

Pressure-Relief Valve

Model - FP 430 - UF



Description

The BERMAD Model FP-430-UF pilot-operated valve prevents over-pressure, maintaining a constant preset system pressure regardless of fluctuating demands. UL-listed (up to 175 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

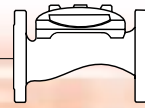
- **Hydraulically-powered valve design**
 - Closes drip-tight time after time
 - Eliminates jamming problems
- **Hydro-efficient body design**
 - Wide rangeability
 - Unrestricted flow path
- **One-piece molded single moving part** – no maintenance required
- **Simple design** – cost effective
- **Factory pre-assembled trim** – Out-of-Box Quality
- **In-line serviceable** – minimal down time

Optional Features

- Large control filter (code: F)
- Valve-position flow indicator
- Seawater service construction

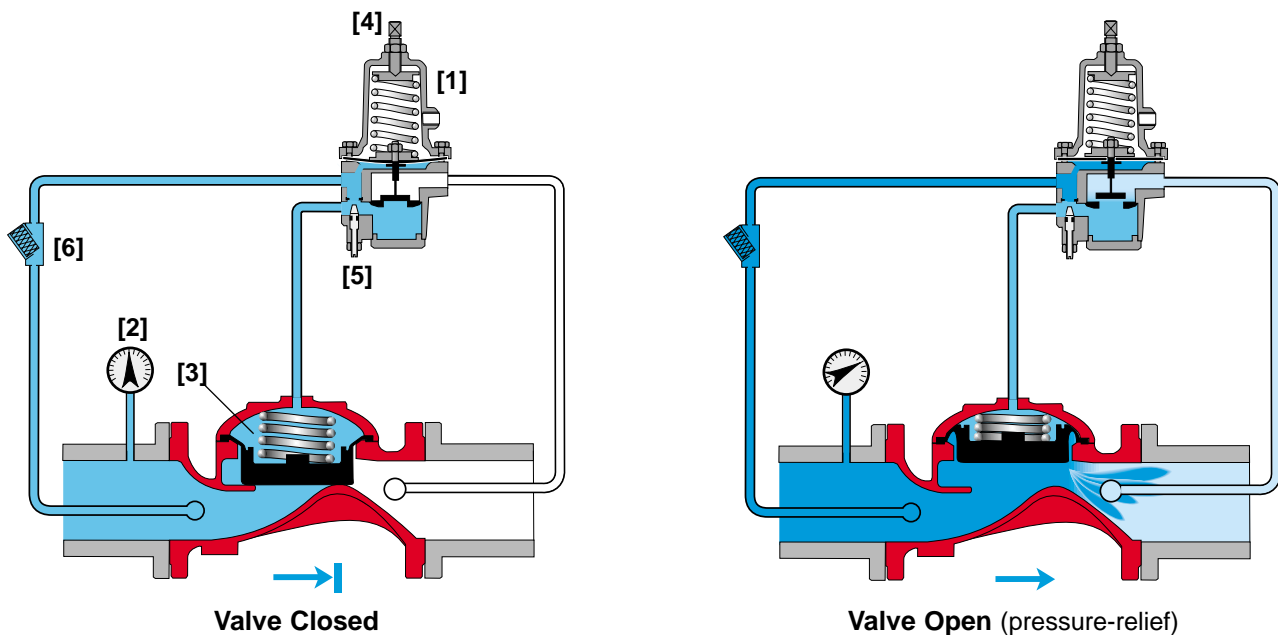
Note: Optional features can be mixed and matched.

Consult your local BERMAD representative for full details



Operation

The BERMAD Model FP-430-UF remains closed as long as the sensed inlet pressure is lower than the adjustable setpoint. 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 endows it with 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, hydraulic-pilot controlled. The main valve shall be globe design, pattern (or angle). Valve actuation shall be accomplished by a fully peripherally supported, one-piece balanced rolling-diaphragm, vulcanized with metal insert. The diaphragm assembly shall be the only moving part.

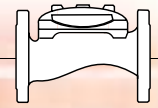
The valve shall have an unobstructed flow path, with no stem guide or supporting ribs.

The valve shall have a removable cover for quick in-line service enabling all necessary inspection and servicing.

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

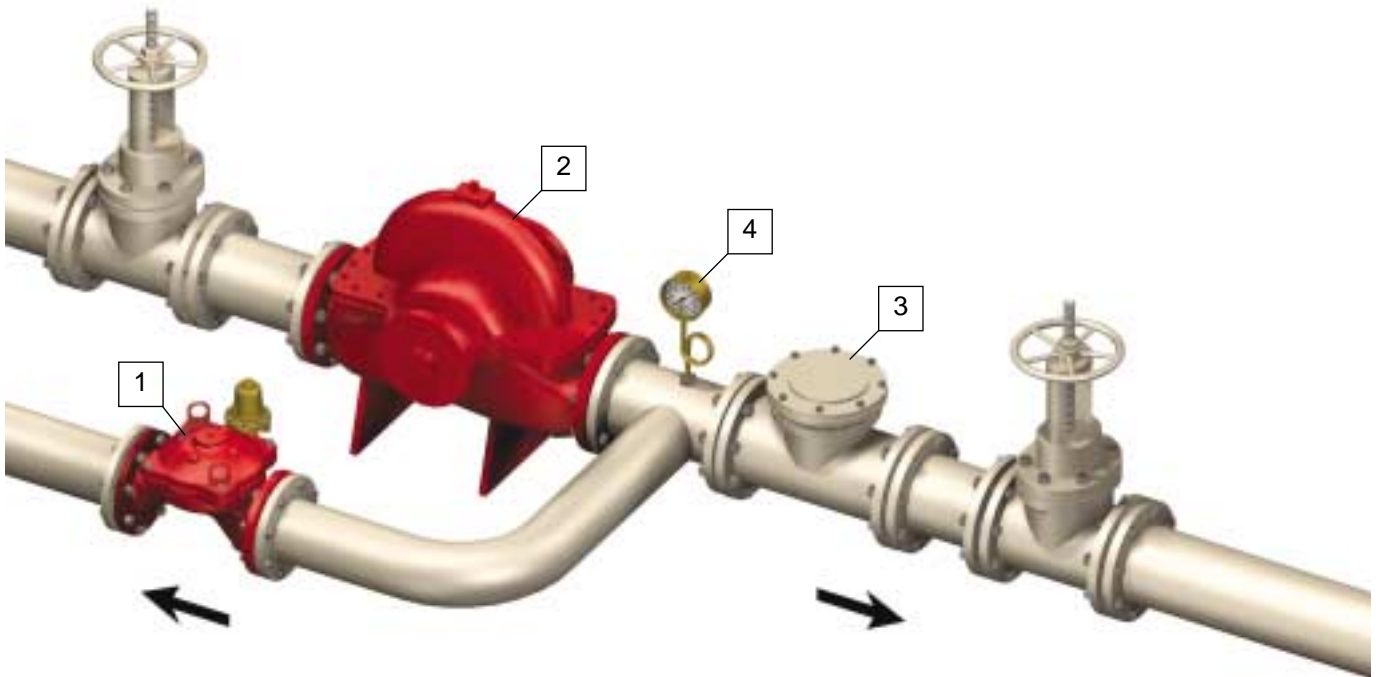
The Trim shall be supplied as an assembly, pre-assembled and hydraulically tested at an ISO 9000 & 9001 certified factory.



Typical Installations

System Components

1. BERMAD Model FP-430-UF
2. Fire-Pump
3. Check Valve
4. Pressure Gauge

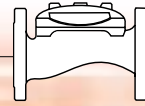


Installation Considerations

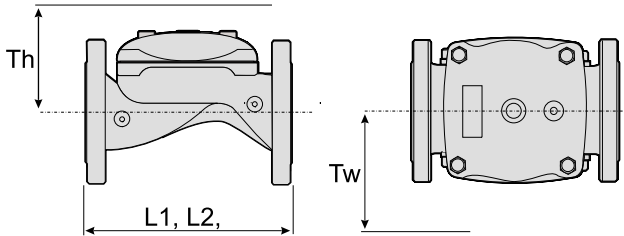
- Size the valve not less than according to NFPA 20.
- Provide adequate clearance around valve for maintenance, ensuring that the actuator can be easily removed.
- Design installation with the valve cover up for best performance.
- Ensure that before the valve is installed, instructions are given to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

Approvals

The BERMAD Model FP-430-UF is UL-listed and FM approved when installed as a unit



Technical Data



Valve Size		2"		2½"		3"		4"		6"		8"		10"		12"	
		mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch	mm	inch
Dimension	(1)L1	205	8½	205	8½	250	9⅓/₁₆	320	12⅑/₁₆	415	16⅕/₁₆	500	19⅐/₁₆	605	23⅓/₁₆	725	28½
	(2)L2	180	7⅐/₁₆	210	8¼	255	10⅐/₁₆	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Tw	284	11⅓/₁₆	284	11⅓/₁₆	300	11⅓/₁₆	313	12⅕/₁₆	341	13⅗/₁₆	415	16⅕/₁₆	443	17⅗/₁₆	481	18⅑/₁₆
	Th	210	8¼	210	8¼	215	8⅗/₁₆	243	9⅑/₁₆	315	12⅓/₈	350	13¾	382	15	430	6⅑/₁₆

Notes:

1. L1 is for flanged valves.
2. L2 is for threaded NPT or BSP.
3. Tw & Th are max for pilot system.
4. Data is for envelope dimensions, component positioning may vary.
5. Provide space around valve for maintenance.

Connection Standard

- Flanged: ANSI B16.42 (Ductile Iron), B16.5 (Steel & Stainless), B16.24 (Bronze), B16.1 (Cast iron), ISO PN16
- Threaded: NPT or BSP for 2, 2½ & 3"

Water Temperature

- 0.5 – 50°C (33 – 122°F)

Manufacturers Standard Materials

Main valve body and cover

- Ductile Iron ASTM A-536

Main valve internals

- Stainless steel and Natural Rubber

Control System

- Forged brass accessories and fittings, copper tubing

Coatings, Red (RAL 3000)

- Electrostatic Powder Coating Polyester

Optional Materials

Main valve body and accessories

- Carbon steel ASTM A-216-WCB
- Stainless steel 316
- Ni-Al bronze ASTM B-148

Control System

- Stainless steel 316

Coating

- Fusion Bonded Epoxy with UV Protection, Anti-Corrosive

Approvals

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