



# TOP PILOT PRESSURE REDUCING VALVE

## With 3-Way Solenoid Control

### Model IR-12T-55-3W-X-S-392

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

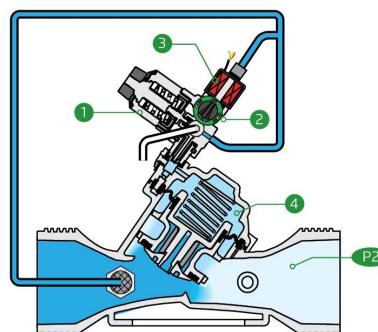
- Line Pressure Driven, Hydraulically Controlled On/Off
  - Protects downstream systems
  - Opens fully upon line pressure drop
- 3-Way Integrated Pilot - User Friendly Design
  - Adjustment knob and high resolution scale for easy calibration without any pressure gauge
  - Compact "Box-Size" solution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

10 bar

### Operating Pressure Range:

0.5-10 bar

### 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        | 0.8-6 bar     |

• H2 for bar scale

• J2 for psi scale

**Tubing and Fittings:**  
Polyethylene and  
Polypropylene

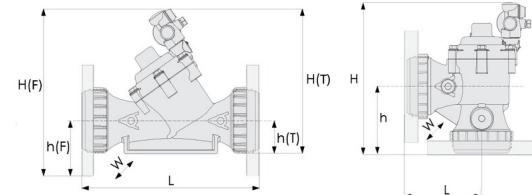
**AC solenoid:**  
S-390-T-3W

**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.


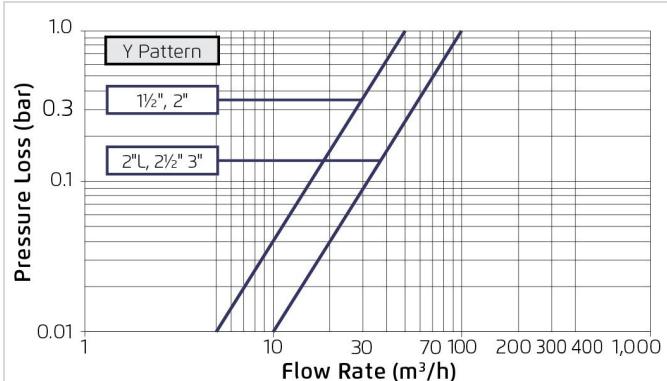
| Size         | Pattern | End Connection  | Weight (Kg) | L (mm) | H (mm) | h (mm) | W   | CCDV (Lit) | KV  |
|--------------|---------|-----------------|-------------|--------|--------|--------|-----|------------|-----|
| 1½" ; DN40   | Oblique | Threaded        | 1.3         | 200    | 238    | 40     | 142 | 0.12       | 50  |
| 2" ; DN50    | Oblique | Threaded        | 1.4         | 230    | 238    | 40     | 142 | 0.12       | 50  |
| 2" L ; DN50L | Oblique | Threaded        | 1.7         | 230    | 257    | 43     | 152 | 0.15       | 100 |
| 2½" ; DN65   | Oblique | Threaded        | 1.4         | 230    | 257    | 43     | 152 | 0.15       | 100 |
| 2" ; DN50    | Angle   | Threaded        | 1.4         | 115    | 279    | 115    | 142 | 0.12       | 50  |
| 3" ; DN80    | Oblique | Threaded        | 1.8         | 298    | 269    | 55     | 152 | 0.15       | 100 |
| 3" ; DN80    | Oblique | Plastic Flanges | 2.7         | 308    | 314    | 100    | 200 | 0.15       | 100 |
| 3" ; DN80    | Oblique | Metal Flanges   | 4.6         | 308    | 314    | 100    | 200 | 0.15       | 100 |
| 3" ; DN80    | Angle   | Threaded        | 1.8         | 133    | 294    | 118    | 152 | 0.15       | 85  |
| 3" ; DN80    | Angle   | Plastic Flanges | 2.7         | 138    | 299    | 123    | 200 | 0.15       | 85  |
| 3" ; DN80    | Angle   | Metal Flanges   | 4.6         | 138    | 299    | 123    | 200 | 0.15       | 85  |

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" / DN40-100 |
| Z    | Manual Selector           | 1½" - 4" / DN40-100 |
| V3   | Victaulic PVC Adaptors 3" | 3" / DN80           |
| V4   | Victaulic PVC Adaptors 4" | 4" / DN100          |

## Flow Chart



## Differential Pressure & Flow Calculation

$$\Delta P = \left( \frac{Q}{Kv} \right)^2 \quad Kv = m^3/h @ \Delta P \text{ of 1 bar}$$

$$Q = m^3/h \quad \Delta P = \text{bar}$$