

Pressure Reducing Hydrometer, Magnetic Drive

Normally Closed with Hydraulic Control
for Drip-Tape Applications

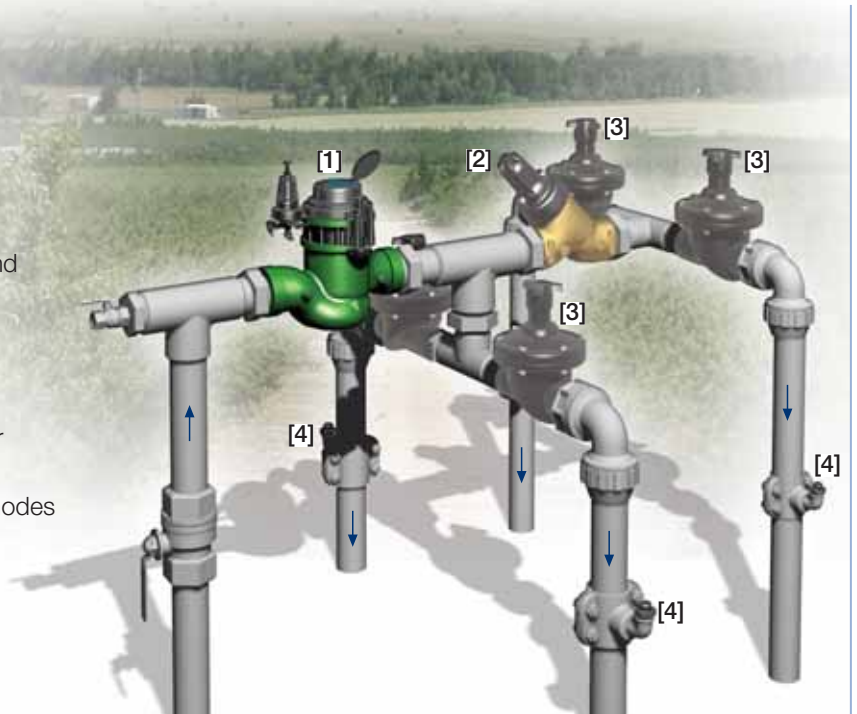
IR-920-M0-54-bK

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

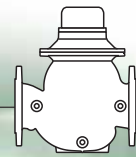
[1] BERMAD Model IR-920-M0-54-bK opens upon pressure rise command, reduces pressure to higher pressure zone, and measures flow.

[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.

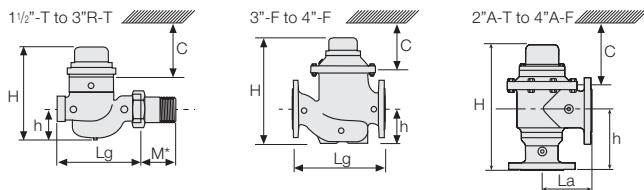
900 Series

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 ³ 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 ³ gpm	15 66	15 66	17 75	40 176	60 264
Qper=Q3 (Permanent flow)	2%	m ³ 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.

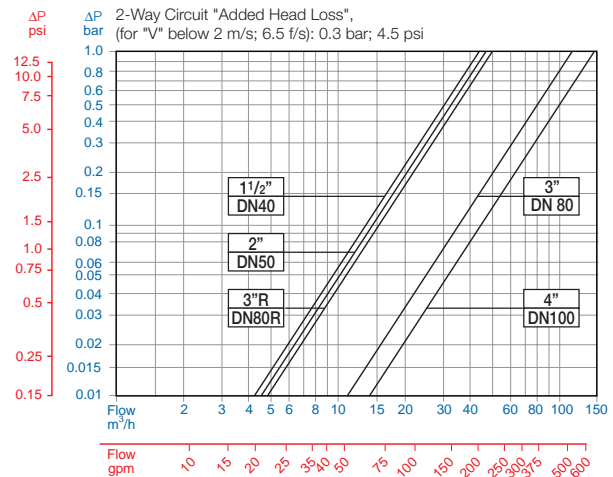
How to Order

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

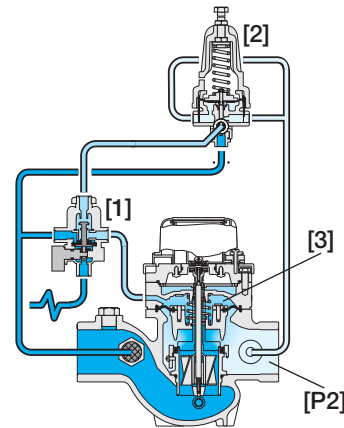
Sector	Size	Primary Feature	Control Categories	Additional Feature	Pattern	Construction Materials	End Connections	Coating	Voltage & Position	Tubing & Fittings	Dial Capacity	Pulse Rate	Additional Attributes
IR	1 1/2-4"	920	M0	54	G	I	BP	PG	-	PP	WAT	R12	bK
Other sizes available on request.													
Globe	Angle 90°	120° (2 1/2" & 4" only)											
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						
Plastic Tubing & Fittings	Plastic Tubing & Brass Fittings												
R.S.	R.S.	R.S.	R.S.	R.S.	R.S.	R.S.	R.S.	R.S.	R.S.	R.S.	R.S.	R.S.	R.S.
10 Lit	100 Lit	1 m ³	100 Lit+10 Lit	1 m3+1100 Lit	1 Lit	10 Lit	1+100 Lit	10 Lit+1 m ³	No Pulse	1 Gal	10 Gal	100 Gal	10+1 Gal
R01	R02	R03	R12	R23	P01	P10	PQ1	P13	RNP	0.1 Gal	1 Gal	0.1+10 Gal	1+100 Gal
RG3	RG4	RG5	G34	G45	PG2	PG3	P4G	P5G	RNG	1 Gal	1 Gal	0.1+10 Gal	1+100 Gal
Servo	Plastic Control Accessories	Homologation Approved											
b	K	L											
Other attributes available on request													

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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