

Pressure Reducing Hydrometer

Magnetic Drive with Hydraulic Control

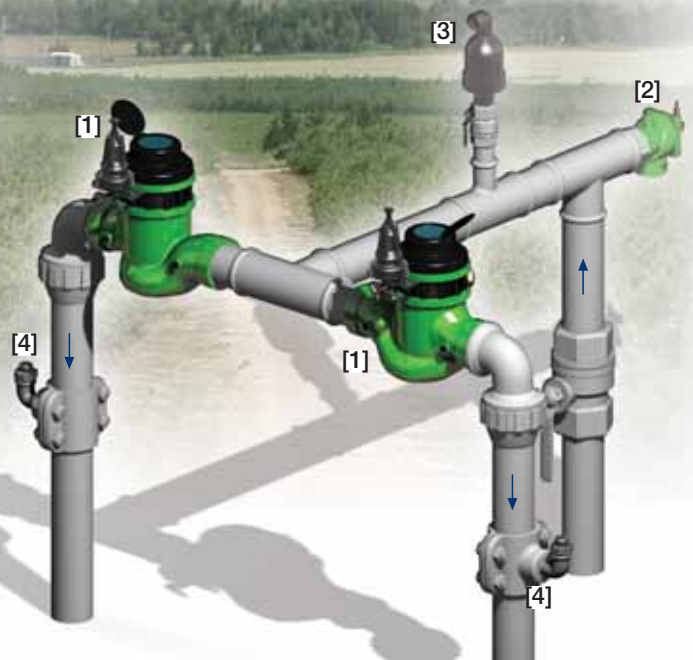
IR-920-M0-50-KXZ

The BERMAD Model IR-920-M0-50-KXZ 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
- 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
- User-Friendly Design
 - Easy pressure setting
 - 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

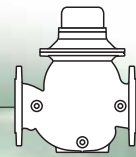
[1] BERMAD Model IR-920-M0-50-KXZ opens upon pressure-drop command, establishes reduced pressure zone, and measures flow.

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

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

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

BERMAD Irrigation



IR-920-M0-50-KXZ

For full technical details, refer to Engineering Section.

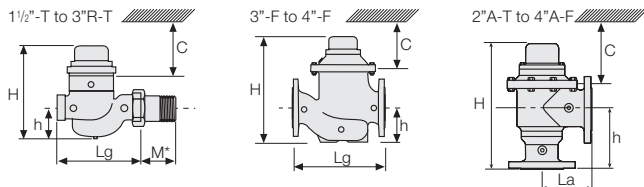
900 Series

Pressure Reducing Standard

Technical Specifications

Dimensions and Weights

Size	DN Inch	40-T 1 1/2-T	50-T 2-T	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
	inch	9.8	9.8	N.A.	9.8	12.2	11.8	N.A.	13.8
La	mm	N.A.	N.A.	120	N.A.	N.A.	N.A.	150	N.A.
	inch	N.A.	N.A.	4.7	N.A.	N.A.	N.A.	5.9	N.A.
H	mm	270	277	300	277	298	382	402	447
	inch	10.6	10.9	11.8	10.9	11.7	15.0	15.8	17.6
C	mm	210	210	210	210	225	285	285	365
	inch	9	9	9	9	9	11	11	15
h	mm	95	95	125	79	100	123	196	137
	inch	3.7	3.7	4.9	3.1	3.9	4.8	7.7	5.4
M*	mm	67	77	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.
Weight	Kg	6.8	8.8	8.1	7.3	16	26.0	25.8	37.0
	lb.	15	19.4	17.4	16.1	35.3	57.3	56.2	81.6



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	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

End Connections:

Threaded: 1 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.

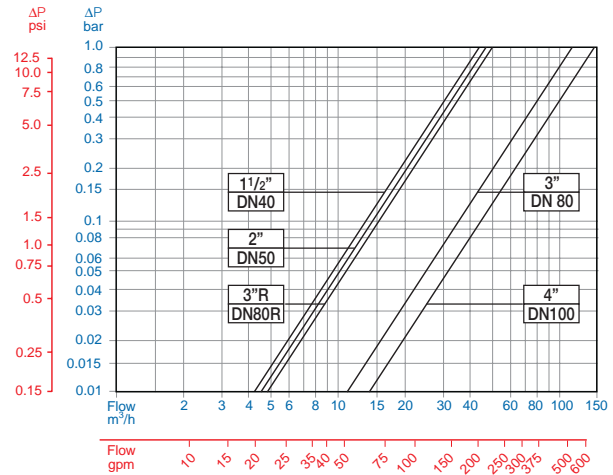
How to Order

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

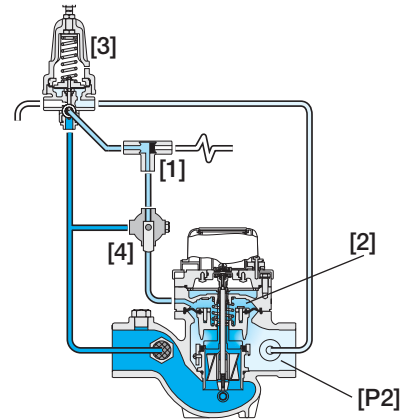
Sector	Size	Primary Feature	Control Categories	Additional Feature	Pattern	Construction Materials	End Connections	Coating	Voltage & Position	Tubing & Fittings	Dial Capacity	Pulse Rate	Additional Attributes
IR	1 1/2-4"	920	M0	50	G	I	BP	PG	-	PP	WAT	R12	KXZ
Other sizes available on request.													
Globe		G	Plastic Tubing & Fittings		PP	R.S.	10 Lit	R01	R.S.	1 Gal	RG3	Plastic Control Accessories	
Angle 90°		A	Plastic Tubing & Brass Fittings		PB	R.S.	100 Lit	R02	R.S.	10 Gal	RG4	3-Way Control	
120° (2 1/2" & 4" only)		H				R.S.	1 m ³	R03	R.S.	100 Gal	RG5	Manual Selector	
BSP (1 1/2, 2 & 3"R only)		BP				R.S.	100 Lit+10 Lit	R12	R.S.	10+1 Gal	G34	Homologation Approved	
NPT (1 1/2, 2 & 3"R only)		NP				R.S.	1 m3+1100 Lit	R23	R.S.	100+10 Gal	G45	Other attributes available on request	
ISO-16		16				O.E.	1 Lit	P01	O.E.	0.1 Gal	PG2		
ISO-10		10				O.E.	10 Lit	P10	O.E.	1 Gal	PG3		
ISO-14 (ISO-10/4 Holes)		14				O.E.+R.S.	1+100 Lit	PQ1	O.E.+R.S.	0.1+10 Gal	P4G		
ANSI-125		A1				O.E.+R.S.	10 Lit+1 m ³	P13	O.E.+R.S.	1+100 Gal	P5G		
JIS-10		J1				R.S.	No Pulse	RNP	R.S.	No Pulse Gal	RNG		
BST-D		BD											

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

Flow Chart



Operation



The Shuttle Valve [1] hydraulically connects the pilot to the Hydrometer Control Chamber [2]. The Pressure Reducing Pilot [3] 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 pressurization of the control chamber, which causes the Hydrometer to shut. The Manual Selector [4] enables manual closing.



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