

Flow Control and Pressure Reducing Valve

Normally Closed with Hydraulic Control

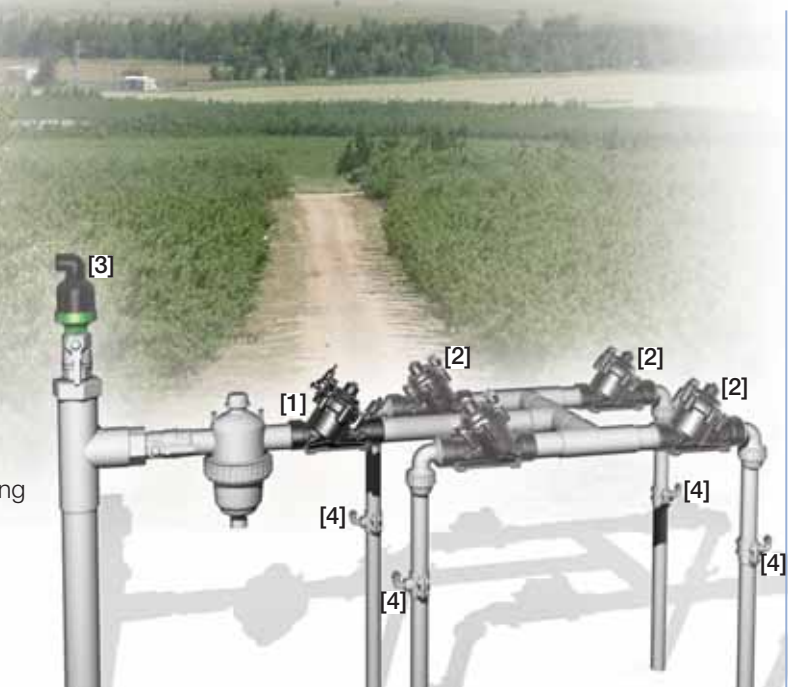
IR-172-54-bD

The BERMAD Model IR-172-54-bD is a hydraulically operated, diaphragm actuated control valve that limits system demand and reduces downstream pressure to constant preset maximum values. It is a Normally Closed valve, which opens in response to a remote pressure rise command and shuts in the absence of that command.



Features and Benefits

- Hydraulic Pressure Control, Normally Closed
 - Closes upon control failure
 - Limits fill-up rate and consumer over-demand
 - Protects downstream system
 - Amplifies and relays weak remote command
- Adjustable Servo and 2-Way Pilots
 - Very low hysteresis, easy setting
- Engineered Plastic Valve with Industrial Grade Design
 - 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
- Line Fill-Up Control
- Pressure Reducing Systems
- Multiple Independent Consumer Systems
- Systems Subject to Varying Supply Pressure
- Energy Saving Irrigation Systems

[1] BERMAD Model IR-172-54-bD opens upon pressure rise command, protects supply system from excessive flow, limits lateral and distribution line fill-up, and reduces their operating pressure.

[2] BERMAD Solenoid Controlled Valve Model IR-110-N1-2W

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

[4] BERMAD Vacuum Breaker Model 1/2"-ARV

BERMAD Irrigation



IR-I72-54-bD

For full technical details, refer to Engineering Section.

100 Series hYflow

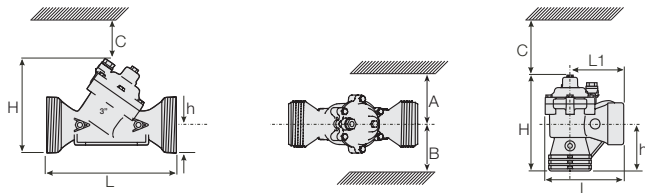
Flow Control & Pressure Reducing

Technical Specifications

Dimensions and Weights

Pattern Size	DN Inch	Angle 80-T 3-T	Y (Oblique)			
			50-T 2-T	65-T* 2 1/2-T*	80-T 3-T	80L-T 3L-T
L (L1)	mm	187 (130)	230	230	298	300
	inch	7.4 (5.1)	9.1	9.1	11.7	11.8
H (Hf)	mm	235 (245)	170 (185)	170 (185)	180 (195)	240
	inch	9.3 (9.6)	6.7 (7.3)	6.7 (7.3)	7.1 (7.7)	9.5
C	mm	53	140	140	140	180
	inch	2.1	6	6	6	8
h	mm	117	40	40	50	60
	inch	4.6	1.6	1.6	2.0	2.4
A; B	mm	320	135	135	190	190
	inch	12.6	6	6	8	8
Weight	Kg	1.6	1.35	1.4	1.6	3.0
	lb.	3.5	3.0	3.1	3.5	6.6

* 2 1/2"; DN65 Male Thread BSP-F, for PVC glue Unions.



Technical Data

Valve Configurations & Size:

Oblique: 2, 2 1/2, 3, 3L, 4 & 6"; DN50, 65, 80, 80L, 100 & 150

Angle: 3"; DN80

End Connections:

Threaded: 2, 2 1/2, 3 & 3"L; DN50, 65, 80 & 80L

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

Grooved: 6"; DN150

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

Cover Bolts: Stainless Steel

Control Accessories: Plastic

Tubing and Fittings: Plastic

How to Order

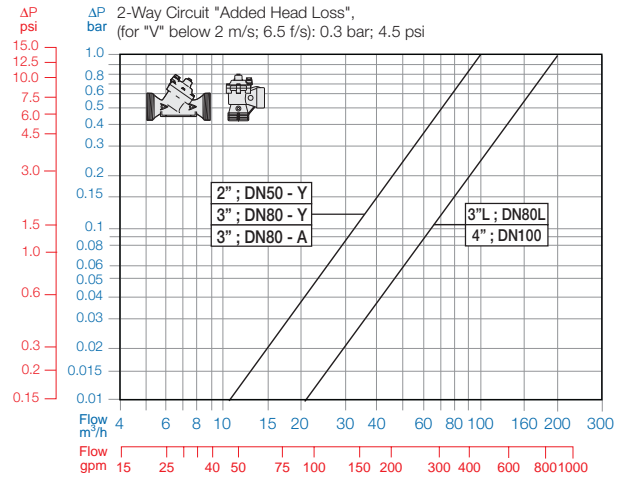
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

Sector	Size	Primary Feature	Additional Feature	Pattern	Construction Materials	End Connections	Control Type	Voltage - Main Valve Position	Additional Attributes
IR	2-4" <small>Other sizes available on request.</small>	172	54	Y	P	FF	2W/3W	-	bD
		Oblique Angle (3"; DN80 Only)	Y A		Threaded BSP (Female) Threaded NPT (Female) Plastic Flanges* Metal Flanges* ("Corona")	BP NP FF CC	Servo Differential Pressure Duct Flow Stem Flow Stem with Position Indicator		b D M MP

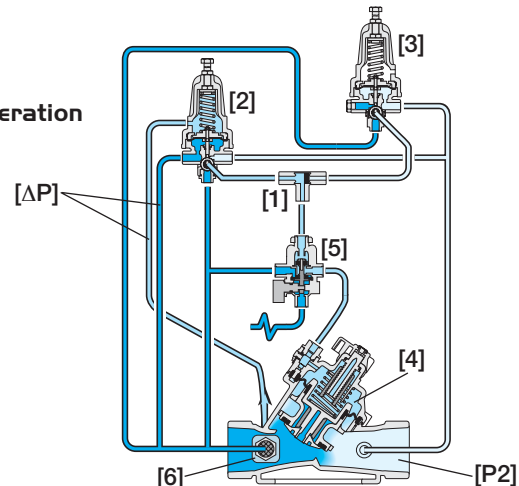
* Comply to: ISO PN10, ANSI #125/150, Jis K-10, BS-D

Other attributes available on request

Flow Chart



Operation



The Shuttle Valve [1] hydraulically connects the Flow Pilot (FP) [2] or the Pressure Reducing Pilot (PRP) [3] to the Valve Control Chamber [4], through the 3-Way Hydraulic Relay Valve (3W-HRV) [5]. Pressure Differential [ΔP] across the Differential Pressure Duct [6] is in direct proportion to demand. The FP, continuously sensing [ΔP], commands the Valve to throttle closed should demand rise above setting. The PRP commands the Valve to reduce Downstream Pressure [P2] to pilot setting. Upon a pressure drop command, the 3W-HRV switches and directs line pressure into the control chamber, shutting the Valve.



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