SER₂-C

2ND GENERATION
Electronic Expansion Valve

- 60% reduction in weight
- 3.5X wider flow control
- 50% less power required for valve operation
- Highest MOPD in the industry
- 60% decrease in SKUs

With its robust, uni-body construction, the SER-C is right at home in conditioned spaces, such as walk-in coolers and supermarket cases. A specialized forming process minimizes leak paths, increases corrosion resistance and provides up to **60% reduction in weight** over typical pulse width designs.

The SER-C exceeds the HVAC/R industry demands for wide range expansion valves by delivering **3.5X wider flow control range** over competing designs. The advanced pin design and high resolution step motor ensures precise low flow control without sacrificing maximum capacity.

The unique flow characteristics of the SER-C make it ideal for supermarket applications requiring faster pull down after defrost and transport applications with varying product loads. The wider range control can **decrease SKUs up to 60%** when compared to traditional sized electronic expansion valves.

When paired with Sporlan’s Kelvin II superheat controller, the SER-C electronic expansion valve can reduce system troubleshooting and simplify superheat control.

---

**Product Features:**

- Can reduce system energy consumption by lowering head pressure
- For harsh refrigeration environments; cold rooms, supermarket cases and transport applications
- Provides smooth system start up and elimination of “water hammer” over pulse width design
- Quad position IP67 cable provides flexibility for cable routing
- Tested and approved for oil free refrigeration systems

---

**Contact Information:**

Parker Hannifin Corporation
Sporlan Division
206 Lange Drive
Washington, MO 63090

phone 636 239 1111
fax 636 239 9130
svdeev@parker.com

www.sporlanonline.com

---

U.S. Patent Pending
Design Details:

- 2500 Bi-Polar Step Control
- Voltage: 12VDC (-5% / +10%)
- Power: 2.8 Watt
- Operating Temperature: -50°F to 155°F (-45°C to 68°C)
- Bi-flow
- MOPD: 580 psid (40 bar)
  In Both Flow Directions
- MRP: 700 psig (48 bar)
- Available Configurations:
  - 1/4" x 3/8" ODF
  - 3/8" x 3/8" ODF
  - 3/8" x 1/2" ODF
  - 3/8" x 5/8" ODF
- Metric Connections Available
- 10' Cable Length Standard
- All Common HFC, HCFC Refrigerant and Blends
- Subcritical R-744

Components and Accessories:

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Item Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kelvin II</td>
<td>Superheat Controller without Local Display</td>
<td>952560</td>
</tr>
<tr>
<td></td>
<td>Superheat Controller with Display</td>
<td>952561</td>
</tr>
<tr>
<td></td>
<td>Remote Display Only</td>
<td>952562</td>
</tr>
<tr>
<td>IB-2</td>
<td>Interface Board (2500 steps)</td>
<td>983188</td>
</tr>
<tr>
<td>Temperature Sensor</td>
<td>External Sensing Bulb</td>
<td>952662</td>
</tr>
<tr>
<td>Temperature Well Sensor Kit</td>
<td>Internal Sensing Element</td>
<td>952795</td>
</tr>
<tr>
<td>Pressure Transducer</td>
<td>150 psig with Cable</td>
<td>953091</td>
</tr>
<tr>
<td></td>
<td>150 psia with Cable</td>
<td>952995</td>
</tr>
<tr>
<td></td>
<td>300 psig with Cable (R-410A applications only)</td>
<td>952740</td>
</tr>
<tr>
<td></td>
<td>500 psig with Cable (R-744 subcritical applications only)</td>
<td>952504</td>
</tr>
<tr>
<td>SMA-12</td>
<td>Test Instrument</td>
<td>953276</td>
</tr>
</tbody>
</table>

Dimensions:

- 6.6" 167 mm
- 1.55" 39 mm
- 2.63" 66 mm
- 2.58" 65 mm

Flow Range Comparison - SER vs. Traditional EEVs

- Increases low end resolution and maximizes flow capacity

Recommended Operating Range*

<table>
<thead>
<tr>
<th>Refrigerant</th>
<th>Liquid Temp. (°F)</th>
<th>Valve ∆P</th>
<th>Evap. Temp. (°F)</th>
<th>Operating Range – Tons (kW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>R-22</td>
<td>100</td>
<td>100</td>
<td>40</td>
<td>Recommend</td>
</tr>
<tr>
<td>R-134a</td>
<td>100</td>
<td>60</td>
<td>40</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>R-404A</td>
<td>100</td>
<td>100</td>
<td>40</td>
<td>Recommend</td>
</tr>
<tr>
<td>R-410A</td>
<td>100</td>
<td>160</td>
<td>40</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

*When paired with Sporlan Kelvin II Superheat Controller, 10° subcooling.