

## Pressure Relief Valve

Model: FP 730-UF



### Description

The BERMAD Model FP 730-UF pilot operated valve prevents over pressure, maintaining a constant preset system pressure regardless of fluctuating demands.

It is UL-Listed (up to 350 psi) and FM-Approved according to NFPA-20.

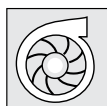
The valve offers reliable performance in:

Refineries, petrochemical complexes, tank farms, high-rise buildings, aviation and airports, marine and on-shore installations.

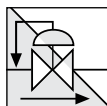
### Typical Applications



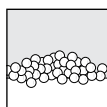
Pressure relief for individual diesel fire pump



Pump station pressure relief



Centralized thermal pressure relief



Foam recirculation; maintains required foam pressure



Zone safety relief

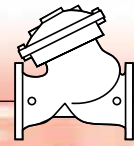
### Features and Benefits

- **Hydraulically powered valve seal design**
  - Closes drip-tight time after time
  - Eliminates jamming problems
- **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

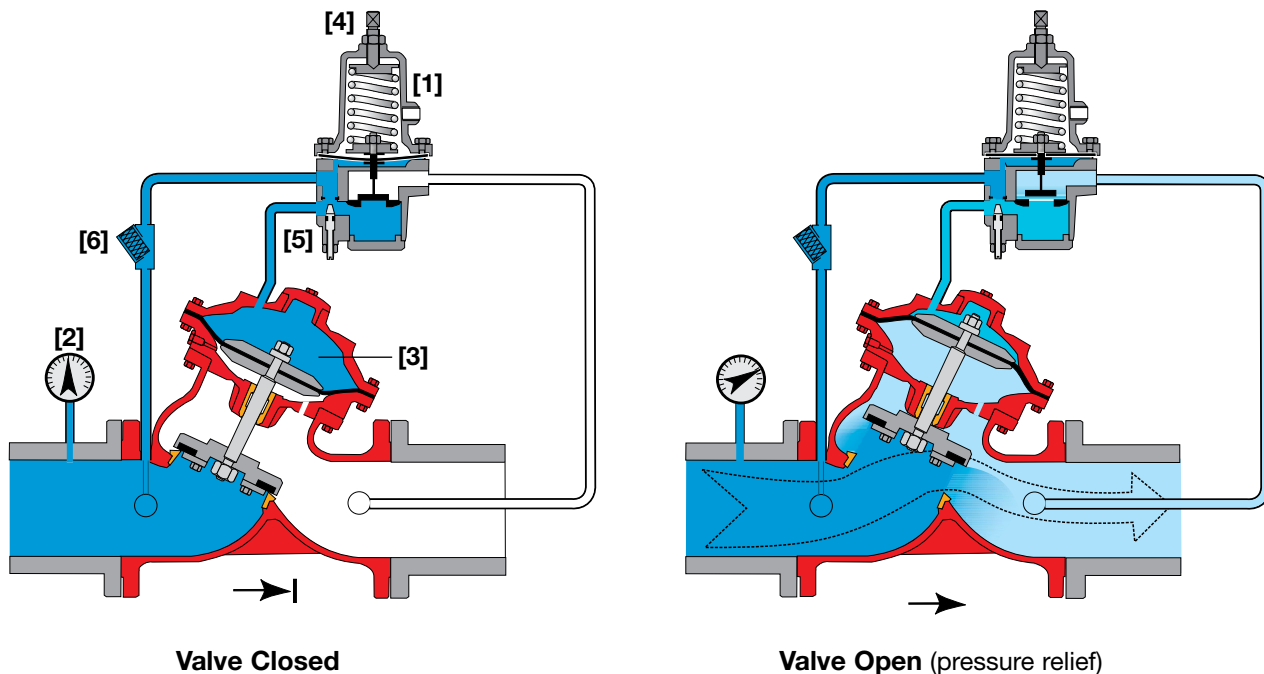
- **Large control filter (code: F)**
- **Seawater service construction**

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



## Operation

The BERMAD Model FP 730-UF remains closed as long as the sensed inlet pressure is lower than the adjustable set point. When the Pressure Relief Pilot [1] senses inlet pressure [2] that is higher than the pilot setting, it acts upon the control chamber [3] causing the main valve to modulate open, relieving excess pressure to either the reservoir or sump, thus preventing system over pressure. The Pressure Relief Pilot is equipped with an adjusting screw [4] to preset the desired inlet pressure and an integral adjustable needle valve [5] to control the main valve closing speed. The valve's unique design quick reaction to system demand and keeps pressure loss at a minimum. The control system is equipped with a control strainer [6].



## Engineer Specifications

The Pressure Relief Valve shall be UL-Listed, FM-Approved and hydraulic pilot controlled. The main valve shall be an angle or "Y" pattern. All necessary inspection and servicing of the main valve shall be possible in-line.

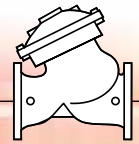
Valve actuation shall be accomplished by a double chambered actuator, which shall include a stainless steel stem and a flat seal disk creating a drip tight seal.

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:

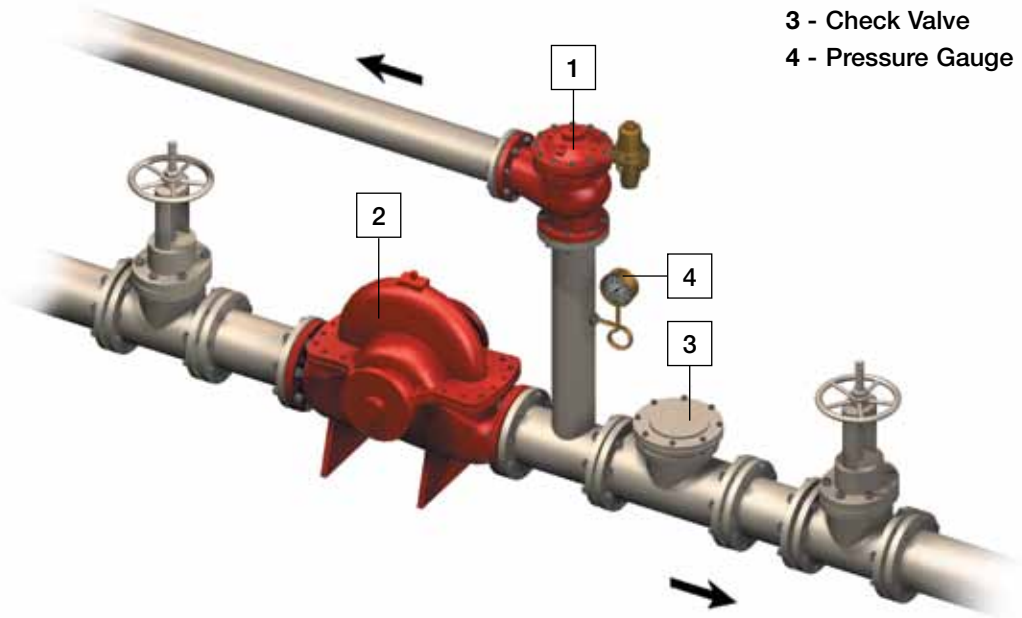
- Relief pilot valve UL-Listed and FM-Approved as part of the assembly with built-in, internal needle valve
- "Y" strainer

The control trim shall be supplied as an assembly, pre-assembled and hydraulically tested at an ISO 9000 and 9001 certified factory.

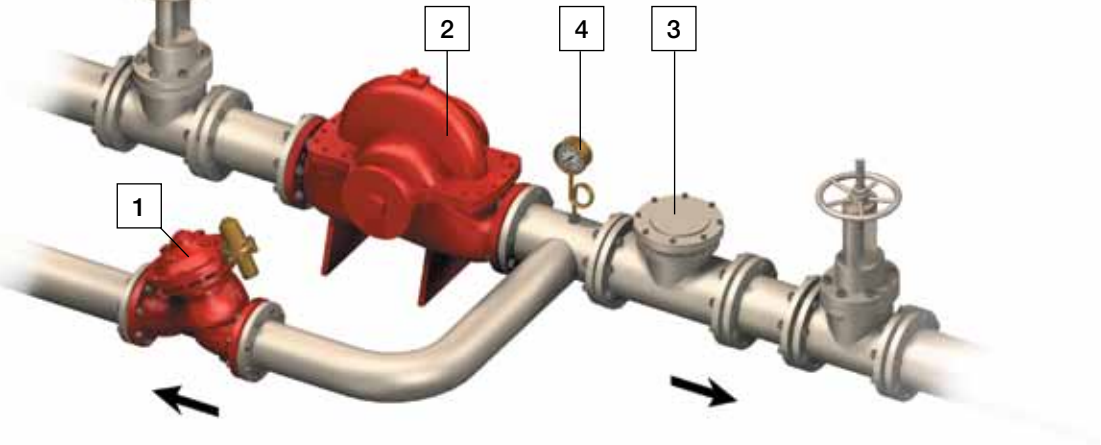


## Typical Installations

Installation with  
Angle pressure  
relief valve



Installation with  
"Y" Pattern  
relief valve



## System Components

- 1 - BERMAD Model FP 730-UF
- 2 - Fire Pump
- 3 - Check Valve
- 4 - Pressure Gauge

## Installation Considerations

- Valve size should be no less than NFPA-20 requirements.
- 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.

## UL Listed

The BERMAD Model FP 730-UF is UL-Listed and FM-Approved when installed as a unit.

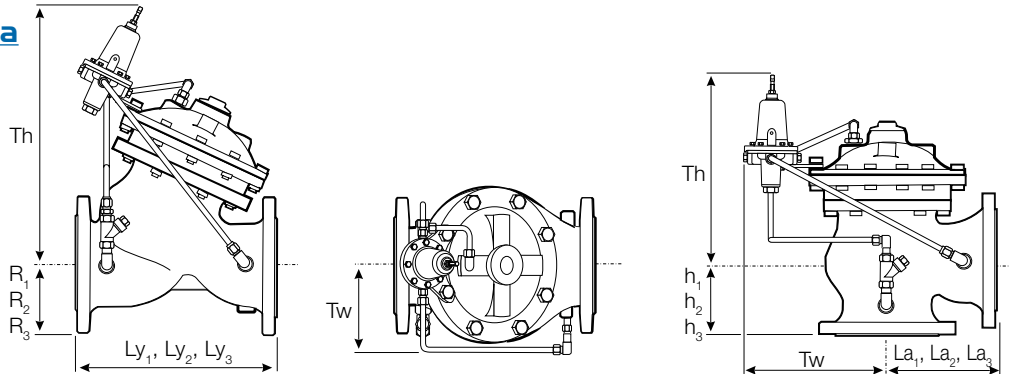
# BERMAD Fire Protection



Model: FP 730-UF

700 Series

## Technical Data



Size	1½"		2"		2½"		3"		4"		6"		8"		10"		12"		14"		16"			
	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch		
Dimensions	Ly <sub>1</sub> <sup>(1)</sup>	205	8 <sup>1</sup> / <sub>16</sub>	205	8 <sup>1</sup> / <sub>16</sub>	209	8 <sup>1</sup> / <sub>4</sub>	250	9 <sup>7</sup> / <sub>8</sub>	320	12 <sup>5</sup> / <sub>8</sub>	415	16 <sup>3</sup> / <sub>8</sub>	500	19 <sup>11</sup> / <sub>16</sub>	605	23 <sup>13</sup> / <sub>16</sub>	725	28 <sup>9</sup> / <sub>16</sub>	733	28 <sup>7</sup> / <sub>8</sub>	990	39	
	Ly <sub>2</sub> <sup>(2)</sup>	155	6 <sup>1</sup> / <sub>8</sub>	155	6 <sup>1</sup> / <sub>8</sub>	212	8 <sup>3</sup> / <sub>8</sub>	250	9 <sup>13</sup> / <sub>16</sub>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
	Ly <sub>3</sub> <sup>(3)</sup>	210	8 <sup>3</sup> / <sub>4</sub>	210	8 <sup>3</sup> / <sub>4</sub>	212	8 <sup>3</sup> / <sub>8</sub>	264	10 <sup>7</sup> / <sub>16</sub>	335	13 <sup>1</sup> / <sub>4</sub>	433	17 <sup>1</sup> / <sub>16</sub>	524	20 <sup>5</sup> / <sub>8</sub>	637	25	762	30	767	30 <sup>3</sup> / <sub>16</sub>	1,024	40 <sup>3</sup> / <sub>4</sub>	
	La <sub>1</sub> <sup>(1)</sup>	121	4 <sup>3</sup> / <sub>4</sub>	121	4 <sup>3</sup> / <sub>4</sub>	140	5 <sup>1</sup> / <sub>2</sub>	152	6	190	7 <sup>1</sup> / <sub>2</sub>	225	8 <sup>7</sup> / <sub>8</sub>	265	10 <sup>7</sup> / <sub>16</sub>	320	12 <sup>5</sup> / <sub>8</sub>	396	15 <sup>5</sup> / <sub>16</sub>	400	15 <sup>3</sup> / <sub>4</sub>	450	17 <sup>3</sup> / <sub>4</sub>	
	La <sub>2</sub> <sup>(2)</sup>	120	4 <sup>3</sup> / <sub>4</sub>	120	4 <sup>3</sup> / <sub>4</sub>	140	5 <sup>1</sup> / <sub>2</sub>	159	6 <sup>1</sup> / <sub>4</sub>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	La <sub>3</sub> <sup>(3)</sup>	127	5	127	5	149	5 <sup>7</sup> / <sub>8</sub>	159	6 <sup>1</sup> / <sub>4</sub>	200	7 <sup>7</sup> / <sub>8</sub>	234	9 <sup>3</sup> / <sub>16</sub>	277	10 <sup>7</sup> / <sub>8</sub>	336	13 <sup>1</sup> / <sub>4</sub>	415	16 <sup>5</sup> / <sub>16</sub>	419	16 <sup>1</sup> / <sub>2</sub>	467	18 <sup>3</sup> / <sub>8</sub>	
	h <sub>1</sub> <sup>(1)</sup>	82	3 <sup>1</sup> / <sub>4</sub>	82	3 <sup>1</sup> / <sub>4</sub>	102	4	102	4	127	5	152	6	203	8	219	8 <sup>5</sup> / <sub>8</sub>	275	10 <sup>13</sup> / <sub>16</sub>	275	10 <sup>13</sup> / <sub>16</sub>	369	14 <sup>1</sup> / <sub>2</sub>	
	h <sub>2</sub> <sup>(2)</sup>	82	3 <sup>1</sup> / <sub>4</sub>	82	3 <sup>1</sup> / <sub>4</sub>	102	4	114	4 <sup>1</sup> / <sub>2</sub>	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	h <sub>3</sub> <sup>(3)</sup>	89	3 <sup>1</sup> / <sub>2</sub>	89	3 <sup>1</sup> / <sub>2</sub>	109	4 <sup>5</sup> / <sub>16</sub>	108	4 <sup>1</sup> / <sub>4</sub>	135	5 <sup>5</sup> / <sub>16</sub>	165	6 <sup>1</sup> / <sub>2</sub>	216	8 <sup>1</sup> / <sub>2</sub>	235	9 <sup>1</sup> / <sub>4</sub>	294	11 <sup>1</sup> / <sub>2</sub>	294	11 <sup>1</sup> / <sub>2</sub>	386	5 <sup>3</sup> / <sub>16</sub>	
	R <sub>1</sub> <sup>(1)</sup>	75	2 <sup>15</sup> / <sub>16</sub>	83	3 <sup>1</sup> / <sub>4</sub>	93	3 <sup>5</sup> / <sub>8</sub>	100	3 <sup>15</sup> / <sub>16</sub>	114	4 <sup>1</sup> / <sub>2</sub>	140	5 <sup>1</sup> / <sub>2</sub>	171	6 <sup>3</sup> / <sub>4</sub>	203	8	241	9 <sup>1</sup> / <sub>2</sub>	267	10 <sup>1</sup> / <sub>2</sub>	298	11 <sup>3</sup> / <sub>4</sub>	
	R <sub>2</sub> <sup>(2)</sup>	40	1 <sup>9</sup> / <sub>16</sub>	40	1 <sup>9</sup> / <sub>16</sub>	48	1 <sup>7</sup> / <sub>8</sub>	55	21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	R <sub>3</sub> <sup>(3)</sup>	78	3 <sup>1</sup> / <sub>16</sub>	83	3 <sup>1</sup> / <sub>4</sub>	95	3 <sup>3</sup> / <sub>4</sub>	108	4 <sup>1</sup> / <sub>4</sub>	127	5	159	6 <sup>1</sup> / <sub>4</sub>	191	7 <sup>1</sup> / <sub>2</sub>	222	8 <sup>3</sup> / <sub>4</sub>	260	10 <sup>1</sup> / <sub>4</sub>	292	11 <sup>1</sup> / <sub>2</sub>	324	12 <sup>3</sup> / <sub>4</sub>	
	Tw	191	7 <sup>1</sup> / <sub>2</sub>	191	7 <sup>1</sup> / <sub>2</sub>	191	7 <sup>1</sup> / <sub>2</sub>	207	8 <sup>1</sup> / <sub>16</sub>	242	9 <sup>1</sup> / <sub>2</sub>	290	11 <sup>1</sup> / <sub>16</sub>	325	12 <sup>13</sup> / <sub>16</sub>	370	14 <sup>9</sup> / <sub>16</sub>	515	20 <sup>1</sup> / <sub>4</sub>	525	20 <sup>11</sup> / <sub>16</sub>	610	24	
Th	312	12 <sup>5</sup> / <sub>16</sub>	312	12 <sup>5</sup> / <sub>16</sub>	312	12 <sup>5</sup> / <sub>16</sub>	364	14 <sup>1</sup> / <sub>2</sub>	405	15 <sup>15</sup> / <sub>16</sub>	505	20	566	22 <sup>5</sup> / <sub>16</sub>	639	25 <sup>3</sup> / <sub>16</sub>	449	17 <sup>11</sup> / <sub>16</sub>	449	17 <sup>11</sup> / <sub>16</sub>	541	21 <sup>5</sup> / <sub>16</sub>		

### Notes:

1. Ly<sub>1</sub> for ANSI#150, ISO PN16 & Grooved ends (see available sizes below)
2. La<sub>1</sub> & h<sub>1</sub> for Angle body, ANSI#150 and ISO PN16.
3. Ly<sub>2</sub>, La<sub>2</sub> & h<sub>2</sub> for threaded female, NPT or BSP.
4. Ly<sub>3</sub>, La<sub>3</sub> & h<sub>3</sub> for flanged ANSI #300 and ISO PN25.
5. Data is for maximum envelope dimensions, component positioning may vary.
6. Provide adequate space around valve for maintenance.

### Connection Standard

- Flanged: ANSI B16.42 (Ductile Iron), B16.5 (Steel & Stainless Steel), B16.24 (Bronze), ISO PN16
- Threaded: NPT or ISO-7-Rp 2, 2½ & 3"
- Grooved: ANSI/AWWA C606 for 2, 3, 4, 6 & 8"

### Water Temperature

- 0.5 - 80°C (33 - 180°F)

### Manufacturers Standard Materials

#### Main valve body and cover

- Ductile Iron ASTM A-536

#### Main valve internals

- Stainless Steel, Bronze and coated Steel

#### Control Trim System

- Brass control components/accessories
- Forged Brass fittings & Copper tubing

#### Elastomers

- NBR (Buna-N)

#### Coating

- Electrostatic Powder Coating Polyester, Red (RAL 3002)

### Sizes ("Y" & Angle)

- Available Y: 1½ - 20", Angle: 1½ - 18"
- UL Listed and FM approved: 2, 2½, 3, 4, 6 & 8"

### Pressure Rating

- Class #150: 30 - 235 psi (2 - 15 bar)
- Class #300: 100 - 350 psi (7 - 24 bar)

### Optional Materials

#### Main valve body/internals

- Carbon Steel ASTM A-216-WCB
- Stainless Steel 316
- Ni-Al-Bronze ASTM B-148
- Titanium
- Duplex
- Hastalloy

#### Control Trim

- Stainless Steel 316
- Monel® and Al-Bronze
- Hastalloy C-276

#### Coating

- High Build Epoxy Fusion-Bonded with UV Protection, Anti-Corrosion

### UL Listed Adjusting Pressure

- 2 to 6": 350 psi (24 bar)
- 8": 175 psi (12 bar)

### Approvals

- UL Listed - Fire Pump Relief Valve (QXZQ)
- FM Approved - Water Relief Valve and Fire Pump Relief Valve
- ISO 9001 QA certified
- ABS
- Lloyd's Registered



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