Pressure Reducing Valve

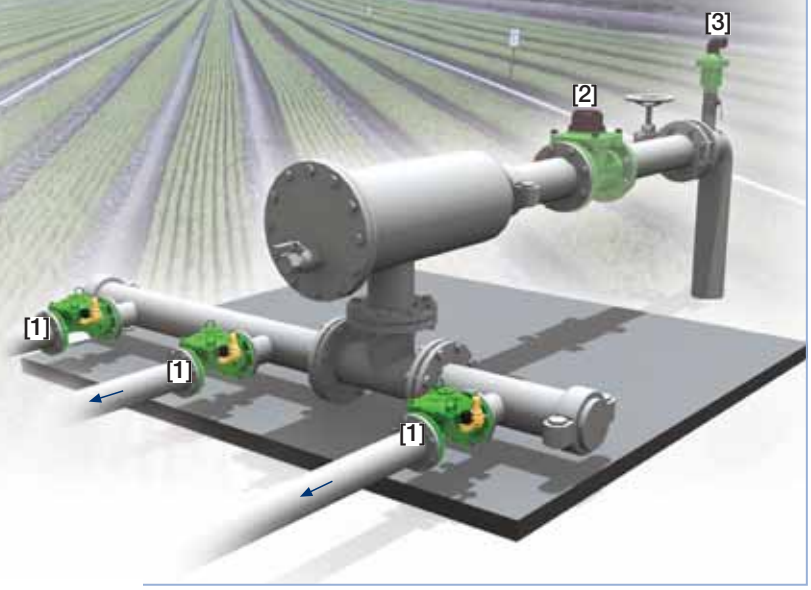
with solenid control

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

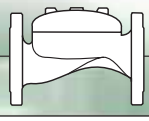


Typical Applications

- 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 respond to an electric signal establishing reduces pressure zone.
[2] BERMAD Water Meter Modle WPH
[3] BERMAD Air Relief Valve Model ARC-A-I-I

BERMAD Irrigation



IR-420-55

400 Series

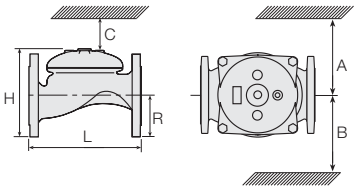
Pressure Reducing

For full technical details, refer to Engineering Section.

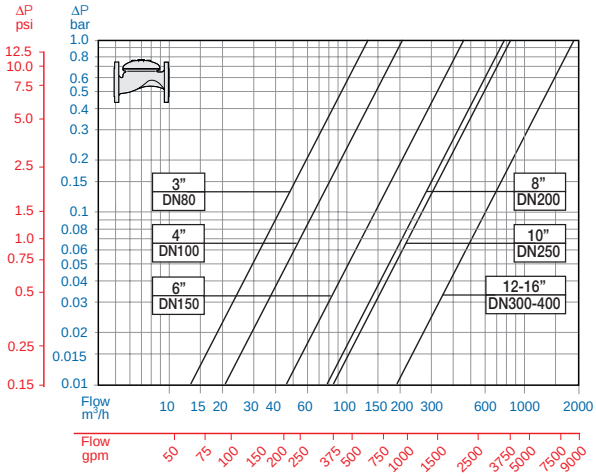
Technical Specifications

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" DN80	4" DN100	6" DN150	8-16" 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.

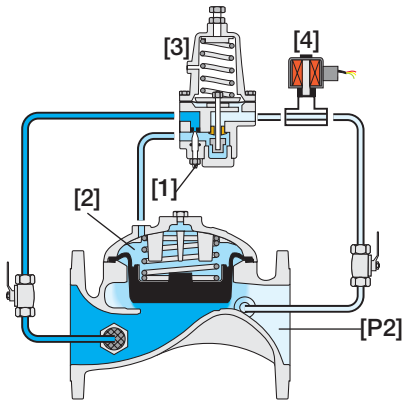
Materials:

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

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.

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	Additonal Attributes
IR	3-16"	420	00	-	G"	I	16	PG	4AC	PB	-

Other sizes available on request.

Primary Feature		
Globe		G
Angle (up to 4"; DN100)		A

Construction Materials		
Cast Iron (up to 8"; DN200)		I
Ductile Iron (10"; DN250 & above)		C

End Connections		
ISO-16		16
ISO-10		10
IS 14 (ISO 10/4 Holes)		14
ANSI-125		A1
ANSI-150		A5
JIS-10		J1
BST-D		BD
Grooved (3-6"; DN80-150 only)		VI

Other end connections available on request

Coating		
9VDC–	Latch	9DS
12VDC–	Latch	1DS
24VDC–	N.C.	4DC
24VDC–	N.O.	4DC
24VAC/50HZ–	N.C.	4AC
24VAC/50HZ–	N.O.	4AO
24VAC/60HZ–	N.C.	46C
24VAC/60HZ–	N.O.	46O

Tubing & Fittings	
Plastic Tubing & Brass Fittings	PB
Copper Tubing & Brass Fittings	CB

Additonal Attributes	
Metal Control Accessories	R
Manual Selector	Z
Large Control Filter	F
Valve Position Indicator(1)	I
Flow Stem(1)	M

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

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