

Pressure Reducing Valve

Solenoid Controlled with Relief Override for Drip-Tape Applications

IR-120-55-3Q-b

The BERMAD Model IR-120-55-3Q-b is a hydraulically operated, diaphragm actuated control valve that accurately reduces higher upstream pressure to very low and stable preset downstream pressure. It either opens or shuts in response to an electric signal. The BERMAD IR-120-55-3Q-b also serves as a Pressure Relief Valve, protecting the system even when in closed position.

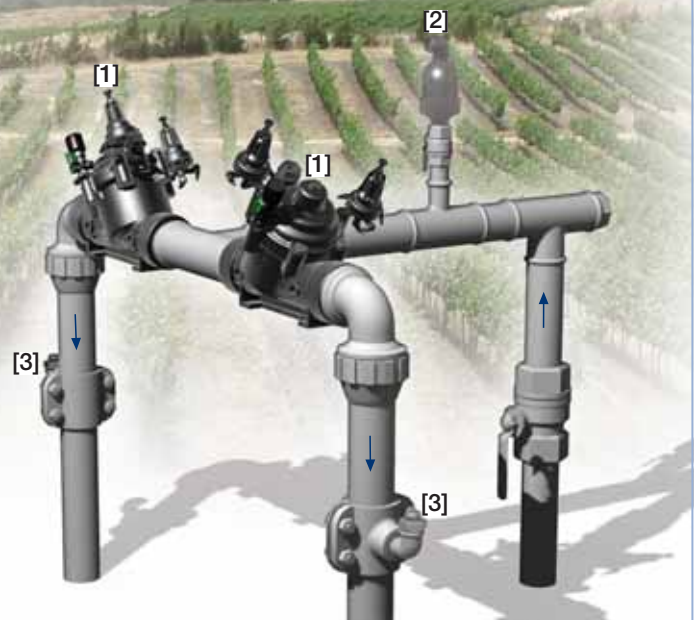


Features and Benefits

- Solenoid Controlled PRV with Relief Override Feature
 - Protects downstream systems
 - Relieves supply pressure peaks
- Pressure Reducing Servo Pilot Controlled
 - Dynamic integrated needle valve
 - Settable to 0.5 bar; 7 psi
 - Very low hysteresis
- Engineered Plastic 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 – Low pressure loss
- Unitized Flexible Super Travel (FST) Diaphragm and Guided Plug
 - Accurate and stable regulation with smooth closing
 - Requires low opening and actuation pressure
 - Prevents diaphragm erosion and distortion

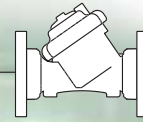
Typical Applications

- Computerized Irrigation Systems
- Drip-Tape Systems
- Low Set Pressure Applications
- Remote and/or Elevated Plots
- Multiple Control Valves System
- Energy Saving Irrigation Systems



- [1] BERMAD Model IR-120-55-3Q-b opens in response to electric signal, establishes reduced pressure zone, and relieves supply pressure peaks even when in closed position.
- [2] BERMAD Air Valve Model ARA-A-P-P
- [3] BERMAD Vacuum Breaker Model 1/2"-ARV

BERMAD Irrigation



IR-120-55-3Q-b

For full technical details, refer to Engineering Section.

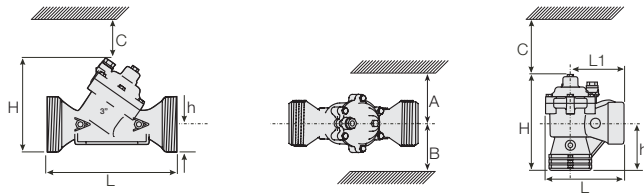
100 Series hYflow Pressure Reducing Drip-Tape

Technical Specifications

Dimensions and Weights

Pattern	DN Inch	Angle		Y (Oblique)		
		80-T 3-T	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: Reducing: 0.5-1.7 bar; 7-21 psi

Relief: 0.5-3 bar; 7-40 psi

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

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

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.

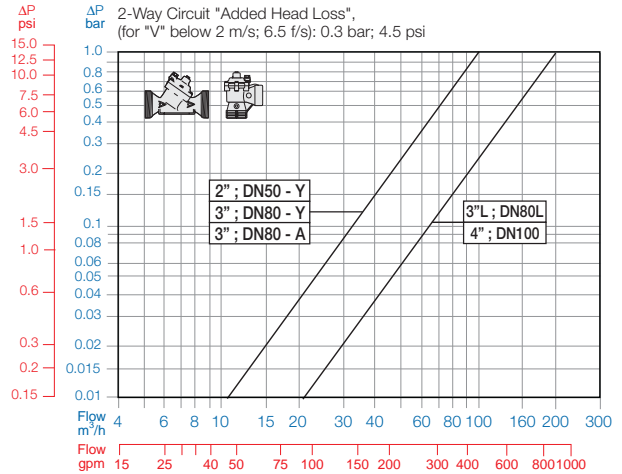
For full electric data, refer to Accessories Section.

How to Order

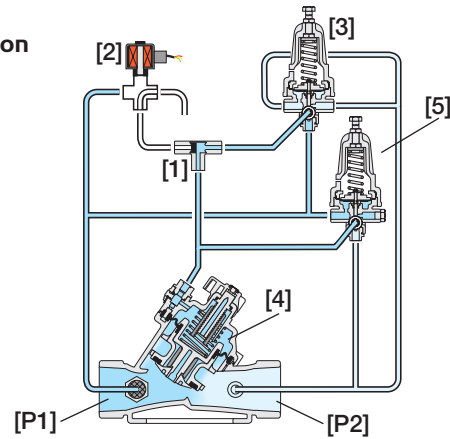
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

Sector	Size	Primary Feature	Additional Feature	Pattern	Construction Materials	End Connections	Control Type	Voltage -Main Valve Position	Additional Attributes
IR	2-4"	120	55-3Q	Y	P	BP	2W/3W	4AC	b
<p>Other sizes available on request.</p>									
Oblique Angle (3"; DN 80 Only)	Y A	BSP BSP-F (Male Threads 2 1/2"; DN65 only) NPT Plastic Flanges* Metal Flanges* ("Corona") Comply to: ISO PN10, ANSI #125/150, Jis K-10, BS-D	BP BS NP FF CC	9VDC - 12VDC - 24VDC - 24VDC - 24VAC - 24VAC - 24VAC - 24VAC, Lightning Proof - N.C. 24VAC, Lightning Proof - N.O.	Latch Latch N.C. N.O. N.C. N.O. N.C. N.O.	9DS 1DS 4DC 4DC 4AC 4AO 4RC 4RO	Servo Low Preset Pressure (below 2 bar) Plastic Pressure Test Point Other attributes available on request	b 2 5	
<p>Other electrical ratings available on request.</p>									

Flow Chart



Operation



The Shuttle Valve [1] hydraulically connects the Solenoid [2] or the Pressure Reducing Servo Pilot (PRSP) [3] to the Valve Control Chamber [4]. When the solenoid is closed, the PRSP commands the Valve to throttle closed, preventing Downstream Pressure [P2] from rising above setting. In response to an electric signal, the solenoid switches, directing line pressure through the shuttle valve into the control chamber, shutting the Valve. Should system pressure rise above setting, the Relief Pilot [5] opens, and thereby opening the Valve to relieve excessive pressure.



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