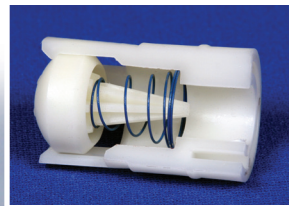
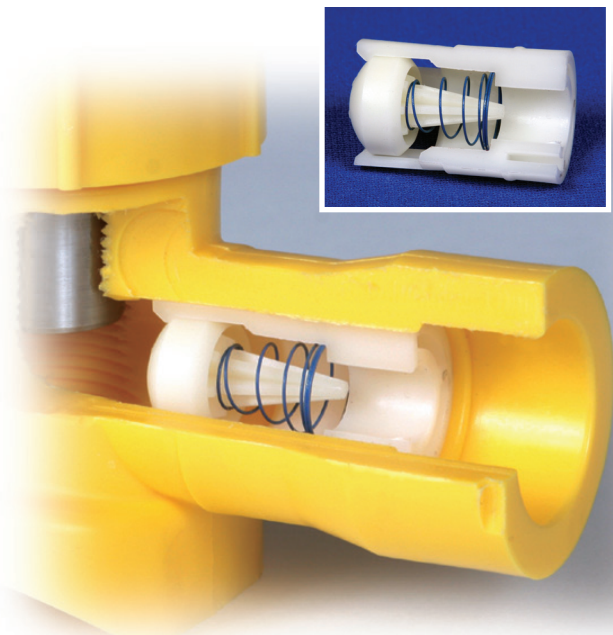




Dresser* Pipeline Solutions Style 480 Excess Flow Valves (EFV)

A reliable, economical choice for flow control in the event of catastrophic gas service line rupture



What is an Excess Flow Valve?

An Excess Flow Valve (EFV) is a device that automatically limits the flow of gas when a condition of excess flow may occur. It is generally used for residential natural gas service lines to minimize escaping gas in the event of third party damage and other types of line ruptures.

Dresser Excess Flow Valve Features:

- Simplicity of Design...Only two moving parts - the poppet and spring
- Maintenance-free...No lubrication or monitoring required
- 100% Production-tested...per ASTM F1802 test method assuring trip and bypass flow rates per CFR Title 49 D.O.T. 192.381, MSS-SP-115 and ASTM F2138 governing standards
- Valve Resets Automatically...no need to excavate or manually repressurize line
- Low Pressure Loss...maximizes gas flow
- Self-cleaning Design...resists particulate build-up
- Integrated Seal & Restraint Rib...provides gas-tight seal and positive restraint

EFV Materials of Construction:
 Body, Retainer & Poppet: Molded Chemical-Resistant Thermoplastic
 Spring: 18-8 Stainless Steel; Spring Temper

EFV Sizing Guide

GE has developed an **Electronic EFV Sizing Guide** to help the customer select the best EFV for the conditions present in their gas service system. This selection guide offers a step-by-step application process to help you determine the appropriate EFV configuration. To get an electronic copy simply contact your nearest GE Dresser sales representative or call 814.362.9200.

GE Oil & Gas
 Dresser Pipeline Solutions
 EFV Calculation Sheet
 March 11, 2016

PIPETUBING SIZE:
 Size: CTS (1/2" O.D.) (MFT) (MSS)
 0.751 in. Maximum Inside Diameter
 EFV SIZE AND CAPACITY:
 3/4 CTS Low Capacity
 52 in. w.c. pressure drop at max. trip rate

Inlet Pressure (PSIG)	Trip Flow Rate (SCFH @ 15' L)	Line Length Protected (ft)
5	538	807
10	602	902
15	661	976
20	717	1076
25	770	1155
30	820	1230
35	868	1300
40	915	1366
45	961	1430
50	991	1487
55	1023	1543
60	1054	1596
65	1088	1647
70	1121	1696
75	1152	1743
80	1182	1789
85	1212	1833
90	1241	1877
95	1269	1920
100	1299	1963
105	1327	2006
110	1357	2050
115	1386	2094
120	1417	2140
125	1448	2187

Line Length Equation:

$$L = \left[\frac{2826 \cdot ID^{2.725}}{G^{0.425} \cdot Q} \right]^{1.74} \cdot (P_1^2 - P_2^2)$$

Symbols:
 G: Specific Gravity of Line Content - 0.6 for natural gas (dimensionless)
 ID: Inside diameter of service line - minimum per ASTM D2513 Tolerances (in)
 Q: Maximum trip flow rate at given inlet pressure (SCFH)
 P₁: Distribution main pressure less pressure loss across EFV corresponding to maximum trip flow rate, Q (PSIA)
 P₂: Outlet pressure - atmospheric (14.7 PSIA)
 L: Length of service line protected by the selected EFV (ft)

NOTES:

Application Considerations for Excess Flow Valve Selection:

- Minimum pressure of the distribution main (PSIG)
- Service line length (Feet)
- Service line flow capacity - Maximum gas consumption rate (SCFH)
- Service line material and diameter
- Type required - Threaded, Weld, Mechanical Fitting, Butt Fusion, Socket Fusion, Electrofusion

NOTE: EFV's use the kinetic energy of flowing gas to operate. On small diameter service lines at relatively low inlet pressures, conditions may exist that prevent the EFV from activating in the event of a line rupture.

Minimum Trip Flow Rate

At the minimum system pressure expected, the Minimum Trip Flow Rate of the EFV must be greater than the system demand. NOTE: If the actual flow rate in the line exceeds the Trip Flow Rate of the EFV, a false trip will occur.

Minimum Protected Line Length

The minimum length of line protected is the distance as measured along the pipeline at which a line break will result in an excess flow condition. This calculation takes into account all variables in the system components and flow conditions. The protected line length formula was adapted from the Mueller formula for high pressure installations of smooth pipe carrying gas at pressures greater than 1 psig.

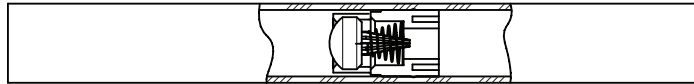
Dresser Excess Flow Valve Product Configurations

EFV's are easily integrated with other supplier's fittings.

Polyethylene Sticks

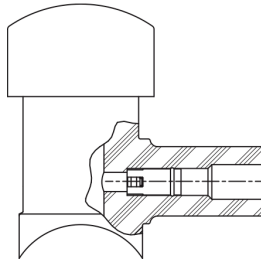
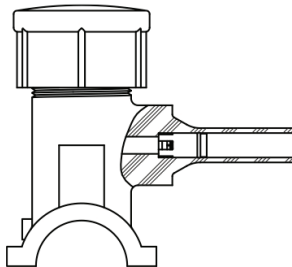
For use with...

- Mechanical Fittings
- Butt Fusion
- Socket Fusion
- Electrofusion



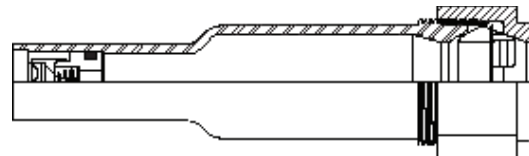
Tapping Tees

- Saddle Fusion
- Electrofusion
- Plain Outlet
- Socket Fusion Outlet



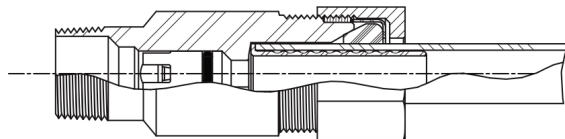
Dresser Style 90 Universal Cut-in Adapter

- For installing EFV's in existing steel service lines



Special Applications

Shown at right is a Dresser 1" MIPS x 3/4" IPS steel transition fitting designed to add an EFV for polyethylene service renewal



⚠ WARNING

ALWAYS READ ALL OF THE INSTALLATION AND OPERATION INSTRUCTIONS, CAUTIONS AND WARNINGS WHEN INSTALLING EXCESS FLOW VALVES! FAILURE TO FOLLOW THE INSTRUCTIONS & WARNINGS COULD RESULT IN IMPROPER OPERATION AND ESCAPING LINE CONTENT THAT COULD CAUSE PROPERTY DAMAGE, SERIOUS INJURY OR DEATH!

⚠ WARNING

Proper selection of Excess Flow Valves is required. Also, proper orientation of the Excess Flow Valve when installed in the service line is critical. Improper selection or installation of EFV's could create the potential for a dangerous condition if the line is severed. This condition could result in escaping line content that could cause property damage, serious injury or death!

GE Oil & Gas
Dresser* Pipeline Solutions
 41 Fisher Avenue
 Bradford, PA 16701
 T: +1 814.362.9200
 F: +1 814.362.9343

Visit us online at: www.ge.com/oilandgas

*Trademark of General Electric Company
 2016 General Electric Company.
 All Rights Reserved