



THREADED END FORGED STEEL GLOBE VALVES

Literature





Introduction:

Globe valve is a valve that is used to start, stop and regulate fluids flow along the valve passage. The disc will be lifted up or lower down vertically along the seat by rotating the wheel handle to open position or close position. It is designed and manufactured according to API 602 and ASME B16.34 standard. It also inspects and tests according to API 598 standard. Globe valve is applicable to systems that require flow regulating such as cooling water system, fuel oil system and extraction drain system.

Figure 1 Threaded End Forged Steel Globe Valve **Material and Design:**

Globe valve is available in stainless steel SS316 or forged steel A105 material. For the stainless steel SS316 gate valve, it is available in 2 designs namely screw-in bonnet type or bolted bonnet type. While for forged steel A105 gate valve, it is only available in bolted bonnet type only. For globe valves with screw-in bonnet design, a bonnet is screwed into the valve body to hold internal parts inside the valve body, and offer a pressure tight seal between the bonnet and valve body. While for globe valves with bolted bonnet design, the bonnet comes with thicker specifications and tightens the valve body with bolts and nuts. This design is normally used for high pressure applications. The handle design of the globe valve is in wheel shape handle design.

For the stem part, which is one of the essential parts for globe valves, it is available in rising stem design and non-rising stem design. For globe valves with rising stem design, the stem will rise and be exposed when we rotate the wheel handle to open position and lower when we rotate the wheel handle to close position. This design can simply tell us if the valve is in open position or close position by looking at the amount of stem exposed. However for globe valves that come with non-rising stem design, the valve is in open position when we rotate the handle to the open position as far as possible and in close position when we rotate the handle to the close position as far as possible. Although it is unable to check the valve in open or close position like rising stem design, non-rising stem design globe valve is more suitable to install on hydraulic piping systems that have limited space for the stem to raise in full, for example, underground hydraulic systems.

Size and Pressure Rating:

The available size for the globe valve is ranged from 1/2" to 2". For SS316 material globe valve, the working pressure is available at 200 PSI. While for A105 material globe valve, the working pressure is available in 800 PSI. As the globe valve is mainly used to regulate the flow, the flow will result in higher pressure drop compared to the gate valve.

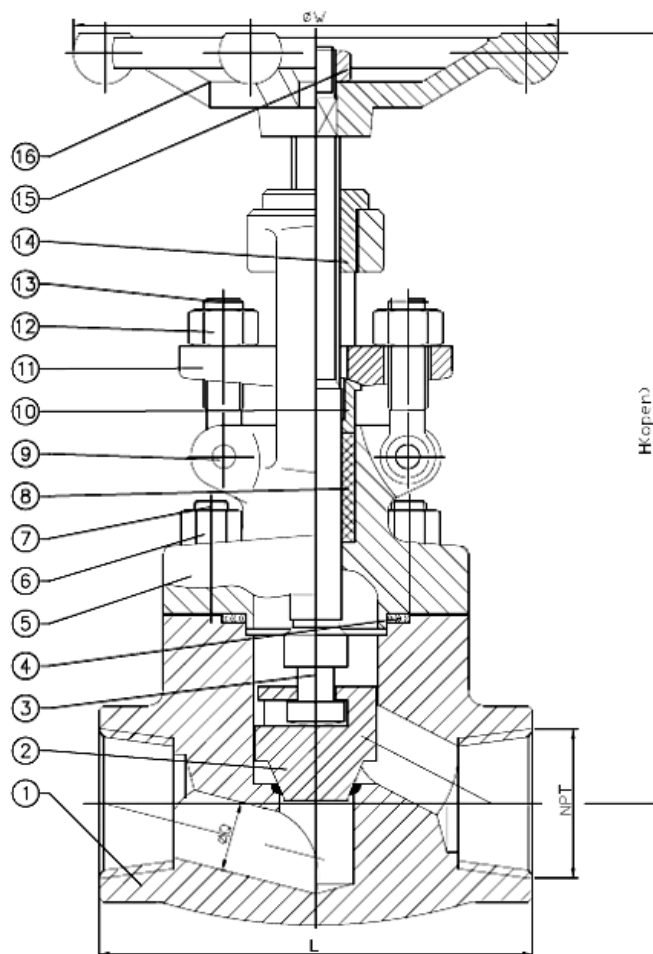


Figure 2 Threaded End Forged Steel Globe Valve

Connection Type:

For SS316 material globe valve, the connection end is only available in NPT (National Pipe Thread) female thread or BSPP (British Standard Pipe Parallel) female thread. While for A105 material globe valve, the connection end is available in NPT female thread or Socket Weld. For the female thread globe valve, it needs a male thread of the same connection end to screw in to the gate valve. However for socket weld connection, it only needs the pipe end connection in the plain end.

Threaded End Forged Steel Globe Valve Drawing:



No	Part Name	Material
1	Body + Seat	ASTM A105 + STL
2	Disc	ASTM A276 420
3	Stem	ASTM A182 F6A
4	Gasket	SS304 + Graphite
5	Bonnet	ASTM A105
6	Bonnet Nut	ASTM A194 2H
7	Bonnet Bolt	ASTM A193 B7
8	Packing	Graphite
9	Pin	ASTM A307-A
10	Gland	ASTM A276 410

11	Gland Flange	ASTM A105
12	Gland Nut	ASTM A194 2H
13	Gland Bolt	ASTM A193 B7
14	Yoke Sleeve	ASTM A276 410
15	Lock Nut	Carbon Steel
16	Handwheel	ASTM A197

Main Technical Parameter:

Nominal Pressure	800#
Shell Test Pressure	21.0 MPa
Tightness Test	15.4 MPa
Gas-Tightness Test	0.6 MPa
Max Working Pressure	-29°C to 425°C

Technical Specifications:

Basic design and manufacture according to API602/BS5352

Inspection and test for according to API 598

Connection screw for the valve according to ASME B1.20.1

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