Flow Control and Pressure Reducing Valve

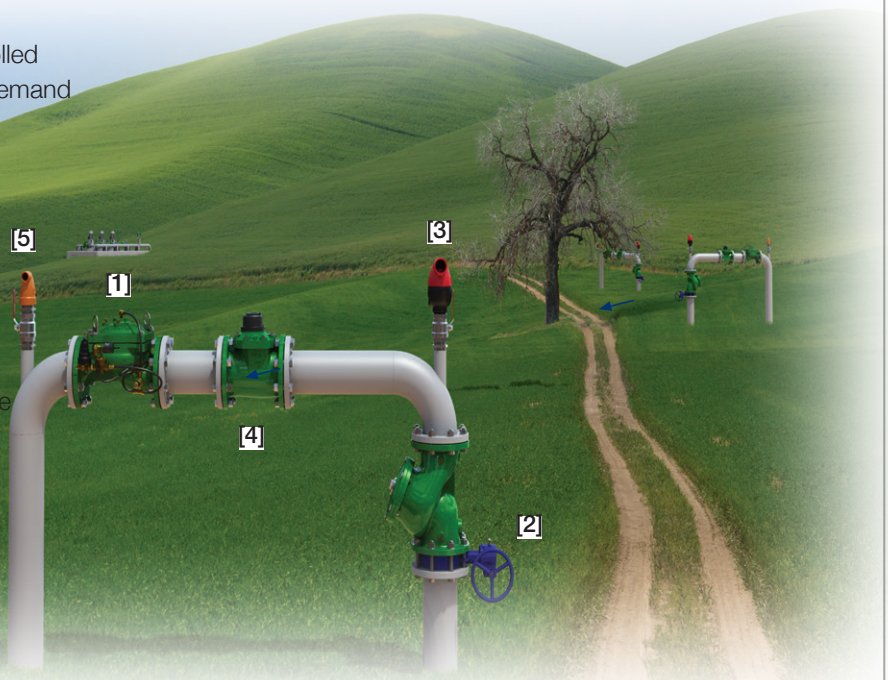
with Solenoid Control

IR-472-55-RV

The BERMAD Flow Control and Pressure Reducing Valve with Solenoid Control is a hydraulically operated, diaphragm actuated control valve that performs three independent functions. It controls system demand to a preset maximum flow rate; it reduces downstream pressure to a constant preset maximum, and it either opens or shuts in response to an electric signal from an irrigation computer.

Features and Benefits

- Line Pressure Driven, Hydraulically Controlled
  - Limits fill-up rate and consumer over-demand
  - Protects downstream systems
  - Electrically controlled On/Off
- Advanced Globe Hydro-Efficient Design
  - Unobstructed flow path
  - Single moving part
  - High flow capacity
- Fully Supported & Balanced Diaphragm
  - Requires low actuation pressure
  - Excellent low-flow regulation performance
  - Prevents diaphragm distortion
- Pedal-Type Hydro-Mechanic Flow Pilot
  - No added head loss
  - Easy flow and pressure setting
  - With wide setting range
- Simple In-Line Inspection and Service



Typical Applications

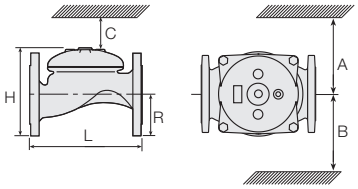
- Computerized Irrigation Systems
- Line Fill-Up Control
- Multiple Independent Consumer Systems
- Irrigation Machines
- Filter Stations

[1] BERMAD Model IR-472-55 RV opens in response to an electric signal, limits fill-up rate and consumer over-demand, and reduces system pressure.
[2] BERMAD Strainer Model 70-F
[3] BERMAD Combination Air Valve Model C-30
[4] BERMAD Water Meter Model Turbo-IR-A
[5] BERMAD Kinetic Air Valve Model K-10

Technical Specifications

Dimensions and Weights

Size	DN Inch	80 3	100 4	150 6	200 8	250 10	300 12	350 14
L	mm	250	320	415	500	605	725	742
	inch	9.8	12.6	16.3	19.8	23.8	28.5	29.2
H	mm	210	242	345	430	460	635	655
	inch	8.3	9.5	13.6	16.9	18.1	25	25.8
C	mm	125	145	207	258	276	381	393
	inch	5	5.7	8.2	10.2	10.9	15	15.5
R	mm	100	112	140	170	202	242	260
	inch	3.9	4.4	5.5	6.7	8	9.5	10.2
A; B	mm	300	312	353	383	403	490	494
	inch	11.8	12.3	13.9	15.1	15.9	19.3	19.4
Weight	Kg	19	28	68	125	140	290	358
	lb.	41.9	61.7	149.9	275.6	308.6	639.3	789.2



Technical Data

Patterns and Sizes:
Globe: 3-16"; DN80-400 Angle: 3-4"; DN80-100

End Connections:

Size		3" DN80	4" DN100	6" DN150	8-14" DN200-DN350
Threaded	Globe	■			
	Angle	■			
Flanged	Globe	■	■	■	■
	Angle	■	■		
Grooved	Globe	■	■	■	
	Angle	■	■		

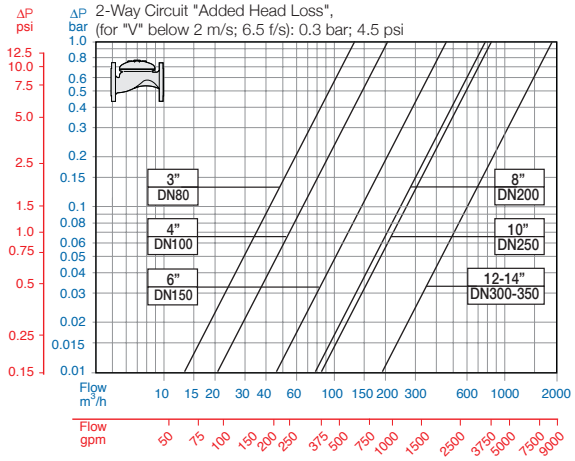
Pressure Rating: 16 bar; 232 psi
Operating Pressure Range: 0.5-16 bar; 7-232 psi
For lower pressure requirements, consult factory
Setting Range: 1-10 bar; 15-145 psi
Flow Setting Range: ±20% from valve predetermined flow

Materials:
Body and Cover:
Cast Iron (3-8"; DN80-DN200)
Ductile Iron (10"-14"; DN250-DN350)
Spring: Stainless Steel
Diaphragm:
Nylon fabric Reinforced NR with rugged insert

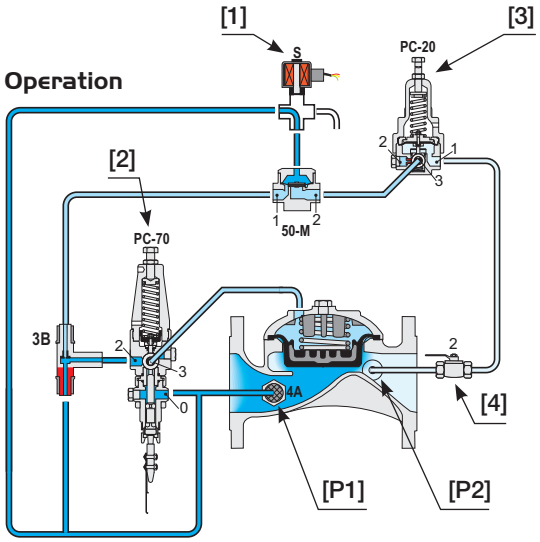
Control Accessories: Brass
Tubing and Fittings:
Reinforced Plastic and Brass

Solenoid Voltage Range:
S-390 & S-400: 24 VAC, 24 VDC
S-392 & S-395: 6-20 VDC, Latch
S-402 & S-405: 9-40 VDC, Latch
S-982 & S-985: 12-50 VDC, Latch
Other voltages available.

Flow Chart



Operation



Energizing the Solenoid [1] opens the valve. The Flow Pilot [2] commands the valve to throttle closed should demand rise above setting, and to modulate open when demand drops. The Pressure Reducing Pilot [3] controls the valve, preventing Downstream Pressure [P2] from rising above setting. De-energizing the solenoid causes the valve to shut. The downstream Cock Valve [4] enables manual closing.

Flow limit with Pedal Pilot- (PC-70 Pilot)

Valve / Hydrometer Size (inch; DN)	1½;40	2;50	2½;65	3;80	4;100	6;150	8;200	10;250	12;300	14;350
minimum capacity (m^3/h)	5	7	12	18	28	63	110	176	253	345
Maximum capacity (m^3/h)	16	25	33	63	99	222	395	617	888	1200

1. The calculations in this table are for flow velocity range 1.0-3.5 (m/s).
2. When the flow velocity is between 1.0-1.5 (m/s), use one pedal length above the nominal valve size
3. When the flow velocity is above 3.5 (m/s), use one pedal length under the nominal valve size.
4. Other setting values are available on request, consult application engineering.

Pilot Data

Valve Size (Inch;DN)	Number of Leaves
1½;40	1
2;50	1
2½;65	2
3;80	2
4;100	3
6;150	4
8;200	5
10;250	6
12;300	7
14;350	7

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