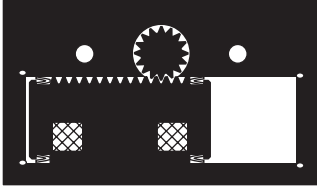
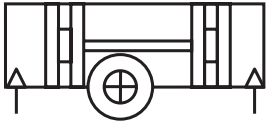


M/60210/M

Miniature rotary actuators, Double acting
Magnetic piston, Ø 12 & 20 mm



Smooth operation with zero backlash

Lightweight

Compact envelope dimensions

Integral magnets for positional feedback

Technical data

Medium:

Compressed air, filtered, lubricated or non-lubricated

Operating pressure: 14.5 to 101.5 psig (1 to 7 bar)

Operating temperature: 32°F to 140°F (5°C to 60°C)

Mounting:

Mounting holes in body

Rotation angle:

90°, 180°

Adjustable ± 5°

Materials

Body: aluminum alloy

End covers: aluminum alloy

Shaft: carbon steel

External stop: carbon steel

External nuts: mild steel

External screws: chrome molybdenum steel

Elastomers: nitrile

Barb fittings connections

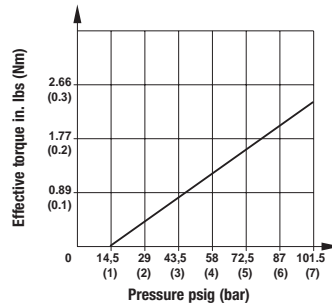
M5 x 1/8" tube ID, straight barb: part number 29217X305

Model	Theoretical torque in. lbs (Nm) at 87 psig (6 bar)	Angle of rotation	Permissible forces lbs force (N)		Air consumption in3 (cm3) at 87 psig (6 bar)
			Axial	Radial	
M/60215/M/90	2.0 (0.23)	90°	0.3 (1.47)	0.7 (2.94)	0.10 (1.6)
M/60215/M/180	2.0 (0.23)	180°	0.3 (1.47)	0.7 (2.94)	0.18 (3.0)
M/60216/M/90	8.9 (1.0)	90°	0.4 (1.96)	1.1 (4.90)	0.37 (6.0)
M/60216/M/180	8.9 (1.0)	180°	0.4 (1.96)	1.1 (4.90)	0.73 (12.0)

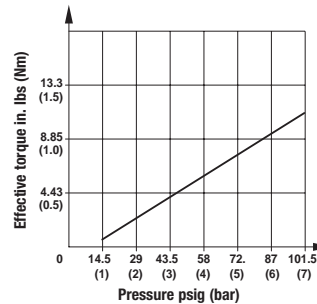
* per cycle

Theoretical torque

M/60215/M



M/60216/M



M/60210/M

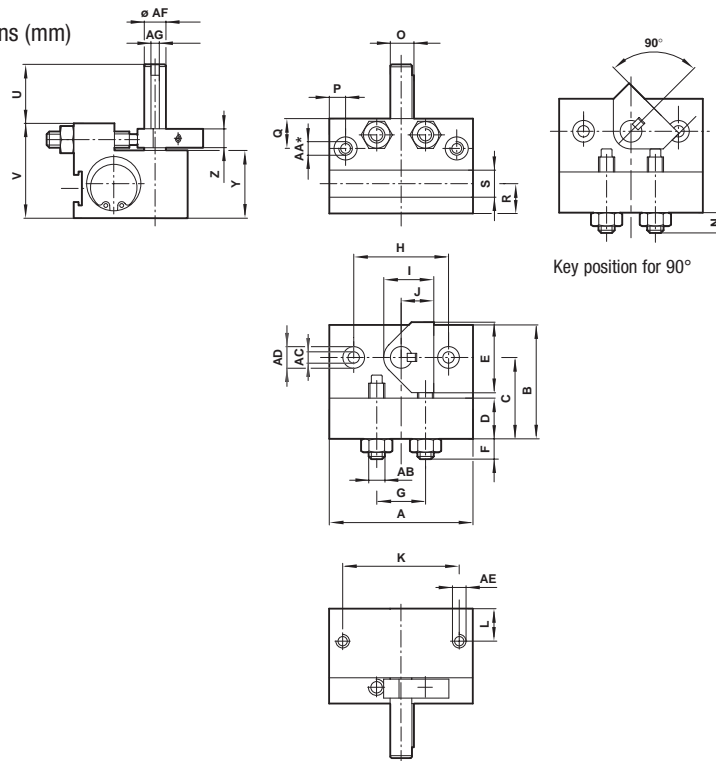
Miniature rotary actuators, Double acting

Magnetic piston, Ø 12 & 20 mm

Switches (for M/60210 and M/60270)

Model	Reed	Two wire solid state	Three wire solid state	Voltage		Current	Temperature °F (°C)	LED	Features	Cable Length	Cable Type	Cable	
				V d.c.	V a.c.							Max.	Straight
M/346/LAU/1PV	-	-	-	12 ... 100	12 ... 125	50mA	32° ... 140° (0° ... 60°)	•	-	4.92 ft. (1.5m)	PVC	•	
M/346/LAU/5PV	-	-	-	12 ... 100	12 ... 125	50mA	32° ... 140° (0° ... 60°)	•	-	16.40 ft. (5m)	PVC	•	
-	M/346/EAU/1APV	-	-	10 ... 28	-	70mA	32° ... 140° (0° ... 60°)	•	-	4.92 ft. (1.5m)	PVC	•	•
-	M/346/EAU/5APV	-	-	10 ... 28	-	70mA	32° ... 140° (0° ... 60°)	•	-	16.40 ft. (5m)	PVC	•	•
-	M/345/EAU/1PV	-	-	10 ... 28	-	40mA	32° ... 140° (0° ... 60°)	•	-	3.28 ft. (1m)	PVC	•	
-	M/345/EAU/3PV	-	-	10 ... 28	-	40mA	32° ... 140° (0° ... 60°)	•	-	9.84 ft. (3m)	PVC	•	
-	-	M/345/EAN/1PV	-	4.5 ... 28	-	100mA	32° ... 140° (0° ... 60°)	•	NPN	3.28 ft. (1m)	PVC	•	
-	-	M/345/EAN/3PV	-	4.5 ... 28	-	100mA	32° ... 140° (0° ... 60°)	•	NPN	9.84 ft. (3m)	PVC	•	

Basic dimensions (mm)

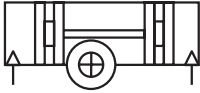


Model	Ø	A	B	C	D	E	F	G	H	I	J	K	L	M	N
M/60215/M/90	12	42	30	20	7.5	22	6	14	24	15.3	10	34	8	90°	5.5
M/60215/M/180	12	55	30	20	7.5	22	6	14	24	15.3	10	34	8	90°	5.5
M/60216/M/90	20	53	42	30	15	26	8	18	35	18.5	12	43	12	90°	6.5
M/60216/M/180	20	20	72	42	30	15	26	8	18	35	18.5	12	43	12	90°
Model	Ø	O	P	Q	R	S	U	V	Y	Z	AA	AB	AC		
M/60215/M/90	12	7.2	6	10.5	8	10	15	28	20	7	M5 x 0.8	M5 x 0.8	Ø 3.3		
M/60215/M/180	12	7.2	6	8	8	10	15	28	20	7	M5 x 0.8	M5 x 0.8	Ø 3.3		
M/60216/M/90	20	9.2	6	11	11	10	20	35	25.5	7	M5 x 0.8	M6 x 1	Ø 4.2		
M/60216/M/180	20	9.2	6	11	11	10	20	35	25.5	7	M5 x 0.8	M6 x 1	Ø 4.2		
Model	Ø	AD	AE	AF	AG										
M/60215/M/90	12	Ø 6.5 deep 3.5 (M4 x 0.7 deep 10 on rear face)	M4 x 0.7 deep 8	Ø 6 + 0.01/- 0.03	3 - 0.025										
M/60215/M/180	12	Ø 6.5 deep 3.5 (M4 x 0.7 deep 10 on rear face)	M4 x 0.7 deep 8	Ø 6 + 0.01/- 0.03	3 - 0.025										
M/60216/M/90	20	Ø 8 deep 3.5 (M5 x 0.8 deep 15 on rear face)	M5 x 0.8 deep 10	Ø 8 + 0.01/- 0.03	3 + 0.03										
M/60216/M/180	20	Ø 8 deep 3.5 (M5 x 0.8 deep 15 on rear face)	M5 x 0.8 deep 10	Ø 8 + 0.01/- 0.03	3 + 0.03										

Dimensions in mm

M/60270/M

Compact rotary actuators, Double acting
Magnetic piston, Ø 14 ... 22 mm



High torque levels from a compact product

Minimal radial or thrust shudder means smooth operation

Adjustable angle of rotation

Integral magnets for positional feedback

Technical data

Medium:

Compressed air filtered, lubricated or non-lubricated

Operating pressure:
14.5 to 101.5 psig (1 to 7 bar)

Operating temperature:
32°F to 140°F (+ 0°C to + 60°C)

Mounting:

Mounting holes on three faces

Rotation angle*:

90°, 180°

*See website for additional adjustments

Materials

Body: aluminum alloy

End covers: aluminum alloy

Shaft: carbon steel

External shaft cover and screws:
mild steel

External nuts: mild steel

External screws: chrome
molybdenum steel

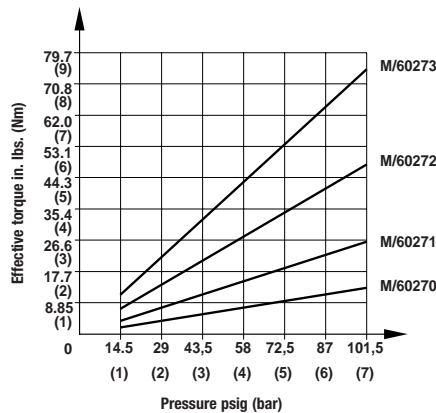
Barb fittings connections

M5 x 1/8" tube ID, straight
barb, part number 29217X305

Model	Theoretical torque in. lbs (Nm) at 87 psig (6 bar)	Angle of rotation	Angle Adjustment range	Permissible forces lbs force (N)		Air consumption in3 (cm3) at 87 psig (6 bar)	
				Axial	Radial		
M/60270/M/90	13.3 (1.5)	90°	70° ... 95°	0.55 (2.45)	1.1 (4.90)	0.005 (0.09)	
M/60270/M/180	13.3 (1.5)	180°	160° ... 185°	0.55 (2.45)	1.1 (4.90)	0.01 (0.18)	
M/60271/M/90	23.0 (2.6)	90°	70° ... 95°	2.21 (9.81)	4.41 (19.6)	0.01 (0.17)	
M/60271/M/180	23.0 (2.6)	180°	160° ... 185°	2.21 (9.81)	4.41 (19.6)	0.02 (0.33)	
M/60272/M/90	40.7 (4.6)	90°	70° ... 95°	4.41 (19.6)	8.81 (39.2)	0.02 (0.27)	
M/60272/M/180	40.7 (4.6)	180°	160° ... 185°	4.41 (19.6)	8.81 (39.2)	0.03 (0.55)	
M/60273/M/90	65.5 (7.4)	90°	70° ... 95°	6.61 (29.4)	13.2 (58.8)	0.03 (0.44)	
M/60273/M/180	65.5 (7.4)	180°	160° ... 185°	6.61 (29.4)	13.2 (58.8)	0.05 (0.89)	

* per cycle

Theoretical torque



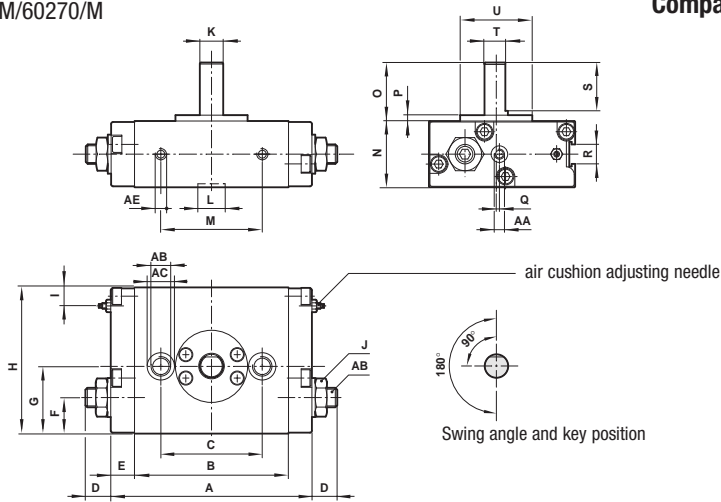
M/60270/M

Compact rotary actuators, Double acting
Magnetic piston, Ø 14 ... 22 mm

Dimensions in inches (mm)

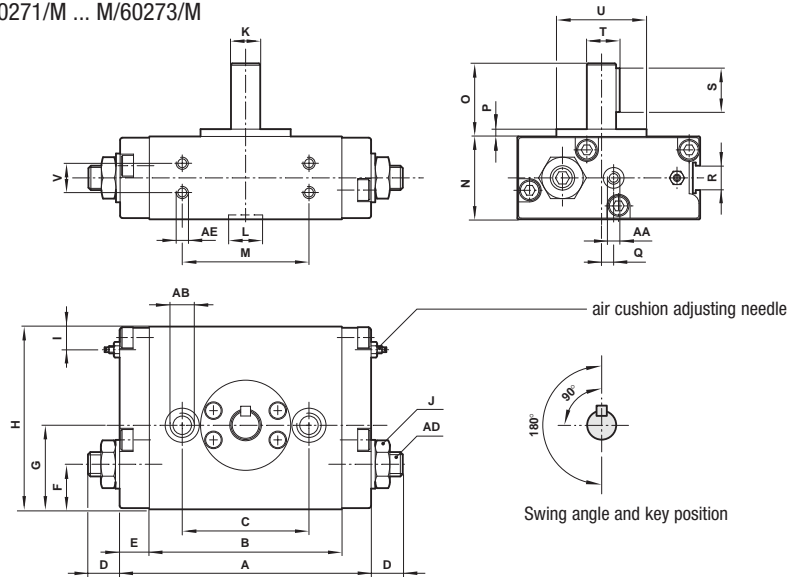
Basic dimensions (mm)

M/60270/M



	Ø	A	B	C	D	E	F	G	H	I	J	K	L			
M/60270/M/*	14	88	68	48	11	10	17	29	60	8	10 A/F	Ø 8h7 - 0.015	Ø 10 + 0.05 deep 1.5			
	Ø	M	N	O	P	Q	R	S	T	U	AA	AB	AC	AD	AE	kg
M/60270/M/*	14	45	28	20	2	1.5	10	16	7	Ø 26 - 0.05	M5 x 0.8	M6 x 1	Ø 9.5 deep 5.5	M6 x 1	M5 x0.8 deep 6	0.46

M/60271/M ... M/60273/M



	Ø	A	B	C	D	E	F	G	H	I	J	K	L	M	N
M/60271/M/90	16	98	74	45	14	12	17.5	31	68	9.5	13 A/F	Ø 10h7 - 0.015	Ø 12 + 0.05 deep 2	45	32
M/60271/M/180	16	111	87	45	14	12	17.5	31	68	9.5	13 A/F	Ø 10h7 - 0.015	Ø 12 + 0.05 deep 2	45	32
M/60272/M/90	18	103	79	52	14	12	18.5	34.5	75	9.5	17 A/F	Ø 12h7 - 0.018	Ø 14 + 0.05 deep 1.8	52	34
M/60272/M/180	18	135	111	52	14	12	18.5	34.5	75	9.5	17 A/F	Ø 12h7 - 0.018	Ø 14 + 0.05 deep 1.8	52	34
M/60273/M/90	22	115	87	60	15	14	22	41	87.5	10	17 A/F	Ø 15h7 - 0.018	Ø 17 + 0.05 deep 2	60	39
M/60273/M/180	22	158	130	60	15	14	22	41	87.5	10	17 A/F	Ø 15h7 - 0.018	Ø 17 + 0.05 deep 2	60	39
	Ø	O	P	Q	R	S	T	U	V	AA	AB	AC	AD	AE	kg
M/60271/M/90	16	25	2.5	2	10	18	11.5	Ø 32 - 0.05	10	M5 x 0.8	M8 x 1.25	Ø 11 deep 6.5	M8 x 1.25	M4 X 0.7 deep 6	0.7
M/60271/M/180	16	25	2.5	2	10	18	11.5	Ø 32 - 0.05	10	M5 x 0.8	M8 x 1.25	Ø 11 deep 6.5	M8 x 1.25	M4 X 0.7 deep 6	0.8
M/60272/M/90	18	30	3	5	10	18	13.5	Ø 37 - 0.05	12	M5 x 0.8	M10 x 1.5	Ø 14 deep 8.5	M10 x 1.5	M5 X 0.8 deep 7	1.0
M/60272/M/180	18	30	3	5	10	18	13.5	Ø 37 - 0.05	12	M5 x 0.8	M10 x 1.5	Ø 14 deep 8.5	M10 x 1.5	M5 X 0.8 deep 7	1.2
M/60273/M/90	22	35	3	5	10	20	17	Ø 44 - 0.05	14	M5 x 0.8	M10 x 1.5	Ø 14 deep 8.5	M10 x 1.5	M6 X 1 deep 8	1.6
M/60273/M/180	22	35	3	5	10	20	17	Ø 44 - 0.05	14	M5 x 0.8	M10 x 1.5	Ø 14 deep 8.5	M10 x 1.5	M6 X 1 deep 8	1.8