PROPORTIONAL PRESSURE REDUCING VALVE

Model IR-120-DC-PD-Z

The BERMAD Model IR-120-DC-PD-Z Proportional Pressure Reducing Valve is a double chambered, hydraulically operated, diaphragm actuated, Pilot-Less control valve that reduces higher upstream pressure to lower downstream pressure, at a fixed ratio. The valve comprises two major components: The body and the actuator assembly. The actuator assembly consists of both an upper and a lower control chamber.

The double chambered valve operation is independent of valve differential pressure. This develops maximum power, ensuring immediate valve response combined with inherent non-slam closing.

[1] BERMAD Model IR-120-PD-Z Reduces the supply pressure at a constant ratio, protecting the system
[2] BERMAD Pressure Sustaining Valve Model IR-130-DC-XZ
[3] BERMAD Solenoid Control Valves Model IR-210
[4] BERMAD Combination Air Valve Model IR-C10
[5] BERMAD Kinetic Air Valve Model IR-K10
[6] BERMAD RF RTU Battery Operated with Solar Kit

Features & Benefits

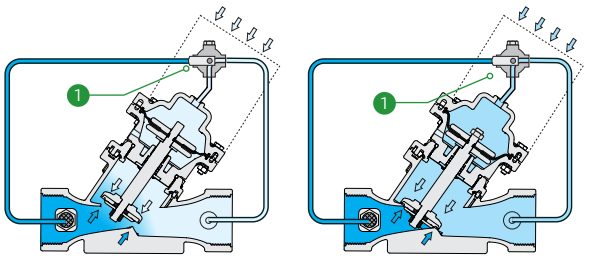
- Hydraulic Double chamber Control Valve
  - Line pressure driven
  - Full powered opening and closing
  - Protected diaphragm
  - Non-slam closing characteristic
- Elegant simplicity
  - Most cost effective
  - Simple to maintain
  - No Pilot nor control Accessories
- Engineered Plastic Valve with Industrial Grade Design
- hYflow 'Y' Valve Body with "Look Throug" Design
  - Ultra-high flow capacity - Low pressure loss
- User-Friendly Design
  - Simple in-line inspection and service

Typical Applications

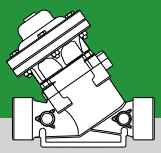
- Pressure Reducing Stations
- Long downhill lines
  - Serial pressure reduction
  - Leakage and burst protection
- High differential pressure systems
  - Protection against cavitation damage
  - Throttling noise reduction

Operation:

The downstream pressure is applied as closing force on the top side of both the diaphragm and the seal disk areas. The upstream pressure is applied as opening force on the bottom side of the seal disk area. The net force, resulting from the two opposing dynamic forces acting on the actuator's diaphragm and seal, determines the degree to which the valve is open. As the ratio of the areas of the seal disk and the diaphragm is constant, the ratio of the upstream and downstream pressures is constant as well. When demand is zero, downstream pressure rises in proportion to the reduction ratio, causing the valve to shut off. The Manual Selector Valve ❶ allows manual closing of the valve.



All images in this catalog are for illustration only



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

Actuator:
Composite Material & Stainless Steel

Reduction Ratios

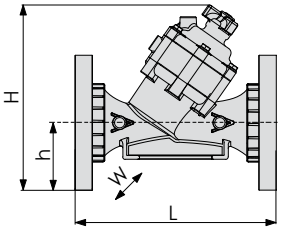
Reduction Ratio at Flow Velocity of 2-3m/s; 6-10f/s: 3.3

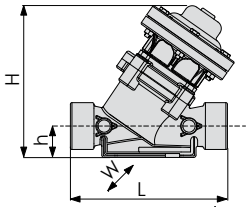
Valve Size		Reduction Ratio
1½" & 2"	DN40 & DN50	3.3
2"L, 2½" & 3"	DN50L, DN65 & DN80	2.7

Technical Specifications

Y Pattern Valves Dimensions & Weights

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





Size Inch; DN	1½"; 40	2"; 50	2"; 50	2"L; 50L	2½"; 50L	3"; 80	3"; 80	
End Connections	Rc (BSP.T), NPT	G (BSP.F)	Rc (BSP.T), NPT	Rc (BSP.T), NPT	G (BSP.F)	Rc (BSP.T), NPT	Universal Flanges	
							Metal	Plastic
L (mm)	200	200	230	230	230	298	308	308
H (mm)	194	196	196	220	220	232	277	277
h (mm)	40	40	40	43	43	55	100	100
W (mm)	126	126	126	135	135	135	200	200
CCDV (lit)	0.13	0.13	0.13	0.17	0.17	0.17	0.17	0.17
Weight (Kg)	1.7	1.7	1.7	2.2	2.2	2.3	5.1	3.2

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	2L" 50L	2½" 65	3" 80
KV	50	50	100	100	100

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