Rotary Table/Rack & Pinion Style

Series MSQ

Size: 10, 20, 30, 50, 70, 100, 200

How to Order

High Precision Type MSQ A 10 A – M9BW □ □

Basic Type MSQ B 10 A – M9BW □ □

Size

10
20
30
50

Size

10
20
30
50
70
100
200

A	With adjustment bolt
R	With internal shock absorber

Thread type

End port type		Size
Nil	M 5	10, 20
Nil	Rc 1/8	30, 50,
-XF	G 1/8	70, 100,
-XN	NPT 1/8	200

∗ Side ports are all M5.

Number of auto switches

Nil	2 pcs.
S	1 pc.
n	n pcs.

Auto switch type

Nil	Without auto switch (built-in magnet)

∗ Refer to the table below for auto switch types.

Applicable Auto Switch/Refer to pages 761 to 809 for detailed auto switch specification.

Type	Special function	Electrical entry	Indicator light	Wiring (Output)	Load voltage DC		Load voltage AC	Auto switch model Perpendicular	Auto switch model In-line	Lead wire length (m) 0.5 (Nil)	1 (M)	3 (L)	5 (Z)	Pre-wired connector	Applicable load	
Solid state switch	—	Grommet	Yes	3-wire (NPN)	24 V	5 V, 12 V	—	**M9NV**	**M9N**	●	●	●	○	○	IC circuit	Relay, PLC
				3-wire (PNP)				**M9PV**	**M9P**	●	●	●	○	○		
				2-wire		12 V		**M9BV**	**M9B**	●	●	●	○	○	—	
	Diagnostic indication (2-color display)			3-wire (NPN)		5 V, 12 V		**M9NWV**	**M9NW**	●	●	●	○	○	IC circuit	
				3-wire (PNP)				**M9PWV**	**M9PW**	●	●	●	○	○		
				2-wire		12 V		**M9BWV**	**M9BW**	●	●	●	○	○	—	
	Water resistant (2-color indication)			3-wire (NPN)		5 V, 12 V		**M9NAV**∗∗	**M9NA**∗∗	○	○	●	○	○	IC circuit	
				3-wire (PNP)				**M9PAV**∗∗	**M9PA**∗∗	○	○	●	○	○		
				2-wire		12 V		**M9BAV**∗∗	**M9BA**∗∗	○	○	●	○	○	—	
Reed switch	—	Grommet	Yes	3-wire (NPN equiv.)	—	5 V	—	**A96V**	**A96**	●	—	●	—	—	IC circuit	—
			No	2-wire	24 V	12 V	100 V	**A93V**	**A93**	●	—	●	—	—	—	Relay, PLC
							100 V or less	**A90V**	**A90**	●	—	●	—	—	IC circuit	

∗∗ Although it is possible to mount water resistant type auto switches, note that the rotary actuator itself is not of water resistant construction.

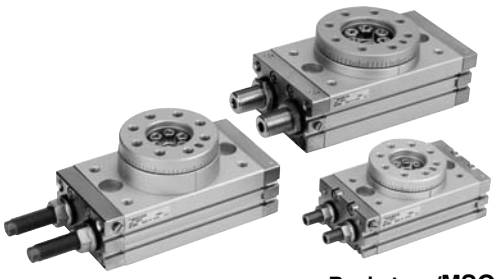
∗ Lead wire length symbols: 0.5 m ····· Nil (Example) M9NW
1 m ····· M (Example) M9NWM
3 m ····· L (Example) M9NWL
5 m ····· Z (Example) M9NWZ

∗ Auto switches marked with a "○" are produced upon receipt of orders.

∗ Auto switches are shipped together, (but not assembled).

Made to Order Refer to pages 796 and 797 for the details of solid state auto switch with pre-wired connector.

D-□



Basic type/MSQB

High precision type/MSQA

Specifications

Size			10	20	30	50	70	100	200
Fluid			Air (non-lube)						
Maximum operating pressure	With adjustment bolt		1 MPa						
	With internal shock absorber		0.6 MPa Note 1)						
Minimum operating pressure	Basic type		0.1 MPa						
	High precision type		0.2 MPa	0.1 MPa			—		
Ambient and fluid temperature			0 to 60°C (with no freezing)						
Cushion	With adjustment bolt		Rubber bumper						
	With internal shock absorber		Shock absorber						
		Shock absorber model	RBA0805 -X692	RBA1006-X692		RBA1411 -X692	RBA2015-X821		RBA2725 -X821
Angle adjustment range			0 to 190° Note 2)						
Maximum rotation			190°						
Cylinder bore size			ø15	ø18	ø21	ø25	ø28	ø32	ø40
Port size	End ports		M5 x 0.8		Rc 1/8, G 1/8, NPT 1/8				
	Side ports		M5 x 0.8						

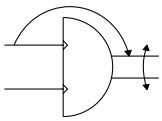
Note 1) The maximum operating pressure of the actuator is restricted by the maximum allowable thrust of the shock absorber.

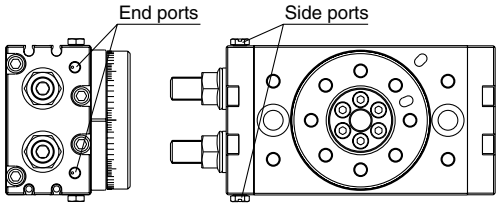
Note 2) Be careful if the rotation angle of a type with internal shock absorber is set below the value in the table below, the piston stroke will be smaller than the shock absorber's effective stroke, resulting in decreased energy absorption ability.

Size	10	20	30	50	70	100	200
Minimum rotation angle that will not allow decrease of energy absorption ability	52°	43°	40°	60°	71°	62°	82°

The service life of the shock absorber may be different from the rotary table body depending on the operating conditions. Refer to Specific Product Precautions for the suitable replacement period.

JIS symbol





Allowable Kinetic Energy and Rotation Time Adjustment Range

Size	Allowable kinetic energy (J) Note 1)		Rotation time adjustment range for stable operation (s/90°)	
	With adjustment bolt	With internal shock absorber	With adjustment bolt	With Note 2) internal shock absorber
10	0.007	0.039	0.2 to 1.0	0.2 to 0.7
20	0.025	0.116		
30	0.048	0.116		
50	0.081	0.294		
70	0.240	1.100	0.2 to 1.5	0.2 to 1.0
100	0.320	1.600	0.2 to 2.0	
200	0.560	2.900	0.2 to 2.5	

Note 1) If operated where the kinetic energy exceeds the allowable value, this may cause damage to the internal parts and result in product failure. Please pay special attention to the kinetic energy levels when designing and during operation to avoid exceeding the allowable limit.

Note 2) When the rotation time of the type with an internal absorber is set longer than the time shown in the table above, energy absorption of the shock absorber greatly decreases.

Mass

(g)

Size		10	20	30	50	70	100	200
Basic type	With adjustment bolt	530	990	1290	2080	2880	4090	7580
	With internal shock absorber	540	990	1290	2100	2890	4100	7650
High precision type	With adjustment bolt	560	1090	1410	2240	—		
	With internal shock absorber	570	1090	1410	2260			

Note) Values above do not include auto switch mass.