

QUICK PRESSURE RELIEF VALVE

Model IR-43Q-2W-K

The BERMAD Quick Pressure Relief Valve is a hydraulically operated, diaphragm actuated control valve that relieves excessive line pressure when it rises above the preset maximum. It responds to a rise in system pressure immediately, accurately and with high repeatability, by opening fully and provides smooth drip tight closing.



- [1] BERMAD Model IR-43Q-2W-K protects system from pressure spikes.
- [2] Pressure Reducing Valve Model IR-120-50-HP-3W-XZ
- [3] Combination Air Valve Model C10
- [4] Electromagnetic Water Meter Model M10
- [5] Kinetic Air Valve Model K10

Features & Benefits

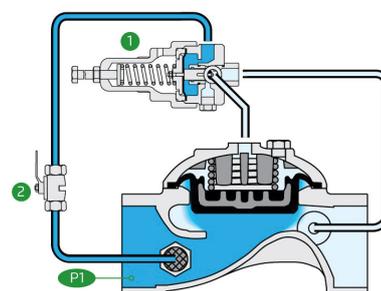
- Hydraulic Pressure Control
 - Line pressure driven
 - Long term drip tight sealing
 - Long term setting stability
 - Wide setting range
 - Tight setting window with minimal hysteresis
- Advanced Hydro-Efficient Globe Design
 - Unobstructed flow path
 - Single moving part
 - High flow capacity
- Fully Supported & Balanced Diaphragm
 - Requires low opening and actuation pressure
 - Progressively restrains valve closing
 - Prevents diaphragm distortion
- User-Friendly Design
 - Easy pressure setting

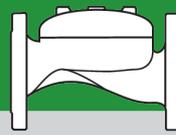
Typical Applications

- System Burst Protection
- Momentary Pressure Peak Elimination
- System Failure Visual Indication
- Filter Burst Protection

Operation:

The Pressure Relief Pilot [1] commands the valve to open immediately should the Upstream Pressure [P1] abruptly rise above setting, and to close smoothly when it falls below setting.





Technical Data

Pressure Rating:
150 psi

Operating Pressure Range:
7-150 psi

Materials

Body & Cover:
Cast Iron

Diaphragm:
NR, Nylon fabric reinforced

Spring:
Stainless Steel

**Other materials are available on request*

Control Loop Accessories

PS Pilot: PC-3Q-A-P

Pilot Spring Range:

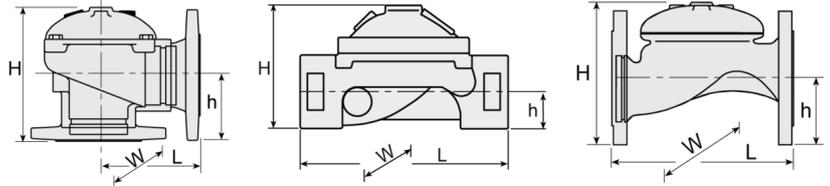
Spring	Spring Color	Setting range
V	Blue & White	15-150 psi

Tubing and Fittings:

Polyethylene and Polypropylene

Technical Specifications

For other end connection types, Please refer to [BERMAD](#) full engineering page.



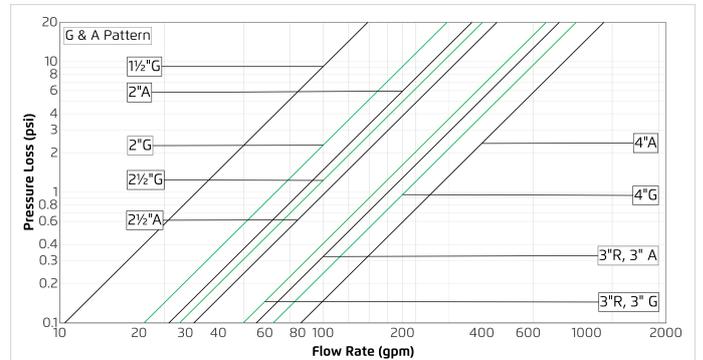
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	w	CCDV (Gal)	CV
1" ; DN25	Globe	Threaded	2.4	4%	2 3/4	1 3/8	2 7/8	0.005	15
1 1/2" ; DN40	Globe	Threaded	4.4	6%	3 3/8	1 1/4	3%	0.016	33
2" ; DN50	Globe	Threaded	8.8	7%	4 1/2	1 1/2	4%	0.03	66
2" ; DN50	Globe	Flanged	19.8	8%	6 1/8	3 1/2	6%	0.03	66
2" ; DN50	Globe	Grooved	11	8%	4 1/4	1 1/4	4%	0.03	66
2" ; DN50	Angle	Threaded	9.7	3 1/2	5 3/8	2 1/2	4 3/4	0.03	82
2" ; DN50	Angle	Flanged	19.8	4 3/4	7 7/8	3 3/8	6%	0.03	82
2 1/2" ; DN65	Globe	Threaded	12.6	8%	5 1/4	1 1/8	5%	0.05	90
2 1/2" ; DN65	Globe	Flanged	23.1	8%	7	3 1/2	7	0.05	90
2 1/2" ; DN65	Angle	Threaded	12.8	4%	7 7/8	3 3/4	5%	0.05	102
3R" ; DN80R	Globe	Threaded	12.9	8%	5 1/2	2 1/8	5%	0.08	157
3R" ; DN80R	Globe	Flanged	28	8%	7 7/8	4	7 7/8	0.08	157
3R" ; DN80R	Angle	Threaded	15.4	4%	7	3%	5%	0.08	176
3" ; DN80	Globe	Threaded	28.7	10%	6 1/2	2 1/4	6%	0.08	157
3" ; DN80	Globe	Flanged	41.9	9%	8 1/4	4	7 7/8	0.08	157
3" ; DN80	Globe	Grooved	23.4	9%	6 1/8	1 1/8	6%	0.08	157
3" ; DN80	Angle	Threaded	24.3	4%	7 1/4	3 1/4	6%	0.08	176
3" ; DN80	Angle	Flanged	37.5	6%	8%	4	7 7/8	0.08	176
3" ; DN80	Angle	Grooved	22.1	4%	11	3%	6%	0.08	176
4" ; DN100	Globe	Flanged	61.7	12%	9%	4 1/2	8%	0.18	236
4" ; DN100	Globe	Grooved	35.7	12%	7%	2 1/2	8	0.18	236
4" ; DN100	Angle	Flanged	57.3	6%	8 3/4	4 1/2	8%	0.18	260
4" ; DN100	Angle	Grooved	35.3	6%	8 3/4	4 1/2	8%	0.18	260

CCDV = Control Chamber Displacement Volume • Threaded = BSP & NPT are available.

Additional Features

Code	Description	Size Range
F	Large Control Filter	1 1/2"-16"
I	Position Indicator Assembly	1 1/2"-4"
M	Flow Stem	1 1/2"-4"
5	Plastic Test Point	1 1/2"-4"

Flow Chart



2-Way circuit "Added Head Loss" (for "V" below 6.5 f/s): 4.5 psi

Differential Pressure & Flow Calculation

$$\Delta P = \left(\frac{Q}{Cv} \right)^2$$

$Cv = \text{gpm @ } \Delta P \text{ of 1 psi}$
 $Q = \text{gpm}$
 $\Delta P = \text{psi}$

