

GENERAL SPECIFICATION

ROTATING MACHINERY

GS EP MEC 292

Rotating Machines Packages Installation Requirements

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General Specification		GS EP MEC 292
Rotating Machines Packages Installation Requirements		
Rev.: 05	Effective date: 10/2012	Page: 2 of 16

Contents

1. Scope	3
2. Reference documents.....	3
3. Definitions and abbreviations	4
4. Piping and Piping accessories	4
4.1 Interconnecting piping	4
4.2 Gaseous and oil mist vents and flame arrestors.....	5
4.3 Centrifugal compressor seal gas systems	5
4.4 Compressor and pump temporary suction strainers	6
5. Compressor anti surge and hot gas bypass systems	7
6. Fuel gas treatment package	8
7. Structural	8
7.1 Supports and maintenance platforms.....	8
7.2 Foundations	10
8. Electrical	10
8.1 Cables, cable glands and junction boxes	10
8.2 Motor starters and LV feeders switchboards	10
8.3 Gas turbine driven Package DC voltage systems supply and distributions.....	11
9. Installation and remote monitoring requirements.....	11
9.1 Remote monitoring definition.....	11
9.2 Evaluation of need for remote monitoring.....	11
Appendix 1 Base plate Installation	14
Appendix 2 Minimum requirements for compression loop design.....	15

Rotating Machines Packages Installation Requirements

Rev.: 05

Effective date: 10/2012

Page: 3 of 16

1. Scope

This specification defines the minimum requirements for integration of machinery packages within a Plant for the safe, reliable and easy operation and maintenance of such machineries.

These requirements have to be studied and developed on a project basis and included in the scope of supply of the Contractor.

The specification is applicable to any package involving rotating equipment to be installed within the Plant by the Contractor, whatsoever is the Purchaser of the package.

2. Reference documents

The reference documents listed below form an integral part of this General Specification.

External Documents

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the effective date of this document.

Reference	Title
ANSI B31.3	Process Piping
ASME B16-9	Factory-made wrought butt welding fittings
ISO 5167-1	Measurement of fluid flow by means of pressure differential devices inserted in circular cross-section conduits running full - Part 1: General principles and requirements

Total General Specifications

Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published in the applicable yearly collection.

Reference	Title
GS EP INS 110	Instrumentation for package units
GS EP MEC 214	Fuel Treatment Units
GS EP MEC 251	Supply of Axial and Centrifugal Compressors and Expander-compressors for Petroleum, Chemical and Gas Industry Services according to API Standard 617
GS EP MEC 253	Anti Surge System for Centrifugal and Axial Compressors
GS EP PVV 175	Cleaning of piping and vessels

General Specification		GS EP MEC 292
Rotating Machines Packages Installation Requirements		
Rev.: 05	Effective date: 10/2012	Page: 4 of 16

3. Definitions and abbreviations

Company	Total E&P or any Total E&P subsidiary.
Contractor	Any company Total E&P has signed a Contract with for the Engineering, Procurement, Construction and Installation of a part of a Project.
Supplier or Vendor	The package Supplier or Vendor.
Package	Prefabricated process or utility self-contained unit, generally able to operate on its own, supplied fully tested and ready for immediate installation.
ICSS	Integrated Control and Safety System

4. Piping and Piping accessories

4.1 Interconnecting piping

Contractor shall design, procure, fabricate, test, paint, install, passivate and clean all the interconnecting piping between package main base plates and off main base plates package auxiliaries of the following systems, where applicable, in accordance with the Project piping specifications.

Contractor piping design shall comply with Supplier requirements.

4.1.1 Lube oil systems

Interconnecting piping covered by this paragraph is piping between:

- Off main base plate package lube oil coolers (water or air cooled) flanges and main base plate package flanges of the following oil systems: mineral, synthetic, hydraulic or control oil systems, where applicable:
 - Oil in
 - Oil out
 - Oil permanent vent
 - Oil drain.

All this piping shall be made of AISI 316L stainless steel.

In cold climate or as specified by the Project, Contractor shall also insulate and heat trace the piping, in accordance with Project specifications:

- Any loose delivered run down tank or over head tank flanges and the package main base plate flanges and associated interconnecting piping.
- Oil demisters flanges and the package main base plate flanges, made of AISI 316L stainless steel.
- The interconnecting piping between oil demisters flange and flame arrestors flange.
- The interconnecting piping between flame arrestors flange and vent terminal point.

General Specification		GS EP MEC 292
Rotating Machines Packages Installation Requirements		
Rev.: 05	Effective date: 10/2012	Page: 5 of 16

4.1.2 Fuel gas K.O pot skid (provided by Supplier)

For package involving gas turbine or gas engine, interconnecting piping covered by this paragraph is the fuel gas piping between the package main base plate fuel gas knock out pot skid out flange and main package flange.

In addition, these lines shall be made of AISI 316L stainless steel, heat traced and insulated by Contractor in accordance with the Project piping specifications.

This skid shall be located at 2 meters maximum to the main base plate package inlet flange and the generated hazardous area shall not interfere with any air inlets.

4.1.3 Cleaning and final cleanliness

The Contractor shall clean the interconnecting piping in accordance with the **GS EP PVV 175** or the Project specification (if any) or Supplier specification if more stringent.

This cleaning shall occur after the hydrotest.

Supplier shall specify the piping cleanliness level required with the corresponding standard. The oil piping shall be designed and routed in such way that all piping can be dismantled or broken on site, to be cleaned separately or by group of assembled sections. The cleaning method shall be passivation followed by neutralization, drying and preservation, handled by specialized qualified Sub-vendor.

Supplier shall provide the dedicated study and detailed drawings covering the piping design, the cleaning and the final flushing procedures to be approved by Company.

Contractor shall be responsible to provide chemicals and flushing unit as required to perform the piping cleaning.

Cleanliness shall be witnessed by Company.

4.2 Gaseous and oil mist vents and flame arrestors

Contractor shall design, procure, fabricate, test, paint, install, passivate and clean these vent lines.

These interconnecting piping shall be made of AISI 316L stainless steel.

Any gaseous vent: permanent or intermittent hydrocarbon mixture release, intermittent nitrogen and hydrocarbon mixture release shall be provided with flame arrestor.

Contractor shall be in charge to install on the vent lines flame arrestors supplied loose by Supplier. These flame arrestors shall be installed in end line position.

Gaseous vents shall be routed to safe area, preferably in the draft of the process gas coolers, when applicable, for better dilution and dispersion.

Oil mist vents shall be routed to safe area, away from hot surfaces zones, in particular away from machinery exhausts.

4.3 Centrifugal compressor seal gas systems

Contractor shall design, procure, fabricate, test, paint, install, clean, heat trace and insulate (when specified) all here after lines made of AISI 316L stainless steel of the following systems, where applicable, in accordance with the Project piping specifications.