

## 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.

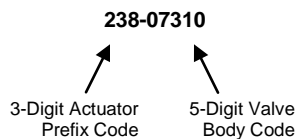
### Features

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.

### 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
599-07310	2-1/2 (65)	19 to 110
599-07320	Low Flow	
599-07315	2-1/2 (65)	26 to 154
599-07325	High Flow	
599-07311	3 (80)	24 to 150
599-07321	Low Flow	
599-07316	3 (80)	31 to 190
599-07326	High Flow	
599-07312	4 (100)	55 to 300
599-07322	Low Flow	
599-07317	4 (100)	65 to 395
599-07327	High Flow	
599-07313	5 (125)	85 to 485
599-07323	Low Flow	
599-07318	5 (125)	105 to 595
599-07328	High Flow	
599-07314	6 (150)	115 to 650
599-07324	Low Flow	
599-07319	6 (150)	140 to 860
599-07329	High Flow	

### Technical Data

#### Typical Specifications

Flow shall be varied by actuator position. At any given position, flow through the valve shall not vary more than +/- 10% 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, or ≤11 to 90 psi for high-flow valves. Length of stroke shall be consistent and independent of flow setting.

#### 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 248°F (1°C to 120°C)
Flow characteristic:	Linear
Connection:	ANSI flanged

#### Actuator Specifications

Operating voltage:	24 Vac/dc
SAX, SAV, SQV	50/60 Hz
Frequency:	
Power consumption (normal operation):	
SAX81.03U/SAV81.00U	5 VA (3.75W)/7 VA (4.5W)
SAX61.03U/SAV61.00U	8 VA (3.75W)/9.5 VA (4.5W)
SQV	20 VA/7.5W
Control Signal:	
SAX81.03U/SAV81.00U	Floating
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, 155-507
SAV Actuators	155-547, 155-548
SQV Actuators	155-521

#### Agency Certifications:

UL	UL 873
cUL	Canadian Standard C22.2 No. 24

**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	SAX81.03U Floating	SAV61.00U 0 to 10V	SAV81.00U Floating	SQV91P30U Normally Open	SQV91P40U Normally Closed
									
				Actuator Prefix Code					
				371	373	378	379	238	239
599-07310	125	2.5 (65)	110	371-07310	373-07310	-	-	238-07310	239-07310
599-07320	250			371-07320	373-07320	-	-	238-07320	239-07320
599-07315	125		154	371-07315	373-07315	-	-	238-07315	239-07315
599-07325	250			371-07325	373-07325	-	-	238-07325	239-07325
599-07311	125	3 (80)	150	371-07311	373-07311	-	-	238-07311	239-07311
599-07321	250			371-07321	373-07321	-	-	238-07321	239-07321
599-07316	125		190	371-07316	373-07316	-	-	238-07316	239-07316
599-07326	250			371-07326	373-07326	-	-	238-07326	239-07326
599-07312	125	4 (100)	300	-	-	378-07312	379-07312	238-07312	239-07312
599-07322	250			-	-	378-07322	379-07322	238-07322	239-07322
599-07317	125		395	-	-	378-07317	379-07317	238-07317	239-07317
599-07327	250			-	-	378-07327	379-07327	238-07327	239-07327
599-07313	125	5 (125)	485	-	-	378-07313	379-07313	238-07313	239-07313
599-07323	250			-	-	378-07323	379-07323	238-07323	239-07323
599-07318	125		595	-	-	378-07318	379-07318	238-07318	239-07318
599-07328	250			-	-	378-07328	379-07328	238-07328	239-07328
599-07314	125	6 (150)	650	-	-	378-07314	379-07314	238-07314	239-07314
599-07324	250			-	-	378-07324	379-07324	238-07324	239-07324
599-07319	125		860	-	-	378-07319	379-07319	238-07319	239-07319
599-07329	250			-	-	378-07329	379-07329	238-07329	239-07329

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