

# Pressure Reducing Valve

with Hydraulic Control  
for Drip-Tape Applications

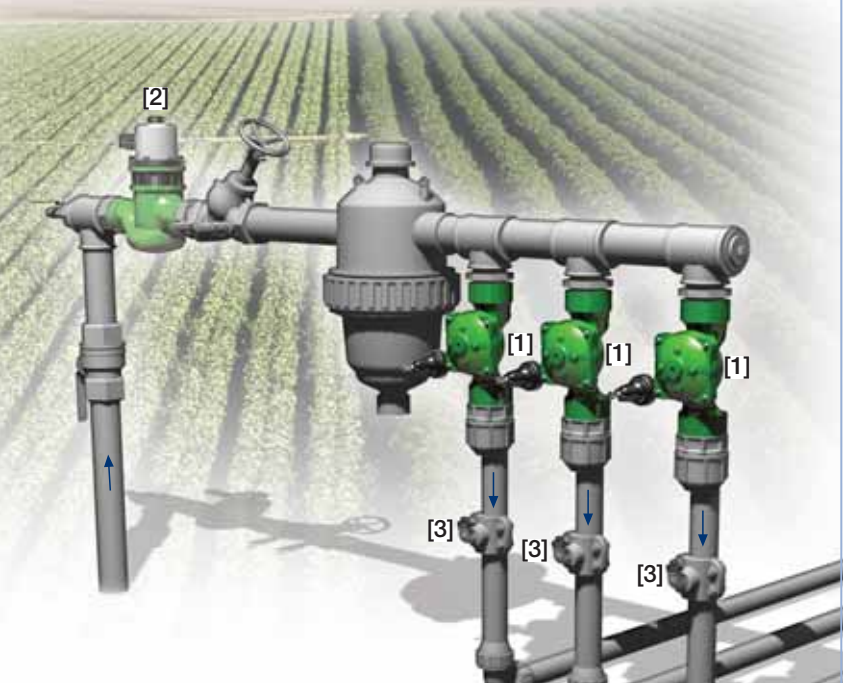
IR-420-50-bKZ

The BERMAD Pressure Reducing Valve with Hydraulic Control 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 either opens or shuts in response to a remote pressure command.



## Features and Benefits

- Hydraulically controlled On/Off Pressure Reducing Valve
  - Protects downstream systems
- 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

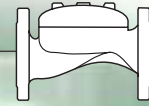
- Computerized Irrigation Systems
- Drip-Tape Systems
- Low Set Pressure Applications
- Distribution Centers
- Low Supplied Pressure Irrigation Systems

[1] BERMAD Model IR-420-50-bKZ opens upon pressure drop command, and establishes reduced pressure zone protecting laterals and distribution line.

[2] BERMAD Automatic Metering Valve Model IR-900-D0

[3] BERMAD Vacuum Breaker Model 1/2"-ARV

# BERMAD Irrigation



**400 Series**

Pressure Reducing  
Drip-Tape

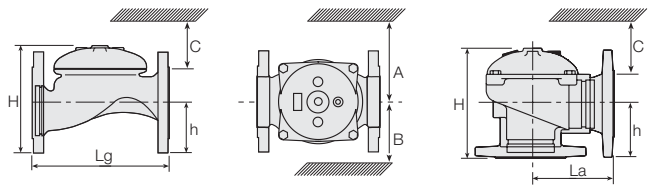
## IR-420-50-bKZ

For full technical details, refer to Engineering Section.

### Technical Specifications

#### Dimensions and Weights

Pattern	Globe						Angle					
	Connections	Threaded					Fl.	Threaded				Fl.
Size	DN	40	50	65	80R	80	100	50	65	80R	80	100
	Inch	1½"	2"	2½"	3"R	3"	4"	2"	2½"	3"R	3"	4"
Lg	mm	153	180	210	210	255	320	N.A.	N.A.	N.A.	N.A.	N.A.
	inch	6	7.1	8.3	8.3	10.0	12.6	N.A.	N.A.	N.A.	N.A.	N.A.
La	mm	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	86	110	110	110	160
	inch	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	3.4	4.3	4.3	4.3	6.3
H	mm	87	114	132	140	165	242	136	180	178	184	223
	inch	3.4	4.5	5.2	5.5	6.5	9.5	5.4	7.1	7	7.2	8.8
C	mm	52	68	80	84	100	145	82	108	107	110	134
	inch	2	2.7	3.1	3.3	3.9	5.7	3.2	4.2	4.2	4.3	5.3
h	mm	29	39	45	53	55	112	61	93	91	80	112
	inch	1.1	1.5	1.8	2.1	2.2	4.4	2.4	3.7	3.6	3.1	4.4
A; B	mm	130	130	130	140	175	312	130	130	140	175	312
	inch	5	5	5	6	7	12.3	5.1	5.1	5.5	6.9	12.3
Weight	Kg	2	4	5.7	5.8	13	28	4.4	5.8	7	11	26
	lb.	4.4	8.8	12.6	12.8	28.7	61.7	9.7	12.8	15.4	24.3	57.3



### Technical Data

End connections:

Size		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

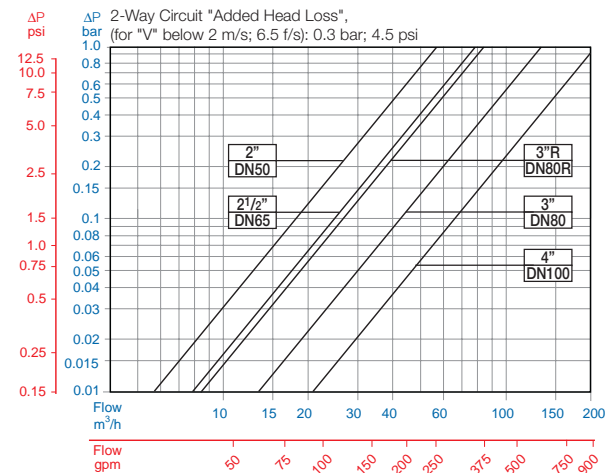
Please specify the requested valve in the following sequence: (for more options, refer to Ordering Guide.)

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	50	-	G	I	BP	PG	-	PP	bKZ
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				Manual Selector		Z
			ISO-10		10				Valve Position Indicator <sup>(1)</sup>		I
			IS 14 (ISO 10/4 Holes)		14				Flow Stem <sup>(1)</sup>		M
			ANSI-125		A1						
			JIS-10		J1						
			BST-D		BD						
			Grooved		VI						

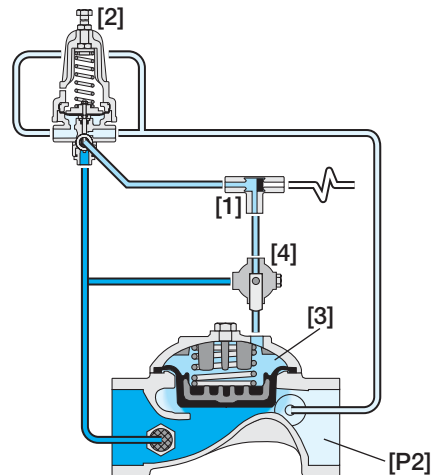
For available end connections/sizes, see End Connections Table above.

(1) Standard Irrigation Cover & Diaphragm are unfitted to Attributes I, M. Other additional attributes are optional. Please consult full-stop

### Flow Chart



### Operation



The Shuttle Valve [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. Upon pressure rise command, the shuttle valve automatically switches, allowing pressurization of the control chamber, which causes the main Valve to shut. The Manual Selector [4] enables manual closing.



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