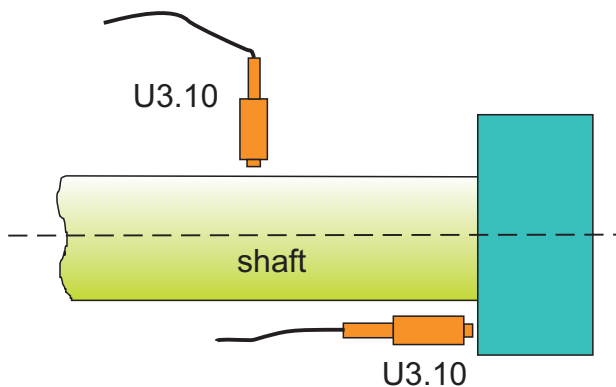


Underwater Measurement of axial movement and shaft play

The functional safety of systems of special economic importance often depends on the perfect operation of delivery devices (pumps). Increased radial shaftwhirl, or an axial shift due to thermal expansion, are first signs of possible malfunctions. Measuring axial movement and shaft play will reduce downtimes of the system and minimise repair costs. For underwater measurement a pressure-proof eddy-current position sensor, which has been developed from the standard type U3 with certain adaptations is used. The sensor still has its high basic accuracy, and procuring spare parts is no problem at all. The use of potentiometers with readable setting ensures that the sensor can be easily and quickly adapted to different shaft materials (ferromagnetic or non-ferromagnetic).

Principle



Technical details

- Measuring range 2 mm
- Accuracy 0,005 mm
- Resolution: 0,003 mm
- Band width: 50 Hz (to 50 kHz)

Ambient conditions

- Temperature: 10 - 50 °C
- Medium: water (2 bar)
- Sensor and a part of the cables are under water

System configuration

RS549 - 3-channel-bench top cabinet
DD500 - Digital-display
OS550 - Oscillator
3 x DL504 - Demodulator
Low-pass filter
3 x U3.10 - Sensor
3 x C12 - Sensor cable
3 x BC050-U3.10-C12 - Matching Board

Reasons for choosing the system

- low influence of water
- compression-proof sensor and cable