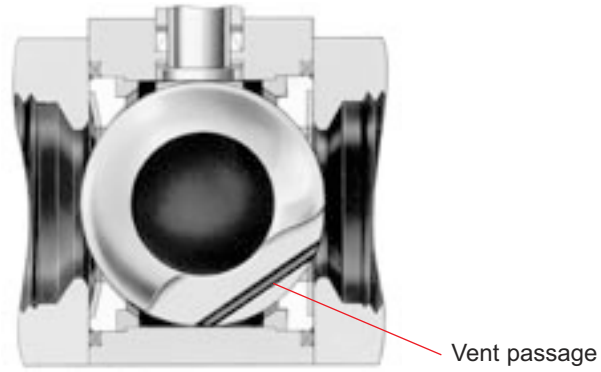
Ball Valve Venting
Internal and External Venting

External Ball Vents—4-Bolt, 2-Way Valves

Purpose

The vent port evacuates trapped pressure from the system directly to atmosphere when the valve is closed. The ball contains a vent passage isolated from the ball orifice to prevent continuous leakage from the body vent port when the valve is open.

The downstream vent provides an escape path for system fluid downstream of the valve. The upstream vent provides an escape path for system fluid upstream of the valve.

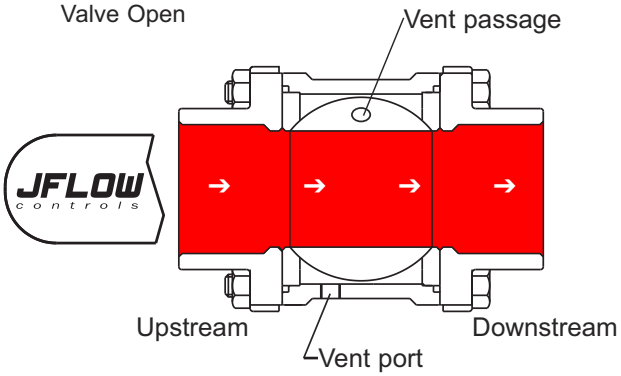


Operation

External Downstream Vent (DV)

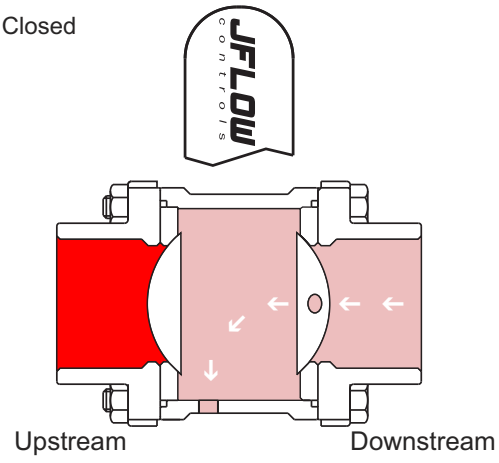
When the valve is open, system fluids flow through the valve. No venting occurs because the vent passage is isolated from the flow path.

Valve Open



When the valve is closed, shutoff occurs only on the upstream side. Downstream fluids flow through the vent passage to the vent port and are released to atmosphere.

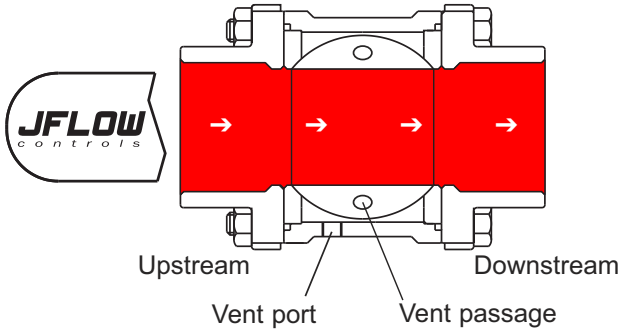
Valve Closed



External Upstream Vent (UV)

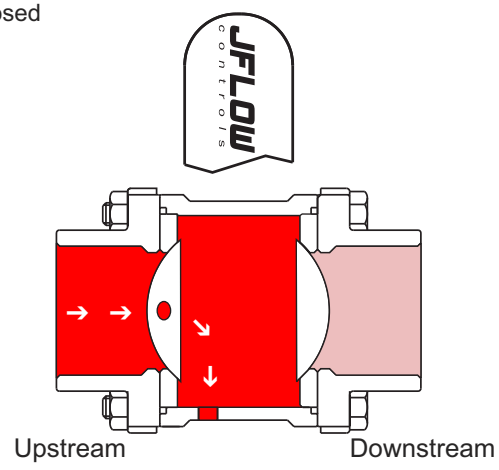
When the valve is open, system fluids flow through the valve. No venting occurs because the vent passage is isolated from the flow path.

Valve Open



When the valve is closed, shutoff occurs only on the downstream side. Upstream fluids flow through the vent passage to the vent port and are released to atmosphere.

Valve Closed



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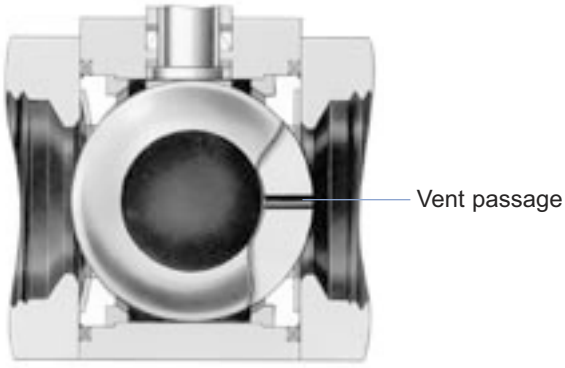
Internal Ball Vents—2-Way Valves

Purpose

The internal vent equalizes pressure in the ball and body to that of the system, protecting the valve from temperature-induced overpressurization. The ball contains a vent passage that intersects the ball orifice at a 90° angle. There are no external vent ports.

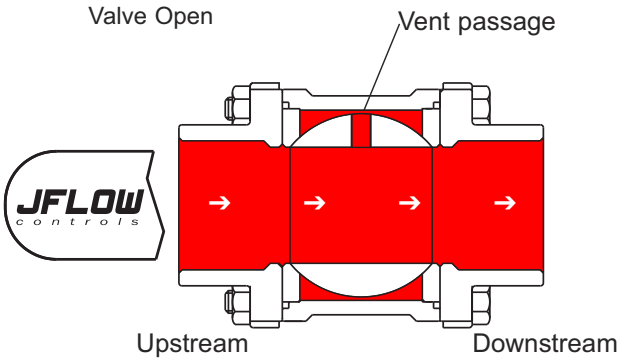
The downstream vent equalizes pressure in the ball and body to that of the downstream system in the closed position. The upstream vent equalizes fluid pressure to that of the upstream system in the closed position.



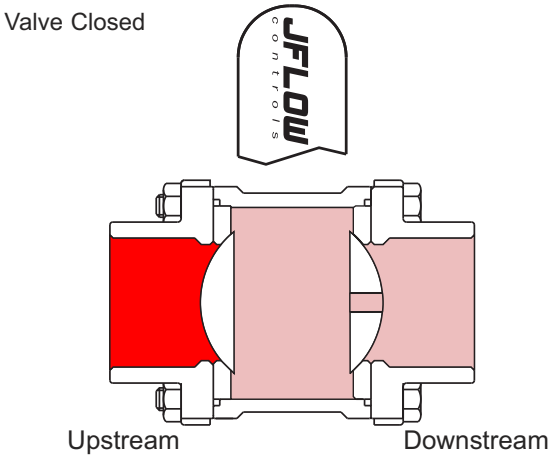
Operation

Internal Downstream Vent (NDV)

When the valve is open, system fluids flow through the valve. The vent passage allows pressure inside the valve to remain equal to system pressure.

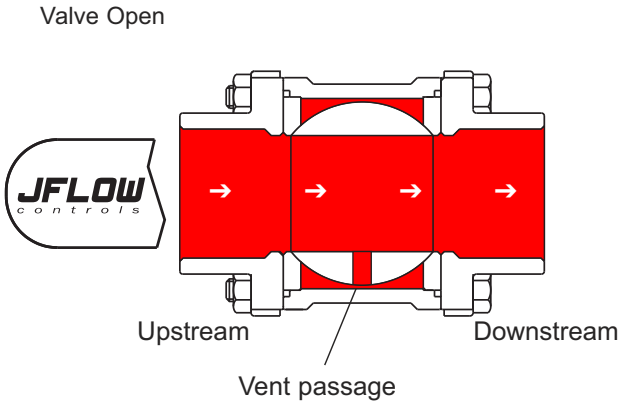


When the valve is closed, the vent passage faces downstream, allowing pressure to equalize between the body and the downstream system.

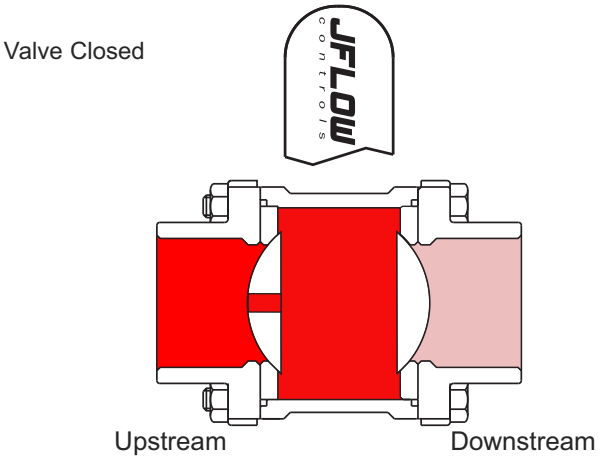


Internal Upstream Vent (NUV)

When the valve is open, system fluids flow through the valve. The vent passage allows pressure inside the valve to remain equal to system pressure.



When the valve is closed, the vent passage faces upstream, allowing pressure to equalize between the body and the upstream system.



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