

## **5 Introduction Note**

The API 619 " Rotary-type Positive Displacement Compressors for Petroleum, Petrochemical and Natural Gas Industries" and its appendices - fifth edition, December 2010 is considered as part of this specification.

Only those paragraphs of the API 619 standard which have been deleted, completed (Addition), totally modified (Substitution) or partially modified (Clarification) by the present specification are mentioned. The other paragraphs of the API 619 which are not mentioned remain applicable.

## 5.6 SHAFT SEALS

### 5.6.1 General

5.6.1.2 & 5.6.1.3 Settling out pressures will be defined in the Job specifications and data sheets.

5.6.1.7 Restrictive-ring type seals (purged) shall be submitted to Company approval

### 5.6.2 Seal support systems

5.6.2.1 Seal support systems requirements shall be defined in the Job specification or data sheet. Dual seals are required for hazardous or toxic gases.

5.6.2.3 The Vendor shall supply the seal support system. The method of control, materials and scope of supply shall be mutually agreed by Company and the Vendor.

5.6.2.5 The support systems shall comply with

### 5.6.3 Shaft seals for dry screw compressors

5.6.3.4 Self-acting dry gas seals. Dry gas seals are subject to Company approval.

## 5.7 DYNAMICS

### 5.7.1 General

5.7.1.4 The first actual lateral critical speed shall be indicated in the Vendor's proposal.

### 5.7.2 Torsional analysis

5.7.2.1 This paragraph is applicable in all cases.

5.7.2.2 When an induction motor is used to drive the compressor, the Vendor shall calculate the torsional shaft line response to short circuit and start-up torques.

### 5.7.3 Vibration and balance.

5.7.3.1 Coupling hubs are also considered as a major part of rotating elements

5.7.3.3 Balancing grade G1 is required

5.7.3.5 This paragraph is applicable

## 5.8 BEARINGS

### 5.8.1 General

5.8.1.1 The bearing selection (through Table 6 & 7) shall be done in accordance with § 5.1.1; considering the compressor design and construction for at least 6 years of uninterrupted operation. Rolling element bearing life: the basic rating L10 shall be indicated in the Vendor's proposal.

## 5.10 LUBE-OIL AND SEAL-OIL SYSTEMS

5.10.2 Dry screw compressors

## 6.4 CONTROLS AND INSTRUMENTATION

### 6.4.1 General

6.4.1.1 This paragraph is applicable.

6.4.1.2 Instrumentation shall conform to

6.4.1.3 This paragraph is applicable.

### 6.4.2 Control systems

6.4.2.1, 6.4.2.3 & 6.4.2.4 The type of control system(s) shall be specified in the Job specification and data sheet.

### 6.4.3 Instrument and control panels

6.4.3.1 This paragraph is applicable. A local freestanding control panel shall be furnished. Refer also to \_\_\_\_\_ and Job specifications listed in the requisition

### 6.4.4 Instrumentation

6.4.4.1 General. Instrumentation shall also conform to Job specifications listed in the inquiry and the purchase order. Specification \_\_\_\_\_ 1 is also applicable. Switches are not acceptable.

### 6.4.4.3 Vibration and position detectors

6.4.4.3.1 For hydrodynamic radial bearings, this paragraph is applicable and each journal bearing shall be provided with shaft vibration detection and the associated monitoring system based on X and Y non-contacting vibration probes.