

Flow Control and Pressure Reducing Hydrometer

Magnetic Drive with Hydraulic Control

IR-972-M0-50-RV

The BERMAD Model IR-972-M0-50-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 irrigation together with the irrigation controller. The BERMAD Hydrometer limits the flow and downstream pressure to a constant preset maximum. It either opens or shuts in response to remote pressure commands.



Features and Benefits

- Integrated "All-in-One" Control Valve
 - Saves space, cost and maintenance
- Hydraulic Flow, Pressure and On/Off Control
 - Limits fill-up rate and consumer over-demand
 - Protects downstream systems
- Magnetic Drive with Vacuum-Sealed Register
 - Water-free gear train mechanism
 - Reed-switch and Opto pulse-generating modes
 - Various pulse options
- 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

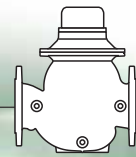


Typical Applications

- Computerized Irrigation Systems
- Remote and/or Elevated Plots
- Flow Monitoring and Leakage Control
- Multiple Independent Consumer Systems
- Line Fill-Up Control
- Pressure Reducing Stations
- Irrigation Machines

- [1] BERMAD Model IR-972-M0-50-RV opens upon pressure drop command, limits fill-up rate and consumers over-demand, and establishes reduced pressure zone.
- [2] BERMAD Pressure Reducing & Flow Control Hydrometer Model IR-972-M0-50-RV (3"R; DN80R and smaller)
- [3] BERMAD N.C. Main Valve Model IR-405-R
- [4] BERMAD Strainer Model 70F
- [5] BERMAD Air Valve Model ARC-A-I-I

BERMAD Irrigation



IR-972-MO-50-RV

For full technical details, refer to Engineering Section.

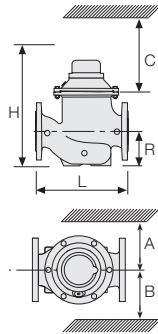
900 Series

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



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 Ratings: 16 bar; 232 psi

Minimum Operating Pressure:

0.5 bar; 7 psi

For lower pressure requirements, consult factory

Setting Range: 1-10 bar; 15-145 psi

Flow Setting Range:

1.0-5.0 m/sec; 3.3-16.5 f/sec

Materials:

Body and Cover:

Polyester Coated Cast or Ductile Iron

Internals:

St. St. & Glass Fiber Reinforced Nylon

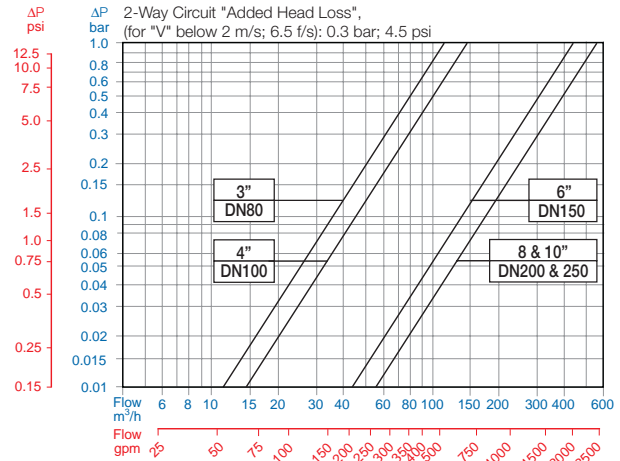
Impeller: Polypropylene

Elastomers: Reinforced NR & NBR

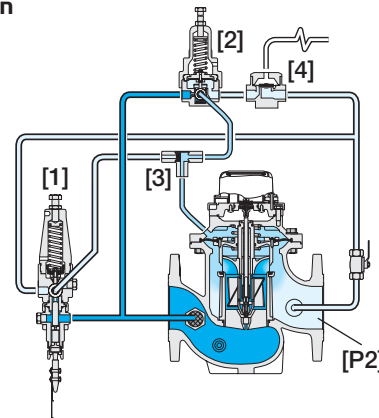
Pivots and Bearings: Tungsten Carbide

Control Accessories: Brass

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 Pressure Reducing Pilot [2] controls the Hydrometer, preventing Downstream Pressure [P2] from rising above pilot setting. The Shuttle Valve [3] directs the pilots commands into the Hydrometer control chamber. The Hydraulic Relay Valve [4] closes upon command pressure rise, causing 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"	972	MO	50	G	I	16	PG	-	PB	WAT	R23	RV
Other sizes available on request.													
Globe	G	Plastic Tubing & Brass Fittings		PB	R.S.	100 Lit	R02	R.S.	10 Gal	RG4	Metal Control Accessories		R
Angle	A	Copper Tubing & Brass Fittings		CB	R.S.	1 m ³	R03	R.S.	100 Gal	RG5	Paddle Flow Control Pilot		V
120° (4"; DN100 only)	H				R.S.	10 m ³	R04	R.S.	1000 Gal	RG6	Homologation Approved		L
ISO-16	16				R.S.	100 Lit +1 m ³	R23	R.S.	10+100 Gal	G45	Other attributes available on request		
ISO-10	10				R.S.	1 m ³ +10 m ³	R34	R.S.	100+1000 Gal	G56			
ISO-14 (ISO-10/4 Holes)	14				O.E.	1 Lit	P01	O.E.	0.1 Gal	PG2			
ANSI-125	A1				O.E.	10 Lit	P10	O.E.	1 Gal	PG3			
JIS-10	J1				O.E.+R.S.	1+100 Lit	PQ1	O.E.+R.S.	0.1+10 Gal	P4G			
BST-D	BD				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



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