

# **Axial and Centrifugal Compressors and Expander-compressors**

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# Axial and Centrifugal Compressors and Expander-compressors

## Part 1—General Requirements

### 1 Scope

This standard specifies minimum requirements and gives recommendations for axial compressors, single-shaft and integrally geared process centrifugal compressors, and expander-compressors for special-purpose applications that handle gas or process air in the petroleum, chemical, and gas industries. This part of API 617 specifies general requirements applicable to all such machines.

API 617 does not apply to the following:

- fans (these are covered by API 673) or blowers that develop less than 34 kPa (5 psi) pressure rise above atmospheric pressure;
- integrally geared centrifugal plant and instrument air compressors, which are covered by API 672;
- axial inflow expanders, such as hot gas expanders.

This part of API 617 contains information pertinent to all equipment covered by the other parts of this document. It shall be used in conjunction with the following parts, as applicable to the specific equipment covered:

- *Part 2—Nonintegrally Geared Centrifugal and Axial Compressors*;
- *Part 3—Integrally Geared Centrifugal Compressors*;
- *Part 4—Expander-compressors*.

### 2 Normative References

**2.1** 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 Standard 541, *Form-wound squirrel cage induction motors—375 kW (500 Horsepower) and Larger*, Fifth Edition

API Standard 546, *Brushless Synchronous Machines—500 kVA and Larger*, Third Edition

API Standard 612, *Petroleum, Petrochemical, and Natural Gas Industries—Steam Turbines—Special-purpose Applications*, Seventh Edition

API Standard 613, *Special Purpose Gear Units for Petroleum, Chemical and Gas Industry Services*, Fifth Edition

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

API Standard 616, *Gas Turbines for the Petroleum, Chemical, and Gas Industry Services*, Fifth Edition

API Standard 670, *Machinery Protection Systems*, Fifth Edition

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