

# EFV Series

## Adjustable Excess Flow Valve

23

### Key Features

Controls excessive flows.

### Features

- Controlled Bleed, Resets Automatically
- Field Adjustable
- Positive Shut-off
- Function: Restricts or Shuts Off Flow
- Output: Switch Contact Optional
- Materials: 316SS or Brass Body

### Applications

- Fitting Failure
- Regulator failure
- Hydraulic control
- Gas Analyzers
- Toxic Gas and Liquid Releases



### Operation

Flow enters the unit and makes a right angle to the outlet port across the nose of a magnetic piston. The piston is held in place by attraction to an adjusting screw magnet. A pressure differential is created by flow across the piston. When the differential is great enough, the piston slides to a seat at the outlet port. The flow rate at which the piston actuates can be changed externally by turning the adjusting screw, thereby changing the piston's relationship with the flow stream. In this auto reset model after actuation, the piston rests on a metal to metal seat which allows a controlled bleed. To reset the unit, pressure must be equalized on both sides of the piston. If the source is turned off, either upstream or downstream, the bleed will equalize the pressure and the valve will automatically reopen by magnetic repulsion from the fixed magnet located in the valve body.

For positive shut-off an elastomer is used on the nose of the piston. When it comes to rest on the seat it provides a bubble tight closure. To reopen the valve there are two options.

1. The upstream pipeline must be led to atmosphere if the line downstream is at atmosphere.
2. A by-pass line with an on/off valve must be installed to port the upstream pressure to the down-stream pipeline to equalize the pressure.

Our MRS series is available with the by-pass system as an integral part of the unit.

- Actuation points for air at 68°F and 14.7 PSIA.

Correction must be made for other fluids, line pressure and temperatures. Please consult your representative or the factory.

### Temperature Range

- 0° to 220°F (-17° to 104°C)
- For other temperature ranges consult factory.

CE

### Calibration Range

| Model   | Adjustable Range Air SLPM (SCFM) | Adjustable Range Water LPM (GPM) | PORT FNPT |
|---------|----------------------------------|----------------------------------|-----------|
| EFV-125 | 0.5 to 155.7<br>(0.018 to 5.5)   | 0.015 to 4.5<br>(0.004 to 1.2)   | 1/8"      |
| EFV-250 | 4 to 1132<br>(0.14 to 40)        | 0.100 to 15.1<br>(0.026 to 4.0)  | 1/4"      |
| EFV-375 | 85 to 1840<br>(3.0 to 65)        | 0.380 to 15.1<br>(0.100 to 4.0)  | 3/8"      |
| EFV-500 | 142 to 2123<br>(5.0 to 75)       | 1.90 to 37.8<br>(0.50 to 10.0)   | 1/2"      |
| EFV-750 | 425 to 3681<br>(15.0 to 130)     | 3.80 to 75.7<br>(1.0 to 20.0)    | 3/4"      |

### Pressure Loss

| Model   | Air SLPM (SCFM)                              | Water LPM (GPM)                             | ΔP to Atmosphere BARD (PSID)            |
|---------|--|---|---|
| EFV-125 | 0.50 (0.018)<br>75 (2.63)<br>155 (5.5)       | 0.015 (0.004)<br>2.65 (0.70)<br>4.50 (1.20) | 0.08 (1.2)<br>0.11 (1.6)<br>0.21 (3.0)  |
| EFV-250 | 4 (0.14)<br>500 (17.50)<br>1132 (39.62)      | 0.1 (0.26)<br>5.0 (1.32)<br>15.1 (3.99)     | 0.21 (3.0)<br>0.41 (6.0)<br>0.83 (12.0) |
| EFV-375 | 85 (2.98)<br>900 (31.50)<br>1840 (64.40)     | 0.38 (0.10)<br>10.0 (2.64)<br>15.1 (3.99)   | 0.10 (1.5)<br>0.28 (4.0)<br>0.83 (12.0) |
| EFV-500 | 142 (4.97)<br>1000 (35.00)<br>2123 (74.31)   | 1.9 (0.50)<br>25.0 (6.60)<br>37.8 (9.98)    | 0.07 (1.0)<br>0.28 (4.0)<br>0.48 (7.0)  |
| EFV-750 | 425 (14.88)<br>1800 (63.00)<br>3681 (128.84) | 3.8 (1.00)<br>4.7 (1.24)<br>75.7 (19.98)    | 0.14 (2.0)<br>0.21 (3.0)<br>0.34 (5.0)  |


*\*Users are solely accountable for product selection, regardless of any recommendations or suggestions provided by ChemTec Equipment Company, Inc. Users should base product selection on their own analysis and testing to determine functionality and material compatibility in relation to their application. To ensure safe and trouble-free performance, it is essential to adhere to proper installation, operation, and maintenance procedures.*

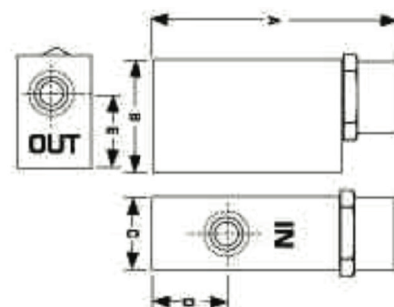
# EFV Series

Adjustable Excess Flow Valve

24

## ES - Option

| Switch Data                   | SPST<br>UL File #E471070 | LEADS   |
|-------------------------------|--------------------------|---|
| Maximum Switching Voltage     |                          |  |
| DC (V)                        | 250                      |   |
| AC (V)                        | 265                      |   |
| Contact Rating                |                          | leads 18 in.<br>min. from body<br>22 AWG, TFE<br>insulation                       |
| DC (W)                        | 50                       |   |
| DC (VA)                       | 50                       |   |
| Maximum Switching Current (A) |                          |   |
| DC (A)                        | 1.5                      |   |
| AC (A)                        | 1.1                      |   |



## Installation

We suggest the unit be calibrated in the attitude in which it will be installed. An actuation point approximately 3 or 4 times normal flow rate should be chosen to avoid the valve actuating from initial pressurization of the system and normal surges. If flow is kept constant, an actuation point 10% above the normal rate may be used.

## Dimensions

| Model   | Weight       | A         | B         | C         | D         | E         |
|---------|--------------|-----------|-----------|-----------|-----------|-----------|
| EFV-125 | 0.25 (113.4) | 2.5 (64)  | 1 (25)    | 0.75 (19) | 0.7 (17)  | 0.63 (16) |
| EFV-250 | 0.50 (226.8) | 3.3 (84)  | 1.50 (38) | 1 (25)    | 1 (25)    | 1 (25)    |
| EFV-375 | 0.50 (226.8) | 3.3 (84)  | 1.50 (38) | 1 (25)    | 1 (25)    | 1 (25)    |
| EFV-500 | 1 (453.6)    | 4.0 (102) | 2 (50)    | 1.25 (31) | 1.25 (31) | 1.38 (35) |
| EFV-750 | 1.50 (680.4) | 4.9 (124) | 2.25 (57) | 1.25 (31) | 1.25 (31) | 1.63 (41) |

## How to Order

[Sales@ChemTec.com](mailto:Sales@ChemTec.com) | 800.222.2177

| Model | Size                            | Materials   | Positive Shut-Off                             | Options   |
|-------|---------------------------------|---|---|---|
| EFV   | 125<br>250<br>375<br>500<br>750 | B Brass<br>S 316SS<br><br>(Other Material available on request) | PSO<br><br>(Blank for Controlled Bleed Model) | ES Reed Switch (Not available on 125 models)<br>O2 Oxygen Cleaned<br>KZ FFKM Perfluoroelastomer<br>EPR EPR Seals<br>FP 3X Max Flow (SLPM) / Gas / Line Pressure (PSIG)<br>ESFP Normally Open Reed Switch Option Requires Factory Presetting |

\*Consult Factory | Viton® - E.I. Dupont & Co | Teflon® - E.I. Dupont & Co | Kalrez® - E.I. Dupont & Co  
All dimensions are subject to change for quality improvement. Not responsible for printing errors.

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