Pressure Reducing Valve

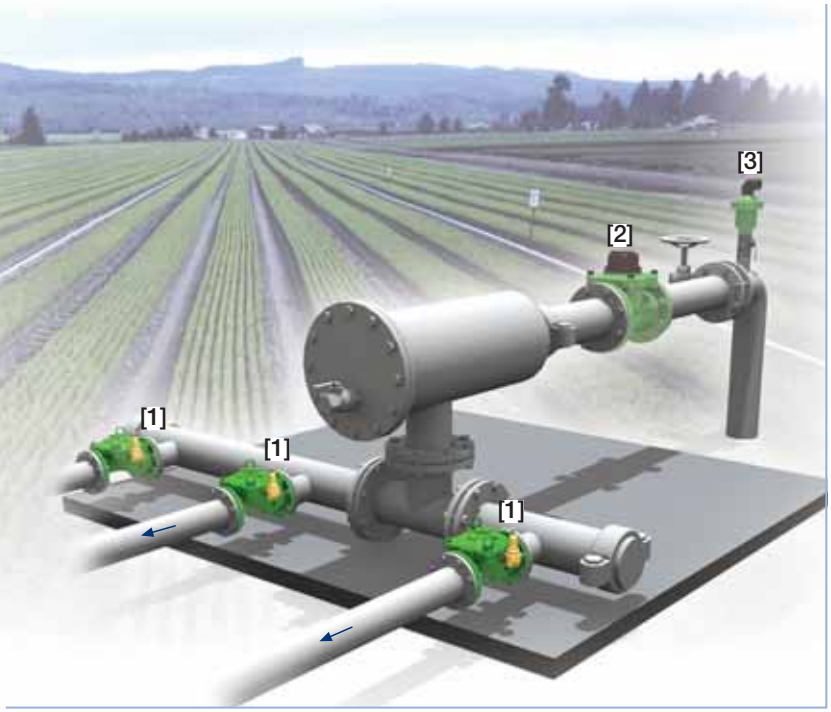
with Hydraulic Control

IR-420-50-R

The BERMAD Model IR-420-50-R 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. It either opens or shuts in response to a remote pressure command.

Features and Benefits

- Hydraulic Pressure Control
  - Line pressure driven
  - Protects downstream systems
  - Hydraulically 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
  - Progressively restrains valve closing
  - Prevents diaphragm distortion
- User-Friendly Design
  - Easy pressure setting
  - Simple in-line inspection and service

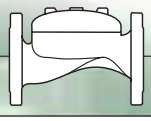


Typical Applications

- Computerized Irrigation
- Pressure Reducing Stations
- Irrigation Machines
- Distribution Centers
- Low Supplied Pressure Irrigation Systems

[1] BERMAD Model IR-420-50-R opens upon command pressure drop, establishing reduced pressure zones.
[2] BERMAD Water Meter Model WPH
[3] BERMAD Air Valve Model ARC-A-I-I

BERMAD Irrigation



IR-420-50-R

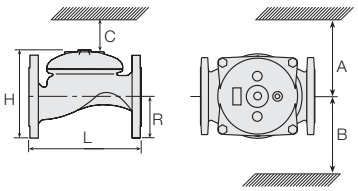
400 Series
Pressure Reducing

For full technical details, refer to Engineering Section.

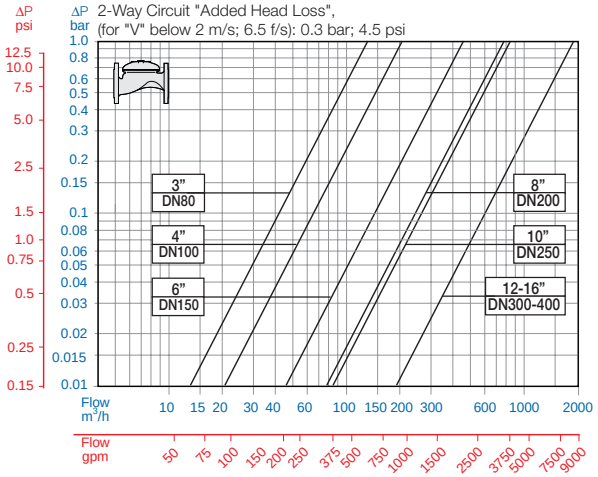
Technical Specifications

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:

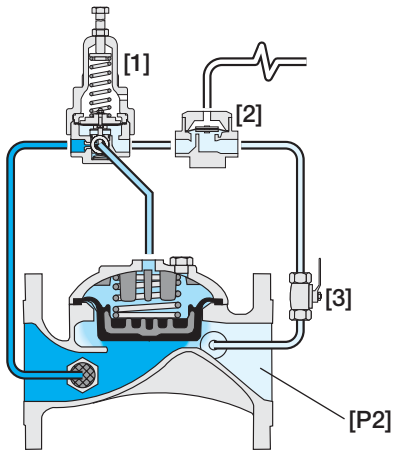
Size		3" DN80	4" DN100	6" DN150	8-16" DN200-400
Threaded	Globe	■			
	Angle	■			
Flanged	Globe	■	■	■	■
	Angle	■	■		
Grooved	Globe	■	■	■	
	Angle	■	■		

Pressure Rating: 16 bar; 232 psi
Operating Pressure Range: 0.5-16 bar; 7-232 psi
For lower pressure requirements, consult factory
Setting Range: 1-10 bar; 15-145 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

Operation



The Pressure Reducing Pilot **[1]** commands the Valve to throttle closed should Downstream Pressure **[P2]** rise above setting and modulate open when it drops below setting. The Hydraulic Relay Valve **[2]** closes upon receiving a remote pressure command, shutting off the main Valve.
The downstream Cock Valve **[3]** enables manual closing.

How to Order

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

Sector	Size	Primary Feature	Additional Feature	Additional Feature	Pattern	Construction Materials	End Connections	Coating	Voltage -Main Valve Position	Tubing & Fittings	Additonal Attributes
IR	3-16"	420	50	-	G	I	16	PG	-	PB	R

Other sizes available on request.

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

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

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

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

Metal Control Accessories	R
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.

info@bermad.com • www.bermad.com