Vibro-Meter

Cahora Bassa Hydro Power Plant (Mozambique)

Air gap and vibration monitoring (VM600 with CE, LS, SE and TQ sensors)

Condition monitoring of hydroelectric generators is critically important, especially the monitoring of the air gap between the rotor poles and the stator walls. In the absence of effective monitoring, efficiency would decrease and potential machine damage could occur.

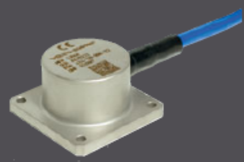
Air gap measuring systems

The LS 120 sensor with its ILS 730 conditioner monitors air gap in the generator.

Measuring range:
2 mm to 33 mm,
temp. -15 to 125°C

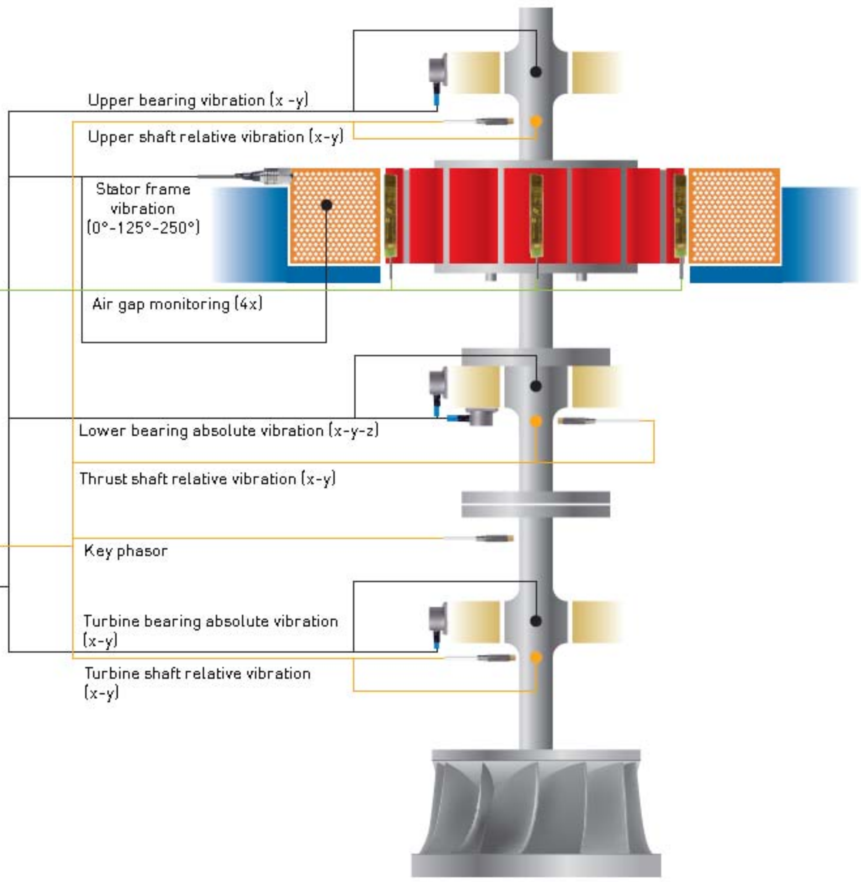
Vibration measurements

CE 680 compact piezoelectric accelerometer measures non-rotating parts (bearing and machine frames).



The SE 120 is a piezoresistive accelerometer capable of very low frequency measurements (0,2 Hz).

Measurement on rotating parts is performed by TQ 402 eddy current probes.



VM600 monitoring system

VM600 protection, condition and performance monitoring systems provide an overall data overview used for plant diagnostics and management.

The Project

- The Cahora Bassa lake is Africa's second-largest artificial lake
- Alstom provides five 420 MW Francis turbines and generators
- Five VM600 systems protect and monitor separately every turbine and generator, collecting data from our air gap monitoring systems, accelerometers and eddy current probes
- The Vibro-Meter's solution provides overall data overview, optimizes the plant efficiency and allows operators to predict maintenance more efficiently

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