



PRESSURE REDUCING AND SUSTAINING VALVE

Model IR-423-RXZ

The BERMAD Model IR-423-RXZ Pressure Reducing and Sustaining Valve is a hydraulically operated, diaphragm actuated control valve with two independent functions.

It sustains minimum preset upstream pressure regardless of fluctuating flow or varying downstream pressure, and it prevents downstream pressure from rising above maximum preset regardless of fluctuating flow or excessive upstream pressure.



[1] BERMAD Model IR-423-RXZ sustains filters downstream pressure insuring sufficient backwash pressure, preventing line emptying, controls downstream system fill up & reduces its operation pressure

[2] BERMAD Filters Back Wash valves Model IR-350

[3] BERMAD Air valve Model IR-K-10-P

[4] BERMAD Field valve IR-110-X

Features & Benefits

- Line pressure Drive, Hydraulically controlled
 - Prioritized higher pressure zones
 - Protects lower pressure zones
 - Controls system fill-up
 - Prevents pipeline emptying
 - Protects pump from overload and cavitation
 - Compensates during groundwater drawdown
 - Protects downstream system
- 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
 - Easy addition of control features

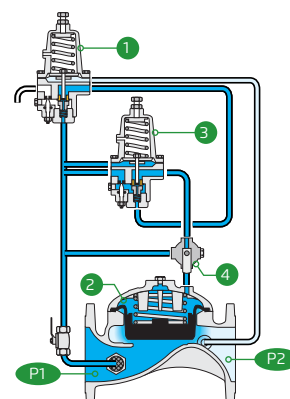
Typical Applications

- Line Fill-Up Control Solutions
- Filter Backwash Pressure Sustaining
- Pump Circulation Systems (with Orifice)
- Pressure Reducing Systems
- Line Emptying Prevention

Operation:

The Pressure Reducing Pilot (PRP) ① is hydraulically connected to the Valve Control Chamber ② through the Pressure Sustaining Pilot (PSP) ③. The PSP commands the Valve to throttle closed should Upstream Pressure (P1) drop below setting. When (P1) rises above setting, the PSP switches and allows the PRP to control the Valve, commanding it to reduce Downstream Pressure (P2).

Should line pressure remain above PSP setting but below PRP setting - the valve opens fully. The Manual Selector ④ enables local manual closing.





IR-423-RXZ

Technical Data

Pressure Rating:

16 bar, 232 psi

Operating Pressure Range:

0.5-16 bar, 7-232 psi

Setting Range:

1.5-16 bar, 22-232 psi

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

Materials:

Body & Cover:

Cast iron (up to 8")

Ductile iron (10" & above)

Diaphragm:

NR, Nylon fabric reinforced

Spring:

Stainless steel

Cover Bolts: Stainless Steel

Control Accessories:

Tubing and Fittings:

Reinforced plastic

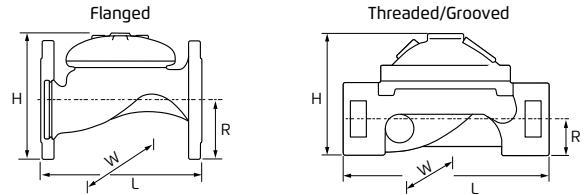
Pilot Spring Range:

Spring	Spring color	Setting Range	Pilot Type
J	Green	0.2-1.7 bar	Mini pilot
K	Gray	0.5-3.0 bar	Mini pilot
N	Colorless	0.8-6.5 bar	Mini pilot
16	Blue	1-16 bar	Pilot

Technical Specifications

Globe Pattern Valves Dimensions & Weights

For [BERMAD](#) angle pattern, Please see our full engineering page.



Sizes Inch ; DN	1" ; 25*	1½" ; 40	2" ; 50		2½" ; 65		3R" ; 80R		3" ; 80			
Connection	Threaded	Threaded	Flanged	Threaded	Grooved	Flanged	Threaded	Flanged	Threaded	Flanged	Threaded	Grooved
L (mm)	115	153	205	180	205	205	210	210	210	250	255	250
H (mm)	68	87	155	114	108	178	132	200	140	210	165	155
W (mm)	71	98	155	119	119	178	129	200	129	200	170	170
R (mm)	34	29	78	39	31	89	45	100	53	100	55	46
Weight (kg)	1.1	2	9	4	5	10.5	5.7	12.1	5.8	19	13	10.6

Sizes Inch ; DN	4" ; 100		6" ; 150		8" ; 200	10 ; 250	12" ; 300	14" ; 350	16" ; 400
Connection	Flanged	Grooved	Flanged	Grooved	Flanged	Flanged	Flanged	Flanged	Flanged
L (mm)	320	320	415	415	500	605	725	742	741
H (mm)	242	191	345	302	430	460	635	655	694
W (mm)	223	204	306	306	365	405	580	587	587
R (mm)	112	61	140	85	170	202	242	260	300
Weight (kg)	28	16.2	68	49	125	140	290	358	377

*on/off valve only

Flow Properties

Sizes Inch DN	1" 25	1½" 40	2" 50	2½" 65	3" 80	4" 100	6" 150	8" 200	10" 250	12" 300	14" 350	16" 400				
Pattern	G	G	G	A	G	A	G	G	G	G	G	G				
KV	15	57	57	71	78	88	136	152	204	225	458	781	829	1,932	1,932	1,932

G = Globe pattern • A = Angle pattern

Valve flow coefficient

$$\Delta P = \left(\frac{Q}{Kv} \right)^2$$

$Kv = m^3/h @ \Delta P \text{ of } 1 \text{ bar}$
 $Q = m^3/h$
 $\Delta P = \text{bar}$

Flow Chart

