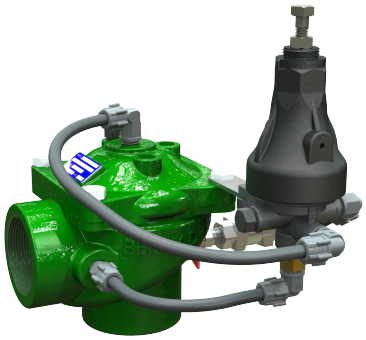
QUICK PRESSURE RELIEF VALVE

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

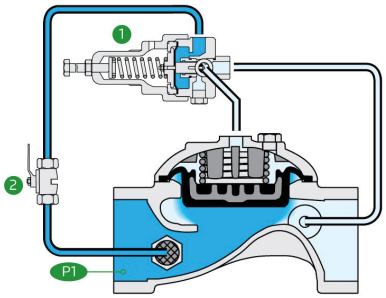
- Hydraulic Pressure Control
  - Line pressure driven
  - Long term drip tight sealing
  - Long term setting stability
  - Wide setting range
  - Tight setting window with minimal hysteresis
- Advanced Hydro-Efficient Globe Design
  - Unobstructed flow path
  - Single moving part
  - High flow capacity
- 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.



All images in this catalog are for illustration only

IR-43Q-2W-K

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

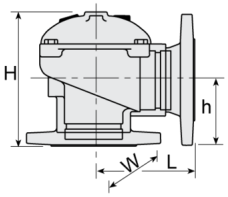
Pilot Spring Range:

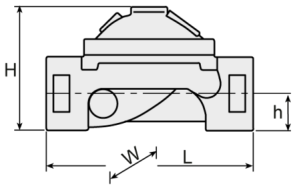
Spring	Spring Color	Setting range
V	Blue & White	15-150 psi

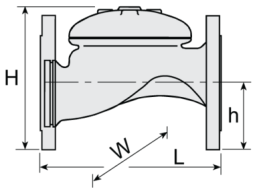
Tubing and Fittings:
Polyethylene and Polypropylene

Technical Specifications

For other end connection types,
Please refer to BERMAD full engineering page.







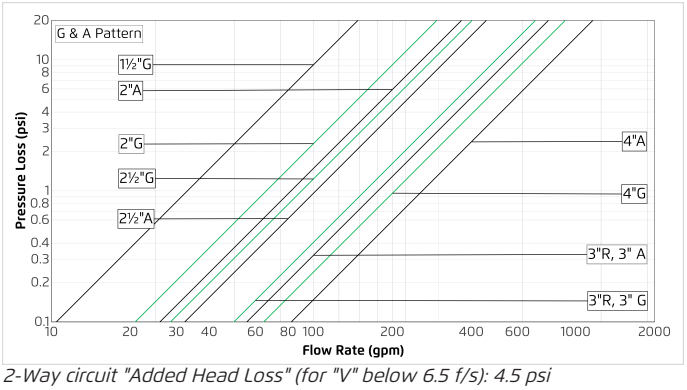
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	W	CCDV (Gal)	CV
1" ; DN25	Globe	Threaded	2.4	4⅝	2¾	1⅜	2⅞	0.005	15
1½" ; DN40	Globe	Threaded	4.4	6⅛	3⅜	1¼	3⅞	0.016	33
2" ; DN50	Globe	Threaded	8.8	7⅛	4½	1½	4¾	0.03	66
2" ; DN50	Globe	Flanged	19.8	8⅛	6⅛	3⅛	6⅛	0.03	66
2" ; DN50	Globe	Grooved	11	8⅛	4¼	1¼	4¾	0.03	66
2" ; DN50	Angle	Threaded	9.7	3½	5⅜	2½	4¾	0.03	82
2" ; DN50	Angle	Flanged	19.8	4¾	7⅞	3⅜	6⅛	0.03	82
2½" ; DN65	Globe	Threaded	12.6	8⅜	5¼	1⅞	5⅛	0.05	90
2½" ; DN65	Globe	Flanged	23.1	8⅛	7	3½	7	0.05	90
2½" ; DN65	Angle	Threaded	12.8	4⅜	7⅛	3¾	5¼	0.05	102
3R"- ; DN80R	Globe	Threaded	12.9	8⅜	5½	2⅛	5⅛	0.08	157
3R"- ; DN80R	Globe	Flanged	28	8⅜	7⅞	4	7⅞	0.08	157
3R"- ; DN80R	Angle	Threaded	15.4	4⅜	7	3⅝	5¼	0.08	176
3" ; DN80	Globe	Threaded	28.7	10⅛	6½	2¼	6¾	0.08	157
3" ; DN80	Globe	Flanged	41.9	9⅞	8¼	4	7⅞	0.08	157
3" ; DN80	Globe	Grooved	23.4	9⅞	6⅛	1⅞	6¾	0.08	157
3" ; DN80	Angle	Threaded	24.3	4⅜	7¼	3¼	6¾	0.08	176
3" ; DN80	Angle	Flanged	37.5	6⅛	8⅛	4	7⅞	0.08	176
3" ; DN80	Angle	Grooved	22.1	4¾	11	3⅝	6¾	0.08	176
4" ; DN100	Globe	Flanged	61.7	12⅝	9⅝	4½	8⅞	0.18	236
4" ; DN100	Globe	Grooved	35.7	12⅝	7⅝	2½	8	0.18	236
4" ; DN100	Angle	Flanged	57.3	6⅜	8¾	4½	8⅞	0.18	260
4" ; DN100	Angle	Grooved	35.3	6⅜	8¾	4½	8⅞	0.18	260

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

Additional Features

Code	Description	Size Range
F	Large Control Filter	1½"-16"
I	Position Indicator Assembly	1½"-4"
M	Flow Stem	1½"-4"
5	Plastic Test Point	1½"-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 = gpm @ ΔP of 1 psi
Q = gpm
ΔP = psi

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