

# ROTARY SCREW COMPRESSORS

### **3 APPLICABLE CODES AND STANDARDS**

All codes and standards as referenced herein shall be a part of this Specification and shall be the latest edition, revision, or addendum in effect on the date of order unless specified otherwise on the contract documents or within this specification.

3.1 API 619, Second Edition, May 1985.

3.2 ANSI

- 1) B 1.1
- 2) B 2.1
- 3) B16.1
- 4) B16.4
- 5) B31.3
- 6) Y14.2 M

3.3 ASME

3.4 AGMA 390

### **4.0 BASIC DESIGN**

4.1 (2.1.13-Addition)

The vendor shall furnish inlet and discharge silencers and acoustic enclosures if required to limit noise levels to the required values specified by

shall approve design of silencers and acoustic enclosures.

4.2 (2.1.15-Clarification)

Unless otherwise specified, the equipment and its auxiliaries shall be suitable for operation in outdoors (without a roof) which is exposed to an industrial atmosphere at the ambient temperatures of minimum -18°C, rated 15°C and maximum 38°C.

4.3 (2.7.1.11, Critical Speed - Addition)

Torsional analysis is required for all units and shall be responsible for the satisfactory performance of the units.

4.4 (2.8.1.3, Radial Bearings - Addition)

Compressors in unspared, continuous services shall have sleeve or tilting pad-type radial bearings, which shall suppress hydrodynamic instabilities and provide sufficient damping.

4.5 (2.8.1.3, 2.8.2.6, Thrust Bearings - Addition)

Temperature sensors shall be furnished for both the radial and thrust bearings.

4.6 (2.10.4, Lube-Oil and Seal-Oil Systems-New Paragraph)

Oil systems shall be furnished by compressor vendor to supply lube oil, seal oil and control oil to compressors, gears, drivers and any other equipment as required in the compressor unit.

4.7 (2.10.5 - New Paragraph)

Combined lube and seal oil systems shall be furnished unless the compressed gas may cause oil contamination.

4.8 (2.10.6 - New Paragraph)

Oil systems for compressor services with components corrosive to copper (ammonia, sour gas, H<sub>2</sub>S, HCl, etc.) shall have no copper or copper bearing materials in contact with the oil.

4.9 (2.10.7 - New Paragraph)

Reservoirs shall have oil conditioner connections.

4.10 (2.10.8 - New Paragraph)

Seal oil drain traps shall be vented to compressor suction and be furnished with mist eliminators, unless otherwise specified.

Design of mist eliminators shall be approved by

4.10 The pressure difference between internal discharge pressure and system discharge pressure should not exceed 2.5bar.

## **5.0 MATERIAL**

5.1 (2.11.1.5 Addition) Any material which is surrounded by acetylene contained gas and is exposed to friction such as rotating ring and stationary ring of sealing component, shall not be copper or copper alloy since those have explosive in above-mentioned environment.

## **6.0 ACCESSORIES**

- 6.1 (3.1.2, Drivers - Addition)  
Unless otherwise specified, drivers shall be sized for startup at normal suction pressure and bypass unloading.
- 6.2 (3.3.1 General, Mounting Plates - Addition)  
Unless otherwise specified, compressors, drivers, gears and any acoustic enclosures furnished, shall be mounted on a common baseplate.
- 6.3 (3.4.3 Instrumentation and Control Panels - Addition)  
Each compressor casing shall be furnished with alarm and shutdown switches for cooling water high outlet temperature, or low flow.
- 6.4 (3.4.3.6 - New Paragraph)  
Compressor vendor shall furnish a pre-wired instrument panel complete with the following for each compressor unit; as applicable:
- 1) Lube and seal oil pressure indicators (each level).
  - 2) Differential seal oil pressure indicators (each level).
  - 3) Overhead seal oil tank level indicators.
  - 4) Bearing metal temperature indicators with alarm contacts for compressor, gear, and turbine drivers.
  - 5) Annunciator panel with horn, silencing relay, first out.

- 6) Speed indicator (for variable speed drivers).
- 7) Vibration and axial position indicating and alarm instruments.
- 8) Driver instruments, cutouts for the instruments, and additional annunciator points as specified.