

# Pressure Sustaining Hydrometer

**Magnetic Drive  
with Hydraulic Control**

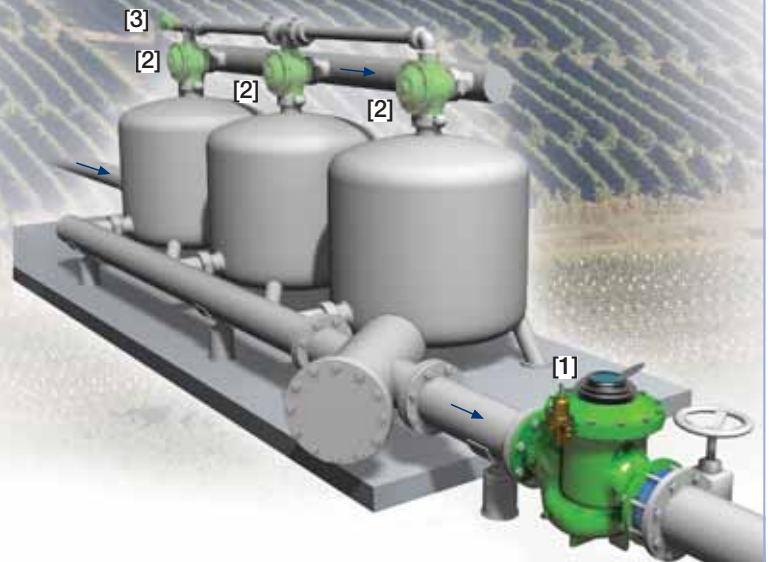
**IR-930-M0-50-R**

The BERMAD Model IR-930-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 minimum preset upstream (back) pressure. 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
- Line Pressure Driven, Hydraulically Controlled On/Off
  - 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
  - Easy pressure setting
  - Simple in-line inspection and service



## Typical Applications

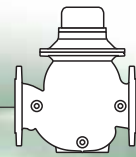
- Computerized Irrigation Systems
- Flow Monitoring & Leakage Control
- Line Fill-Up Control
- Line Emptying Prevention
- Filter Stations
- Irrigation Machines

[1] BERMAD Model IR-930-M0-50-R opens upon pressure drop command, and sustains filters back flush pressure controlling system fill-up.

[2] BERMAD Backwash Valve Model IR-3x2 350-A-I

[3] BERMAD Backwash Flow Control Valve Model IR-470-beKU

# BERMAD Irrigation



## IR-930-M0-50-R

For full technical details, refer to Engineering Section.

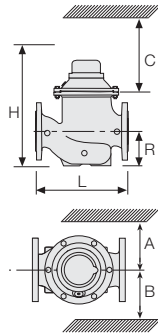
## 900 Series

Pressure Sustaining

### 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

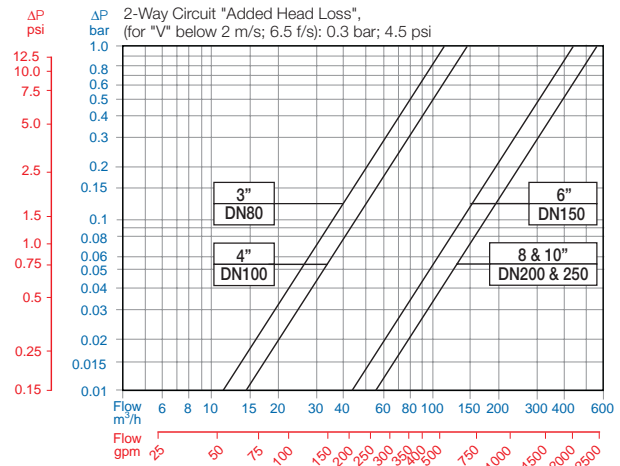
For lower pressure requirements, consult factory

**Setting Range:** 1-16 bar; 15-232 psi  
Setting ranges vary according to specific pilot spring. Please consult factory.

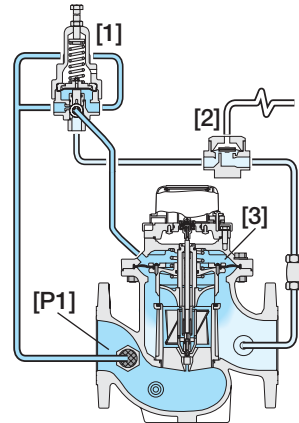
#### Materials:

**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 to modulate open when it rises above pilot setting. The Hydrometer continuously transmits flow data to the irrigation controller. The Hydraulic Relay Valve [2] closes upon pressure rise command. This pressurizes the Control Chamber [3], 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"	930	M0	50	G"	I	16	PG	-	PB	WAT	R23	R
Other sizes available on request.													
Globe	G		Plastic Tubing & Brass Fittings		PB	R.S.	100 Lit	R02	R.S.	10 Gal	RG4		R
Angle	A		Copper Tubing & Brass Fittings		CB	R.S.	1 m <sup>3</sup>	R03	R.S.	100 Gal	RG5		L
120° (4"; DN100 only)	H					R.S.	10 m <sup>3</sup>	R04	R.S.	1000 Gal	RG6		
						R.S.	100 Lit + 1 m <sup>3</sup>	R23	R.S.	10+100 Gal	G45		
						R.S.	1 m <sup>3</sup> +10 m <sup>3</sup>	R34	R.S.	100+1000 Gal	G56		
						O.E.	1 Lit	P01	O.E.	0.1 Gal	PG2		
						O.E.	10 Lit	P10	O.E.	1 Gal	PG3		
						O.E.+R.S.	1+100 Lit	PQ1	O.E.+R.S.	0.1+10 Gal	P4G		
						O.E.+R.S.	10 Lit+1 m <sup>3</sup>	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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