HYDRAULIC CONTROL VALVE

With 3-Way Hydraulic Relay & Plastic Control Accessories

Model IR-405-54-3W-KX

The BERMAD Normally Closed Control Valve Model IR-405-54-3W-KX with hydraulic relay, is a hydraulically operated, diaphragm actuated control valve, which opens in response to a remote command pressure and shuts in absence of that command.

[1] BERMAD Model IR-405-54-3W-KX opens upon pressure rise command.
[2] Kinetic Air Valve Model IR-K10
[3] Combination Air Valve Model IR-C10

Features & Benefits

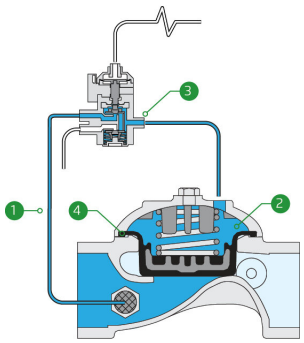
- Hydraulically Controlled, Normally Closed Valve
  - Line pressure driven
  - Closes upon command pressure failure
  - Amplifies and relays weak remote commands
  - Hydraulically controlled On/Off
- Advanced Hydro-Efficient Globe Design
  - Unobstructed flow path
  - Single moving part
  - High flow capacity
- Fully Supported & Balanced Diaphragm
  - Requires low opening and actuation pressure
  - Progressively restrains valve closing
  - Prevents diaphragm distortion
- User-Friendly Design
  - Simple in-line inspection and service
  - Easy addition of control features

Typical Applications

- Automated Irrigation Systems
- Remote/Elevated Systems
- Distribution Centers
- Low Supplied Pressure Irrigation Systems

Operation:

Line Pressure [1] is applied to the Control Chamber [2] through the held open, 3-Way Hydraulic Relay Valve (3W-HRV) [3] . This creates superior closing force that moves the Diaphragm Assembly [4] to a closed position. Upon pressure rise command, the 3W-HRV switches, releasing pressure from the control chamber and thereby opening the main valve. The 3W-HRV also features local manual opening.



All images in this catalog are for illustration only

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

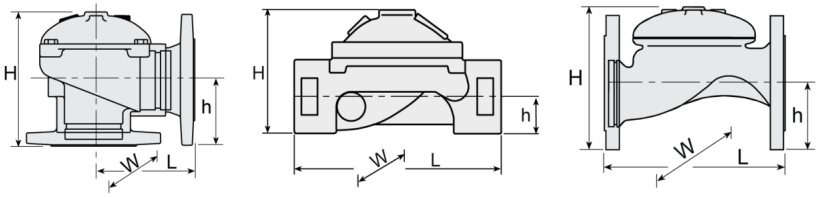
Tubing and Fittings:
Polyethylene and Polypropylene

**3W-HRV:*

- *Standard spring - 0-10 m'*
- *Optional 10-20 m'*

Technical Specifications

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



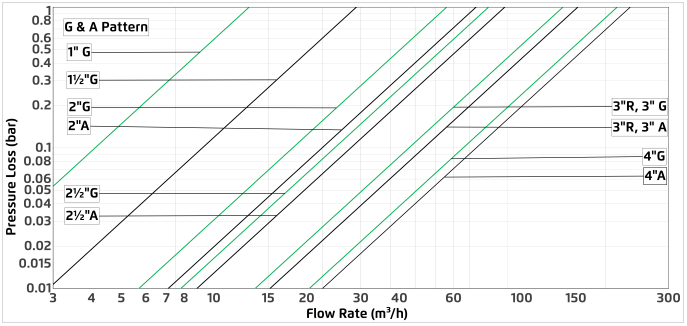
Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	W	CCDV (Lit)	KV
1" ; DN25	Globe	Threaded	1.1	115	68	34	71	0.02	13
1½" ; DN40	Globe	Threaded	2	153	87	29	98	0.06	29
2" ; DN50	Globe	Threaded	4	180	114	39	119	0.113	57
2" ; DN50	Globe	Flanged	9	205	155	78	155	0.113	57
2" ; DN50	Globe	Grooved	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
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



Differential Pressure & Flow Calculation

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

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

www.bermad.com