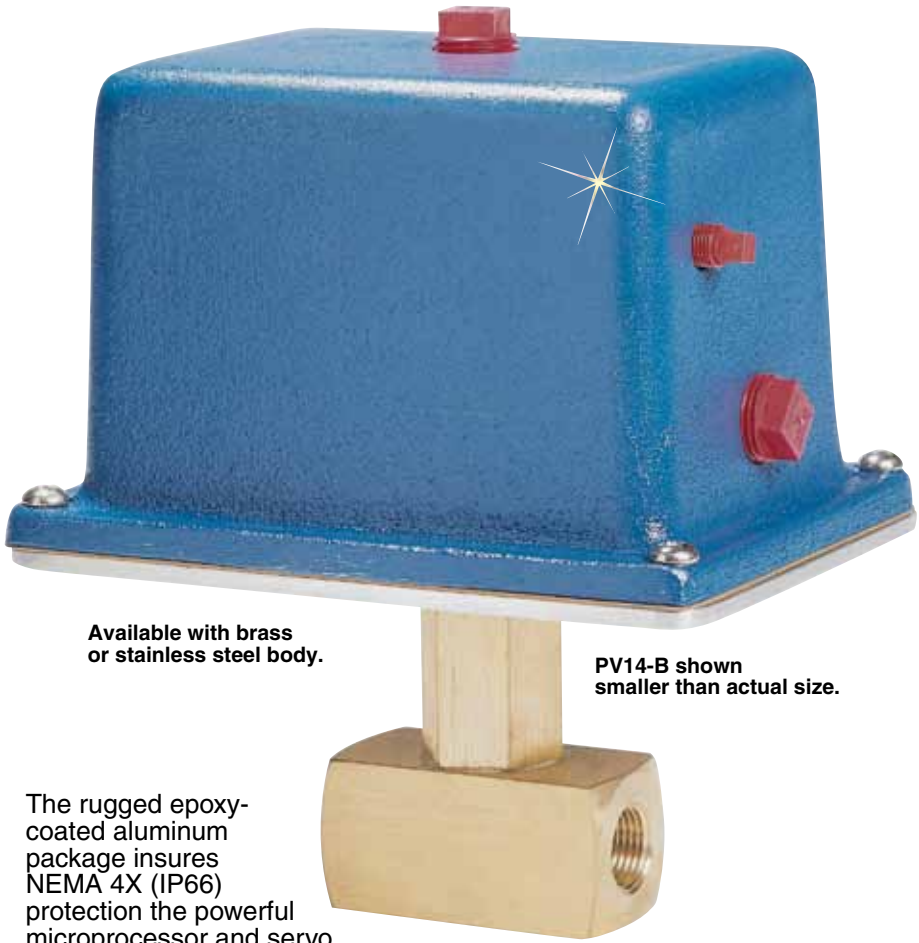
ELECTRONICALLY CONTROLLED PROPORTIONING VALVES

PV14-B

5 YEAR WARRANTY

- **Programmable Direct or Reverse Acting Control**
- **Precision Control Is Achieved Via 10-Bit Converter Controlling 200 Step Per Revolution Motor**
- **Rugged Construction for Industrial Applications**
- **External Safety Override Contacts to Open/Close Valve**
- **NEMA 4 (IP66) Rating for Outdoor Use**
- **Ideal for Liquid and Gas Applications**



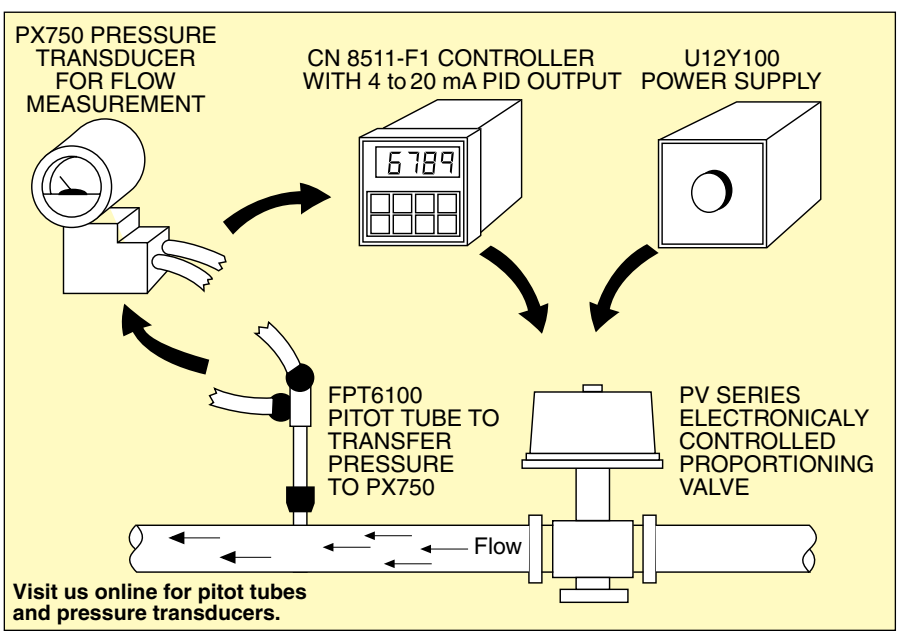
Available with brass or stainless steel body.

PV14-B shown smaller than actual size.

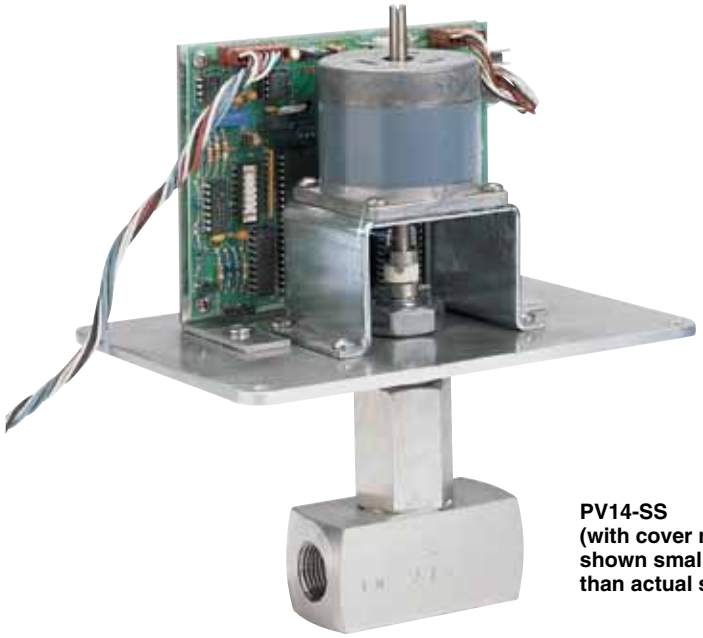
The rugged epoxy-coated aluminum package insures NEMA 4X (IP66) protection the powerful microprocessor and servo actuator. Internally, a 10-bit A/D converter positions a 200 step/ revolution stepper motor for precise flow. The stepper motor is directly connected to the valve stem without gearing, thereby eliminating backlash (hysteresis) effects. The valve can also be manually controlled with a screwdriver.

An electronically controlled proportioning valve (ECV) will take an electrical input signal (usually 4 to 20 mA) and proportion the amount of flow through a pipe from fully closed to fully open. The OMEGA® ECV valve features programmable reverse or direct acting control. “Direct acting” means that, as the current signal rises, the valve allows more flow, while “reverse acting” will decrease the flow rate with an increasing current signal.

These units can also be programmed to sense failures in the current loop and fully close or open the valve upon the signal level’s dropping below 4.0 mA. Dry contact remote switches can be used in conjunction with the standard current signal to provide an alarm signal which fully closes or opens the valve. An internal 5 Vdc signal is used to sense the state of the external switches.



Visit us online for pitot tubes and pressure transducers.



PV14-SS (with cover removed), shown smaller than actual size.

SPECIFICATIONS

Electronics

Power Supply: 12 to 24 Vdc @ 5 A (10 W typical, 23 W maximum) (2.5 A for ¾" valve, 38 W maximum)
Inputs: 4 to 20 mA control signal (250 Ω impedance) and dual external switch contact sensing via 5 Vdc signal
Control Modes: Direct or reverse, full or split range, high or low range, fail condition open or closed
Adjustments: None
Operating Temperature: 0 to 49°C (32 to 120°F)
Enclosure: NEMA 4X (IP66), epoxy painted aluminum
Connections: ½ NPT conduit (16" 22 AWG pigtail leads)

ACTUATOR

Type: DC step motor, 200 steps/rev, 4 rev travel
Resolution: 200:1 (0.5%) (4 steps increment)
Speed: 18 rpm
Torque: 57.5 in-oz (188 in-oz ¾" valve)

VALVE

Type: In-line globe
Temperature: -18 to 121°C (0 to 250°F)
Pressure: 120 psi maximum (70 psi on ¾" valve)
Maximum Flow: GPM = Cv $(\Delta P/SG)^{.5}$ liquids; for gases use standard equation found in solenoid valve section
Wetted Parts: Ethylene propylene rubber O-ring, PTFE washer, and valve body (Brass models have 303 SS internal trim)

COMPLETE UNIT

Dimensions: 216 H x 185 W x 137 mm D (8.5 x 7.3 x 5.4")
½" **Valve:** 229 H x 185 W x 137 mm D (9 x 7.3 x 5.4")
¾" **Valve:** 305 H x 203 W x 191 mm D (12 x 8 x 7.5")
Weight: 3.2 kg (7 lb)
½" **Valve:** 4.5 kg (10 lb)
¾" **Valve:** 8.2 kg (18 lb)

U12Y100 SPECIFICATIONS:

Power Supply: 120 Vac or 240 Vac @ 50 to 60 Hz, switchable
Output: 12 Vdc unregulated @ 3 A
Connections: 2.1 m (7') power cord, 3-pin DIN connector with 1.8 m (6') of 3-conductor 22 AWG, pigtail leads
Dimensions: 102 W x 152 L x 76 mm H (4 x 6 x 3")
Weight: 1.4 kg (3 lb)

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To Order

Model No.	Valve Size	Fitting Size	Cv	Maximum Flow @ 50 psi	Body Material
PV14-B	¼"	½ NPT	0.6	4 GPM	Brass
PV14-SS	¼"	½ NPT	0.6	4 GPM	316SS
PV516-B	5/16"	½ NPT	1.0	8 GPM	Brass
PV516-SS	5/16"	½ NPT	1.0	8 GPM	316SS
PV38-B	⅜"	½ NPT	1.7	12 GPM	Brass
PV38-SS	⅜"	½ NPT	1.7	12 GPM	316SS
PV12-B	¼"	¾ NPT	3.5	24 GPM	Brass
PV12-SS	¼"	¾ NPT	3.5	24 GPM	316SS
PV34-B	¾"	1 NPT	6.5	45 GPM	Brass
PV34-SS	¾"	1 NPT	6.5	45 GPM	316SS

Accessory

Model No.	Description
U12Y100	**Unregulated power supply 12 Vdc, 3 A**

Comes complete with operator's manual.
Ordering Examples: PV14-B, *4 GPM brass proportioning valve.*
PV38-B, *12 GPM brass proportioning valve.*