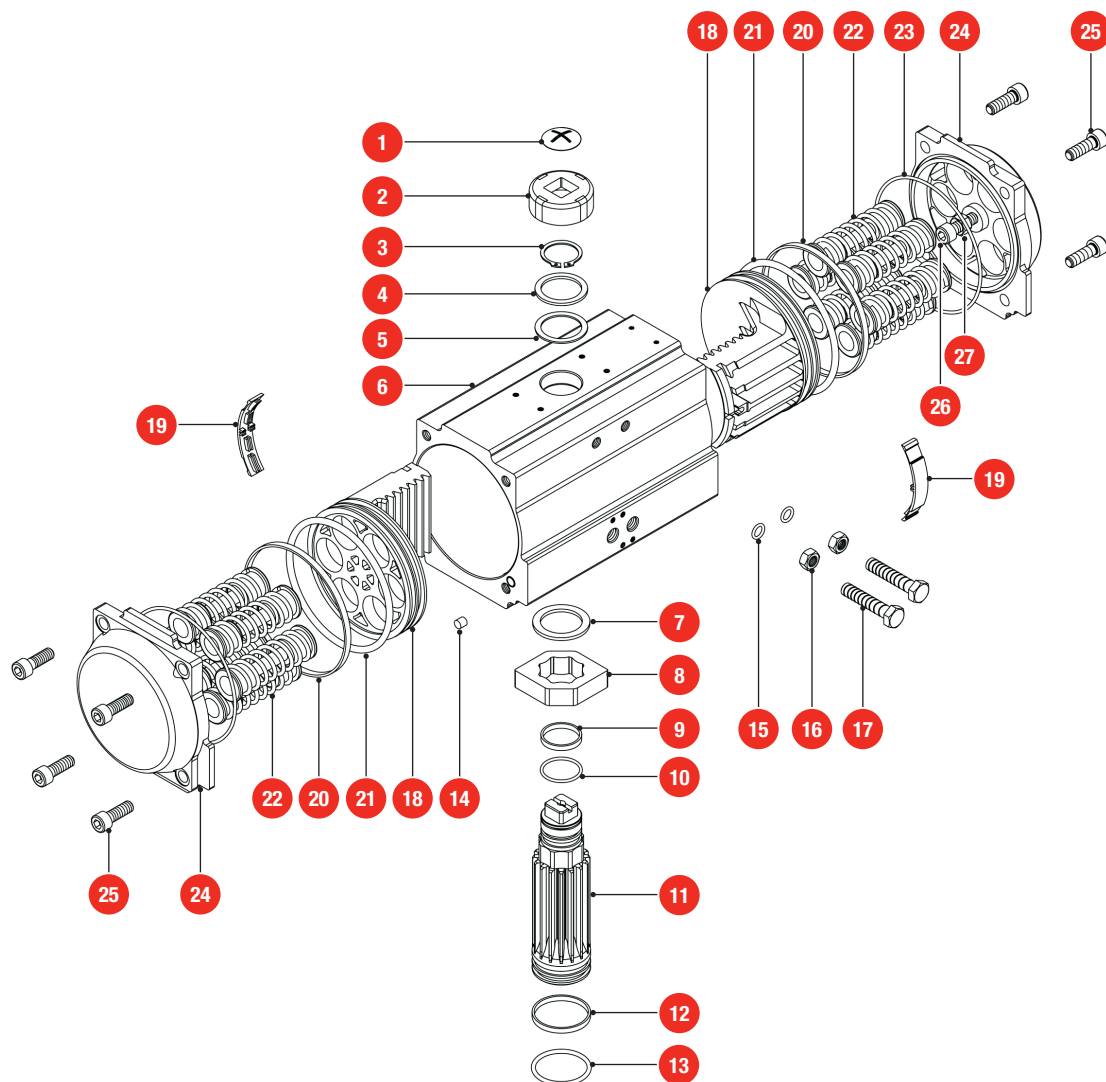

Installation, Operation and Maintenance Manual

for the
MOGAS Pneumatic Actuator



MOGAS[®]

Parts and Materials



Parts and Materials

Actuator Part Reference Number					
Item	Description	Quantity	Standard Material	Protection	Optional Material
1	Indicator cap	1	Plastic		
2	Positioning indicator	1	Plastic		
3	Snap ring	1	Stainless steel		
4	Thrust washer	1	Stainless steel		
5	Outside washer	1	Engineered plastic		
6	Body	1	Extruded aluminum	Anodized	
7	Inside washer	1	Engineered plastic		
8	Cam	1	Alloy steel	Nickel plated	
9	O-ring (pinion top)	1	NBR		Viton / Silicone
10	Bearing (pinion top)	1	Engineered plastic		
11	Pinion	1	Alloy steel		
12	O-ring (pinion bottom)	1	Engineered plastic		
13	Bearing (pinion bottom)	1	NBR		Viton / Silicone
14	Plug	1	NBR		Viton / Silicone
15	O-ring (adjust screw)	2	NBR		Viton / Silicone
16	Lock nut (adjust screw)	2	Stainless steel		
17	Travel adjust screw	2	Stainless steel		
18	Piston Rack	2	Cast aluminum	Anodized	
19	Guide (piston)	2	Engineered plastic		
20	Bearing (piston)	2	Engineered plastic		
21	O-ring (piston)	2	NBR		Viton / Silicone
22	Spring	0-12	Spring steel	Coated	
23	O-ring (end cap)	2	NBR		Viton / Silicone
24	End cap	2	Cast aluminum	Powder coated	
25	Cap screw	8	Stainless steel		
26	Stop screw	2	Stainless steel		
27	Nut (stop screw)	2	Stainless steel		

Mounting Instructions

- 1 Remove any manual opening device from the valve, leaving the valve stem clear. Make sure that the shape and size of the stem or adapter fits the actuator output and that the rotation is not hindered. Ensure the actuator and valve are in the same position: counter clockwise (0°) or clockwise (90°).
- 2 Ensure rotation direction is correct before mounting. Mount the actuator onto the valve, positioning it on the stem or adaptor.
- 3 Tighten bolts until snug.
- 4 Stroke unit and check / adjust travel stops as needed. When both stops are correctly adjusted, tighten all bolts.



WARNING! USE THE FOLLOWING PRECAUTIONS!

Do not put your hands inside the valve when the actuator has power.

Pre-compressed springs must not be disassembled from the caps. Doing so could be very dangerous.

Notes:

We strongly recommend checking the cleanliness of the air supply pipes, especially if plant filters are not present. A spring return actuator must be provided with a sintered metal/screened plug on the air outlet hole to prevent dust and other substances from sucking up into the actuator.

A spacer between the actuator and valve may be necessary with fluids at high temperature.

Mounting Instructions

▶ OPERATING MEDIA

Use dry or lubricated air or inert/non-corrosive gases that are compatible with internal actuator parts and lubricant. The operating media must have a dew point equal to -40°F (-40°C) or at least 50°F (10°C) below ambient temperature. The maximum particle size must not exceed $30\mu\text{m}$.

▶ SUPPLY PRESSURE

The maximum supply pressure is 116 psi (8 bar).

▶ OPERATING TEMPERATURE

Standard product from -4 to $+176^{\circ}\text{F}$ (-20 to $+80^{\circ}\text{C}$).

Low temperature actuator with HNBR O-rings from -40 to $+250^{\circ}\text{F}$ (-40 to $+121^{\circ}\text{C}$).

High temperature actuator with FPM O-rings from $+5$ to $+300^{\circ}\text{F}$ (-15 to $+150^{\circ}\text{C}$).

▶ STROKE

Standard construction: 90° rotation with stroke adjustment at 0° and $90^{\circ}\pm 5^{\circ}$ by using travel stops.

Declutchable Gear Overrides

DGD Series (with male x female shaft)

Size	Torque Output, in lb	Connection			Handwheel Diameter, in
025	2,212	F05 / F07	Male	17 mm sq	6
		F05 / F07	Female		
050	4,425	F10	Male	22 mm sq	12
		F07 / F10	Female		
100	8,850	F12	Male	27 mm sq	14
		F10 / F12	Female		
200	17,700	F14 / F16	Male	36 mm sq	16
		F14	Female		
201	17,700	F14 / F16	Male	46 mm sq	20
		F16	Female	36 mm sq	
400	35,400	F16	Male	46 mm sq	24
		F16	Female		
800	70,800	F25	Male	55 mm sq	36
		F25	Female		

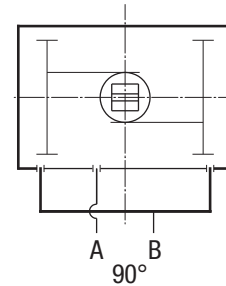
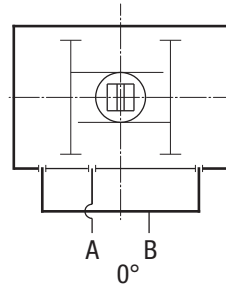
Double Acting Actuator

Operating Principle

CCW (air to open)

Air to Port A forces the pistons outwards, causing the pinion to turn counterclockwise while the air is being exhausted from Port B.

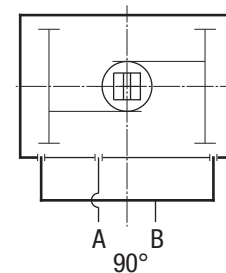
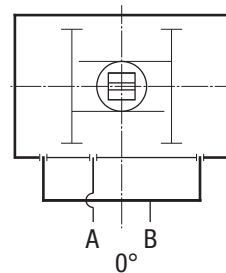
Air to Port B forces the pistons inwards, causing the pinion to turn clockwise while the air is being exhausted from Port A.



CW (air to close)

Air to Port A forces the pistons outwards, causing the pinion to turn clockwise while the air is being exhausted from Port B.

Air to Port B forces the pistons inwards, causing the pinion to turn counterclockwise while the air is being exhausted from Port A.



Double Acting Actuator

Sizing



WARNING!

When sizing an actuator for a MOGAS valve, use the MOGAS approved Valve Automation Center's engineering standards. For other manufacturer's valves, please refer to that OEM's requirements.

Torque Output: Double Acting Actuators, in-lb (N.m)

Model	Air supply pressure, psi (bar)									
	29 (2)	36 (2.5)	44 (3)	58 (4)	65 (4.5)	73 (5)	80 (5.5)	87 (6)	102 (7)	116 (8)
RT007DA	26 (3)	35 (4)	44 (5)	53 (6)	62 (7)	71 (8)	71 (8)	80 (9)	97 (11)	106 (12)
RT012DA	44 (5)	53 (6)	62 (7)	89 (10)	97 (11)	106 (12)	115 (13)	124 (14)	150 (17)	168 (19)
RT020DA	70 (8)	89 (10)	106 (12)	142 (16)	159 (18)	177 (20)	195 (22)	212 (24)	248 (28)	283 (32)
RT035DA	132 (15)	159 (18)	195 (22)	257 (29)	292 (33)	319 (36)	354 (40)	389 (44)	451 (51)	513 (58)
RT050DA	177 (20)	221 (25)	266 (30)	354 (40)	398 (45)	443 (50)	487 (55)	531 (60)	620 (70)	708 (80)
RT075DA	274 (31)	345 (39)	416 (47)	558 (63)	620 (70)	690 (78)	761 (86)	832 (94)	974 (110)	1106 (125)
RT110DA	398 (45)	496 (56)	602 (68)	797 (90)	903 (102)	1000 (113)	1097 (124)	1195 (135)	1398 (158)	1602 (181)
RT160DA	584 (66)	735 (83)	876 (99)	1168 (132)	1319 (149)	1460 (165)	1611 (182)	1752 (198)	2045 (231)	2337 (264)
RT255DA	885 (100)	1106 (125)	1328 (150)	1770 (200)	2000 (226)	2222 (251)	2443 (276)	2664 (301)	3107 (351)	3549 (401)
RT435DA	1513 (171)	1894 (214)	2266 (256)	3027 (342)	3408 (385)	3779 (427)	4160 (470)	4540 (513)	5293 (598)	6054 (684)
RT665DA	2354 (266)	2938 (332)	3531 (399)	4709 (532)	5293 (598)	5886 (665)	6470 (731)	7063 (798)	8240 (931)	9417 (1064)
RT1000DA	3770 (426)	4709 (532)	5647 (638)	7532 (851)	8479 (958)	9417 (1064)	10355 (1170)	11302 (1277)	13188 (1490)	15064 (1702)
RT1200DA	4708 (532)	5886 (665)	7063 (798)	9417 (1064)	10594 (1197)	11771 (1330)	12949 (1463)	14126 (1596)	16480 (1862)	18834 (2128)
RT1800DA	6806 (769)	8514 (962)	10214 (1154)	13621 (1539)	15321 (1731)	17029 (1924)	18728 (2116)	20428 (2308)	23835 (2693)	27243 (3078)
RT2700DA	10355 (1170)	12940 (1462)	15524 (1754)	20702 (2339)	23295 (2632)	25880 (2924)	28464 (3216)	31057 (3509)	36235 (4094)	41413 (4679)
RT3800DA	13506 (1526)	16887 (1908)	20259 (2289)	27012 (3052)	30393 (3434)	33766 (3815)	37147 (4197)	40519 (4578)	47272 (5341)	54025 (6104)
RT5700DA	20224 (2285)	25278 (2856)	30332 (3427)	40448 (4570)	45502 (5141)	50555 (5712)	55609 (6283)	60663 (6854)	70779 (7997)	80887 (9139)
RT8000DA	28818 (3256)	36023 (4070)	43227 (4884)	57636 (6512)	64841 (7326)	72045 (8140)	79250 (8954)	86454 (9768)	100863 (11396)	115272 (13024)

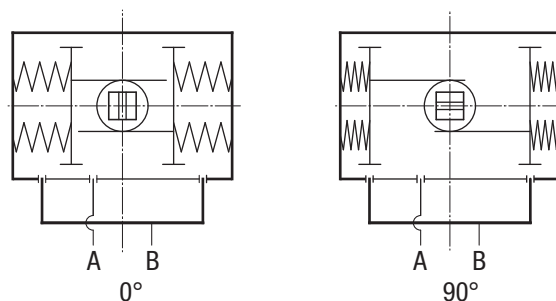
Spring Return Actuators

Operating Principle

CCW (air to open)

Air to port A forces the pistons outwards, causing the springs to compress. The pinion turns counterclockwise while air is being exhausted from port B.

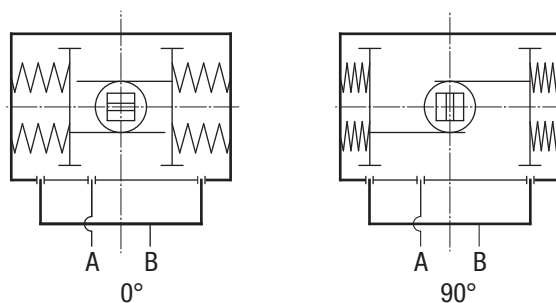
Loss of air pressure on port A, the stored energy in the springs forces the pistons inwards. The pinion turns clockwise while air is being exhausted from port A.



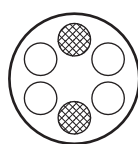
CW (air to close)

Air to port A forces the pistons outwards, causing the springs to compress. The pinion turns counterclockwise while air is being exhausted from port B.

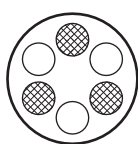
Loss of air pressure on port A, the stored energy in the springs forces the pistons inwards. The pinion turns clockwise while air is being exhausted from port A.



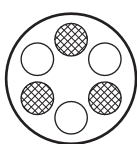
SPRING CONFIGURATIONS



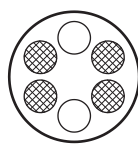
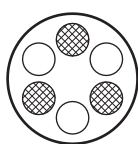
5 Springs



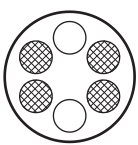
6 Springs



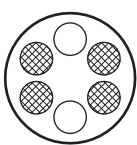
7 Springs



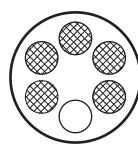
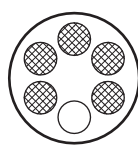
8 Springs



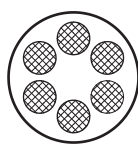
9 Springs



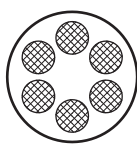
10 Springs



11 Springs



12 Springs



Spring Return Actuators

Sizing



WARNING!

When sizing an actuator for a MOGAS valve, use the MOGAS approved Valve Automation Center's engineering standards. For other manufacturer's valves, please refer to that OEM's requirements.

Torque Output: Spring Return Actuators, in-lb (N.m)

Model	Size	Spring Qty	Air pressure, psi (bar)														Spring output	
			36 (3)		43 (3)		58 (4)		72 (5)		87 (6)		101 (7)		116 (8)		0°	90°
			0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
RT020SR	52	5	50 (5.7)	34 (3.8)	67 (7.6)	50 (5.7)											38 (4.3)	55 (6.2)
		6	43 (4.9)	22 (2.5)	61 (6.9)	40 (4.5)	96 (10.9)	75 (8.5)									44 (5)	65 (7.4)
		7	35 (4)	12 (1.3)	53 (6)	29 (3.3)	87 (9.8)	65 (7.3)	124 (14)	92 (10.4)							52 (5.9)	76 (8.6)
		8			46 (5.2)	18 (2)	81 (9.2)	53 (6)	117 (13.2)	81 (9.1)	152 (17.2)	125 (14.1)					59 (6.7)	88 (9.9)
		9			38 (4.3)	7 (0.8)	73 (8.3)	42 (4.8)	109 (12.3)	70 (7.9)	144 (16.3)	113 (12.8)	180 (20.3)	149 (16.8)			67 (7.6)	98 (11.1)
		10					65 (7.4)	32 (3.6)	102 (11.5)	59 (6.7)	137 (15.5)	103 (11.6)	173 (19.5)	138 (15.6)			75 (8.5)	110 (12.4)
		11					58 (6.6)	20 (2.3)	94 (10.6)	48 (5.4)	129 (14.6)	92 (10.4)	165 (18.6)	127 (14.3)	200 (22.6)	162 (18.3)	82 (9.3)	120 (13.6)
		12							86 (9.7)	37 (4.2)	122 (13.8)	81 (9.1)	158 (17.8)	108 (12.2)	193 (21.8)	151 (17.1)	90 (10.2)	131 (14.8)

Spring Return Actuators

Sizing

Torque Output: Spring Return Actuators, in-lb (N.m)

Model	Size	Spring Qty	Air pressure, psi (bar)														Spring output	
			36 (3)		43 (3)		58 (4)		72 (5)		87 (6)		101 (7)		116 (8)		0°	90°
			0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
RT035SR	63	5	101 (11.4)	68 (7.7)	133 (15)	101 (11.4)	197 (22.3)	132 (14.9)									60 (6.8)	92 (10.4)
		6	89 (10.1)	50 (5.7)	120 (13.6)	82 (9.3)	185 (20.9)	147 (16.6)	250 (28.3)	212 (23.9)							73 (8.2)	111 (12.5)
		7	76 (8.6)	32 (3.6)	111 (12.5)	64 (7.2)	173 (19.5)	128 (14.5)	237 (26.8)	194 (21.9)							85 (9.6)	129 (14.6)
		8			96 (10.9)	45 (5.1)	161 (18.2)	110 (12.4)	226 (25.5)	175 (19.8)	290 (32.8)	239 (27)	355 (40.1)	304 (34.3)			96 (10.9)	148 (16.7)
		9					149 (16.8)	92 (10.4)	213 (24.1)	157 (17.7)	278 (31.4)	220 (24.9)	343 (38.7)	285 (32.2)			109 (12.3)	166 (18.8)
		10					12 (1.4)	73 (8.2)	202 (22.8)	138 (15.6)	266 (30)	202 (22.8)	330 (37.3)	266 (30.1)	396 (44.7)	331 (37.4)	121 (13.7)	185 (20.9)
		11							190 (21.5)	119 (13.5)	254 (28.7)	183 (20.7)	319 (36)	248 (28)	383 (43.3)	312 (35.3)	133 (15)	203 (22.9)
		12							177 (20)	101 (11.4)	242 (27.3)	165 (18.6)	306 (34.6)	229 (25.9)	371 (41.9)	295 (33.3)	145 (16.4)	221 (25)
RT050SR	75	5	128 (14.5)	94 (10.6)	172 (19.4)	137 (15.5)	261 (29.5)	227 (25.7)									93 (10.5)	128 (14.5)
		6	110 (12.4)	67 (7.6)	153 (17.3)	112 (12.6)	243 (27.4)	201 (22.7)	332 (37.5)	290 (32.8)							112 (12.7)	154 (17.4)
		7	92 (10.4)	42 (4.8)	135 (15.2)	86 (9.7)	224 (25.3)	176 (19.9)	313 (35.4)	265 (29.9)							131 (14.8)	180 (20.3)
		8			116 (13.1)	60 (6.8)	204 (23.1)	150 (16.9)	295 (33.3)	239 (27)	382 (43.2)	327 (37)	472 (53.3)	416 (47)			150 (16.9)	205 (23.2)
		9					186 (21)	125 (14.1)	276 (31.2)	213 (24.1)	364 (41.1)	302 (34.1)	453 (51.2)	391 (44.2)			168 (19)	231 (26.1)
		10					168 (19)	98 (11.1)	255 (28.8)	188 (21.2)	345 (39)	276 (31.2)	435 (49.1)	365 (41.2)	523 (59.1)	453 (51.2)	187 (21.1)	257 (29)
		11							239 (27)	162 (18.3)	327 (37)	250 (28.3)	416 (47)	340 (38.4)	504 (57)	428 (48.4)	205 (23.2)	282 (31.9)
		12							220 (24.9)	136 (15.4)	309 (34.9)	225 (25.4)	397 (44.9)	313 (35.4)	486 (54.9)	402 (45.4)	224 (25.3)	307 (34.7)

Spring Return Actuators

Sizing

Torque Output: Spring Return Actuators, in-lb (N.m)

Model	Size	Spring Qty	Air pressure, psi (bar)														Spring output	
			36 (3)		43 (3)		58 (4)		72 (5)		87 (6)		101 (7)		116 (8)		0°	90°
			0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
RT075SR	83	5	206 (23.3)	142 (16.1)	275 (31.1)	212 (24)	414 (46.8)	351 (39.7)									140 (15.8)	204 (23)
		6	178 (20.1)	102 (11.5)	248 (28)	171 (19.3)	387 (43.7)	311 (35.1)	526 (59.4)	449 (50.7)							168 (19)	244 (27.6)
		7	150 (17)	61 (6.9)	219 (24.8)	131 (14.8)	358 (40.5)	270 (30.5)	497 (56.2)	409 (46.2)							196 (22.1)	285 (32.2)
		8			192 (21.7)	89 (10.1)	331 (37.4)	228 (25.8)	470 (53.1)	367 (41.5)	609 (68.8)	506 (57.2)	748 (84.5)	645 (72.9)			224 (25.3)	326 (36.8)
		9					303 (34.2)	189 (21.3)	442 (49.9)	327 (37)	581 (65.6)	466 (52.6)	719 (81.2)	605 (68.3)			252 (28.5)	366 (41.4)
		10					274 (31)	147 (16.6)	413 (46.7)	286 (32.3)	552 (62.4)	425 (48)	691 (78.1)	564 (63.7)	830 (93.8)	702 (79.3)	280 (31.6)	407 (46)
		11							386 (43.6)	245 (27.7)	525 (59.3)	384 (43.4)	664 (75)	523 (59.1)	802 (90.6)	662 (74.8)	308 (34.8)	448 (50.6)
		12							358 (40.4)	205 (23.2)	497 (56.1)	344 (38.9)	635 (71.7)	482 (54.5)	774 (87.4)	621 (70.2)	336 (38)	489 (55.2)
RT110SR	92	5	293 (33.1)	195 (22)	391 (44.2)	294 (33.2)	591 (66.8)	495 (55.9)									206 (23.3)	304 (34.4)
		6	251 (28.4)	135 (15.2)	350 (39.6)	234 (26.4)	551 (62.2)	434 (49)	751 (84.8)	634 (71.6)							248 (28)	365 (41.2)
		7	211 (23.8)	73 (8.2)	309 (34.9)	172 (19.4)	509 (57.5)	373 (42.1)	710 (80.2)	573 (64.7)							289 (32.7)	426 (48.1)
		8			277 (31.3)	112 (12.6)	468 (52.9)	312 (35.2)	668 (75.5)	512 (57.9)	868 (98.1)	712 (80.5)	1068 (120.7)	912 (103)			330 (37.3)	487 (55)
		9					427 (48.2)	251 (28.4)	628 (70.9)	451 (51)	828 (93.5)	651 (73.6)	1027 (116)	851 (96.1)			372 (42)	548 (61.9)
		10					386 (43.6)	190 (21.5)	586 (66.2)	390 (44.1)	786 (88.8)	590 (66.7)	985 (111.3)	789 (89.2)	1186 (134)	990 (111.8)	413 (46.7)	603 (68.1)
		11							544 (61.5)	329 (37.2)	744 (84.1)	530 (59.9)	943 (106.6)	729 (82.4)	1144 (129.2)	929 (105)	455 (51.4)	669 (75.6)
		12							503 (56.8)	269 (30.4)	703 (79.4)	469 (53)	902 (101.9)	668 (75.5)	1102 (124.5)	868 (98.1)	496 (56)	730 (82.5)

Spring Return Actuators

Sizing

Torque Output: Spring Return Actuators, in-lb (N.m)

Model	Size	Spring Qty	Air pressure, psi (bar)														Spring output	
			36 (3)		43 (3)		58 (4)		72 (5)		87 (6)		101 (7)		116 (8)		0°	90°
			0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
RT160SR	105	5	451 (51)	296 (33.4)	597 (67.5)	442 (49.9)	890 (100.6)	735 (83)									280 (31.6)	435 (49.2)
		6	396 (44.7)	208 (23.5)	541 (61.1)	354 (40)	834 (94.2)	648 (73.2)	1127 (127.3)	940 (106.2)							336 (38)	523 (59.1)
		7	340 (38.4)	121 (13.7)	486 (54.9)	268 (30.3)	778 (87.9)	561 (63.4)	1071 (121)	853 (96.4)							392 (44.3)	610 (68.9)
		8			429 (48.5)	181 (20.4)	722 (81.6)	474 (53.5)	1015 (114.7)	766 (86.5)	1307 (147.7)	1059 (119.6)	1600 (180.8)	1352 (152.7)			448 (50.6)	697 (78.7)
		9					666 (75.3)	387 (43.7)	959 (108.4)	680 (76.8)	1252 (141.5)	972 (109.8)	1544 (174.5)	1265 (142.9)			504 (56.9)	784 (88.6)
		10					610 (68.9)	296 (33.4)	903 (102)	589 (66.5)	1196 (135.1)	882 (99.6)	1489 (168.2)	1174 (132.6)	1781 (201.2)	1467 (165.7)	560 (63.3)	871 (98.4)
		11							847 (95.7)	504 (57)	1139 (128.7)	797 (90.1)	1432 (161.8)	1090 (123.1)	1724 (194.8)	1382 (156.2)	616 (69.6)	959 (108.3)
		12							791 (89.4)	420 (47.5)	1084 (122.5)	713 (80.6)	1376 (155.5)	1005 (113.6)	1669 (188.6)	1298 (146.7)	672 (75.9)	1045 (118.1)
RT255SR	125	5	646 (73)	416 (47)	867 (98)	637 (72)	1310 (148)	1080 (122)									460 (52)	699 (79)
		6	558 (63)	274 (31)	779 (88)	496 (56)	1221 (138)	947 (107)	1664 (188)	1390 (157)							558 (63)	832 (94)
		7	460 (52)	133 (15)	682 (77)	354 (40)	1124 (127)	797 (90)	1575 (178)	1248 (141)							646 (73)	974 (110)
		8			593 (67)	221 (25)	1036 (117)	664 (75)	1478 (167)	1106 (125)	1921 (217)	1558 (176)	2372 (268)	2000 (226)			743 (84)	1106 (125)
		9					947 (107)	522 (59)	1390 (157)	965 (109)	1832 (207)	1407 (159)	2275 (257)	1859 (210)			832 (94)	1248 (141)
		10					850 (96)	389 (44)	1292 (146)	832 (94)	1735 (196)	1275 (144)	2186 (247)	1717 (194)	2629 (297)	2168 (245)	929 (105)	1390 (157)
		11							1204 (136)	690 (78)	1646 (186)	1133 (128)	2089 (236)	1575 (178)	2531 (286)	2018 (228)	1018 (115)	1531 (173)
		12							1106 (125)	558 (63)	1558 (176)	1000 (113)	2000 (226)	1443 (163)	2443 (276)	1885 (213)	1106 (125)	1664 (188)

Spring Return Actuators

Sizing

Torque Output: Spring Return Actuators, in-lb (N.m)

Model	Size	Spring Qty	Air pressure, psi (bar)														Spring output	
			36 (3)		43 (3)		58 (4)		72 (5)		87 (6)		101 (7)		116 (8)		0°	90°
			0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
RT435SR	140	5	1133 (128)	752 (85)	1513 (171)	1124 (127)	2266 (256)	1885 (213)									761 (86)	1142 (129)
		6	982 (111)	522 (59)	1363 (154)	903 (102)	2115 (239)	1655 (187)	2876 (325)	2416 (273)							912 (103)	1372 (155)
		7	832 (94)	292 (33)	1213 (137)	673 (76)	1965 (222)	1434 (162)	2726 (308)	2186 (247)							1062 (120)	1602 (181)
		8			1062 (120)	443 (50)	1814 (205)	1204 (136)	2576 (291)	1956 (221)	3328 (376)	2717 (307)	4089 (462)	3469 (392)			1213 (137)	1823 (206)
		9					1655 (187)	974 (110)	2416 (273)	1735 (196)	3169 (358)	2487 (281)	3930 (444)	3248 (367)			1372 (155)	2053 (232)
		10					1505 (170)	743 (84)	2266 (256)	1496 (169)	3018 (341)	2257 (255)	3779 (427)	3009 (340)	4532 (512)	3770 (426)	1522 (172)	2283 (258)
		11							2106 (238)	1266 (143)	2868 (324)	2027 (229)	3620 (409)	2779 (314)	4381 (495)	3540 (400)	1673 (189)	2514 (284)
		12							1956 (221)	1044 (118)	2717 (307)	1797 (203)	3469 (392)	2558 (289)	4231 (478)	3310 (374)	1823 (206)	2744 (310)
RT665SR	160	5	1708 (193)	1097 (124)	2292 (259)	1690 (191)	3469 (392)	2868 (324)									1239 (140)	1841 (208)
		6	1460 (165)	735 (83)	2053 (232)	1319 (149)	3231 (365)	2496 (282)	4408 (498)	3673 (415)							1487 (168)	2213 (250)
		7	1213 (137)	363 (41)	1797 (203)	947 (107)	2974 (336)	2124 (240)	4151 (469)	3301 (373)							1735 (196)	2584 (292)
		8			1558 (176)	584 (66)	2735 (309)	1761 (199)	3912 (442)	2098 (237)	5089 (575)	4116 (465)	6266 (708)	5293 (598)			1974 (223)	2947 (333)
		9					2478 (280)	1390 (157)	3655 (413)	2567 (290)	4833 (546)	3744 (423)	6010 (679)	4921 (556)			2222 (251)	3319 (375)
		10					2239 (253)	1018 (115)	3416 (386)	2195 (248)	4594 (519)	3372 (381)	5771 (652)	4549 (514)	6948 (785)	5726 (647)	2469 (279)	3691 (417)
		11							3169 (358)	1832 (207)	4346 (491)	3009 (340)	5523 (624)	4186 (473)	6700 (757)	5364 (606)	2717 (307)	4054 (458)
		12							2921 (330)	1460 (165)	4098 (463)	2593 (293)	5275 (596)	3815 (431)	6452 (729)	4992 (564)	2965 (335)	4425 (500)

Spring Return Actuators

Sizing

Torque Output: Spring Return Actuators, in-lb (N.m)

Model	Size	Spring Qty	Air pressure, psi (bar)														Spring output	
			36 (3)		43 (3)		58 (4)		72 (5)		87 (6)		101 (7)		116 (8)		0°	90°
			0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
RT1000SR	190	5	2938 (332)	1965 (222)	3877 (438)	2912 (329)	5762 (651)	4797 (542)									1770 (200)	2735 (309)
		6	2584 (292)	1425 (161)	3523 (398)	2363 (267)	5408 (611)	4248 (480)	7293 (824)	6134 (693)							2124 (240)	3284 (371)
		7	2230 (252)	876 (99)	3169 (358)	1814 (205)	5054 (571)	3700 (418)	6939 (784)	5585 (631)							2478 (280)	3832 (433)
		8			2815 (318)	1266 (143)	4700 (531)	3151 (356)	6585 (744)	5036 (569)	8470 (957)	6921 (782)	10347 (1169)	8806 (995)			2832 (320)	4381 (495)
		9					4346 (491)	2611 (295)	6231 (704)	4487 (507)	8116 (917)	6373 (720)	10001 (1130)	8258 (933)			3186 (360)	4930 (557)
		10					3992 (451)	2062 (233)	5877 (664)	3947 (446)	7762 (877)	5824 (658)	9647 (1090)	7709 (871)	11524 (1302)	9594 (1084)	3540 (400)	5470 (618)
		11							5523 (624)	3399 (384)	7408 (837)	5284 (597)	9293 (1050)	7160 (809)	11178 (1263)	9045 (1022)	3894 (440)	6019 (680)
		12							5169 (584)	2850 (322)	7054 (797)	4735 (535)	8939 (1010)	6620 (748)	10824 (1223)	8497 (960)	4248 (480)	6567 (742)
RT1200SR	210	5	3452 (390)	2522 (285)	4629 (523)	3700 (418)	6983 (789)	6054 (684)									2434 (275)	3363 (380)
		6	2965 (335)	1850 (209)	4142 (468)	3027 (342)	6496 (734)	5381 (608)	8851 (1000)	7736 (874)							2921 (330)	4036 (456)
		7	2478 (280)	1177 (133)	3655 (413)	2354 (266)	6010 (679)	4709 (532)	8364 (945)	7063 (798)							3408 (385)	4709 (532)
		8			3169 (358)	1682 (190)	5523 (624)	4036 (456)	7877 (890)	6390 (722)	10231 (1156)	8745 (988)	12586 (1422)	11099 (1254)			3894 (440)	5381 (608)
		9					5036 (569)	3363 (380)	7390 (835)	5718 (646)	9745 (1101)	8072 (912)	12099 (1367)	10426 (1178)			4381 (495)	6054 (684)
		10					4549 (514)	2691 (304)	6904 (780)	5045 (570)	9258 (1046)	7399 (836)	11612 (1312)	9754 (1102)	13966 (1578)	12108 (1368)	4868 (550)	6727 (760)
		11							6417 (725)	4372 (494)	8771 (991)	6727 (760)	11125 (1257)	9081 (1026)	13480 (1523)	11435 (1292)	5355 (605)	7399 (836)
		12							5930 (670)	3700 (418)	8284 (936)	6054 (684)	10639 (1202)	8408 (950)	12993 (1468)	10763 (1216)	5841 (660)	8072 (912)

Spring Return Actuators

Sizing

Torque Output: Spring Return Actuators, in-lb (N.m)

Model	Size	Spring Qty	Air pressure, psi (bar)														Spring output	
			36 (3)		43 (3)		58 (4)		72 (5)		87 (6)		101 (7)		116 (8)		0°	90°
			0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
RT1800SR	240	5	4886 (552)	3620 (409)	6585 (744)	5310 (600)	9992 (1129)	8718 (985)									3629 (410)	4903 (554)
		6	4160 (470)	2629 (297)	5859 (662)	4328 (489)	9267 (1047)	7736 (874)	12674 (1432)	11143 (1259)							4355 (492)	5886 (665)
		7	3434 (388)	1655 (187)	5133 (580)	3354 (379)	8532 (964)	6762 (764)	11940 (1349)	10170 (1149)							5089 (575)	6859 (775)
		8			4408 (498)	2372 (268)	7815 (883)	5780 (653)	11214 (1267)	9178 (1037)	14621 (1652)	12586 (1422)	18029 (2037)	15993 (1807)			5806 (656)	7842 (886)
		9					7081 (800)	4797 (542)	10488 (1185)	8196 (926)	13887 (1569)	11603 (1311)	17294 (1954)	15011 (1696)			6541 (739)	8833 (998)
		10					6355 (718)	3815 (431)	9762 (1103)	7222 (816)	13170 (1488)	10630 (1201)	16569 (1872)	14028 (1585)	19976 (2257)	17436 (1970)	7266 (821)	9807 (1108)
		11							9037 (1021)	6240 (705)	12444 (1406)	9647 (1090)	15852 (1791)	13046 (1474)	19259 (2176)	16454 (1859)	7992 (903)	10789 (1219)
		12							8311 (939)	5257 (594)	11710 (1323)	8665 (979)	15117 (1708)	12064 (1363)	18525 (2093)	15471 (1748)	8718 (985)	11771 (1330)
RT2700SR	270	5	7992 (903)	5974 (675)	10577 (1195)	8568 (968)	15745 (1779)	13736 (1552)									4956 (560)	6966 (787)
		6	6992 (790)	4594 (519)	9585 (1083)	7178 (811)	14754 (1667)	12356 (1396)	19932 (2252)	17533 (1981)							5948 (672)	8346 (943)
		7	6010 (679)	3195 (361)	8603 (972)	5788 (654)	13772 (1556)	10957 (1238)	18949 (2141)	16135 (1823)							6930 (783)	9745 (1101)
		8			7612 (860)	4399 (497)	12780 (1444)	9568 (1081)	17958 (2029)	14745 (1666)	23136 (2614)	19932 (2252)	28314 (3199)	25101 (2836)			7921 (895)	11134 (1258)
		9					11789 (1332)	8169 (923)	16967 (1917)	13356 (1509)	22145 (2502)	18533 (2094)	27322 (3087)	23702 (2678)			8913 (1007)	12533 (1416)
		10					10798 (1220)	6789 (767)	15976 (1805)	11966 (1352)	21153 (2390)	17144 (1937)	26322 (2974)	22313 (2521)	31509 (3560)	27499 (3107)	9904 (1119)	13913 (1572)
		11							14984 (1693)	10568 (1194)	20162 (2278)	15745 (1779)	25331 (2862)	20923 (2364)	30517 (3448)	26101 (2949)	10895 (1231)	15312 (1730)
		12							14002 (1582)	9178 (1037)	19180 (2167)	14365 (1623)	24348 (2751)	19534 (2207)	29526 (3336)	24711 (2792)	11878 (1342)	16701 (1887)

Spring Return Actuators

Sizing

Torque Output: Spring Return Actuators, in-lb (N.m)

Model	Size	Spring Qty	Air pressure, psi (bar)														Spring output	
			36 (3)		43 (3)		58 (4)		72 (5)		87 (6)		101 (7)		116 (8)		0°	90°
			0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
RT3800SR	300	5	9709 (1097)	6452 (729)													6461 (730)	9391 (1061)
		6	8275 (935)	4372 (494)	11648 (1316)	7744 (875)											7753 (876)	11267 (1273)
		7	6833 (772)	2283 (258)	10205 (1153)	5656 (639)	16958 (1916)	12409 (1402)									9045 (1022)	13143 (1485)
		8			8771 (991)	3567 (403)	15524 (1754)	10320 (1166)	21392 (2417)	17073 (1929)							10338 (1168)	15020 (1697)
		9					14090 (1592)	8231 (930)	20844 (2355)	14984 (1693)	27597 (3118)	21737 (2456)					11630 (1314)	16896 (1909)
		10					12657 (1430)	6151 (695)	19410 (2193)	12904 (1458)	26163 (2956)	19658 (2221)	32916 (3719)	26411 (2984)	39669 (4482)	33164 (3747)	12922 (1460)	18781 (2122)
		11							17967 (2030)	10816 (1222)	24720 (2793)	17569 (1985)	31473 (3556)	24322 (2748)	38226 (4319)	31075 (3511)	14214 (1606)	20658 (2334)
		12							16533 (1868)	8727 (986)	23286 (2631)	15480 (1749)	30039 (3394)	22233 (2512)	36793 (4157)	28986 (3275)	15507 (1752)	22534 (2546)
RT5700SR	350	5	13745 (1553)	8532 (964)													10382 (1173)	15064 (1702)
		6	11435 (1292)	5187 (586)	16489 (1863)	10240 (1157)											12462 (1408)	18082 (2043)
		7	9125 (1031)	1841 (208)	14179 (1602)	6895 (779)	24295 (2745)	17011 (1922)									14533 (1642)	21091 (2383)
		8			11869 (1341)	3549 (401)	21985 (2484)	13666 (1544)	32093 (3626)	23773 (2686)							16613 (1877)	24109 (2724)
		9					19684 (2224)	10311 (1165)	29526 (3336)	20419 (2307)	39899 (4508)	30526 (3449)					18693 (2112)	27119 (3064)
		10					17374 (1963)	6966 (787)	27482 (3105)	17073 (1929)	37589 (4247)	27181 (3071)	47706 (5390)	37297 (4214)	57813 (6532)	47405 (5356)	20764 (2346)	30137 (3405)
		11							25172 (2844)	13728 (1551)	35279 (3986)	23835 (2693)	45395 (5129)	33951 (3836)	55503 (6271)	44059 (4978)	22844 (2581)	33146 (3745)
		12							22870 (2584)	10373 (1172)	32978 (3726)	20481 (2314)	43094 (4869)	30597 (3457)	53202 (6011)	40705 (4599)	24924 (2816)	36164 (4086)

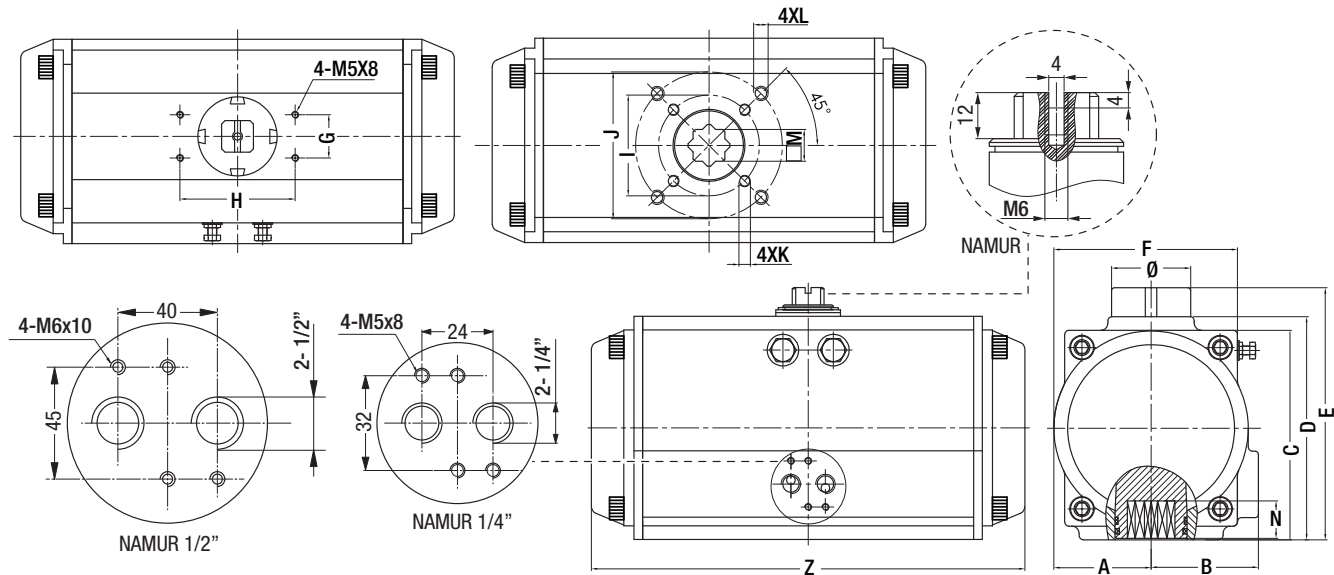
Spring Return Actuators

Sizing

Torque Output: Spring Return Actuators, in-lb (N.m)

Model	Size	Spring Qty	Air pressure, psi (bar)														Spring output	
			36 (3)		43 (3)		58 (4)		72 (5)		87 (6)		101 (7)		116 (8)		0°	90°
			0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°	0°	90°		
RT8000SR	400	5	17949 (2028)	7691 (869)													16259 (1837)	25490 (2880)
		6	15365 (1736)	3638 (411)	22569 (2550)	10842 (1225)											18587 (2100)	29137 (3292)
		7			19994 (2259)	6797 (768)	34403 (3887)	21206 (2396)									20905 (2362)	32774 (3703)
		8			17409 (1967)	2753 (311)	31818 (3595)	17162 (1939)	46227 (5223)	31571 (3567)							23224 (2624)	36421 (4115)
		9					29234 (3303)	13117 (1482)	43643 (4931)	27526 (3110)	58052 (6559)	41935 (4738)					25552 (2887)	40058 (4526)
		10					26658 (3012)	9072 (1025)	41067 (4640)	23481 (2653)	55477 (6268)	37890 (4281)	69877 (7895)	52290 (5908)	84286 (9523)	66699 (7536)	27871 (3149)	43705 (4938)
		11							38483 (4348)	19427 (2195)	52892 (5976)	33836 (3823)	67292 (7603)	48237 (5450)	81701 (9231)	62646 (7078)	30199 (3412)	47343 (5349)
		12							35907 (4057)	15383 (1738)	50317 (5685)	29792 (3366)	64717 (7312)	44192 (4993)	79126 (8940)	58601 (6621)	32518 (3674)	50989 (5761)
		13							33323 (3765)	11338 (1281)	47732 (5393)	25747 (2909)	62132 (7020)	40147 (4536)	76541 (8648)	54556 (6164)	34845 (3937)	54627 (6172)
		14									45148 (5101)	21702 (2452)	59548 (6728)	36102 (4079)	73957 (8356)	50511 (5707)	37164 (4199)	58273 (6584)

Dimensions



Dimensions

Model	A in (mm)	B in (mm)	C in (mm)	D in (mm)	E in (mm)	F in (mm)	G in (mm)	H in (mm)	I Ø in (mm)	J Ø in (mm)	K	L	M in (mm)	N in (mm)	Z in (mm)	Ø in (mm)	Weight lb (kg)		NAMUR	
																		Spring Return	Double Acting	Air Supply
RT007	Call MOGAS for dimensions																			
RT012	Call MOGAS for dimensions																			
RT020	1.18 (30)	1.63 (41.5)	2.58 (65.5)	2.83 (72)	3.62 (92)	2.56 (65)	1.18 (30)	3.15 (80)	1.42 (36)	1.97 (50)	M5x8	M6x10	0.43 (11)	0.55 (14)	5.79 (147)	1.57 (40)	3.3 (1.5)	3.1 (1.4)	NPT 1/4"	
RT035	1.42 (36)	1.85 (47)	3.19 (81)	3.44 (87.5)	4.23 (107.5)	2.83 (72)	1.18 (30)	3.15 (80)	1.97 (50)	2.76 (70)	M6x10	M8x13	0.55 (14)	0.71 (18)	6.61 (168)	1.57 (40)	4.6 (2.1)	4.4 (2)	NPT 1/4"	
RT050	1.65 (42)	2.09 (53)	3.70 (94)	3.92 (99.5)	4.70 (119.5)	3.19 (81)	1.18 (30)	3.15 (80)	1.97 (50)	2.76 (70)	M6x10	M8x13	0.55 (14)	0.71 (18)	7.24 (184)	1.57 (40)	6.4 (2.9)	6.0 (2.7)	NPT 1/4"	
RT075	1.81 (46)	2.24 (57)	3.88 (98.5)	4.28 (108.7)	5.07 (128.7)	3.62 (92)	1.18 (30)	3.15 (80)	1.97 (50)	2.76 (70)	M6x10	M8x13	0.67 (17)	0.83 (21)	8.03 (204)	1.57 (40)	7.9 (3.6)	6.8 (3.1)	NPT 1/4"	
RT110	1.97 (50)	2.30 (58.5)	4.37 (111)	4.59 (116.5)	5.37 (136.5)	3.86 (98)	1.18 (30)	3.15 (80)	1.97 (50)	2.76 (70)	M6x10	M8x13	0.67 (17)	0.83 (21)	10.31 (262)	1.57 (40)	11.5 (5.2)	10.1 (4.6)	NPT 1/4"	
RT160	2.26 (57.5)	2.52 (64)	4.82 (122.5)	5.24 (133)	6.02 (153)	4.32 (109.5)	1.18 (30)	3.15 (80)	2.76 (70)	4.02 (102)	M8x13	M10x16	0.87 (22)	1.02 (26)	10.55 (268)	1.57 (40)	15.2 (6.9)	13.9 (6.3)	NPT 1/4"	
RT255	2.66 (67.5)	2.93 (74.5)	5.73 (145.5)	6.10 (155)	6.89 (175)	5.02 (127.5)	1.18 (30)	3.15 (80)	2.76 (70)	4.02 (102)	M8x13	M10x16	0.87 (22)	1.02 (26)	11.85 (301)	2.17 (55)	22 (10.1)	20 (8.9)	NPT 1/4"	
RT435	2.95 (75)	3.03 (77)	6.34 (161)	6.77 (172)	7.56 (192)	5.41 (137.5)	1.18 (30)	3.15 (80)	4.02 (102)	4.92 (125)	M10x16	M12x20	1.06 (27)	1.22 (31)	15.35 (390)	2.17 (55)	33 (15)	29 (13)	NPT 1/4"	
RT665	3.42 (87)	3.43 (87)	7.24 (184)	7.76 (197)	8.54 (217)	6.22 (158)	1.18 (30)	3.15 (80)	4.02 (102)	4.92 (125)	M10x16	M12x20	1.06 (27)	1.22 (31)	18.03 (458)	2.17 (55)	53 (24)	44 (20)	NPT 1/4"	
RT1000	4.05 (103)	4.06 (103)	8.39 (213)	9.06 (230)	10.24 (260)	7.44 (189)	1.18 (30)	5.12 (130)	n/a	5.51 (140)	n/a	M16x25	1.42 (36)	1.57 (40)	20.67 (525)	3.15 (80)	77 (35)	68 (31)	NPT 1/4"	
RT1200	4.45 (113)	4.45 (113)	9.27 (235.5)	10.04 (255)	11.22 (285)	8.27 (210)	1.18 (30)	5.12 (130)	n/a	5.51 (140)	n/a	M16x25	1.42 (36)	1.57 (40)	20.94 (532)	3.15 (80)	121 (55)	104 (47)	NPT 1/4"	
RT1800	5.12 (130)	5.12 (130)	10.41 (264.5)	11.38 (289)	12.56 (319)	9.65 (245)	1.18 (30)	5.12 (130)	n/a	7.00 (165)	n/a	M20x25	1.81 (46)	1.97 (50)	23.70 (602)	3.15 (80)	176 (80)	148 (67)	NPT 1/4"	
RT2700	5.79 (147)	5.79 (147)	11.77 (299)	12.83 (326)	14.02 (356)	10.75 (273)	1.18 (30)	5.12 (130)	n/a	7.00 (165)	n/a	M20x25	1.81 (46)	1.97 (50)	28.43 (722)	3.15 (80)	260 (118)	214 (97)	NPT 1/2"	
RT3800	6.38 (162)	6.38 (162)	13.70 (348)	13.70 (348)	14.88 (378)	12.76 (324)	1.18 (30)	5.12 (130)	7.00 (165)	8.46 (215)	M20x25	M20x25	1.81 (46)	2.36 (60)	29.21 (742)	3.15 (80)	286 (130)	243 (110)	NPT 1/2"	
RT5700	7.48 (190)	7.48 (190)	15.83 (402)	15.83 (402)	17.01 (432)	14.96 (380)	1.18 (30)	5.12 (130)	7.00 (165)	8.46 (215)	M20x25	M20x25	1.81 (46)	2.36 (60)	33.86 (860)	3.15 (80)	515 (234)	410 (186)	NPT 1/2"	
RT8000	7.48 (190)	7.48 (190)	15.83 (402)	15.83 (402)	17.01 (432)	14.96 (380)	1.18 (30)	5.12 (130)	7.00 (165)	8.46 (215)	M20x25	M20x25	1.81 (46)	2.36 (60)	33.86 (860)	3.15 (80)	515 (234)	410 (186)	NPT 1/2"	

Service

MAINTENANCE

If our actuator is properly assembled and used, it will be maintenance free. It has been lubricated to last a normal working life under normal working conditions.

Should it become necessary to replace its seals, consult MOGAS Service.

RETURN MERCHANDISE AUTHORIZATIONS

All actuators that are **returned** require a Return Merchandise Authorization (RMA).

The RMA request is submitted online by accessing the **Service** page of our website (www.mogas.com).

SERVICE CONTACT

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