

3 Way Control Valve Manufacturers in India



Speciality Valve is a leading [3-way control valve manufacturer in India](#). A 3-way control valve is a type of valve used to regulate the flow of fluid in a piping system by providing three possible flow paths or configurations. Unlike traditional 2-way valves that offer only two flow paths (open or closed), 3-way control valves offer more versatility by allowing fluid to be directed into one of two outlets or by mixing two inlet streams into a single outlet.

Design:

A 3-way control valve is a versatile component used in fluid control systems to manage the direction and rate of flow within piping systems. Its design typically comprises a main body housing internal components and three ports: A, B, and C. The valve's internal structure includes a valve element,

which can vary from a ball to a plug, and an actuator that governs its movement for flow regulation. Seals and gaskets ensure a tight seal between components, minimizing leakage. These valves are adaptable to different configurations, such as T-Port and L-Port setups. In a T-Port configuration, fluid can flow from port A to either port B or port C, but not between B and C simultaneously. Conversely, in an L-Port setup, fluid can flow between any two ports, but not all three concurrently. Control mechanisms vary from manual handles to motorized or pneumatic actuators, depending on the application's needs.

How does a 3-way control valve work?

A 3-way control valve, also known as a mixing valve or diverting valve, is a type of valve used to control the flow of fluid in a piping system by directing it into one of two possible outlets or mixing the flow from two inlet ports into a single outlet port. Here's how it works:

1. **Valve Design:** A typical 3-way control valve consists of a main body with three ports: an inlet port (often labeled "A"), an outlet port (labeled "AB"), and a second outlet port (labeled "B"). The valve may have a variety of configurations, including T-shaped or L-shaped designs.
2. **Flow Control:** The position of the valve's internal mechanism determines how the fluid flows through the valve. There are typically three positions for the valve:
 - In the "A to AB" position, fluid flows from the inlet port (A) to the outlet port (AB), bypassing the second outlet port (B).
 - In the "B to AB" position, fluid flows from the inlet port (B) to the outlet port (AB), bypassing the first inlet port (A).
 - In the "AB to A/B" position, fluid from both inlet ports (A and B) mixes and flows out through the outlet port (AB).
3. **Actuation:** The valve's internal mechanism is actuated by a control signal, which can come from a variety of sources such as a manual lever, pneumatic actuator, electric actuator, or electronic controller.

The control signal adjusts the position of the valve's internal components to direct the flow according to the desired configuration.

Applications:

3-way control valves are commonly used in HVAC systems, industrial processes, and fluid handling systems where precise control of fluid flow, temperature, or pressure is required. They can be used for applications such as temperature mixing, diverting flow between two processes, or controlling the flow ratio between two streams.

As [3 way control valve manufacturers in India](#), they offer flexibility and versatility in managing fluid flow in piping systems, making them valuable components in a wide range of industrial and commercial applications.

Description:

1. Body: Carbon Steel, Stainless Steel, Duplex Steel, Alloy Steel
2. Nominal Diameter: DN25 to DN300
3. Nominal Pressure: PN16 to PN420, Class150 to Class2500
4. End Connection: Socketweld, Buttweld, Flanged
5. Operation: Electric Actuated

Electric Actuator Details:

- Torque: 3 – 9 nm
- Operating pressure: 8 Bar
- Port Connection: NPT1.4"
- Mounting Base: ISO5211
- Temperature: -20°C to +80°C

Visit us for more information:

<https://www.specialityvalve.com/product-category/electric-3-way-control-valve>

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