
**Ships and marine technology — Globe
valves for use in low temperature
applications — Design and testing
requirements**

*Navires et technologie maritime — Robinets à soupape pour des
applications à basse température — Exigences de conception et
d'essais*

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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Ships and marine technology — Globe valves for use in low temperature applications — Design and testing requirements

1 Scope

This document specifies design, manufacture and test method requirements for cryogenic globe valves for excellent quality leakage stability for use in a very low temperature environment (–50°C to –196°C).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5209, *General purpose industrial valves — Marking*

ISO 28921-1, *Industrial valves — Isolating valves for low-temperature applications — Part 1: Design, manufacturing and production testing*

ASME B1.5, *Acme Screw Threads*

ASME B1.8, *Stub Acme Screw Flanged Fittings*

ASME B16.5, *Pipe Flanges and Flanged Fittings*

ASME B16.10, *Face-to-Face and End-to-End Dimensions of Valves*

ASME B16.11, *Forged Fittings, Socket-Welding and Threaded*

ASME B16.25, *Butt-welding Ends*

ASME B16.34, *Valves-Flanged, Threads, and Welding End*

ASME B16.47, *Large Diameter Steel Flanges*

ASME B46.1, *Surface Texture (Surface Roughness, Waviness, and Lay)*

ASTM A182/A182M, *Forged or Rolled Alloy-Steel Pipe Flanges, Forged Fittings and Valves and Parts for High-temperature Service*

ASTM A194/A194M, *Carbon and Alloy Steel Nuts and Bolts for High-Pressure and High-Temperature Service*

ASTM A320/A320M, *Alloys-Steel Bolting material for Low-Temperature service*

ASTM A350/A350M, *Forgings, Carbon and Low-Alloy Steel, Requiring Notch Toughness Testing for Piping Components*

ASTM A351/A351M, *Casting, Austenitic, Austenitic-Ferritic (Duplex), for Pressure-Containing Parts*

ASTM A536/A536M, *Standard Specification for Ductile Iron Castings*

ASTM A694/694M, *Forgings, Carbon and Alloy Steel, for Pipe Flanges, Fittings, Valves, and Parts for High-Pressure Transmission service*

ASTM E186, *Reference Radiographs for Heavy-Walled (2 to 41/2-in. (50.8 to 114-mm)) Steel Castings*