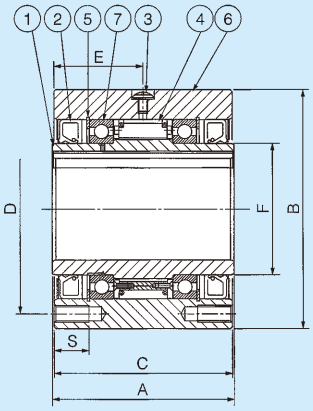
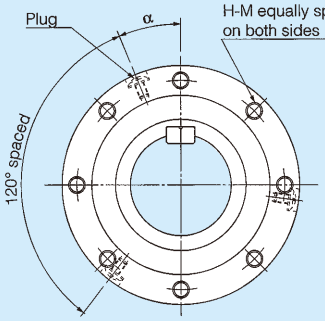
MR SERIESCAM CLUTCH

■ MODELS MR 750 TO MR 1000

Outer Race Rotation and Lift-Off Cam Type





① Inner race
② Outer race
③ Cam cage assembly
④ Bearing
⑤ Snap ring
⑥ Oil seal
⑦ Lubrication filler plug

MR 750/MR 800 α = 22.5°
MR 900 α = 18°
MR 1000 α = 15°

Dimensions and Capacities

Dimensions in mm

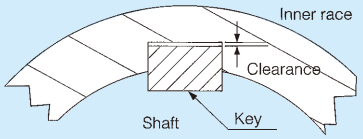
Model	Torque Capacity (N·m)	Max.Overrunning (r/min)		Bore Size		A	B (h7)	C	PCD D	E	F	S	H-M No. of Tapped Holes×Size ×Pitch	Lubrication Filler Plug Size×Pitch	Oil (ml)	Weight (kg)
		Inner Race	Outer Race	Dia. (H7)	Keyway											
MR 750	9500	525	2600	85	24×6	153	200	150	175	75	110	25	8×M14×P2.0	M8×P1.25	400	37.0
MR 800	17600	475	2100	110	28×7	158	250	155	220	77.5	140	25	8×M16×P2.0	M8×P1.25	500	46.5
MR 900	24500	400	1850	135	35×9	165	300	160	265	80	170	32	10×M16×P2.0	M8×P1.25	620	70.5
MR1000	33800	325	1600	160	38×10	188	370	180	325	90	200	32	12×M16×P2.0	M8×P1.25	850	108.5

Installation and Usage

1. MR Series Cam Clutch is used for outer race overrun in high-speed applications.
2. For attaching a pulley, a gear, or a sprocket to the clutch, insert the clutch into the hub of the said device, and screw the bolts (high tension) into the tapped holes on the clutch. The tolerance of the bore hub should be H6 or H7 of ISO R773. See the illustration on this page.
3. Recommended shaft tolerances are as follows:

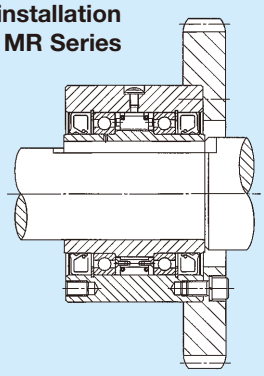
Model	Tolerance
MR 750, MR 800	+0 to –0.035
MR 900, MR 1000	+0 to –0.040

4. When mounting the clutch on a shaft, apply pressure to the clutch inner race, but never to the outer race.
5. Allow for a clearance between the top of the clutch keyway and the top of the key for pressure ventilation. A pressure ventilation hole is provided on the keyway of the clutch inner race.



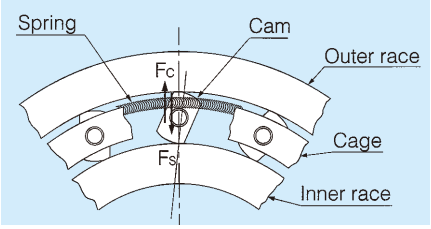
6. When the clutch receives a shock load or is designed for use at full torque capacity, it is better to use it on an unannealed or hardened shaft.
7. Thrust load should be taken up by other devices, not by the Cam Clutch.
8. MR Series Cam Clutch includes special keys (hardened) which have a special height dimension. The depth of the key groove for the shaft should comply with ISO R773.
9. Forced lubrication is recommended for continuous operation. Consult TSUBAKI regarding the method.
10. Oil is not sealed in at the time of shipment. Supply an appropriate amount of oil before use.

Typical installation MG, MI, MR Series



Lift-off (Outer race rotation type)

MR Series Cam Clutch is structured so that the cam rotates together with the outer race when the outer race overruns. As shown in the figure, the spring force (Fs) works to make the cam come in contact with the inner and outer races with fixed pressure. Conversely, the eccentric force (Fc), which works on the cam when overrunning, applies a moment in the direction where the cam does not contact the inner and outer races. Accordingly, when the overrunning speed is increased, the eccentric force (Fc) increases and the movement is augmented over the movement caused by the spring force. Next, the cam lifts off from the inner race and loses contact with it. This phenomenon is called “lift-off.” In this state, there is no friction on the cam and it continues overrunning as long as the bearing lasts.



• See “Information for Selection” on page 77.
• See “Lubrication and Maintenance” on page 79.

Innovation in Motion

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