Section 1.0
Introduction

The Parker Autoclave Engineers Electric Flow Control valves are designed to operate up to 60,000 psi depending on the model number. The valves are "fail-as-is" meaning the valve maintains its last position on signal or power failure.

Section 2.0
Meaning of Safety Words

A safety related message is identified by a safety alert symbol and a signal word to indicate the level of risk involved with a particular hazard. The definitions of the three signal words are as follows:

![WARNING]
indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

![CAUTION]
indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

![CAUTION]
Internal dip switches are factory set. Do not adjust switches unless directly advised in Section 6 (Service) of this manual.

Section 3.0
Technical Specification

Electrical Power
Power Required: 24 VDC/72 Watt Maximum
Input Impedance: 250 Ohms (4-20 mA input)

Environmental
Atmosphere: NEC CLASS I, DIV 1, GROUP B,C,D
Operating Tempertaure (Actuator): -40° to 85° C
Maximum Weight: See drawing.
Dimensions: See drawing.

Personnel:
Installation must be carried out by qualified personnel familiar with all pertinent wiring practices, codes, and safety procedures.
### Section 4.0 Drawings

<table>
<thead>
<tr>
<th>VALVE SERIES</th>
<th>DRAWING</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/8&quot; 10V</td>
<td>AE003953</td>
</tr>
<tr>
<td>1/4&quot; 10V</td>
<td>AE003954</td>
</tr>
<tr>
<td>3/8&quot; 10V</td>
<td>AE003955</td>
</tr>
<tr>
<td>1/2&quot; 10V</td>
<td>AE003956</td>
</tr>
<tr>
<td>1/4&quot; SW</td>
<td>AE003957</td>
</tr>
<tr>
<td>3/8&quot; SW</td>
<td>AE003958</td>
</tr>
<tr>
<td>1/2&quot; SW</td>
<td>AE003959</td>
</tr>
<tr>
<td>1/4&quot; 20SM</td>
<td>AE003960</td>
</tr>
<tr>
<td>3/8&quot; 20SM</td>
<td>AE003961</td>
</tr>
<tr>
<td>9/16&quot; 20SM</td>
<td>AE003962</td>
</tr>
<tr>
<td>1/4&quot; 30VM</td>
<td>AE003963</td>
</tr>
<tr>
<td>3/8&quot; 30VM</td>
<td>AE003964</td>
</tr>
<tr>
<td>9/16&quot; 30VM</td>
<td>AE003965</td>
</tr>
<tr>
<td>1/8&quot; 60VM</td>
<td>AE003966</td>
</tr>
<tr>
<td>3/8&quot; 60VM</td>
<td>AE003967</td>
</tr>
<tr>
<td>9/16&quot; 60VM</td>
<td>AE003968</td>
</tr>
</tbody>
</table>

### Section 5.0 Installation

**Electrical Wiring:**
The actuator comes with a female 1/2" NPT connection for the user to connect their electrical piping. It is the responsibility of the user to connect to the actuator in a way that meets their hazardous location codes. The electrical wiring is connected at the terminal block as indicated on photo and schematic below.

![Wiring schematic](image)

**Signal Positioning:**
A 4-20mA signal corresponds to a 0-100% open position. A 4.0mA signal directs the valve to a fully closed position. When a 20mA signal is given the valve is fully opened a full 5 turns. The relationship between the signal and the valve position is linear.

**High Pressure Plumbing:**
Refer to the Tools and Installation section of the Parker Autoclave Engineers VFT product catalog.

---

**Terminal #** | **DC Power Supply only**
--- | ---
6 | +24 VDC
5 | Power ground
4 | Output signal (4..20mA)
3 | Not Connected
2 | Isolated input signal GND
1 | Isolated input +signal (4..20mA)

---

**DO NOT CONNECT PIN 4 DIRECTLY OR THROUGH A MULTIMETER TO GROUND. A SENSING RESISTOR OF 50 OHMS OR MORE NEEDS TO BE PRESENT. NOT OBSERVING THIS WARNING WILL DAMAGE THE EQUIPMENT.**

The actuator 4..20 mA output is internally supplying the signal current and can drive sufficient voltage for any sensing resistor up to 250 ohms.

The potential of the external GND after the sensing resistor may not be more than +6 VDC/-2 VDC away from the power GND of the actuator.
Section 6.0
Service

For valve maintenance or packing leaks refer to the Manual Valves Operation and Maintenance Manual (Catalog# 02-0024ME).

RE-ZERO THE VALVE AFTER MANUAL ADJUSTMENT. REMOVE THE TOP COVER AND APPLY POWER TO THE ACTUATOR AND CYCLE DIP SWITCH 12 FROM OFF TO ON AND BACK TO OFF. VERIFY THAT THE VALVE STARTS TO MOVE. THE VALVE WILL RUN UNTIL IT COMPLETELY CLOSES. IT IS NOW READY FOR OPERATION.

<image>

CAUTION

Switches 1 through 11 are factory set and will vary depending on the valve type.
Do not adjust switches 1 through 11.

<image>

For service, contact the Parker Autoclave Engineers’ Representative in your area or phone Parker Autoclave Engineers’ Support Services at 1-814-860-5703.

<image>

WARNING

FAILURE, 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 Parker Hannifin Corporation, 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 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 ensuring 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 Parker Hannifin Corporation and its subsidiaries at any time without notice.

Offer of Sale

The items described in this document are available for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. Any sale contract entered by Parker will be governed by the provisions stated in Parker’s standard terms and conditions of sale (copy available upon request).

© 2017 Parker Hannifin Corporation | Autoclave Engineers is a registered trademark of the Parker Hannifin Corporation

ISO-9001 Certified