Flow Control Hydrometer

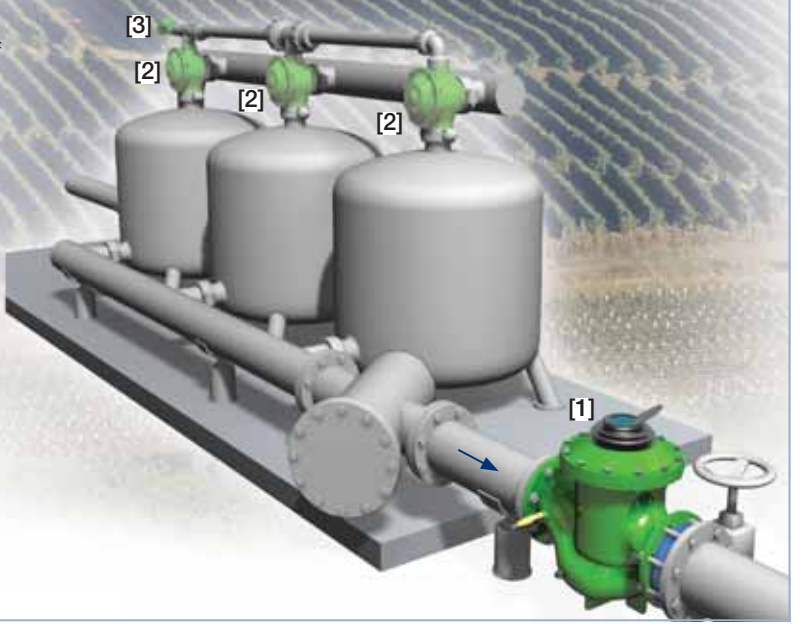
Magnetic Drive with Solenoid Control

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

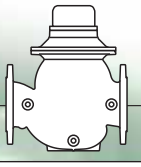


Typical Applications

- 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, limitis 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-M0-55-RV

900 Series

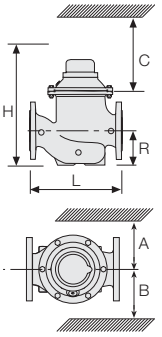
Flow Control

For full technical details, refer to Engineering Section.

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	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

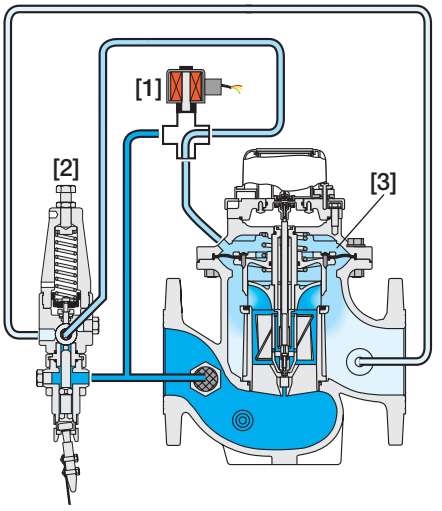
Pulse Option

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 parllel pulses are transmitted. other pulse rates are avaiable on request.

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.

Technical Data

Patterns and Sizes:
Globe: 3-10"; DN80-250
Angle 90º: 3-8"; DN80-200
Angle 120º: 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

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	Additonal Attributes
IR	3-10"	970	M0	55	G	I	16	PG	4AC	PB	WAT	R23	RV

Other sizes available on request.

Globe	G
Angle	A
120º (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	9DS
12VDC –	Latch	1DS
24VDC –	N.C.	4DC
24VDC –	N.O.	4DC
24VAC –	N.C.	4AC
24VAC –	N.O.	4AO

Other electrical ratings are available.

9VDC –	Latch	9DS	10 Gal	RG4
12VDC –	Latch	1DS	100 Gal	RG5
24VDC –	N.C.	4DC	1000 Gal	RG6
24VDC –	N.O.	4DC	10+100 Gal	G45
24VAC –	N.C.	4AC	100+1000 Gal	G56
24VAC –	N.O.	4AO	0.1 Gal	PG2
24VAC, Lightning Proof –	N.C.	4RC	1 Gal	PG3
24VAC, Lightning Proof –	N.O.	4RO	R.S. 0.1+10 Gal	P4G
O.E.+R.S. 10 Lit+1 m^3		P13	O.E.+R.S. 1+100 Gal	P5G
R.S. No Pulse		RNP	R.S. No Pulse Gal	RNG

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

Plastic Tubing & Brass Fittings	PB
Copper Tubing & Brass Fittings	CB

Metal Control Accessories	R
Paddle Flow Control Pilot	V
Homologation Approved	L

Other attributes available on request

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