Filter Backwash Hydraulic Valve

2x2 Metal Body

IR-2x2-350-R

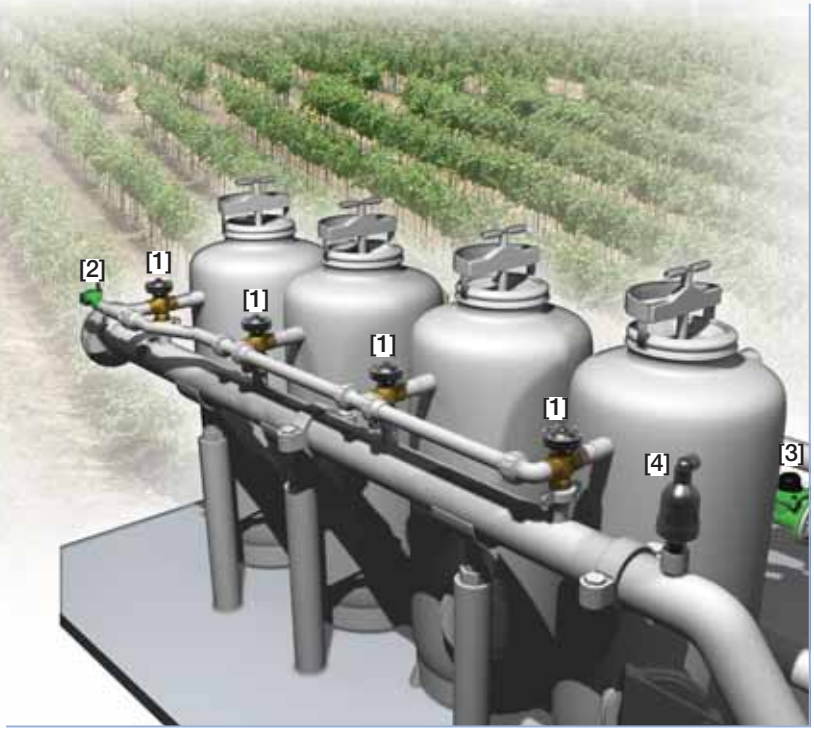
Angle Flow

Straight Flow

The BERMAD Model IR-2x2-350-R 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-2x2-350-R is available in Angle flow (A) and Straight flow (S) configurations.

Features and Benefits

- Line Pressure Driven
- Double Chambered Design
  - Wide application range
  - Requires low actuation pressure
  - Protected diaphragm
- Dynamic Sealing
  - Seals at very low pressure
  - Prevents seal friction and erosion
- Brass Body
  - Rigid construction, high stress resistance
- Short Valve Travel
  - 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

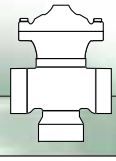


Typical Applications

- 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-2x2-350-A-R allows flow into the filter, and switches closed upon pressure rise command, thereby blocking inlet to filter and enabling backwash flow from the filter.
[2] BERMAD Backwash Flow Control Valve Model IR-470-beKU
[3] BERMAD Water Meter Model WPH
[4] BERMAD Air Valve Model ARA-A-P-P

BERMAD Irrigation



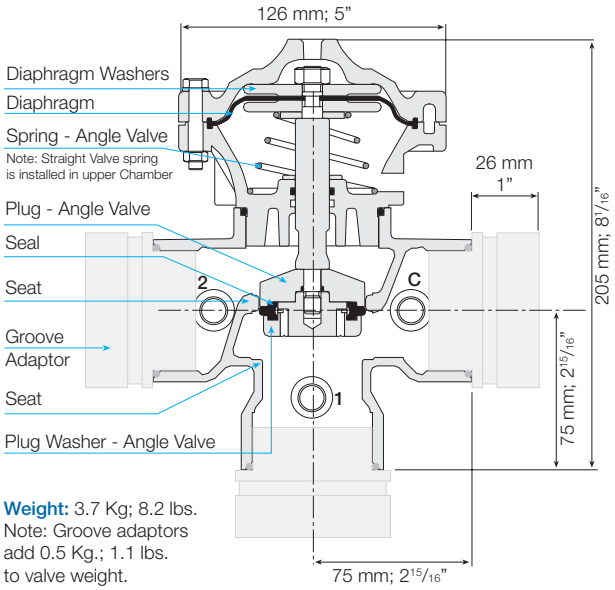
IR-2x2-350-R

350 Series

Filter Stations

For full technical details, refer to Engineering Section.

Technical Specifications



Weight: 3.7 Kg; 8.2 lbs.
Note: Groove adaptors add 0.5 Kg.; 1.1 lbs. to valve weight.

Hydraulic Data

Angle Flow	Filtartion 1⇒C		Backwash C⇒2	
	Kv=55	Cv=64	Kv=37	Cv=43
Straight Flow	Filtartion 2⇒C		Backwash C⇒1	
	Kv=36	Cv=42	Kv=58	Cv=67

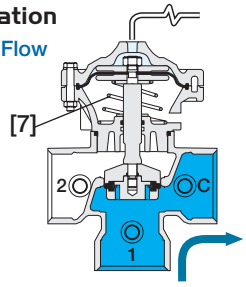
$\Delta P = \left(\frac{Q}{Kv}\right)^2$
Kv = m^3/h @ ΔP of 1 bar
Q= m^3/h
ΔP = bar

$\Delta P = \left(\frac{Q}{Cv}\right)^2$
Cv = gpm @ ΔP of 1 psi
Q= gpm
ΔP = psi

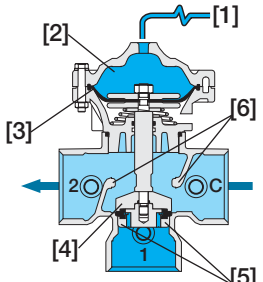
Cv = 1.155 KV

Operation

Angle Flow



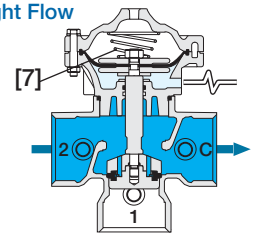
Filtration



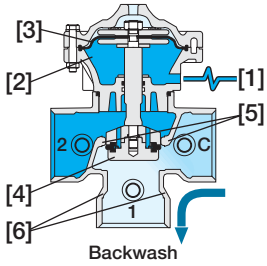
Backwash

A Hydraulic Command **[1]** which pressurizes the Upper 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.

Straight Flow



Filtration



Backwash

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 lower control chamber causes the line pressure, together with the Spring **[7]** force, to move the Valve back to filtration mode.

Technical Data

Control Chamber Displacment Volume: 0.13 liter; 0.04 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: Threaded, Grooved (with adaptors)
Flow Patterns:
Angled Flow, Reverse Angled Flow, Straight Flow, Reverse Straight Flow

Materials

Valve Body: Brass
Separating Partition: Polyamide 6 – 30GF Black
Cover: Polyamide 6 – 30GF
Angle Flow: Black
Straight Flow: Gray
Diaphragm: NR-AL52 Nylon Fabric Reinforced
Seats, Diaphragm Washers: Brass
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	Additonal Attributes	Coating	Voltage & Position	Tubing & Fittings
IR	2X2	350	00	A	R	P	VI	-	UC	00	PP

Angle Flow	A	Threaded BSP	P	Grooved ANSI C 606-81	VI	Uncoated	UC		
Straight Flow	S	Threaded NPT	N	BSP	BP				
Straigh & Reverse Flow	S-O	Grooved	V	NPT	NP				
Angle & Reverse Flow	A-O								

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