# PRESSURE SUSTAINING VALVE, DOUBLE CHAMBER

## IR-130-DC-3W-XZ

The BERMAD Model IR-130-DC-3W-XZ Pressure Sustaining Valve is a double chambered, hydraulically operated, diaphragm actuated control valve that sustains minimum preset upstream (back) pressure and opens fully when line pressure is in excess of setting. The valve comprises two major components: The body and the actuator assembly. The actuator assembly consists of both an upper and a lower control chamber.

The double chambered valve operation is independent of valve differential pressure. This develops maximum power, ensuring immediate valve response combined with inherent soft closing.
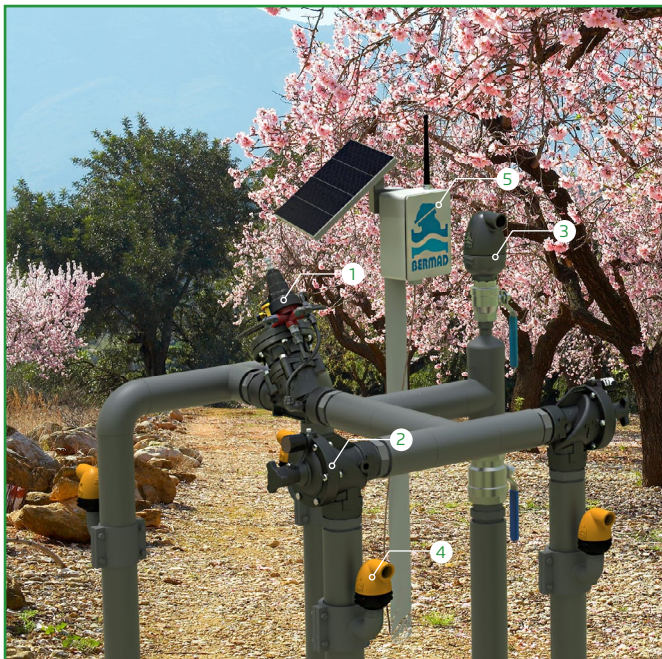


[1] BERMAD Model IR-130-DC-3W-XZ sustains supply system pressure to prioritize uphill plots and prevent system emptying.
[2] BERMAD Solenoid Control Valves Model IR-21T
[3] BERMAD Combination Air Valve Model IR-C10
[4] BERMAD Kinetic Air Valve Model IR-K10
[5] BERMAD RF RTU Battery Operated with Solar Kit

## Features & Benefits

- Line Pressure Driven, Hydraulically Controlled
    - Prioritizes pressure zones
    - Controls system fill-up
    - Opens fully upon line pressure rise
- Double chamber
    - Full powered opening and closing
    - Decreased pressure loss
    - Low throttling noise
    - Non-slam closing characteristic
    - Protected diaphragm
- Engineered Plastic Valve with Industrial  Grade Design
- hYflow 'Y' Valve Body with "Look Through" Design
    - Ultra-high flow capacity - Low pressure loss
- User-Friendly Design
    - Simple in-line inspection and service

## Typical Applications

- Line Fill-Up Control Solutions
- Line Emptying Prevention
- Systems Subject to Varying Supply Pressure
- Infield Filters Backwash Pressure Sustaining
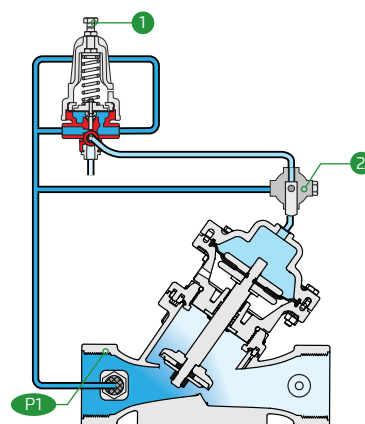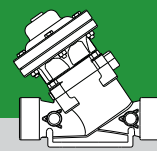- Energy Saving Irrigation Systems

## Operation:

The Pressure Sustaining Pilot ❶ commands the main Valve to throttle closed should Upstream Pressure (P1) drop below setting, and to open fully when (P1) rises above setting. The Manual Selector ❷ enables local manual closing.



All images in this catalog are for illustration only

## Technical Data

**Pressure Rating:**
10 bar; 145 psi

**Operating Pressure Range:**
0.5-10 bar; 7-145 psi

**Setting Range:**
1-7 bar; 15-100 psi

Setting ranges vary according to specific pilot spring. Please consult factory

## Materials:

**Body, Cover and Plug:**
Polyamid 6 & 30% GF

**Diaphragm:**
NR, Nylon fabric reinforced

**Seals:** NR

**Spring:** Stainless Steel

**Cover Bolts:** Stainless Steel

**Actuator:**
Composite Material & Stainless Steel
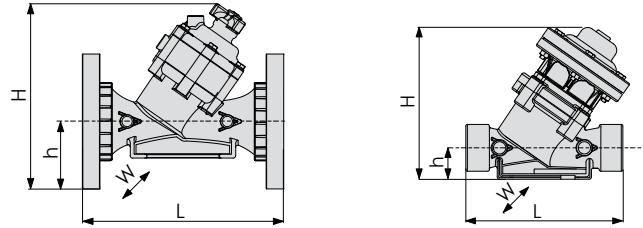
## Control Accessories:

**Tubing and Fittings:**
Polyethylene

**Pilot Spring Range:**

| Spring | Spring color | Setting Range |
|--------|--------------|---------------|
| J | Green | 0.2-1.7 bar |
| K | Gray | 0.5-3.0 bar |
| N | Colorless | 0.8-6.5 bar |

## Technical Specifications

### Y Pattern Valves Dimensions & Weights

For BERMAD angle, dual & T pattern,
Please see our full engineering page.

| Size Inch; DN | 1½"; 40 | 2"; 50 | 2"; 50 | 2"L; 50L | 2½"; 50L | 3"; 80 | 3"; 80 | | 3"L; 80L | | | 4"; 100 | |
|---------------|---------|--------|--------|----------|----------|--------|--------|---|----------|---|---|---------|---|
| End Connections | Rc (BSP.T), NPT | G (BSP.F) | Rc (BSP.T), NPT | Rc (BSP.T), NPT | G (BSP.F) | Rc (BSP.T), NPT | Universal Flanges | | Rc 3 (BSP.T) | Universal Flanges | | Universal Flanges | |
| | | | | | | | Metal | Plastic | 3" NPT | Metal | Plastic | Metal | Plastic |
| L (mm) | 200 | 200 | 230 | 230 | 230 | 298 | 308 | 308 | 338 | 343 | 343 | 364 | 364 |
| H (mm) | 194 | 196 | 196 | 220 | 220 | 232 | 277 | 277 | 356 | 395 | 395 | 407 | 407 |
| h (mm) | 40 | 40 | 40 | 43 | 43 | 55 | 100 | 100 | 60 | 100 | 100 | 112 | 112 |
| W (mm) | 126 | 126 | 126 | 135 | 135 | 135 | 200 | 200 | 210 | 210 | 210 | 224 | 224 |
| CCDV (lit) | 0.13 | 0.13 | 0.13 | 0.17 | 0.17 | 0.17 | 0.17 | 0.17 | 0.55 | 0.55 | 0.55 | 0.55 | 0.55 |
| Weight (Kg) | 1.7 | 1.7 | 1.7 | 2.2 | 2.2 | 2.3 | 5.1 | 3.2 | 5.95 | 7.35 | 6.45 | 9.45 | 7.55 |

**CCDV** = Control Chamber Displacement Volume • **BSP.T** = Internal Threaded • **BSP.F** = External Threaded
• Other End Connections are available on request. For dimensions and weights of adapters or valve with adapters please consult with customer service

## Flow Properties

| Sizes | Inch DN | 1½" 40 | 2" 50 | 2L" 50L | 2½" 65 | 3" 80 | 3"L 80L | 4" 100 |
|-------|---------|--------|-------|---------|--------|-------|---------|--------|
| KV | | 50 | 50 | 100 | 100 | 100 | 168 | 168 |

### Valve Flow Coefficient

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

Kv = m³/h @ ΔP of 1 bar
Q = m³/h
ΔP = bar

## Flow Chart