

Excess Flow Check Valve / Hydraulic Fuse

Protect your instruments and your plant personnel with the Chemiquip Excess-Flow Check Valve. A simple device with no mechanical or electrical parts and a minimum of moving parts.

Typical Applications

- Designed for protection of systems handling noxious, toxic, flammable or radioactive materials
- Delivers positive, automatic protection from uncontrolled liquid or gas flows
- the valve contains many features which can be used on dead-end systems.



In operation

When Valve's predetermined flow-rate is exceeded, a spring-loaded poppet closes automatically, instantly. It remains closed as long as system imbalance remains across the valve. When normal equilibrium is restored, the valve resets automatically and normal flow resumes.

The Excess-Flow check valve may be designed to prevent

- all flow in case of system rupture;
- with a calibrated leak which automatically resets valve when downstream failure is corrected.
- It may also be used to prevent too rapid charging of a line, such as an incorrect manipulation of an upstream control valve, or other mechanism.

This resulting inrush sometimes results in damage to instruments or other flow or pressure sensitive equipment.

Specifications:

Connections:

¼" NPT

½" NPT

¾" NPT

Maximum operating pressure:

6,000 psi – Brass

10,000 psi – Stainless Steel

Flow Rates:

Water – 1-40 GPM

Air – See Table

Gases and other liquids see formula

Can be Custom Designed and built to suit your specific application.

Your Excess-Flow Check Valve will be designed to fulfill your requirements in terms of the following:

1. Normal flow, system pressure and operating temperature.
2. Flow-rate which must not be exceeded; point at which valve is to close.
3. Density and viscosity of fluid or gas.
4. Style and size of connections required.
5. Material of construction.

Standard Excess-Flow Check Valve Ordering Data:

Example:

EFCV-	25	B	2						
1. Connection									
25	¼" NPT Female								
50	½" NPT Female								
75	¾" NPT Female								
2. Materiel									
S	Stainless Steel								
B	Brass								
Z	(Special) Other Material								
3. Liquid Shut off flow (1-40 GPM Water)		Max pressure drop to close	Under Construction Air Shut off flow (SCFM of air at 70°at different operating pressures)						
			100 PSIG	250 PSIG	500 PSIG	1000 PSIG	2000 PSIG	4000 PSIG	
0	0.25	2.5 psi	3.75	6	8	11.5	16	22.5	
1	0.50	2.5 psi	7.5	12	16	23	32	45	
2	1.00	5.0 psi	15	23	32	45	64	90	
3	2.00	5.00 psi	30	45	64	90	128	180	
4	5.00	7.50 psi	75	115	164	225	320	450	
5	7.50	7.50 psi	115	175	240	340	480	680	
6	10.00	15.00 psi	150	230	320	450	640	900	
Other Liquids To find out shut off flow for liquids other than water. divide the water shut off flow by the square root of the liquid specific gravity. For example, using a EFCV-25S-4 that has a water shut off flow at 5.0 GPM the shut off flow for oil whose specific gravity is 1.3 the shut off flow is 4.4 GPM $(5.0\sqrt{1.3})$			Other Gases To find out the shut off flow for gases other than air, multiply the air shut-off flow by the square root of ratio of air density and gas density.						
4. Options									
	Metal to Metal seal								
	Teflon tip seal								
	O-ring tight seal								
	Micro groove (Calibrated leak)								

Dimensions:

	Hex Size	Length
EFCV-25 0-3	1"	5 1/2"
EFCV-25 4-6	1 1/2"	7 1/2"
EFCV-50 0-3	1 1/4"	7 1/2"
EFCV-50-4-6	1 1/2"	8"
EFCV-75 0-3	1 1/2"	7"
EFCV-75-4-6	1 1/2"	8"

