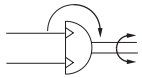
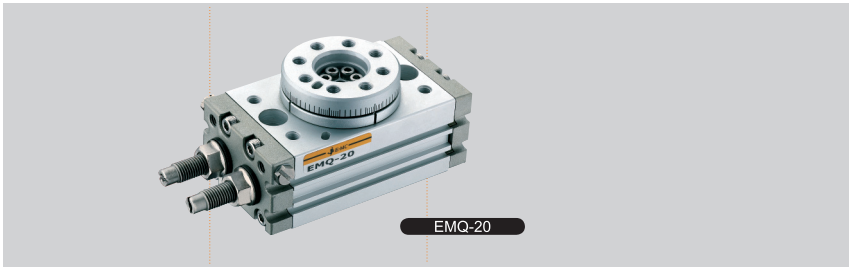




EMQ-20

How to Order?

Series No	Bore	—	Magnet No	—	Cushion Type	—	Thread Type
EMQ	10 20 30 50		S: With magnet (Magnet is standard)		A: With adjustment bolt R: With shock absorber		Blank: G P : PT T : NPT

Order Example:

EMQ Series Rotary Cylinder, Bore 30, with adjustment bolt, G Thread, ERP code is: EMQ30–S–A

Note: Specific Bore and Stroke of the cylinder subject to the drawing.

Product Features

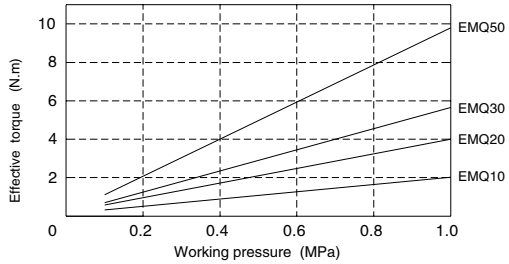
1.Rack and pinion structure, stable operation.
2.Small rotary tolerance, good dynamic.
3.Double cylinder can achieve double power.
4.Rack and pinion made of special materials & heat treatment.
5.High precision processed, accurate positioning .
6.Accommodates wiring and pipingfor equipment mounted on the table from hollow axis.
7.Mounting from 2 directions.
8.Adjustment bolt and shock absorber are optional.

Allowable Kinetic Energy and Rotation Time Adjustment Range

Model	Allowable kinetic energy (J)		Rotation time adjustment range for stable operation (s/90°)	
	With adjutment bolt	With shcok absorber	With adjutment bolt	With shcok absorber
EMQ10	0.01	0.04	0.2~1.0	0.2~0.7
EMQ20	0.025	0.12	0.2~1.0	0.2~0.7
EMQ30	0.05	0.12	0.2~1.0	0.2~0.7
EMQ50	0.08	0.30	0.2~1.0	0.2~0.7

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.
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.

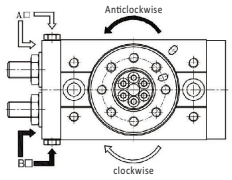
Effective Output Torgue

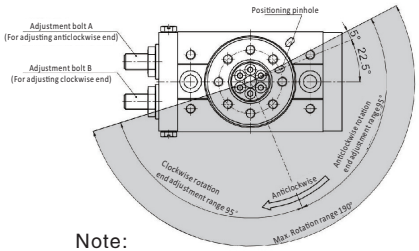


Installation and Use

1.Rotation direction and rotation angle

1.1 When the pressurized from port A ,the shaft rotates clockwise and to anticlockwise when pressurized from port B .
1.2 To obtain the desired rotation angle ,the rotation ends can be set within the range shown in the diagram by regulating the adjustment bolt.
1.3 Rotary table with shock absorber is available to adjust rotation angle.





Note:

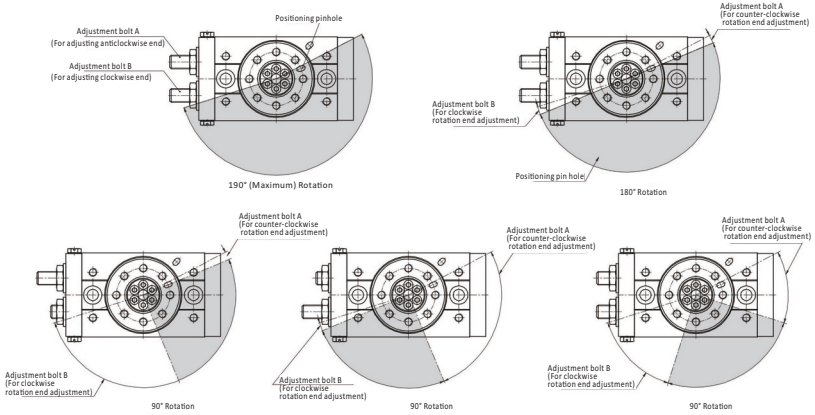
* The figure shows rotation range of positioning pinhole
* Position of pinhole in the figure shows anticlockwise rotation when the roattion angle is set at 180° by equally tightening the adjusting bolts A and B .
* Adjustment bolt or shock absorber at maximum outward is factory setting, please adjust inward for first use if necessary.

EMQ Series Rotary Cylinder
E•MC®

1

2.Rotation range example:

2.1 Rotation can be set at variously as following figures , by adjusting adjuster bolt A and B
2.2 Rotary table with shock absorber can be set variously angle.



3.Adjustment angle per rotation (Adjustment bolt or shock absorber)

Bore size	Adjustment angle per rotation
10	10.2°
20	7.4°
30	6.5°
50	8.2°

4.The range of rotation angle has been adjusted to the maximum in factory, please do not enlarge the rotation angle any more.

5.The movement energy should not exceed the allowed maximum energy , otherwise the inner parts will be damaged.

6.The rotary parts need no lubrication.

7.Minimum operation pressure for rotary table with shock absorber is no less than 0.1Mpa.

8、Refer to the table below for tightening torques of the shock absorber setting nut.

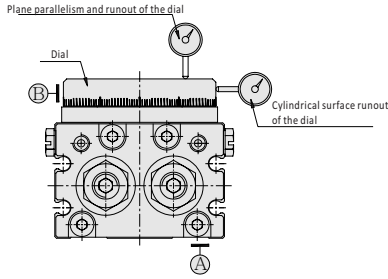
Shcok absorber size	Max. tightening torque (Nm)
M8X1.0	2.5
M10X1.0	3.5
M14X1.5	11

9.Never loosen the bottom screw of the shock absorber. That may cause oil leakage.

10.Shock absorbers are consumable parts. When a decrease in energy absorption capacity is noticed, it must be replaced.

Series	Shcok Absorber Type and Ordering code	Thread Type
EMQ10	AC0806–SN	M8X1.0
EMQ20	AC1007–SN	M10X1.0
EMQ30	AC1007–SN	M10X1.0
EMQ40	AC1412–SN	M14X1.5

11.Strictly control runout and parallelism of the dial according to the requirements of the following table.



Items	Specific Requirements (mm)	Relative Datum
Plane parallelism of the dial	0.1	A
Plane runout of the dial	0.1	A
Cylindrical surface runout of the dial	0.1	B

Specifications

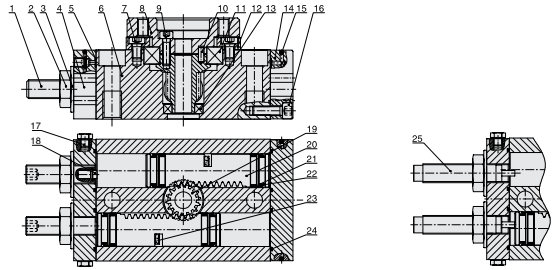
Bore Size(mm)		10	20	30	50
Acting type		Double Cylinder,Rack & Pinion Style,Double Acting			
Working medium		Clean Air(40um filteration or better)			
Working pressure range	With angle adjustable screw	0.1~1.0MPa			
	With shock absorber	0.1~0.6MPa			
Proof pressure(MPa)		1.5MPa			
Working temperature (℃)		0~60			
Angle adjustable range		0~190°			
Repeat Accuracy	With angle adjustable screw	0.2°			
	With shock absorber	0.05°			
Theoretical Torque(NM)(0.5Mpa)		1.1	2.2	2.8	5.0
Cushion	With angle adjustable screw	Rubber bumper(Standard)			
	With shock absorber	Shock absorber(Optional)			
Port size	Front port	M5x0.8		G1/8❶	
	Side port			M5x0.8	
Weight(g)	With angle adjustable screw	530	1020	1310	2130
	With shock absorber	540	1020	1310	2140

Note：When set rotation angle for rotary table with shock absorber, following table is minimum rotation angle. Otherwise that may cause decrease in energy absorption capacity.

❶ PT、NPT port size is optional

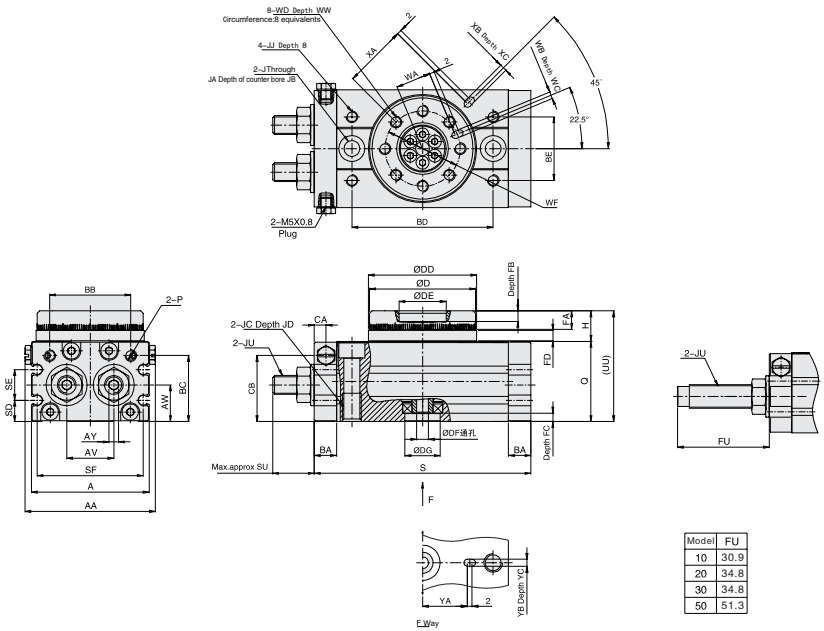
Bore Size(mm)	10	20	30	50
Min. Rotation angle	61°	52°	46°	66°

Internal Structure



No.	Part Name	Material	No.	Part Name	Material
1	Adjustment screw	Carbon steel	13	Deep groove ball bearing	Subassembly
2	Hexagon nut	Carbon steel	14	Rear cover	Aluminum alloy
3	Seal wahser	Carbon steel rubber coating	15	Steel ball	Stainless steel
4	Head cover	Aluminum alloy	16	Hexagon socket head set screw	Carbon steel
5	O–ring	NBR	17	Plug	Carbon steel
6	Barrel	Aluminum alloy	18	Cushion pad	NBR
7	Hexagon socket head set screw	Carbon steel	19	Pinion	Alloy steel
8	Dial	Aluminum alloy	20	Rack	Alloy steel
9	Hexagon socket head set screw	Carbon steel	21	Wear ring	PTFE
10	Positioning pin	Stainless steel	22	Piston seal	NBR
11	Deep groove ball bearing	Subassembly	23	Magnet	Sintered NdFeB
12	Plate	Aluminum alloy	24	O–ring	NBR
			25	Shock absorber	Subassembly

Dimensions



Model	FU
10	30.9
20	34.8
30	34.8
50	51.3

Model	AA	A	AV	AW	AY	BA	BB	BC	BD	BE	CA	CB	D	DD	DE	DF	DG	FA	FB	FC	FD	H	J	JA	JB	JC
10	55.4	50	20	15.5	4	9.5	34.5	28	60	27	5	28	$45^{0}_{-0.062}$	$46^{0}_{-0.062}$	$20^{+0.052}_{0}$	5	$15^{+0.043}_{0}$	8	4.5	3.5	4.5	13	6.8	11	6.5	M8X1.25
20	70.4	65	27.5	16	5	12	47	30	76	34	6.5	30	$60^{0}_{-0.074}$	$61^{0}_{-0.074}$	$28^{+0.052}_{0}$	9	$17^{+0.043}_{0}$	10	6.5	3	6.5	17	8.6	14	8.5	M10X1.5
30	75	70	29	18.5	5	12	50	32	84	37	7	33.5	$65^{0}_{-0.074}$	$67^{0}_{-0.074}$	$32^{+0.062}_{0}$	10	$22^{+0.052}_{0}$	10	5	3.5	6.5	17	8.6	14	8.5	M10X1.5
50	85	80	38	22	6	15.5	63	37.5	100	50	10	37.5	$75^{0}_{-0.074}$	$77^{0}_{-0.074}$	$35^{+0.062}_{0}$	11	$26^{+0.052}_{0}$	12	5.5	3.5	7.5	20	10.3	18	10.5	M12X1.75

Model	JD	JJ	JU	P	Q	S	SD	SE	SF	SU	UU	WA	WB	WC	WD	WE	WF	XA	XB	XC	YA	YB	YC
10	12	M5X0.8	M8X1	M5X0.8	34	92	9	13	45	17.3	47	15	$3^{+0.025}_{0}$	3.5	M5X0.8	8	32	27	$3^{+0.025}_{0}$	3.5	19	$3^{+0.025}_{0}$	3.5
20	15	M6X1	M10X1	M5X0.8	37	117	10	12	59.7	24.8	54	20.5	$4^{+0.03}_{0}$	4.5	M6X1	10	43	36	$4^{+0.03}_{0}$	4.5	24	$4^{+0.03}_{0}$	4.5
30	15	M6X1	M10X1	1/8"	40	127	11.5	14	64.7	24.8	57	23	$4^{+0.03}_{0}$	4.5	M6X1	10	48	39	$4^{+0.03}_{0}$	4.5	28	$4^{+0.03}_{0}$	4.5
50	18	M8X1.25	M14X1.5	1/8"	46	152	14.5	15	74.7	31.3	66	26.5	$5^{+0.03}_{0}$	5.5	M8X1.25	12	55	45	$5^{+0.03}_{0}$	5.5	33	$5^{+0.03}_{0}$	5.5