

## Pressure Relief/Sustaining Valve

with Solenoid Control

### IR-430-55

The BERMAD Model IR-430-55 is a hydraulically operated, diaphragm actuated control valve that can fulfill either of two separate functions. When installed in-line, it sustains minimum preset upstream (back) pressure. When installed as a relief or circulation valve, it relieves line pressure in excess of preset. The BERMAD Model IR-430-55 either opens or shuts in response to an electric signal.

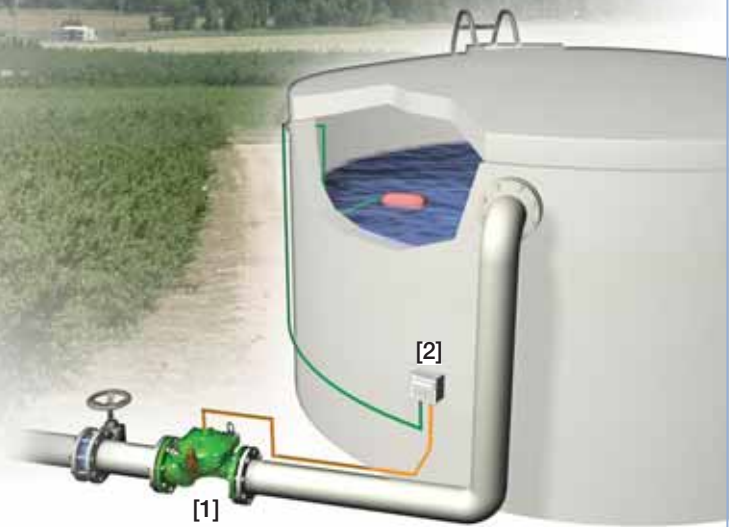


### Features and Benefits

- Line Pressure Driven PSV Electrically Controlled On/Off
  - Controls system fill-up
  - Relieves excessive pressure protecting pump and system
  - Switches between pressure regimes
  - Wide range of pressures and voltages
- 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

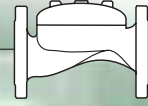
### Typical Applications

- Downhill Supply Lines Emptying Prevention
- Systems with Various Pressure Regimes
- Line Fill-Up Control
- Backup for Reservoir Supply Valves
- Pump Overload and Cavitation Protection
- Pump Minimum Flow Safeguard
- Excessive Line Pressure Protection



- [1] BERMAD Model IR-430-55 sustains minimum preset supply pressure prioritizing irrigation over reservoir fill-up, and supplies electric backup to the level control system.
- [2] Bi-Level Float Switch Model "65".

# BERMAD Irrigation



## IR-430-55

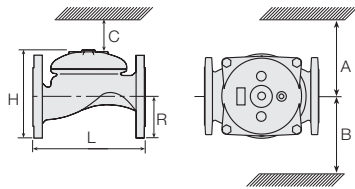
For full technical details, refer to Engineering Section.

## 400 Series Pressure Relief/Sustaining

### 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 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

#### Solenoid Voltage Range:

24 VAC, 24 VDC

Other voltages available

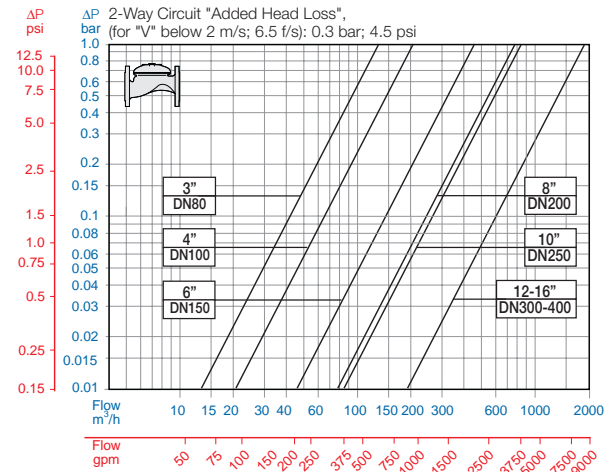
### How to Order

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

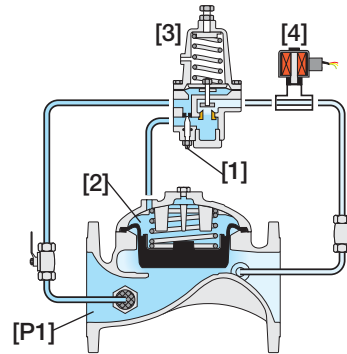
Sector	Size	Primary Feature	Additional Feature	Additional Feature	Pattern	Construction Materials	End Connections	Coating	Voltage -Main Valve Position	Tubing & Fittings	Additional Attributes
IR	3-16" <small>Other sizes available on request.</small>	430	55	-	G	I	16	PG	4AC	PB	-
	Globe Angle (up to 4"; DN100)	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) <small>Other end connections available on request</small>		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	R F I M
	Cast Iron (up to 8"; DN200) Ductile Iron (10"; DN250 & above)	I C									

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

### Flow Chart



### Operation



The Needle Valve [1] continuously allows line pressure into the Control Chamber [2]. The Pressure Relief/Sustaining Pilot [3] which senses Upstream Pressure [P1] and the Solenoid [4], together control outflow from the control chamber. The pilot throttles when [P1] drops below setting\*. Pressure then accumulates in the control chamber causing the Valve to throttle closed maintaining [P1] at pilot setting, and eventually closing drip-tight. The pilot releases accumulated pressure when [P1] rises above setting, thereby causing the Valve to modulate open. Closing the solenoid shuts off the Valve.

\* Sustaining (In-Line) Valve Pilot should be set to minimum system pressure allowed.  
Relief (Circulation) Valve Pilot should be set slightly above system working pressure.



info@bermad.com • www.bermad.com

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