

Pressure Reducing Valve

with Downstream Over-Pressure Guard

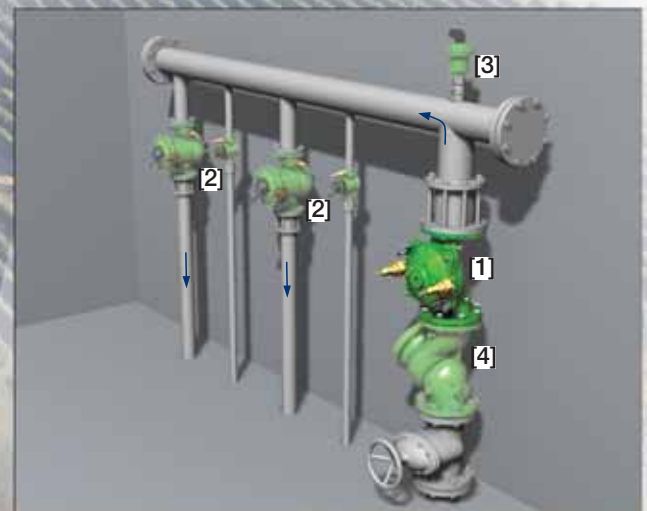
IR-420-48

The BERMAD Model IR-420-48 Pressure Reducing Valve with Downstream Over-Pressure Guard 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 downstream over-pressure guard feature enables an immediate closing response, minimizing deviation from set point caused by a sudden drop in demand or an upstream pressure peak.



Features and Benefits

- Line Pressure Driven Pressure Reducing Valve
 - Protects downstream systems
- Hydraulic Over-Pressure Guard
 - Minimizes deviation from set point
- 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
- Simple In-Line Inspection and Service

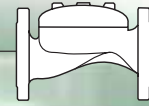


Typical Applications

- Pressure Reducing Stations
- Systems Subject to Sudden Demand Changes
- Lines Exposed to Upstream Pressure Peaks
- Flow and Leakage Reduction
- Pressure Zoning
- Downhill Supply Lines
- System Maintenance Savings

- [1] BERMAD Model IR-420-48 reduces line pressure, protecting the system even when demand suddenly drops or upstream pressure suddenly rises.
- [2] BERMAD Pressure reducing and flow control hydrometer Model IR-927-RV (various sizes)
- [3] BERMAD Air Relief Valve Model ARC-A-I-I
- [4] BERMAD Strainer Model 70F

BERMAD Irrigation



IR-420-48

For full technical details, refer to Engineering Section.

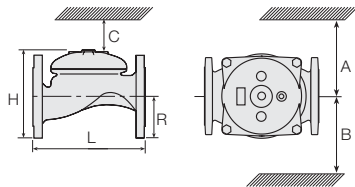
400 Series

Pressure Reducing

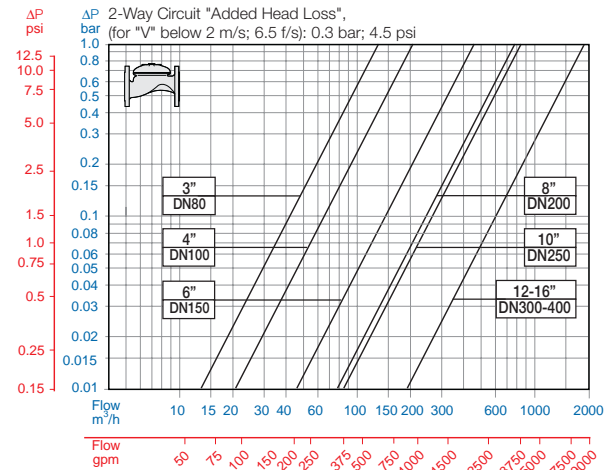
Technical Specifications

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 Ratings: 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

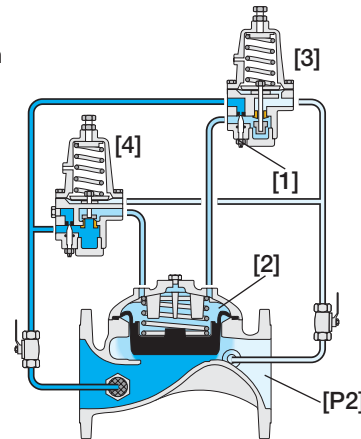
Diaphragm: Nylon fabric Reinforced NR with rugged insert

Bolts, Studs and Nuts: Zinc-Cobalt plated Steel

Control Accessories: Brass

Tubing and Fittings: Reinforced Plastic and Brass

Operation



The Needle Valve [1] continuously but slowly, allows line pressure into the Control Chamber [2]. The Pressure Reducing Pilot (PRP) [3] and the Over-Pressure Guard Pilot (OPGP) [4] sense Downstream Pressure [P2]. The PRP throttles when [P2] rises above setting causing the Valve to throttle closed, and decreasing [P2] to PRP setting. Should [P2] keep rising to OPGP setting (slightly above PRP setting), the OPGP opens wide, bypassing the needle valve and quickens Valve throttling rate, forcing it to immediately decrease [P2] back to PRP setting.

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	Additional Attributes
IR	3-16" <small>Other sizes available on request.</small>	420	48	-	G	I	16	PG	-	PB	-
		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	Plastic Tubing & Brass Fittings Copper Tubing & Brass Fittings		PB CB		Metal Control Accessories Large Control Filter Valve Position Indicator ⁽¹⁾ Flow Stem ⁽¹⁾	R F I M
		I C									

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



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