Pressure-Reducing Valve

FP720UL

Description

The Model 720 reduces high, unstable upstream pressure to maintain a downstream precise stable pressure, regardless of changing upstream pressure or flow and requires only existing line pressure to operate.

Typical Applications

- Hose station feeds
- Sprinkler systems with over-pressure
- Deluge systems with over-pressure
- Foam systems
- Fire hydrant water supply

Features and Benefits

- **Minimized pressure loss**
  - Unobstructed flow path
  - Advanced globe "Y", or angle pattern
  - Wide-body design
  - Wide-range flow V-Port Throttling Plug
- Advanced pilot system with adjustable closing speed – **accurately maintains static and dynamic pressure**
- Double-chambered unitized actuator
  - Easy, inline inspection ensures minimal down time
  - Quick and smooth valve action
- Replaceable stainless steel valve seat – **lifetime valve**

Optional Features

- Large filter for control system
- Seawater service

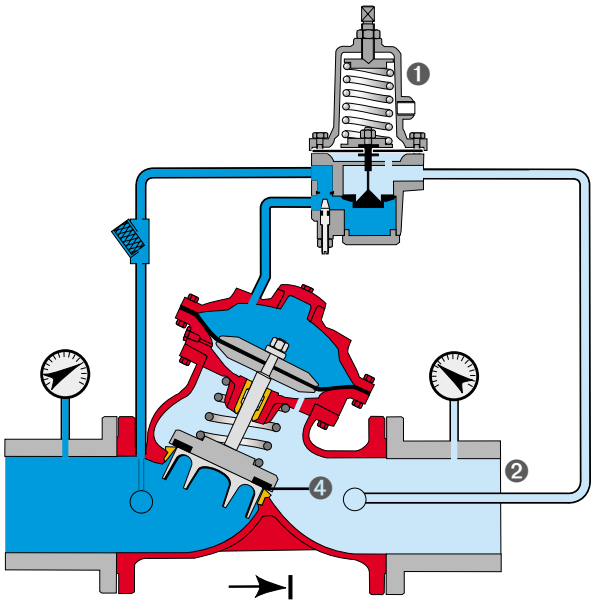
Note: Optional features can be mixed and matched. Consult your Bermad representative for full details

UL LISTED

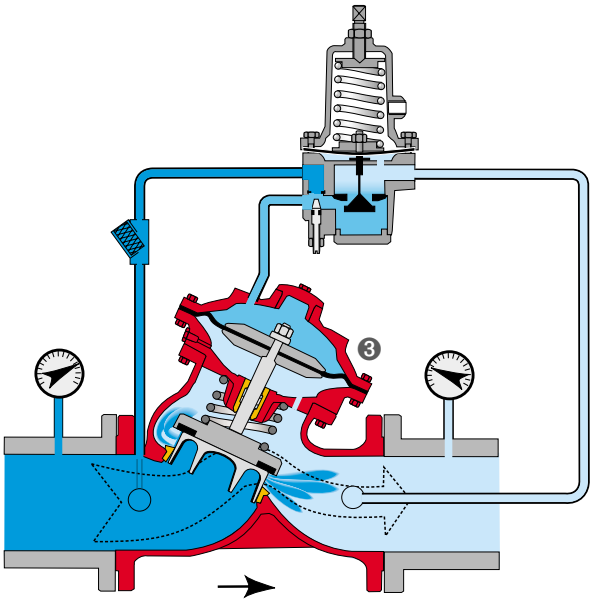
FP720UL Pressure-Reducing Valve

Operation

The BERMAD Model 720UL, pilot operated pressure-reducing valve automatically and accurately reduces downstream water pressure to a specific, adjustable value. The 720UL operates under both flowing (residual) and non-flowing (static) conditions. The pressure-regulating pilot ❶ senses outlet pressure ❷ and in real-time modulates the main valve ❸ to maintain the constant downstream pressure.
When, in no-flow static conditions, the outlet pressure rises above the pilot setting, the pilot closes, and the main valve closes bubble-tight ❹ to maintain the allowable downstream pressure.



Valve Closed
(static condition)



Valve Open
(flowing condition)

Tender Specifications

The pressure-reducing valve shall be UL-listed for fire protection. It shall eliminate downstream over-pressure, maintaining a constant downstream delivery pressure, regardless of varying pressures and/or flows.
The main valve shall be a diaphragm-actuated, globe "Y" pattern (or angle) valve with an unobstructed flow path.
Valve actuation shall be accomplished by one moving assembly containing a double-chambered actuator, which shall include a stainless steel stem and a resilient elastomeric seal held by a flat seal-disk and creating a drip-tight seal against the seat.
The valve seat shall be removable and made of stainless steel. The seat bore net area shall be no less than that of the valve nominal diameter and shall have an unobstructed flow path with no stem guide or supporting ribs.
All necessary inspection and servicing shall be possible in-line.
The valve shall be UL-listed as a water control valve-pressure control type.
The Pressure-Reducing Pilot Valve shall be UL-listed as part of the assembly.
The manufacturer shall be QA certified according to ISO 9001 standards.

Pressure-Reducing Valve

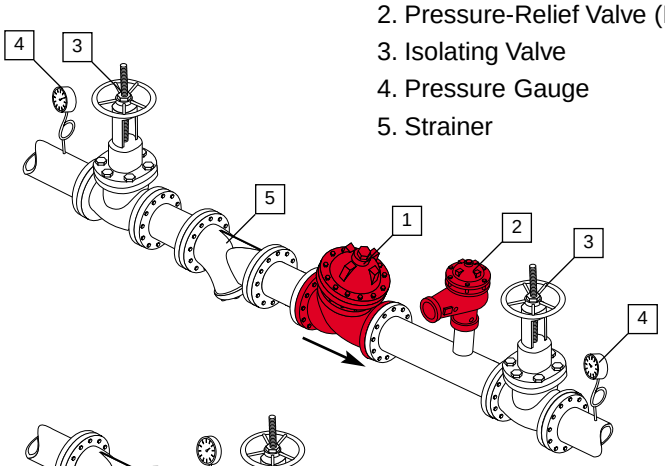
FP720UL

Typical Installations

System Components

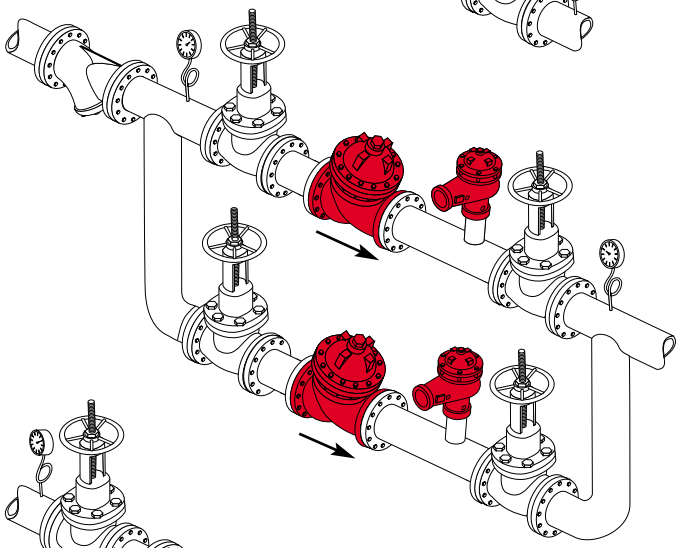
1. BERMAD Model 720-UL
2. Pressure-Relief Valve (BERMAD Model 730-UL/FM)
3. Isolating Valve
4. Pressure Gauge
5. Strainer

Single Pressure-Reducing Valve



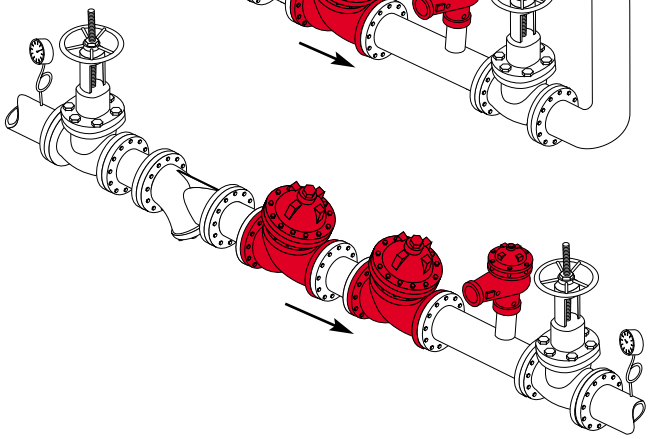
Multiple - Parallel

- wide flow range
- dual redundant
- servicable with zero down-time



2-Stage In Series

- high pressure differential
- added reduced pressure zone protection



Installation Considerations

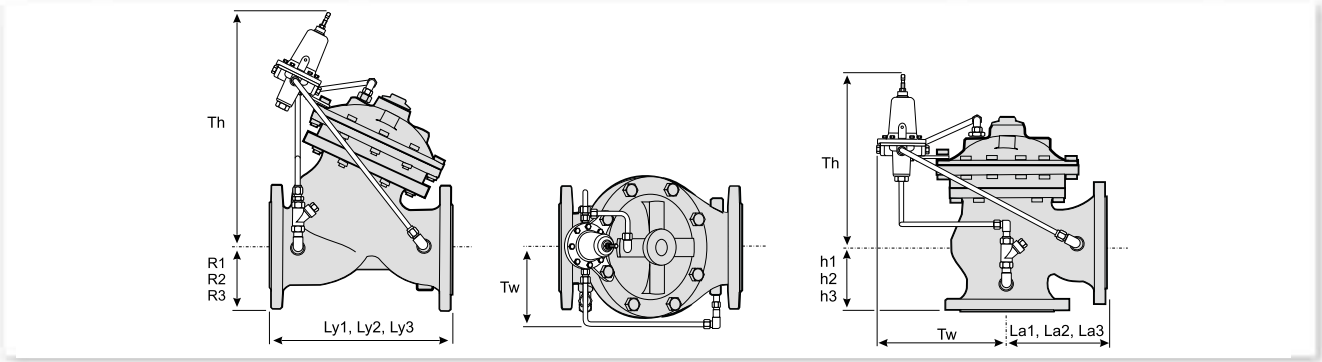
- Allow enough room around the valve assembly for any future maintenance.
- Install isolating valves upstream and downstream of the Model 720UL.
- Install the valve horizontally with the cover up.
- Install a UL listed relief valve (recommended: Bermad Model 730) of the appropriate size on the downstream side of the 720UL, as required by UL standards.
- Install a UL listed pressure gauge on both sides of the valve.

UL-Listed

The BERMAD Model 720-UL is UL-listed when installed as a unit.

FP720UL Pressure-Reducing Valve

Specifications



Valve 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	(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	725	28 9/16	733	28 7/8	990	39
	(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	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	762	30	767	30 3/16	1024	40 3/4
	(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	396	15 9/16	400	15 3/4	450	17 3/4
	(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	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	415	16 5/16	419	16 1/2	467	18 3/8
	(1)h1	82	3 1/4	82	3 1/4	102	4	102	4	127	5	152	6	203	8	219	8 5/8	275	10 13/16	275	10 13/16	369	14 1/2
	(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	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	294	11 1/2	294	11 1/2	386	5 3/16
	(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	241	9 1/2	267	10 1/2	298	11 3/4
	(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	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	260	10 1/4	292	11 1/2	324	12 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	515	20 1/4	525	20 11/16	610	24
	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	449	17 11/16	449	17 11/16	541	21 5/16

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. Data is for maximum envelope dimensions, component positioning may vary.
5. Tw is maximum trim width for both "Y" & angle patterns.
6. Provide adequate space 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 2, 2½ & 3"

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

Sizes ("Y" & Angle)
- Available: 1½, 2, 2½, 3, 4, 6, 8, 10, 12, 14, 16, 18, 20 & 24"
- UL-listed: 2, 2½, 3, 4, 6 & 8"

UL-listing Pressure Rating
- Max inlet: 2 to 6": 300 psi (21 bar), 8" 175 psi (12 bar)
- Set: 30 - 165 psi (11.5 bar)
- Test: 450 psi (31 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 for:
Special System Water Control Valves (VLMT), Pressure Reducing and Pressure Control Type For Fire Protection Systems

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