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⚠️ **WARNING**

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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.

Wilkerson Operations
Richland, MI
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

<table>
<thead>
<tr>
<th>Unit Function</th>
<th>Thread Type</th>
<th>Pipe Size</th>
<th>LCD</th>
<th>Input</th>
<th>Ranges</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>EER</td>
<td>1 Compact (18 Series)</td>
<td>2 1/4&quot;</td>
<td>A</td>
<td>0</td>
<td>0-125</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>2 Standard (28 Series)</td>
<td>3 3/8&quot;</td>
<td>A</td>
<td>0</td>
<td>0-125</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>3 Available on ER2 only</td>
<td>4 1/2&quot;</td>
<td>A</td>
<td>0</td>
<td>0-125</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>6 3/4&quot;</td>
<td>A</td>
<td>0</td>
<td>0-125</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

1 ISO, R228 (G Series)

Electronic Proportional Valve Numbering System

<table>
<thead>
<tr>
<th>Unit Function</th>
<th>Thread Type</th>
<th>Pipe Size</th>
<th>LCD</th>
<th>Input</th>
<th>Ranges</th>
<th>Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPV</td>
<td>0 NPT</td>
<td>1 1/8&quot;</td>
<td>A</td>
<td>0</td>
<td>0-10</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>1 BSPP</td>
<td></td>
<td>A</td>
<td>0</td>
<td>0-10</td>
<td>None</td>
</tr>
</tbody>
</table>

1 ISO, R228 (G SERIES)
Electronic Regulator
ER1 / ER2

Specifications

<table>
<thead>
<tr>
<th>Flow Capacity*</th>
<th>ER1</th>
<th>ER2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4</td>
<td>165 SCFM (77.9 dm³/s)</td>
<td>200 SCFM (94.4 dm³/s)</td>
</tr>
<tr>
<td>3/8</td>
<td>200 SCFM (94.4 dm³/s)</td>
<td>200 SCFM (94.4 dm³/s)</td>
</tr>
<tr>
<td>1/2</td>
<td>200 SCFM (94.4 dm³/s)</td>
<td>200 SCFM (94.4 dm³/s)</td>
</tr>
<tr>
<td>3/4</td>
<td>200 SCFM (94.4 dm³/s)</td>
<td>200 SCFM (94.4 dm³/s)</td>
</tr>
</tbody>
</table>

- 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: ±0.8% of Full Scale
- Hysteresis / Repeatability: ±0.8% 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: ER1 1.76 lb (0.8 kg), ER2 2.43 lb (1.1 kg)

* Inlet pressure 150 PSIG (10.3 bar). Secondary pressure 90 PSIG (6.2 bar).

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

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

Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Inches (mm)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Unit</td>
<td>ER1-XX-0000</td>
<td>6.31 (160)</td>
<td>4.71 (120)</td>
<td>2.35 (60)</td>
<td>0.79 (20)</td>
<td>1.79 (45)</td>
<td>2.35 (60)</td>
<td>1.20 (30)</td>
</tr>
<tr>
<td>Standard Unit</td>
<td>ER2-XX-0000</td>
<td>6.31 (160)</td>
<td>4.71 (120)</td>
<td>2.88 (73)</td>
<td>0.79 (20)</td>
<td>1.79 (45)</td>
<td>2.88 (73)</td>
<td>1.20 (30)</td>
</tr>
</tbody>
</table>
## Ordering Information

<table>
<thead>
<tr>
<th>Model Type</th>
<th>Port Size</th>
<th>0-10 VDC Without LCD</th>
<th>4-20 mA Without LCD</th>
<th>Internal LCD PSI</th>
<th>Internal LCD bar</th>
</tr>
</thead>
<tbody>
<tr>
<td>ER1</td>
<td>1/4</td>
<td>ER1-02-0000</td>
<td>ER1-02-0A00</td>
<td>ER1-02-0000</td>
<td>ER1-02-0B00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ER1-02-0B00</td>
<td>ER1-02-0A00</td>
<td>ER1-02-0000</td>
<td>ER1-02-0B00</td>
</tr>
<tr>
<td></td>
<td>3/8</td>
<td>ER1-03-0000</td>
<td>ER1-03-0A00</td>
<td>ER1-03-0000</td>
<td>ER1-03-0B00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ER1-03-0B00</td>
<td>ER1-03-0A00</td>
<td>ER1-03-0000</td>
<td>ER1-03-0B00</td>
</tr>
<tr>
<td></td>
<td>1/2</td>
<td>ER1-04-0000</td>
<td>ER1-04-0A00</td>
<td>ER1-04-0000</td>
<td>ER1-04-0B00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ER1-04-0B00</td>
<td>ER1-04-0A00</td>
<td>ER1-04-0000</td>
<td>ER1-04-0B00</td>
</tr>
<tr>
<td>ER2</td>
<td>3/8</td>
<td>ER2-03-0000</td>
<td>ER2-03-0A00</td>
<td>ER2-03-0000</td>
<td>ER2-03-0B00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ER2-03-0B00</td>
<td>ER2-03-0A00</td>
<td>ER2-03-0000</td>
<td>ER2-03-0B00</td>
</tr>
<tr>
<td></td>
<td>1/2</td>
<td>ER2-04-0000</td>
<td>ER2-04-0A00</td>
<td>ER2-04-0000</td>
<td>ER2-04-0B00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ER2-04-0B00</td>
<td>ER2-04-0A00</td>
<td>ER2-04-0000</td>
<td>ER2-04-0B00</td>
</tr>
<tr>
<td></td>
<td>3/4</td>
<td>ER2-06-0000</td>
<td>ER2-06-0A00</td>
<td>ER2-06-0000</td>
<td>ER2-06-0B00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ER2-06-0B00</td>
<td>ER2-06-0A00</td>
<td>ER2-06-0000</td>
<td>ER2-06-0B00</td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Port Size</th>
<th>NPT / BSPP-G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight</td>
<td>lb. (kg)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EPV-01-00H0</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8</td>
</tr>
<tr>
<td>.92 (0.42)</td>
</tr>
</tbody>
</table>

*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

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

Dimensions

<table>
<thead>
<tr>
<th>Models</th>
<th>Inches (mm)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Unit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EPV-XX-0000</td>
<td></td>
<td>3.28</td>
<td>1.69</td>
<td>2.35</td>
<td>0.79</td>
<td>2.35</td>
<td>1.20</td>
<td>0.45</td>
</tr>
</tbody>
</table>

= “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

---

**Ordering Information**

<table>
<thead>
<tr>
<th>Model Type</th>
<th>Port Size</th>
<th>Display</th>
<th>0 to 10 VDC w/ LCD</th>
<th>4 to 20 mA w/ LCD</th>
<th>Internal With LCD</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPV</td>
<td>1/8</td>
<td>PSI</td>
<td>EPV-01-P0H0</td>
<td>EPV-01-PAH0</td>
<td>EPV-01-PBH0</td>
</tr>
<tr>
<td></td>
<td>bar</td>
<td></td>
<td>EPV-01-C0H0</td>
<td>EPV-01-BAH0</td>
<td>EPV-01-BBH0</td>
</tr>
<tr>
<td></td>
<td>None</td>
<td></td>
<td>EPV-01-00H0</td>
<td>EPV-01-0AH0</td>
<td>—</td>
</tr>
</tbody>
</table>

**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 99 PSIG (0 to 6.2 bar) range.