



TOP PILOT PRESSURE REDUCING VALVE

Model IR-12T-3W-X

The BERMAD Top Pilot Pressure Reducing Control valves offer top performance, compact design and intuitive plug & play operation, thanks to an innovative integrated pilot, equipped with a high resolution adjustment dial for easy, quick & accurate calibration. Model IR-12T-3W-X reduces higher upstream pressure to a calibrated constant downstream pressure, regardless of flow fluctuations and opens fully when line pressure drops below setting.



- [1] BERMAD Model IR-12T-3W-X establishes reduced pressure zone, protecting laterals and distribution line.
- [2] Kinetic Air Valve Model IR-K10
- [3] Combination Air Valve Model IR-C10

Features & Benefits

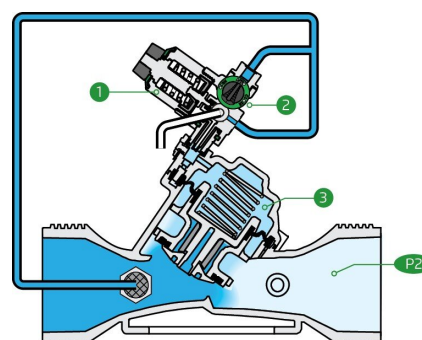
- Line Pressure Driven, Hydraulically Controlled On/Off
 - Protects downstream systems
 - Opens fully when flow & pressure are below setting
- 3-Way Integrated Pilot - User Friendly Design
 - Adjustment knob and high resolution scale for easy calibration without any pressure gauge
 - Compact "Box-Size" solution
 - Solenoid control is easily added or removed
 - Uniquely suitable to all size range up to 3"
- Engineered Composite Valve with Industrial Grade Design
 - Adaptable on-site to a wide range of end connection
 - Highly durable, chemical and cavitation resistant
- hYflow 'Y' Valve Body with "Look Through" Design
 - Ultra-high flow capacity at low pressure loss
- Unitized "Flexible Super Travel" (FST) Diaphragm and Guided Plug
 - Accurate and stable regulation with smooth closing
 - Requires low actuation pressure
 - Prevents diaphragm erosion and distortion

Typical Applications

- Systems Subject to Varying Supply Pressure
- Plot Valves in Drip & Sprinklers Irrigation Systems
- Energy Saving Irrigation Systems

Operation:

The Pressure Reducing Pilot [1] commands the Valve to throttle closed should Downstream Pressure [P2] rise above setting and to open fully when it drops below setting. The Integrated Trio Selector [2] enables manual closing and opening override or automatic hydraulic control, in which the pilot connects valve control chamber [3] with line pressure to throttle close the valve or vents it through the pilot to open the valve.





Technical Data

Pressure Rating:
10 bar

Operating Pressure Range:
0.5-10 bar

Materials

Body & Cover:
Polyamide 6 & 30% GF

Diaphragm:
NR, Nylon fabric reinforced

Spring:
Stainless Steel

Control Loop Accessories

PR Pilot: Top Pilot

Pilot Spring Range:

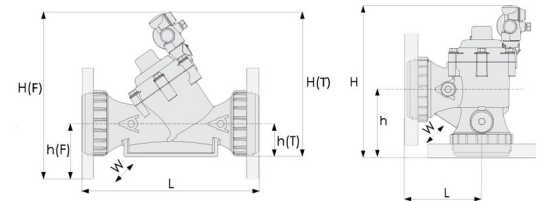
Spring	Spring Color	Setting range
Black	Black	0.8-6 bar

- H2 for bar scale
- J2 for psi scale

Tubing and Fittings:
Polyethylene and
Polypropylene

Technical Specifications

For other patterns and end connection types,
Please refer to [BERMAD](#) full engineering page.



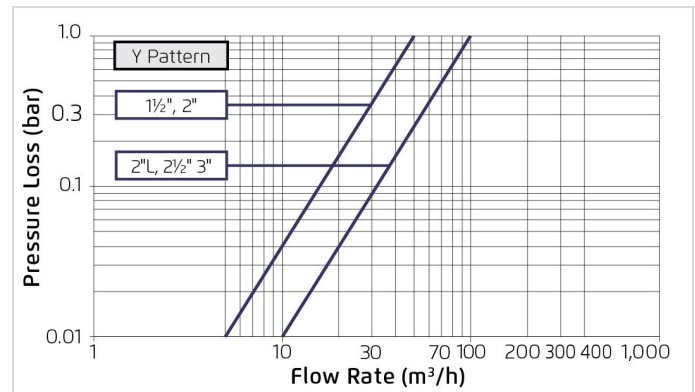
Size	Pattern	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	W	CCDV (Lit)	KV
1½" ; DN40	Oblique	Threaded	1.3	200	238	40	142	0.12	50
2" ; DN50	Oblique	Threaded	1.4	230	238	40	142	0.12	50
2" L ; DN50L	Oblique	Threaded	1.7	230	257	43	152	0.15	100
2½" ; DN65	Oblique	Threaded	1.4	230	257	43	152	0.15	100
2" ; DN50	Angle	Threaded	1.4	115	279	115	142	0.12	50
3" ; DN80	Oblique	Threaded	1.8	298	269	55	152	0.15	100
3" ; DN80	Oblique	Plastic Flanges	2.7	308	314	100	200	0.15	100
3" ; DN80	Oblique	Metal Flanges	4.6	308	314	100	200	0.15	100
3" ; DN80	Angle	Threaded	1.8	133	294	118	152	0.15	85
3" ; DN80	Angle	Plastic Flanges	2.7	138	299	123	200	0.15	85
3" ; DN80	Angle	Metal Flanges	4.6	138	299	123	200	0.15	85

CCDV = Control Chamber Displacement Volume • **Threaded** = BSP & NPT are available. External thread is available for 2" and 2½" only. • Other End Connections are available on request. For dimensions and weights of adapters or valves with adapters please consult with customer service.

Additional Features

Code	Description	Size Range
5	Plastic Test Point	1½"-4" / DN40-100
V3	Victaulic PVC Adaptors 3"	3" / DN80
V4	Victaulic PVC Adaptors 4"	4" / DN100

Flow Chart



Differential Pressure & Flow Calculation

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

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