

## Pressure Reducing Hydrometer, Magnetic Drive

Normally Closed with Hydraulic Control  
for Drip-Tape Applications

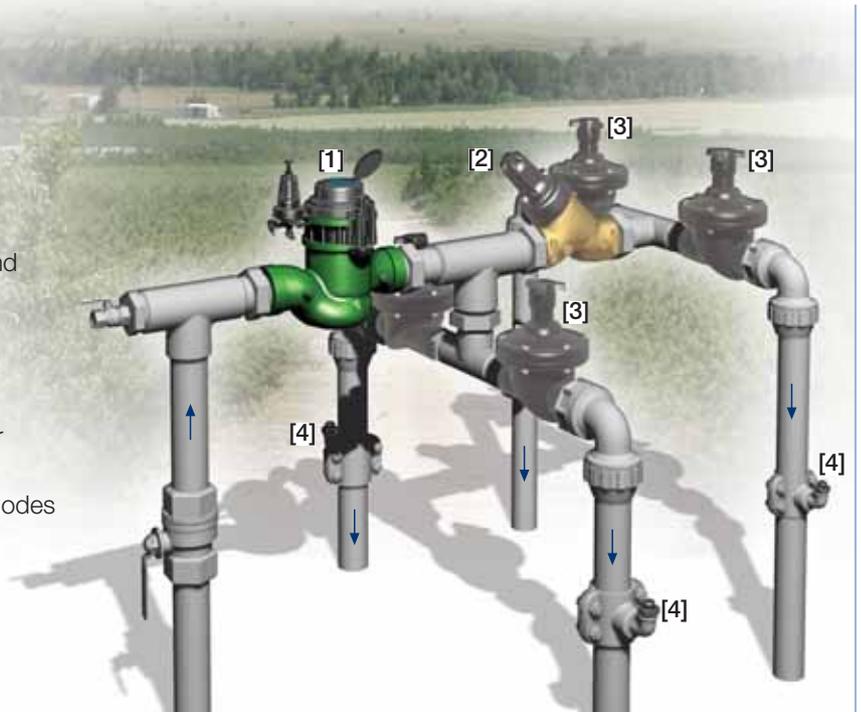
### IR-920-M0-54-bK

The BERMAD Model IR-920-M0-54-bK integrates a vertical turbine Woltman-type water meter with a diaphragm actuated hydraulic control valve. Serving as Flow Meter and Main Valve, it controls irrigation together with the irrigation controller. The BERMAD Hydrometer accurately reduces higher upstream pressure to very low and stable preset downstream pressure. It is a Normally Closed Hydrometer that opens in response to a remote 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
- Line Pressure Driven, Normally Closed
  - Protects downstream systems
  - Closes upon control failure
  - Amplifies and relays weak remote command
- Pressure Reducing Servo Pilot Controlled
  - Dynamic integrated needle valve
  - Settable to 0.5 bar; 7 psi
  - Very low hysteresis
- 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
- Simple In-Line Inspection and Service

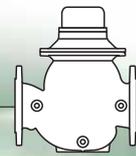


### Typical Applications

- Computerized Irrigation Systems
- Flow Monitoring & Leakage Control
- Remote and/or Elevated Plots
- Drip-Tape Systems
- Low Set Pressure Applications
- Distribution Centers

- [1] BERMAD Model IR-920-M0-54-bK opens upon pressure rise command, reduces pressure to higher pressure zone, and measures 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-920-M0-54-bK

For full technical details, refer to Engineering Section.

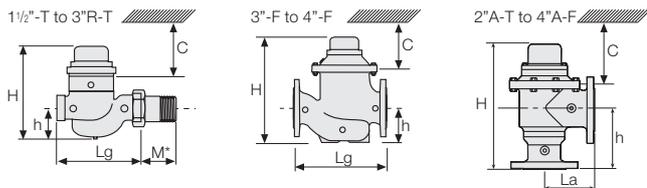
## 900 Series

Pressure Reducing  
Drip-Tape

### 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
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

**Pressure Rating:** 16 bar; 232 psi  
**Minimum Operating Pressure:** 0.5 bar; 7 psi  
 For lower pressure requirements, consult factory  
**Setting Range:** 0.5-1.7 bar; 7-25 psi  
 Setting ranges vary according to specific pilot spring. Please consult factory.

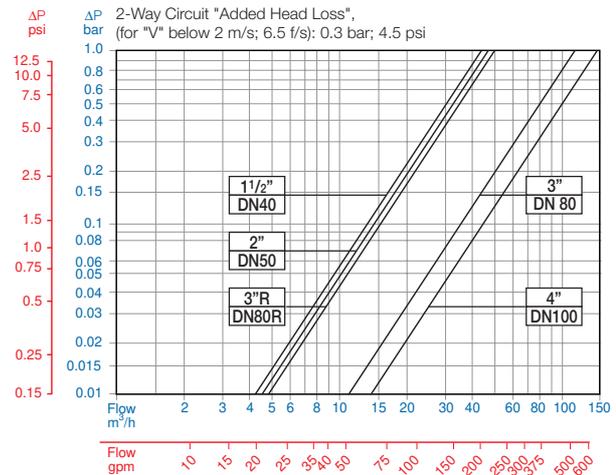
### How to Order

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

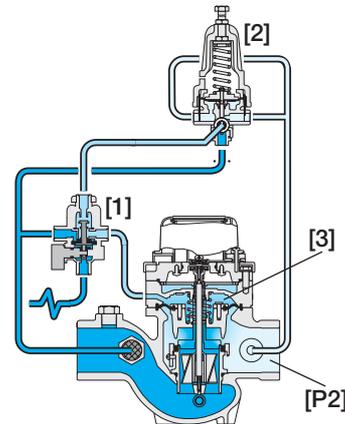
Sector	Size	Primary Feature	Control Categories	Additional Feature	Pattern Construction Materials	End Connections	Coating	Voltage & Position	Tubing & Fittings	Dial Capacity	Pulse Rate	Additional Attributes	
IR	1 1/2-4"	920	M0	54	G	I	BP	PG	-	PP	WAT	R12	bK
Other sizes available on request. Globe Angle 90° 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 PQ1 P13 RNP	R.S. 1 Gal R.S. 10 Gal R.S. 100 Gal R.S. 10+1 Gal R.S. 100+10 Gal O.E. 0.1 Gal O.E. 1 Gal O.E.+R.S. 0.1+10 Gal O.E.+R.S. 1+100 Gal R.S. No Pulse Gal	RG3 RG4 RG5 G34 G45 PG2 PG3 P4G P5G RNG	Servo Plastic Control Accessories Homologation Approved Other attributes available on request	b K 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



The 3-Way Hydraulic Relay Valve (3W-HRV) [1] hydraulically connects the Pressure Reducing Servo Pilot (PRSP) [2] to the Hydrometer Control Chamber [3]. The PRSP commands the Hydrometer to throttle closed, preventing Downstream Pressure [P2] from rising above pilot setting. The 3W-HRV switches upon pressure drop command, directing line pressure into the control chamber, and thereby causing the Hydrometer to shut. The 3W-HRV also features local manual closing.



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