

Shaft vibration monitoring for sleeve bearings

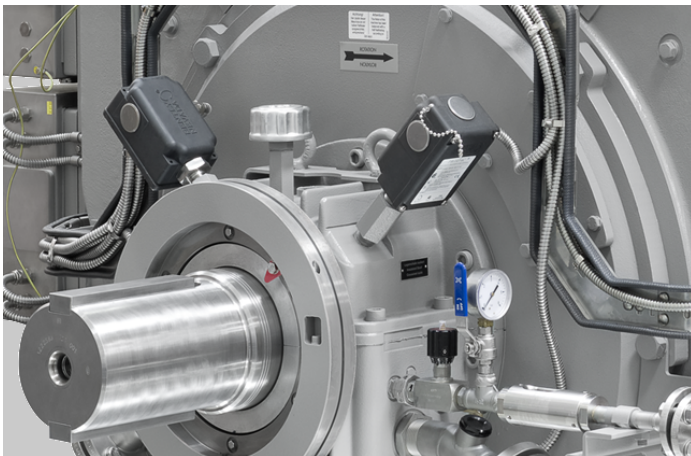
Order option A02

1 Description

Using sensing probes, the shaft vibration monitoring continually senses the shaft vibration at the bearing locations. If vibration values change with respect to normal operation, the machine can be specifically monitored or shut down. As a consequence, problems are identified at an early stage and damage avoided. Vibration values are influenced by the bearing condition, the balance state and the machine mounting; they are also influenced by vibration excited by the driven machine via the drive shaft or from the line supply to the motor.

The measuring circuit comprises the "probe", which is connected to the "proximitor sensor" signal converter. A "proximitor sensor" is integrated in a protective enclosure and is directly connected with the contactless probe (measuring sensor) at the end of a protective tube. It is attached to the machine through a thread and an adapter in the bearing housing or at the bearing sealing bracket. The signal converter output is wired to an auxiliary terminal box. Suitable evaluation units can be connected to series terminals at this interface.

The probe senses the distance to the shaft. 2 vibration monitoring devices are attached to each sleeve bearing to sense the shaft vibration in two dimensions. They are arranged at an angle of $\pm 45^\circ$ with respect to the vertical, and are located in one plane perpendicular to the shaft. Shaft vibration is determined by evaluating the induced voltage change. The voltage change is proportional to the change in distance (clearance to the shaft).



Mounting, shaft vibration monitoring, example



Proxpac XL, Bently Nevada

Department responsible LDA OPS EU EN	Technical reference Winkler	Created by Hausruckinger	Approved by Bolz	Project			
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2 Technical data

Type	Proxpac 3300 XL 330881-28-xx-xxx-03-02
Type Probe	3300 XL 8 mm
Type Signal converter	3300 XL Proximitior
Manufacturer	Bently Nevada
Degree of protection	IP66, NEMA 4X
Type of protection Signal converter	
IECEX/ATEX	Ex ia IIC T4/T5 Ga Ex ec IIC T4/T5 Gc
CSA (US+C)	Class I Zone 0 / Class I Division 1, Groups A, B, C, D (1109248) Class I Zone 2 / Class I Division 2, Groups A, B, C, D (1109248)
Type of protection Probe	
IECEX/ATEX	Ex ia IIC T5 ... T1 Ga Ex ec IIC T5 ... T1 Ga
CSA (US+C)	Class I Zone 0 / Class I Division 1, Groups A, B, C, D (1109248) Class I Zone 2 / Class I Division 2, Groups A, B, C, D (1109248)
Additional certificates	on request, e.g. EAC Ex, CCC
Scope of delivery for each bearing	2 × Proxpac 3300 XL, fastened and wired to the auxiliary terminal box
Can be additionally ordered	Calibration certificate

The information provided in the technical details in the product-specific data sheets have priority.

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