

Flow Control Hydrometer

Magnetic Drive with Solenoid Control

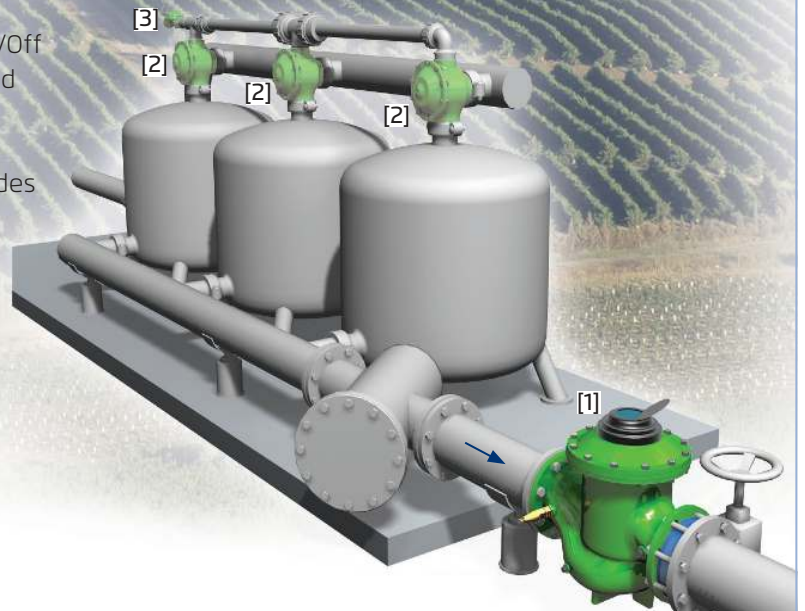
IR-970-M0-55-RV

The BERMAD Model IR-970-M0-55-RV integrates a vertical turbine Woltman-type water meter with a diaphragm actuated hydraulic control valve. As the system's Flow Meter and Main Valve, it controls system irrigation together with the irrigation controller. The BERMAD Hydrometer limits the flow to a constant preset maximum. It either opens or shuts in response to an electric signal.



Features and Benefits

- Integrated "All-in-One" Control Valve
 - Saves space, cost and maintenance
- Line Pressure Driven, Electrically Controlled On/Off
 - Limits fill-up rate and consumer over-demand
- Magnetic Drive with Vacuum-Sealed Register
 - Water-free gear train mechanism
 - Reed-switch and Opto pulse-generating modes
 - Various pulse combinations
- Internal Inlet & Outlet Flow Straighteners
 - Saves on straightening distances
 - Maintains accuracy
- Integrated Flow Metering Calibration Device
- Paddle-Type Hydro-Mechanic Flow Pilot
 - No added head loss
 - Wide setting range
- Simple In-Line Inspection and Service



Typical Applications

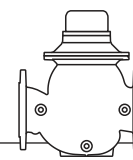
- Computerized Irrigation Systems
- Remote Flow Data Read-Out
- Distanced and/or Elevated Plots
- Flow Monitoring and Leakage Control
- Multiple Independent Consumer Systems
- Line Fill-Up Control
- Irrigation Machines
- Filter Stations

[1] BERMAD Model IR-970-M0-55-RV opens in response to an electric signal, limits fill-up rate and consumer over-demand, and measures flow.

[2] BERMAD Backwash Valve Model IR-3x2 350-A-I

[3] BERMAD Backwash Flow Control Valve Model IR-470-beKU

BERMAD Irrigation



IR-970-MO-55-RV

For full technical details, refer to Engineering Section.

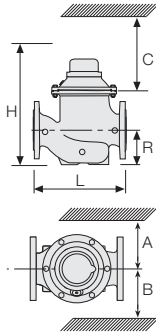
900 Series

Flow Control

Technical Specifications

Dimensions and Weights

Size	DN Inch	80 3	100 4	150 6	200 8	250 10
L	mm	300	350	500	600	600
	inch	11.8	13.8	19.7	23.6	23.6
H	mm	382	447	602	617	617
	inch	15	17.6	23.7	24.3	24.3
C	mm	290	340	450	465	465
	inch	11.4	13.4	17.7	18.3	18.3
R	mm	123	137	216	228	228
	inch	4.8	5.4	8.5	9	9
A; B	mm	305	325	390	390	415
	inch	12	12.8	15.4	15.4	16.3
Weight	kg	23	31	71	93	141
	lb.	57.7	68.3	156.5	205	310.9



Data is for Globe Flanged PN 16, Hydrometer.
For full data, refer to Engineering Section.

Accuracy & Flow Data (ISO 4064-1, Class B)

Size	Accuracy	DN inch	80 3	100 4	150 6	200 & 250 8 & 10
Q min (Minimum flow)	5%	m ³	1.2	1.8	4	6.3
		gpm	5.3	7.9	17.6	27.7
Qn, ISO 4064-1 (Nominal flow)	2%	m ³	40	60	150	250
		gpm	176	264	660	1100
Qper=Q3 (Permanent flow)	2%	m ³	100	160	250	400
		gpm	440	704	1100	1760

Pulse Option

Size	One pulse per	Liter ; Gallon			m ³ ; Gallon	
		1; 0.1	10; 1	100; 10	1; 100	10; 1000
3-4"; DN80-100	■			▲	▲	
	■			▲	▲	
6-10"; DN150-250	■			▲	▲	
	■			▲	▲	

▲ R.S. = Reed-Switch ■ O.E. = Opto-Electric
Two parallel pulses are transmitted. other pulse rates are available on request.

Technical Data

Patterns and Sizes:

Globe: 3-10"; DN80-250
Angle 90°: 3-8"; DN80-200
Angle 120°: 4"; DN100

End Connections:

Flanged: 3-10"; DN80-250

Pressure Ratings: 16 bar; 232 psi

Minimum Operating Pressure:

0.5 bar; 7 psi

For lower pressure requirements, consult factory

Setting Range: 1-5.0 m/sec; 3.3-16.5 f/sec

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

Materials:

Body and Cover:

Polyester Coated Cast or Ductile Iron

Metal Internals:

St. St. & Glass Fiber Reinforced Nylon

Impeller: Polypropylene

Elastomers: Reinforced NR & NBR

Pivots and Bearings: Tungsten Carbide

Control Accessories: Brass

Tubing and Fittings: Reinforced Plastic and Brass

Solenoid Voltage Range:

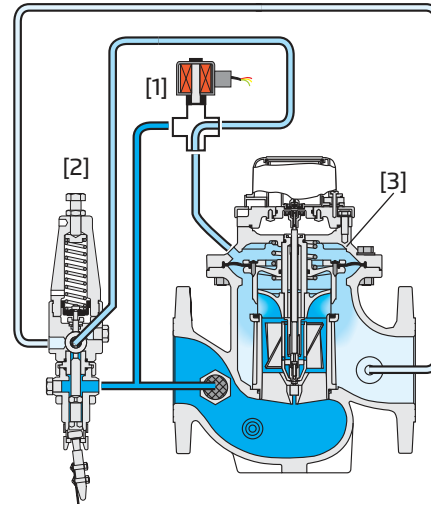
S-390 & S-400: 24 VAC, 24 VDC

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

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

Other voltages available

Operation



The Solenoid [1] hydraulically connects the Flow Pilot [2] to the Hydrometer Control Chamber [3]. The flow pilot commands the Hydrometer to throttle closed should demand rise above pilot setting, and to modulate open when demand drops. In response to an electric signal, the solenoid switches, directing line pressure into the control chamber, and thereby causes the Hydrometer to shut.

How to Order

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

Sector	Size	Primary Feature	Control Categories	Additional Feature	Pattern	Construction Materials	End Connections	Coating	Voltage & Position	Tubing & Fittings	Dial Capacity	Pulse Rate	Additional Attributes
IR	3-10"	970	MO	55	G	I	16	PG	4AC	PB	WAT	R23	RV
Other sizes available on request. Globe G Angle A 120° (4"; DN100 only) H ISO-16 16 ISO-10 10 ISO-14 (ISO-10/4 Holes) 14 ANSI-125 A1 JIS-10 J1 BST-D BD		9VDC – Latch 12VDC – Latch 24VDC – N.C. 24VDC – N.O. 24VAC – N.C. 24VAC – N.O.	9DS 1DS 4DC 4DC 4AC 4AO	9VDC – 12VDC – 24VDC – 24VDC – 24VAC – 24VAC – 24VAC, Lightning Proof –N.C. 24VAC, Lightning Proof –N.O. O.E.+R.S. 10 Lit+1 m ³ R.S. No Pulse	Latch Latch N.C. N.O. N.C. N.O. 4R0 R.S. O.E.+R.S. RNP R.S.	9DS 1DS 4DC 4DC 4AC 4AO 4RC 4R0 R.S. O.E.+R.S.	10 Gal 100 Gal 1000 Gal 10+100 Gal 100+1000 Gal 0.1 Gal 1 Gal 0.1+10 Gal 1+100 Gal No Pulse Gal	RG4 RG5 RG6 G45 G56 PG2 PG3 P4G P5G RNG	Plastic Tubing & Brass Fittings Copper Tubing & Brass Fittings	PB CB	Metal Control Accessories Paddle Flow Control Pilot Homologation Approved	R V L	

R.S. = Reed-Switch O.E. = Opto-Electric

Other attributes available on request



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