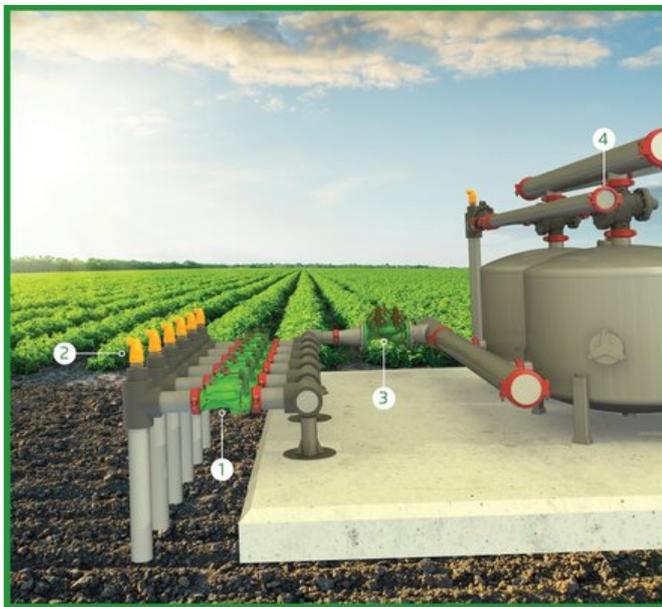


HYDRAULIC CONTROL VALVE

Model IR-405-KZ

The BERMAD Hydraulic Control Valve is a hydraulically operated, diaphragm actuated control valve that opens and shuts off in response to a local or remote pressure command.



- [1] BERMAD Models IR-405-KZ open upon local manual command.
- [2] Kinetic Air Valve Model IR-K10
- [3] Pressure Reducing & Sustaining Valve Model IR-423-3W-RXZ
- [4] Filter Backwash Hydraulic Valve Model IR-350

Features & Benefits

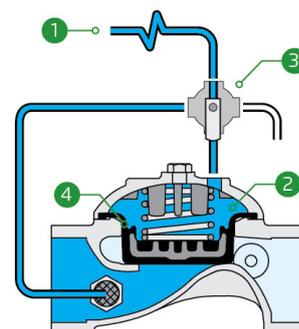
- Hydraulic Control Valve
 - Line pressure driven
 - Hydraulically controlled On/Off
- Advanced Hydro-Efficient Globe Design
 - Unobstructed flow path
 - Single moving part
 - High flow capacity
- Fully Supported & Balanced Diaphragm
 - Requires low opening and actuation pressure
 - Progressively restrains valve closing
 - Prevents diaphragm distortion
- User-Friendly Design
 - Simple in-line inception
 - Easy addition of control features

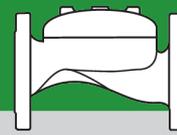
Typical Applications

- Automated Irrigation Systems
- Distribution Centers
- Low Supplied Pressure Irrigation Systems

Operation:

Hydraulic Command [1] is applied to the Control Chamber [2] through the Manual Selector [3]. This creates superior closing force that moves the Diaphragm Assembly [4] to a closed position. Discharging pressure from the control chamber, by turning the manual selector, causes the line pressure acting on the lower side of the diaphragm assembly to move the valve to an open position.





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

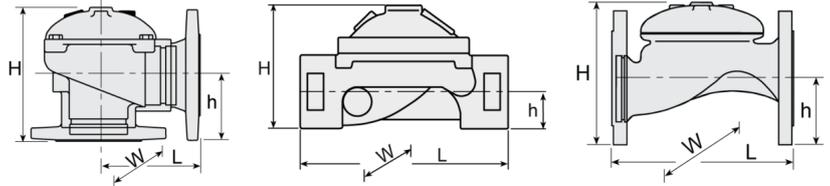
**Other materials are available on request*

Control Loop Accessories

Tubing and Fittings:
Polyethylene and Polypropylene

Technical Specifications

For other end connection types,
Please refer to [BERMAD](#) full engineering page.



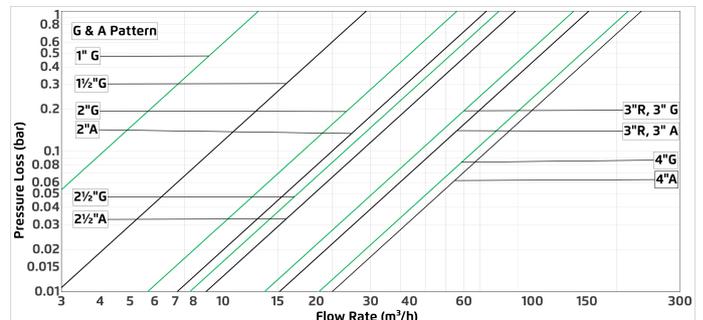
Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	w	CCDV (Lit)	KV
1" ; DN25	Globe	Threaded	1.1	115	68	34	71	0.02	13
1½" ; DN40	Globe	Threaded	2	153	87	29	98	0.06	29
2" ; DN50	Globe	Threaded	4	180	114	39	119	0.113	57
2" ; DN50	Globe	Flanged	9	205	155	78	155	0.113	57
2" ; DN50	Globe	Grooved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



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

