Pressure Relief Valve
Model No.: LF-PRF

Installation, Operation & Maintenance

FM APPROVED

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GENERAL DESCRIPTION

Features

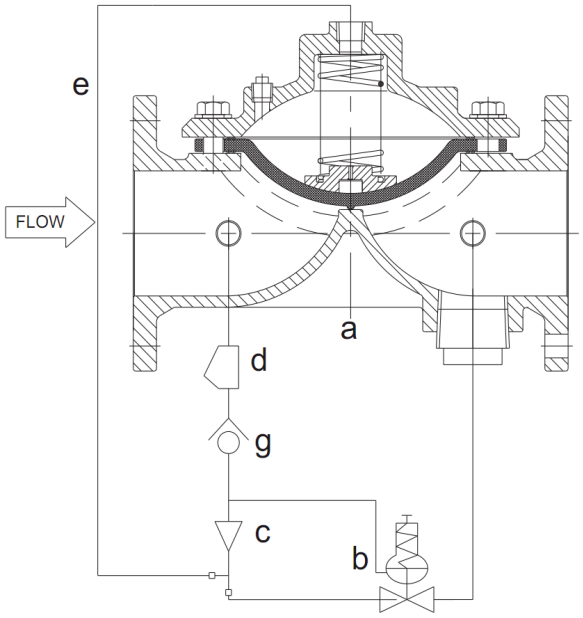
The LF-PRF Pressure Relief Valve is designed to Limits pipe line pressure by release excess pressure.

Pressure Sustaining: Prevents pipe line pressure from rising to a maximum value.

The basic control valve is a hydraulically-operated, diaphragmactuated valve. The diaphragm is nylon-fabric bonded with synthetic rubber and forms a sealed chamber in the upper portion of the valve, separating operating pressure from line pressure. An elastomeric seat disc forms a tight seal with the valve seat when pressure is applied above the diaphragm.

Multiple End Type: Flange by Flange, Flange by Groove, Groove by Groove.
Adjustment range of set pressure: 65 to 180 psi.
FM Approved.

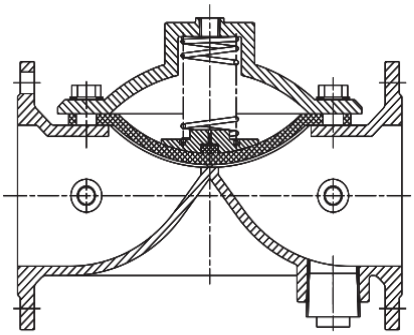
Principle Schematic

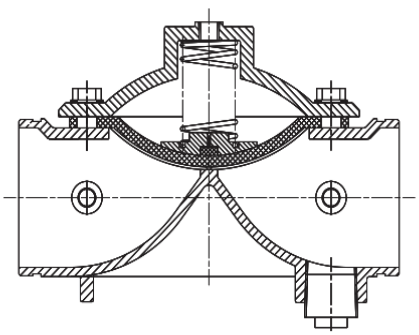


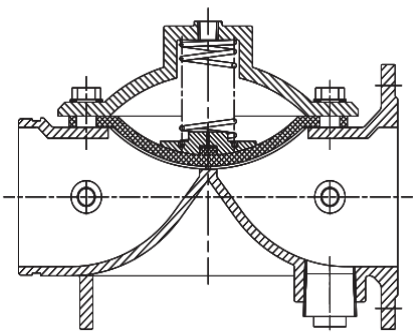
No.	Component	Material
a	Main Valve	
b	Pressure Relief Pilot	Bronze
c	Restriction Orifice	Stainless Steel 304
d	Y-Strainer	Stainless Steel 304
e	Pipeline	Stainless Steel 304
g	Check Valve	Stainless Steel 304

Part List

Part	Material	ASTM Specification
Body	Ductile Iron	A536 Grade 65-45-12
Bonnet	Ductile Iron	A536 Grade 65-45-12
Diaphragm	Nylon Reinforced Natural Rubber/EPDM/NBR	
Spring Retainer	Ductile Iron	A536 Grade 65-45-12
Spring	Stainless Steel	A276 Type 304
Bolt	Carbon Steel	A307 Grade 22010







Layout and Sitting

It should be considered at the design stage where valves will be located to give access for operation, adjustment, maintenance and repair.

Valves must be provided with adequate support. Adjoining pipework must be supported to avoid the imposition of pipeline strains on the valve body, which would impair its performance.

Heavy valves may need independent support or anchorage.
Valves may be installed in:

1. Horizontal pipework with stem vertical.
2. Vertical pipework with stem horizontal.

The valve should not be installed in horizontal pipework with the stem horizontal because shut off performance may be impaired.

In the interests of safety, valves installed on end-of-line service in the closed position with infrequent opening should be fitted with a locking device on the operating mechanism. Alternatively, it should be fitted with a blanking flange on the downstream flange of the valve.

INSTALLATION

Prior to installation, a check of the identification plate and body marking must be made to ensure that the correct valve is being installed.

Valves are precision manufactured items and as such, should not be subjected to misuse such as careless handling, allowing dirt to enter the valve through the end ports, lack of cleaning both valve and system before operation and excessive force during bolting and handle operation.

All special packaging material must be removed.

Valves must be provided with adequate support. Adjoining pipework must be supported to avoid theimposition of pipeline strains on the valve body, which would impair its performance.

Valves should not be lifted using the stem.

Immediately prior to valve installation, the pipework to which the valve is to be fastened should be checked for cleanliness and freedom from debris.

Valve end protectors should only be permanently removed immediately before installation. The valve interior should be inspected through the end ports to determine whether it is clean and free from foreign matter. If a condition is found which might cause leakage, no attempt to assemble should be made until has been corrected.

The gasket should be suitable for operation conditions or maximum pressure/temperature ratings. The gaskets should be checked to ensure freedom from defects or damage.

At the conclusion of installation and before operating, all dust deposits shall be removed from the equipment.

OPERATING

The valve is opened by counter clockwise or clockwise rotation of the handwheel or operating nut to a positive stop.

An arrow showing the turn direction to open the valve on the handwheel or operating nut. To close the valve, the handwheel or operating nut is rotated clockwise or counter clockwise to a positive stop.

Notes:
When the valve is closed at extreme high temperature and then cooled, the wedge may become tight in the valve and prove difficult to open.

Conversely, a valve closed at room temperature can be difficult to open if there is an increase in fluid temperature causing a linear expansion of the stem, which tightens the wedge further into the body seats.

The valve should only be used in the open or closed position.

Regulating or throttling service should be avoided.

MAINTENANCE

The valve should be at zero pressure and ambient temperature prior to any maintenance.

Maintenance Engineers & Operators are reminded to use correct fitting tools and equipment.

Tools causing showers of sparks are only permissible if:

- No hazardous explosive atmosphere is present.
- Dust deposits have been removed and no dust cloud is present.
- A full risk assessment and methodology statement must be compiled prior to any maintenance. This must include the removal of dust deposits by good housekeeping.
- The risk assessment must take into account the possibility of the limits of use being exceeded whereby a potential hazard could result.
- A maintenance programme should therefore include checks on the development of unforeseen conditions, which could lead to failure.

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