



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 EN180 and ES247 Series Electromotoric Actuators. The 4-, 5-, and 6-inch valves have a 1-1/2-inch (40 mm) stroke, and work with the EN360 and ES247 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.

EN180, EN360 and ES247 Actuators have a direct-coupled installation, manual override and visual position indication.

Technical Data

Typical Specifications

Flow shall be varied by actuator position. At any given position, flow through the valve shall not vary more than $\pm 10\%$ 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) p
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:	EN180 / EN360 / ES247	24 Vac/dc
Frequency:		50/60 Hz
Power consumption (normal operation):	EN180C2 / EN360C2	5 VA (3.75W)/7 VA (4.5W)
	EN180B2 / EN360B2	8 VA (3.75W)/9.5 VA (4.5W)
	ES247	20 VA/7.5W
Control Signal:	EN180C2 / EN360C2	Floating
	EN180B2 / EN360B2	0 to 10 Vdc, 4 to 20 mA
	ES247	Selectable (Floating, 0 to 10 Vdc, 4 to 20 mA)
Run time:	EN180	30 seconds
	EN360	120 seconds
	ES247	40 to 240 seconds (adjustable)
Force:	EN180	180 lb (800 N)
	EN360	360 lb (1600 N)
	ES247	250 lb (1100 N)
Weight:	EN180	4.1 lbs (1.85 kg)
	EN360	4.23 lbs (1.92 kg)
	ES247	14 lbs (6.2 kg)
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	
				EN180B2 0-10V	EN180C2 Floating	EN360B2 0-10V	EN360C2 Floating	ES247M2-NO Normally Open	ES247M2-NC Normally Closed
PICV2-250(110)-125	125	2.5 (65)	110	•	•			•	•
PICV2-250(110)-250	250			•	•			•	•
PICV2-250(154)-125	125		154	•	•			•	•
PICV2-250(154)-250	250			•	•			•	•
PICV2-300(150)-125	125	3 (80)	150	•	•			•	•
PICV2-300(150)-250	250			•	•			•	•
PICV2-300(190)-125	125		190	•	•			•	•
PICV2-300(190)-250	250			•	•			•	•
PICV2-400(300)-125	125	4 (100)	300			•	•	•	•
PICV2-400(300)-250	250					•	•	•	•
PICV2-400(395)-125	125		395			•	•	•	•
PICV2-400(395)-250	250					•	•	•	•
PICV2-500(485)-125	125	5 (125)	485			•	•	•	•
PICV2-500(485)-250	250					•	•	•	•
PICV2-500(595)-125	125		595			•	•	•	•
PICV2-500(595)-250	250					•	•	•	•
PICV2-600(650)-125	125	6 (150)	650			•	•	•	•
PICV2-600(650)-250	250					•	•	•	•
PICV2-600(860)-125	125		860			•	•	•	•
PICV2-600(860)-250	250					•	•	•	•

Information in this publication is based on current specifications. The company reserves the right to make changes in specifications and models as design improvements are introduced.