

# ELECTRONICALLY CONTROLLED PROPORTIONING VALVES



## PV Series

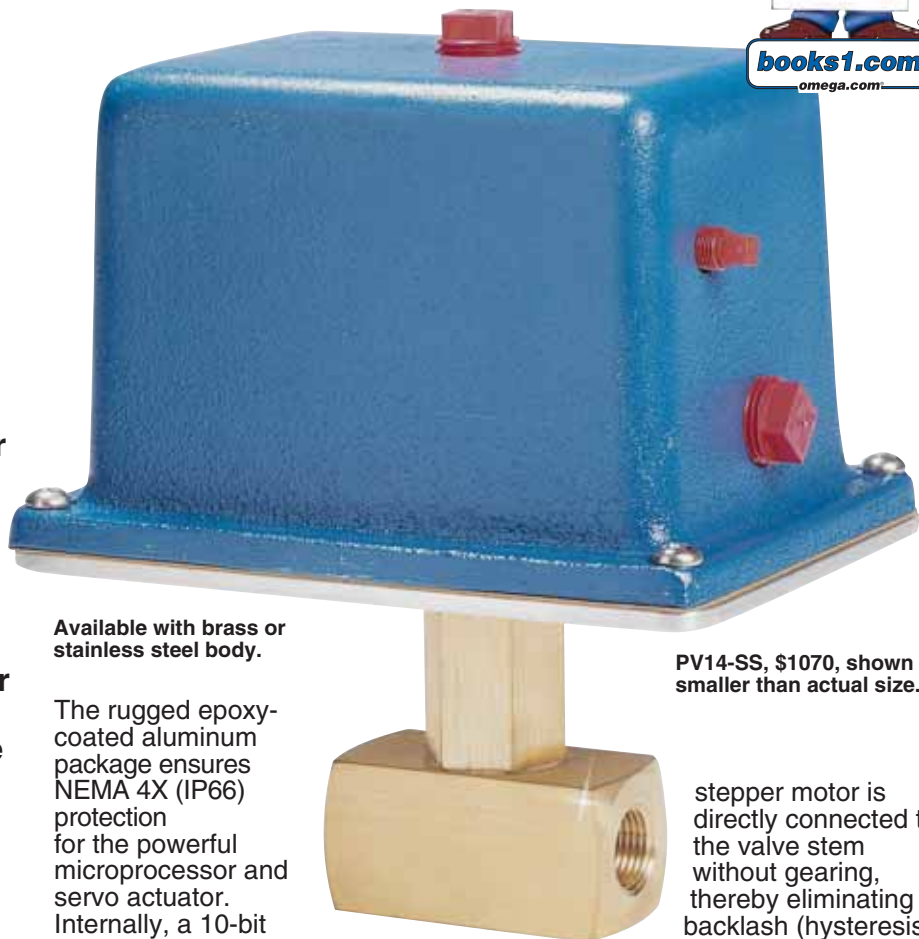
Starts at  
**\$865**



- ✓ Programmable Direct- or Reverse-Acting Control
- ✓ Precision Control is Achieved via a 10-Bit Converter Controlling a 200 Step per Revolution Motor
- ✓ Rugged Construction for Industrial Applications
- ✓ External Safety Override Contacts to Open/Close Valve
- ✓ NEMA 4 (IP65) 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 direct-acting or reverse-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 a failure in the current loop and fully close/open the valve when the signal level drops below 3.5 mA. Dry-contact remote switches can be used in conjunction with the standard current signal to provide an alarm signal that fully closes/opens the valve. An internal 5 Vdc signal is used to sense the state of the external switches.

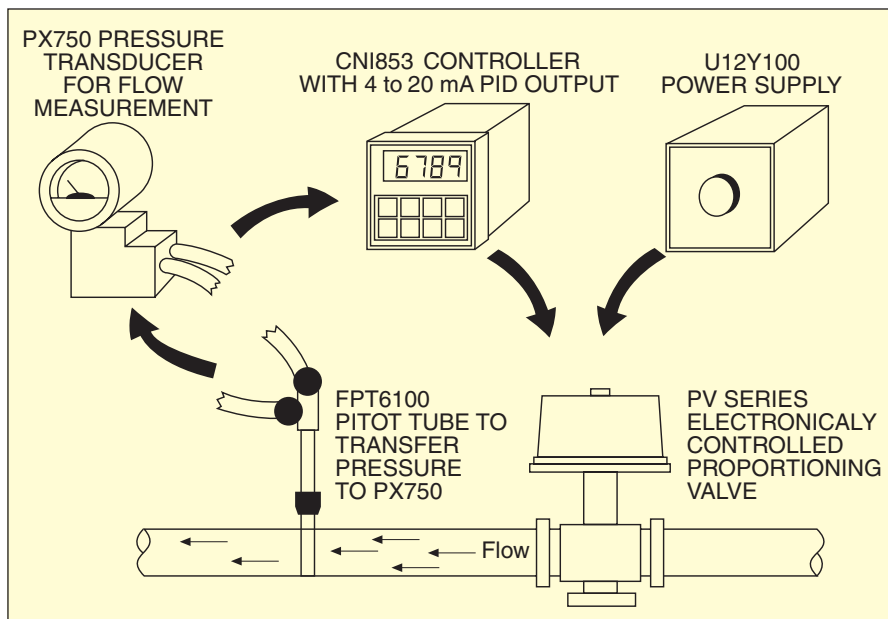


Available with brass or stainless steel body.

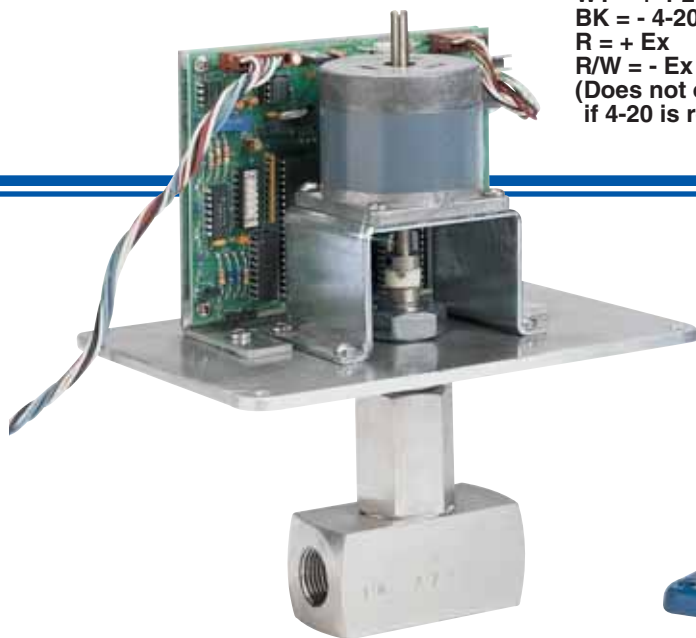
The rugged epoxy-coated aluminum package ensures NEMA 4X (IP66) protection for the powerful microprocessor and servo actuator. Internally, a 10-bit A/D converter is positioning a 200 step/revolution stepper motor for precise flow. The

PV14-SS, \$1070, shown smaller than actual size.

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.



WT = + 4-20      GN to Blue = Full Open  
 BK = - 4-20      G/W to Blue = Full Close  
 R = + Ex  
 R/W = - Ex  
 (Does not operate  
 if 4-20 is reversed)



PV series valve (with cover removed).

## SPECIFICATIONS

### ELECTRONICS:

**Power Supply:** 12 Vdc @ 3 A

**Inputs:** 4 to 20 mA control signal (250  $\Omega$  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:** Zero offset  $\pm 0.5$  mA

**Operating Temp:** 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:** 45 rpm (5 s full stroke) except ¾" valves: 18 rpm (12 s) full stroke

**Torque:** 57.5 in-oz (188 in-oz ¾ valve)

### VALVE:

**Type:** In-line globe

**Temp:** -18 to 120°C (0 to 250°F)

**Pressure:** 120 psi max (70 psi on ¾" valve)

**Max Flow:** GPM =  $C_v (\Delta P/SG)^{1/2}$  liquids; for gases, use standard equation found on page L-27

**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") 3-conductor 22 AWG, pigtail leads

**Dimensions:** 102 W x 152 L x 76 mm H (4 x 6 x 3")

**Weight:** 1.4 g (3 lb)

\* Caution: Using an underrated power supply will damage the unit.

**MOST POPULAR MODELS HIGHLIGHTED!**

## To Order (Specify Model Number)

MODEL NO.	PRICE	VALVE SIZE mm (in)	FITTING SIZE	$C_v$	MAX FLOW @ 50 psi	BODY MATERIAL
PV14-B	\$865	6.35 (¼)	½ NPT	0.6	4 GPM	Brass
PV14-SS	1070	6.35 (¼)	½ NPT	0.6	4 GPM	316 SS
PV516-B	875	7.94 (⅝)	½ NPT	1.0	8 GPM	Brass
PV516-SS	1080	7.94 (⅝)	½ NPT	1.0	8 GPM	316 SS
PV38-B	890	9.53 (¾)	½ NPT	1.7	12 GPM	Brass
PV38-SS	1095	9.53 (¾)	½ NPT	1.7	12 GPM	316 SS
PV12-B	1065	12.70 (½)	¾ NPT	3.5	24 GPM	Brass
PV12-SS	1325	12.70 (½)	¾ NPT	3.5	24 GPM	316 SS
PV34-B	1415	19.05 (¾)	1 NPT	6.5	45 GPM	Brass
PV34-SS	1765	19.05 (¾)	1 NPT	6.5	45 GPM	316 SS
ACCESSORIES	PRICE	DESCRIPTION				
U12Y100	\$125	Unregulated power supply 12 Vdc, 3 A				
MS-1783	58	Reference Book: Bottom-Line Automation				

Comes with complete operator's manual.

**Ordering Example:** PV14-B, 4 GPM brass proportioning valve, U12Y100, unregulated power supply, \$865 + 125 = \$990.



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