

IR-ROO Hydrant Basic Valve

The basic BERMAD IR-R00 Series 3": DN80 Hydrant diaphragm actuated hydraulically operated valve, combines simple and reliable construction with superior performance. These automatic water control valves are designed for vertical or horizontal installation and are available in three different configurations: Angle, Tee and Dual-actuator-tee patterns.

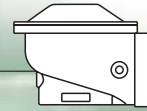
The design of the IR-R00 valve body includes a full bore raised seat with unobstructed flow path, free of any in-line ribs, supporting cage, or shafts. The flow hits the seal disk vertically minimizing diaphragm distortion. The hydro-dynamic globe design provides high flow capabilities with minimum head loss. The cover is removable via fastening bolts for quick in-line inspection and service. The diaphragm can be easily removed from the valve body with no need for disassembling the valve from the line.

The internal design of the IR-R00 valve uses advanced rubber-based materials to achieve a solid, one piece flexible fabric reinforced diaphragm with a rugged seal disk. The cone-shaped seal disk penetrates the seat as the valve modulates closed, providing:

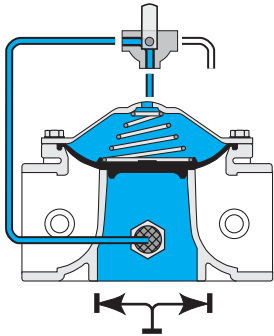
- Guidance as conditions get rough
- No chattering and slamming closed
- Accurate and stable low flow regulation

The Model IR-R00 Basic Valve uses valve differential pressure to power the diaphragm assembly open or closed. The lower side of the diaphragm, which serves to cushion the closing of the valve, is exposed to downstream pressure. The pressure in the upper control chamber varies, resulting from the action of a solenoid or a regulating pilot. This varying pressure modulates the valve to open or close.



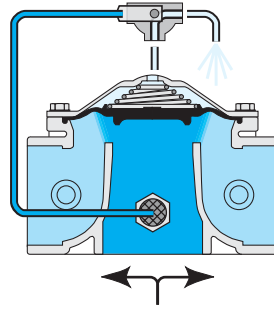


On-Off Modes



Closed Position

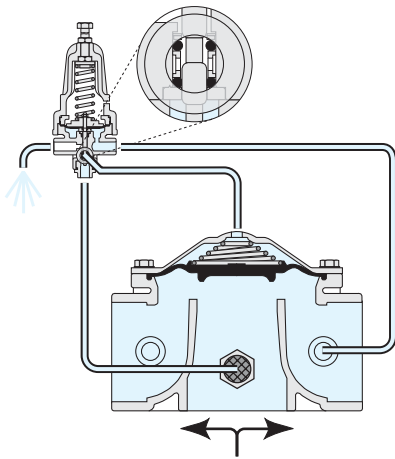
Line pressure applied to the control chamber of the valve creates a hydraulic force that moves the valve to the closed position and provides drip tight sealing.



Open Position

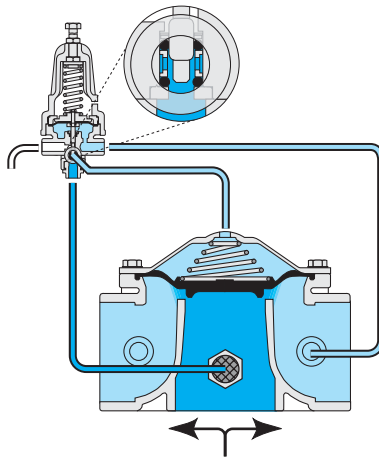
Discharging the pressure from the control chamber to atmosphere or, some other lower pressure zone, causes the line pressure acting on the plug to open the valve.

3-Way Modulating Modes



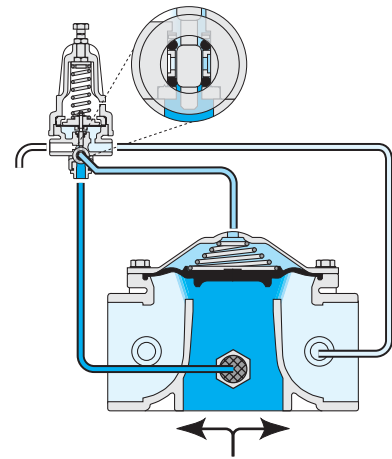
Fully Open Position

When upstream pressure drops, the pilot blocks the pressure port and opens the drain port, venting the control chamber to the atmosphere. This fully opens the valve, minimizing head loss.



Modulating Closed

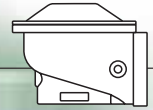
The pilot switches upon pressure rise, blocking the drain port and opening the pressure port. This pressurizes the control chamber, forcing the valve to modulate closed.



Locked Position

When sensed pressure is equal to setting, the pilot shaft moves and blocks both the drain port and the pressure port. This locks the pressure in the control chamber, freezing the valve in its last position until conditions change.





[1] **Fastening Bolts**

Quick in-line inspection and service

[2] **Valve Cover**

Locates, centralizes and fastens diaphragm and spring ensuring smooth and accurate performance.

[3] **Spring Assembly**

Three auxiliary closing springs are available

Standard Spring - To open by Line Pressure of 0.9 bar; 13 psi

Light Spring - To open by 0.2 bar; 3 psi (for 2W & 2W/3W Control Circuits)

Strong Spring - To open by 1.9 bar; 28 psi (for Anti-Drain Applications)

[4] **Diaphragm**

One piece flexible fiber reinforced diaphragm with a rugged seal disk.

The cone-shaped seal disk penetrates the seat as the valve modulates closed, providing:

- Guidance as conditions get rough
- No chattering and slamming closed
- Accurate and stable low flow regulation

[5] **Integrated Fastening Threads**

No need for nuts, simplifying valve disassembling and assembling

[6] **Valve Body**

All patterns consist of hydro-dynamic globe design, which provides high flow capabilities with minimum head loss.

Full bore raised seat with unobstructed flow path, free of any in-line ribs, supporting cage, or shafts.

[6.1] Dual-Actuator-Tee Valve Body: Two valves in one component. Common inlet with two separately controlled outlets. Saves place, cost and maintenance.

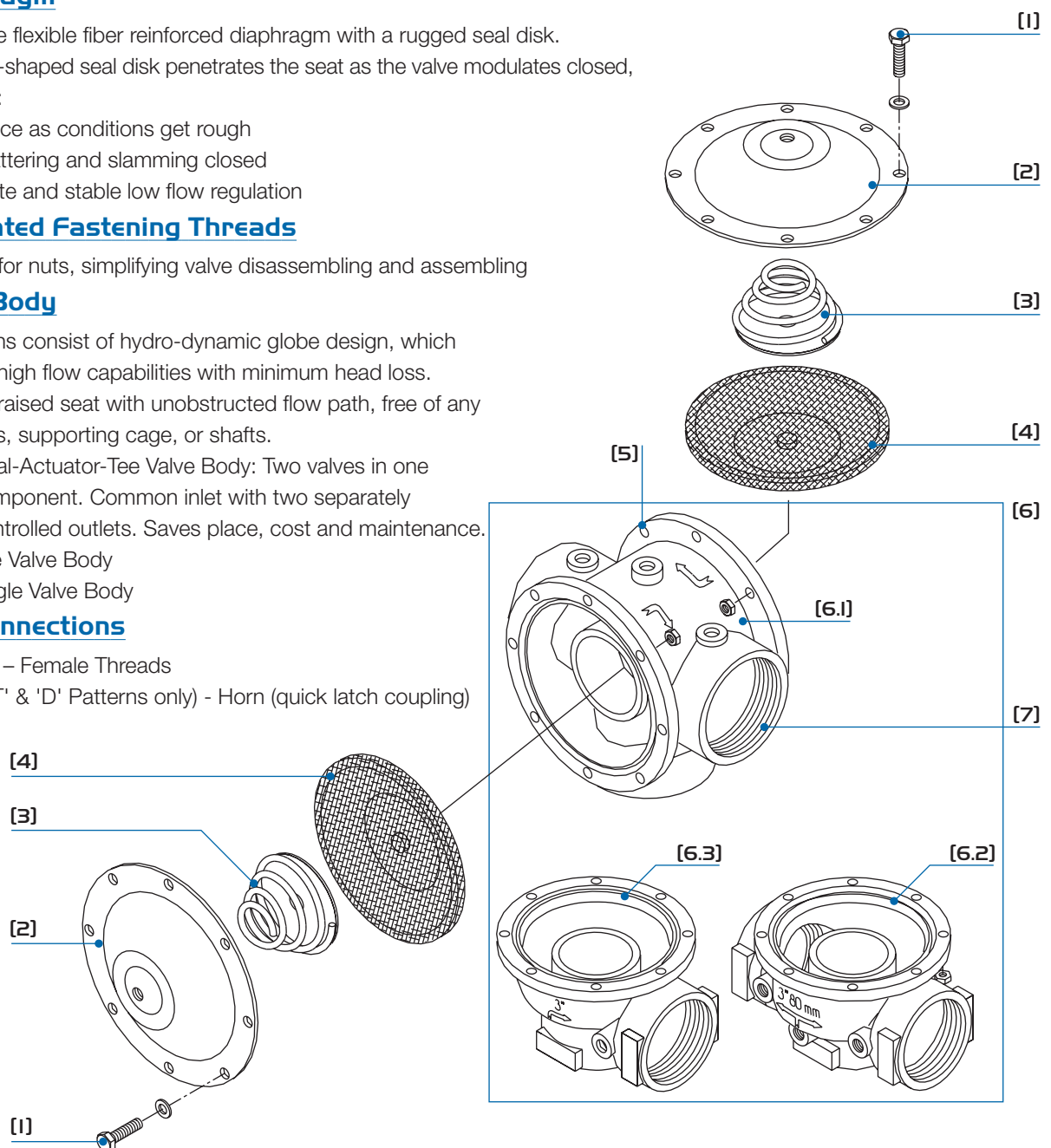
[6.2] Tee Valve Body

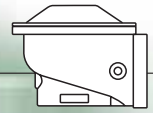
[6.3] Angle Valve Body

[7] **End Connections**

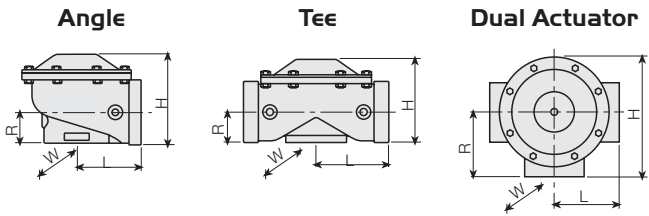
Standard – Female Threads

Option ('T' & 'D' Patterns only) - Horn (quick latch coupling)





Dimensions & Weights



Pattern	Angle	Tee		Dual
Size	Aluminum	Iron	Aluminum	Iron
L* (mm)	107	107	107	111
W (mm)	183	183	183	200
H (mm)	148	151	148	190
R (mm)	50	53	50	100
Weight*(kg)	3.0	6.0	3.2	7.2

* For models with "quick" couplings, add 35 mm to length and approx. 25% to weight.

Technical Specifications

Available Patterns:

Angle, Tee & Dual Actuator Tee

End Connections:

Female threaded

Option ('T' & 'D' Patterns only): Horn (quick latch coupling with rubber ring joint)

Pressure Rating: 10 bar

Operating Pressure Range:

0.9-10 bar, with standard spring

Temperature Range:

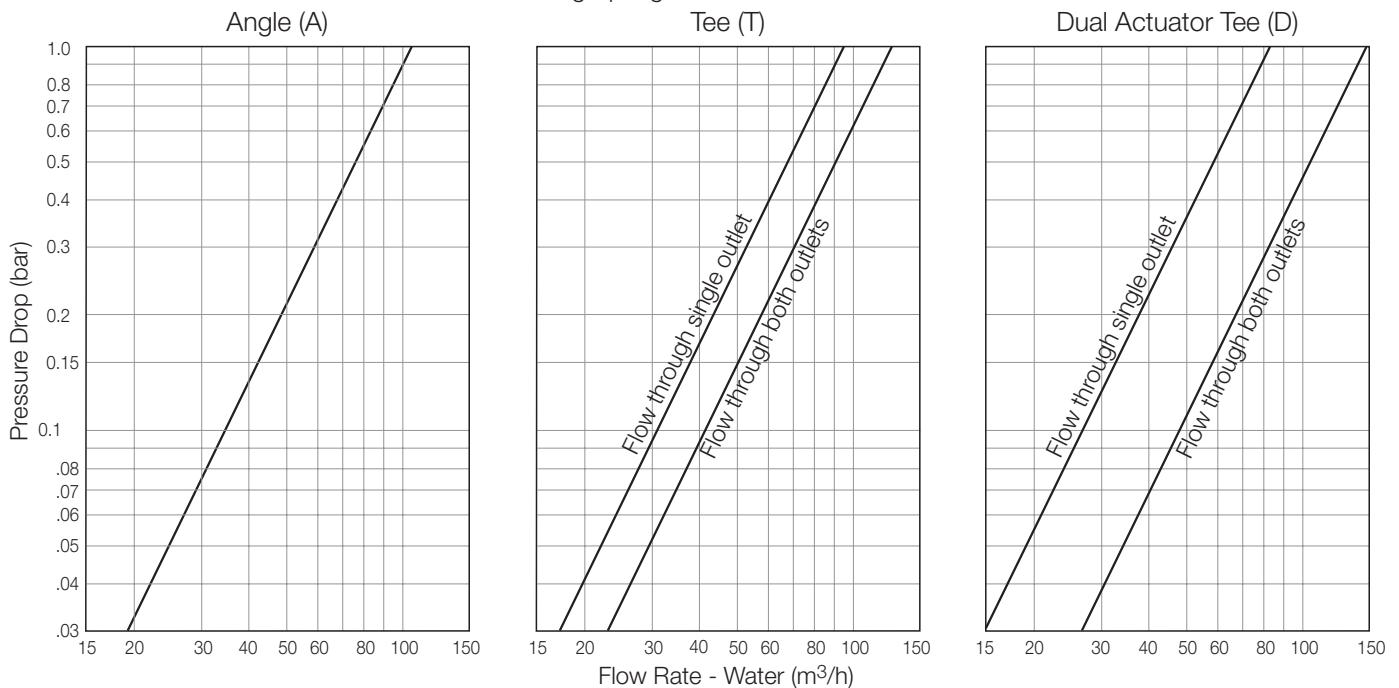
Water up to 60°C

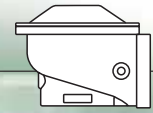
Standard Materials:

- Body: Cast iron or Aluminum Alloy super hard Anodized
- Cover: Polyester coated Steel
- Diaphragm: Nylon fabric, reinforced natural Rubber
- Seals: NBR [Buna-N]
- Spring: Stainless Steel 302
- Cover Bolts: Stainless Steel

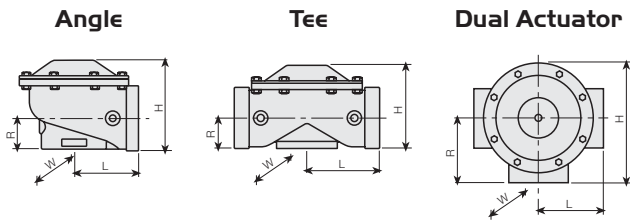
Flow Charts

The Flow Charts are for Valves with Standard Closing Spring.





Dimensions & Weights



Pattern Size	Angle		Tee		Dual
	Aluminum	Iron	Aluminum	Iron	Aluminum
L* (inch)	47/32	47/32	47/32	47/32	43/8
W (inch)	7 ¹³ /64	7 ¹³ /64	7 ¹³ /64	7 ¹³ /64	77/8
H (inch)	5 ¹³ /16	5 ¹⁵ /16	5 ¹³ /16	5 ¹⁵ /16	71/2
R (inch)	2	2 ¹ /16	2	2 ¹ /16	3 ¹⁵ /16
Weight* (lb)	6.6	13.2	7.1	15.9	12.6

* For models with "quick" couplings, add 1³/₈" to length and approx. 25% to weight.

Technical Specifications

available Patterns:

Angle, Tee & Dual Actuator Tee

End Connections:

Female threaded

Option ('T' & 'D' Patterns only): Horn (quick latch coupling with rubber ring joint)

Pressure Rating: 145 psi

Operating Pressure Range:

13-145 psi, with standard spring

Temperature Range:

Water up to 140°F

Standard Materials:

- Body: Cast iron or Aluminum Alloy super hard Anodized
- Cover: Polyester coated Steel
- Diaphragm: Nylon fabric, reinforced natural Rubber
- Seals: NBR [Buna-N]
- Spring: Stainless Steel
- Cover Bolts: Stainless Steel

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