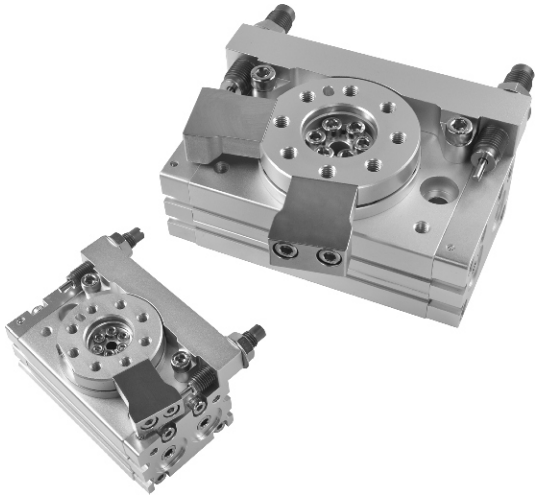


Features

- **4 to 10 times more allowable kinetic energy**
  (compared with internal shock absorber type)
- **Total length shortened**
  Longitudinal mounting space is reduced because there is no protrusion from adjustment bolts or internal shock absorbers.

Specification

Model	MCRQ-S		
Acting type	Double acting		
Tube I.D. (mm)	ϕ15	ϕ20	ϕ25
Port size	M5×0.8	Rc1/8	
Rotation	90°, 180°		
Medium	Air (Non-lube)		
Max. operating pressure	1 MPa		
Min. operating pressure	0.2 MPa (※1)		
Ambient temperature	0~+60℃ (No freezing)		
Allowable surge pressure	—	1.5 MPa	
Cushion	Shock absorber		
Shock absorber type	PN0806	PN1008	PN1415
Angle adjustment range	Each rotation end ± 3°		
Weight (kg) 90°	0.67	1.55	2.52
Weight (kg) 180°	0.64	1.48	2.41
Sensor switch (※2)	**RT**: Reed switch, **RTN**: NPN, **RTP**: PNP		

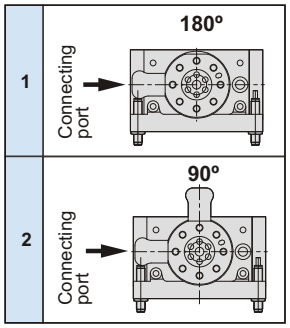
※1. The maximum operating pressure of the actuator is restricted by the maximum allowable thrust of the shock absorber.

※2. RT specification, please refer to page **V-18**.

Order example

MCRQ – S – 20 – 1 – G

- MCRQ: MODEL
- S: EXTERNAL SHOCK ABSORBER
- 20: TUBE I.D.
- G: PORT THREAD (Blank: Rc thread, **G**: G thread)
- 1: CONNECTING PORT POSITION AND ROTATION



Auto switch type

RT × 1

- RT: AUTO SWITCH TYPE
- 1: NUMBER of AUTO SWITCH

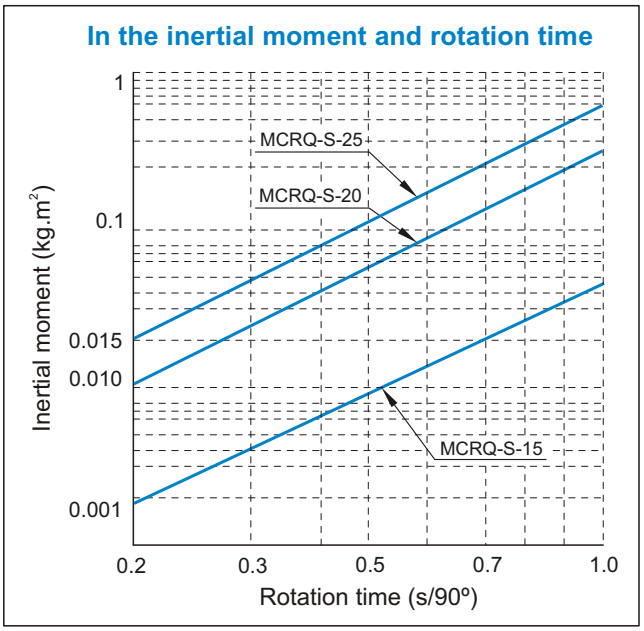
Perpendicular	In-line	Style
RTV	RT	Reed switch
RTNV	RTN	NPN
RTPV	RTP	PNP

Allowable kinetic energy and rotation time adjustment range

Model	Allowable kinetic energy (J)	Rotation time adjustment range for stable operation(s/90°)
MCRQ-S-15	0.231	0.2 to 1.0 (※)
MCRQ-S-20	1.21	
MCRQ-S-25	1.82	

※ Values above indicate the time between the start of rotation and the deceleration caused by the shock absorber. The time required for the rotary table to reach the rotation end after deceleration differs depending on the operating conditions (inertial moment of the load, rotation speed, and operating pressure), however, approximately 0.2 to 2 seconds are required. Furthermore, the range of angles within which the shock absorber operates is between the rotation end and the values shown below.

In the inertial moment and rotation time



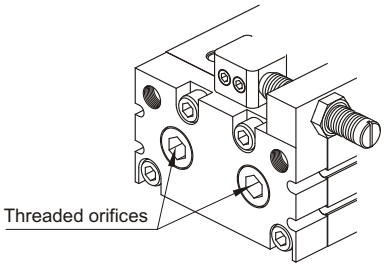
Model	Range of angle
MCRQ-S-15	8.5°
MCRQ-S-20	7.5°
MCRQ-S-25	10.5°

With external shock absorber

Model	Adjustment angle per rotation of angle adjustment screw
MCRQ-S-15	1.4°
MCRQ-S-20	1.1°
MCRQ-S-25	1.3°

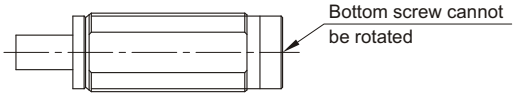
External shock absorber

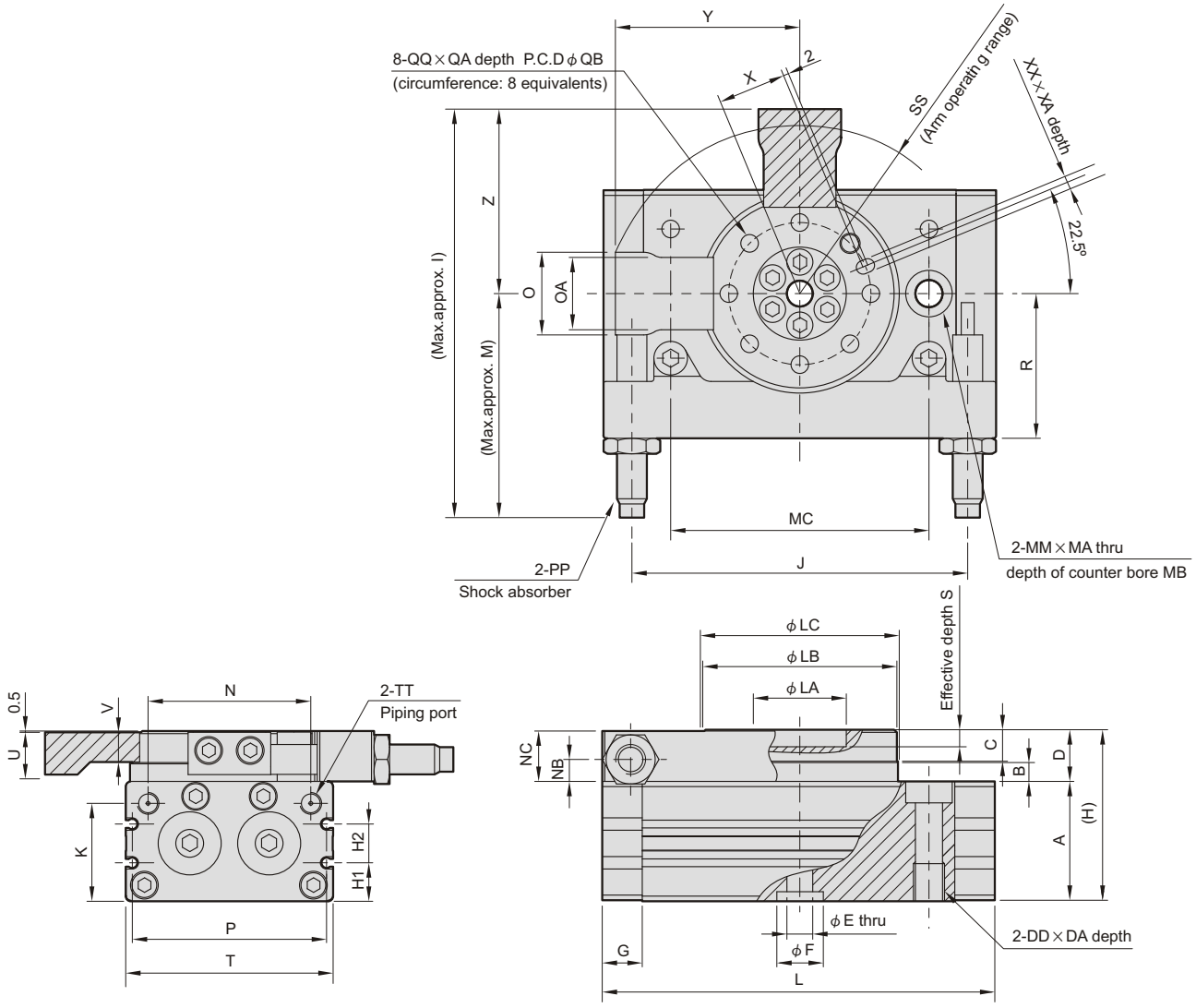
The threaded orifices shown below are not connecting ports. Never remove the plugs as this will cause malfunction.



Shock absorber

Never rotate the bottom screw of the shock absorber. (It is not an adjustment screw.) This may cause oil leakage.





(mm)

Code / Tube I.D	A	B	C	D	DA	DD	E	F	G	H	H1	H2	I	J	K	L	LA	LB	LC	M	MA	MB	MC
15	34	4.5	8	13	12	M8×1.25	5	15H9	9.5	47	9	13	97.2	80	27.8	92	20H9	45h9	46h9	52.9	11	6.5	60
20	40	6.5	10	17	15	M10×1.5	9	22H9	12	57	11.5	14	123.4	110	32	127	32H9	65h9	67h9	63.1	14	8.5	84
25	46	7.5	12	20	18	M12×1.75	10	26H9	15.5	66	14.5	15	158.1	130	37.5	152	35H9	75h9	77h9	86.7	18	10.5	100

Code / Tube I.D	MM	N	NB	NC	O	OA	P	PP	QA	QB	QQ	R	S	SS	T	TT	U	V	X	XA	XX	Y	Z
15	6.8	34.5	5.5	12.5	20	15.6	45	PN-0806	8	32	M5×0.8	33.5	4	45.2	50	M5×0.8	11	7.5	15	3.5	3H9	44.5	44.3
20	8.6	50	8	16.5	27	21.5	65	PN-1007	10	48	M6×1	46	4.5	61.5	70	PT1/8	14	9.5	23	4.5	4H9	60.3	60.3
25	10.5	63	8.5	19.5	32	28	75	PN-1412	12	55	M8×1.25	56	5	72.9	80	PT1/8	18	11.5	26.5	5.5	5H9	71.4	71.4