



TOP PILOT PRESSURE REDUCING VALVE

Model IR-12T-3W-X

The BERMAD Top Pilot Pressure Reducing Control valves offer top performance, compact design and intuitive plug & play operation, thanks to an innovative integrated pilot, equipped with a high resolution adjustment dial for easy, quick & accurate calibration. Model IR-12T-3W-X reduces higher upstream pressure to a calibrated constant downstream pressure, regardless of flow fluctuations and opens fully when line pressure drops below setting.



- [1] BERMAD Model IR-12T-3W-X establishes reduced pressure zone, protecting laterals and distribution line.
- [2] Kinetic Air Valve Model IR-K10
- [3] Combination Air Valve Model IR-C10

Features & Benefits

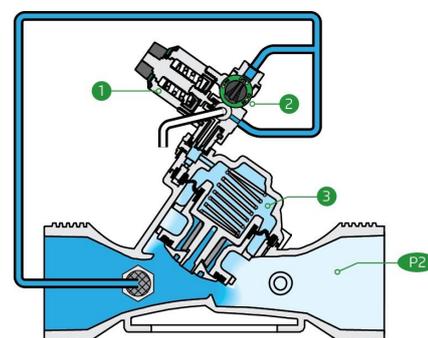
- Line Pressure Driven, Hydraulically Controlled On/Off
 - Protects downstream systems
 - Opens fully when flow & pressure are below setting
- 3-Way Integrated Pilot - User Friendly Design
 - Adjustment knob and high resolution scale for easy calibration without any pressure gauge
 - Compact "Box-Size" solution
 - Solenoid control is easily added or removed
 - Uniquely suitable to all size range up to 3"
- Engineered Composite Valve with Industrial Grade Design
 - Adaptable on-site to a wide range of end connection
 - Highly durable, chemical and cavitation resistant
- hYflow 'Y' Valve Body with "Look Through" Design
 - Ultra-high flow capacity at 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

Typical Applications

- Systems Subject to Varying Supply Pressure
- Plot Valves in Drip & Sprinklers Irrigation Systems
- Energy Saving Irrigation Systems

Operation:

The Pressure Reducing Pilot [1] commands the Valve to throttle closed should Downstream Pressure [P2] rise above setting and to open fully when it drops below setting. The Integrated Trio Selector [2] enables manual closing and opening override or automatic hydraulic control, in which the pilot connects valve control chamber [3] with line pressure to throttle close the valve or vents it through the pilot to open the valve.





Technical Data

Pressure Rating:
150 psi

Operating Pressure Range:
7-150 psi

Materials

Body & Cover:
Polyamide 6 & 30% GF

Diaphragm:
NR, Nylon fabric reinforced

Spring:
Stainless Steel

Control Loop Accessories

PR Pilot: Top Pilot

Pilot Spring Range:

Spring	Spring Color	Setting range
Black	Black	12-80 psi

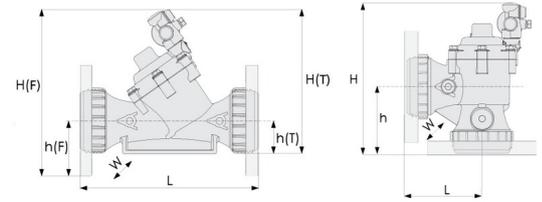
- H2 for bar scale
- J2 for psi scale

Tubing and Fittings:

Polyethylene and Polypropylene

Technical Specifications

For other patterns and end connection types, Please refer to [BERMAD](#) full engineering page.



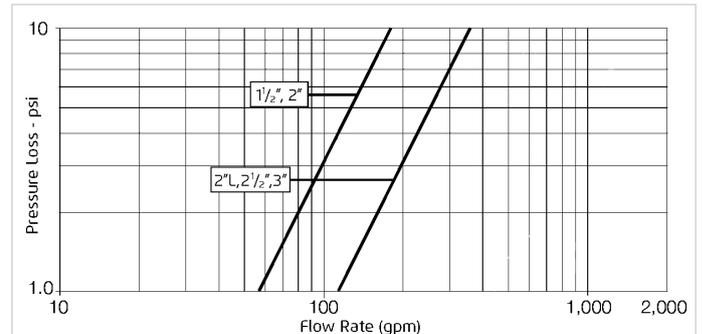
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	w	CCDV (Gal)	CV
1½" ; DN40	Oblique	Threaded	2.9	7%	9%	1%	5%	0.026	58
2" ; DN50	Oblique	Threaded	3	9%	9%	1%	5%	0.026	58
2"L ; DN50L	Oblique	Threaded	4	9%	10%	1%	6	0.033	116
2½" ; DN65	Oblique	Threaded	3	9%	10%	1%	6	0.033	116
2" ; DN50	Angle	Threaded	3	4%	11	4%	5%	0.026	58
3" ; DN80	Oblique	Threaded	4	11%	10%	2%	6	0.033	116
3" ; DN80	Oblique	Plastic Flanges	6	4%	12%	4	7%	0.033	116
3" ; DN80	Oblique	Metal Flanges	10.1	4%	12%	4	7%	0.033	116
3" ; DN80	Angle	Threaded	4	5%	11%	4%	6	0.033	98
3" ; DN80	Angle	Plastic Flanges	6	5½	11%	4%	7%	0.033	98
3" ; DN80	Angle	Metal Flanges	10.1	5½	11%	4%	7%	0.033	98

CCDV = Control Chamber Displacement Volume • **Threaded** = BSP & NPT are available. External thread is available for 2" and 2½" only. • Other End Connections are available on request. For dimensions and weights of adapters or valves with adapters please consult with customer service.

Additional Features

Code	Description	Size Range
5	Plastic Test Point	1½"-4"
V3	Victaulic PVC Adaptors 3"	3"
V4	Victaulic PVC Adaptors 4"	4"

Flow Chart



Differential Pressure & Flow Calculation

$$\Delta P = \left(\frac{Q}{Cv} \right)^2$$

Cv = gpm @ ΔP of 1 psi
 Q = gpm
 ΔP = psi