



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

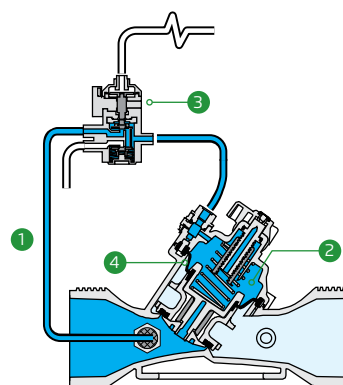
- Hydraulic Control Valve
 - Line Pressure Driven
 - Hydraulically controlled On/Off
 - Closes upon control failure
 - Amplifies and relays weak remote command
- Engineered Plastic Valve with Industrial Grade Design
 - Adaptable on-site to a wide range of end connection sizes and types
 - Highly durable, 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 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 and closing.





IR-105-54-3W-X

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

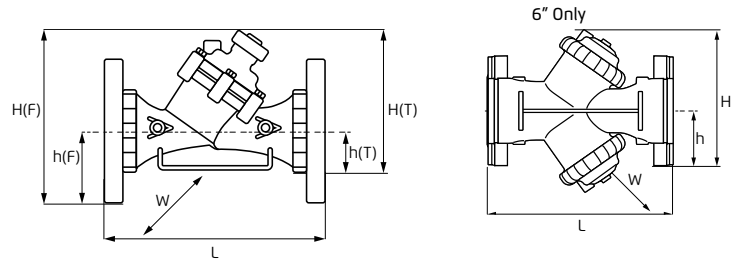
Hydraulic Really Springs Selection Table

| | |
|----------|---------|
| 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 | Rc (BSP.T), NPT | 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 | | |
| | | Metal | Plastic | Metal | Plastic | Metal | Plastic | Groove | Universal Flanges | | |
| | | | | | | | | | 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 | 4.4 | 3.5 | 7.5 | 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

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

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

Flow Chart

