

Metal Seal Type

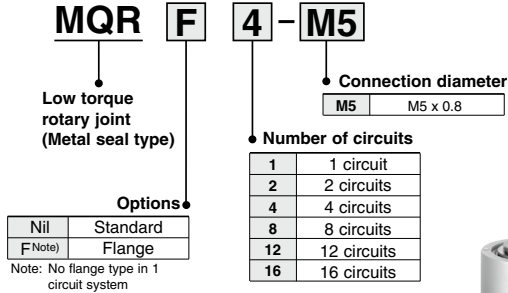
Low Torque Rotary Joint

MQR Series



1 circuit, 2 circuits, 4 circuits, 8 circuits, 12 circuits, 16 circuits

How to Order



Options/Mounting Bracket

Number of circuits	Flange part number
2 circuits	MQR2-F
4 circuits	MQR4-F
8 circuits	MQR8-F
12 circuits	MQR12-F
16 circuits	MQR16-F



Specifications

Model	MQR1-M5	MQR2-M5	MQR4-M5	MQR8-M5	MQR12-M5	MQR16-M5
Number of circuits (Number of ports)	1	2	4	8	12	16
Fluid	Air					
Seal structure	Metal seal					
Guide structure	Bearing supported	Bearing supported at both ends				
Port size	Male R 1/8	M5 x 0.8				
	Female M5 x 0.8					
Flow rate characteristics	C	0.50 [dm ³ /(s·bar)]				
	b	0.40				
	Cv	0.17				
Lubrication	Not required					
Min. operating pressure	-100 kPa					
Max. operating pressure	1.0 MPa					
Ambient temperature and operating fluid temperature ^{Note 1)}	-10 to 80°C					
Maximum start-up rotation torque ^{Note 2)}	0.003 N·m or less	0.03 N·m or less	0.05 N·m or less	0.10 N·m or less	0.20 N·m or less	0.50 N·m or less
Allowable rotation number ^{Note 5)}	3000 min ⁻¹ (rpm) or less ^{Note 3)}	2000 min ⁻¹ (rpm) or less	1500 min ⁻¹ (rpm) or less	900 min ⁻¹ (rpm) or less	600 min ⁻¹ (rpm) or less	200 min ⁻¹ (rpm) or less
Allowable radial load (allowable coupling axis reaction) ^{Note 4)}	1 N or less	15 N or less	30 N or less	40 N or less	50 N or less	50 N or less
Allowable axial load						
Weight	0.025 kg	0.16 kg	0.39 kg	0.76 kg	1.26 kg	2.80 kg

Note 1) The temperature 80°C includes temperature rise during rotation.

Note 2) The start-up torque does not change with the supply pressure or with non-use (remains within the maximum start-up rotation torque), but it does change with the rotation number. (Refer to page 660).

Note 3) If using at a speed above 600 min⁻¹ (r.p.m.), ensure rotation is in the direction in which the joint is fastened.

Note 4) Rubber / resin couplings are recommended due to their excellent absorption of off center, shocks, and vibrations.

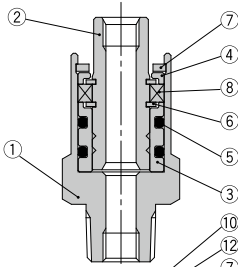
Note 5) min⁻¹: Number of rotations per 1 minute



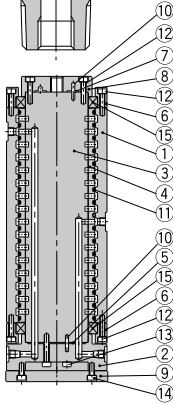
MQR Series

Construction

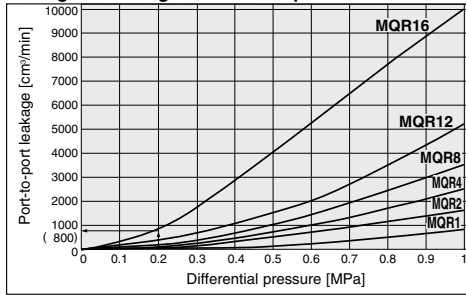
MQR1-M5



MQR2 to 16-M5

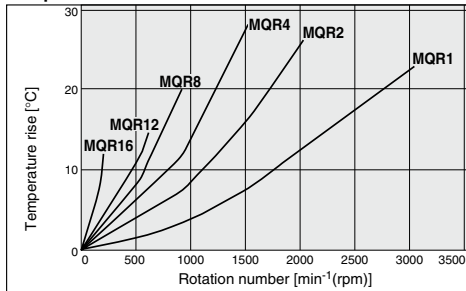


Leakage according to differential pressure



Note) These values show reference values and are not guaranteed.

Temperature rise with rotation number



Note: Value when no pressure applied. Temperature rise is reduced by supply of air.

Note: These values show reference values and are not guaranteed.

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Component Parts/(MQR1 - M5, 1 circuit)

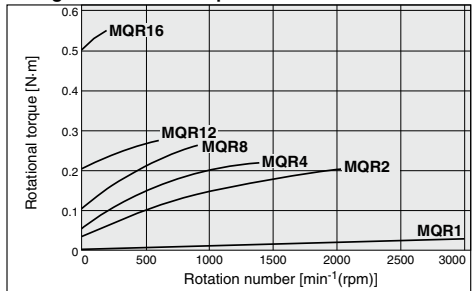
No.	Name	Material	Remarks
1	Body	Stainless steel	
2	Spool	Special stainless steel	
3	Sleeve	Special stainless steel	
4	Plate	Aluminium	
5	O-ring	H-NBR	
6	Retaining ring	Carbon steel	
7	Retaining ring	Carbon steel	
8	Radial bearing		

Component Parts/(MQR2 to 16 - M5, 2 to 16 circuits)

No.	Name	Material	Remarks
1	Body	Aluminum	
2	Adapter plate	Aluminum	
3	Spool	Special stainless steel	
4	Sleeve	Special stainless steel	
5	Gasket	H-NBR	
6	Bearing holder	Stainless steel	16 circuits only
7	Gasket	H-NBR	16 circuits only
8	Plate	Aluminum	16 circuits only
9	Flange	Aluminum	
10	Parallel pin	Carbon steel	Except for 2 circuits
11	O-ring	H-NBR	
12	Bolt	Carbon steel	16 circuits only
13	Bolt	Carbon steel	
14	Bolt	Carbon steel	
15	Radial bearing	—	

e.g.: If adjacent ports are connected to vacuum pressure of -0.1 MPa and positive pressure of 0.1 MPa in MQR16, then differential pressure is 0.2 MPa, and leakage is 800 (cm³/min).

Change in rotational torque with rotation number

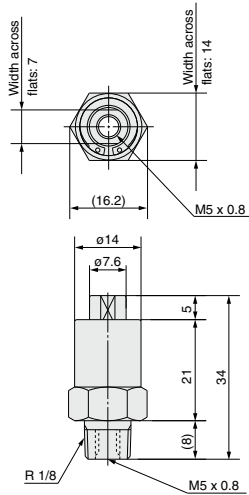


Note) These values show reference values and are not guaranteed.

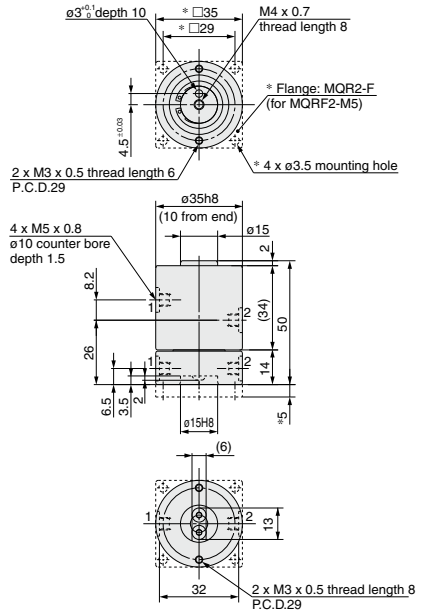
Dimensions: Standard Type/Flange Type

* Symbol indicates flange dimensions

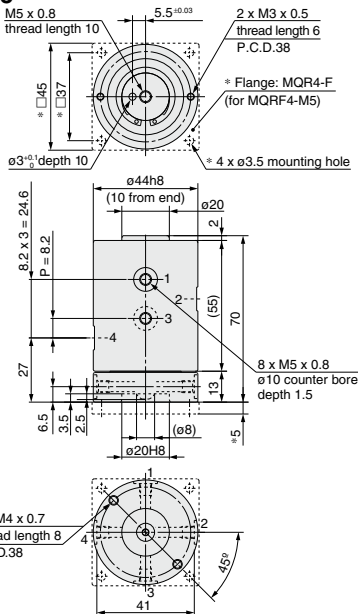
MQR1-M5



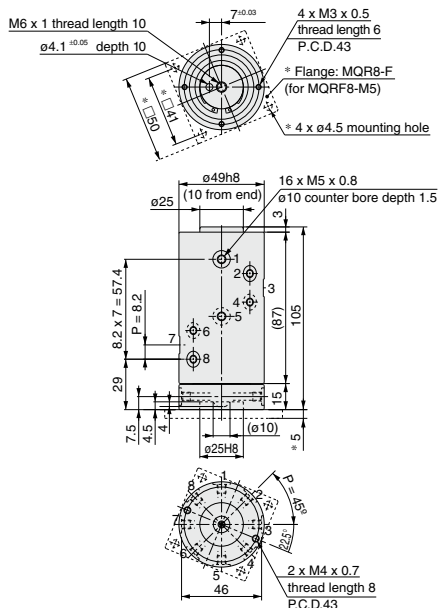
MQR2-M5



MQR4-M5



MQR8-M5

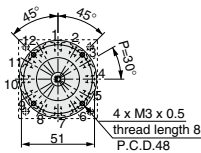
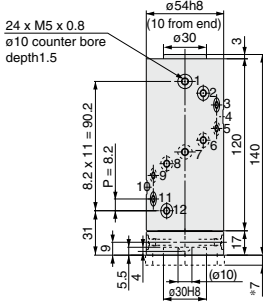
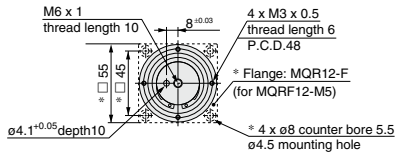


MQR Series

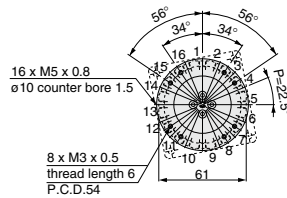
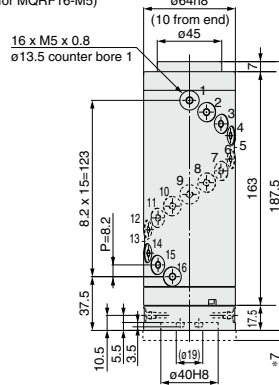
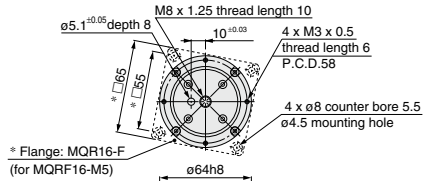
Dimensions: Standard Type/Flange Type

* Symbol indicates flange dimensions

MQR12-M5

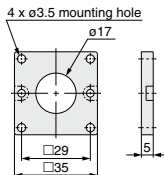


MQR16-M5

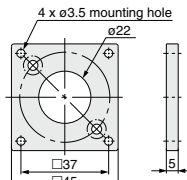


Mounting Bracket/Flange

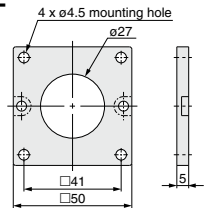
MQR2-F



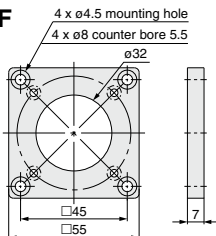
MQR4-F



MQR8-F



MQR12-F



MQR16-F

