



# M-XF Series Field Adjustable Excess Flow Valves

## Description

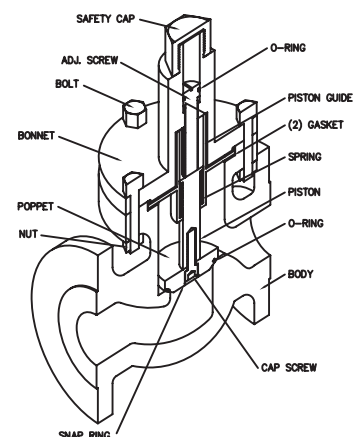
Malema's safety excess flow valves provide instant shut-off in the event of a hose break or line failure, preventing the release of hazardous or inflammable products to the area, which can result in a disastrous fire or explosion and untold damage to personnel and equipment.

Note: All LPG tank cars and transport trucks are required by law to have excess flow valves installed. In addition, state LPG regulatory bodies require excess flow valves on all LPG storage vessels, storing products for domestic delivery and consumption.

## Operation

As the fluid enters the valve, it flows through the orifice to the outlet. The orifice and tapered piston create a venturi effect, accelerating the flow through the valve. As a preset flow rate, the pressure differential offsets the spring-loading of the piston and shuts off the valve. Fluid can flow through the valve in either direction; however, the flow will be shut off in the direction indicated on the valve.

Adjustment is achieved by means of an externally adjustable screw that positions the pistons closer or farther away from the orifice. Turning the adjusting screw clockwise to reduce the flow area causes actuation at lower preset flows.



## Features

- Can be disassembled for repair or inspection without removal from pipeline
- Field adjustable
- Broad adjustable range
- Operates effectively with liquids or gases
- In-line flow

## Applications

- Fuel lines
- Pollution control
- Chemical processing
- Gas and Hydraulic lines
- Petroleum and gas installations

## Measurement Specifications

Calibration Range *	Air : 0.5 - 40,000 scfm Water : 0.1 - 2,500 gpm These ranges are over different valve sizes
Set Point Accuracy	±10% maximum
Repeatability	±2%
Material Versions	<ul style="list-style-type: none"> <li>• Carbon Steel</li> <li>• 316 Stainless Steel</li> <li>• Forged Carbon Steel</li> <li>• Forged 316 Stainless Steel</li> <li>• Low-Carbon Steel</li> </ul>
Port Sizes	<ul style="list-style-type: none"> <li>• 1/2"</li> <li>• 2"</li> <li>• 3/4"</li> <li>• 3"</li> <li>• 1"</li> <li>• 4"</li> <li>• 1 1/2"</li> <li>• 6"</li> <li>• 8"</li> <li>• 10"</li> <li>• 12"</li> </ul> <p>(ANSI Flanged, FNPT, and Socket Welded port types are available)</p>

## Custom Versions Available

Malema welcomes the opportunity to apply its flow sensor experience to work for its customers. Please contact the factory for any special requirements; such as ports, extreme temperature and pressure capabilities, etc.

## Installation & Maintenance

The mounting position for this excess flow valve is horizontal. These valves can also be mounted vertically; this will change trip settings by approximately 15% (this is easily corrected since one can adjust the valve to counter for this change). This valve can easily maintained in the field without removing it from the pipeline as all the components slide out of the top on disassembly; a special tool is provided for disassembly.

## Flow Characteristics

(For Class 300 Valves)

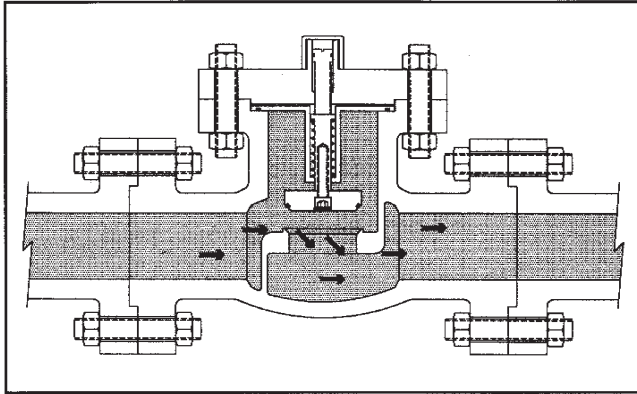
Valve Size	CV	Shut off Range (Air/scfm)		Shut off Range (Water/gpm)	
		Min	Max	Min	Max
3/4"	3	0.5	180	0.1	15
1 "	5.5	2	400	0.5	25
1 1/2"	17	4	800	1	50
2"	38	8	1,500	2	90
3"	84	20	4,200	5	190
4"	160	40	5,800	10	350
6"	380	60	13,000	15	850
8"	660	72	18,000	18	1,450
10"	1,200	80	40,000	20	2,500

\* Air @ STP (i.e. Pressure at 14.7 psig & Temperature @ 70° F)

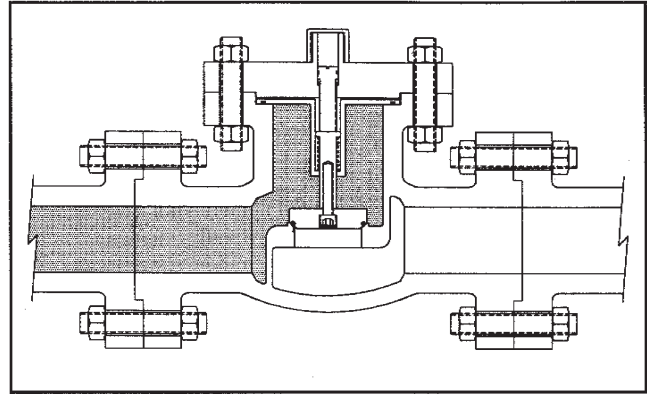
Note: These CVs are shown for fully open standard globe valves.

Malema uses standard globe valve bodies to construct the M-XF series EFVs.

## How It Works

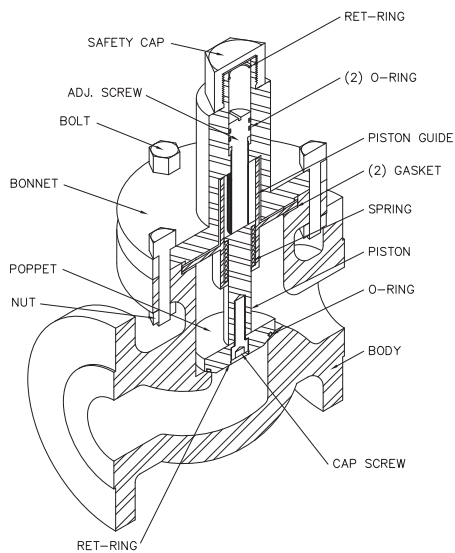


Valve Open - Normal Flow



Valve Tripped Flow Shut Off

## Cut-Away Drawing



## Dimensions

Face to Face dimensions for Flanged and Butt-weld ends are in accordance with ASME/ANSI B16.10

Face to Face dimensions for Socket and Threaded ends are in accordance with ASME/ANSI B16.11

Flange dimension as per ASME/ANSI B16.5

For other standards, please check with factory.

## Certifications

CRN Certified for the following provinces and territories:

- Alberta
- British Columbia
- Manitoba
- New Brunswick
- Newfoundland & Labrador
- Northwest Territories
- Nova Scotia
- Nunavut
- Ontario
- Prince Edward Island
- Quebec
- Saskatchewan
- Yukon

PED certification available for certain valve sizes and operating pressures.

Contact the factory for more information.

## Ordering Information

Standard Part Numbering												
Model	-	Valve Size		Body Material		Valve Class	-	Connection Type		-	O-Rings	
M-XF	-	1.00		SS		300	-	FL		-	V	
		Code	Size	Code	Type	Code		Code	Type		Code	Type
M-XF		0.75	3/4"	CS	Carbon Steel	150		FL	Flanged		V	Viton®
		1.00	1"	FS	Forged Steel	300		FN	FNPT		K	Kalrez®
		1.50	1 1/2"	SS	316 SS	600		SW	Socket Weld		E	EPDM
		2.00	2"	FCS	Forged CS	800		BW	Butt Weld			
		3.00	3"	FSS	Forged SS	1,500						
		4.00	4"	LCB	Low-C Steel							
		6.00	6"	LCC	Low-C Steel							
		8.00	8"									
	10.0	10"										

**NOTE: Contact the factory after placing an order for adjustment screw vs. set point settings.**

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