

**ME
SERIES**

Cutaway Globe Valve – ME24

Bringing Valve Mechanics to Life Through Clear Visualisation

The Armfield ME24 Cutaway Globe Valve is a powerful teaching tool that reveals the internal mechanics and flow path of a globe valve.

Fully functional, it can be operated to demonstrate exactly how the valve works. Its cutaway design allows students to visualise key components in action, enhancing their understanding of flow regulation, sealing, and throttling in engineering and fluid dynamics.

Instructional capabilities

A cutaway globe valve provides students with a hands-on and visual learning experience by exposing the internal components and flow path.

Key instructional benefits include:

- ▶ **Visualising Internal Mechanics:** Students can observe the interaction between the plug, seat, stem, and body, enhancing their understanding of how the valve regulates flow and achieves a tight seal.
- ▶ **Understanding Flow Path:** The cutaway design reveals the S-shaped flow path, demonstrating how fluid moves through the valve during operation.
- ▶ **Identifying Components:** Provides a clear view of all critical parts, including the plug, seat, stem, and handwheel, making it easier for students to learn their functions and roles.
- ▶ **Maintenance Insights:** Helps students understand wear points and the importance of proper alignment and assembly in ensuring efficient valve operation.
- ▶ **Interactive Learning:** Encourages hands-on engagement, allowing students to correlate theoretical concepts with real-world valve mechanics.

Operating Principle of a Globe Valve

A globe valve is a versatile device used to regulate, start, or stop fluid flow in a pipeline. Its unique design includes a movable plug or disc that interacts with a stationary seat to control flow. Here's how it operates:

Flow Regulation:

The valve's handwheel or actuator is used to move the plug (disc) up or down within the valve body. When the plug moves upward, it lifts away from the seat, allowing fluid to pass through the valve in a controlled manner. The degree of opening determines the flow rate.

Flow Path:

Fluid enters the valve through the inlet port, flows around the disc, and exits through the outlet port. The S-shaped flow path in a globe valve is ideal for precise throttling and flow control, although it can cause a slightly higher pressure drop compared to other valve types.

Sealing Mechanism:

To completely stop the flow, the plug is lowered until it firmly presses against the valve seat, creating a tight seal. This ensures no leakage in the closed position.

Directionality:

Globe valves are typically designed for unidirectional flow. The flow direction is usually indicated on the valve body to minimize turbulence and wear.

Control and Precision:

Globe valves are especially effective in applications requiring fine flow control, such as steam, gas, or liquid regulation in industrial systems. Their design allows for incremental adjustments, making them ideal for throttling applications.

Advantages of Globe Valves

Excellent flow regulation and throttling capability.
Reliable sealing to ensure leak-proof operation.
Suitable for frequent operation without significant wear.

Applications

Globe valves are commonly used in systems requiring accurate flow control, such as water distribution, chemical processing, and steam applications.



Technical specifications

Inlet and outlet	2"
Body material	Cast Iron
Disk material	Stainless steel

Overall dimensions

Length	0.172m
Width	0.185m
Height	0.244m

Packed and crated shipping specifications

Volume	TBC m ³
Gross Weight	TBC kg

Ordering codes

- ▶ ME24

Armfield standard warranty applies with this product

Issue: 1

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Applications

ME IP