



Pressure Reducing Valve

with solenoid control

IR-420-55

The BERMAD Model IR-420-55 Pressure Reducing Valve with Solenoid Control is a hydraulically operated, diaphragm actuated control valve that reduces higher upstream pressure to lower constant downstream pressure regardless of fluctuating demand or varying upstream pressure. The BERMAD Model IR-420-55 opens and shuts in response to an electric signal.

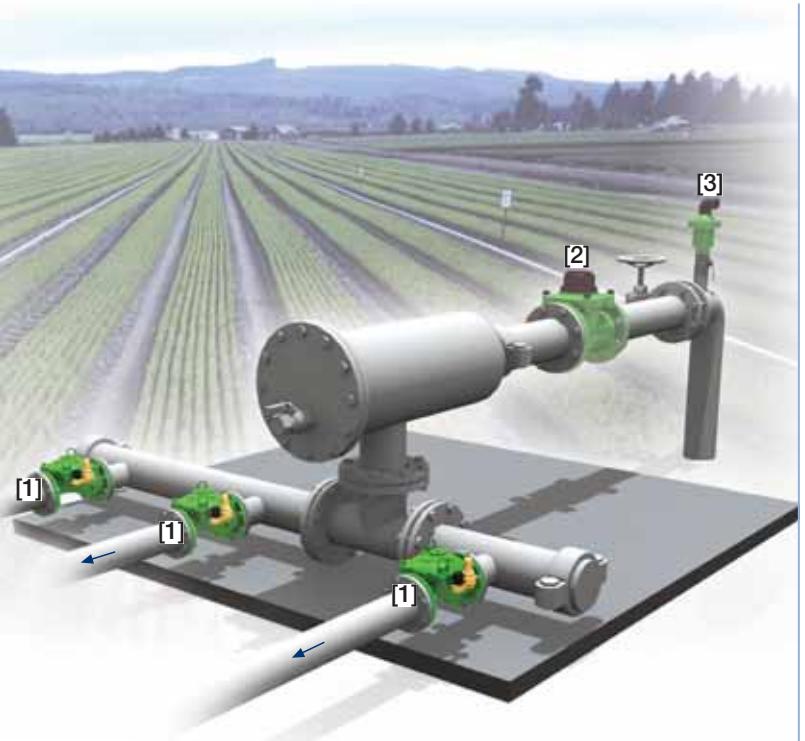


Features and Benefits

- Line Pressure Driven PRV, Electrically Controlled On/Off
 - Protects downstream systems
 - Wide range of pressures and voltages
 - Normally Open, Normally Closed or Last Position
- Advanced Globe Hydro-Efficient Design
 - Unobstructed flow path
 - Single moving part
 - High flow capacity
- Fully Supported & Balanced Diaphragm
 - Requires low opening and actuation pressure
 - Excellent low flow regulation performance
 - Progressively restrains valve closing
 - Prevents diaphragm distortion
- User Friendly Design
 - Easy pressure setting
 - Simple in-line inspection and service

Typical Applications

- Pressure Reducing Stations
- Flow and Leakage Reduction
- Cavitation Damage Protection
- Source and "On Duty" Valves Management
- Pressure Zone Isolation
- Downhill Supply Lines
- System Maintenance Savings

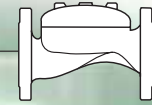


[1] BERMAD Model IR-420-55 opens in response to an electric signal establishing a reduced pressure zone.

[2] BERMAD Water Meter Model WPH

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

BERMAD Irrigation



IR-420-55

For full technical details, refer to Engineering Section.

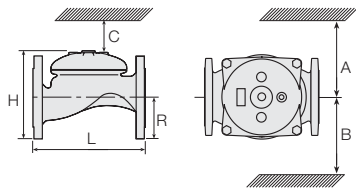
400 Series

Pressure Reducing

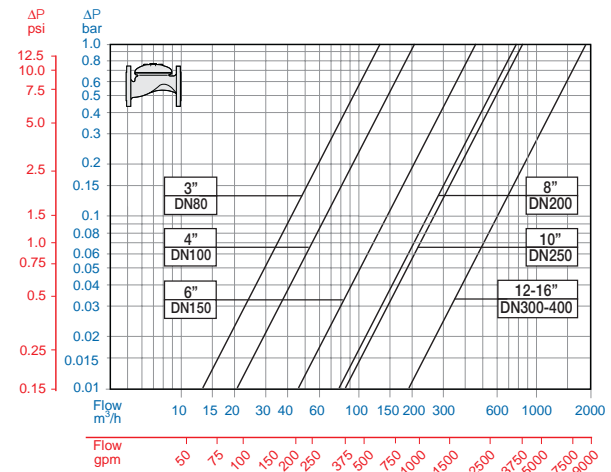
Technical Specifications

Dimensions and Weights

| Size | DN Inch | 80 3 | 100 4 | 150 6 | 200 8 | 250 10 | 300 12 | 350 14 | 400 16 |
|--------|------------|---------|----------|----------|----------|-----------|-----------|-----------|-----------|
| L | mm | 250 | 320 | 415 | 500 | 605 | 725 | 742 | 742 |
| | inch | 9.8 | 12.6 | 16.3 | 19.8 | 23.8 | 28.5 | 29.2 | 29.2 |
| H | mm | 210 | 242 | 345 | 430 | 460 | 635 | 655 | 965 |
| | inch | 8.3 | 9.5 | 13.6 | 16.9 | 18.1 | 25 | 25.8 | 38 |
| C | mm | 125 | 145 | 207 | 258 | 276 | 381 | 393 | 579 |
| | inch | 5 | 5.7 | 8.2 | 10.2 | 10.9 | 15 | 15.5 | 22.8 |
| R | mm | 100 | 112 | 140 | 170 | 202 | 242 | 260 | 300 |
| | inch | 3.9 | 4.4 | 5.5 | 6.7 | 8 | 9.5 | 10.2 | 11.8 |
| A; B | mm | 300 | 312 | 353 | 383 | 403 | 490 | 494 | 500 |
| | inch | 11.8 | 12.3 | 13.9 | 15.1 | 15.9 | 19.3 | 19.4 | 19.7 |
| Weight | Kg | 19 | 28 | 68 | 125 | 140 | 290 | 358 | 377 |
| | lb. | 41.9 | 61.7 | 149.9 | 275.6 | 308.6 | 639.3 | 789.2 | 831.1 |



Flow Chart



Technical Data

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

End Connections:

| Size | | 3" | 4" | 6" | 8-16" |
|----------|-------|------|-------|-------|-----------|
| | | DN80 | DN100 | DN150 | DN200-400 |
| 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: 1.5-16 bar; 22-232 psi

Setting ranges vary according to specific pilot spring. Please consult factory.

Materials:

Body and Cover:

Polyester Coated Cast or (10"; DN250 and larger) Ductile Iron

Spring: Stainless Steel

Diaphragm: Nylon fabric Reinforced NR with rugged insert

Bolts, Studs and Nuts: Zinc-Cobalt plated Steel

Control Accessories: Brass

Tubing and Fittings: Reinforced Plastic and Brass

Solenoid Voltage Range:

24 VAC, 24 VDC

Other voltages available

How to Order

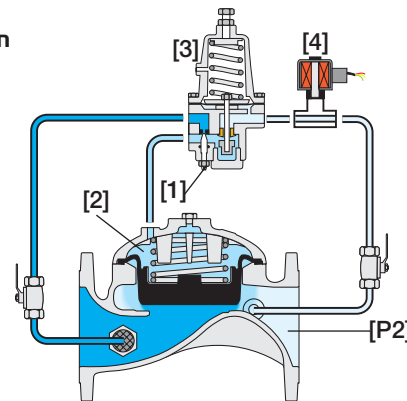
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

| Sector | Size | Primary Feature | Control Categories | Additional Feature | Pattern | Construction Materials | End Connections | Coating | Voltage -Main Valve Position | Tubing & Fittings | Additional Attributes |
|--------|---|-----------------|--|--------------------|--|---|-----------------|--|---|-------------------|-----------------------|
| IR | 3-16" <small>Other sizes available on request.</small> | 420 | 00 | - | G" | I | 16 | PG | 4AC | PB | - |
| | Globe Angle (up to 4"; DN100) | G A | ISO-16 ISO-10 IS 14 (ISO 10/4 Holes) ANSI-125 ANSI-150 JIS-10 BST-D Grooved (3-6"; DN80-150 only) | | 16 10 14 A1 A5 J1 BD VI | 9VDC- Latch 12VDC- Latch 24VDC- N.C. 24VDC- N.O. 24VAC/50HZ-N.C. 24VAC/50HZ-N.O. 24VAC/60HZ-N.C. 24VAC/60HZ-N.O. | | 9DS 1DS 4DC 4DC 4AC 4AO 46C 46O | Plastic Tubing & Brass Fittings Copper Tubing & Brass Fittings | PB CB | R Z F I M |

Other end connections available on request

(1) Standard Irrigation Cover & Diaphragm are unfitted to Attributes I, M.
Other attributes available on request.

Operation



The Needle Valve [1] continuously allows line pressure into the Control Chamber [2]. The Pressure Reducing Pilot [3] senses Downstream Pressure [P2], and throttles when it rises above setting. Pressure then accumulates in the control chamber causing the Valve to throttle closed, decreasing [P2] to pilot setting. The pilot releases accumulated pressure when [P2] falls below setting, thereby causing the Valve to modulate open. Closing the Solenoid [4] causes pressure in the control chamber to accumulate shutting off the Valve.



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