

Pressure Independent Control Series 2-Way Flanged Valves and Electromotoric Valve Actuators



Description

The 2-1/2-inch and 3-inch Pressure Independent Control Valves have a 3/4-inch (20 mm) stroke, and work with the SAX and SQV Series Electromotoric Actuators. The 4-, 5-, and 6-inch valves have a 1-1/2-inch (40 mm) stroke, and work with the SAV and SQV Series Electromotoric Actuators. The actuators require a 24 Vac/dc operating voltage and accept floating, 0 to 10 Vdc, or 4 to 20 mA control signals.

Typical applications include control of hot or chilled water or water-glycol solutions up to 50% in closed loop systems.

Product Numbers

Use the product numbers in the tables to order the valve and the actuator assembled together. The product number consists of a 3-digit prefix code, a hyphen, and a 5-digit code. The prefix specifies an actuator. The 5-digit code specifies the valve body. See Table 2.

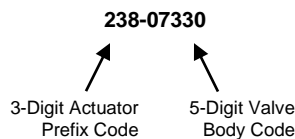


Table 1. Reference: Valve Body Maximum Flow Range.

| Valve Body | Line Size Inch (mm) | Maximum GPM Flow Range |
|------------|------------------------|---------------------------|
| 599-07330 | 2-1/2 (65) | 21 to 132 |
| 599-07335 | | |
| 599-07331 | 3 (80) | 31 to 195 |
| 599-07336 | | |
| 599-07322 | 4 (100) Low Flow | 55 to 300 |
| 599-07332 | 4 (100) New | 63 to 370 |
| 599-07317 | 4 (100) High Flow | 65 to 395 |
| 599-07327 | | |
| 599-07313 | 5 (125) Low Flow | 85 to 485 |
| 599-07323 | | |
| 599-07318 | 5 (125) High Flow | 105 to 595 |
| 599-07328 | | |
| 599-07314 | 6 (150) Low Flow | 115 to 650 |
| 599-07324 | | |
| 599-07319 | 6 (150) High Flow | 140 to 860 |
| 599-07329 | | |

Features

The Pressure Independent Control Valves include a pressure regulator, a flow limiter, and a control valve in a single device.

SAX, SAV, and SQV Actuators have a direct-coupled installation, manual override and visual position indication.

Technical Data

Valve Specifications

| | |
|--------------------------|--|
| Body material: | Cast iron |
| Stem: | Stainless steel |
| Line size: | 2-1/2-inch (65 mm) to 6-inch (150 mm) |
| Action: | 2-way |
| Valve body rating: | ANSI 125/ANSI 250 |
| Close-off: | 100 psi (700 kPa) Δp |
| Leakage rate: | < ANSI Class IV (0.01%) |
| Media temperature range: | 34°F to 250°F (1°C to 121°C) |
| Flow characteristic: | Linear |
| Connection: | ANSI flanged |

Actuator Specifications

| | | |
|---------------------------------------|---------------------|---|
| Operating voltage: | SAX, SAV, SQV | 24 Vac/dc |
| Frequency: | | 50/60 Hz |
| Power consumption (normal operation): | SAX61.03U/SAV61.00U | 8 VA (3.75W)/9.5 VA (4.5W) |
| | SQV | 20 VA/7.5W |
| Control Signal: | SAX61.03U/SAV61.00U | 0 to 10 Vdc, 4 to 20 mA |
| | SQV | Selectable (Floating, 0 to 10 Vdc, 4 to 20 mA) |
| Run time: | SAX | 30 seconds |
| | SAV | 120 seconds |
| | SQV | 40 to 240 seconds (adjustable) |
| Force: | SAX | 180 lb (800 N) |
| | SAV | 360 lb (1600 N) |
| | SQV | 250 lb (1100 N) |
| Weight: | SAX | 4.1 lbs (1.85 kg) |
| | SAV | 4.23 lbs (1.92 kg) |
| | SQV | 14 lbs (6.2 kg) |

Additional References:




| | |
|------------------------|--------------------------------|
| Technical Instructions | |
| PICV Valves | 155-522 |
| SAX Actuators | 155-506 |
| SAV Actuators | 155-547 |
| SQV Actuators | 155-521 |
| Agency Certifications: | |
| UL | UL 873 |
| cUL | Canadian Standard C22.2 No. 24 |

Typical Specifications

Flow shall be varied by actuator position. At any given position, flow through the valve shall not vary more than ±5% due to system pressure fluctuations across the valve in the selected operating range.

Valves shall be pressure independent between a differential pressure of ≤5 to 90 psi for low-flow valves and new 599-0733X valves, or ≤10 to 90 psi for high-flow valves. Length of stroke shall be consistent and independent of flow setting.

Table 2. 2-1/2-Inch to 6-Inch 2-Way Valve and Actuator Assemblies.

| Valve Body | ANSI Class | Line Size, Inch (mm) | Maximum Flow | Non-Spring Return | | Spring Return | |
|------------|------------|----------------------|--------------|---|---|---|------------------------------|
| | | | | SAX61.03U 0 to 10V | SAV61.00U 0 to 10V | SQV91P30U Normally Open | SQV91P40U Normally Closed |
| | | | |  |  |  | |
| | | | | Actuator Prefix Code | | | |
| | | | | 371 | 378 | 238 | 239 |
| 599-07330 | 125 | 2.5 (65) | 132 | 371-07330 | - | 238-07330 | 239-07330 |
| 599-07335 | 250 | | | 371-07335 | - | 238-07335 | 239-07335 |
| 599-07331 | 125 | 3 (80) | 195 | 371-07331 | - | 238-07331 | 239-07331 |
| 599-07336 | 250 | | | 371-07336 | - | 238-07336 | 239-07336 |
| 599-07322 | 250 | 4 (100) | 300 | - | 378-07322 | 238-07322 | 239-07322 |
| 599-07332 | 125 | | 370 | - | 378-07332 | 238-07332 | 239-07332 |
| 599-07337 | 250 | | | - | 378-07337 | 238-07337 | 239-07337 |
| 599-07317 | 125 | | 395 | - | 378-07317 | 238-07317 | 239-07317 |
| 599-07327 | 250 | | | - | 378-07327 | 238-07327 | 239-07327 |
| 599-07313 | 125 | | 5 (125) | 485 | - | 378-07313 | 238-07313 |
| 599-07323 | 250 | - | | | 378-07323 | 238-07323 | 239-07323 |
| 599-07318 | 125 | 595 | | - | 378-07318 | 238-07318 | 239-07318 |
| 599-07328 | 250 | | | - | 378-07328 | 238-07328 | 239-07328 |
| 599-07314 | 125 | 6 (150) | 650 | - | 378-07314 | 238-07314 | 239-07314 |
| 599-07324 | 250 | | | - | 378-07324 | 238-07324 | 239-07324 |
| 599-07319 | 125 | | 860 | - | 378-07319 | 238-07319 | 239-07319 |
| 599-07329 | 250 | | | - | 378-07329 | 238-07329 | 239-07329 |

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