

Hydrometer

with Magnetic Drive
Solenoid Controlled

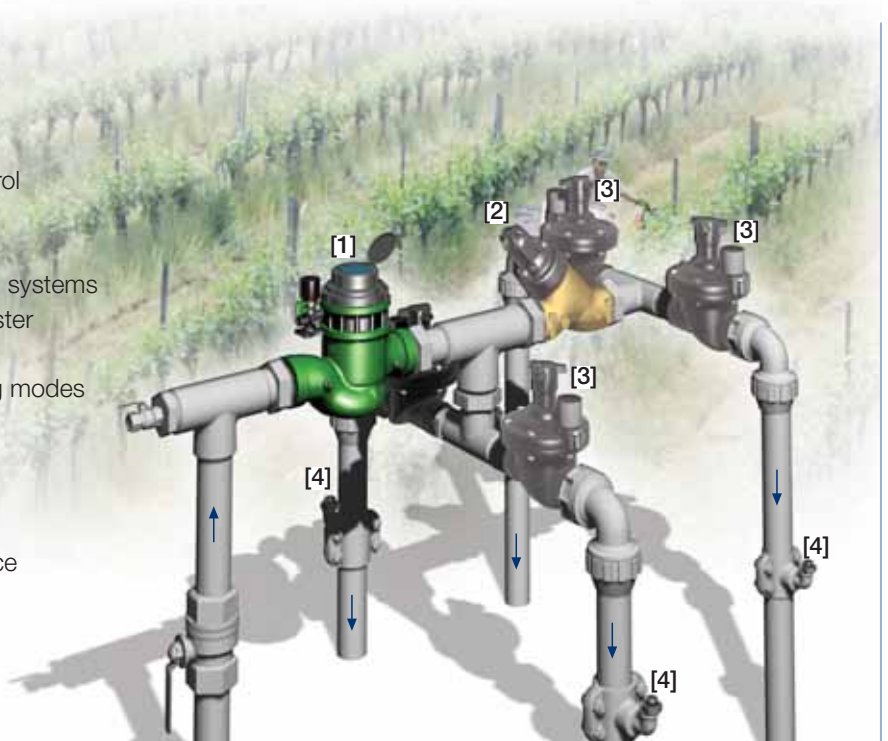
IR-910-M0-KX

The BERMAD Model IR-910-M0-KX integrates a vertical turbine Woltman-type water meter with a diaphragm actuated hydraulic control valve. The impeller drive is magnetically coupled to a vacuum-sealed meter register in the control head. Serving as Flow Meter and Main Valve, the BERMAD Model IR-910-M0-KX controls irrigation together with the irrigation controller. The BERMAD Hydrometer opens and shuts in response to an electric signal.



Features and Benefits

- Integrated "All-in-One" Control Valve
 - Saves space, cost and maintenance
- Hydraulic Hydrometer with Solenoid Control
 - Line pressure driven
 - Electrically controlled On/Off
 - Suitable also for remote and/or elevated systems
- 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
 - Precise measurement
- User-Friendly Design
 - Simple in-line inspection and service

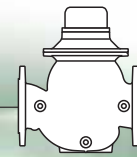


Typical Applications

- Computerized Irrigation Systems
- Remote/Elevated Systems
- Remote Flow Data Read-Out
- Flow Monitoring & Leakage Control
- Water Treatment Systems
- Distribution Centers

- [1] BERMAD Model IR-910-M0-KX opens in response to an electric signal measuring the flow.
- [2] BERMAD Pressure Reducer Model 015-PRV
- [3] BERMAD Solenoid Controlled Valve Model 210-N1
- [4] BERMAD Vacuum Breaker Model 1/2"-ARV

BERMAD Irrigation



IR-910-MO-KX

For full technical details, refer to Engineering Section.

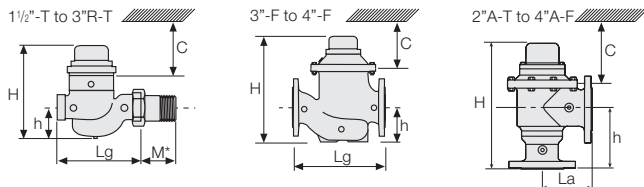
900 Series

On/Off Control

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 |
| 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

Solenoid Voltage Range:

S-390 & S-400: 24 VAC, 24 VDC

S-392 & S-402: 9-20 VDC, Latch

S-982 & S-985: 12-50 VDC, Latch

Other voltages available.

For full electric data, refer to Accessories Section.

How to Order

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

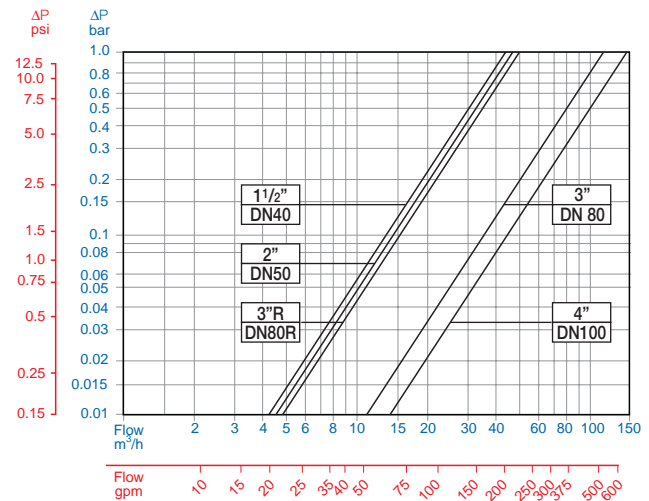
| Sector | Size | Primary Feature | Control Categories | Additional Feature | Pattern | Construction Materials | End Connections | Coating | Voltage & Position | Tubing & Fittings | Dial Capacity | Pulse Rate | Additional Attributes |
|---------------------------|----------|-------------------------------|--------------------|--------------------|-----------|-------------------------|-----------------|-----------|--------------------|-------------------|---|------------|-----------------------|
| IR | 1 1/2-4" | 910 | MO | 00 | G | I | BP | PG | 4AC | PP | WAT | R12 | KX |
| Globe | G | 9VDC - | Latch | 9DS | R.S. | 10 Lit | R01 | R.S. | 1 Gal | RG3 | Plastic Control Accessories K 3-Way Control X omologation Approved L Other attributes available on request | | |
| Angle 90° | A | 12VDC - | Latch | 1DS | R.S. | 100 Lit | R02 | R.S. | 10 Gal | RG4 | | | |
| 120° (2 1/2 & 4" only) | H | 24VDC - | N.C. | 4DC | R.S. | 1 m ³ | R03 | R.S. | 100 Gal | RG5 | | | |
| BSP (1 1/2, 2 & 3"R only) | BP | 24VDC - | N.O. | 4DC | R.S. | 100 Lit+10 Lit | R12 | R.S. | 10+1 Gal | G34 | | | |
| NPT (1 1/2, 2 & 3"R only) | NP | 24VDC - | N.C. | 4AC | R.S. | 1 m3+1100 Lit | R23 | R.S. | 100+10 Gal | G45 | | | |
| ISO-16 | 16 | 24VDC - | N.O. | 4AO | O.E. | 1 Lit | P01 | O.E. | 0.1 Gal | PG2 | | | |
| ISO-10 | 10 | 24VAC, Lightning Proof - N.C. | 4RC | O.E. | O.E. | 10 Lit | P10 | O.E. | 1 Gal | PG3 | | | |
| ISO-14 (ISO-10/4 Holes) | 14 | 24VAC, Lightning Proof - N.O. | 4RO | O.E.+R.S. | 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 | | | | | | | | | | | | |



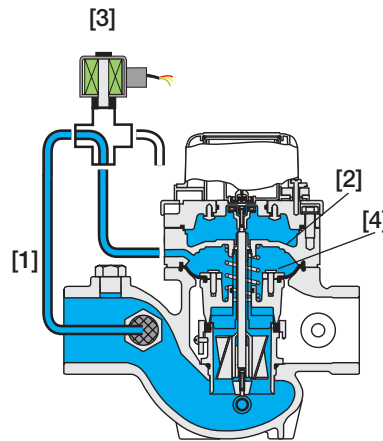
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Flow Chart



Operation



Line Pressure [1] is applied to the Control Chamber [2], through the opened 3-Way Solenoid [3]. This creates superior closing force that moves the Diaphragm Assembly [4] to a closed position. Closing the Solenoid causes it to switch, discharging pressure from the control chamber. The Hydrometer then opens, measuring the flow. The solenoid also features local manual opening & closing.