

Pressure Reducing Hydrometer

Magnetic Drive
Normally Closed with Hydraulic Control

IR-920-M0-54-R

The BERMAD Model IR-920-M0-54-R integrates a vertical turbine Woltman-type water meter with a diaphragm actuated hydraulic control valve. As the system's Flow Meter and Main Valve, it controls system irrigation together with the irrigation controller. The BERMAD Hydrometer reduces downstream pressure to a constant preset maximum. It is a Normally Closed Hydrometer, which opens in response to a pressure rise command.



Features and Benefits

- Integrated "All-in-One" Control Valve
 - Saves space, cost and maintenance
- Hydraulic Pressure Control, Normally Closed
 - Closes upon control failure
 - Protects downstream systems
 - Amplifies and relays weak remote command
- Magnetic Drive with Vacuum-Sealed Register
 - Water-free gear train mechanism
 - Reed-switch and Opto pulse-generating modes
 - Varios pulse combinations
- Internal Inlet & Outlet Flow Straighteners
 - Saves on straightening distances
 - Maintains accuracy
- Integrated Flow Metering Calibration Device
 - Precise measurement
- User-Friendly Design
 - Easy pressure setting
 - Simple in-line inspection and service



Typical Applications

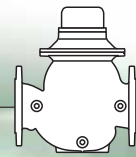
- Computerized Irrigation Systems
- Remote Flow Data Read-Out
- Flow Monitoring & Leakage Control
- Remote and/or Elevated Plots
- Pressure Reducing Systems
- Distribution Centers
- Irrigation Machines

[1] BERMAD Model IR-920-M0-54-R opens upon command pressure rise (N.C.), establishing reduced pressure zones and measuring the flow

[2] BERMAD Hydraulic Main Valve Model IR-405-54-R

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

BERMAD Irrigation



IR-920-M0-54-R

For full technical details, refer to Engineering Section.

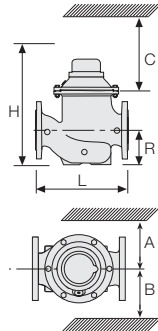
900 Series

Pressure Reducing

Technical Specifications

Dimensions and Weights

| Size | DN Inch | 80 3 | 100 4 | 150 6 | 200 8 | 250 10 |
|--------|---------|------|-------|-------|-------|--------|
| L | mm | 300 | 350 | 500 | 600 | 600 |
| | inch | 11.8 | 13.8 | 19.7 | 23.6 | 23.6 |
| H | mm | 382 | 447 | 602 | 617 | 617 |
| | inch | 15 | 17.6 | 23.7 | 24.3 | 24.3 |
| C | mm | 290 | 340 | 450 | 465 | 465 |
| | inch | 11.4 | 13.4 | 17.7 | 18.3 | 18.3 |
| R | mm | 123 | 137 | 216 | 228 | 228 |
| | inch | 4.8 | 5.4 | 8.5 | 9 | 9 |
| A; B | mm | 305 | 325 | 390 | 390 | 415 |
| | inch | 12 | 12.8 | 15.4 | 15.4 | 16.3 |
| Weight | Kg | 23 | 31 | 71 | 93 | 141 |
| | lb. | 57.7 | 68.3 | 156.5 | 205 | 310.9 |



Accuracy & Flow Data (ISO 4064-I, Class B)

| Size | Accuracy | DN inch | 80 3 | 100 4 | 150 6 | 200 & 250 8 & 10 |
|-------------------------------|----------|-----------------------|------------|------------|-------------|------------------|
| Q min (Minimum flow) | 5% | m ³ gpm | 1.2 5.3 | 1.8 7.9 | 4 17.6 | 6.3 27.7 |
| Qn, ISO 4064-1 (Nominal flow) | 2% | m ³ gpm | 40 176 | 60 264 | 150 660 | 250 1100 |
| Qper=Q3 (Permanent flow) | 2% | m ³ gpm | 100 440 | 160 704 | 250 1100 | 400 1760 |

Pulse Option

| Size | One pulse per | Liter ; Gallon | | | m ³ ; Gallon | |
|------------------|---------------|----------------|-------|---------|-------------------------|----------|
| | | 1; 0.1 | 10; 1 | 100; 10 | 1; 100 | 10; 1000 |
| 3-4"; DN80-100 | ■ | | | ▲ | ▲ | |
| | ■ | | | ▲ | ▲ | |
| 6-10"; DN150-250 | ■ | | | ▲ | ▲ | |
| | ■ | | | ▲ | ▲ | |

▲ R.S. = Reed-Switch ■ O.E. = Opto-Electric
Two parallel pulses are transmitted. Other pulse rates are available on request.

Technical Data

Patterns and Sizes:

Globe: 3-10"; DN80-250
Angle 90°: 3-8"; DN80-200
Angle 120°: 4"; DN100

End Connections:

Flanged: 3-10"; DN80-250

Pressure Ratings: 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.

Materials:

Body and Cover:

Polyester Coated Cast or Ductile Iron

Internals: St. St. & Glass Fiber

Reinforced Nylon

Impeller: Polypropylene

Elastomers: Reinforced NR Diaphragm

& NBR (Buna-N) Seals

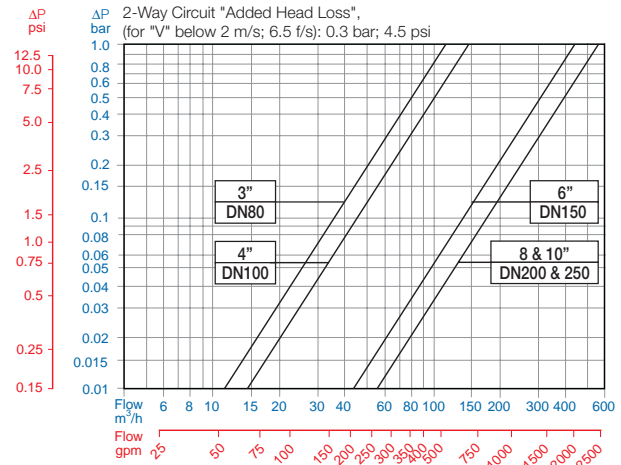
Pivots and Bearings: Tungsten Carbide

Control Accessories: Brass

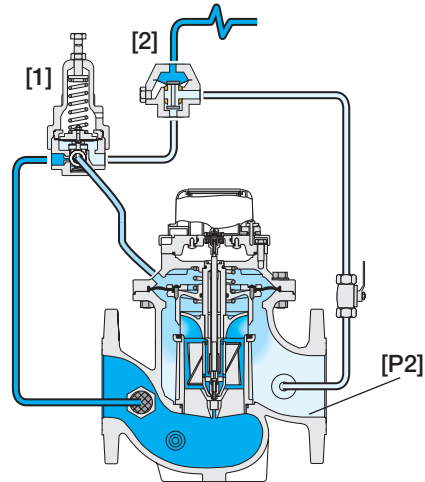
Tubing and Fittings:

Reinforced Plastic and Brass

Flow Chart



Operation



The Pressure Reducing Pilot [1] commands the Hydrometer to throttle closed should Downstream Pressure [P2] rise above setting, and to modulate open when it drops below setting. The 3-Way Hydraulic Relay Valve [2] opens upon receiving remote pressure rise command opening the Hydrometer, and closes in the absence of this command shutting the Hydrometer.

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 | 3-10" | 920 | M0 | 54 | G | I | 16 | PG | - | PB | WAT | R23 | R |
| Other sizes available on request. | | | | | | | | | | | | | |
| Globe | G | Plastic Tubing & Brass Fittings | | PB | R.S. | 100 Lit | R02 | R.S. | 10 Gal | RG4 | Metal Control Accessories | | R |
| Angle | A | Copper Tubing & Brass Fittings | | CB | R.S. | 1 m ³ | R03 | R.S. | 100 Gal | RG5 | Homologation Approved | | L |
| 120 (4"; DN100 only) | H | | | | R.S. | 10 m ³ | R04 | R.S. | 1000 Gal | RG6 | Other attributes available on request | | |
| ISO-16 | 16 | | | | R.S. | 100 Lit + 1 m ³ | R23 | R.S. | 10+100 Gal | G45 | | | |
| ISO-10 | 10 | | | | R.S. | 1 m ³ +10 m ³ | R34 | R.S. | 100+1000 Gal | G56 | | | |
| ISO-14 (ISO-10/4 Holes) | 14 | | | | O.E. | 1 Lit | P01 | O.E. | 0.1 Gal | PG2 | | | |
| ANSI-125 | A1 | | | | O.E. | 10 Lit | P10 | O.E. | 1 Gal | PG3 | | | |
| JIS-10 | J1 | | | | O.E.+R.S. | 1+100 Lit | PQ1 | O.E.+R.S. | 0.1+10 Gal | P4G | | | |
| BST-D | BD | | | | O.E.+R.S. | 10 Lit+1 m ³ | 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



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