

Hydrometer

**Magnetic Drive
with Solenoid Control**

IR-910-M0-RX

The BERMAD Hydrometer with Solenoid Control integrates a vertical turbine Woltman-type water meter with a diaphragm actuated hydraulic control valve. The impeller drive is magnetically coupled to a vacuum-sealed meter register in the control head. As the system's Flow Meter and Main Valve, it controls system irrigation together with the irrigation controller. The BERMAD Model IR-910-M0-RX opens and shuts in response to an electric signal.



Features and Benefits

- Integrated "All-in-One" Control Valve
 - Saves space, cost and maintenance
- Hydraulic Hydrometer with Solenoid Control
 - Line pressure driven
 - Electrically controlled On/Off
- 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
 - Precise measurement
- User-Friendly Design
 - Simple in-line inspection and service

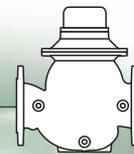


Typical Applications

- Computerized Irrigation Systems
- Distribution Centers
- Remote and/or Elevated Systems
- Remote Flow Fata Read-Out
- Flow Monitoring & Leakage Control
- Water Treatment Systems
- Irrigation Machines

- [1] BERMAD Model IR-910-M0-RX opens in response to an electric signal, measuring the flow.
- [2] BERMAD Pressure Reducing Valve Model IR-420
- [3] BERMAD Relief Valve Model IR-43Q
- [4] BERMAD Air Valve Model ARC-A-I-I

BERMAD Irrigation



IR-910-MO-RX

For full technical details, refer to Engineering Section.

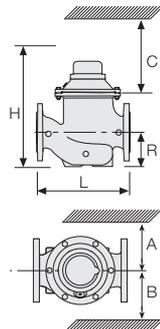
900 Series

On/Off 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



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

Size	Accuracy	DN inch	80 3	100 4	150 6	200 & 250 8 & 10
Q min (Minimum flow)	5%	m ³ gpm	1.2 5.3	1.8 7.9	4 17.6	6.3 27.7
Qn, ISO 4064-1 (Nominal flow)	2%	m ³ gpm	40 176	60 264	150 660	250 1100
Qper=Q3 (Permanent flow)	2%	m ³ gpm	100 440	160 704	250 1100	400 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 Rating: 16 bar; 232 psi

Minimum Operating Pressure: 0.5 bar; 7 psi

For lower pressure requirements, consult factory

Materials:

Body and Cover:

Polyester Coated Cast or Ductile Iron

Internals:

Stainless Steel & Glass Fiber Reinforced Nylon

Impeller: Polypropylene

Elastomers:

Reinforced NR Diaphragm & NBR (Buna-N) Seals

Pivots and Bearings: Tungsten Carbide

Control Head: Plastic, Brass, Stainless Steel

Control Accessories: Brass

Tubing and Fittings: Reinforced Plastic and Brass

Solenoid Voltage Range:

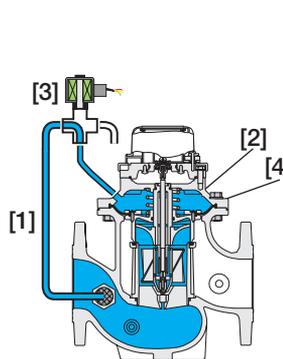
S-390 & S-400: 24 VAC, 24 VDC

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

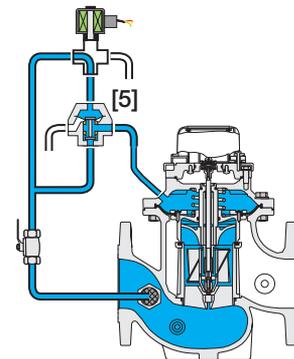
S-982 & S-985: 12-50 VDC, Latch

Other Voltages available. For full electrical data, refer to Accessories Section.

Operation



Size Range 3 - 4"



Size Range 6 - 10"

Line Pressure [1] is applied to the Control Chamber [2] through the opened 3-Way Solenoid [3]. This creates superior closing force that moves the Diaphragm Assembly [4] toward a closed position. Closing the quickens solenoid causes it to discharge pressure from the Hydrometer control chamber opening it.

For Hydrometers of 6-10"; DN150-250 diameter, a 3-Way Hydraulic Relay Valve (3W-HRV) [5] accelerates Hydrometer response.

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"	910	MO	00	G	I	16	PG	4AC	PB	WAT	R23	RX
Other sizes available on request.													
Globe	G	9VDC -	Latch	9DS	R.S.	100 Lit	R02	R.S.	10 Gal	RG4	Metal Control Accessories		R
Angle	A	12VDC -	Latch	1DS	R.S.	1 m ³	R03	R.S.	100 Gal	RG5	3-Way Control		X
120 (4"; DN100 only)	H	24VDC -	N.C.	4DC	R.S.	10 m ³	R04	R.S.	1000 Gal	RG6	Homologation Approved		L
		24VDC -	N.O.	4DC	R.S.	100 Lit +1 m ³	R23	R.S.	10+100 Gal	G45	Other attributes available on request		
		24VAC -	N.C.	4AC	R.S.	1 m ³ +10 m ³	R34	R.S.	100+1000 Gal	G56			
ISO-16	16	24VAC -	N.O.	4AO	O.E.	1 Lit	P01	O.E.	0.1 Gal	PG2			
ISO-10	10	24VAC, Lightning Proof -	N.C.	4RC	O.E.	10 Lit	P10	O.E.	1 Gal	PG3			
ISO-14 (ISO-10/4 Holes)	14	24VAC, Lightning Proof -	N.O.	4RO	O.E.+R.S.	1+100 Lit	PQ1	O.E.+R.S.	0.1+10 Gal	P4G			
ANSI-125	A1				O.E.+R.S.	10 Lit+1 m ³	P13	O.E.+R.S.	1+100 Gal	P5G			
JIS-10	J1	Plastic Tubing & Brass Fittings			R.S.	No Pulse	RNP	R.S.	No Pulse Gal	RNG			
BST-D	BD	Copper Tubing & Brass Fittings			PB								
					CB								



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