

SMART™ Steam Turbine Seals

Product Sheet

Custom Installation, Fast Turnaround

Steam leakage caused by increased seal clearances throughout the steam path prevents steam turbines from running at their optimum performance levels. By reducing these clearances, a power plant could substantially increase their output and reduce fuel consumption and emissions. SMART™ Seals are maintenance friendly and improve unit availability and reliability.

Features

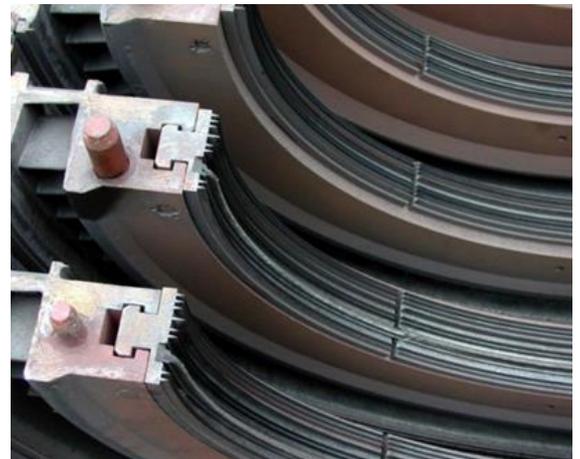
SMART™ Seals are a combination of custom engineered products that will create the best solutions for a given equipment type. Products and services that can be incorporated for each SMART™ Seal include:

Products

- Original configuration seals
- Retractable seals
- Brush tip seals
- Retractable brush seals
- Hybrid seals

Services

- Steam path audits
- Custom engineered hardware design
- Rotor stability analysis
- Seal installations
- Performance testing
- Modifications
- Stationary & rotating component repairs
- Open & close service



Our Customer Benefits

- Increased steam turbine efficiency
- Reduced degradation
- Increased revenue from additional output
- Fuel savings from reduced heat rate
- Reduced emissions from reduced fuel consumption
- Easier maintenance
- More reliable start-ups & flexible unit cycling

Simple Efficiency Enhancement

Increasing the efficiency of a steam turbine allows an operator to produce the same amount of power with less fuel. This fuel savings is an attractive benefit given the current political climate to reduce CO2 emissions. The application of SMART™ Seals improves unit efficiency, reduces fuel consumption and lowers Greenhouse Gas emissions, providing substantial benefits to the steam turbine owner / operator.

Availability

Availability of a unit is an important aspect of turbine operation. Retracting the seal from the rotor during multiple start-ups greatly decreases the chances that a turbine will trip during start-up.

Reliability

When upgrading a steam turbine it is important not to sacrifice reliability for increased performance. When the SMART™ Seal are being engineered, reliability is always heavily considered.

Technology

Patented brush packing incorporates a unique technology brush seal that operates with a "zero" clearance when closed, to create a tight maze of bristles that block the flow of steam. This results in a dramatic reduction in leakage and an increase in efficiency and output. Depending on turbine type, MW rating, and as-found clearances, sustained improvements of up to 2% in unit efficiency and 4% in power output are possible with a brush seal packing upgrade.



EthosEnergy is a leading independent service provider of rotating equipment services and solutions to the power, oil & gas and industrial markets. Globally, these services include facility operations & maintenance; design, manufacture and application of engineered components, upgrades and re-rates; repair, overhaul and optimization of gas and steam turbines, generators, pumps, compressors and transformers; delivery of gas turbines and generators, and supply of overhauled and warranted equipment on a FAST TRACK basis.