Flow Control and Pressure Reducing Valve
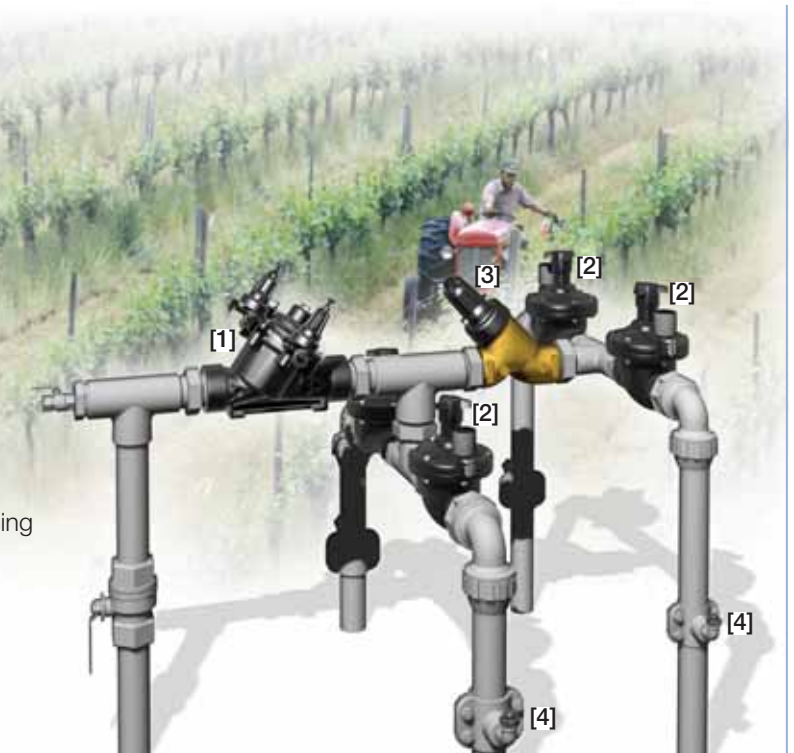
IR-172-bDZ

The BERMAD Flow Control and Pressure Reducing Valve is a hydraulically operated, diaphragm actuated control valve that limits system demand and reduces downstream pressure to constant preset maximum values.

Features and Benefits

- Line Pressure Driven Hydraulic Flow Control
  - Limits fill-up rate and consumer over-demand
  - Protects downstream system
- Adjustable Servo Flow Pilot and 2-Way Pressure Reducing Pilot Controlled
  - Very low hysteresis
  - Easy flow and pressure 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

- Line Fill-Up Control
- Pressure Reducing Systems
- Multiple Independent Consumer Systems
- Systems Subject to Varying Supply Pressure

[1] BERMAD Model IR-172-bDZ protects supply system from excessive flow, limits fill-up rate and consumer over-demand, and establishes reduced higher pressure zone.
[2] BERMAD Solenoid Controlled Valve Model 210-N1
[3] BERMAD Pressure Reducer Model 1½"-PRV
[4] BERMAD Vacuum Breaker Model ½"-ARV
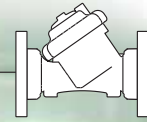
BERMAD Irrigation

100 Series hYflow
Flow Control &
Pressure Reducing

Technical Specifications

Dimensions and Weights

Pattern		Angle	Y (Oblique)			
Size	DN Inch	80-T 3-T	50-T 2-T	65-T* 21/2-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
	ib.	3.5	3.0	3.1	3.5	6.6

* 2$\frac{1}{2}$"; DN65 Male Thread BSP-F, for PVC glue Unions.
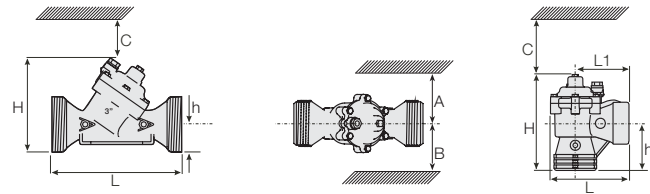
Technical Data

Valve Configurations & Size:
Oblique: 2, 2½, 3, 3L, 4 & 6"; DN50, 65, 80, 80L, 100 & 150
Angle: 3"; DN80

End Connections:
Threaded: 2, 2½, 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

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]**. Pressure Differential **[ΔP]** across the Differential Pressure Duct **[5]** 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. The Manual Selector **[6]** enables local manual closing.
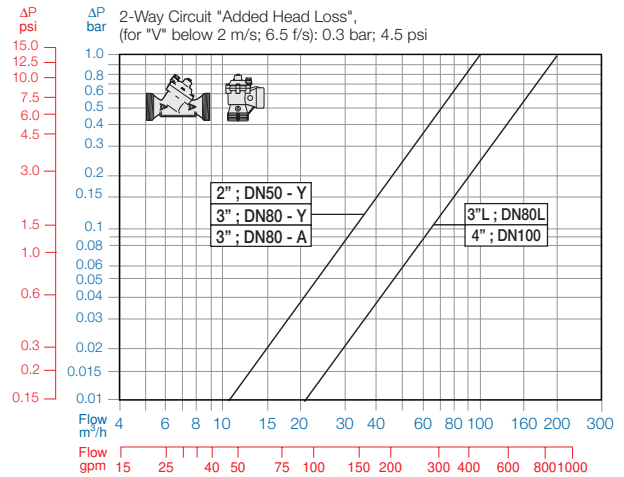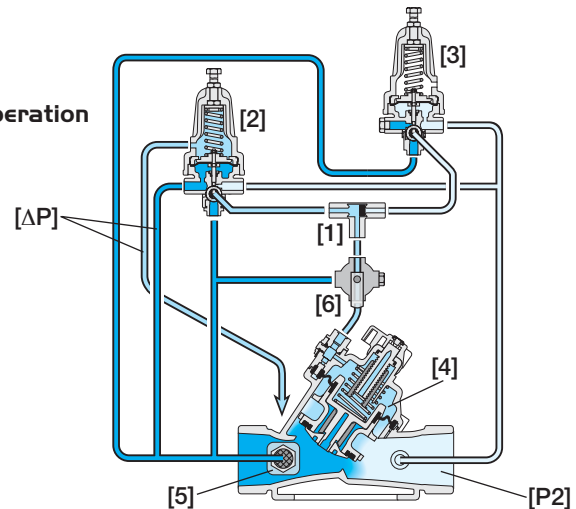
How to Order

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	2-4"	172	00	Y	P	FF	2W/3W	-	bDZ

Other sizes available on request.

Pattern:
Oblique — Y
Angle (3"; DN80 Only) — A

End Connections:
Threaded BSP (Female) — BP
Threaded NPT (Female) — NP
Plastic Flanges* — FF
Metal Flanges* ("Corona") — CC

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

Additonal Attributes:
Servo — b
Differential Pressure Duct — D
Manual Selector — Z
Flow Stem — M
Flow Stem with Position Indicator — MP
Low Preset Pressure (below 2 bar) — 2
Plastic Pressure Test Point — 5
Other attributes available on request