Double Chamber Hydraulic Control Valve

IR-100-DC

The BERMAD Model IR-100-DC is a double chambered, hydraulically operated, diaphragm actuated globe control valves in either the standard oblique (Y) or angle pattern design.

The valve comprises two major components: The body and the actuator assembly. The actuator assembly is unitized and is removable from the body as an integral unit. It consists of both an upper and a lower control chamber. Each basic valve can easily be configured, on-site, either as a single chamber (Model 105), or a double chamber (Model 100). The shaft sub assembly is center guided, providing an unobstructed seat area.

The Model 100 double chambered valve operation is independent of valve differential pressure. This develops maximum power, ensuring immediate valve response.

Features and Benefits

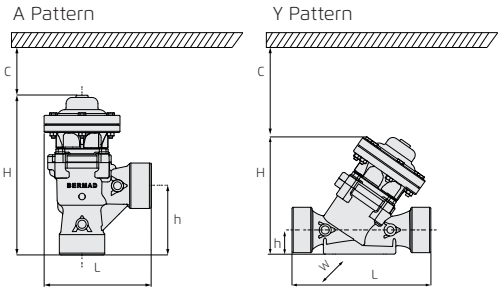
- Hydraulic Control Valve
  - Line pressure driven
  - Meets all irrigation applications range
- Double chamber
  - Full powered opening and closing
  - Decreased pressure loss
  - No throttling noise
  - Non-slam closing characteristic
  - Protected diaphragm
- Engineered Plastic Valve with Industrial Grade Design
- hYflow 'Y' Valve Body with "Look Through" Design
  - Ultra-high flow capacity - Low pressure loss
- User-Friendly Design
  - Simple in-line inspection and service

Technical Specifications

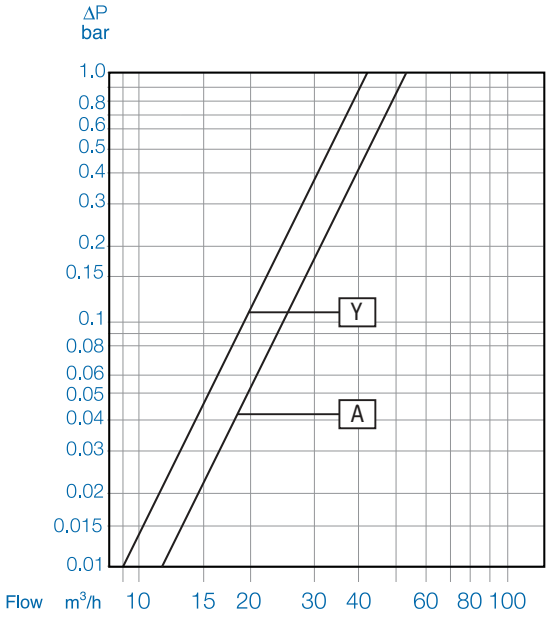
Dimensions and Weights

		Double Chamber			Single Chamber		
		A	Y		A	Y	
Size	DN	50	40	50	50	40	50
	Inch	2	1½	2	2	1½	2
L	mm	178	200	200	178	200	200
	inch	7.0	7.9	9.1	7.0	7.9	9.1
H	mm	267	196	196	216	156	156
	inch	10.5	7.7	7.7	8.5	6.1	6.1
W	mm	126	126	126	126	126	126
	inch	5	5	5	5	5	5
h	mm	112	40	40	112	40	40
	inch	4.4	1.6	1.6	4.4	1.6	1.6
Weight	Kg	1.7	1.7	1.7	1.2	1.2	1.2
	lib	3.8	3.8	3.8	2.7	2.7	2.7

Note: C = Half of H



Flow Chart



		A	Y	
Size	DN	50	40	50
	Inch	2	1½	2
Flow Coefficient	KV	52	42	42
	CV	60	49	49
CCDV	Liter	0.13	0.13	0.13
	Gallon	0.03	0.03	0.03

CCDV = Control Chamber Displacement Volume

Valve flow coefficient, Kv or Cv $\Delta P=\left(\frac{Q}{Kv}\right)^2$; $\Delta P=\left(\frac{Q}{Cv}\right)^2$

Where:
Kv = Valve flow coefficient (flow in m /h at Diff. Press. 1 bar)
Cv = Valve flow coefficient (flow in gpm at Diff. Press. 1 psi)
Q = Flow rate (m³/h; gpm)
ΔP = Differential pressure (bar; psi)

Cv = 1.155 Kv

Technical Data

Available Patterns & Sizes: "Y" DN40; 1½" & DN50; 2"
Angle DN50; 2"
End Connections: Threaded BSP or NPT
Pressure Rating: 10 bar; 145psi
Operating Pressure Range: 0.5-10 bar; 7-145 psi
Temperature Range: Water up to 50°C; 82°F

Standard Materials:

Body: Glass-Filled Nylon
Actuator: Plastic & Stainless Steel
Diaphragm: Nylon Fabric Reinforced Natural Rubber
Seals: NBR
Spring: Stainless Steel
Cover Bolts: Stainless Steel