Flow Control Hydrometer

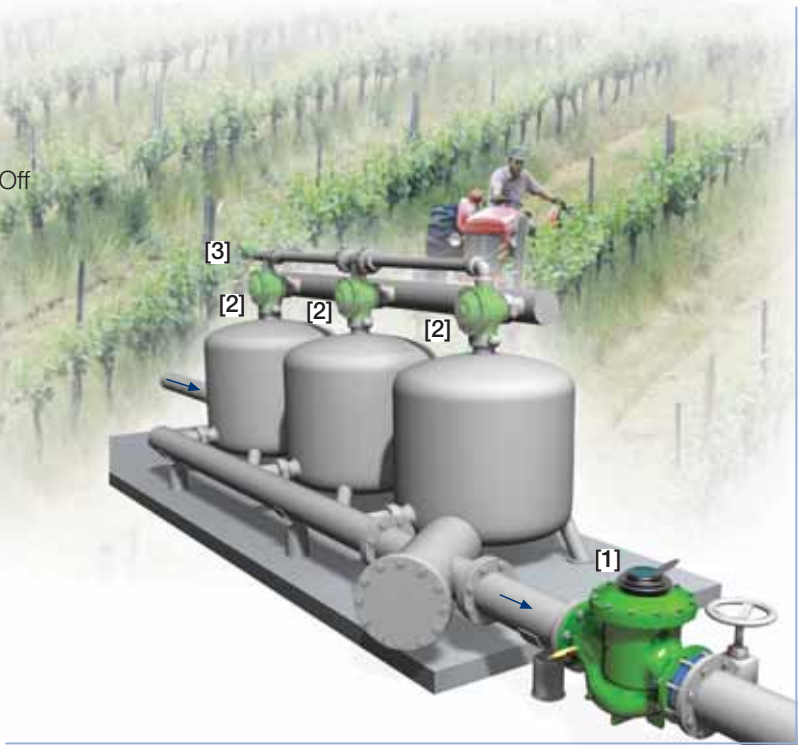
Magnetic Drive with Hydraulic Control

IR-970-M0-50-RVZ

The BERMAD Model IR-970-M0-50-RVZ 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 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 pressure commands.

Features and Benefits

- Integrated "All-in-One" Control Valve
  - Saves space, cost and maintenance
- Line Pressure Driven, Hydraulically 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
- User-Friendly Design
  - Easy Flow Setting
  - Simple in-line inspection and service

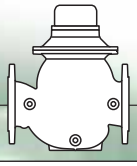


Typical Applications

- Computerized Irrigation Systems
- Flow Monitoring and Leakage Control
- Multiple Independent Consumer Systems
- Line Fill-Up Control
- Irrigation Machines
- Filter Stations

[1] BERMAD Model IR-970-M0-55-RVZ opens in response to an electric signal limiting fill-up rate and consumer over demand.
[2] BERMAD Backwash Valve Model IR-3x2-350-A-I
[3] BERMAD Backwash Flow Control Valve Model IR-470-beKU

BERMAD Irrigation



IR-970-M0-50-RVZ

900 Series

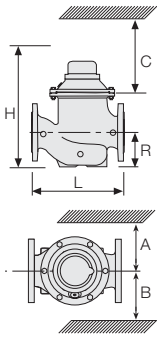
Flow Control

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.

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

Flow Setting Range:
1.0-5.0 m/sec; 3.3-16.5f/sec
Setting ranges vary according to specific pilot spring. Please consult factory.

Materials:

Body and Cover:
Polyester Coated Cast or Ductile Iron

Internals:
St. St. & Glass Fiber Reinforced Nylon

Impeller: Polypropylene

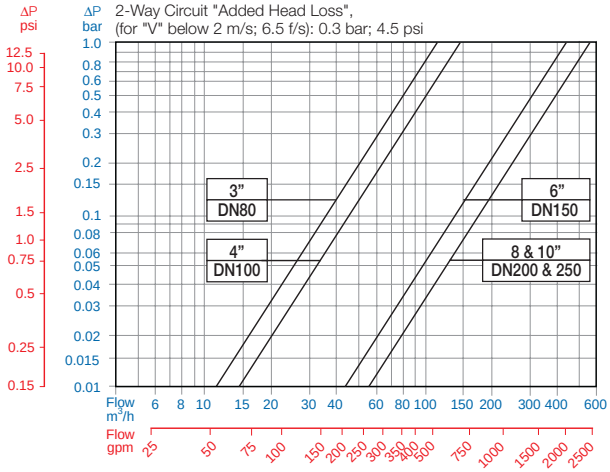
Elastomers: Reinforced NR & NBR

Pivots and Bearings: Tungsten Carbide

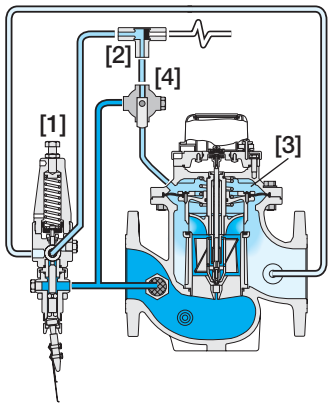
Control Accessories: Brass

Tubing and Fittings:
Reinforced Plastic and Brass

Flow Chart



Operation



The Flow Pilot **[1]** commands the Hydrometer to throttle closed should demand rise above pilot setting, and to modulate open when demand drops. The Shuttle Valve **[2]** directs the pilot command into the Hydrometer Control Chamber **[3]**. Upon pressure rise command, the shuttle valve automatically switches, allowing pressurization of the control chamber, which causes the Hydrometer to shut.
The Manual Selector **[4]** enables local manual closing.

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	50	G	I	16	PG	-	PB	WAT	R23	RVZ

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

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

R.S.	100 Lit	R02	R.S.	10 Gal	RG4
R.S.	1 m^3	R03	R.S.	100 Gal	RG5
R.S.	10 m^3	R04	R.S.	1000 Gal	RG6
R.S.	100 Lit +1 m^3	R23	R.S.	10+100 Gal	G45
R.S.	1 m3+10 m^3	R34	R.S.	100+1000 Gal	G56
O.E.	1 Lit	P01	O.E.	0.1 Gal	PG2
O.E.	10 Lit	P10	O.E .	1 Gal	PG3
O.E.+R.S.	1+100 Lit	PQ1	O.E.+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

Metal Control Accessories	R
Paddle Flow Control Pilot	V
Manual Selector	Z

Other attributes available on request

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