

# **Petroleum, Petrochemical, and Natural Gas Industries—Steam Turbines— Special-purpose Applications**

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## **Introduction**

Users of this standard should be aware that further or differing requirements may be needed for individual applications. This standard is not intended to inhibit a vendor from offering, or the purchaser from accepting, alternative equipment or engineering solutions for the individual application. This may be particularly appropriate where there is innovative or developing technology. Where an alternative is offered, the vendor should identify any variations from this standard and provide details.

This standard requires the purchaser to specify certain details and features.

A bullet (•) at the beginning of a section or subsection indicates that either a decision is required or further information is to be provided by the purchaser. This information or decision should be indicated on the datasheets; otherwise it should be stated in the quotation request (inquiry) or in the order.

In this standard, where practical, U.S. Customary units have been included in brackets for information.

# Petroleum, Petrochemical, and Natural Gas Industries—Steam Turbines—Special-purpose Applications

## 1 Scope

This standard specifies the minimum requirements for steam turbines for special-purpose applications for use in the petroleum, petrochemical, and natural gas industries. These requirements include basic design, materials, fabrication, inspection testing, and preparation for shipment. It also covers the related lube oil systems, instrumentation, control systems, and auxiliary equipment. It is not applicable to general-purpose steam turbines, which are covered in API 611.

## 2 Normative References

The following referenced documents are indispensable for the application 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.

*API Manual of Petroleum Measurement Standards (MPMS) Chapter 15, Guidelines for the Use of the International System of Units (SI) in the Petroleum and Allied Industries*

*API Standard 520, Part I, Sizing, Selection, and Installation of Pressure-relieving Systems in Refineries, Part I—Sizing and Selection*

*API Recommended Practice 520, Part II, Sizing, Selection, and Installation of Pressure-relieving Systems in Refineries, Part II—Installation*

*API Standard 526, Flanged Steel Pressure-relief Valves*

*API Standard 614, Lubrication, Shaft-sealing and Oil-control Systems and Auxiliaries*

*API Standard 670, Machine Protection Systems*

*API Standard 671, Special Purpose Couplings for Petroleum, Chemical and Gas Industry Services*

*API Recommended Practice 686, Recommended Practices for Machinery Installation and Installation Design*

*ASME Boiler and Pressure Vessel Code (BPVC)<sup>1</sup>, Section V: Nondestructive Examination*

*ASME Boiler and Pressure Vessel Code (BPVC), Section VIII: Pressure Vessels*

*ASME Boiler and Pressure Vessel Code (BPVC), Section IX: Qualification Standard for Welding and Brazing Procedures, Welders, Brazers, and Welding and Brazing Operators*

*ASME B1.1, Unified Inch Screw Threads (UN and UNR Thread Form)*

*ASME B16.1, Gray Cast Iron Pipe Flanges and Flanged Fittings, Class 25, 125, and 250*

*ASME B16.5, Pipe Flanges and Flanged Fittings, NPS <sup>1</sup>/<sub>2</sub> through NPS 24 Metric/Inch Standard*

*ASME B16.42, Ductile Iron Pipe Flanges and Flanged Fittings, Classes 150 and 300*

*ASME B16.47, Large Diameter Steel Flanges NPS 26 through NPS 60 Metric/Inch Standard*

*ASME B17.1, Keys and Keyseats*

*ASME B31.3, Process Piping*

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<sup>1</sup> ASME International, 2 Park Avenue, New York, New York 10016-5990, [www.asme.org](http://www.asme.org).