# QUICK PRESSURE RELIEF VALVE

Model IR-43Q-2W-R

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.
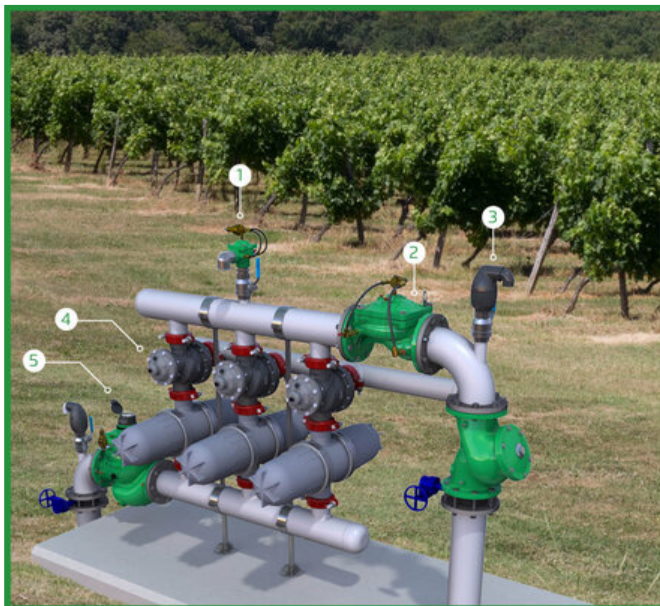
[1] BERMAD Model IR-43Q-2W-R protects system from pressure spikes.
[2] Pressure Reducing Valve Model IR-420-2W-R
[3] Combination Air Valve Model IR-C30
[4] Filter Backwash Hydraulic Valve Model IR-350
[5] Flow Control Hydrometer Model IR-970-M0-R Magnetic Drive

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
  - Simple in-line inspection and service

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. The Vented Cock Valve [2] enables manual operating tests.

All images in this catalog are for illustration only
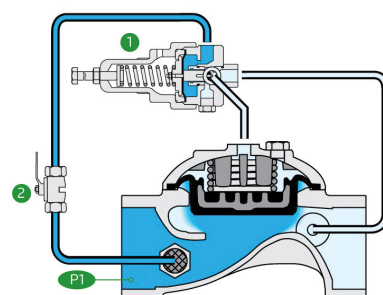
Technical Data

Pressure Rating:
16 bar

Operating Pressure Range:
0.5-16 bar

Materials

Body & Cover:
Cast iron (up to 8") Ductile iron (10" & 12")

Diaphragm:
NR, Nylon fabric reinforced

Spring:
Stainless Steel

Other materials are available on request

Control Loop Accessories

PS Pilot: PC-3Q-A-MP

Pilot Spring Range:

Spring	Spring Color	Setting range
V	**Blue & White**	**1.0-10.0 bar**
P	White	1.0-16.0 bar

Standard spring - marked in bold

Tubing and Fittings:
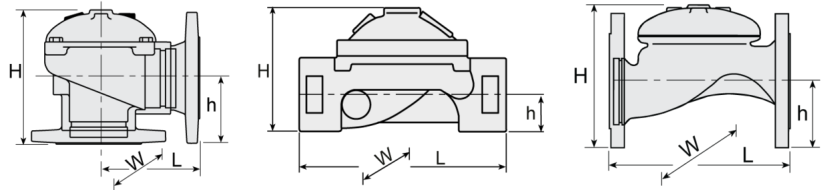Reinforced Nylon and Brass

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
6" ; DN150	Globe	Flanged	68	415	345	140	306	1.973	458
6" ; DN150	Globe	Grooved	49	415	302	85	306	1.973	458
8" ; DN200	Globe	Flanged	125	500	430	170	365	3.858	781
10" ; DN250	Globe	Flanged	140	605	460	202	405	3.858	829
12" ; DN300	Globe	Flanged	290	725	635	242	580	13.75	1932

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

Additional Features

Code	Description	Size Range
F	Large Control Filter	1½"-12" / DN40-300
I	Position Indicator Assembly	1½"-12" / DN40-300

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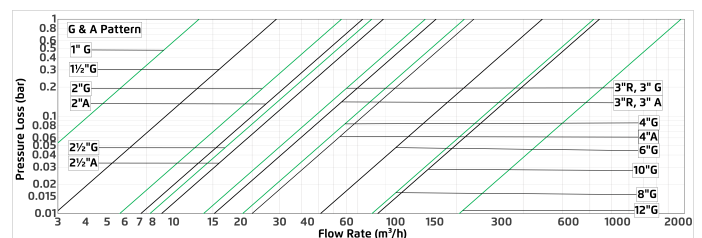
2-Way circuit "Added Head Loss" (for "V" below 2 m/s): 0.3 bar

Differential Pressure & Flow Calculation

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

Kv = m³/h @ ΔP of 1 bar
Q = m³/h
ΔP = bar

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