

BS 1873 Cast Steel Globe Valve: Class 150–2500

BS 1873 cast steel globe valves are used on steam, condensate and process lines in petrochemical and power plants for both tight shutoff and flow regulation. The bolted bonnet design is preferred in mid classes, the pressure seal design at high pressure and temperature.

Technical specifications

Size	½"–16" (DN15–DN400) within the scope of BS 1873; larger sizes based on ASME B16.34, on a project basis
Pressure class	ASME Class 150–2500
Bonnet	Bolted (Class 150–900), pressure seal (Class 900–2500)
Disc	Flat, plug, parabolic
Materials	WCB, WC6, WC9, LCC, CF8M
End connections	RF / RTJ flanged, butt-weld
Testing	API 598



Key features

- Backseat protects the packing
- Plug or parabolic disc for flow regulation
- Stellite hard-faced seat and disc
- Cr-Mo body for high temperature

Face-to-face dimensions (mm)

Flanged face-to-face dimensions of BS 1873 / ASME B16.34 cast steel globe valves (ASME B16.10):

NPS	DN	Class 150	Class 300	Class 600
2	50	203	267	292
2½	65	216	292	330
3	80	241	318	356
4	100	292	356	432
6	150	406	444	559
8	200	495	559	660
10	250	622	622	787
12	300	698	711	838

Values are for raised-face (RF) flanged ends and conform to ASME B16.10. Ring-type joint (RTJ) ends are slightly longer; butt-weld (BW) end-to-end dimensions are listed separately in the standard. Exact dimensions are shown on the general arrangement (GA) drawing supplied with the quotation.

Typical part materials

Part	Carbon steel	Low temperature	Stainless steel	Alloy steel (high temperature)
Body, bonnet, disc	A216 WCB	A352 LCB / LCC	A351 CF8, CF8M, CF3, CF3M	A217 WC6, WC9, C5
Seat ring	A105N (hardfaced)	A350 LF2	Same stainless grade as body	A182 F11, F22, F5
Stem	A182 F6a (13Cr)	A182 F304	A182 F304, F316, F304L, F316L	A182 F6a
Stud bolts / nuts	A193 B7 / A194 2H	A320 L7 / A194 7	A193 B8, B8M / A194 8, 8M	A193 B16 / A194 4
Gland bushing, backseat	A182 F6a	A182 F304	Same stainless grade as body	A182 F6a

In all material groups, the standard gasket is spiral-wound SS304/SS316 with graphite filler and the standard packing is flexible graphite (PTFE on request). The stem nut is austenitic ductile iron (A439 D2) or copper alloy, and the handwheel is malleable iron. For sour (H₂S) service, materials and hardness are selected to NACE MR0175 / ISO 15156.

Globe valve trims are designated with the same numbering as gate valves; for steam and throttling service, a hardfaced disc and seat (trim 5, 8 or 12) are recommended.