Pressure Reducing Hydrometer

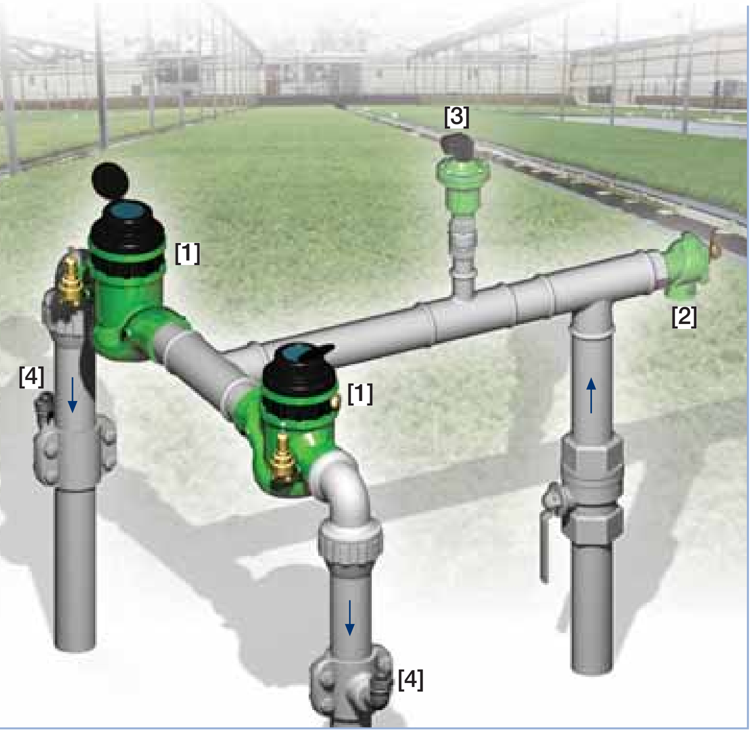
Magnetic Drive
with Hydraulic Control, Metal Accessories

IR-920-M0-50-RXZ

The BERMAD Model IR-920-M0-50-RXZ 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 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
  - Protects downstream systems
  - Opens fully upon line pressure drop
- Metal Control Accessories
  - Damage resistant
  - High pressure rating
- 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
- Pressure Reducing Stations
- Systems Subject to Varying Supply Pressure
- Distribution Centers
- Volumetric Irrigation Systems

[1] BERMAD Model IR 920-M0-50-RXZ opens upon pressure drop command, establishes reduced pressure zone, and measures flow.
[2] BERMAD Relief Valve Model IR 43Q-R
[3] BERMAD Air Valve Model ARC-A-P-I
[4] BERMAD Vacuum Breaker Model ½”-ARV

BERMAD Irrigation

IR-920-M0-50-RXZ

900 Series
Pressure Reducing
Standard

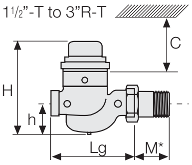
For full technical details, refer to Engineering Section.

Technical Specifications

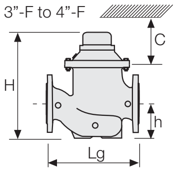
Dimensions and Weights

Size	DN Inch	40-T 1½-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

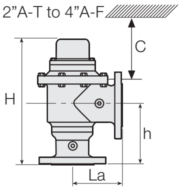
1½"-T to 3"R-T



3"-F to 4"-F



2"A-T to 4"A-F



Accuracy & Flow Data

Size	Accuracy	DN inch	40 1½	50 2	80R 3R	80 3	100 4
ISO 4064-1 Class			A	A		B	B
Q min (Minimum flow)	5%	m³	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%	m³	15	15	17	40	60
		gpm	66	66	75	176	264
Qper=Q3 (Permanent flow)	2%	m³	25	40	40	100	160
		gpm	110	176	176	440	704

Pulse Option

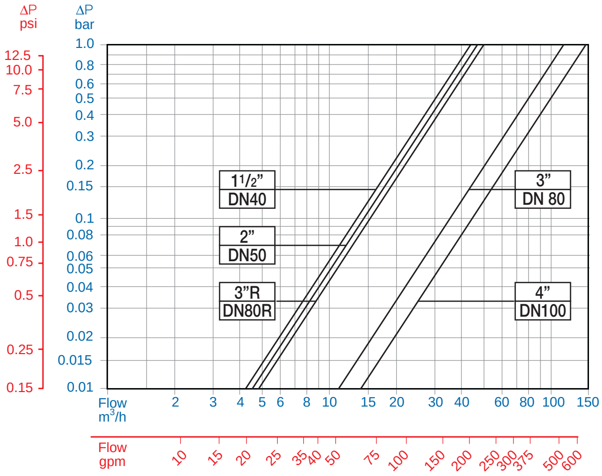
Size / One pulse per	Liter ; Gallon 1; 0.1	10; 1	100; 10	1000; 100
1½-4"; DN50-100		▲	▲	▲
	■		▲	
	■			▲

▲ R.S. = Reed-Switch ■ O.E. = Opto-Electric
Two parllel pulses are transmitted. other pulse rates are avaiable on request.

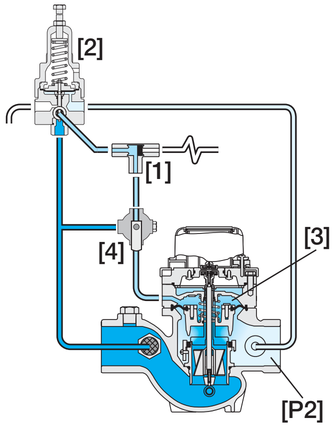
Technical Data

End Connections:
Threaded: 1½, 2 & 3"R; DN40, 50 & 80R
Flanged: 3R, 3 & 4"; DN80R, 80 & 100
Pressure Rating: 16 bar; 232 psi
Minimum Operating Pressure: 0.5 bar; 7 psi
For lower pressure requirements, consult factory
Setting Range: 1-10 bar; 15-145 psi
Setting ranges vary according to specific pilot spring. Please consult factory.

Flow Chart



Operation



The Shuttle Valve **[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. Upon pressure rise command, the shuttle valve automatically switches, allowing perssurization of the control chamber, which causes the Hydrometer to shut.
The Manual Selector **[4]** enables local manual closing.

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	Additonal Attributes
IR	1½-4"	920	M0	50	G	I	BP	PG	-	PP	WAT	R12	RXZ

Other sizes available on request.

Pattern	
Globe	G
Angle 90º	A
120˚ (2½" & 4" only)	H

End Connections	
BSP (1½, 2 & 3"R only)	BP
NPT (1½, 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

Tubing & Fittings	
Plastic Tubing & Fittings	PP
Plastic Tubing & Brass Fittings	PB

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

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

Additonal Attributes	
Metal Control Accessories	R
3-Way Control	X
Manual Selector	Z
Homologation Approved	L

Other attributes available on request

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