FLOW CONTROL VALVE

Model IR-170-DZb

The BERMAD Flow Control Valve with Hydraulic Control is a hydraulically operated, diaphragm-actuated control valve that limits system demand to a preset maximum flow rate.

[1] BERMAD Model IR-170-DZb protects supply system from excessive flow, and limits fill-up rate and consumer over-demand.
[2] Kinetic Air Valve Model IR-K10
[3] Combination Air Valve Model IR-C10
[4] RTU-Remote Terminal Unit
[5] Pressure Sustaining Valve Model IR-130-59-3W-X

Features & Benefits

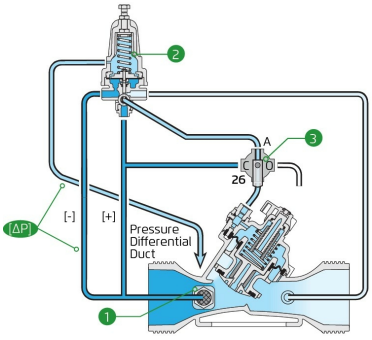
- Line Pressure Driven Hydraulic Flow Control
  - Limits fill-up rate and consumer over-demand
- Adjustable Servo Flow Pilot Controlled
  - Dynamic integrated needle valve
  - Easy flow setting
- Engineered Composite Valve with Industrial Grade Design
  - Highly durable, chemical and cavitation resistant
  - No internal bolts and nuts
- hYflow 'Y' Valve Body with "Look Through" Design
  - Ultra-high flow capacity at low pressure loss
- Unitized "Flexible Super Travel" (FST) Diaphragm and Guided Plug
  - Accurate and stable regulation with smooth closing
  - Requires low actuation pressure
  - Prevents diaphragm erosion and distortion
- Internal "Differential Pressure Duct" Flow Sensor
  - No moving parts
  - Saves space and simplifies installation

Typical Applications

- Line Fill-Up Control
- Multiple Independent Consumer Systems
- Systems Subject To Varying Supply Pressure
- Distribution Centers

Operation:

Pressure Differential [ΔP] across the Differential Pressure Duct [1] is in direct proportion to demand. The Flow Pilot [2] continuously senses [ΔP] commanding the Valve to throttle closed should demand rise above pilot setting, and to modulate open when demand is below pilot setting. The Manual Selector [3] enables local manual closing.



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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

Flow pilot: PC-SD-A-P

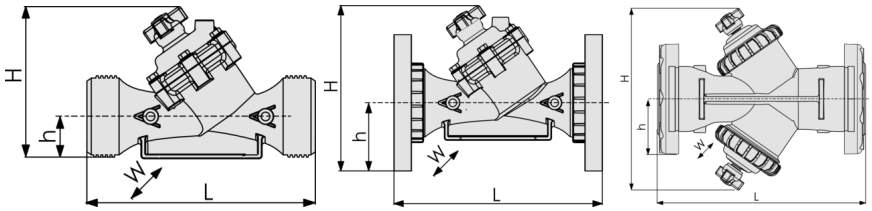
Pilot Spring Range:

Spring	Spring Color	Setting Range
J	Green	0.2-1.7 bar

Tubing and Fittings:
Polyethylene

Technical Specifications

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



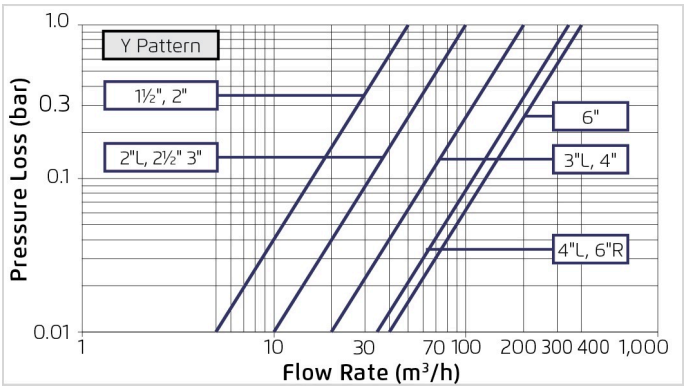
Size (DN)	Pattern	End Connection	Weight (Kg)	L (mm)	H(F/T/G) (mm)	h(F/T/G) (mm)	W (mm)	CCDV (Lit)	KV
1½" ; 40	Oblique	Threaded	1.1	200	173	40	97	0.12	50
2" ; 50	Oblique	Threaded	1.2	230	173	40	97	0.12	50
2"L ; 50L	Oblique	Threaded	1.5	230	187	43	135	0.15	100
2½" ; 65	Oblique	Threaded	1.5	230	187	43	135	0.15	100
3" ; 80	Oblique	Threaded	1.6	298	199	55	135	0.15	100
3" ; 80	Oblique	Plastic Flanges	2.5	308	244	100	200	0.15	100
3" ; 80	Oblique	Metal Flanges	4.4	308	244	100	200	0.15	100
3"L ; 80L	Oblique	Threaded	3	298	278	60	168	0.62	200
3"L ; 80L	Oblique	Plastic Flanges	3.7	308	317	100	200	0.62	200
3"L ; 80L	Oblique	Metal Flanges	4.6	308	317	100	200	0.62	200
4" ; 100	Oblique	Plastic Flanges	4.6	350	329	112	224	0.62	200
4" ; 100	Oblique	Metal Flanges	7.4	350	329	112	224	0.62	200
4"L ; 100L	Oblique	Plastic Flanges	9.2	442	340	112	226	1.15	340
4"L ; 100L	Oblique	Metal Flanges	11.2	442	340	112	226	1.15	340
6"R ; 150R	Oblique	Metal Flanges	16.5	470	377	149	287	1.15	340
6" ; 150	Boxer	Grooved	11	480	387	100	475	2x0.62	400
6" ; 150	Boxer	Plastic Flanges	12.5	504	387	143	475	2x0.62	400

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

Additional Features

Code	Description	Size Range
M	Flow Stem (*Exclude sizes 4"L, 6"R)	1½"-6" / DN40-150
5	Plastic Test Point	1½"-6"R / DN40-150R
V3	Victaulic PVC Adaptors 3"	3" / DN80
V4	Victaulic PVC Adaptors 4"	4" / DN100

Flow Chart



2-Way circuit "Added Head Loss" (for "V" below 2 m/s): 0.3 bar

Differential Pressure & Flow Calculation

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

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