



TOP PILOT PRESSURE REDUCING VALVE

Model IR-12T-55-3W-X

The BERMAD Top Pilot Pressure Reducing Control Valves with solenoid control 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-55-3W-X reduces higher upstream pressure to a calibrated constant downstream pressure, regardless of flow fluctuations and opens fully when line pressure drops below setting. The valve opens & shuts in response to an electric signal.



- [1] BERMAD Model IR-12T-55-3W-X establishes reduced pressure zone, protecting laterals and distribution line.
- [2] Kinetic Air Valve Model IR-K10
- [3] Combination Air Valve Model IR-C10
- [4] RTU-Remote Terminal Unit

Features & Benefits

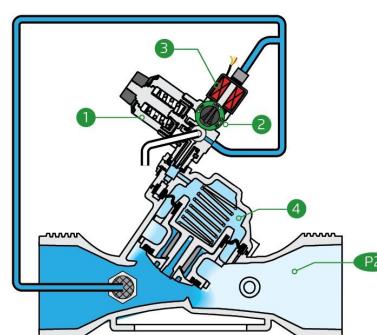
- Line Pressure Driven, Hydraulically Controlled On/Off
 - Protects downstream systems
 - Opens fully upon line pressure drop
- 3-Way Integrated Pilot - User Friendly Design
 - Adjustment knob and high resolution scale for easy calibration without any pressure gauge
 - Compact "Box-Size" solution
 - 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

- Automated Irrigation Systems
- 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 electric control, in which the solenoid [3] connects valve control chamber [4] with line pressure to shut 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

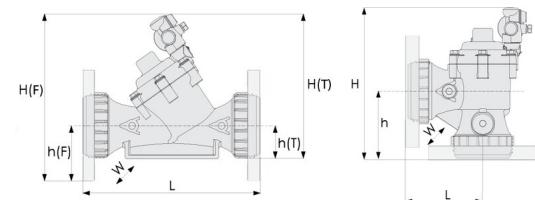
AC solenoid:
 S-390-T-3W

DC latch solenoid:
 S-392-T-3W P.B
 S-982-3W P.B.

**For other solenoids please consult [BERMAD](#)*

Technical Specifications

For other patterns and end connection types,

 Please refer to [BERMAD](#) full engineering page.


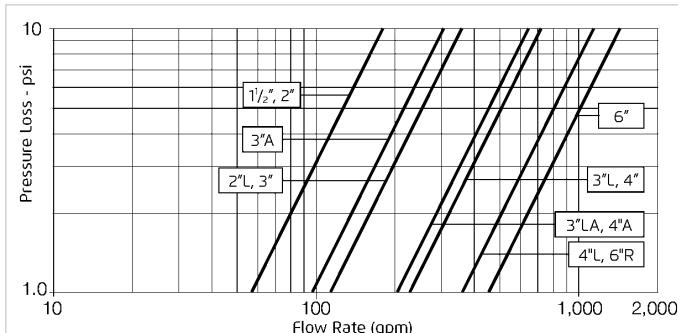
Size	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	h (In)	W	CCDV (Gal)	CV
1½" ; DN40	Oblique	Threaded	2.9	7½	9½	1%	5%	0.026	58
2" ; DN50	Oblique	Threaded	3	9½	9½	1%	5%	0.026	58
2" L ; DN50L	Oblique	Threaded	4	9½	10½	1¼	6	0.033	116
2½" ; DN65	Oblique	Threaded	3	9½	10½	1¼	6	0.033	116
2" ; DN50	Angle	Threaded	3	4½	11	4½	5%	0.026	58
3" ; DN80	Oblique	Threaded	4	11½	10½	2¼	6	0.033	116
3" ; DN80	Oblique	Plastic Flanges	6	4½	12½	4	7½	0.033	116
3" ; DN80	Oblique	Metal Flanges	10.1	4½	12½	4	7½	0.033	116
3" ; DN80	Angle	Threaded	4	5½	11½	4¾	6	0.033	98
3" ; DN80	Angle	Plastic Flanges	6	5½	11½	4½	7½	0.033	98
3" ; DN80	Angle	Metal Flanges	10.1	5½	11½	4½	7½	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"
Z	Manual Selector	1½" - 4"
V3	Victaulic PVC Adaptors 3"	3"
V4	Victaulic PVC Adaptors 4"	4"

Flow Chart



Differential Pressure & Flow Calculation

$$\Delta P = \left(\frac{Q}{Cv} \right)^2 \quad Cv = \text{gpm} @ \Delta P \text{ of 1 psi}$$

$$Q = \text{gpm}$$

$$\Delta P = \text{psi}$$