

Pressure Reducing and Sustaining Hydrometer

**Magnetic Drive
with Hydraulic Control**

IR-923-M0-50-R

The BERMAD Model IR-923-M0-50-R 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 sustains the preset minimum upstream pressure; reduces downstream pressure to a constant preset maximum, and either opens or shuts in response to remote pressure commands.



Features and Benefits

- Integrated "All-in-One" Control Valve
 - Saves space, cost and maintenance
- Line Pressure Driven, Hydraulically Controlled On/Off
 - Protects downstream system
 - Prioritizes pressure zones
 - Controls system fill-up
- 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
- User-Friendly Design
 - Simple in-line inspection and service



Typical Applications

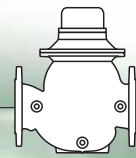
- Computerized Irrigation Systems
- Flow Monitoring & Leakage Control
- Line Fill-Up Control
- Line Emptying Prevention
- Pressure Reducing Stations
- Filter Stations
- Irrigation Machines

[1] BERMAD Model IR-923-M0-50-R opens upon pressure drop command, sustains filters back flush pressure and establishes reduced pressure zone.

[2] BERMAD Relief Valve Model IR-43Q-R

[3] BERMAD N.C. Main Valve Model IR-405-54-R

BERMAD Irrigation



IR-923-M0-50-R

For full technical details, refer to Engineering Section.

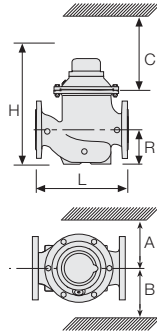
900 Series

Pressure Reducing

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
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:

Reducing: 1-10 bar; 15-145 psi

Sustaining: 1-16 bar; 15-232 psi

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

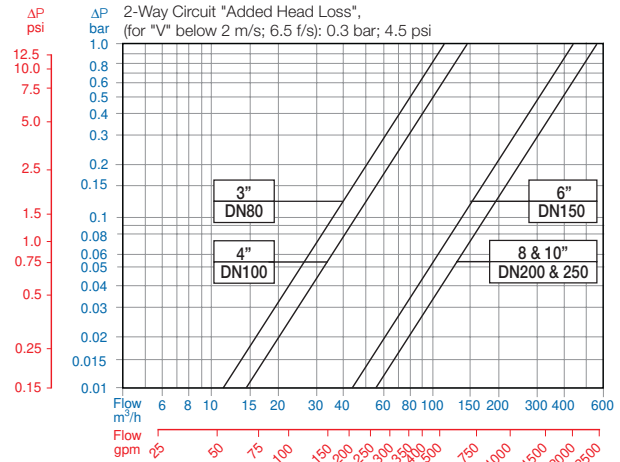
Pivots and Bearings: Tungsten Carbide

Control Accessories: Brass

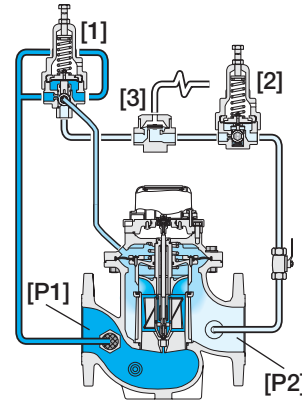
Tubing and Fittings:

Reinforced Plastic and Brass

Flow Chart



Operation



The Pressure Sustaining pilot [1] commands the Hydrometer to throttle closed should Upstream Pressure [P1] drop below pilot setting, and modulate open when [P1] rises above it. When [P1] is high, the Pressure Reducing Pilot [2] commands the Hydrometer to prevent Downstream Pressure [P2] from rising above pilot setting. The Hydraulic Relay Valve [3] closes upon pressure rise command, shutting the Hydrometer.

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"	923	M0	50	G"	I	16	PG	-	PB	WAT	R23	R
Globe Angle 120 (4"; DN100 only)		G A H	Plastic Tubing & Brass Fittings Copper Tubing & Brass Fittings		PB CB	R.S. 100 Lit R.S. 1 m ³ R.S. 10 m ³ R.S. 100 Lit + 1 m ³ R.S. 1 m ³ +10 m ³ O.E. 1 Lit O.E. 10 Lit O.E.+R.S. 1+100 Lit O.E.+R.S. 10 Lit+1 m ³ R.S. No Pulse	R02 R03 R04 R23 R34 P01 P10 PQ1 P13 RNP	R.S. 10 Gal R.S. 100 Gal R.S. 1000 Gal R.S. 10+100 Gal R.S. 100+1000 Gal O.E. 0.1 Gal O.E. 1 Gal O.E.+R.S. 0.1+10 Gal O.E.+R.S. 1+100 Gal R.S. No Pulse Gal	RG4 RG5 RG6 G45 G56 PG2 PG3 P4G P5G RNG	Metal Control Accessories Homologation Approved Other attributes available on request	R L		
ISO-16		16											
ISO-10		10											
ISO-14 (ISO-10/4 Holes)		14											
ANSI-125		A1											
JIS-10		J1											
BST-D		BD											

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



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