

# ELECTRONICALLY CONTROLLED OMEGA™ PROPORTIONING VALVES

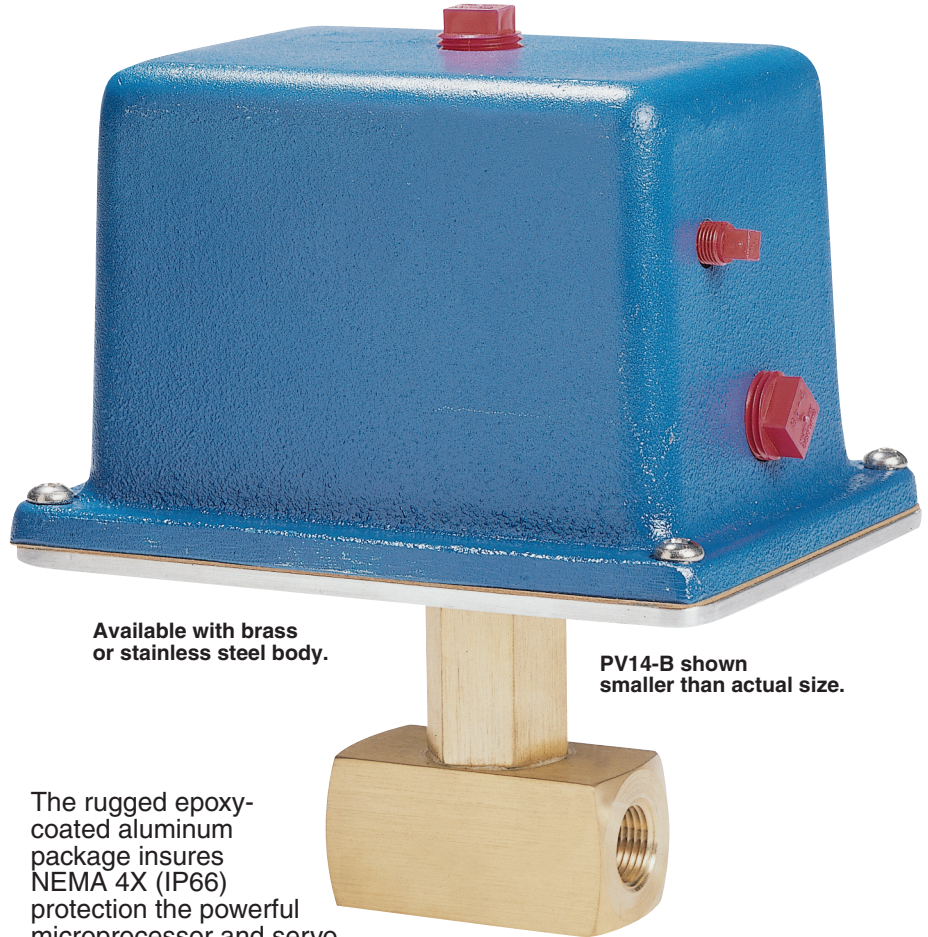
## PV14-B



- ✓ 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

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.

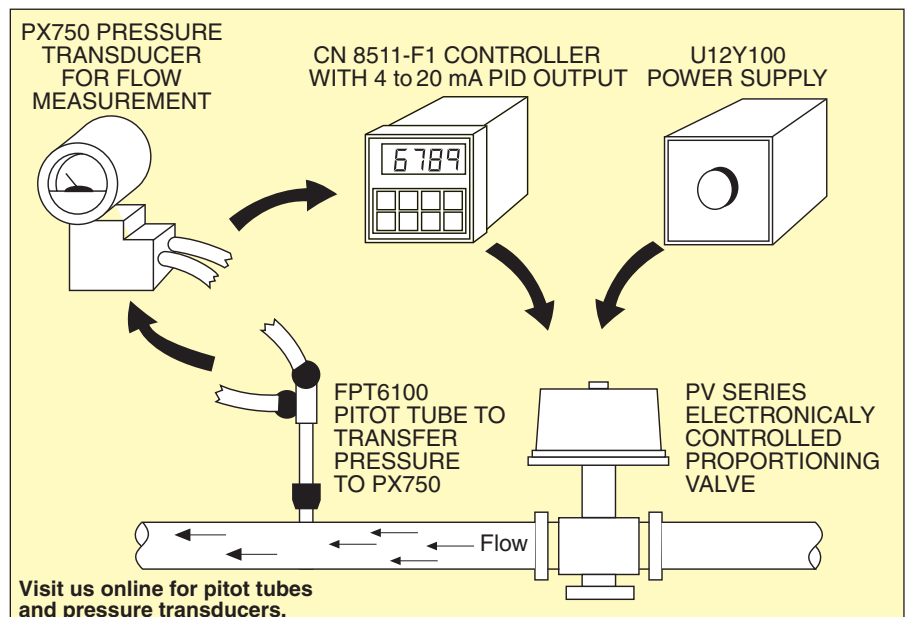


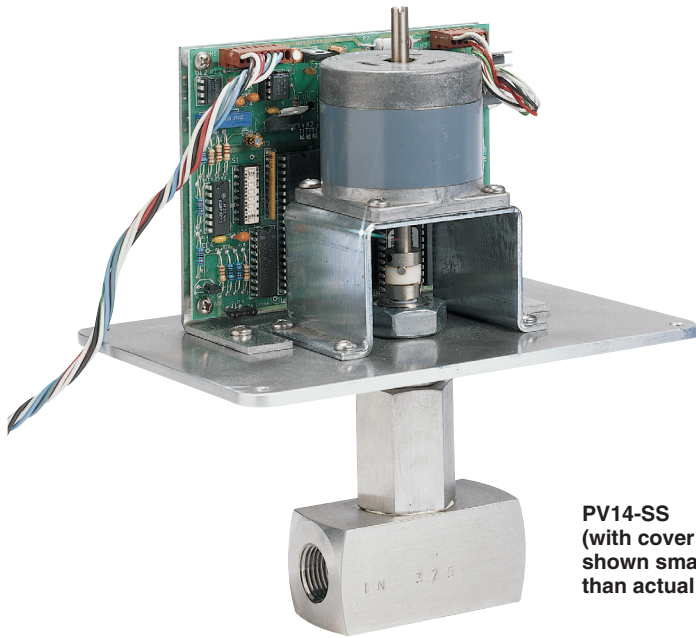
Available with brass or stainless steel body.

PV14-B shown smaller than actual size.

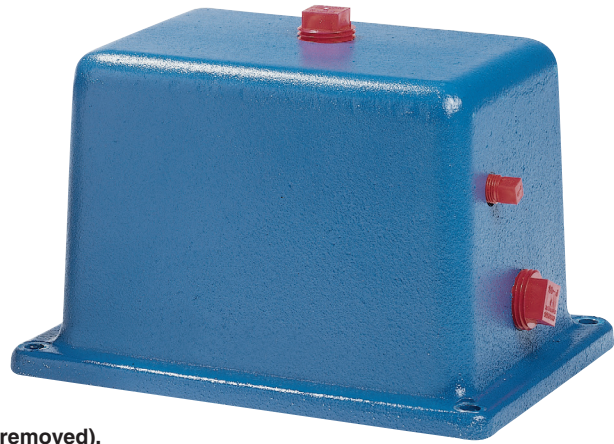
The rugged epoxy-coated aluminum package insures NEMA 4X (IP66) protection the powerful microprocessor and servo actuator. Internally, a 10-bit A/D converter positions a 200 step/revolution stepper motor for precise flow. The stepper motor is directly connected to the valve stem without

gearing, thereby eliminating backlash (hysteresis) effects. The valve can also be manually controlled with a screwdriver.





**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 3/4" 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:** 1/2" 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 3/4" valve)  
**VALVE**  
**Type:** In-line globe  
**Temperature:** -18 to 121°C (0 to 250°F)  
**Pressure:** 120 psi maximum (70 psi on 3/4" valve)  
**Maximum Flow:**  $GPM = C_v (\Delta P/SG)^{.5}$  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")  
 1/2" Valve: 229 H x 185 W x 137 mm D (9 x 7.3 x 5.4")  
 3/4" Valve: 305 H x 203 W x 191 mm D (12 x 8 x 7.5")  
**Weight:** 3.2 kg (7 lb)  
 1/2" Valve: 4.5 kg (10 lb)  
 3/4" 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)

## To Order

Model No.	Valve Size	Fitting Size	Cv	Maximum Flow @ 50 psi	Body Material
PV14-B	1/4"	1/2" NPTF	0.6	4 GPM	Brass
PV14-SS	1/4"	1/2" NPTF	0.6	4 GPM	316SS
PV516-B	5/16"	1/2" NPTF	1.0	8 GPM	Brass
PV516-SS	5/16"	1/2" NPTF	1.0	8 GPM	316SS
PV38-B	3/8"	1/2" NPTF	1.7	12 GPM	Brass
PV38-SS	3/8"	1/2" NPTF	1.7	12 GPM	316SS
PV12-B	1/2"	3/4" NPTF	3.5	24 GPM	Brass
PV12-SS	1/2"	3/4" NPTF	3.5	24 GPM	316SS
PV34-B	3/4"	1" NPTF	6.5	45 GPM	Brass
PV34-SS	3/4"	1" NPTF	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.