



Pressure Independent Control Series 2-Way Valves and Electronic Valve Actuators

Description

The 1/2- to 1-1/4-inch Pressure Independent Control Valves have a 2.5, 5, or 5.5 mm stroke, and work with the EN56 / ES67 Series Electronic Actuators. The 1-1/2 to 2-inch normally open valves have a 15 mm stroke and work with the EN45 Series Electronic Actuators. EN45 Actuators for 1-1/2- and 2-inch Normally Open Valves can also be set for Normally Closed operation (reverse acting). The EN56 / ES67 and EN45 Actuators require a 24 Volt power supply to provide floating or 0 to 10 Vdc control.

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.

The 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 $\pm 5\%$ from 5 to 58 psi due to system pressure fluctuations across the valve in the selected operating range. Valves shall be pressure independent between a differential pressure of 2.3 or 5 PSID (depending on valve size) and 58 PSID. Length of stroke shall be consistent and independent of flow setting.

Valve Specifications

Body material:	Brass (1/2- to 1-1/4-inch) Ductile Iron (1-1/2- and 2-inch) Stainless Steel
Stem:	1/2-inch to 2-inch (15 mm to 50 mm)
Line size:	2-Way
Action:	ANSI 250
Valve body rating:	
Close-off pressure/Leakage rate:	
1/2- to 1-1/4-inch, NO	200 psi/ANSI Class IV (0.01%)
1-1/2 and 2-inch NO	100 psi/ANSI Class IV (p.01%)
1/2- to 1-1/4-inch, NC	45 psi/ANSI Class IV (0.01%)
Medium temperature range:	34°F to 248°F (1°C to 120°C)
Flow characteristic:	Linear
Connection:	NPT threaded

Actuator Specifications

Operating voltage:	EN56C2 / ES67C2	24 Vac
	EN56B2	24 Vac/dc
	ES67B2	24 Vac
	EN45	24 Vac/dc
Frequency:		60 Hz
Power consumption (normal operation):	EN56C2	0.8 VA
	ES67C2	2 VA
	EN56B2	2.5 VA
	ES67B2	2 VA
	EN45B2	8 VA
	EN45C2	5 VA
Signal:	EN56C2 / ES67C2 /	Floating
	EN45C2	Floating
	EN56B2 / ES67B2	0 to 10 Vdc
	EN45B2	0 to 10 Vdc or 4 to 20 mA
Run time (in seconds):		Stroke
		2.5 mm 5/5.5 mm 15 mm
	EN56C2	75 150 —
	ES67C2	70 125 —
	EN56B2	45 90 —
	ES67B2	15 30 —
	EN45	— — 30
Force:	EN56 (NSR)	>56 lb (250 N)
	ES67 (SR)	67 lb (300 N)
	EN45	45 lb (200 N)
Agency Certification:	UL	Meets UL 873
	cUL	Certified to Canadian Standard C22.2 No. 24.93
Mounting Location		NEMA 1 (Interior only)



Table 1. Valve and Actuator Assemblies.

Valve Body	Normally Open/Closed	Line Size Inch (mm)	GPM Flow Range	Non-Spring Return				Spring Return	
				EN56C2	EN56B2	EN45C2	EN45B2	ES67C2	ES67B2
				Floating	0-10V	Floating	0-10V/ 4-20mA	Floating	0-10V
PICV2-050(9.0)NO-X	Open	1/2 (15)	0.2 to 0.9	•	•			•	•
PICV2-050(2.5)NO-X	Open		0.5 to 2.5	•	•			•	•
PICV2-050(2.7)NC-X	Closed		0.3 to 2.7	•	•			•	•
PICV2-050(7.5)NC-X	Closed		1.0 to 7.5	•	•			•	•
PICV2-075(4.5)NC-X	Closed	3/4 (20)	0.5 to 4.5	•	•			•	•
PICV2-075(5.8)NO-X	Open		1.0 to 5.8	•	•			•	•
PICV2-075(8.9)NC-X	Closed		1.0 to 8.9	•	•			•	•
PICV2-100(8.9)NC-X	Closed	1 (25)	1.0 to 8.9	•	•			•	•
PICV2-100(8.0)NO-X	Open		1.2 to 8	•	•			•	•
PICV2-125(13.2)NC-X	Closed	1-1/4 (32)	2.5 to 13.2	•	•			•	•
PICV2-125(18)NO-X	Open		3 to 18	•	•			•	•
PICV2-150(13.2)NO-X	Open	1-1/2 (40)	10 to 40			•	•		
PICV2-200(50)NO-X	Open	2 (50)	10 to 50			•	•		

X = Any available preset flow rate found on Page 2 of the Two-way PICV Valves Technical Bulletin

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.