

Flow Control and Pressure Reducing Valve

with Solenoid Control

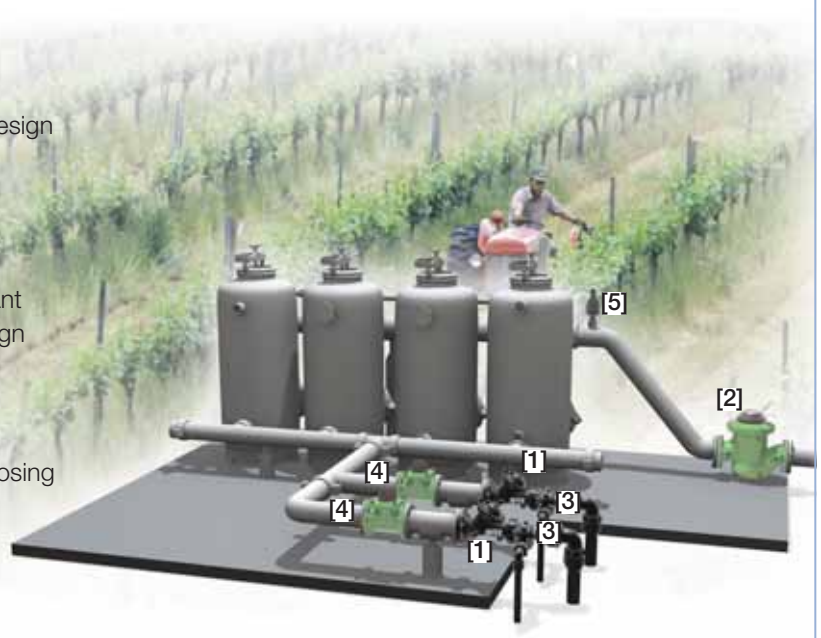
IR-172-55-bD

The BERMAD Model IR-172-55-bD is a hydraulically operated, diaphragm actuated control valve that performs three independent functions. It limits system demand to a preset maximum flow rate; it reduces downstream pressure to maintain a constant preset maximum, and 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
 - Protects downstream system
 - Easy flow and pressure setting
- 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
- Pressure Reducing Stations
- Distribution Centers
- Filter Stations

[1] BERMAD Model IR-172-55-bD opens upon pressure drop command, limits fill-up rate and consumer over-demand, establishes reduced pressure zone, and maintains filter backwash pressure.

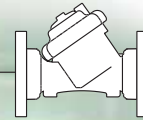
[2] BERMAD Hydrometer Model IR-900-M0

[3] BERMAD Relief Valve Model IR-13Q

[4] BERMAD Water Meter Model WPH

[5] BERMAD Air Valve Model ARA-A-P-P

BERMAD Irrigation



IR-172-55-bD

For full technical details, refer to Engineering Section.

100 Series hYflow

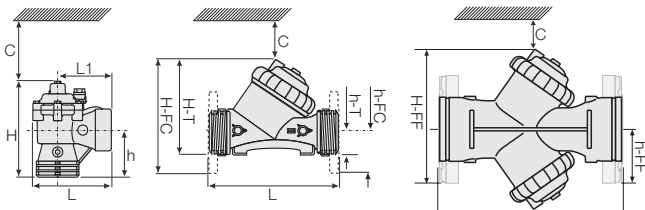
Flow Control

Technical Specifications

Dimensions and Weights

Pattern Size	DN Inch	Angle		Y (Oblique)			Y "Boxer"
		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
	lb.	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: 1-7 bar; 15-100 psi

Setting ranges vary according to specific pilot spring. Please consult factory.

Flow 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

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.

How to Order

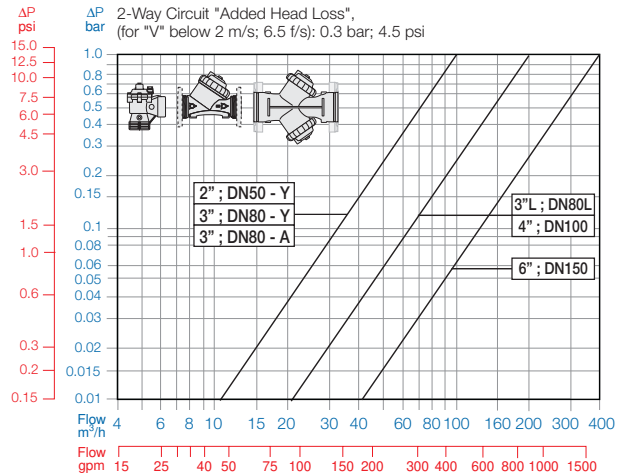
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

Sector	Size	Primary Feature	Additional Feature	Pattern	Construction Materials	End Connections	Control Type	Voltage - Main Valve Position	Additional Attributes
IR	3-6"	172	55	Y	P	FF	2W/3W	4AC	bD

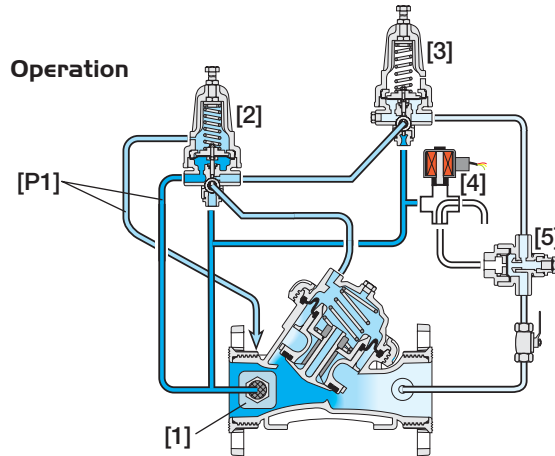
Oblique Angle (3"; DN80 Only)	Y A	Threaded BSP (Female) Threaded NPT (Female) Plastic Flanges* Metal Flanges* ("Corona") Grooved (6"; DN150 Only)	BP NP FF CC VI	9VDC - 12VDC - 24VDC - 24VDC - 24VAC - 24VAC - 24VAC, Lightning Proof - 24VAC, Lightning Proof -	Latch Latch N.C. N.O. N.C. N.O. N.C. N.O.	9DS 1DS 4DC 4DC 4AC 4AO 4RC 4RO	Servo Differential Pressure Duct Low Preset Pressure (below 2 bar) Plastic Pressure Test Point Other attributes available on request	b D 2 5
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* Comply to: ISO PN10, ANSI #125/150, Jis K-10, BS-D
 Other electrical ratings available on request.

Flow Chart



Operation



Pressure Differential $[\Delta P]$ across the Differential Pressure Duct [1] is in direct proportion to demand. The Flow Pilot [2] continuously senses $[\Delta P]$ and commands the Valve to throttle closed should demand rise above pilot setting. The Pressure Reducing Pilot [3] controls the Valve to prevent Downstream Pressure [P2] from rising above pilot setting. The Solenoid [4] closes in response to an electric signal, pressurizing the Hydraulic Relay Valve (HRV) [5], closing it, and thereby shutting the main Valve.



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