



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

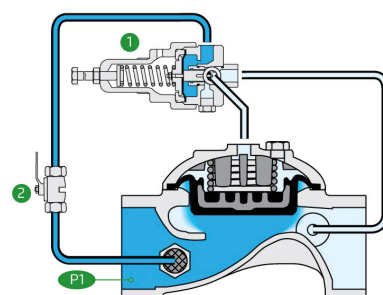
- Hydraulic Pressure Control
 - Line pressure driven
 - Long term drip tight sealing
 - Long term setting stability
 - Wide setting range
 - Tight setting window with minimal hysteresis
- Advanced Hydro-Efficient Globe Design
 - Unobstructed flow path
 - Single moving part
 - High flow capacity
- Fully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

10 bar

Operating Pressure Range:

0.5-10 bar

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	1.0-10.0 bar

Tubing and Fittings:

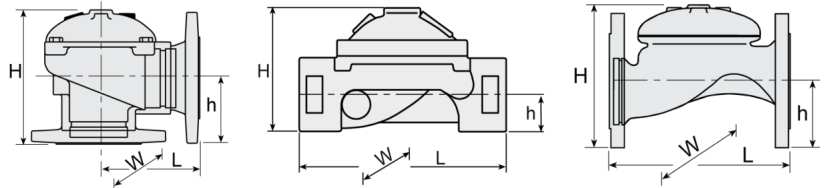
Polyethylene and Polypropylene

**For other pilots please consult BERMAD*

Technical Specifications

For other end connection types,

Please refer to BERMAD full engineering page.



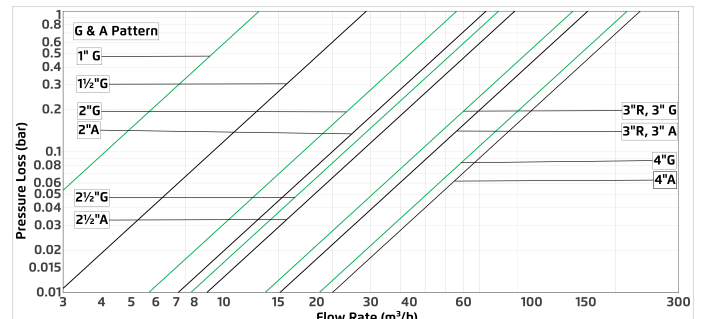
Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	W	CCDV (Lit)	KV
1" ; DN25	Globe	Threaded	1.1	115	68	34	71	0.02	13
1½" ; DN40	Globe	Threaded	2	153	87	29	98	0.06	29
2" ; DN50	Globe	Threaded	4	180	114	39	119	0.113	57
2" ; DN50	Globe	Flanged	9	205	155	78	155	0.113	57
2" ; DN50	Globe	Grooved	5	205	108	31	119	0.113	57
2" ; DN50	Angle	Threaded	4.4	86	136	61	119	0.113	71
2" ; DN50	Angle	Flanged	9	120	160	83	155	0.113	71
2½" ; DN65	Globe	Threaded	5.7	210	132	45	129	0.179	78
2½" ; DN65	Globe	Flanged	10.5	205	178	89	178	0.179	78
2½" ; DN65	Angle	Threaded	5.8	110	180	93	131	0.179	88
3R" ; DN80R	Globe	Threaded	5.8	210	140	53	129	0.291	136
3R" ; DN80R	Globe	Flanged	12.1	210	200	100	200	0.291	136
3R" ; DN80R	Angle	Threaded	7	110	178	91	131	0.291	152
3" ; DN80	Globe	Threaded	13	255	165	55	170	0.291	136
3" ; DN80	Globe	Flanged	19	250	210	100	200	0.291	136
3" ; DN80	Globe	Grooved	10.6	250	155	46	170	0.291	136
3" ; DN80	Angle	Threaded	11	110	184	80	170	0.291	152
3" ; DN80	Angle	Flanged	17	153	205	101	200	0.291	152
3" ; DN80	Angle	Grooved	10	120	194	90	170	0.291	152
4" ; DN100	Globe	Flanged	28	320	242	112	223	0.668	204
4" ; DN100	Globe	Grooved	16.2	320	191	61	204	0.668	204
4" ; DN100	Angle	Flanged	26	160	223	112	223	0.668	225
4" ; DN100	Angle	Grooved	16	160	223	112	204	0.668	225

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

Additional Features

Code	Description	Size Range
F	Large Control Filter	1½"-16" / DN40-400
I	Position Indicator Assembly	1½"-4" / DN40-100
M	Flow Stem	1½"-4" / DN40-100
5	Plastic Test Point	1½"-4" / DN40-100

Flow Chart



2-Way circuit "Added Head Loss" (for "V" below 2 m/s): 0.3 bar

Differential Pressure & Flow Calculation

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

$K_v = m^3/h \text{ @ } \Delta P \text{ of 1 bar}$
 $Q = m^3/h$
 $\Delta P = \text{bar}$