

Pressure Reducing Hydrometer

**Magnetic Drive with Hydraulic Control
for Drip-Tape Applications**

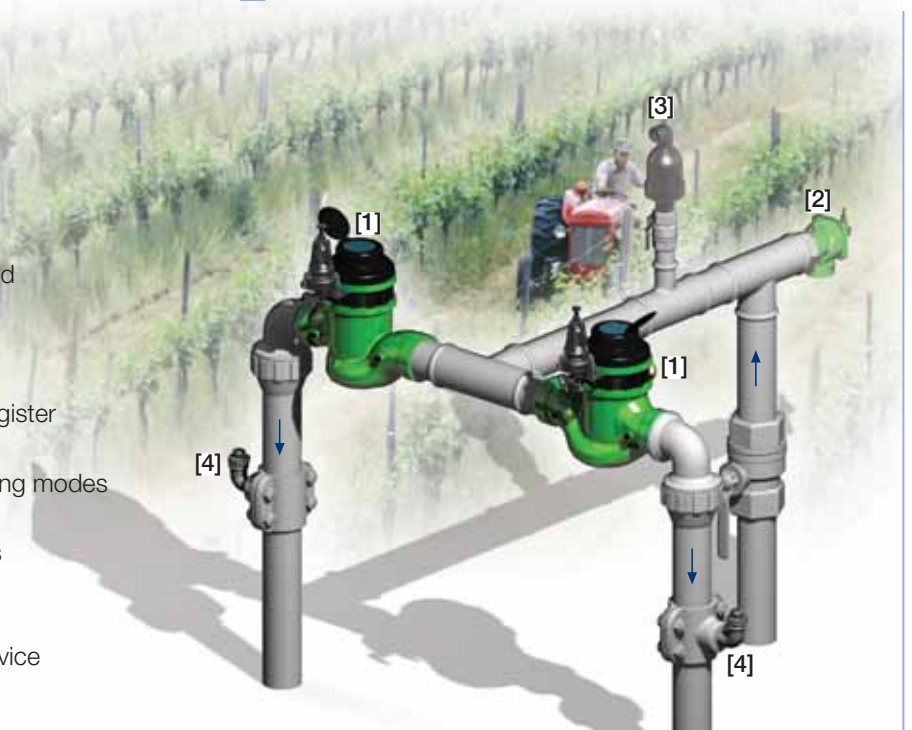
IR-920-M0-50-bKZ

The BERMAD Model IR-920-M0-50-bKZ 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 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
- 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
- Remote Flow Data Read-Out
- Flow Monitoring & Leakage Control
- Drip-Tape Systems
- Low Set Pressure Applications
- Distribution Centers

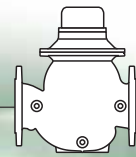
[1] BERMAD Model IR-920-M0-50-bKZ opens upon pressure drop command, establishes reduced pressure zone, and measures flow.

[2] BERMAD Relief Valve Model IR-43Q-R

[3] BERMAD Air Valve Model ARC-A-P-I

[4] BERMAD Vacuum Breaker Model 1/2"-ARV

BERMAD Irrigation



IR-920-MO-50-bKZ

For full technical details, refer to Engineering Section.

900 Series

Pressure Reducing
Drip-Tape

Technical Specifications

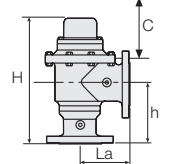
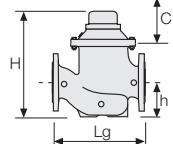
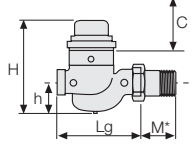
Dimensions and Weights

Size	DN Inch	40-T 1 1/2-T	50-T 2-T	80R-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

1 1/2"-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 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

Pressure Rating: 10 bar; 145 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.

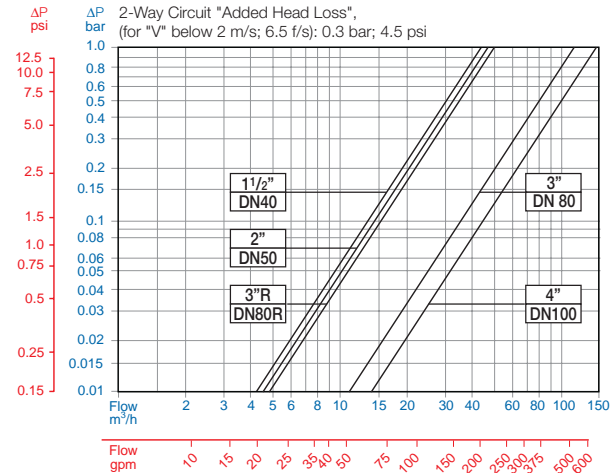
How to Order

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

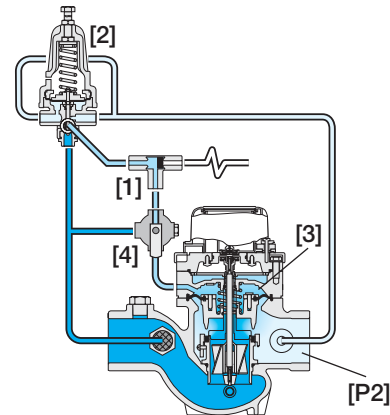
Sector	Size	Primary Feature	Control Categories	Additional Feature	Pattern	Construction Materials	End Connections	Coating	Voltage & Position	Tubing & Fittings	Dial Capacity	Pulse Rate	Additional Attributes
IR	1 1/2"-4"	920	MO	50	G	I	BP	PG	-	PP	WAT	R12	bKZ
Other sizes available on request.													
Globe	G		Plastic Tubing & Fittings		PP	R.S.	10 Lit	R01	R.S.	1 Gal	RG3		Servo
Angle 90°	A		Plastic Tubing & Brass Fittings		PB	R.S.	100 Lit	R02	R.S.	10 Gal	RG4		Plastic Control Accessories
120° (2 1/2" & 4" only)	H					R.S.	1 m ³	R03	R.S.	100 Gal	RG5		Manual Selector
						R.S.	100 Lit+10 Lit	R12	R.S.	10+1 Gal	G34		Homologation Approved
BSP (1 1/2, 2 & 3"R only)	BP					R.S.	1 m3+1100 Lit	R23	R.S.	100+10 Gal	G45		Other attributes available on request
NPT (1 1/2, 2 & 3"R only)	NP					O.E.	1 Lit	P01	O.E.	0.1 Gal	PG2		
ISO-16	16					O.E.	10 Lit	P10	O.E.	1 Gal	PG3		
ISO-10	10					O.E.+R.S.	1+100 Lit	PQ1	O.E.+R.S.	0.1+10 Gal	P4G		
ISO-14 (ISO-10/4 Holes)	14					O.E.+R.S.	10 Lit+1 m ³	P13	O.E.+R.S.	1+100 Gal	P5G		
ANSI-125	A1					R.S.	No Pulse	RNP	R.S.	No Pulse Gal	RNG		
JIS-10	J1												
BST-D	BD												

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

Flow Chart



Operation



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



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