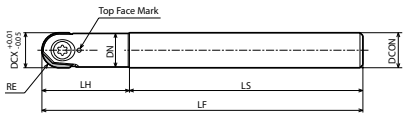


Fig. 2

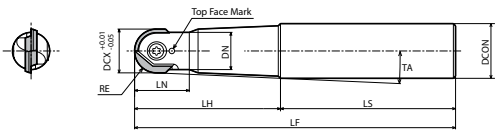


Fig. 3

Top Face Shown

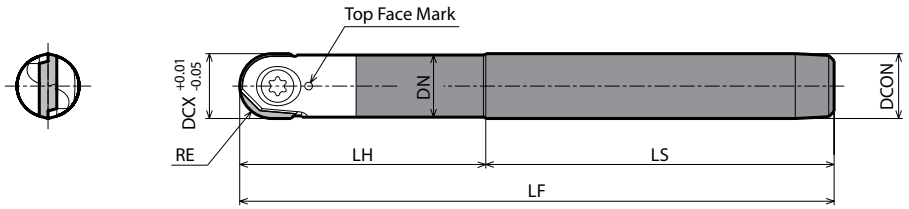
Toolholder dimensions

Description			Availability	Inserts	Dimension (mm)								TA	Coolant hole	Fig.	Spare parts				Applicable inserts ➡ M260
					RE	DCX	DCON	LF	LH	DN	LN	LS				Anti-seize compound	Screw	Wrench	Wrench	
Standard Neck	MRF	08-S12	●	1	4	8	12	100	22	7.5	10	78	6°20′	No	1	P-37	SC-30067	DT-8	-	RDFG08FR
		10-S12	●		5	10			25	9.5	13	75	3°00′		1		SC-35085	DT-10		RDFG10FR
		12-S12	●		6	12		110	30	11.5	-	80	-		2		SC-40100	DT-15		RDFG12FR
		16-S20	●		8	16	20	130	50	14	20		2°50′		1		SC-50130	DT-20		RDFG16FR
		20-S25	●		10	20	25	140	60	17	25		3°00′		3		SC-60160	-	TT-25	RDFG20FR
		25-S32	●		12.5	25	32	150	70	22	31		3°30′		3		SC-60210		TT-30	RDFG25FR
Long Neck	MRF	08-S12-130	●	1	4	8	12	130	50	7.5	10	80	2°30′	No	1	P-37	SC-30067	DT-8	-	RDFG08FR
		10-S16-150	●		5	10	16	150		9.5	15	100	3°50′		1		SC-35085	DT-10		RDFG10FR
		12-S16-160	●		6	12		160	60	11.5	16		2°10′		1		SC-40100	DT-15		RDFG12FR
		16-S20-160	●		8	16	20		65	14	20	95	2°00′		1		SC-50130	DT-20		RDFG16FR
		20-S25-180	●		10	20	25	180	80	17	25	100	2°10′		3		SC-60160	-	TT-25	RDFG20FR
		25-S32-200	●		12.5	25	32	200	90	22	31	110	2°40′		3		SC-60210		TT-30	RDFG25FR

TA (Toolholder's interference angle) is the angle formed by the tangential line from insert dia. to toolholder's shank dia.
Coat anti-seize compound thinly on portion of taper and thread when insert is fixed.

● : Standard item R : Right-hand only L : Left-hand only □ : Check availability

MRFW (Carbide Shank)



Top Face Shown

Toolholder dimensions

	Description		Availability	Inserts	Dimension (mm) RE	DCX	DCON	LF	LH	DN	LS	Coolant hole	Spare parts: Anti-seize compound	Screw	Wrench	Applicable inserts ➡ M260
Carbide Standard	MRFW	08-S08	●	1	4	8	8	100	30	7.4	70	No	P-37	SC-30067	DT-8	RDFG08FR
		10-S10	●		5	10	10		35	9.5	65			SC-35085	DT-10	RDFG10FR
		12-S12	●		6	12	12	110	45	11.5				SC-40100	DT-15	RDFG12FR
Carbide Long Neck	MRFW	08-S08-130	●	1	4	8	8	130	65	7.4	65	No	P-37	SC-30067	DT-8	RDFG08FR
		10-S10-140	●		5	10	10	140	75	9.5				SC-35085	DT-10	RDFG10FR
		12-S12-150	●		6	12	12	150	85	11.5				SC-40100	DT-15	RDFG12FR

Coat anti-seize compound thinly on portion of taper and thread when insert is fixed.

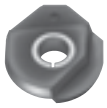
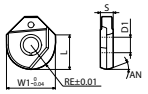
M

Milling

● : Standard item R : Right-hand only L : Left-hand only □ : Check availability

RDFG

Classification of usage ● : 1st Choice ○ : 2nd Choice			
Carbon steel / Alloy steel	●	P
Mold and die steel	●	P
Stainless steel	○	M
Gray cast iron	○	K
Nodular cast iron	○	K
Non-ferrous metals		N
Heat-resistant alloy		S
Titanium alloy		S
Hard materials		H

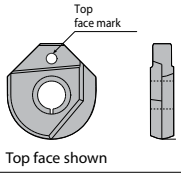
Insert		Description		Dimension (mm)					Angle (°)	Carbide		Applicable toolholder ➡ M258 M259
				S	D1	RE	L	W1	AN	PVD	PR915	
		RDFG	08FR	2.1	3.1	4	6.6	8	15	●		MRF(W)08...
			10FR	2.7	3.6	5	8	10	15	●		MRF(W)10...
			12FR	3.2	4.1	6	9.4	12	15	●		MRF(W)12...
			16FR	4.2	5.1	8	11.3	16	10	●		MRF16...
			20FR	5.2	6.1	10	14.1	20	10	●		MRF20...
			25FR	6.2	6.1	12.5	15.5	25	10	●		MRF25...

Handed insert shows Right-hand

Recommended cutting conditions ➡ M261

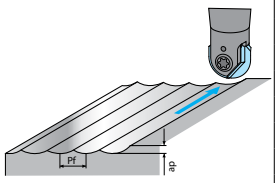
● : Standard item R : Right-hand only L : Left-hand only □ : Check availability

Applicable inserts

Insert		Description	
		RDFG	08FR
			10FR
			12FR
			16FR
			20FR
			25FR

Check the top face mark of both insert and toolholder.

Recommended depth of cut

Description		Depth of cut (mm)		Applications
		ap	Pf	
Standard neck	MRF08-S12	0.2 (Max0.3)	0.8	
	MRF10-S12	0.2	1	
	MRF12-S12	0.5	1.2	
	MRF16-S20	0.5	1.6	
	MRF20-S25	1	2	
	MRF25-S32	1	2.5	
Long neck	MRF08-S12-130	0.2 (Max0.3)	0.8	
	MRF10-S12-150	0.2	1	
	MRF12-S12-160	0.5	1.2	
	MRF16-S20-160	0.5	1.6	
	MRF20-S25-180	1	2	
	MRF25-S32-200	1	2.5	
Carbide standard neck	MRFW08-S08	0.2 (Max0.3)	0.8	
	MRFW10-S10	0.2	1	
	MRFW12-S12	0.5	1.2	
Carbide long Neck	MRFW08-S08-130	0.2 (Max0.3)	0.8	
	MRFW10-S10-140	0.2	1	
	MRFW12-S12-150	0.5	1.2	

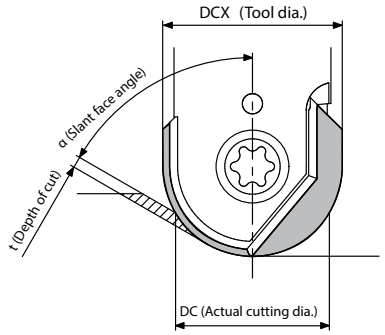
For ø8, holder may be broken because of over load if ap exceeds 0.3mm.

Recommended cutting conditions (At cutting dia. DCX)

Workpiece material	Insert grades	Vc (m/min)	fz (mm/t)	ø8		ø10		ø12	
				Vc(m/min) (n:min^{-1})	fz(mm/t) (Vf:mm/min)	Vc(m/min) (n:min^{-1})	fz(mm/t) (Vf:mm/min)	Vc(m/min) (n:min^{-1})	fz(mm/t) (Vf:mm/min)
Carbon steel	PR915	100~200	0.1~0.3	150 (5,970)	0.2 (2,390)	150 (4,770)	0.2 (1,910)	150 (3,980)	0.2 (1,590)
Alloy steel	PR915	80~180	0.1~0.3	130 (5,170)	0.2 (2,070)	130 (4,140)	0.2 (1,660)	130 (3,450)	0.2 (1,380)
Mold steel	PR915	50~150	0.1~0.2	100 (3,980)	0.15 (1,190)	100 (3,180)	0.15 (950)	100 (2,650)	0.15 (800)
Stainless steel	PR915	50~150	0.1~0.2	100 (3,980)	0.15 (1,190)	100 (3,180)	0.15 (950)	100 (2,650)	0.15 (800)
Cast iron	PR915	100~200	0.2~0.4	150 (5,970)	0.3 (3,580)	150 (4,770)	0.3 (2,860)	150 (3,980)	0.3 (2,390)
Workpiece material	Insert grades	Vc (m/min)	fz (mm/t)	ø16		ø20		ø25	
				Vc(m/min) (n:min^{-1})	fz(mm/t) (Vf:mm/min)	Vc(m/min) (n:min^{-1})	fz(mm/t) (Vf:mm/min)	Vc(m/min) (n:min^{-1})	fz(mm/t) (Vf:mm/min)
Carbon steel	PR915	100~200	0.1~0.3	150 (2,980)	0.2 (1,190)	150 (2,390)	0.2 (950)	150 (1,910)	0.2 (760)
Alloy steel	PR915	80~180	0.1~0.3	130 (2,590)	0.2 (1,030)	130 (2,070)	0.2 (830)	130 (1,660)	0.2 (660)
Mold steel	PR915	50~150	0.1~0.2	100 (1,990)	0.15 (600)	100 (1,590)	0.15 (480)	100 (1,270)	0.15 (380)
Stainless steel	PR915	50~150	0.1~0.2	100 (1,990)	0.15 (600)	100 (1,590)	0.15 (480)	100 (1,270)	0.15 (380)
Cast iron	PR915	100~200	0.2~0.4	150 (2,980)	0.3 (1,790)	150 (2,390)	0.3 (1,430)	150 (1,910)	0.3 (1,150)

Actual cutting speed (Vd) conversion coefficient table

- Vd varies depending on ap and slant face angle.
- Vd can be obtained by dividing the conversion coefficient into the recommended cutting speed.

Model	Tool dia. (DCX)		ø8		ø10		ø12	
	Depth of cut (t:mm)		0.1	0.2	0.1	0.2	0.2	0.5
	Slant face angle (α)	15°	1.00	1.00	1.00	1.00	1.00	1.00
		30°	1.05	1.02	1.05	1.03	1.04	1.01
		45°	1.18	1.12	1.20	1.14	1.16	1.07
		60°	1.47	1.34	1.51	1.38	1.42	1.24
		75°	2.15	1.82	2.24	1.92	2.02	1.60
		90°(Horizontal plane)	4.48	3.22	5.06	3.57	3.92	2.50
	Tool dia. (DCX)		ø16		ø20		ø25	
	Depth of cut (t:mm)		0.2	0.5	0.5	1	0.5	1
	Slant face angle (α)	15°	1.00	1.00	1.00	1.02	1.00	1.01
		30°	1.05	1.01	1.02	1.00	1.03	1.00
		45°	1.18	1.10	1.12	1.06	1.14	1.08
		60°	1.47	1.30	1.34	1.21	1.38	1.25
		75°	2.14	1.73	1.83	1.53	1.93	1.62
		90°(Horizontal plane)	4.48	2.87	3.20	2.29	3.57	2.55

e.g.) Suppose tool dia. 8mm, ap=0.1mm, slant face angle 90˚: The actual Cutting speed Vd for carbon steel machining, when Vc is 150m/min at the biggest diameter, Vd can be obtained as Vd=150 / 4.48=33.5m/min