Pressure Reducing Valve

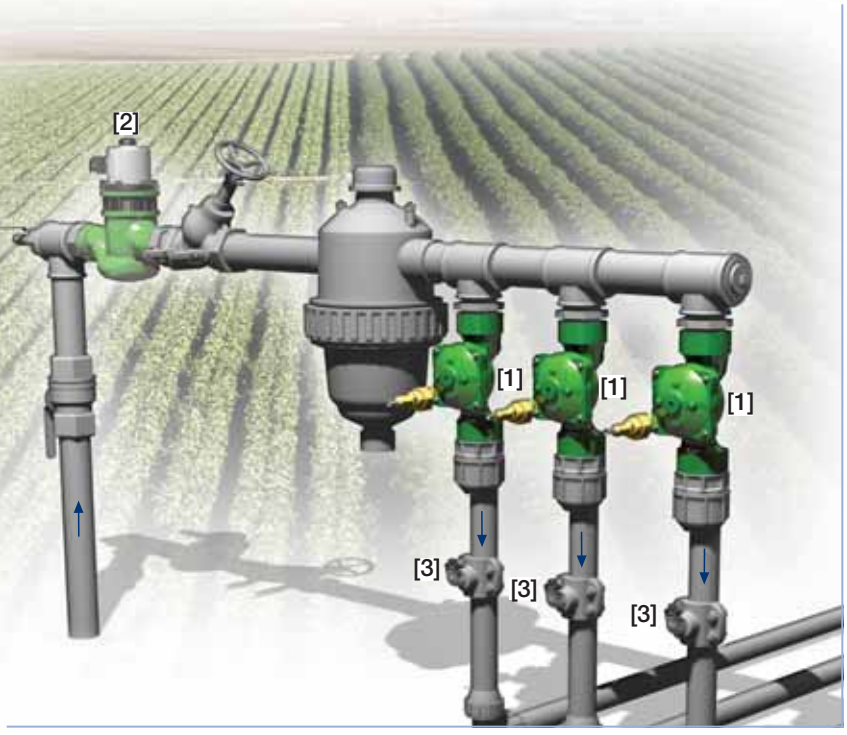
with Hydraulic Control
for Drip-Tape Applications, Metal Accessories

IR-420-50-bRZ

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
- Metal Control Accessories
  - Damage resistant
  - High pressure rating
- 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

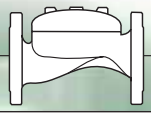


Typical Applications

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

[1] BERMAD Model IR-420-50-bRZ opens upon pressure drop command, and establishes reduced pressure zone protecting laterals and distribution lines.
[2] BERMAD Automatic Metering Valve Model IR-900-D2
[3] BERMAD Vacuum Breaker Model ½"-ARV

BERMAD Irrigation



IR-420-50-bRZ

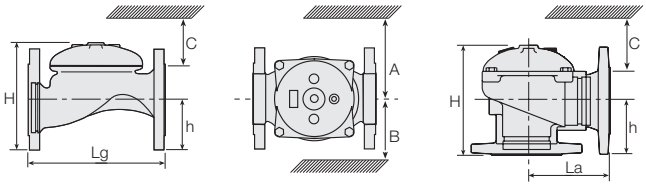
400 Series
Pressure Reducing Drip-Tape

For full technical details, refer to Engineering Section.

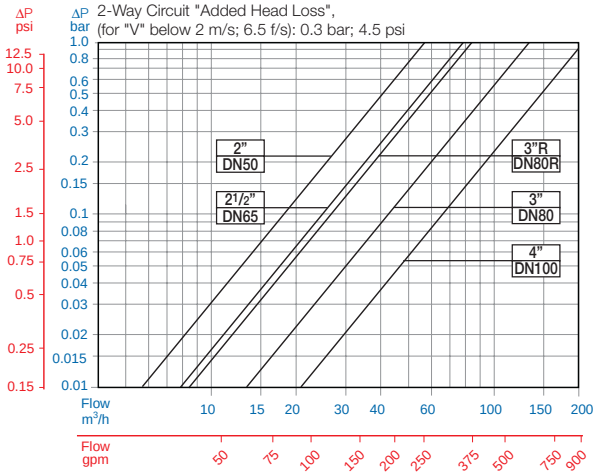
Technical Specifications

Dimensions and Weights

Pattern		Globe						Angle				
Connections		Threaded					Fl.	Threaded				Fl.
Size	DN / Inch	40 1½"	50 2"	65 2½"	80R 3"R	80 3"	100 4"	50 2"	65 2½"	80R 3"R	80 3"	100 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



Flow Chart



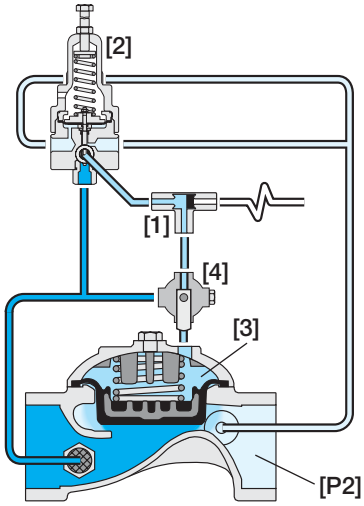
Technical Data

End connections:

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

Pressure Rating: 16 bar; 232 psi
Operating Pressure Range: 0.5-16 bar; 7-232 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.

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.

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	Additonal Attributes
IR	1½-4"	420	50	-	G	I	BP	PG	-	PP	bRZ

Other sizes available on request.

Globe	G
Angle	A

BSP	BP
NPT	NP
ISO-16	16
ISO-10	10
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.

Plastic Tubing & Fittings	PP
Plastic Tubing & Brass Fittings	PB

Servo	b
Metal Control Accessories	R
Manual Selector	Z
Valve Position Indicator(1)	I
Flow Stem(1)	M

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

info@bermad.com • www.bermad.com