

Pressure Reducing and Sustaining Hydrometer

**Magnetic Drive
with Solenoid Control**

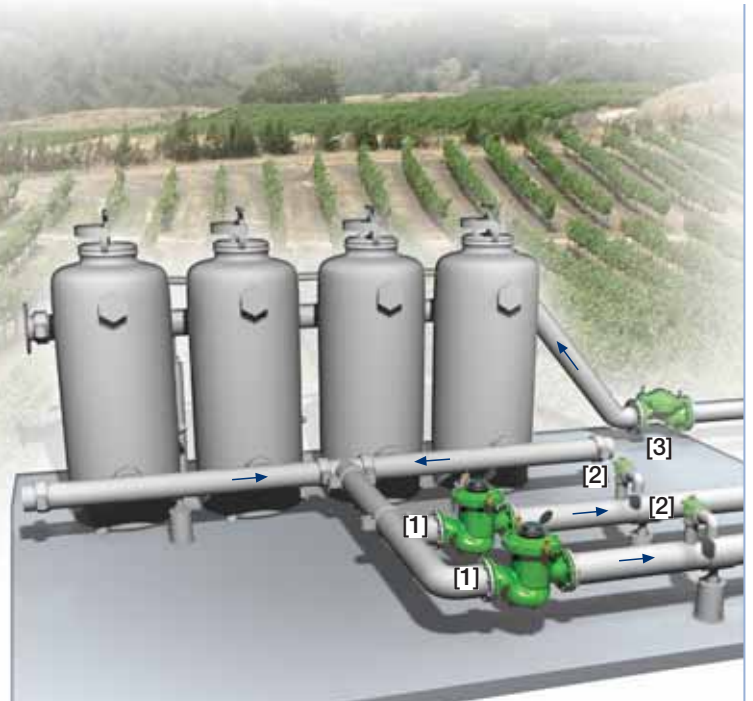
IR-923-M0-55-R

The BERMAD Model IR-923-M0-55-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 an electric signal.



Features and Benefits

- Integrated "All-in-One" Control Valve
 - Saves space, cost and maintenance
- Line Pressure Driven, Electrically Controlled On/Off
 - Protects downstream systems
 - 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

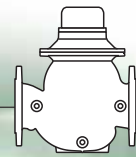
- Computerized Irrigation Systems
- Remote and/or Elevated Plots
- Flow Monitoring & Leakage Control
- Line Fill-Up Control
- Line Emptying Prevention
- Pressure Reducing Stations
- Filter Stations
- Irrigation Machines

[1] BERMAD Model IR-923-M0-55-R opens in response to an electric signal, 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-MO-55-R

For full technical details, refer to Engineering Section.

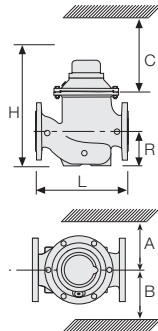
900 Series

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 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	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:

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.

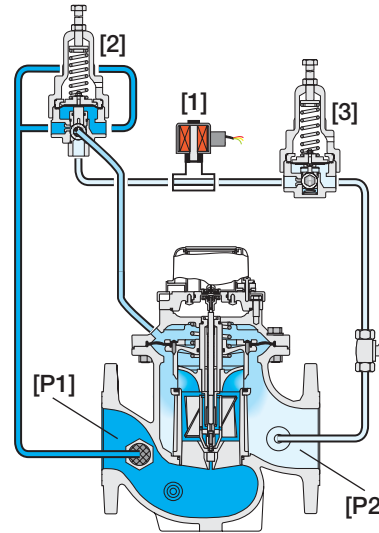
Materials:

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

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

Operation



Opening the Solenoid [1] opens the Hydrometer, which continuously transmits flow data to the irrigation controller. The Pressure Sustaining pilot [2] commands the Hydrometer to throttle closed should Upstream Pressure [P1] drop below pilot setting, and to modulate open when [P1] rises above it. When [P1] is high, the Pressure Reducing Pilot [3] commands the Hydrometer to prevent Downstream Pressure [P2] from rising above pilot setting. Closing the solenoid causes 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"	923	MO	55	G"	I	16	PG	4AC	PB	WAT	R23	R
Other sizes available on request.													
Globe	G	9VDC -	Latch	9DS	R.S.	100 Lit	R02	R.S.	10 Gal	RG4	Metal Control Accessories Homologation Approved	R	L
Angle	A	12VDC -	Latch	1DS	R.S.	1 m ³	R03	R.S.	100 Gal	RG5			
120 (4"; DN100 only)	H	24VDC -	N.C.	4DC	R.S.	10 m ³	R04	R.S.	1000 Gal	RG6	Other attributes available on request		
		24VAC -	N.C.	4AC	R.S.	100 Lit +1 m ³	R23	R.S.	10+100 Gal	G45			
ISO-16	16	24VAC, Lightning Proof -	N.C	4RC	R.S.	1 m ³ +10 m ³	R34	R.S.	100+1000 Gal	G56			
ISO-10	10	Other electrical ratings are available.											
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	Plastic Tubing & Brass Fittings		PB	O.E.+R.S.	1+100 Lit	PQ1	O.E.+R.S.	0.1+10 Gal	P4G			
BST-D	BD	Copper Tubing & Brass Fittings		CB	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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