

Pressure Reducing Valve

Normally Closed with Hydraulic Control for Drip-Tape Applications

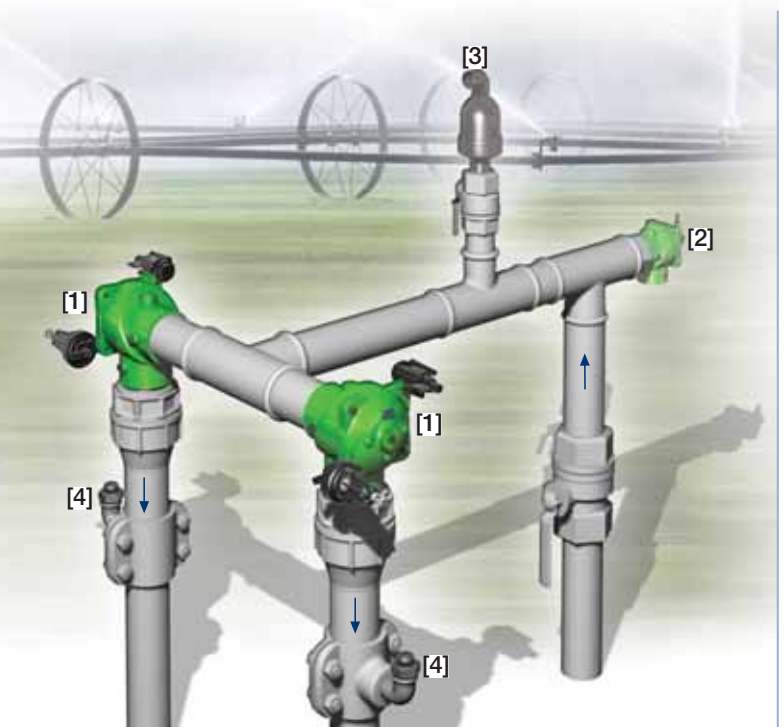
IR-420-54-bK

The BERMAD Model IR-420-54-bK is a hydraulically operated, diaphragm actuated control valve that reduces higher upstream pressure to very low and stable preset downstream pressure regardless of fluctuating demand or varying upstream pressure. It is a Normally Closed valve, which opens in response to a remote pressure drop command and shuts in the absence of that command.



Features and Benefits

- Line Pressure Driven Normally Closed PRV
 - Protects downstream systems
 - Closes upon control failure
 - Amplifies and relays weak remote command
- Pressure Reducing Servo Pilot Controlled
 - Dynamic integrated needle valve
 - Settable to 0.5 bar; 7 psi
 - Very low hysteresis
- 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
- Simple In-Line Inspection and Service

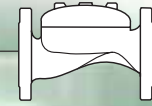


Typical Applications

- Computerized Irrigation System
- Drip-Tape Systems
- Low Set Pressure Applications
- Remote and/or Elevated Plots
- Distribution Centers

- [1] BERMAD Model IR-420-54-bK opens upon pressure rise command, and establishes reduced pressure zone protecting laterals and distribution line.
- [2] BERMAD Relief Valve Model IR-43Q-K
- [3] BERMAD Air Valve Model ARA-A-P-P
- [4] BERMAD Vacuum Breaker Model ½"-ARV

BERMAD Irrigation



IR-420-54-bK

For full technical details, refer to Engineering Section.

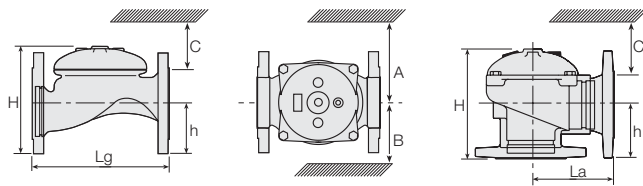
400 Series

Pressure Reducing
Drip-Tape

Technical Specifications

Dimensions and Weights

Pattern	Globe						Angle					
	Connections	Threaded					Fl.	Threaded				Fl.
Size	DN	1½"	2"	2½"	3"R	3"	100 4"	50 2"	65 2½"	80R 3"	80 3"	100 4"
Lg	mm inch	153 6	180 7.1	210 8.3	210 8.3	255 10.0	320 12.6	N.A.	N.A.	N.A.	N.A.	N.A.
La	mm inch	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	86 3.4	110 4.3	110 4.3	110 4.3	160 6.3
H	mm inch	87 3.4	114 4.5	132 5.2	140 5.5	165 6.5	242 9.5	136 5.4	180 7.1	178 7	184 7.2	223 8.8
C	mm inch	52 2	68 2.7	80 3.1	84 3.3	100 3.9	145 5.7	82 3.2	108 4.2	107 4.2	110 4.3	134 5.3
h	mm inch	29 1.1	39 1.5	45 1.8	53 2.1	55 2.2	112 4.4	61 2.4	93 3.7	91 3.6	80 3.1	112 4.4
A; B	mm inch	130 5	130 5	130 5	140 6	175 7	312 12.3	130 5.1	130 5.1	140 5.5	175 6.9	312 12.3
Weight	Kg lb.	2 4.4	4 8.8	5.7 12.6	5.8 12.8	13 28.7	28 61.7	4.4 9.7	5.8 12.8	7 15.4	11 24.3	26 57.3



Technical Data

End connections:

Size	End connections:						
	1½"	2"	2½"	3"R	3"	4"	
	DN40	DN50	DN65	DN80R	DN80	DN100	
Threaded	Globe	■	■	■	■	■	
	Angle		■	■	■	■	
Flanged	Globe		■	■	■	■	
	Angle		■	■	■	■	
Grooved	Globe		■	■	■	■	
	Angle				■	■	

Pressure Rating: 10 bar; 145 psi

Operating Pressure Range: 0.5-10 bar; 7-145 psi

For lower pressure requirements, consult factory

Setting Range: 0.5-1.7 bar; 7-25 psi

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

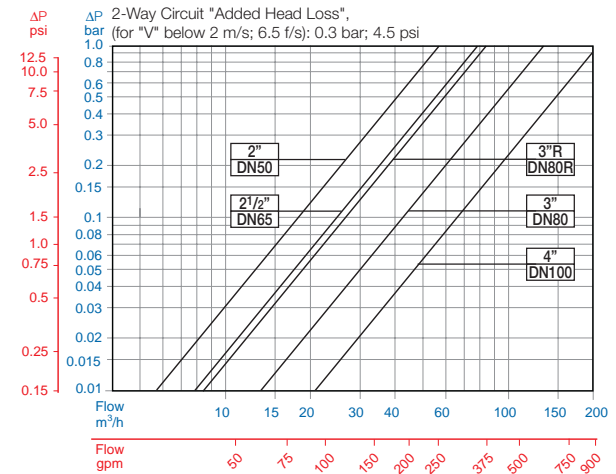
How to Order

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

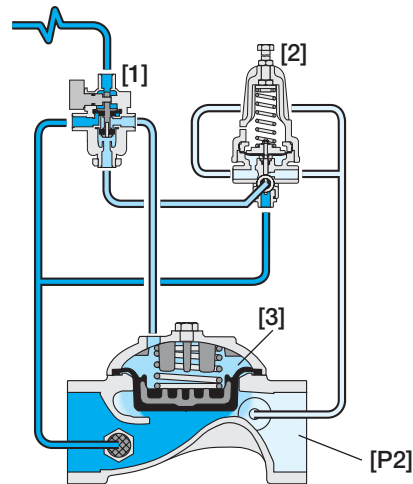
Sector	Size	Primary Feature	Additional Feature	Additional Feature	Pattern	Construction Materials	End Connections	Coating	Voltage -Main Valve Position	Tubing & Fittings	Additional Attributes
IR	1½"-4" <small>Other sizes available on request.</small>	420	54	-	G	I	BP	PG	-	PP	bK
Globe		G	BSP		BP	Plastic Tubing & Fittings		PP	Servo		b
Angle		A	NPT		NP	Plastic Tubing & Brass Fittings		PB	Plastic Control Accessories		K
			ISO-16		16				Valve Position Indicator ⁽¹⁾		I
			ISO-10		10				Flow Stem ⁽¹⁾		M
			IS 14 (ISO 10/4 Holes)		14						
			ANSI-125		A1						
			JIS-10		J1						
			BST-D		BD						
			Grooved		VI						

For available end connections/sizes, see End Connections Table above.

Flow Chart



Operation



The 3-Way Hydraulic Relay Valve (3W-HRV) [1] hydraulically connects the Pressure Reducing Servo Pilot (PRSP) [2] to the Valve Control Chamber [3]. The PRSP commands the Valve to throttle closed, preventing Downstream Pressure [P2] from rising above pilot setting. The 3W-HRV switches upon pressure drop command, directing line pressure into the control chamber, and thereby causing the main Valve to shut. The 3W-HRV also features local manual closing.



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