

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



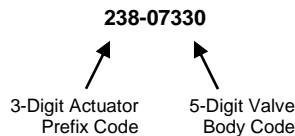
### Description

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- and 5-inch valves have a 1-1/2-inch (40mm) stroke, and 6-inch valves have a 1-11/16-inch (43 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		
599-07332	4 (100)	64 to 370
599-07337		
599-07333	5 (125)	525
599-07338		
599-07314	6 (150)	115 to 650
599-07319	ANSI 125	140 to 860
599-07339	6 (150)	740
	ANSI 250	

### 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 (SAX, SAV, SQV):	
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  $\pm 5\%$  due to system pressure fluctuations across the valve in the selected operating range.

Valves shall be pressure independent between a differential pressure of  $\leq 5$  to 90 psi for low-flow valves and new 599-0733X valves, or  $\leq 10$  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
						Floating, 0 to 10V, 4 to 20 mA	
				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
599-07332	125	4 (100)	370	-	378-07332	238-07332	239-07332
599-07337	250			-	378-07337	238-07337	239-07337
599-07333	125	5 (125)	525	-	378-07333	238-07333	239-07333
599-07338	250			-	378-07338	238-07338	239-07338
599-07314	125	6 (150)	650	-	378-07314	238-07314	239-07314
599-07319			860	-	378-07319	238-07319	239-07319
599-07339	250		740	-	378-07339	238-07339	239-07339

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