



ADJUSTABLE DIRECT-ACTING, LOW FLOW PRESSURE REDUCER

Model 1-PRV-05

The BERMAD Adjustable Direct Acting Low Flow Pressure Reducer is actuated by a pressure responsive diaphragm, which seeks to reach equilibrium between hydraulic and set spring force. The BERMAD Model 1"-PRV-05 is built of composite materials that endows it with excellent hydraulic performance capabilities and high mechanical strength. Supplied with a special throttling plug and elastomeric seal, it reduces higher upstream pressure to lower constant downstream pressure even under conditions of near zero demand.



- [1] BERMAD Model 1"-PRV-05 protects laterals and fittings from excessive pressure and ensures dripper flow per design.
[2] GreenApp Controlled Valve Model IR-21T
[3] Automatic Air Valves Model IR-A10

Features & Benefits

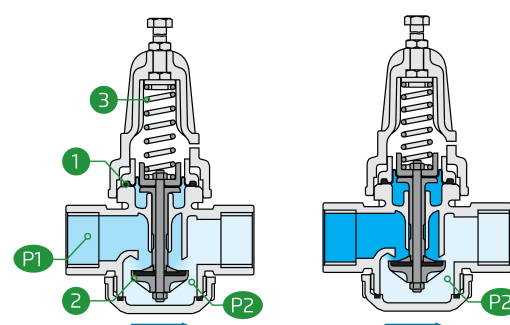
- Advanced Construction Materials
 - High mechanical strength
 - Proven pressure, flow and weather resistance
- Adjustable Direct Acting Pressure Reducer
 - Constant downstream pressure
 - Immediate response
 - Adjustable according to season and stage
- Composite Body and Trim
 - Highly durable, chemical and cavitation resistant
 - Minimizes friction
- Unitized Rolling Diaphragm and Guided Plug
 - Accurate and stable regulation
 - Prevents diaphragm distortion
- User-Friendly Design
 - Can be installed at any orientation
 - Simple in-line inspection and service

Typical Applications

- Distribution Line Lateral Risers
- Non-Compensating Drip-Line Flow Fixation
- Lateral Final Burst Protection
- Pressure Reduction for Marginal Plots
- Irrigation Machine Sprinkler Flow Control
- Single Sprinkler Flow Fixation

Operation:

The Upstream Pressure [P1] applies balanced opening and closing hydraulic forces under the Diaphragm [1] and above the Plug [2]. Downstream Pressure [P2] applies hydraulic closing force under the plug, which seeks to reach equilibrium with the Set Spring [3] force. Should [P2] rise above setting, the hydraulic closing forces rise above the mechanical force of the spring, pushing the plug to modulate closed, and reducing [P2] back to setting.





Technical Data

Pressure Rating:

10 bar

Operating Pressure Range:

0.7-9 bar

Temperature:

Water up to 60°C

Flow Range:

0.1-6 m³/h (1"-PRV-05)

Materials

Body & Cover:

Polyamide 6 & 30% GF

Diaphragm:

NR, Nylon fabric reinforced
& NBR

Spring:

Stainless Steel

Setting Springs Selection Table:

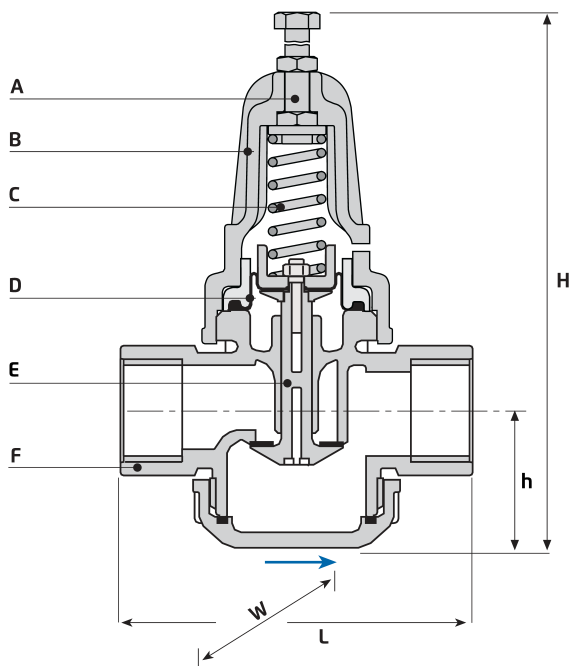
Spring	Spring Color	Setting range
A	Yellow	0.5-0.9 bar
B	White	1-1.5 bar
C	Red	1.6-2.4 bar
D	Black	2.5-3.7 bar
Q	Brown	3.8-5.2 bar

Technical Specifications

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

Size (DN)	Model	End Connection	Weight (Kg)	L (mm)	H (mm)	h (mm)	W	KV
1" ; 25	1"-PRV-05 (Low Flow)	Threaded	0.36	114	160	45	65	8.0

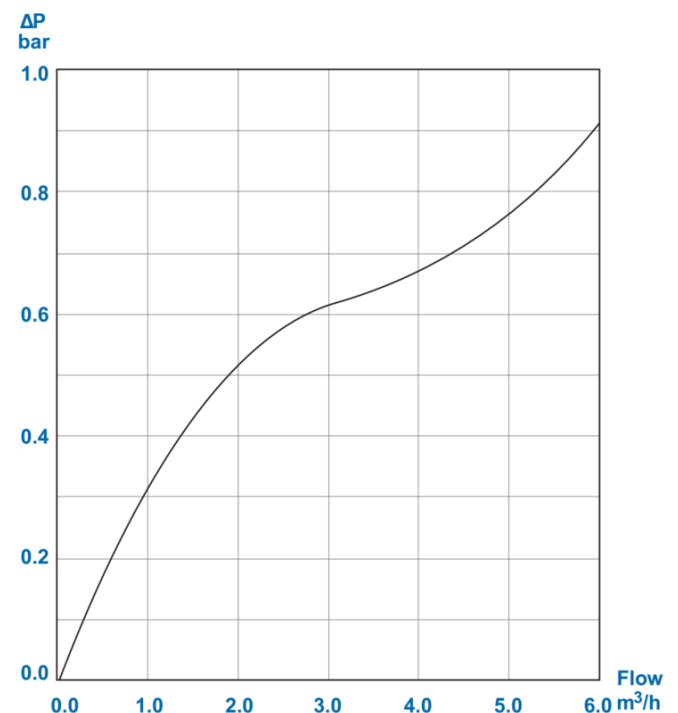
Inlet & outlet Threaded: Female BSP ; Female NPT



1-PRV-05 Cross Section

Part	Description
A	Setting Screw
B	Cover
C	Setting Spring
D	Rolling Diaphragm
E	Actuator Assembly
F	Body

Flow Chart



To calculate the minimum required supply pressure, add the ΔP in the Flow Chart to PRV desired set point.

Differential Pressure & Flow Calculation

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

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