Flow Control Valve

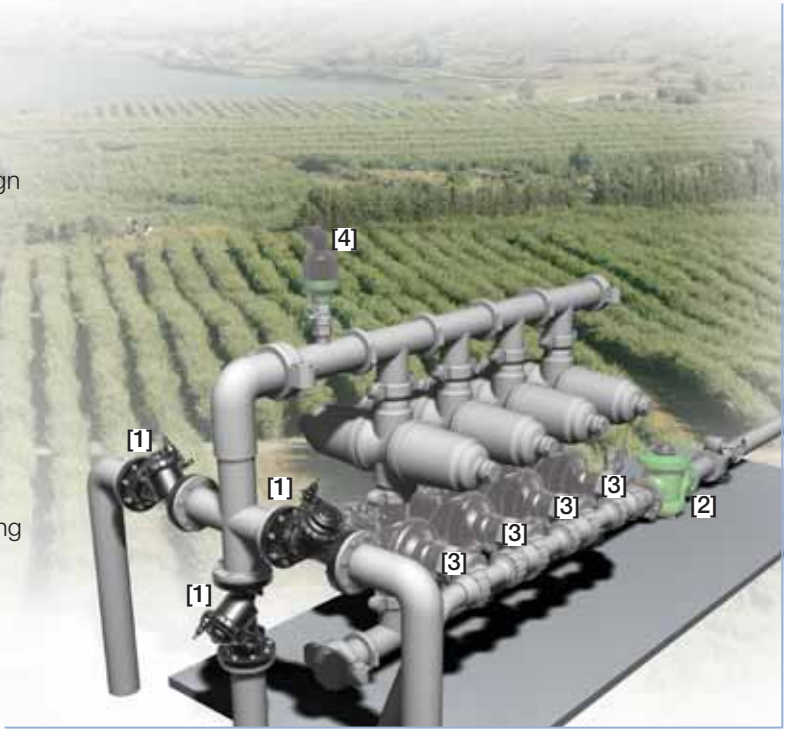
with Solenoid Control

IR-170-55-bD

The BERMAD Flow Control Valve with Solenoid Control is a hydraulically operated, diaphragm actuated control valve that limits system demand to a preset maximum flow rate. It either opens or shuts in response to an electric signal.

Features and Benefits

- Line Pressure Driven, Electrically Controlled On/Off
  - Limits fill-up rate and consumer over-demand
- Adjustable Servo Flow Pilot Controlled
  - Dynamic integrated needle valve
- Engineered Plastic Valve with Industrial Grade Design
  - Adaptable on-site to a wide range of end connection sizes and types
  - Articulated flange connections eliminate mechanical and hydraulic stresses
  - Highly durable, chemical and cavitation resistant
- hYflow 'Y' Valve Body with "Look Through" Design
  - Ultra-high flow capacity - 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

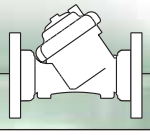


Typical Applications

- Computerized Irrigation Systems
- Remote and/or Elevated Plots
- Line Fill-Up Control
- Multiple Independent Consumer Systems
- Distribution Centers
- Filter Stations

[1] BERMAD Model IR-170-55-bD opens in response to an electric signal, limits fill-up rate and consumer over-demand, and maintains filter backwash pressure.
[2] BERMAD Hydrometer Model IR-900-M0-Z
[3] BERMAD Backwash Valve Model IR-3x3-350-S-P
[4] BERMAD Air Release Valve Model ARC-A-P-I

BERMAD Irrigation



IR-170-55-bD

100 Series hYflow

Flow Control

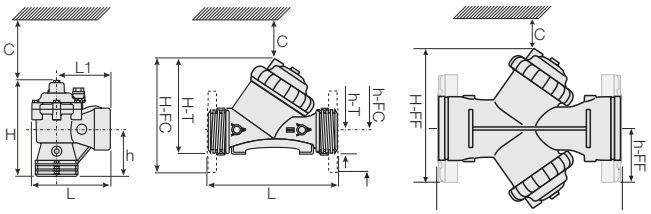
For full technical details, refer to Engineering Section.

Technical Specifications

Dimensions and Weights

Pattern		Angle	Y (Oblique)				Y "Boxer"
Size	DN / Inch	80-T(1) 3-T(1)	80-T(1) 3-T(1)	80-FC(2) 3-FC(2)	80L-FC(2) 3L-FC(2)	100-FC(2) 4-FC(2)	150-FF(3) 6-FF(3)
L (L1)	mm	187 (130)	298	308	310	350	480
	inch	7.4 (5.1)	11.7	12.1	12.2	13.8	18.9
H (Hf)	mm	235 (245)	180 (195)	240 (255)	280	294	285
	inch	9.3 (9.6)	7.1 (7.7)	9.4 (10)	11	11.6	11.2
C	mm	53	53	600	600	600	600
	inch	2.1	2.1	4	4	23.6	23.6
h	mm	117	50	100	100	112	145
	inch	4.6	2	3.9	3.9	4.4	5.7
Weight	Kg	1.6	1.6	4.4	5.9	7.6	12.5
	ib.	3.5	3.5	9.7	13	16.7	27.6

(1) "T" = Threaded end connections
(2) "FC" = Flanged, Corona (Metal) end connections
(3) "FF" = Flanged, Universal Plastic end connections



Technical Data

Sizes: 3, 3L, 4 & 6"; DN80, 80L, 100 & 150

Patterns:

Oblique: 3, 3L, 4 & 6"; DN80, 80L, 100 & 150

Angle: 3"; DN80

End Connections:

Threaded: 3 & 3"L; DN80 & 80L

Flanged: 3, 3L, 4 & 6"; DN80, 80L, 100 & 150

Pressure Rating: 10 bar; 145 psi

Operating Pressure Range: 0.35-10 bar; 5-145 psi

Setting Range: ±20% from valve predetermined flow

The "Differential Pressure Duct" is pre-determined in accordance with the desired flow.

Materials:

Body, Cover and Plug: Glass-Filled Nylon

Diaphragm: NR, Nylon Fabric Reinforced

Seals: NR

Spring: Stainless Steel

Control Accessories: Plastic

Tubing and Fittings: Plastic

Solenoid Voltage Range:

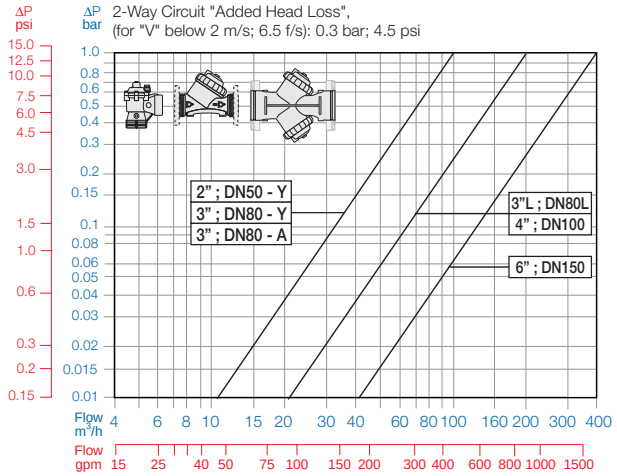
S-390 & S-400: 24 VAC, 24 VDC

S-392 & S-402: 9-20 VDC, Latch

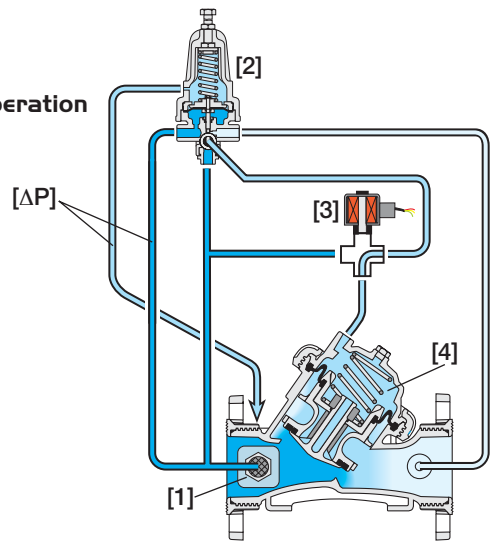
S-982 & S-985: 12-50 VDC, Latch

Other voltages available.

Flow Chart



Operation



Pressure Differential **[ΔP]** across the Differential Pressure Duct **[1]** is in direct proportion to demand. The Flow Pilot **[2]** continuously senses **[ΔP]** and commands the Valve to throttle closed should demand rise above pilot setting. The Solenoid **[3]** hydraulically connects the flow pilot to the main Valve Control Chamber **[4]**. In response to an electric signal, the solenoid switches, directing line pressure into the control chamber and causing the main Valve to shut.

How to Order

Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

Sector	Size	Primary Feature	Additional Feature	Pattern	Construction Materials	End Connections	Control Type	Voltage -Main Valve Position	Additonal Attributes
IR	3-6"	170	55	Y	P	FF	2W/3W	4AC	bD

Other sizes available on request.

Oblique	Y
Angle (3"; DN80 Only)	A

Threaded BSP (Female)	BP
Threaded NPT (Female)	NP
Plastic Flanges*	FF
Metal Flanges* ("Corona")	CC
Grooved (6"; DN150 Only)	VI

* Comply to: ISO PN10, ANSI #125/150, Jis K-10, BS-D

9VDC –	Latch	9DS
12VDC –	Latch	1DS
24VDC –	N.C.	4DC
24VDC –	N.O.	4DC
24VAC –	N.C.	4AC
24VAC –	N.O.	4AO
24VAC, Lightning Proof –	N.C.	4RC
24VAC, Lightning Proof –	N.O.	4RO

Other electrical ratings available on request.

Servo	b
Differential Pressure Duct	D

Other attributes available on request

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