

General-purpose Steam Turbines for Petroleum, Chemical, and Gas Industry Services

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Contents

1	Scope	1
2	Normative References	1
3	Terms, Definitions, Acronyms, Abbreviations, and Symbols	5
3.1	Terms and Definitions	5
3.2	Acronyms, Abbreviations, and Symbols	11
4	General	11
4.1	Unit Responsibility	11
4.2	Nomenclature	12
5	Requirements	12
5.1	Units of Measure	12
5.2	Statutory Requirements	12
5.3	Documentation	12
6	Basic Design	12
6.1	General	12
6.2	Bolting	15
6.3	Pressure Casings	15
6.4	Casing Appurtenances	17
6.5	Casing Connections	17
6.6	External Forces and Moments	19
6.7	Rotating Elements	19
6.8	Seals	21
6.9	Dynamics	22
6.10	Bearings and Housings	24
6.11	Lubrication	31
6.12	Materials	31
6.13	Nameplates and Rotation Arrows	35
7	Accessories	36
7.1	Gear Units	36
7.2	Couplings and Guards	36
7.3	Baseplates and Soleplates	38
7.4	Controls and Instrumentation	47
7.5	Piping and Appurtenances	55
7.6	Special Tools	61
7.7	Insulation and Jacketing	61
8	Inspection, Testing, and Preparation for Shipment	61
8.1	General	61
8.2	Inspection	62
8.3	Testing	64
8.4	Preparation for Shipment	67
9	Vendor's Data	69
9.1	General	69
	Annex A (informative) General-purpose Steam Turbine Data Sheet	70
	Annex B (normative) Dynamics (Information on Rotordynamic Analysis)	77
	Annex C (informative) Contract Documents and Engineering Design Data	87
	Annex D (normative) Lubrication System Schematic	101
	Annex E (normative) Procedures for Determining Residual Unbalance	105
	Annex F (informative) Inspector's Checklist	109
	Annex G (informative) Steam Turbine Nomenclature	111
	Annex H (normative) Steam Purity and Variations in Steam Conditions	115

Annex I (normative) Allowable Forces and Moments	117
Annex J (normative) Controls	137
Bibliography	142

Figures

1 Bearing Housing Dimple Locations for Vibration Measurements	30
2 Dimple Dimensions	30
3 Transducer Mounting Hole Dimensions	30
4 Typical Soleplate Arrangement	40
5 Typical Baseplate Arrangement	41
6 Typical Soleplate Arrangement	42
7 Typical Baseplate Arrangement	43
8 Cross-section of Grout Hole Cover	45
9 Mounting Surface Flatness	46
A.1 Data Sheet, SI Units	71
A.2 Data Sheet, USC Units	74
B.1 Undamped Unbalanced Response Analysis	79
B.2 Typical Mode Shapes	81
B.3 Rotor Response Plot	83
C.1 Vendor Drawing and Data Requirements Form	92
D.1 Lubrication System Schematic	101
D.2 Lubrication System Symbols	102
E.1 Residual Balance Work Sheet	107
G.1 Axial Split Single-stage Turbine	111
G.2 Radial Split Single-stage Turbine	112
G.3 Multi-stage Turbine	113
G.4 Radial Split Single-stage Vertical Turbine	114
I.1 Components of Forces and Moments on Turbine Construction	118
J.1 Speed Rise Class D Governor	139
J.2 Speed Variation Class D Governor	140
J.3 Steady State Speed Regulation Class D Governor	141

Tables

1 Design Criteria and Specifications for Cooling Water Systems	14
2 Arithmetic Average Roughness Height (Ra)	19
3 Bearing Selection	25
4 Minimum Requirements for Lining System Components	58
D.1 Lube Oil System Schematic	103
H.1 Steam Purity Limits	115
I.1 Allowable Forces and Moments (SI Units)	121
I.2 Allowable Forces and Moments (USC Units)	122
J.1 Speed Governing System Classification	138

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 subsection or paragraph indicates that either a decision by, or further information from, the purchaser is required. Further information should be shown on the data sheet (see example in Annex A) or stated in the quotation request and purchase order.

General-purpose Steam Turbines for Petroleum, Chemical, and Gas Industry Services

1 Scope

This standard covers the minimum requirements for general-purpose steam turbines. These requirements include basic design, materials, related lubrication systems, controls, auxiliary equipment, and accessories for use in the petroleum, chemical, and gas industry services.

This standard includes only general-purpose turbines. General-purpose turbines are horizontal or vertical turbines used to drive equipment that is usually spared or is in noncritical service. They are generally used where steam conditions will not exceed a pressure of 48 bar (700 psig) and a temperature of 400 °C (750 °F). Typically, the turbine shaft speed will not exceed 6000 r/min and power not exceeding 4000 HP (3000 kW) with a single-stage turbine.

This standard does not cover special-purpose turbines. Special-purpose turbines are those horizontal turbines used to drive equipment that is usually not spared, is relatively large in size (power), or is in critical service. This category is not limited by steam conditions or turbine speed. Requirements for special-purpose turbines are defined in API 612.

In case of conflict between this standard and the inquiry or order, the information included in the order shall govern.

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. Standards referenced in the text portion of the document are undated but refer to the specific editions referenced in this section.

API Specification 5L, *Line Pipe*

API Recommended Practice 500, *Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Division 1 and Division 2*

API Recommended Practice 500, *Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Zone 0, Zone 1, and Zone 2*

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

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

API Recommended Practice 551, *Process Measurement Instrumentation*

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

API Standard 614, *Lubrication, Shaft-sealing, and Control-oil Systems and Auxiliaries*

API 670, *Machinery Protection Systems*

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