

Pressure Reducing and Sustaining Hydrometer

Magnetic Drive

IR-923-M0-KXZ

The BERMAD Model IR-923-M0-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 sustains minimum preset upstream (back) pressure and reduces downstream pressure to a constant preset maximum.

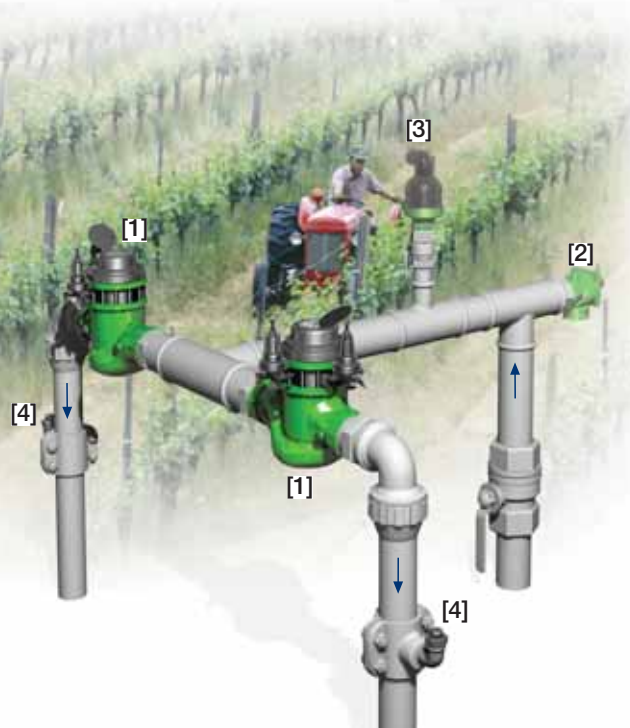


Features and Benefits

- Integrated "All-in-One" Control Valve
 - Saves space, cost and maintenance
- Line Pressure Driven, Hydraulically Controlled
 - Protects downstream system
 - Prioritizes pressure zones
 - Controls system fill-up
- 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
- Line Fill-Up Control Solutions
- Line Emptying Prevention
- Pressure Reducing Systems
- Systems Subject to Varying Supply Pressure



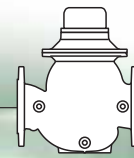
[1] BERMAD Model IR-923-M0-KXZ sustains supply system pressure, prevents system emptying, protects lines and laterals, and measures flow.

[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-923-MO-KXZ

For full technical details, refer to Engineering Section.

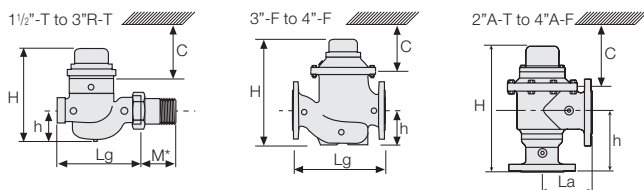
900 Series

Pressure Reducing & Sustaining

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. N.A.	250 9.8	310 12.2	300 11.8	N.A. N.A.	350 13.8	N.A. N.A.
La	mm inch	N.A. N.A.	N.A. N.A.	120 4.7	N.A. N.A.	N.A. N.A.	N.A. N.A.	150 5.9	N.A. 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. 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	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: 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

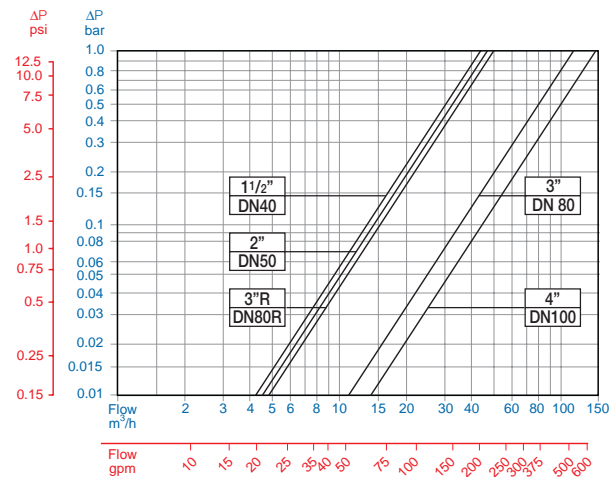
How to Order

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

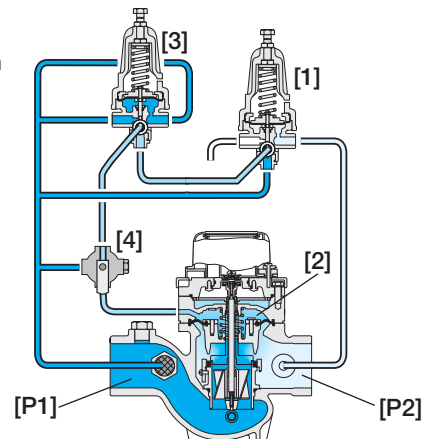
Sector	Size	Primary Feature	Control Categories	Additional Feature	Pattern Construction	End Connections	Coating	Voltage & Position	Tubing & Fittings	Dial Capacity	Pulse Rate	Additional Attributes	
IR	1 1/2-4" <small>Other sizes available on request.</small>	900	M0	00	G	I	BP	PG	-	PP	WAT	R12	KXZ
Globe	G	Plastic Tubing & Fittings	PP	R.S.	10 Lit	R01	R.S.	1 Gal	RG3	Plastic Control Accessories	K		
Angle 90°	A	Plastic Tubing & Brass Fittings	PB	R.S.	100 Lit	R02	R.S.	10 Gal	RG4	3-Way Control	X		
120° (2 1/2" & 4" only)	H			R.S.	1 m ³	R03	R.S.	100 Gal	RG5	Manual Selector	Z		
				R.S.	100 Lit+10 Lit	R12	R.S.	10+1 Gal	G34	Other attributes available on request			
BSP (1 1/2, 2 & 3"R only)	BP			R.S.	1 m3+1100 Lit	R23	R.S.	100+10 Gal	G45				
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 Pressure Reducing Pilot (PRP) [1] is hydraulically connected to the Hydrometer Control Chamber [2] through the Pressure Sustaining Pilot (PSP) [3]. The PSP commands the Hydrometer to throttle closed should Upstream Pressure [P1] drop below setting. When [P1] rises above setting, the PSP switches and allows the PRP to control the Hydrometer, commanding it to reduce Downstream Pressure [P2].

The Manual Selector [4] enables local manual closing.



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