

Electronic Regulator & Proportional Valve

Catalog 9CW-UM-212 (Rev. 2)



WILKERSON®

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WARNING

FAILURE OR IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from The Company, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application including consequences of any failure, and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

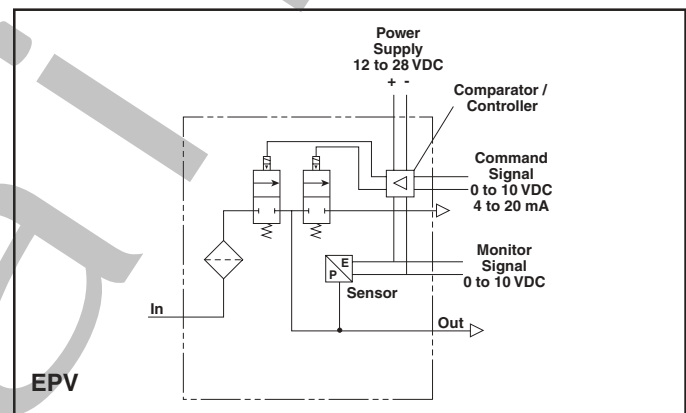
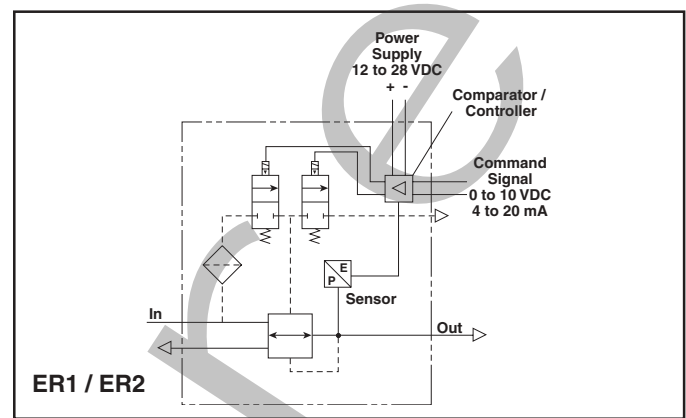
The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by The Company and its subsidiaries at any time without notice.

Offer of Sale

The items described in this document are hereby offered for sale by The Company, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated on the separate page of this document entitled "Offer of Sale".

Electronic Regulator & Proportional Valve

- Wilkerson electronic regulators provide internal 5-micron filtration to the controller and flows in excess of 200 SCFM without requiring external volume booster options.
- The ER1 and ER2 are available in a variety of sizes, from 1/4" to 3/4" ports, in both NPT and BSPP threads.
- The ER1 and ER2 utilize the same convenient modular connection method as Wilkerson's innovative 18 / 28 FRL system.
- The EPV provides highly accurate pressure for static and low flow applications.
- The EPV's are available in both 1/8" NPT or BSPP outlet ports on three sides and have a unique compact design for easy installation.



Wilkerson's electro-pneumatic series products consist of the ER1, the ER2, and the EPV. The ER1 / ER2 are an integrated pressure controller / mainline regulator capable of delivering accurate pneumatic pressures over a wide range of flow conditions. The EPV is a stand-alone highly accurate pressure controller. This integral system of two control valves and a feedback transducer, provides highly accurate and repeatable closed-loop control through instantaneous pressure adjustment.

The ER1 / ER2 and EPV are powered by 12-28 VDC, supplied by either a programmable logic controller (PLC) or an industrial regulator power supply. The units accept a variety of control inputs that include 0-10 VDC, 4-20 mA, or input from the internal integrated variable resistor.

An optional on-board LCD panel that reads true P2 pressure in either PSI or bar is available. This display is conveniently located in the top cap which can be removed for panel mounting or rotated 180° to suit specific requirements. The LCD panel is particularly useful for monitoring programmed pressures or for setting pressures in manual applications. An output signal of 0-10 VDC for feedback or SPC data monitoring is standard on all units.



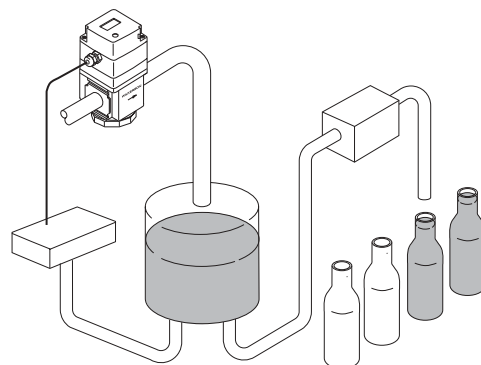
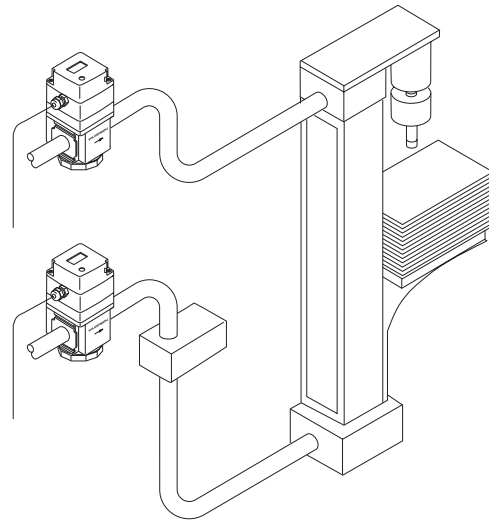
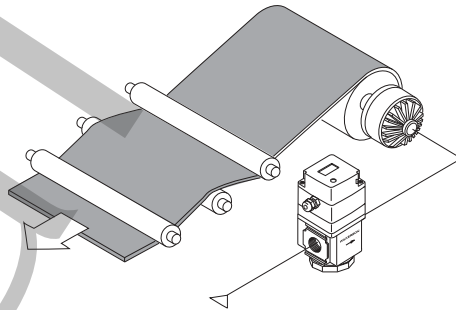
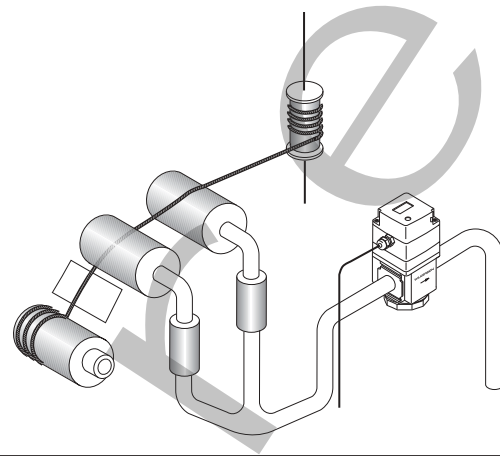
ER1 / ER2



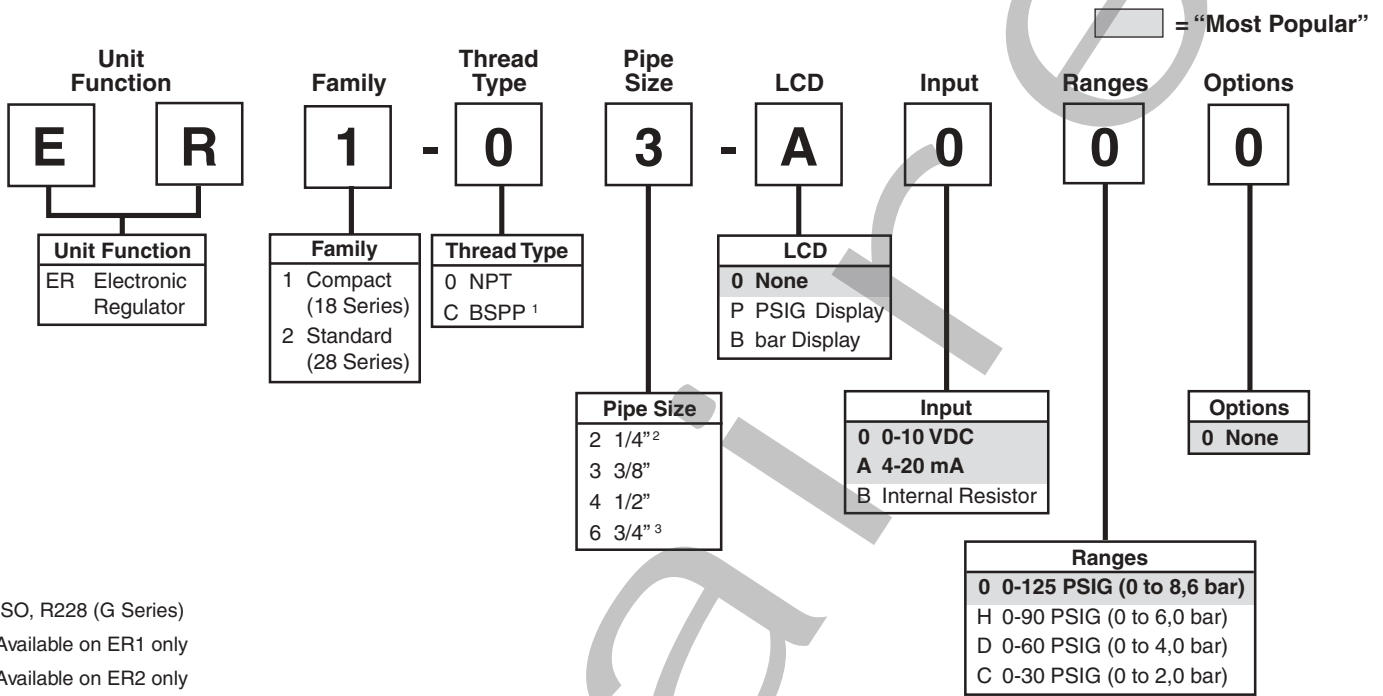
EPV

Typical Installations

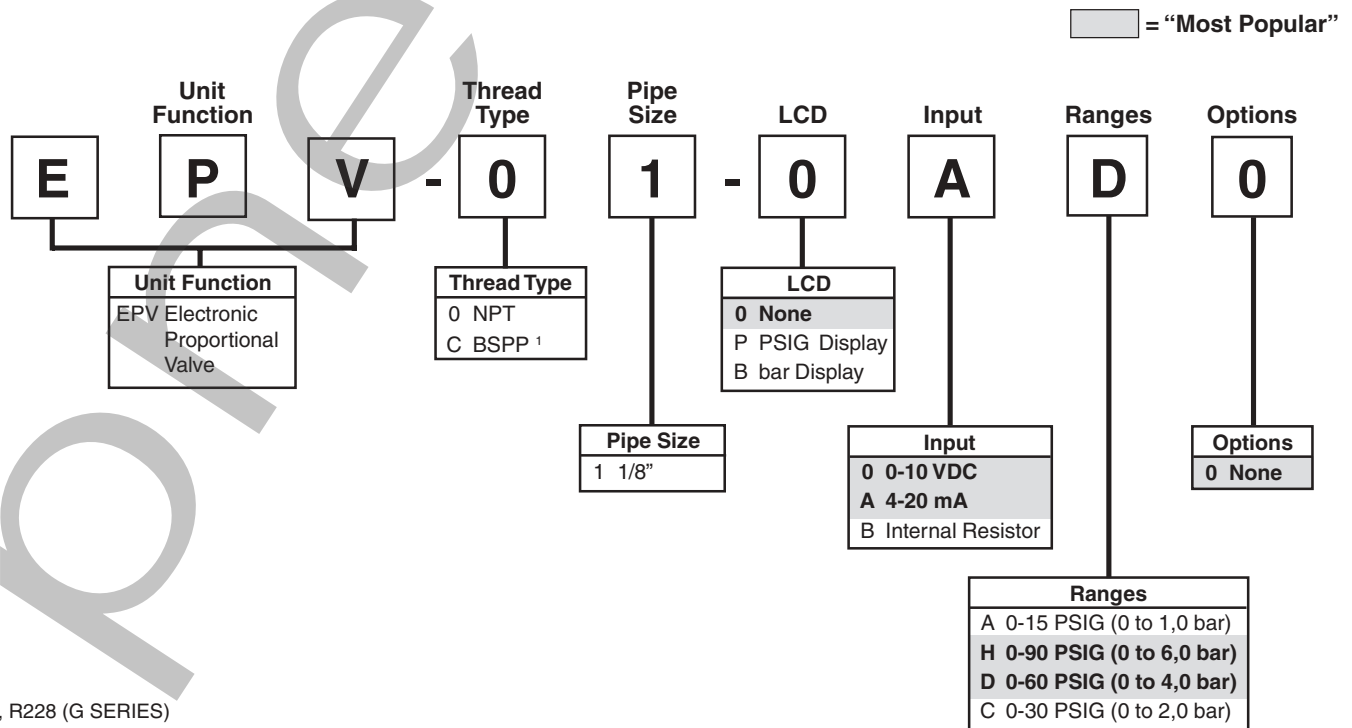
- Tip Pressure Control for Resistance Welding
- Cylinder Force Control
- Force Control for Electronic Component Assembly Operations
- Force Control for Grinding Applications
- Control of Feed Rollers on Sheet Feed Devices
- Flow Control for Diaphragm Pumps
- Liquid Flow Control for Pharmaceutical or Food Product Dispensing
- Air Pressure Control for Glue Flow in Lamination Processes
- Flow Control for Mixing Precise Product Formulations
- Control of Air and Fluid in Spray Painting Processes
- Control of System Pressures for Conveying Dry Materials
- Regulation of Thickness in Plastic Film Manufacturing
- Control of Various Processes in the Production of Rubber and Rubber Tires
- Control of Ride Level in Semi-truck Trailers
- Control of Bottled Gas Flow through a Fixed Orifice
- Control of Pressure Required for Leak Testing Containers
- Accurate Edge Guiding in Web Systems
- Web Tension Control Systems
- Tension Control for Thread Settings in Textile Manufacturing
- Control of Air Pressure to Simulate Altitude and Water Depth for Testing Applications
- Control of Rodless Cylinders to Operate Robotic Arms in Case Loading Operations
- Pressure Control for Plastic Blow-molding Operations



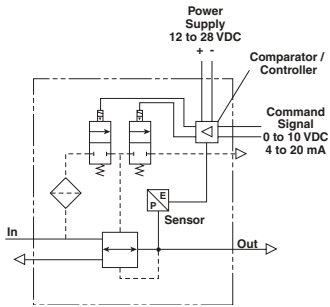
Electronic Regulator Numbering System



Electronic Proportional Valve Numbering System



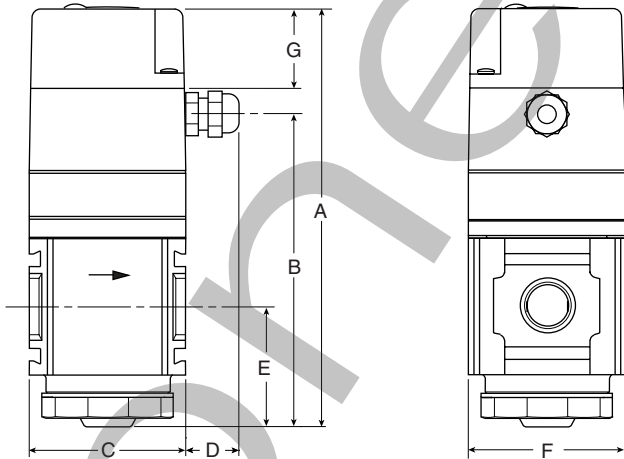
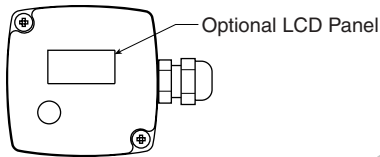
Electronic Regulator ER1 / ER2



ER1-02-0000

Features

- Optional LCD Panel Displays P2 Pressure in PSIG or bar
- Modern Design and Appearance
- Light Weight
- High Flow Capacity
- 5 Micron Filtration to Controller is Built-in



Dimensions

Models	Inches (mm)	A	B	C	D	E	F	G
Standard Unit ER1-XX-0000		6.31 (160)	4.71 (120)	2.35 (60)	0.79 (20)	1.79 (45)	2.35 (60)	1.20 (30)
Standard Unit ER2-XX-0000		6.31 (160)	4.71 (120)	2.88 (73)	0.79 (20)	1.79 (45)	2.88 (73)	1.20 (30)

Specifications

Flow Capacity*	ER1	1/4	165 SCFM (77,9 dm ³ /s)
		3/8	200 SCFM (94,4 dm ³ /s)
		1/2	200 SCFM (94,4 dm ³ /s)
	ER2	3/8	200 SCFM (94,4 dm ³ /s)
		1/2	200 SCFM (94,4 dm ³ /s)
		3/4	200 SCFM (94,4 dm ³ /s)
Operating Temperature	32° to 125°F (0° to 52°C)		
Maximum Supply Pressure	150 PSIG (10,3 bar)		
Adjusting Range	0-125 PSIG (0-8,6 bar)		
Sensitivity	± .8% of Full Scale		
Hysteresis / Repeatability	± .8% of Full Scale		
Linearity	< 1.0 PSIG (0,6 bar)		
Response	with Step Input 600 ms		
Port Size	NPT / BSPP-G	1/4, 3/8, 1/2, 3/4	
Weight	lb. (kg)	ER1	1.76 (0,8)
		ER2	2.43 (1,1)

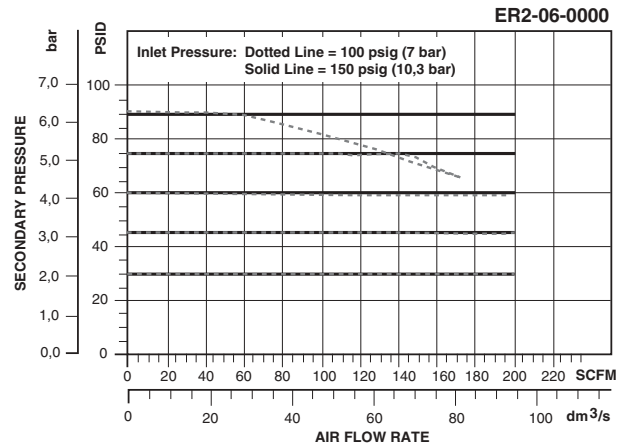
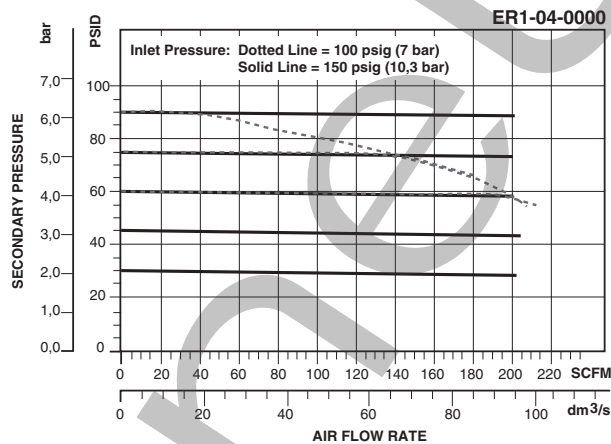
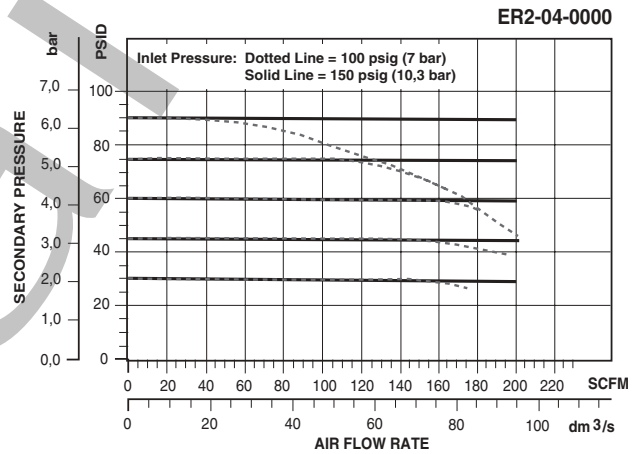
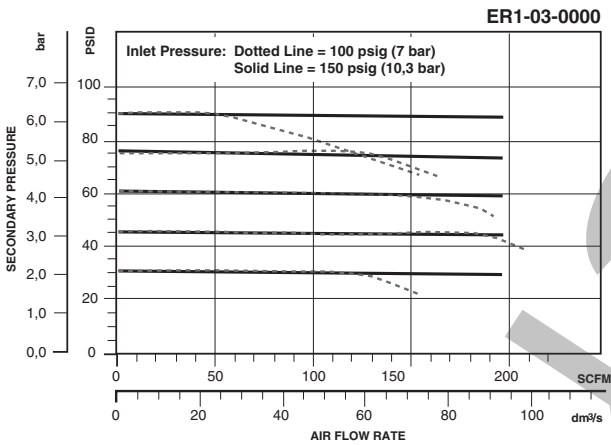
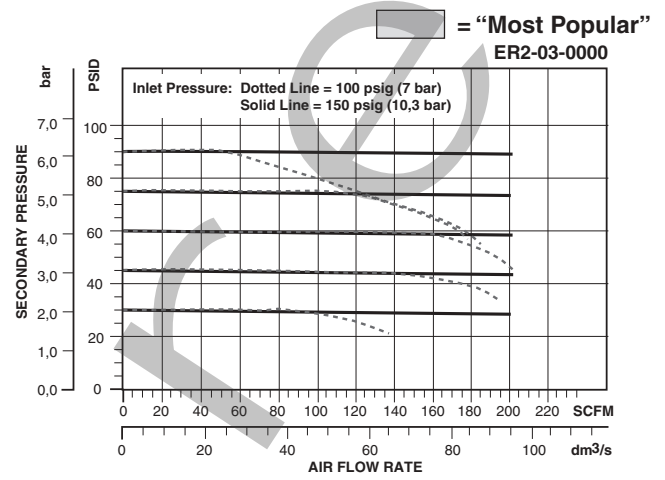
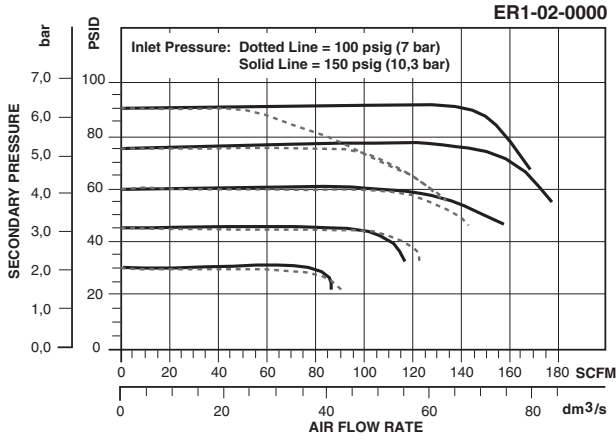
* Inlet pressure 150 PSIG (10,3 bar). Secondary pressure 90 PSIG (6,2 bar).

Materials of Construction

Body	Aluminum
Diaphragm Plate	Acetal
Body Cover	ABS
Diaphragms	Nitrile / Zinc / Brass
Valve Assembly	Brass / Nitrile
Springs	Music Wire / Stainless Steel
Seals	Nitrile
Panel Nut	Acetal
Bottom Plug	33% Glass-Filled – Nylon 6-12

Accessories

C-Bracket GPA-97-086

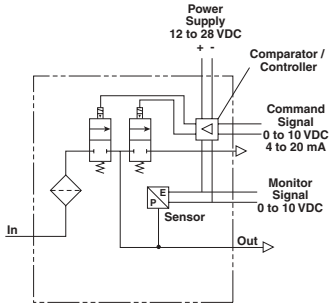


Ordering Information

Model Type	Port Size	0-10 VDC With LCD(PSI)	0-10 VDC With LCD(bar)	4-20 mA With LCD(PSI)	4-20 mA With LCD(bar)	0-10 VDC Without LCD	4-20mA Without LCD	Internal With LCD (PSI)	Internal With LCD (bar)
ER1	1/4	ER1-02-P000	ER1-C2-B000	ER1-02-PA00	ER1-C2-BA00	ER1-02-0000	ER1-02-0A00	ER1-02-PB00	ER1-C2-BB00
	3/8	ER1-03-P000	ER1-C3-B000	ER1-03-PA00	ER1-C3-BA00	ER1-03-0000	ER1-03-0A00	ER1-03-PB00	ER1-C3-BB00
	1/2	ER1-04-P000	ER1-C4-B000	ER1-04-PA00	ER1-C4-BA00	ER1-04-0000	ER1-04-0A00	ER1-04-PB00	ER1-C4-BB00
ER2	3/8	ER2-03-P000	ER2-C3-B000	ER2-03-PA00	ER2-C3-BA00	ER2-03-0000	ER2-03-0A00	ER2-03-PB00	ER2-C3-BB00
	1/2	ER2-04-P000	ER2-C4-B000	ER2-04-PA00	ER2-C4-BA00	ER2-04-0000	ER2-04-0A00	ER2-04-PB00	ER2-C4-BB00
	3/4	ER2-06-P000	ER2-C6-B000	ER2-06-PA00	ER2-C6-BA00	ER2-06-0000	ER2-06-0A00	ER2-06-PB00	ER2-C6-BB00

Options - To order an option supplied with the unit model, add the appropriate coded suffix letter in the designated position of the model number.

Electronic Proportional Valve EPV



EPV-01-00H0

Features

- Optional LCD Panel Displays P2 Pressure in PSIG or bar
- Modern Design and Appearance
- Light Weight
- 0-10 VDC, 4-20mA, or Internal Control Signal Options Available

Specifications

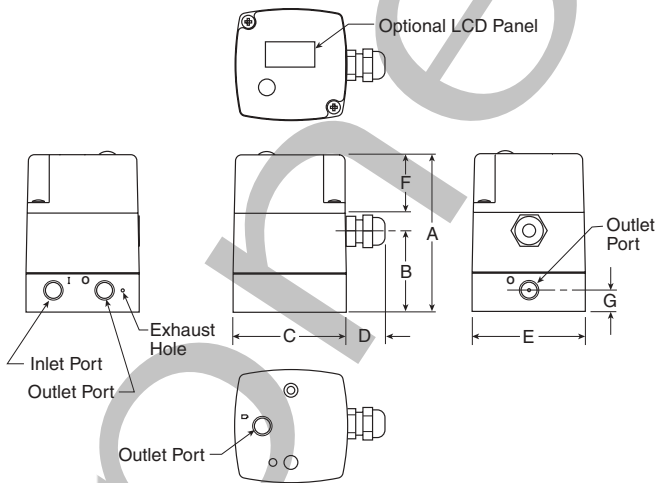
Flow Rate	$C_v = .02$
Operating Temperature	32° to 125°F (0° to 52°C)
Maximum Supply Pressure	150 PSIG (10,3 bar)
Output Pressure Ranges	15/30/60/90 PSIG 1/2, 1/4, 1/6, 2 bar
Overall Accuracy	0.8% Scale
Linearity	< 1.0 PSIG (,06 bar)
Response*	50 mSEC
Step Response**	with Step Input 600 mSEC
Port Size	NPT / BSPP-G 1/8
Weight	lb. (kg) .92 (,42)

* Response time for the unit to recognize and correct for a change in set value or conditions.

** Step response is the time to go from 10-90% of set value with a 60 PSIG (4,0 bar) step input.

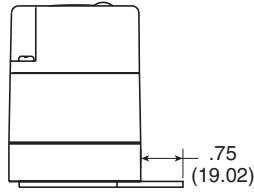
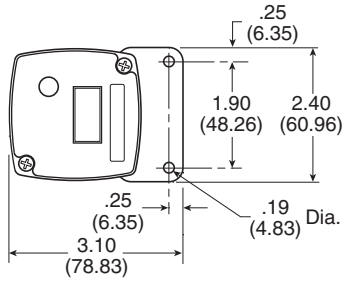
Materials of Construction

Body / Cap	Aluminum
Body Cover	ABS
Valve Assembly	Brass / Nitrile
Seals	Nitrile

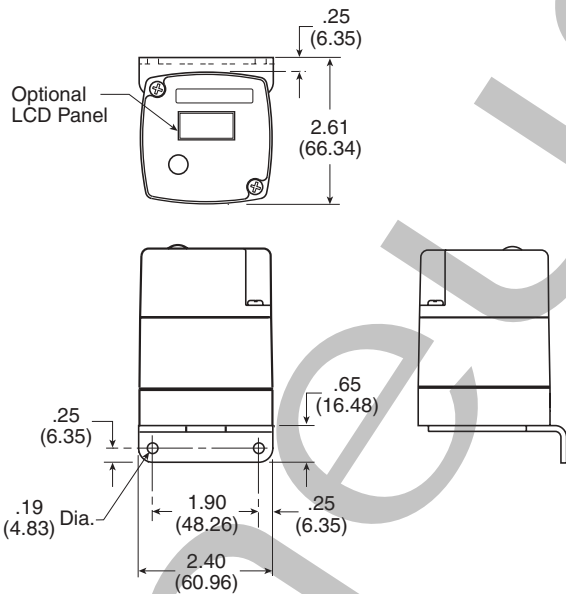


Dimensions

Models	Inches (mm)	A	B	C	D	E	F	G
Standard Unit EPV-XX-0000		3.28 (83)	1.69 (43)	2.35 (60)	0.79 (20)	2.35 (60)	1.20 (30)	0.45 (11)



Flat Bracket



Angled Bracket

= "Most Popular"

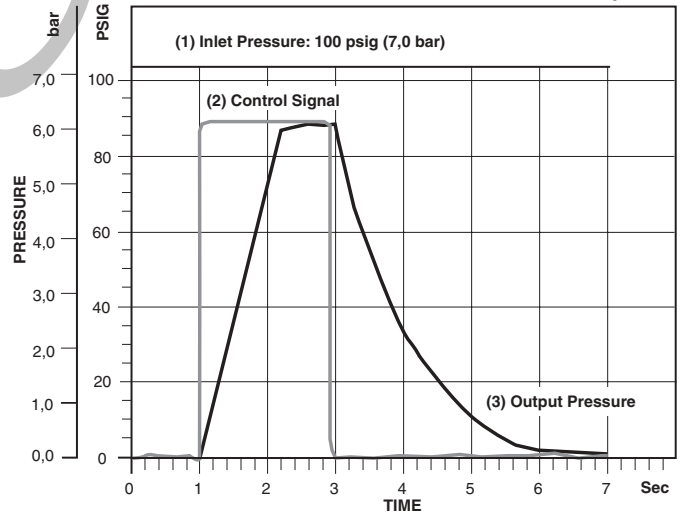
The EPV provides highly accurate pressure for static and low flow applications. In addition, the EPV is available in both 1/8" NPT or G-series outlet ports on three sides and has a unique compact design which allows for easy installation.

For optimum valve and system performance, we recommend a pre-filter package consisting of a 5 micron particulate filter and a .01 micron coalescing filter.

Replacement Kits

- Flat Bracket Kit EPP-95-351
- Angled Bracket Kit EPP-95-352
- Control Board, EPV 15 / 30 PSIG EPP-95-782

EPV Transient Response



Ordering Information

Model Type	Port Size	Display	0 to 10VDC w/ LCD	4 to 20 mA w/ LCD	Internal With LCD
EPV	1/8	PSI	EPV-01-P0H0	EPV-01-PAH0	EPV-01-PBH0
		bar	EPV-C1-B0H0	EPV-C1-BAH0	EPV-C1-BBH0
		None	EPV-01-00H0	EPV-01-0AH0	—

Options - To order an option supplied with the unit model, add the appropriate coded suffix letter in the designated position of the model number. Units with "H" in model number position 9 = 0 to 90 PSIG (0 to 6,2 bar) range.