HYDRAULIC CONTROL VALVE

Normally Closed with Hydraulic Control

Model IR-105-54-3W-X

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

[1] BERMAD Model IR-105-54-X opens upon pressure rise command
[2] Kinetic Air Valve

Features and Benefits

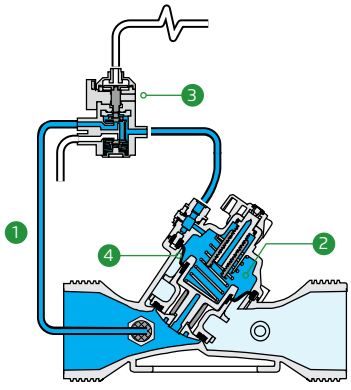
- Hydraulic Control Valve
  - Line Pressure Driven
  - Hydraulicily controlled On/Off
  - Closes upon control failure
  - Amplifies and relays weak remote command
- Engineered Plastic Valve with Industrial Grade Design
  - Adaptable on-site to a wide range of end connection sizes and types
  - Highly durable, chemical & cavitation resistant
- hYflow 'Y' Valve Body with "Look Through" Design
  - Ultra-high flow capacity at Low pressure loss
- Unitized Flexible Super Travel Diaphragm with a Guided Plug
  - Accurate and stable regulation with smooth closing
  - Requires low actuation pressure
  - Prevents diaphragm erosion and distortion
  - Simple In-Line Inspection and Service

Typical Applications

- Computerized Irrigation Systems
- Distribution Centers
- Low Supplied Pressure Irrigation Systems
- Energy Saving Irrigation Systems

Operation:

Line Pressure ❶ is applied to the Control Chamber ❷ through the held open, 3-Way Hydraulic Relay Valve (3W-HRV) ❸. This creates superior closing force that moves the Diaphragm Assembly ❹ 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 and closing.



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Technical Data

Pressure Rating:
10 bar; 145 psi

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

Materials:

Body, Cover and Plug:
Polyamid 6 & 30% GF

Diaphragm:
NR, Nylon fabric reinforced

Seals: NR

Spring: Stainless Steel

Cover Bolts: Stainless Steel

Control Accessories:

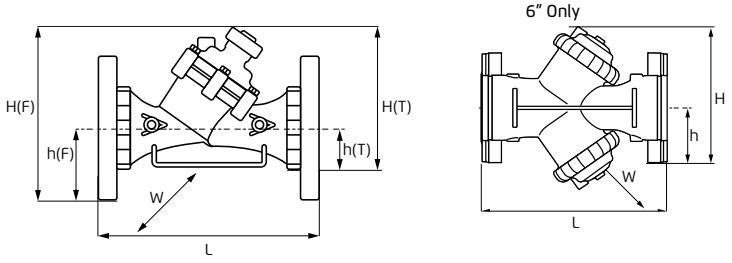
Tubing and Fittings:
Plastic

Hydraulic Really Springs Selection Table	
Standard	0-10 m
Optional	10-20 m

Technical Specifications

Y Pattern Valves Dimensions & Weights

For BERMAD angle, dual & T pattern,
Please see our full engineering page.



Sizes Inch ; DN	1½" ; 40	2" ; 50		2"L ; 50	2½" ; 65	3" ; 80		
End Connections	Rc (BSP.T), NPT	Rc (BSP.T), NPT	G (BSP.F)	Rc (BSP.T), NPT	G (BSP.F)	Rc (BSP.T), NPT	Universal Flanges	
							Metal	Plastic
L (mm)	200	230	230	230	230	298	308	308
H (F) (mm)	—	—	—	—	—	—	244	244
H (T) (mm)	173	173	173	187	187	199	—	—
h (F) (mm)	—	—	—	—	—	—	100	100
h (T) (mm)	40	40	40	43	43	55	—	—
W (mm)	97	97	97	135	135	135	200	200
CCDV (lit)	0.12	0.12	0.12	0.15	0.15	0.15	0.15	0.15
Weight (kg)	1.1	1.2	1.2	1.47	1.47	1.6	4.4	2.5

Sizes Inch ; DN	3"L ; 80L			4" ; 100		4"L ; 100L			6"R ; 150R	6" ; 150	6" ; 150
End Connections	Rc (BSP.T), NPT	Universal Flanges		Universal Flanges		Universal Flanges		Groove	Universal Flanges	Groove	Universal Flanges
		Metal	Plastic	Metal	Plastic	Metal	Plastic		Metal		Plastic
L (mm)	298	308	308	350	350	442	442	400	470	480	504
H (F) (mm)	—	317	317	329	329	340	340	286	377	198	286
H (T) (mm)	278	—	—	—	—	—	—	—	—	—	—
h (F) (mm)	—	100	100	112	112	112	112	57	149	100	143
h (T) (mm)	60	—	—	—	—	—	—	—	—	—	—
W (mm)	168	200	200	224	224	226	226	226	287	475	475
CCDV (lit)	0.62	0.62	0.62	0.62	0.62	1.15	1.15	1.15	1.15	2 x 0.62	2 x 0.62
Weight (kg)	3	4.6	3.7	7.4	4.6	13.5	10	8	16.5	11	12.5

CCDV = Control Chamber Displacement Volume • **BSP.T** = Internal Threaded • **BSP.F** = External Threaded • Other End Connections are available on request. For dimensions and weights of adapters or valve with adapters please consult with customer service

Flow Properties

Sizes Inch DN	1½" 40	2" 50	2"L 50L	2½" 65
KV	50	50	100	100

Sizes Inch DN	3" 80	3"L 80L	4" 100	4"L 100L	6" R 150L	6" 150
KV	100	200	200	340	340	400

Valve Flow Coefficient

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

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

Flow Chart