

## Hydrometer

with Magnetic Drive  
Normally Closed with Hydraulic Control

**IR-900-M0-54-KX**

The BERMAD Model IR-900-M0-54-KX integrates a vertical turbine Woltman-type water meter, with a diaphragm actuated hydraulic control valve. Serving as Flow Meter and Main Valve, the BERMAD Hydrometer controls irrigation together with the irrigation controller. It is a Normally Closed Hydrometer, which opens in response to a pressure rise command and shuts in the absence of that command.



### Features and Benefits

- Integrated "All-in-One" Control Valve
  - Saves space, cost and maintenance
- Hydraulically Controlled, Normally Closed Hydrometer
  - Line pressure driven
  - Closes upon control failure
  - Amplifies and relays weak command
  - Hydraulically controlled On/Off
- 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

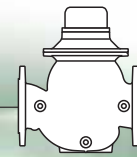


### Typical Applications

- Computerized Irrigation Systems
- Remote/Elevated Systems
- Remote Flow Data Read-Out
- Flow Monitoring and Leakage Control
- Volumetric Irrigation Systems

- [1] BERMAD Model IR-900-M0-54-KX opens upon pressure rise command, measuring flow.
- [2] BERMAD Pressure Reducer Model 015-PRV
- [3] BERMAD On/Off Valve Model 205-Z
- [4] BERMAD Vacuum Breaker Model 1/2"-ARV

# BERMAD Irrigation



## IR-900-MO-54-KX

For full technical details, refer to Engineering Section.

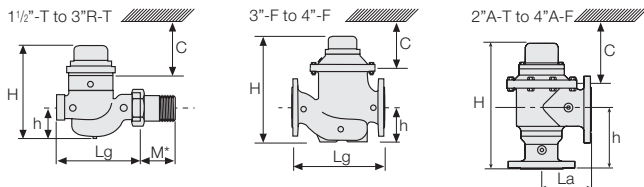
## 900 Series

On/Off Control

### Technical Specifications

#### Dimensions and Weights

Size	DN Inch	40-T 1 1/2-T	50-T 2-T	50A-T 2A-T	80R-T 3R-T	80R-F 4R-F	80-F 3-F	80A-F 3A-F	100-F 4-F	100A-F 4A-F
Lg	mm inch	250 9.8	250 9.8	N.A.	250 9.8	310 12.2	300 11.8	N.A.	350 13.8	N.A.
La	mm inch	N.A.	N.A.	120 4.7	N.A.	N.A.	N.A.	150 5.9	N.A.	180 7.1
H	mm inch	270 10.6	277 10.9	300 11.8	277 10.9	298 11.7	382 15.0	402 15.8	447 17.6	481 18.9
C	mm inch	210 9	210 9	210 9	210 9	225 9	285 11	285 11	365 15	365 15
h	mm inch	95 3.7	95 3.7	125 4.9	79 3.1	100 3.9	123 4.8	196 7.7	137 5.4	225 8.9
M*	mm inch	67 2.6	77 3.0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Weight	Kg lb.	6.8 15	8.8 19.4	8.1 17.4	7.3 16.1	16 35.3	26.0 57.3	25.8 56.2	37.0 81.6	36.1 78.9



#### Accuracy & Flow Data

Size	Accuracy	DN inch	40 1 1/2	50 2	80R 3R	80 3	100 4
ISO 4064-1 Class			A	A	B	B	B
Q min (Minimum flow)	5%	m <sup>3</sup> gpm	0.8 3.5	0.8 3.5	1.2 5.3	1.2 5.3	1.8 7.9
Qn, ISO 4064-1 (Nominal flow)	2%	m <sup>3</sup> gpm	15 66	15 66	17 75	40 176	60 264
Qper=Q3 (Permanent flow)	2%	m <sup>3</sup> gpm	25 110	40 176	40 176	100 440	160 704

#### Pulse Option

Size	One pulse per	Liter ; Gallon			
		1; 0.1	10; 1	100; 10	1000; 100
1 1/2-4"; DN50-100					

▲ R.S. = Reed-Switch    ■ O.E. = Opto-Electric  
Two parallel pulses are transmitted. Other pulse rates are available on request.

### Technical Data

#### End Connections:

Threaded: 1 1/2, 2 & 3"R; DN40, 50 & 80R

Flanged: 3R, 3 & 4"; DN80R, 80 & 100

Pressure Rating: 10 bar; 145 psi

Minimum Operating Pressure: 0.5 bar; 7 psi

For lower pressure requirements, consult factory

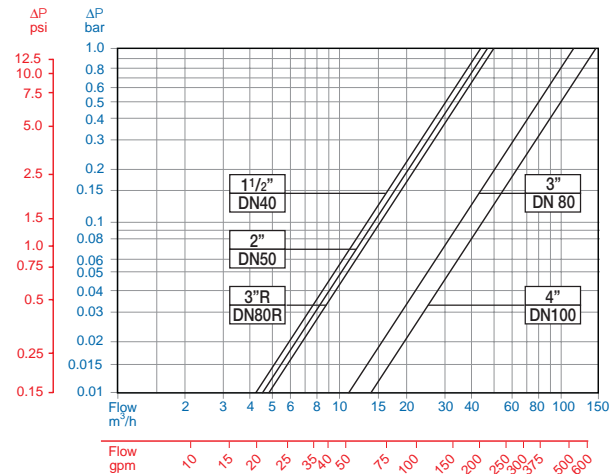
### How to Order

Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

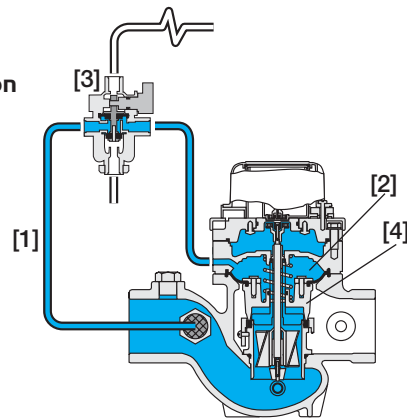
Sector	Size	Primary Feature	Control Categories	Additional Feature	Pattern	Construction Materials	End Connections	Coating	Voltage & Position	Tubing & Fittings	Dial Capacity	Pulse Rate	Additional Attributes
IR	1 1/2-4"	900	MO	54	G	I	BP	PG	-	PP	WAT	R12	KX
Globe Angle 90° 120° (2 1/2 & 4" only)		G A H	Plastic Tubing & Fittings Plastic Tubing & Brass Fittings		PP PB	R.S. 10 Lit R.S. 100 Lit R.S. 1 m <sup>3</sup> R.S. 100 Lit+10 Lit R.S. 1 m3+1100 Lit O.E. 1 Lit O.E. 10 Lit O.E.+R.S. 1+100 Lit O.E.+R.S. 10 Lit+1 m <sup>3</sup> R.S. No Pulse	R01 R02 R03 R12 R23 P01 P10 P01 P13 RNP	R.S. R.S. R.S. R.S. O.E. O.E. O.E.+R.S. O.E.+R.S. R.S.	1 Gal 10 Gal 100 Gal 10+1 Gal 100+10 Gal 0.1 Gal 1 Gal 0.1+10 Gal 1+100 Gal No Pulse Gal	RG3 RG4 RG5 G34 G45 PG2 PG3 P4G P5G RNG	Plastic Control Accessories 3-Way Control Homologation Approved Other attributes available on request	K X L	
BSP (1 1/2, 2 & 3"R only) NPT (1 1/2, 2 & 3"R only) ISO-16 ISO-10 ISO-14 (ISO-10/4 Holes) ANSI-125 JIS-10 BST-D		BP NP 16 10 14 A1 J1 BD											

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

### Flow Chart



### Operation



Line Pressure [1] is applied to the Control Chamber [2] through the held open, 3-Way Hydraulic Relay Valve (3W-HRV) [3]. This creates superior closing force that moves the Diaphragm Assembly [4] to a closed position. Upon pressure rise command, the 3W-HRV switches, releasing pressure from the control chamber. The Hydrometer then opens, measuring the flow. The 3W-HRV also features local manual opening and closing.



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