

## Pressure Reducing Valve

Solenoid Controlled with Relief Override

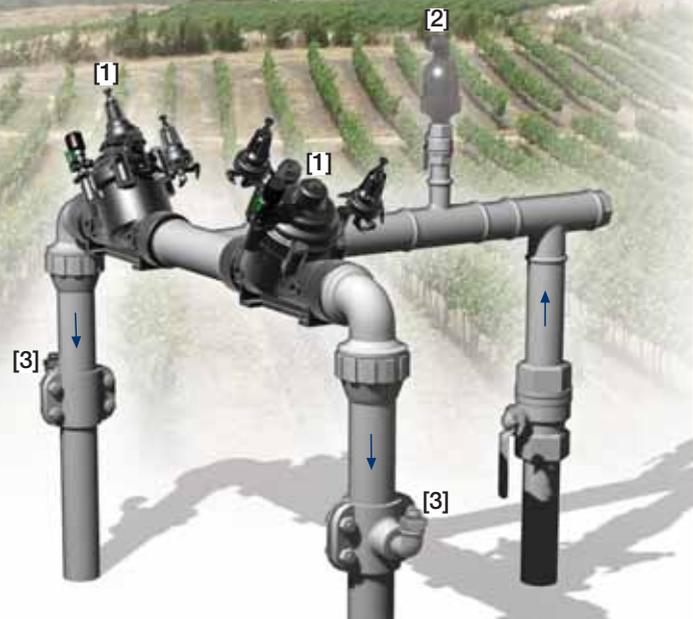
IR-120-55-3Q-X

The BERMAD Model IR-120-55-3Q-X is a hydraulically operated, diaphragm actuated control valve that reduces higher upstream pressure to lower and stable preset downstream pressure. It either opens or shuts in response to an electric signal. The Bermad IR-120-55-3Q-X also serves as a Pressure Relief Valve, protecting the system even when in closed position.



### Features and Benefits

- Solenoid Controlled PRV with Relief Override Feature
  - Protects downstream systems
  - Relieves supply pressure peaks
- 3-Way Pilot Controlled
  - Opens fully upon line pressure drop
- Engineered Plastic Valve with Industrial Grade Design
  - Highly durable, chemical and cavitation resistant
  - No internal bolts and nuts
- hYflow 'Y' Valve Body with "Look Through" Design
  - Ultra-high flow capacity – Low pressure loss
- Unitized Flexible Super Travel (FST) Diaphragm and Guided Plug
  - Accurate and stable regulation with smooth closing
  - Requires low opening and actuation pressure
  - Prevents diaphragm erosion and distortion

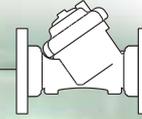


### Typical Applications

- Computerized Irrigation Systems
- Systems Subject to Varying Supply Pressure
- Energy Saving Irrigation Systems
- Remote and/or Elevated Plots
- Multiple Control Valves System

- [1] Bermad Model IR-120-55-3Q-X opens in response to electric signal, establishes reduced pressure zone, and relieves supply pressure peaks even when in closed position.
- [2] BERMAD Air Valve Model ARA-A-P-P
- [3] BERMAD Vacuum Breaker Model 1/2"-ARV

# BERMAD Irrigation



## IR-120-55-30-X

For full technical details, refer to Engineering Section.

## 100 Series hYflow

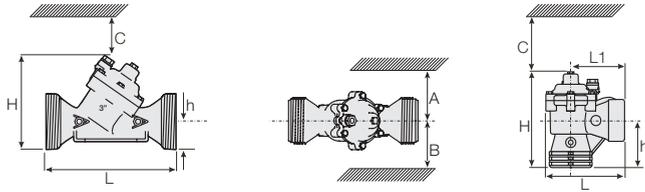
Pressure Reducing Standart

### Technical Specifications

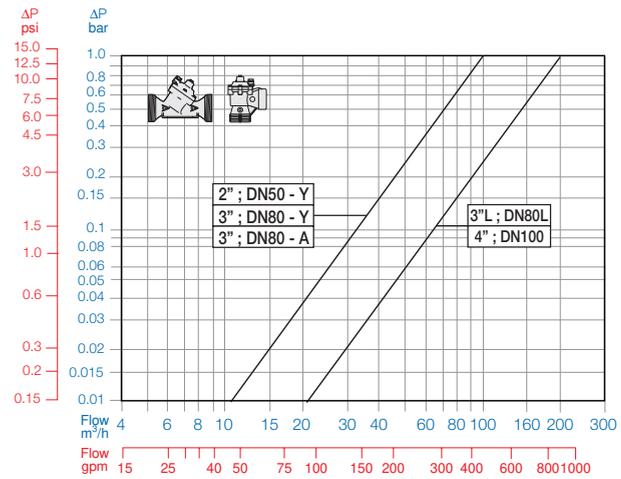
#### Dimensions and Weights

| Pattern Size | Angle | Y (Oblique) |           |                |           |            |
|--------------|-------|-------------|-----------|----------------|-----------|------------|
|              |       | 80-T 3-T    | 50-T 2-T  | 65-T* 2 1/2-T* | 80-T 3-T  | 80L-T 3L-T |
| L (L1)       | mm    | 187 (130)   | 230       | 230            | 298       | 300        |
|              | inch  | 7.4 (5.1)   | 9.1       | 9.1            | 11.7      | 11.8       |
| H (Hf)       | mm    | 235 (245)   | 170 (185) | 170 (185)      | 180 (195) | 240        |
|              | inch  | 9.3 (9.6)   | 6.7 (7.3) | 6.7 (7.3)      | 7.1 (7.7) | 9.5        |
| C            | mm    | 53          | 140       | 140            | 140       | 180        |
|              | inch  | 2.1         | 6         | 6              | 6         | 8          |
| h            | mm    | 117         | 40        | 40             | 50        | 60         |
|              | inch  | 4.6         | 1.6       | 1.6            | 2.0       | 2.4        |
| A; B         | mm    | 320         | 135       | 135            | 190       | 190        |
|              | inch  | 12.6        | 6         | 6              | 8         | 8          |
| Weight       | Kg    | 1.6         | 1.35      | 1.4            | 1.6       | 3.0        |
|              | lb.   | 3.5         | 3.0       | 3.1            | 3.5       | 6.6        |

\* 2 1/2"; DN65 Male Thread BSP-F, for PVC glue Unions.



#### Flow Chart



### Technical Data

#### Valve Configurations & Size:

Oblique: 2, 2 1/2, 3, 3L, 4 & 6"; DN50, 65, 80, 80L, 100 & 150

Angle: 3"; DN80

#### End Connections:

Threaded: 2, 2 1/2, 3 & 3"; DN50, 65, 80 & 80L

Flanged: 3, 3L, 4, & 6"; DN80, 80L, 100 & 150

Grooved: 6"; DN150

**Operating Pressure Range:** 0.35-10 bar; 5-145 psi

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

Relief: 1-7 bar; 15-100 psi

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

#### Materials:

**Body, Cover and Plug:** Glass-Filled Nylon

**Diaphragm:** NR, Nylon Fabric Reinforced

**Seals:** NR

**Spring:** Stainless Steel

**Cover Bolts:** Stainless Steel

**Control Accessories:** Plastic

**Tubing and Fittings:** Plastic

#### Solenoid Voltage Range:

**S-390 & S-400:** 24 VAC, 24 VDC

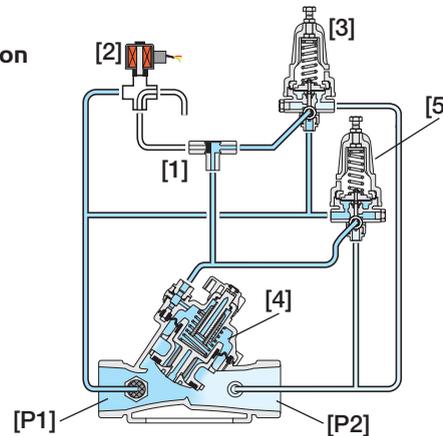
**S-392 & S-402:** 9-20 VDC, Latch

**S-982 & S-985:** 12-50 VDC, Latch

Other voltages available.

For full electric data, refer to Accessories Section.

#### Operation



The Shuttle Valve [1] hydraulically connects the Solenoid [2] or the Pressure Reducing Pilot (PRP) [3] to the Valve Control Chamber [4]. When the solenoid is closed, the PRP commands the Valve to throttle closed should Downstream Pressure [P2] rise above setting and to open fully when [P2] is below setting. In response to an electric signal, the solenoid switches, directing line pressure through the shuttle valve into the control chamber, shutting the Valve. Should system pressure rise above setting, the Relief Pilot [5] opens, and thereby opening the Valve to relieve excessive pressure.

### How to Order

Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

| Sector | Size                              | Primary Feature | Additional Feature  | Pattern                    | Construction Materials  | End Connections                                | Control Type   | Voltage -Main Valve Position  | Additional Attributes |
|--------|-----------------------------------|-----------------|---|----------------------------|---|--|--|---|-----------------------|
| IR     | 2-4"                              | 120             | 55-3Q   | Y                          | P   | BP   | 3W   | 4AC   | X                     |
|        | Other sizes available on request. |                 |   |                            |   |  |  |   |                       |
|        | Oblique<br>Angle (3"; DN 80 Only) | Y<br>A          | BSP<br>BSP-F (Male Threads 2 1/2"; DN65 only)<br>NPT<br>Plastic Flanges*<br>Metal Flanges* ("Corona")<br>Comply to: ISO PN10, ANSI #125/150, Jis K-10, BS-D | BP<br>BS<br>NP<br>FF<br>CC | 9VDC-<br>12VDC-<br>24VDC-<br>24VDC-<br>24VAC-<br>24VAC-<br>24VAC Lightning Proof -<br>24VAC Lightning Proof - | Latch<br>Latch<br>N.C.<br>N.O.<br>N.C.<br>N.O. | 9DS<br>1DS<br>4DC<br>4DC<br>4AC<br>4AO<br>4RC<br>4RO | 3-Way Control Loop<br>Low Preset Pressure (below 2 bar)<br>Plastic Pressure Test Point<br>Other attributes available on request | X<br>2<br>5           |

Other electrical ratings available on request.



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