

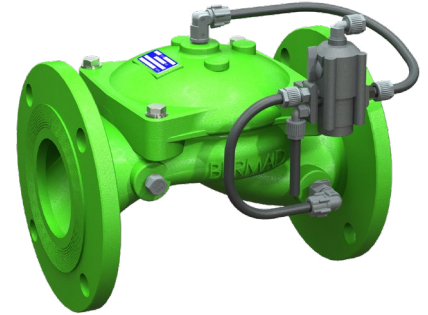


HYDRAULIC CONTROL VALVE

Normally Closed with Hydraulic Control

Model IR-405-54-KX

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



- [1] BERMAD Model IR-405-54-KX opens upon pressure rise command
- [2] BERMAD Kinetic Air Valve
- [4] BERMAD Combination Air Valve

Features & Benefits

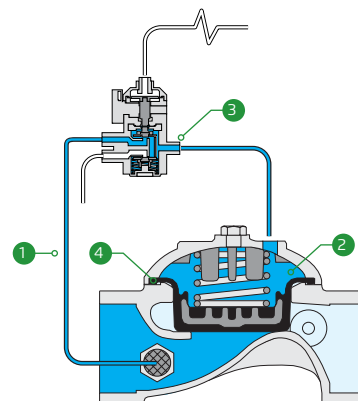
- Hydraulically Controlled, Normally Closed Valve
 - Line pressure driven
 - Closes upon control failure
 - Amplifies and relays weak remote command
 - Hydraulically controlled On/Off
- Advanced Globe Hydro-Efficient Design
 - Unobstructed flow path
 - Single moving part
 - High flow capacity
- Fully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

Typical Applications

- Computerized 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.





IR-405-54-KX

Technical Data

Pressure Rating:
10 bar, 145 psi

Operating Pressure Range:
0.5-10 bar, 7-145 psi

Materials:

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

Diaphragm:
NR, Nylon fabric reinforced

Spring:
Stainless steel

Cover Bolts: Stainless Steel

Control Accessories:

Tubing and Fittings:

Tubing: Polyethylene

Fittings: Polypropylene

Hydraulic relay Spring Range:

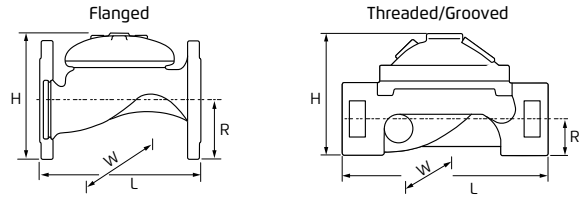
Springs Selection Table (for Topographic Height Difference)

Spring color	Topographic Height Difference	Type
Silver - Standard	0-10m	Hydraulic Relay
Green - Optional	10-20m	Hydraulic Relay

Technical Specifications

Globe Pattern Valves Dimensions & Weights

For [BERMAD](#) angle pattern, Please see our full engineering page.



Sizes Inch ; DN	1" ; 25*	1½" ; 40	2" ; 50		2½" ; 65		3R" ; 80R		3" ; 80			
Connection	Threaded	Threaded	Flanged	Threaded	Grooved	Flanged	Threaded	Flanged	Threaded	Flanged	Threaded	Grooved
L (mm)	115	153	205	180	205	205	210	210	210	250	255	250
H (mm)	68	87	155	114	108	178	132	200	140	210	165	155
W (mm)	71	98	155	119	119	178	129	200	129	200	170	170
R (mm)	34	29	78	39	31	89	45	100	53	100	55	46
Weight (kg)	1.1	2	9	4	5	10.5	5.7	12.1	5.8	19	13	10.6

Sizes Inch ; DN	4" ; 100		6" ; 150		8" ; 200	10 ; 250	12" ; 300	14" ; 350	16" ; 400
Connection	Flanged	Grooved	Flanged	Grooved	Flanged	Flanged	Flanged	Flanged	Flanged
L (mm)	320	320	415	415	500	605	725	742	741
H (mm)	242	191	345	302	430	460	635	655	694
W (mm)	223	204	306	306	365	405	580	587	587
R (mm)	112	61	140	85	170	202	242	260	300
Weight (kg)	28	16.2	68	49	125	140	290	358	377

*on/off valve only

Flow Properties

Sizes Inch DN	1" 25	1½" 40	2" 50	2½" 65	3" 80	4" 100	6" 150	8" 200	10" 250	12" 300	14" 350	16" 400				
Pattern	G	G	G	A	G	A	G	G	G	G	G	G				
KV	15	57	57	71	78	88	136	152	204	225	458	781	829	1,932	1,932	1,932

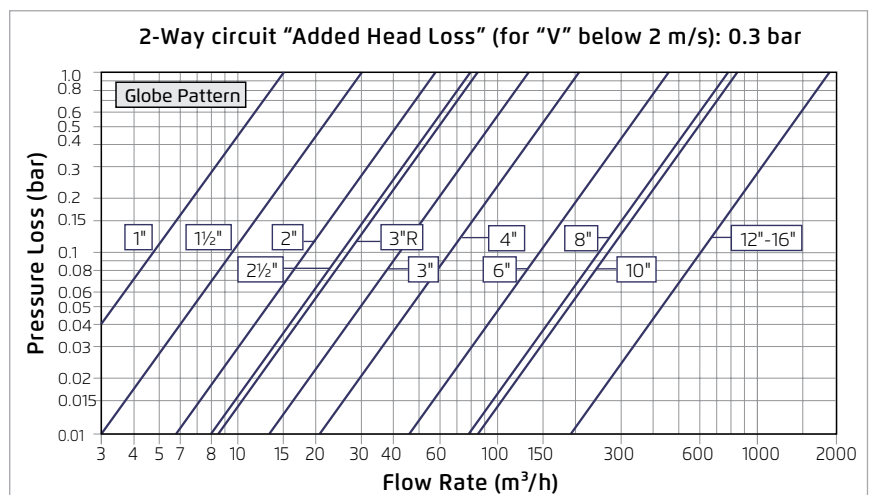
G = Globe pattern • A = Angle pattern

Valve flow coefficient

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

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

Flow Chart



www.bermad.com

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