

# Pressure Reducing Hydrometer

**Magnetic Drive  
with Solenoid Control**

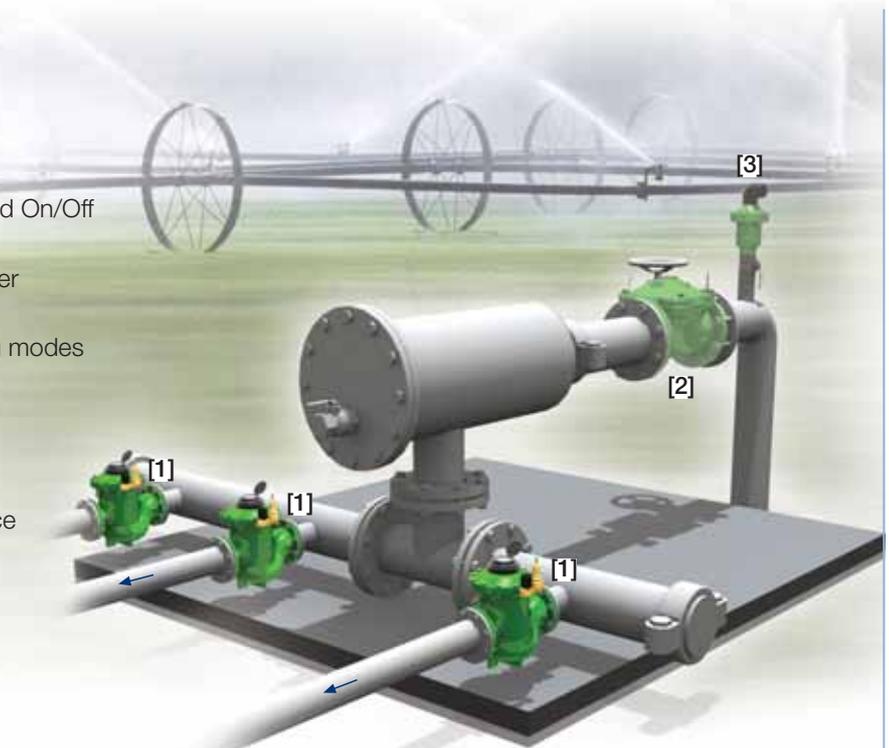
**IR-920-M0-55-R**

The BERMAD Model IR-920-M0-55-R integrates a vertical turbine Woltman-type water meter and 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 reduces downstream pressure 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
  - Protects downstream systems
- 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
  - Precise measurement
- User-Friendly Design
  - Easy pressure setting
  - Simple in-line inspection and service



## Typical Applications

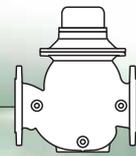
- Computerized Irrigation Systems
- Remote Flow Data Read-Out
- Flow Monitoring & Leakage Control
- Remote and/or Elevated Plots
- Pressure Reducing Systems
- Distribution Centers
- Irrigation Machines

[1] BERMAD Model IR-920-M0-55-R opens in response to an electric signal, establishing reduced pressure zones and measuring the flow.

[2] BERMAD Solenoid Controlled Main Valve Model IR-410-R

[3] BERMAD Air Valve Model ARC-A-I-I

# BERMAD Irrigation



## IR-920-M0-55-R

For full technical details, refer to Engineering Section.

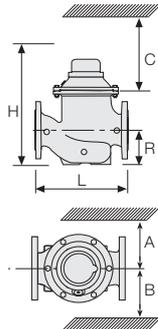
## 900 Series

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 <sup>3</sup> gpm	1.2 5.3	1.8 7.9	4 17.6	6.3 27.7
Qn, ISO 4064-1 (Nominal flow)	2%	m <sup>3</sup> gpm	40 176	60 264	150 660	250 1100
Qper=Q3 (Permanent flow)	2%	m <sup>3</sup> gpm	100 440	160 704	250 1100	400 1760

#### Pulse Option

Size	One pulse per	Liter ; Gallon		m <sup>3</sup> ; 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

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 Diaphragm & NBR (Buna-N) Seals

Pivots and Bearings: Tungsten Carbide

Control Accessories: Brass

Tube and Fittings: Reinforced Plastic and Brass

#### Solenoid Voltage Range:

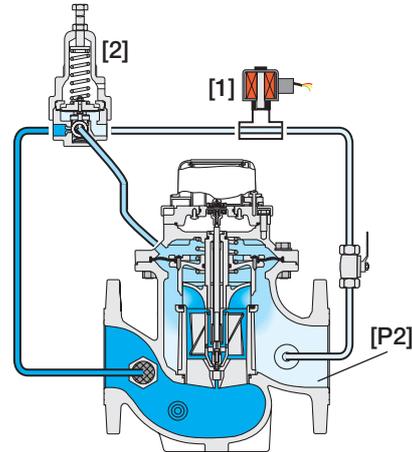
S-390 & S-400: 24 VAC, 24 VDC

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 Reducing Pilot [2] commands the Hydrometer to throttle closed should Downstream Pressure [P2] rise above setting, and modulate open when it drops below 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"	920	M0	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		R
Angle	A	12VDC -	Latch	1DS	R.S.	1 m <sup>3</sup>	R03	R.S.	100 Gal	RG5	Homologation Approved		L
120 (4"; DN100 only)	H	24VDC -	N.C.	4DC	R.S.	10 m <sup>3</sup>	R04	R.S.	1000 Gal	RG6	Other attributes available on re.request		
		24VDC -	N.O.	4DC	R.S.	100 Lit +1 m <sup>3</sup>	R23	R.S.	10+100 Gal	G45			
		24VAC -	N.C.	4AC	R.S.	1 m <sup>3</sup> +10 m <sup>3</sup>	R34	R.S.	100+1000 Gal	G56			
ISO-16	16	24VAC -	N.O.	4AO	O.E.	1 Lit	P01	O.E.	0.1 Gal	PG2			
ISO-10	10	24VAC, Lightning Proof - N.C.	4RC	O.E.	O.E.	10 Lit	P10	O.E.	1 Gal	PG3			
ISO-14 (ISO-10/4 Holes)	14	24VAC, Lightning Proof - N.O.	4RO	O.E.+R.S.	O.E.+R.S.	1+100 Lit	PQ1	O.E.+R.S.	0.1+10 Gal	P4G			
ANSI-125	A1				O.E.+R.S.	10 Lit+1 m <sup>3</sup>	P13	O.E.+R.S.	1+100 Gal	P5G			
JIS-10	J1	Plastic Tubing & Brass Fittings		PB	R.S.	No Pulse	RNP	R.S.	No Pulse Gal	RNG			
BST-D	BD	Copper Tubing & Brass Fittings		CB									

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



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