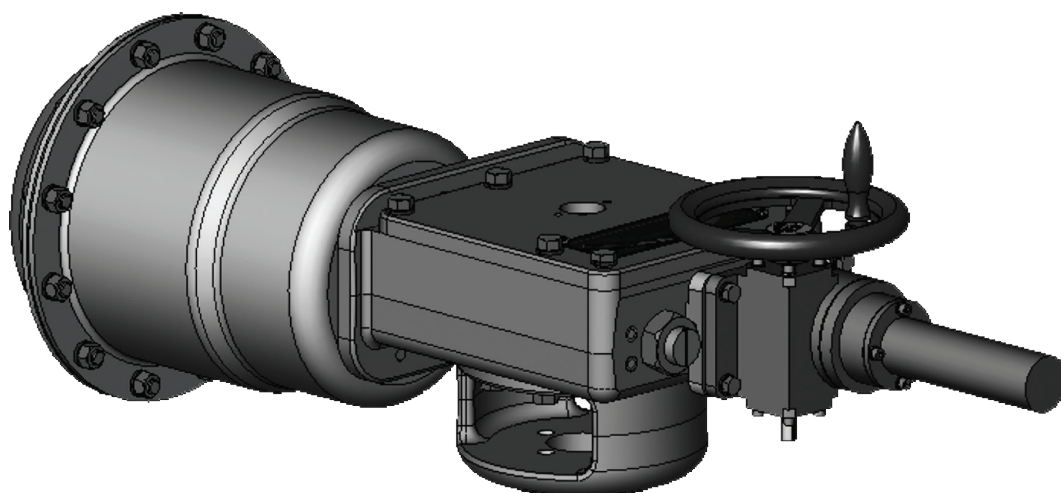


Masoneilan™ 31/32 Spring Diaphragm Rotary Actuators

The 31/32 Series actuator is designed to provide high performance, reliability and long service life.



Features

The Masoneilan model 31 and 32 pneumatic spring diaphragm rotary actuators are designed to provide high performance, reliability and long service life. Product features include:

Field Reversible

Air action can be changed in the field without additional parts.

Modular Spring Pack

Three standard spring ranges are achievable using two springs either individually or combined.

Separate Interchangeable Yoke

Allows flexible mounting options to a variety of rotary valves. Yoke and mounting parts are available for Masoneilan rotary valves as well as a universal mounting that is adaptable to other quarter turn valve designs.

Diaphragm Cases

Pressed steel upper and lower diaphragm cases combine lightness, high mechanical strength and protection in the event of over pressurization.

Diaphragm

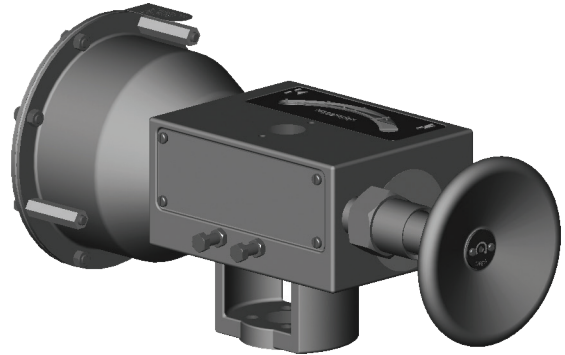
Molded elastomeric diaphragm with fabric insert for strength, long life and high sensitivity.

Linearity

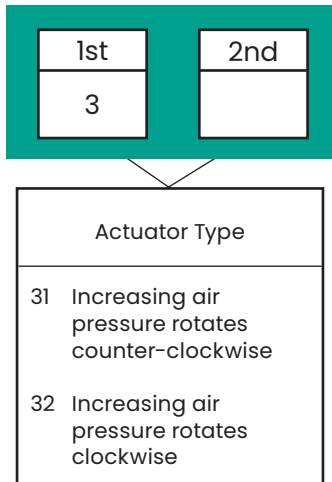
The molded rolling diaphragm and deep cases minimize area changes providing a more linear relationship between travel, air pressure and output torque.

High Power Manual Override

An optional right-angle manual gear (hand-jack) override is available for all configurations.



Numbering System



Specifications

Output Torque – lbs-in

Spring Range	Air Supply – psi											
	40		50		60		70		80		90	
psi	Air End	Spring End	Air End	Spring End	Air End	Spring End	Air End	Spring End	Air End	Spring End	Air End	Spring End
	Output Torque lbs-in											
12-28	1584	1535	2855	1535	-	-	-	-	-	-	-	-
17-40	-	-	-	-	2633	2184	3907	2184	-	-	-	-
29-68	-	-	-	-	-	-	-	-	-	-	-	3718

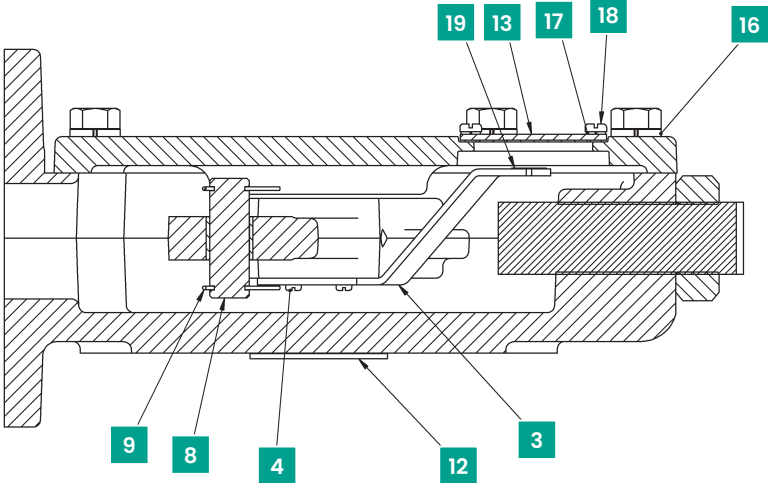
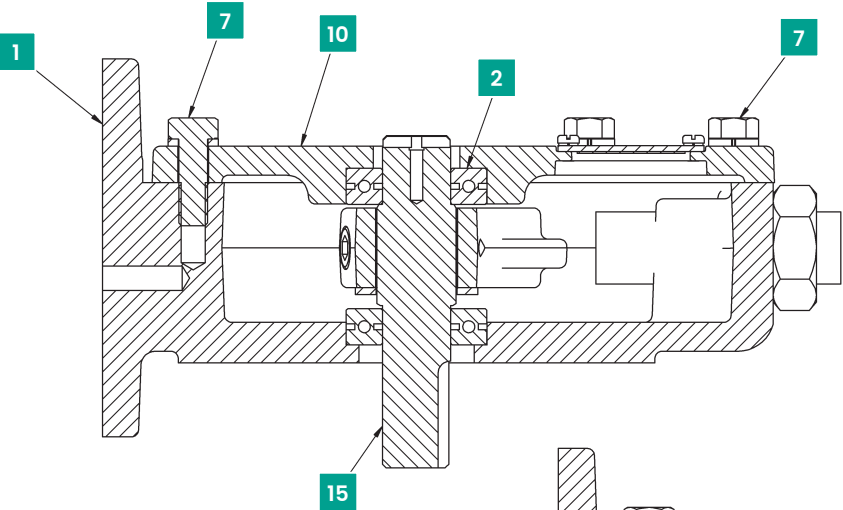
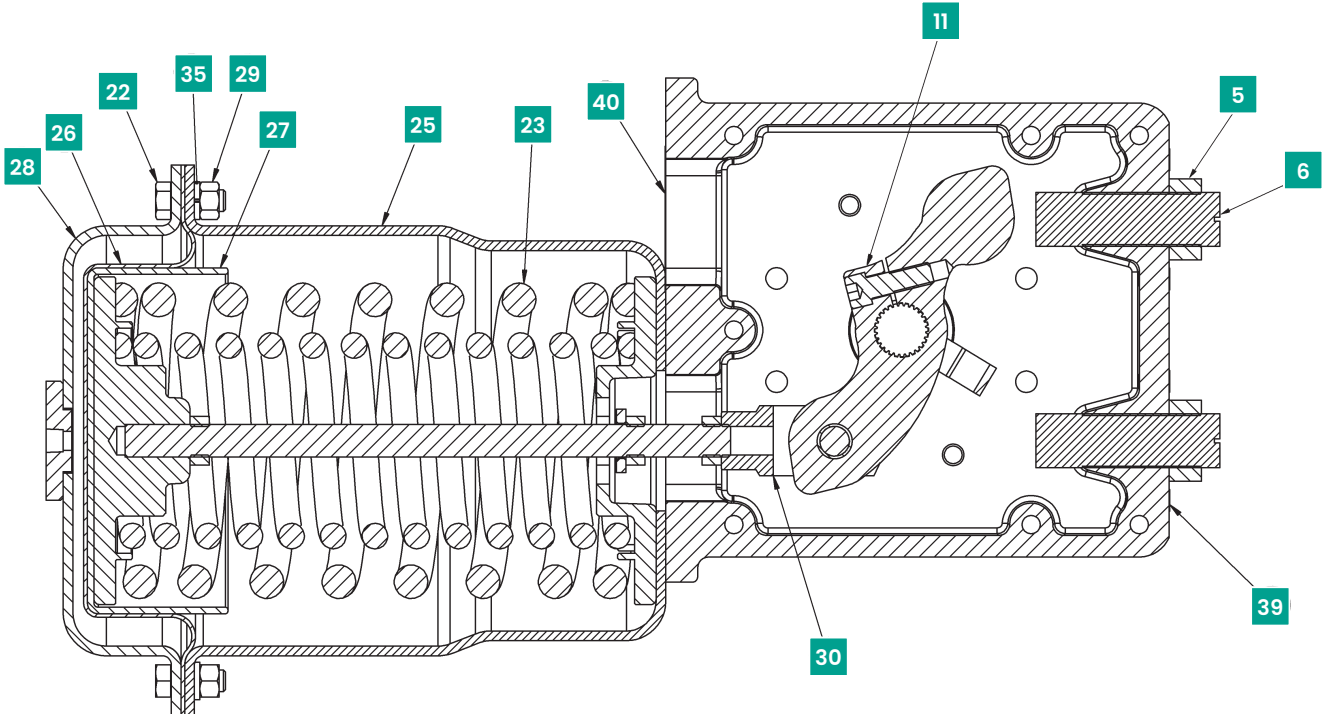
Output Torque – N-m

Spring Range	Air Supply – bar											
	2.76		3.45		4.14		4.83		5.52		6.21	
psi	Air End	Spring End	Air End	Spring End	Air End	Spring End	Air End	Spring End	Air End	Spring End	Air End	Spring End
	Output Torque N-m											
12-28	179	173	322	173	-	-	-	-	-	-	-	-
17-40	-	-	-	-	297	247	441	247	-	-	-	-
29-68	-	-	-	-	-	-	-	-	189	420	333	420

General Data

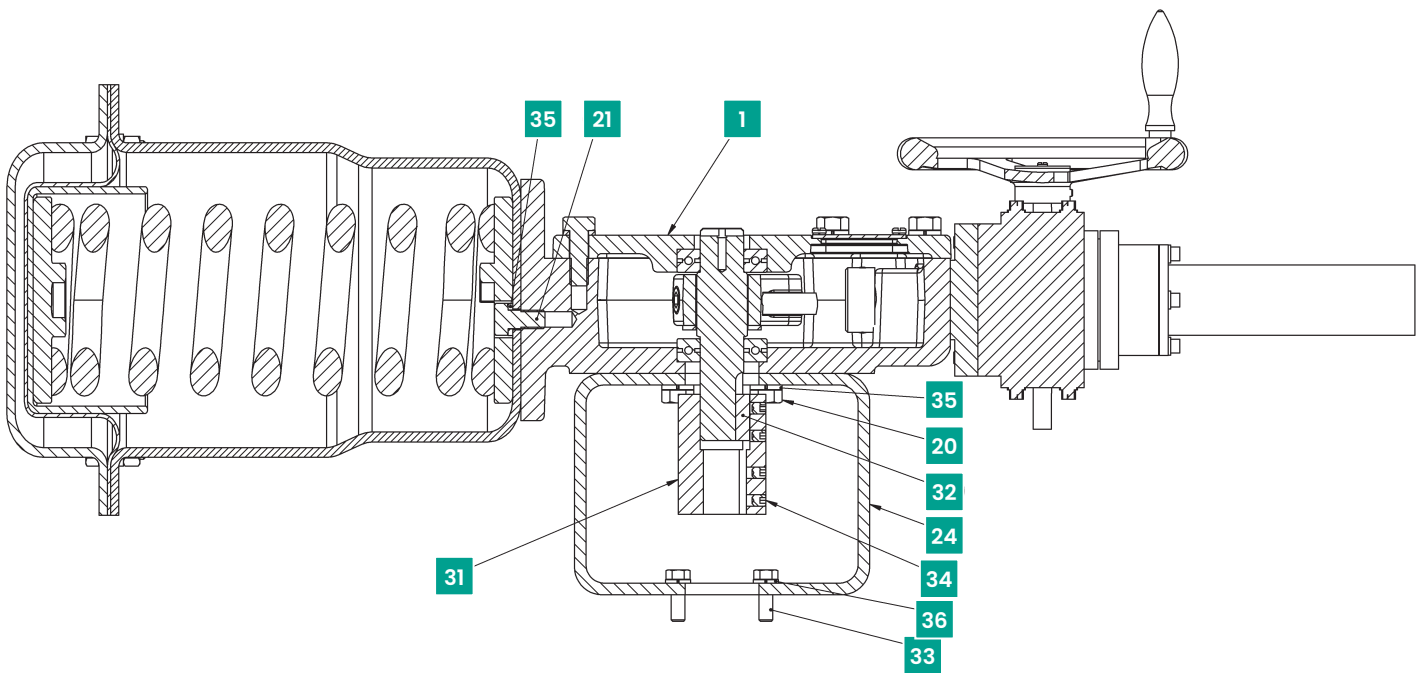
Model	Size	Spring Range		Effective Area		Actuator Stroke		Handwheel Diameter	
		psi	kPa	sq. in.	sq. cm	inches	mm	inches	mm
31/32	D	12-28	83-193	60	387	4.000	101.6	8	203
	D	17-40	117-276	60	387	4.000	101.6	8	203
	D	29-68	200-469	60	387	4.000	101.6	8	203

Materials

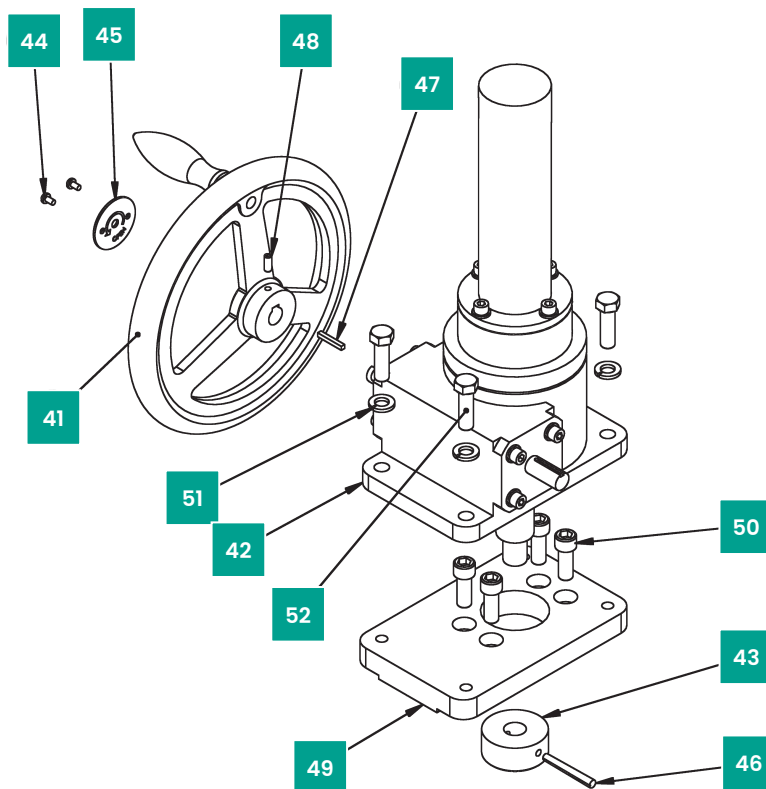


Size D Actuator

Materials



Size D Actuator
Shown with Universal Mounting and Optional Hand-jack Manual Override



Optional Handjack Manual Override

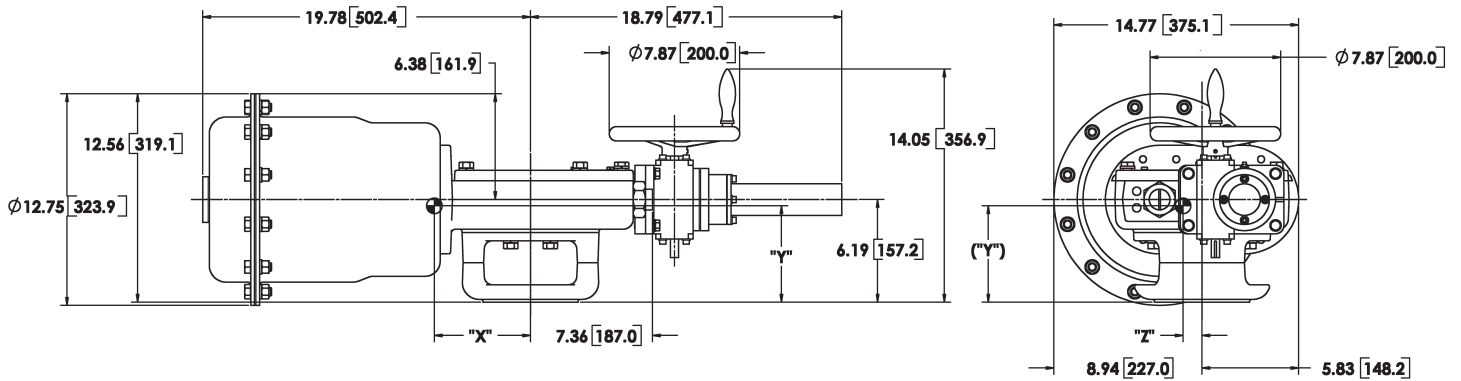
Materials

Ref. No.	Description	Material
1	Housing	Ductile Iron
2	Ball Bearing	Various
3	Indicator Pointer	Stainless Steel
4	Pan Head Screw	Carbon Steel
5	Hex Jam Nut	Carbon Steel
6	Travel Stop	Carbon Steel
7	Hex Head Cap Screw	Carbon Steel
8	Clevis Pin	Stainless Steel (17-4 PH)
9	Circlip	Stainless Steel
10	Housing Cover	Ductile Iron
11	Lever S/A	Various
12	Grommet	Neoprene Rubber
13	Front Cover S/A	Polycarbonate
15	Shaft - Universal Mounting Only	Stainless Steel (17-4 PH)
16	Lockwasher	Carbon Steel
17	Lockwasher	Carbon Steel
18	Pan Head Screw	Carbon Steel
19	Indicator Dot	Vinyl
20	Hex Head Cap Screw	Carbon Steel
21	Hex Head Cap Screw	Carbon Steel
22	Hex Head Cap Screw	Carbon Steel
23	Spring S/A	Various
23a	Spring, Outer	Carbon/Alloy Spring Steel
23b	Spring, Inner	Carbon/Alloy Spring Steel
23c	Piston	Ductile Iron
23d	Piston Rod	Alloy Steel
23e	Washer	Carbon Steel
23f	Hex Jam Nut	Carbon Steel
23g	Lower Spring Guide	Ductile Iron
24	Yoke Adapter	Ductile Iron
25	Lower Diaphragm Case	Carbon Steel

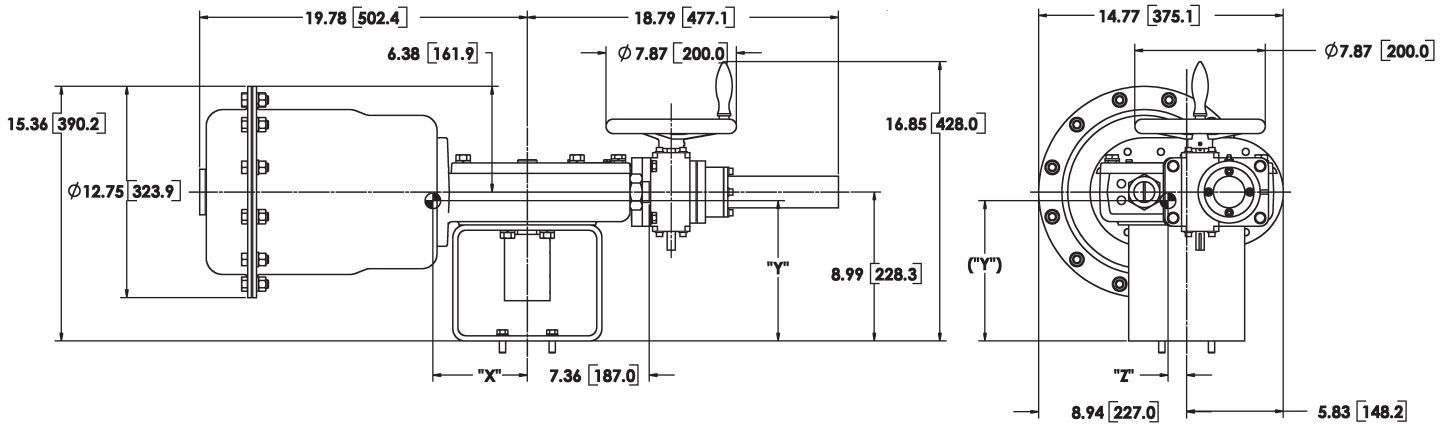
Ref. No.	Description	Material
26	Diaphragm	Buna-N w/Polyester
27	Diaphragm Retainer	Carbon Steel
28	Upper Diaphragm Case S/A	Carbon Steel
29	Hex Nut	Carbon Steel
30	Clevis	Carbon Steel, Zinc Plate
31	Coupling - Universal Mounting Only	Carbon Steel
32	Key - Universal Mounting Only	Carbon Steel
33	Hex Head Cap Screw - Universal Mounting Only	Carbon Steel
34	Cup Point Set Screw - Universal Mounting Only	Carbon Steel
35	Lockwasher	Carbon Steel, Zinc Plate
36	Lockwasher - Universal Mounting Only	Carbon Steel, Zinc Plate
37	Warning Plate	Stainless Steel (not shown)
38	Information Plate	Stainless Steel (not shown)
39	Hole Cover	Aluminum (not shown)
40	Hole Cover	Aluminum (not shown)
41	Handwheel	Aluminum
42	Jack Screw Manual Override	Various - Assembly
43	Button End	Stainless Steel
44	Pan Head Screw	Carbon Steel
45	Handwheel Plate	Polycarbonate
46	Taper Pin	Stainless Steel
47	Square Key	Carbon Steel
48	Cup Point Set Screw	Carbon Steel
49	Adapter Plate	Stainless Steel (17-4 PH)
50	Socket Head Cap Screw	Carbon Steel
51	Lockwasher	Carbon Steel
52	Hex Head Cap Screw	Carbon Steel

Dimensions and Weights

Dimensions: inches (mm)



Cast Yoke Adapter



Universal Mounting - Fabricated Yoke Adapter

Configuration	Weight		Center of Gravity					
			X		Y		Z	
	lbs	kg	inches	mm	inches	mm	inches	mm
Without Manual Override, Cast Yoke Adaptor	183	83	-6.72	-170.7	5.66	143.8	1.30	33
With Manual Override, Cast Yoke Adaptor	194	88	5.80	147.3	5.81	147.6	1.15	29.1
Without Manual Override, Fabricated Yoke Adapter (Universal Munting)	186	84	-6.60	-167.6	8.31	211.1	1.28	32.4
With Manual Override, Fabricated Yoke Adapter (Universal Munting)	198	90	-5.70	-144.8	8.46	214.9	1.13	28.6

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