

Pressure Reducing Hydrometer

Magnetic Drive
Normally Closed with Hydraulic Control

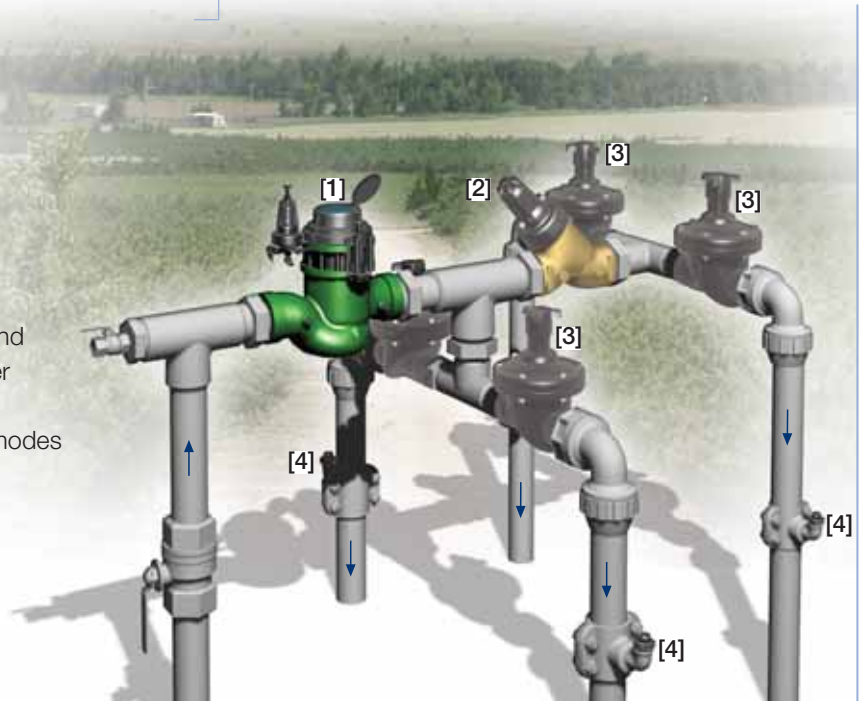
IR-920-M0-54-KX

The BERMAD Model IR-920-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, it controls irrigation together with the irrigation controller. The BERMAD Hydrometer reduces higher upstream pressure to lower constant downstream pressure and opens fully upon line pressure drop. It is a Normally Closed Hydrometer, which opens in response to a remote pressure rise command.



Features and Benefits

- Integrated "All-in-One" Control Valve
 - Saves space, cost and maintenance
- Line pressure driven, Normally Closed
 - Closes upon control failure
 - Protects downstream systems
 - Opens fully upon line pressure drop
 - Amplifies and relays weak remote command
- 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
- Remote Flow Data Read Out
- Flow Monitoring & Leakage Control
- Remote and/or Elevated Plots
- Pressure Reducing Stations
- Systems Subject to Varying Supply Pressure
- Distribution Centers

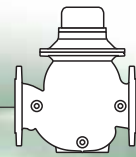
[1] BERMAD Model IR-920-M0-54-KX opens upon pressure rise command, reduces pressure to higher pressure zone, and measures flow.

[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-KX

For full technical details, refer to Engineering Section.

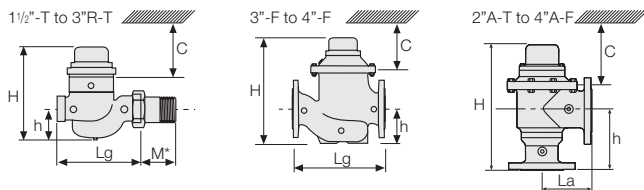
900 Series

Pressure Reducing Standard

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	250	250	N.A.	250	310	300	N.A.	350	N.A.
	inch	9.8	9.8	N.A.	9.8	12.2	11.8	N.A.	13.8	N.A.
La	mm	N.A.	N.A.	120	N.A.	N.A.	N.A.	150	N.A.	180
	inch	N.A.	N.A.	4.7	N.A.	N.A.	N.A.	5.9	N.A.	7.1
H	mm	270	277	300	277	298	382	402	447	481
	inch	10.6	10.9	11.8	10.9	11.7	15.0	15.8	17.6	18.9
C	mm	210	210	210	210	225	285	285	365	365
	inch	9	9	9	9	9	11	11	15	15
h	mm	95	95	125	79	100	123	196	137	225
	inch	3.7	3.7	4.9	3.1	3.9	4.8	7.7	5.4	8.9
M*	mm	67	77	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
	inch	2.6	3.0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Weight	Kg	6.8	8.8	8.1	7.3	16	26.0	25.8	37.0	36.1
	lb.	15	19.4	17.4	16.1	35.3	57.3	56.2	81.6	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	0.8	0.8	1.2	1.2	1.8
		gpm	3.5	3.5	5.3	5.3	7.9
Qn, ISO 4064-1 (Nominal flow)	2%	m ³	15	15	17	40	60
		gpm	66	66	75	176	264
Qper=Q3 (Permanent flow)	2%	m ³	25	40	40	100	160
		gpm	110	176	176	440	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: 1/2, 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

Setting Range: 1-7 bar; 15-100 psi

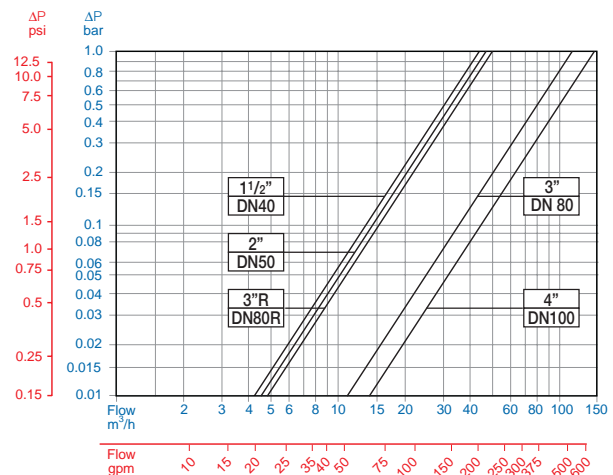
Setting ranges vary according to specific pilot spring. Please consult factory.

How to Order

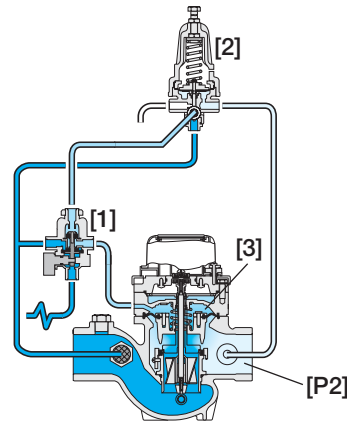
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

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	50	G	I	BP	PG	-	PP	WAT	R12	KX
<p>Other sizes available on request.</p> <p>Globe A Angle 90° G 120° (2 1/2" & 4" only) H</p> <p>BSP (1 1/2, 2 & 3"R only) BP NPT (1 1/2, 2 & 3"R only) NP ISO-16 16 ISO-10 10 ISO-14 (ISO-10/4 Holes) 14 ANSI-125 A1 JIS-10 J1 BST-D BD</p> <p>Plastic Tubing & Fittings PP Plastic Tubing & Brass Fittings PB</p> <p>R.S. 10 Lit R01 R.S. 1 Gal RG3 R.S. 100 Lit R02 R.S. 10 Gal RG4 R.S. 1 m³ R03 R.S. 100 Gal RG5 R.S. 100 Lit+10 Lit R12 R.S. 10+1 Gal G34 R.S. 1 m3+1100 Lit R23 R.S. 100+10 Gal G45 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 m³ P13 O.E.+R.S. 1+100 Gal P5G R.S. No Pulse RNP R.S. No Pulse Gal RNG</p> <p>R.S. = Reed-Switch O.E. = Opto-Electric</p> <p>Plastic Control Accessories K 3-Way Control X Homologation Approved L Other attributes available on request</p>													

Flow Chart



Operation



The 3-Way Hydraulic Relay Valve (3W-HRV) [1] hydraulically connects the Pressure Reducing Pilot (PRP) [2] to the Hydrometer Control Chamber [3]. The PRP commands the Hydrometer to throttle closed should Downstream Pressure [P2] rise above setting, and to open fully when it drops below 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.



info@bermad.com • www.bermad.com

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