



TOP PILOT PRESSURE REDUCING VALVE

With 3-Way Solenoid Control

Model IR-12T-LS-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

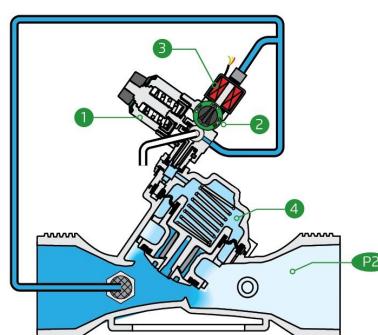
- Line Pressure Driven, Hydraulically Controlled On/Off
 - Protects downstream systems
 - Opens fully upon line pressure drop
- 3-Way Integrated Pilot - User Friendly Design
 - Adjustment knob and high resolution scale for easy calibration without any pressure gauge
 - Compact "Box-Size" solution
 -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

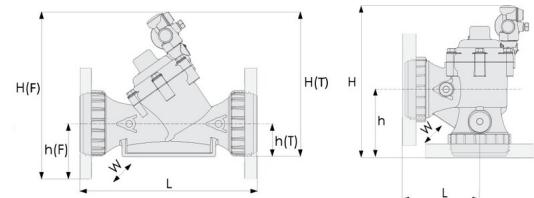
7-150 psi

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,

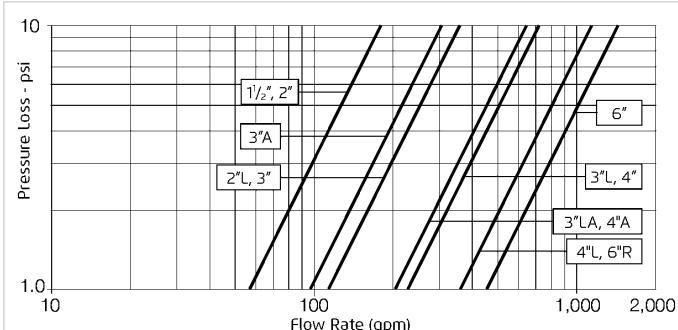
Please refer to [BERMAD](#) full engineering page.

| 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 = gpm
 ΔP = psi