Scenic®

Scenic Precise Element Inc.

Case Study STG170™

Benefits of Upgrading Steam Turbine Mechanical Seal with Non-Contact Dry Gas Seal

Industry/Equipment	Power & Energy/ Steam Turbine
Temperature	240 ℃
Pressure	13 kg/cm^2
Rotating Speed	3560 RPM
Power	27 KW
Lubrication	Bearing Oil
Sealing Type (Before)	Multi-Segment Ring Set
Sealing Type (After)	Non-Contact Dry Gas Seal STG170™

BEFORE

- Multi-segment ring was used as the sealing component of the steam turbine.
- Unable to prevent leakage of high-pressure steam.
- Extended operation will cause damage to the carbon seal ring and turbine shaft.
- The damaged turbine shaft enlarges the gap and increases the steam leakage.
- The oil lubricant is susceptible to contamination from steam leakage, leading to degradation and turbine bearing damage.
- Massive leakage leads to widespread corrosion of the equipment and energy waste.

AFTER

- Zero steam leakage.
- Avoid the emulsification of oil lubricant in the turbine bearing caused by thermal shock.
- Reduce drive power consumption, increase energy efficiency.
- No damages to the steam turbine shaft.
- Decrease the probability of bearing damage and lubricating failure due to steam leakage.
- Cost savings.
- Long service life.

SEALING SOLUTION & HIGHLIGHT

Scenic provides a sealing solution featuring the newest technology of the non-contact dry gas seal STG170™, for the steam turbine in the power and energy industry. By replacing the old multi-segment ring used by customers, less downtime for maintenance and reduced steam leakage are achieved.

- ☑ High reliability- Non-contact dry gas seal (zero abrasion).
- ☑ Utilizes the steam from the turbine as a power source for STG170™, extra gas support system is unnecessary.