PROPORTIONAL PRESSURE REDUCING VALVE - DOUBLE CHAMBER

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 Double Chamber Valve is a high performance valve, specially designed for quick response and challenging regulation requirements.

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

Features & Benefits

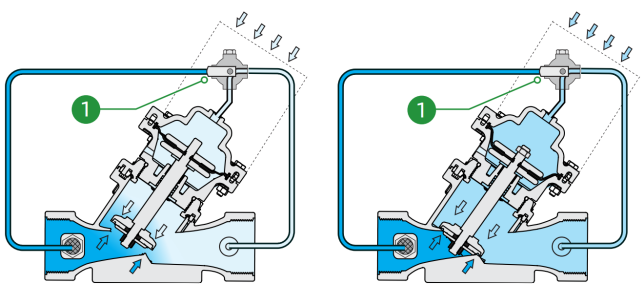
- Hydraulic Double chamber Control Valve
  - Line pressure driven
  - Full powered opening and closing
  - Protected diaphragm
  - Non-slam closing characteristic
- Elegant Simplicity
  - Most cost effective
  - Simple to maintain
  - No pilot nor control accessories
- Engineered Composite Valve with Industrial Grade Design
- hYflow 'Y' Valve Body with "Look Through" Design
  - Ultra-high flow capacity at low pressure loss
- User-Friendly Design
  - Simple in-line inspection and service

Typical Applications

- Pressure Reducing Systems
- 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 [1] allows manual closing of the valve.



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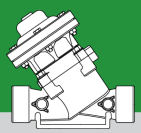


Technical Data

Pressure Rating:
10 bar

Operating Pressure Range:
0.5-10 bar

Materials

Body & Cover:
Polyamide 6 & 30% GF

Diaphragm:
NR, Nylon fabric reinforced

Spring:
Stainless Steel

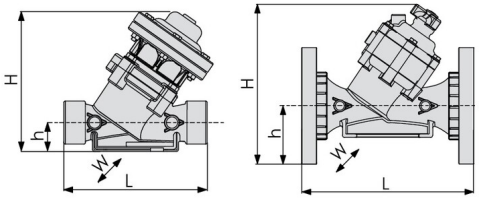
Control Loop Accessories

Tubing and Fittings:
Polyethylene and Polypropylene

Reduction Ratios:
*1½" (DN40) & 2" (DN50): **3.3***
*2"L (DN50L) - 4" (DN100): **2.7***

Technical Specifications

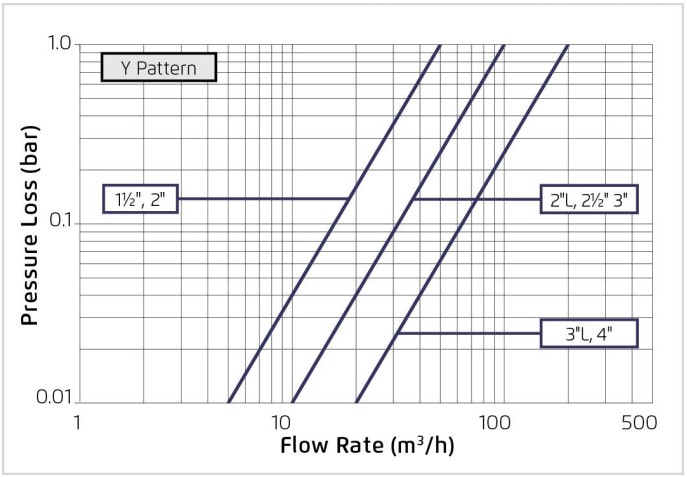
For other patterns and end connection types,
Please refer to BERMAD full engineering page.



Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	W	CCDV (Lit)	KV
1½" ; DN40	"Y" (globe)	Threaded	1.7	200	194	40	126	0.13	50
2" ; DN50	"Y" (globe)	Threaded	1.7	230	196	40	126	0.13	50
2"L ; DN50L	"Y" (globe)	Threaded	2.2	230	220	43	135	0.17	100
2½" ; DN50L	"Y" (globe)	Threaded	2.2	230	220	43	135	0.17	100
3" ; DN80	"Y" (globe)	Threaded	2.3	298	232	55	135	0.17	100
3" ; DN80	"Y" (globe)	Plastic Flanges	3.2	308	277	100	200	0.17	100
3" ; DN80	"Y" (globe)	Metal Flanges	5.1	308	277	100	200	0.17	100
3"L ; DN80L	"Y" (globe)	Threaded	6	338	356	60	210	0.55	200
3"L ; DN80L	"Y" (globe)	Plastic Flanges	6.5	343	395	100	210	0.55	200
3"L ; DN80L	"Y" (globe)	Metal Flanges	7.4	343	395	100	210	0.55	200
4" ; DN100	"Y" (globe)	Plastic Flanges	7.6	364	407	112	224	0.55	200
4" ; DN100	"Y" (globe)	Metal Flanges	9.5	364	407	112	224	0.55	200

CCDV = Control Chamber Displacement Volume • Threaded = BSP & NPT are available. External thread is available for 2" and 2½" only. • Other End Connections are available on request. For dimensions and weights of adapters or valves with adapters please consult with customer service.

Flow Chart



Differential Pressure & Flow Calculation

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

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