

Lubrication, Shaft-sealing, and Oil-control Systems and Auxiliaries

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Introduction

API 614 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 API 614 and provide details.

API 614 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 should be indicated in the data sheets; otherwise, it should be stated in the quotation request or in the purchase order.

A diamond (◆) at the beginning of a section or subsection indicates that the feature is required for unspared equipment in critical service.

NOTE Sections and subsections preceded by a diamond (◆) are those features and requirements described as “special purpose” oil systems in previous editions of API 614.

In this International Standard, United States customary units are included in parentheses for information.

Annex A.1 contains a site and utility data sheet.

Annex A.2 contains oil system data sheets.

Annex B contains symbols used in piping and instrument diagrams and figures.

Annex C contains piping and instrument diagrams.

Annex D contains contract documents and engineering design data.

Annex E provides guidance on oil filter performance and oil-system cleanliness testing.

Annex F contains international materials specifications.

Annex G provides an explanation of reservoir levels.

Annex H contains diagrams of typical lubrication, oil-type shaft-sealing, and oil-control systems.

Annex I provides guidance on oil drain line sizing.

Annex J contains an inspector’s checklist.

Annex K contains a guide to system reliability.

Annex L provides guidance on varnish and electrostatic discharge.

Lubrication, Shaft-sealing, and Oil-control Systems and Auxiliaries

1 Scope

API 614 covers the minimum requirements for lubrication systems, oil-type shaft-sealing systems, oil-control systems, and auxiliaries, excluding dry gas seal systems and fuel systems. These systems can serve individual equipment such as compressors, gears, pumps, and drivers or complete trains. API 614 does not apply to dry gas seal systems. For dry gas seal systems, refer to API 692.

NOTE For high-pressure oil systems and fuel systems used on gas turbines, refer to API 616.

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, except that new editions may be used on issue and shall become mandatory upon the effective date specified by the publisher or 6 months from the date of the revision (where no effective date is specified).

API Standard 520 (all parts), *Sizing, Selection, and Installation of Pressure-relieving Devices*

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

API Standard 547, *General Purpose Form-wound Squirrel Cage Induction Motors—185 kW (250 hp) through 2240 kW (3000 hp)*

API Recommended Practice 551, *Process Measurement*

API Recommended Practice 578, *Guidelines for a Material Verification Program (MVP) for New and Existing Assets*

API Standard 594, *Check Valves: Flanged, Lug, Wafer, and Butt-welding*

API Standard 600, *Steel Gate Valves—Flanged and Butt-welding Ends, Bolted Bonnets*

API Standard 602, *Gate, Globe, and Check Valves for Sizes DN 100 (NPS 4) and Smaller for the Petroleum and Natural Gas Industries*

API Standard 610, *Centrifugal Pumps for Petroleum, Petrochemical, and Natural Gas Industries*

API Standard 611, *General-purpose Steam Turbines for Petroleum, Chemical, and Gas Industry Services*

API Standard 660, *Shell-and-Tube Heat Exchangers*

API Standard 661, *Petroleum, Petrochemical, and Natural Gas Industries—Air-cooled Heat Exchangers*

API Standard 670, *Machinery Protection Systems*

API Standard 676, *Positive Displacement Pumps—Rotary*

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

API Recommended Practice 691, *Risk-based Machinery Management*

API Standard 692, *Dry Gas Sealing Systems for Axial, Centrifugal, and Rotary Screw Compressors and Expanders*