

Pressure Reducing Valve

with solenoid control

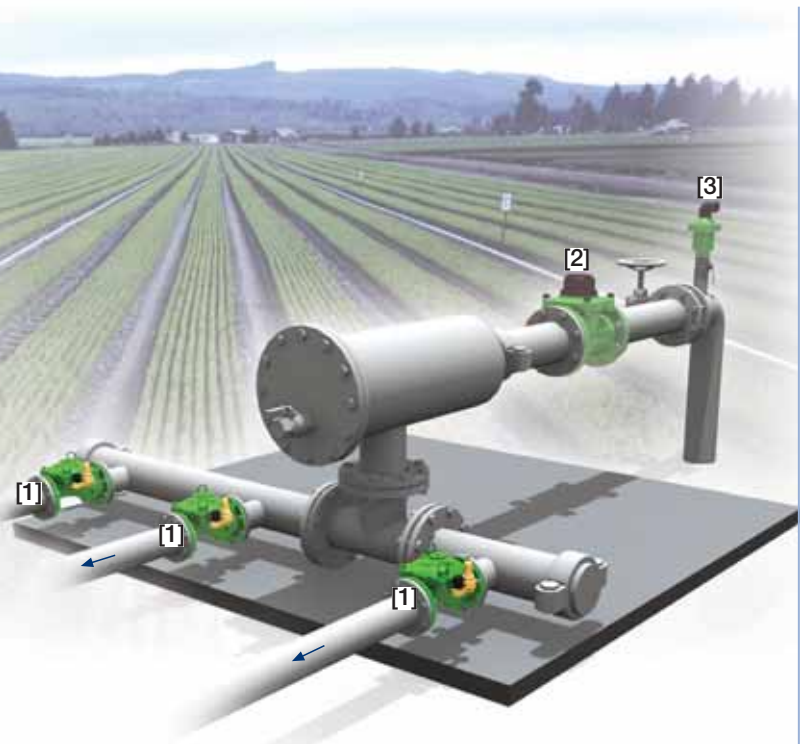
IR-420-55-X

The BERMAD Model IR-420-55-X 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 and opens fully upon line pressure drop. The BERMAD Model IR-420-55-X opens and shuts in response to an electric signal.



Features and Benefits

- 3-Way Hydraulically Actuated PRV, Electrically Controlled On/Off
 - Protects downstream system
 - Opens fully upon line pressure drop
 - 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

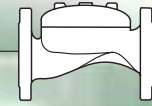
- Pressure Reducing Stations
- Flow and Leakage Reduction
- Systems Subject to Varying Supply Pressure
- Energy Saving Irrigation Systems
- Source and "On Duty" Valves Management
- Pressure Zone Isolation
- Downhill Supply Lines

[1] BERMAD Model IR-420-55-X 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-X

For full technical details, refer to Engineering Section.

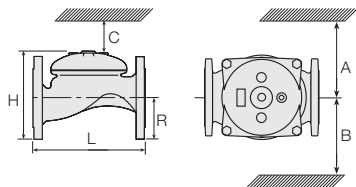
400 Series

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



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

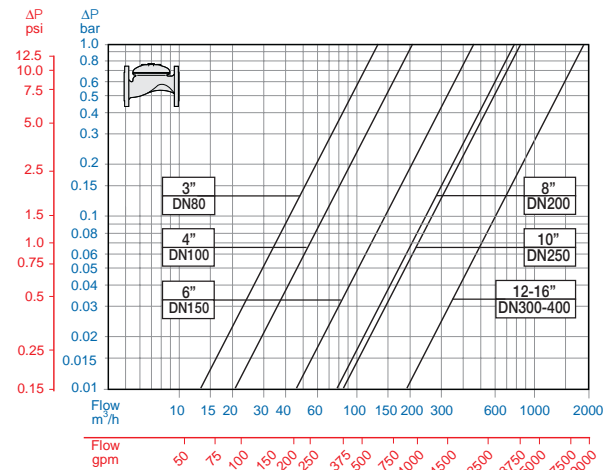
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

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	X
	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	X R Z F I M
	Cast Iron (up to 8"; DN200) Ductile Iron (10"; DN250 & above)	I C							3-Way Control Loop Metal Control Accessories Manual Selector Large Control Filter Valve Position Indicator ⁽¹⁾ Flow Stem ⁽¹⁾		

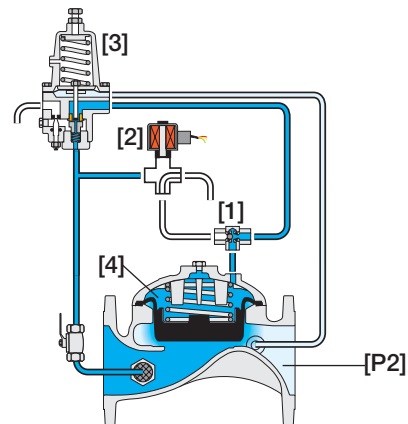
Other end connections available on request

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

Flow Chart



Operation



The Shuttle Valve [1] hydraulically connects the Solenoid [2] or the Pressure Reducing Pilot (PRP) [3] to the Valve Control Chamber [4]. When the solenoid is closed, the PRP commands the Valve to throttle closed should Downstream Pressure [P2] rise above setting, and to open when [P2] falls below setting. Should line pressure remain below setting - the Valve opens fully. In response to an electric signal, the solenoid switches, directing line pressure through the shuttle valve into the control chamber. This causes the Valve to shut



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