

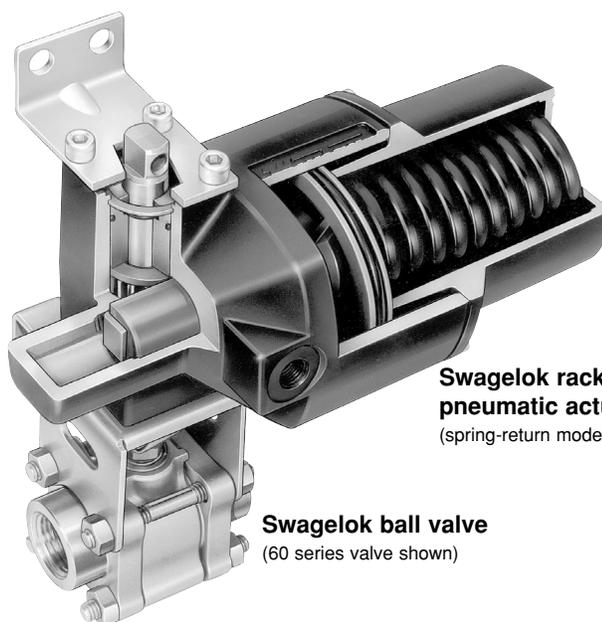
Rack and Pinion Pneumatic Actuators for Swagelok® Ball Valves

130 and 150 Series

Swagelok rack and pinion pneumatic actuators are designed to actuate Swagelok ball valves. The actuators are compact, lightweight, easily mountable, and can be operated with standard shop air.

Features

- Sized for positive actuation
- 90° actuation for 2-way (straight and angle), 3-way (40 series XL and XH special flow paths), and 4-way flow paths
- 180° actuation for other 3-way flow paths
- Spring-return and double-acting models available
- Special service actuators
 - High temperature
 - Low temperature
 - Nonfluorocarbon
- Available low-pressure spring-return actuators for lower-pressure air. Consult your independent Swagelok sales and service representative.



Swagelok rack and pinion pneumatic actuator
(spring-return model cutaway shown)

Swagelok ball valve
(60 series valve shown)

Technical Data

| Actuator Service | Temperature Range °F (°C) | Maximum Actuator Pressure psig (bar) | | Actuator Service Designator |
|------------------|------------------------------|---|------------------------|-----------------------------|
| | | At 100°F (37°C) | At Maximum Temperature | |
| Standard | -20 to 200 (-28 to 93) | 200 (13.7) | 165 (11.3) | — |
| High temperature | 0 to 400 (-17 to 204) | | 100 (6.8) | -HT |
| Low temperature | -40 to 200 (-40 to 93) | | 165 (11.3) | -LT |
| Nonfluorocarbon | -20 to 200 (-28 to 93) | | -NF | |

For minimum required actuator operating pressures, see individual Swagelok ball valve product catalogs.

Air Displacement

| Actuator Model | Volume in. ³ (cm ³) |
|-----------------------|---|
| 90° Actuation | |
| 131 | 1.5 (24.6) |
| 133 | 4.9 (80.3) |
| 135 | 15.5 (254) |
| 180° Actuation | |
| 151 | 3.0 (49.2) |
| 153 | 9.6 (157) |
| 155 | 30.5 (500) |

Approximate Weight

Actuator and mounting kit

| Actuator Model | Weight lb (kg) |
|----------------------|-------------------|
| Spring Return | |
| 131, 151 | 1.5 (0.7) |
| 133, 153 | 3.8 (1.7) |
| 135, 155 | 12.5 (5.7) |
| Double Acting | |
| 131, 151 | 1.3 (0.6) |
| 133, 153 | 2.5 (1.1) |
| 135, 155 | 9.7 (4.4) |

Ordering Information

Swagelok rack and pinion pneumatic actuators are available factory assembled to valves or in kits for field assembly. See the following Swagelok ball valve catalogs for complete ordering instructions.

Multipurpose Ball Valves—33 Series

Instrument Ball Valves—40 Series

Ball Valves, General Purpose and Special Application—60 Series

Trunnion Ball Valves—83 and H83 Series

Swagelok

Materials of Construction

| Component | Actuator Service | | | |
|--|---|------------------|-------------------|--------------------|
| | Standard | High Temperature | Low Temperature | Non-fluorocarbon |
| | Material | | | |
| Body, cap | Anodized cast aluminum alloy with black urethane exterior finish | | | |
| Piston | Cast aluminum alloy | | | |
| Output shaft | Hardened 416 SS | | | |
| O-rings | Buna N | Fluorocarbon FKM | Buna C | Ethylene propylene |
| Spring | Zinc phosphate-plated alloy steel | | | |
| Internal screw | 131, 133, 151, and 153 series—cadmium-plated steel; 135 and 155 series—steel | | | |
| Cap screws | Cadmium-plated steel | | | |
| Retaining rings | Cadmium- or zinc-plated steel | | | |
| Roll pin (131, 133, 151, and 153 series) | 420 SS | | | |
| Wall mount bracket | Stainless steel | | | |
| Lubricant | Multipurpose hydrocarbon | PTFE-based | Hydrocarbon-based | Silicone-based |

Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

Caution: Do not mix or interchange parts with those of other manufacturers.