Pressure-Relief Valve

FP730-UL/FM

Description

The BERMAD Model 730-UL/FM pilot-operated valve prevents over-pressure, maintaining a constant preset system pressure over a wide range of flow regardless of changing demands.
UL-listed (up to 350 psi) and FM-approved according to NFPA-20.
The valve reliably fulfills its role in the following areas: refineries, petrochemical complexes, tank farms, high-rise buildings, aviation and airports, marine and on-shore installations.

Typical Applications

- Pressure relief for individual diesel fire-pump
- Pump station pressure-relief
- Centralized thermal pressure relief
- Foam re-circulation: maintains required foam pressure
- Zone safety relief

Features and Benefits

- Hydraulically-powered valve seal design
  - Closes drip-tight time after time
  - **Eliminates jamming** problems of other relief valves
- Hydro-efficient body design
  - Wide rangeability
  - Unrestricted flow path
- Double-chambered unitized actuator
  - Easy, inline inspection ensures **minimal down time**
  - **Quick** and smooth valve action

Optional Features

- Large control filter
- Valve-position flow indicator (field retro-fittable)
- Seawater service construction

Note: Optional features can be mixed and matched. Consult your local BERMAD representative for full details

FM APPROVED

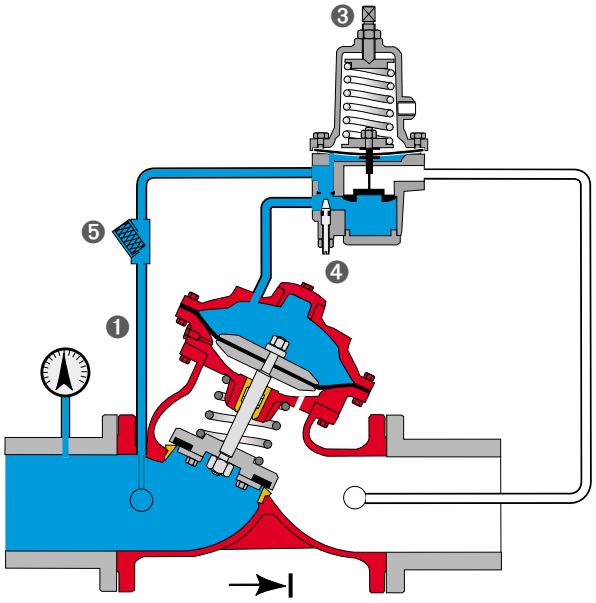
UL LISTED

FP730-UL/FM Pressure-Relief Valve

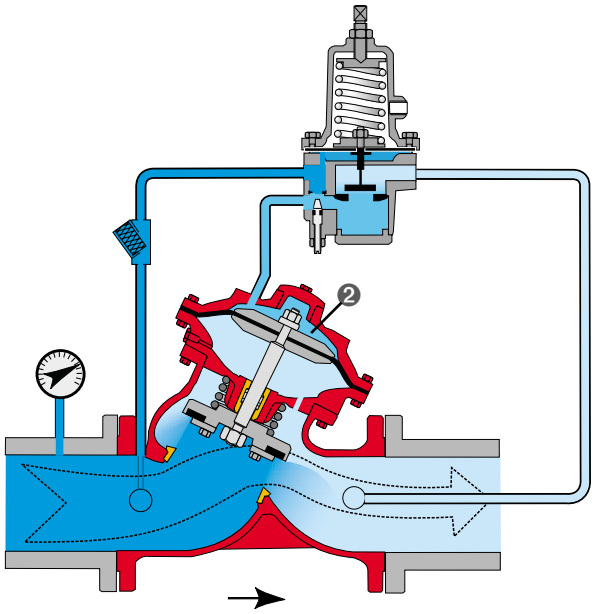
Operation

The BERMAD Model 730-UL/FM remains closed as long as the sensed inlet pressure is lower than the adjustable setpoint. When the pilot valve senses inlet pressure ❶ that is higher than the pilot setting, it acts upon the control chamber ❷ causing the main valve to modulate open, reliveing excess pressure to either the reservoir or sump, thus preventing system over-pressure. The pressure-relief pilot is equipped with an adjusting screw ❸ to preset the desired inlet pressure and an internal adjustable needle valve ❹ to control the main valve closing speed. The valve's unique design endows it with quick reaction to system demand and keeps pressure loss at a minimum. The control system is equipped with a control strainer ❺.

For complete information on installation, operation and maintenance, see BERMAD publication "Bermad Model 730-UL/FM IOM".



Valve Closed



Valve Open
(pressure-relief)

Tender Specifications

The pressure-relief valve shall be UL-listed, FM-approved and hydraulic-pilot controlled. The main valve shall be globe design, angle or "Y" pattern. All necessary inspection and servicing of the main valve shall be possible in-line. Valve actuation shall be accomplished by double-chambered actuator, which shall include a stainless steel stem and a flat seal-disk creating a drip-tight seal.

The valve seat shall be made of stainless steel and have an unobstructed flow-path, with no stem guide or supporting ribs.

The pilot system shall be field adjustable, with adjustable valve closing speed, integrated to the main valve, hydraulically-tested and supplied as an assembly consisting of:

- Relief pilot valve UL-listed and FM-approved as part of the assembly with built-in, internal needle valve
- "Y" strainer

The manufacturer shall be QA certified according to ISO 9001 standards.

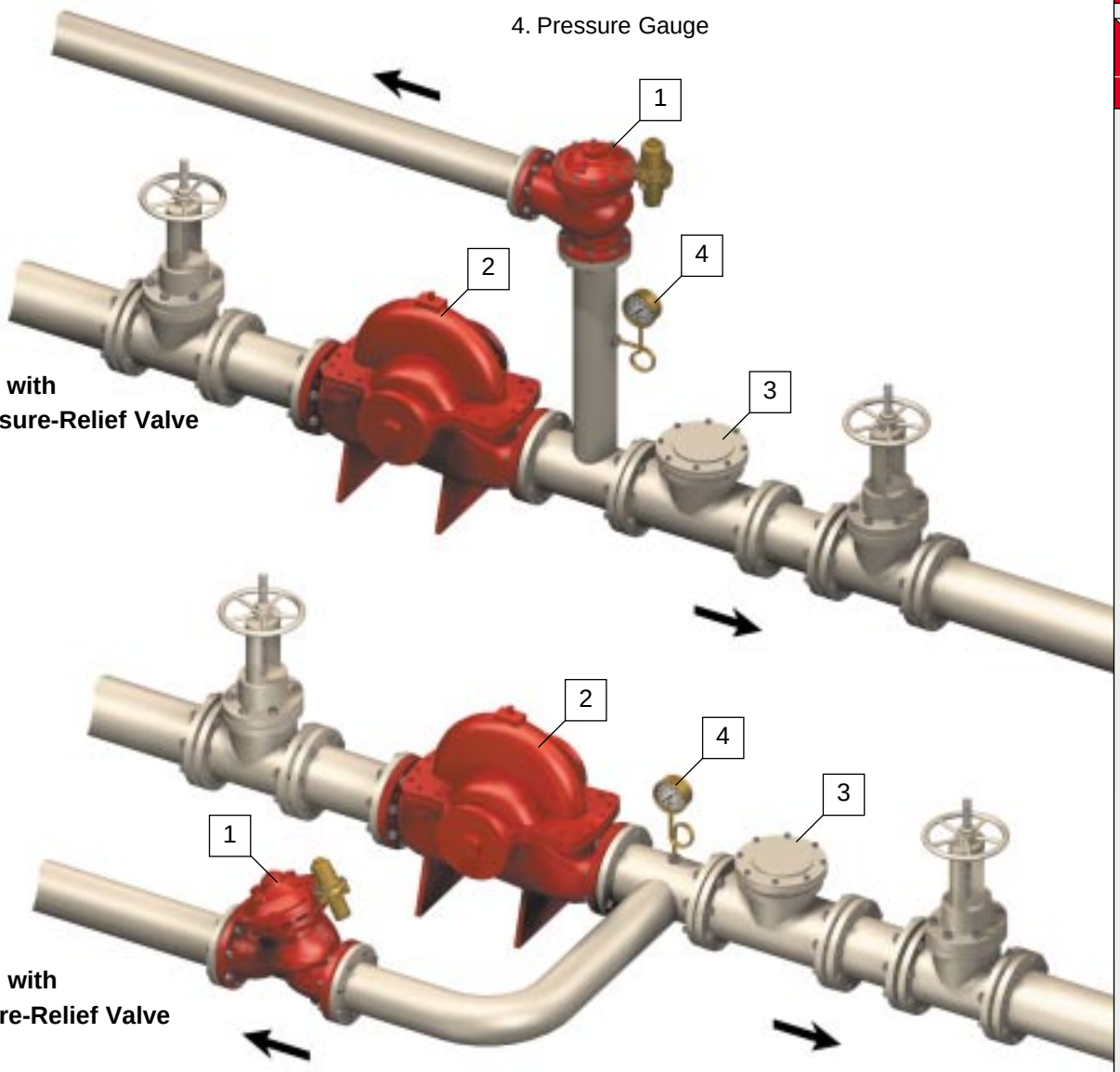
Pressure-Relief Valve

FP730-UL/FM

Typical Installations

System Components

1. BERMAD Model FP730-UL/FM
2. Fire-Pump
3. Check Valve
4. Pressure Gauge



Installation with Angle Pressure-Relief Valve

Installation with "Y" Pressure-Relief Valve

Installation Considerations

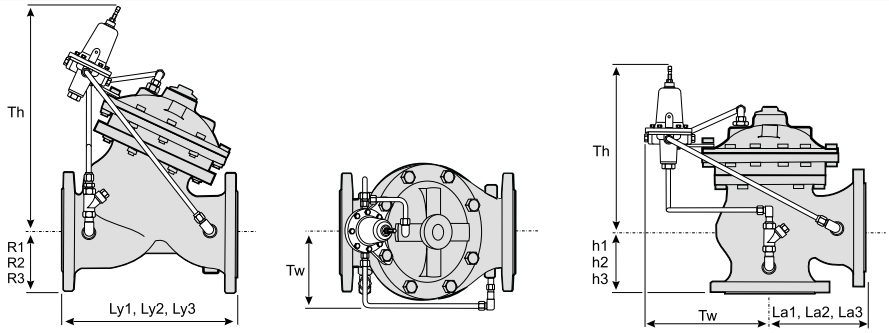
- Size the valve not less than according to NFPA 20.
- Provide adequate clearance around valve for maintenance, ensuring that the actuator can be easily removed.
- Design installation with the valve cover up for best performance.
- Ensure that before the valve is installed, instructions are given to flush the pipeline at full flow.

Approvals

The BERMAD Model 730-UL/FM is UL-listed and FM approved when installed as a unit

FP730-UL/FM Pressure-Relief Valve

Specifications



Valve Size		1½"		2"		2½"		3"		4"		6"		8"		10"	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Dimensions	(1)Ly1	205	8 1/16	205	8 1/16	209	8 1/4	250	9 7/8	320	12 5/8	415	16 3/8	500	19 11/16	605	23 13/16
	(2)Ly2	155	6 1/8	155	6 1/8	212	8 3/8	250	9 13/16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	(3)Ly3	210	8 1/4	210	8 1/4	212	8 3/8	264	10 7/16	335	13 1/4	433	17 1/16	524	20 5/8	637	25
	(1)La1	121	4 3/4	121	4 3/4	140	5 1/2	152	6	190	7 1/2	225	8 7/8	265	10 7/16	320	12 5/8
	(2)La2	120	4 3/4	120	4 3/4	140	5 1/2	159	6 1/4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	(3)La3	127	5	127	5	149	5 7/8	159	6 1/4	200	7 7/8	234	9 3/16	277	10 7/8	336	13 1/4
	(1)h1	82	3 1/4	82	3 1/4	102	4	102	4	127	5	152	6	203	8	219	8 5/8
	(2)h2	82	3 1/4	82	3 1/4	102	4	114	4 1/2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	(3)h3	89	3 1/2	89	3 1/2	109	4 5/16	108	4 1/4	135	5 5/16	165	6 1/2	216	8 1/2	235	9 1/4
	(1)R1	75	2 15/16	82.5	3 1/4	92.5	3 5/8	100	3 15/16	114	4 1/2	140	5 1/2	171	6 3/4	203	8
	(2)R2	40	1 9/16	40	1 9/16	48	1 7/8	55	2I	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	(3)R3	78	3 1/16	83	3 1/4	95	3 3/4	108	4 1/4	127	5	159	6 1/4	191	7 1/2	222	8 3/4
	Tw	191	7 1/2	191	7 1/2	191	7 1/2	206.5	8 1/16	241.5	9 1/2	290	11 7/16	325	12 13/16	370	14 9/16
	Th	312	12 5/16	312	12 5/16	312	12 5/16	364	14 1/2	405	15 15/16	505	20	566	22 5/16	639	25 3/16

Notes:
1. Ly1, La1 & h1 are for flanged ANSI #150 and ISO PN16.
2. Ly2, La2 & h2 are for threaded female, NPT or BSP.
3. Ly3, La3 & h3 are for flanged ANSI #300 and ISO PN25.
4. Dimensions are maximum.
5. Provide adequate clearance around valve for maintenance.

Connection Standard
- Flanged: ANSI B16.42 (Ductile iron), B16.5 (Steel & Stainless), B16.24 (Bronze), ISO PN16
- Threaded: NPT or BSP 1½, 2, 2½ & 3"

Water Temperature
- 0.5 - 80°C (33 - 180°F)

Sizes ("Y" & Angle)
- Available: 1½ – 10"
- UL-listed: 2, 2½, 3, 4, 6 & 8"

• Working Pressure
- Class #150: 30 – 175 psi (2 – 12 bar)
- Class #300: 100 – 350 psi (7 – 24 bar)

UL-listing Max Adjusting Pressure
- 2 to 6": 350 psi (24 bar)
- 8": 175 psi (12 bar)

Manufacturers Standard Materials

Main valve body and cover
- Ductile iron ASTM A-536

Main valve internals
- Stainless steel, bronze and coated steel

Control Trim
- Brass Components/Accessories
- Forged brass fittings & copper tubing

Elastomers
- NBR (Buna-N)

Coating
- Electrostatic Powder Coating Polyester Red (RAL 3000)

Optional Materials

Main valve body/internals
- Carbon steel ASTM A-216-WCB
- Stainless steel 316
- Ni.Al. bronze
- Titanium
- Duplex
- Hastalloy

Control Trim
- Stainless steel 316
- Monel®
- Hastalloy C-276

Coating
- High Built Epoxy Fusion-Bonded with UV Protection (for Corrosive Materials)

Approvals
- UL-listed - Fire-Pump Relief Valve (QXZQ)
- FM-approved - Water Relief Valve and a Fire-Pump Relief Valve
- ISO 9001 QA certified

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