

## Hydrometer

with Magnetic Drive

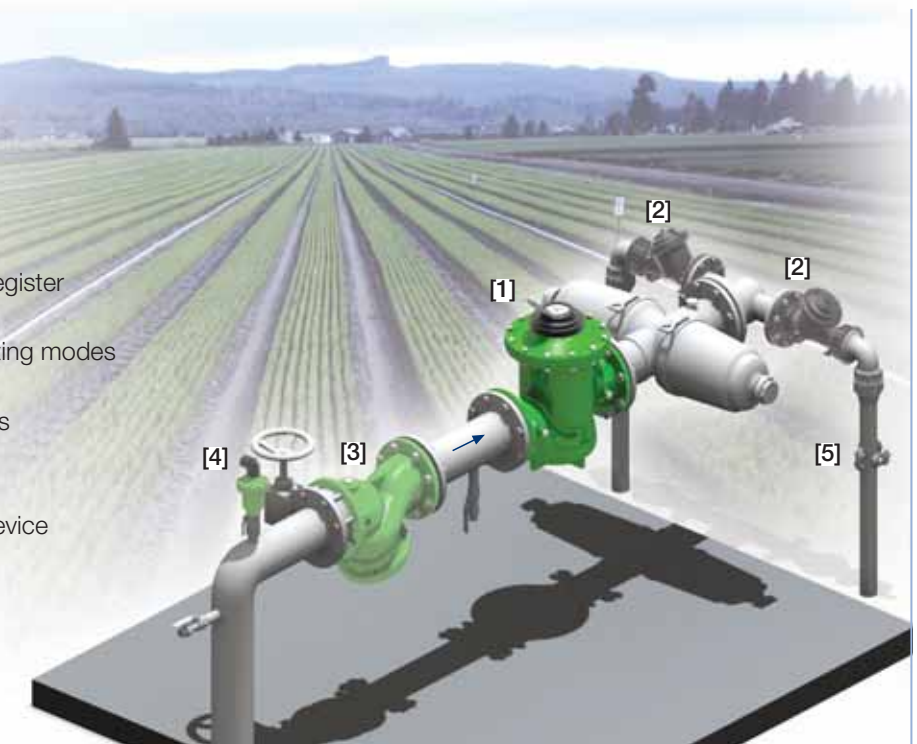
IR-900-M0-Z

The BERMAD Hydrometer with Magnetic Drive integrates a vertical turbine Woltman-type water meter with a diaphragm actuated hydraulic control valve. The impeller drive is magnetically coupled to a vacuum-sealed meter register in the control head. As the system's Flow Meter and Main Valve, it controls system irrigation together with the irrigation controller. The BERMAD Model IR-900-M0-Z opens or shuts in response to remote pressure commands while continuously and accurately transmitting flow data.



### Features and Benefits

- Integrated "All-in-One" Control Valve
  - Saves space, cost and maintenance
- Hydraulically Controlled Hydrometer
  - Line pressure driven
- 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
  - Simple in-line inspection and service

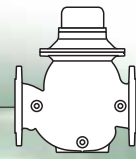


### Typical Applications

- Computerized Irrigation Systems
- Distribution Centers
- Remote Flow Data Read-Out
- Flow Monitoring & Leakage Control
- Water Treatment Systems
- Volumetric Irrigation Systems

- [1] BERMAD Model IR-900-M0-Z, Opens upon local manual command, measuring the flow
- [2] BERMAD On/Off Valve Model IR-105-Z
- [3] BERMAD Strainer Model 70F
- [4] BERMAD Air Valve Model ARA-A-I-I
- [5] BERMAD Vacuum Breaker Model 1/2" - ARV

# BERMAD Irrigation



## IR-900-MO-Z

For full technical details, refer to Engineering Section.

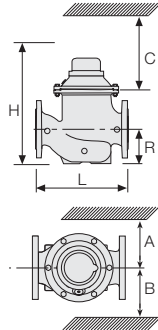
## 900 Series

On/Off Control

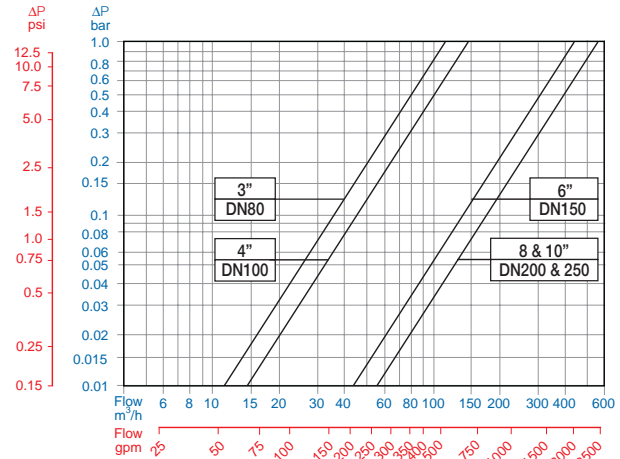
### Technical Specifications

#### 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



#### Flow Chart



#### 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%	m³ gpm	1.2 5.3	1.8 7.9	4 17.6	6.3 27.7
Qn, ISO 4064-1 (Nominal flow)	2%	m³ gpm	40 176	60 264	150 660	250 1100
Qper-Q3 (Permanent flow)	2%	m³ gpm	100 440	160 704	250 1100	400 1760

#### Pulse Option

Size	One pulse per	Liter ; Gallon		m³ ; 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

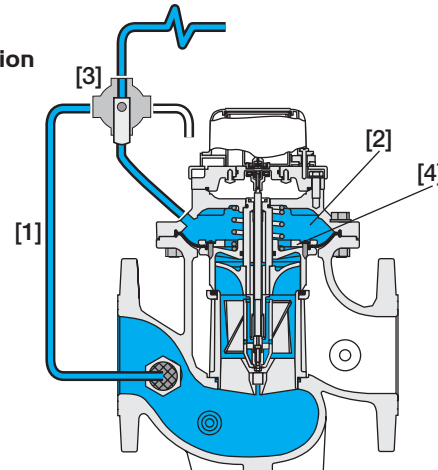
#### End Connections:

Flanged: 3-10"; DN80-250  
**Pressure Rating:** 16 bar; 232 psi  
**Minimum Operating Pressure:** 0.5 bar; 7 psi  
For lower pressure requirements, 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  
**Tubing and Fittings:** Reinforced Plastic and Brass

#### Operation



Line Pressure [1] is applied to the Control Chamber [2], through the Manual Selector [3]. This creates a superior closing force that moves the Diaphragm Assembly [4] toward a closed position. Discharging pressure from the control chamber causes the line pressure acting on the diaphragm assembly to move the Hydrometer to an open position, measuring the flow rate.

### 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"	900	MO	00	G	I	16	PG	-	PB	WAT	R23	Z
Other sizes available on request.		G	Plastic Tubing & Brass Fittings		PB	R.S.	100 Lit	R02	R.S.	10 Gal	RG4	Manual Selector	
Globe	A	Copper Tubing & Brass Fittings		CB	R.S.	1 m³	R03	R.S.	100 Gal	RG5	Homologation Approved		
Angle	H				R.S.	10 m³	R04	R.S.	1000 Gal	RG6	Other attributes available on request		
120 (4"; DN100 only)					R.S.	100 Lit + 1 m³	R23	R.S.	10+100 Gal	G45			
ISO-16	16				R.S.	1 m³+10 m³	R34	R.S.	100+1000 Gal	G56			
ISO-10	10				O.E.	1 Lit	P01	O.E.	0.1 Gal	PG2			
ISO-14 (ISO-10/4 Holes)	14				O.E.	10 Lit	P10	O.E.	1 Gal	PG3			
ANSI-125	A1				O.E.+R.S.	1+100 Lit	PQ1	O.E.+R.S.	0.1+10 Gal	P4G			
JIS-10	J1				O.E.+R.S.	10 Lit+1 m³	P13	O.E.+R.S.	1+100 Gal	P5G			
BST-D	BD				R.S.	No Pulse	RNP	R.S.	No Pulse Gal	RNG			

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



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