

Filter Backwash Hydraulic Valve 4x4 Plastic

IR-4x4-350-P

The BERMAD Model IR-4x4-350-P is a compact 3-port valve, in a "T" configuration. It is double chambered, hydraulically operated, and diaphragm actuated.

Designed for automatic backwashing of filtration systems, the BERMAD Model IR-4x4-350-P is available in Angle flow (A) and Straight flow (S) configurations.



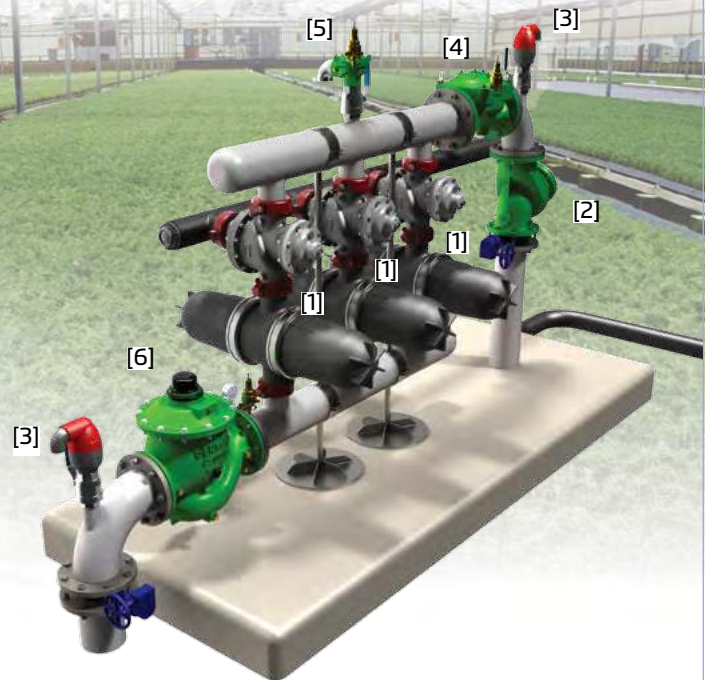
Angle Flow



Straight Flow

Features and Benefits

- ☒ Line Pressure Driven
- ☒ Double Chambered Design
 - Quick and smooth mode change
 - Wide application range
 - Requires low actuation pressure
 - Protected diaphragm
- ☒ Dynamic Sealing
 - Seals at very low pressure
 - Prevents seal friction and erosion
- ☒ Engineered Plastic Valve Design
 - Highly durable, chemical and cavitation resistant
- ☒ Long Valve Travel
 - Higher flow and lower head loss
 - Smooth changes of flow direction
 - Eliminates mixing of supply and waste water
- ☒ User- Friendly
 - Can be installed in various orientations
 - Simple in-line inspection and service

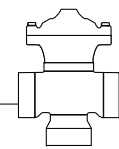


Typical Applications

- ☒ Automatic Backwash of Filter Batteries
 - Gravel Filters
 - Sand Filters
 - Disk Filters
 - Screen Filters
- ☒ Single Filter Autonomic Backwash System
- ☒ Angled or Straight Installations

- [1] BERMAD Model IR-4x4-350-S-P allows flow into the filter, switches close upon pressure rise command blocking inlet to filter and enables backwash flow from the filter.
- [2] BERMAD Strainer Model IR-70F.
- [3] BERMAD Combination Air Valve Model C10.
- [4] BERMAD Pressure Reducing Valve Model IR-420.
- [5] BERMAD Quick Pressure Relief Valve Model IR-430Q.
- [6] BERMAD Pressure Sustaining Hydrometer Model IR-930-M0-X.

BERMAD Irrigation



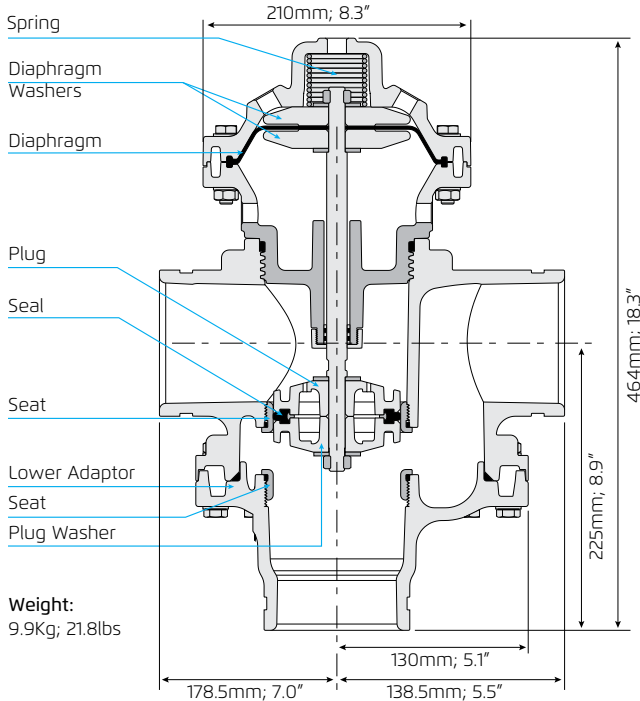
IR-4x4-350-P

350 Series

Flow Control & Pressure Reducing

For full technical details, refer to Engineering Section.

Technical Specifications



Technical Data

- Control Chamber Displacement Volume:** 0.55 liter; 0.15 gallon
- Operating Pressure:** 0.7-10 bar; 10-145 psi
- External Operating Pressure:** 85%-100% of operating pressure
- Maximum Temperature:** 65°C; 150°F
- End Connections:** Ports C & 2: Grooved 4"
Port 1: Grooved 4";
Union Connector (Havazelet) 75mm or Grooved 4" x Int.Thread 3"
- Flow Patterns:** Angled Flow, Reverse Angled Flow, Straight Flow, Reverse Straight Flow

Materials

- Valve Body, Separating Partition & Lower Adaptor:** Polyamide 6 – 30GF Black
- Cover:** Polyamide 6 – 30GF, Angle Flow – Black, Straight Flow – Gray
- Diaphragm:** NR-AL52 Nylon Fabric Reinforced
- Seats, Diaphragm Washers:** Stainless Steel 304
- Plug, Plug Washer:** Acetal Copolymer Black
- Stopper Disk:** PVC-U
- Seal, O-Rings:** NBR
- Spring:** Stainless Steel AISI 302
- Shaft:** Stainless Steel AISI 303
- External Bolts, Studs, Nuts & Disks:** Stainless Steel

How to Order

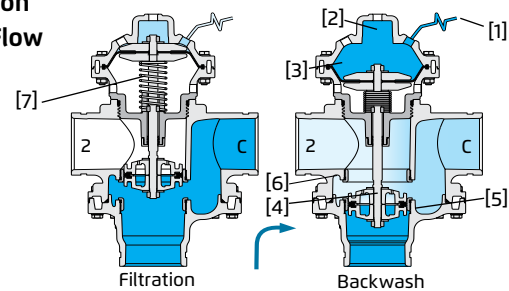
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

| Sector | Size | Primary Feature | Additional Feature | Pattern/Flow Option | Construction Materials | Drain Connections | End Connections | Additional Attributes | Coating | Voltage & Position | Tubing & Fittings |
|--------|------|---|---|---------------------|-------------------------|-------------------|---------------------------|-----------------------|---------|--------------------|-------------------|
| IR | 4x4 | 350 | 00 | S | P | V | VI | - | UC | 00 | PP |
| | | Angle Flow Straight Flow Straigh & Reverse Flow Angle & Reverse Flow | Grooved 4" Union Connector (Havazelet) 75mm Grooved 4" x Int. Thread 3" | V H VT | Grooved ANCI C606-81 VI | Uncoated UC | Plastic Tubing & Fillings | PP | | | |

Hydraulic Data

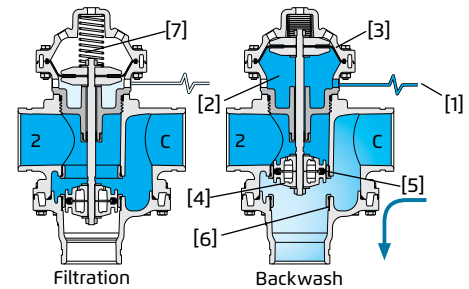
| | Filtration 1⇒C | Backwash C⇒2 | |
|---------------|----------------|---------------|---|
| Angle Flow | | | $\Delta P = \left(\frac{Q}{Kv}\right)^2$ Kv = m ³ /h @ ΔP of 1 bar Q = m ³ /h ΔP = bar |
| | Kv=225 Cv=260 | Kv=205 Cv=237 | |
| Straight Flow | | | $\Delta P = \left(\frac{Q}{Cv}\right)^2$ Cv = gpm @ ΔP of 1 psi Q = gpm ΔP = psi |
| | Kv=190 Cv=220 | Kv=250 Cv=290 | Cv = 1.155 KV |

Operation Angle Flow



A Hydraulic Command [1], which pressurizes the Upper Control Chamber [2], forces the Diaphragm [3] actuated Upper Assembly [4] to move towards the Supply Port Seat [5], eventually sealing it drip tight. This allows flow from the filter through the Drain Port Seat [6]. Venting the upper control chamber causes the line pressure, together with the Spring [7] force, to move the Valve back to filtration mode.

Straight Flow



A Hydraulic Command [1], which pressurizes the Lower Control Chamber [2], forces the Diaphragm [3] actuated Plug Assembly [4] to move towards the Supply Port Seat [5], eventually sealing it drip tight. This allows flow from the filter through the Drain Port Seat [6]. Venting the upper control chamber causes the line pressure, together with the Spring [7] force, to move the Valve back to filtration mode.



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