

STS™

Mechanical Seal for Steam Turbines



Typical Benefits of Steam Turbine Mechanical Seal Technology

- Increased turbine reliability
- Reduced turbine maintenance costs
- Reduced bearing contamination
- Non-contacting technology extends life of seal
- Elimination of shaft wear – generated by the Carbon seal
- Greatly reduces steam loss and increases efficiency

STS™ — Mechanical Seal for Steam Turbines

Reduce process steam loss, improve turbine efficiency

The STS™ mechanical seal has been developed in conjunction with a major oil refinery to replace existing carbon ring seals normally fitted to steam turbines.

STS™ adopts AESSEAL® dry running gas compressor seal technology to provide a solution that significantly reduces the steam leakage typically associated with standard carbon ring seals.

Steam loss is a major problem in many industries as it incurs considerable cost, reduces efficiency, can be the cause of bearing failure and potentially represent a health and safety issue when it affects visibility around the turbine.

The many variations of steam turbine can be easily accommodated through AESSEAL's modular approach to mechanical seal design. This modular approach enables different flange designs, bolt patterns, etc. to be easily accommodated and more complex changes are supported by our Engineering team and investment in modern manufacturing technologies.

The seal is suitable for a range of major steam turbines that can be found in a number of industries e.g. Oil and Gas, Chemical, Pulp and Paper, etc.



Watch video showing the STS seal in action



View case history 'Improving reliability, increasing efficiency'



Without Steam Turbine Seal



With Steam Turbine Seal

“These Steam Turbine seals are so good you should be looking at rolling them out to refineries worldwide”

Refinery Workshop Manager

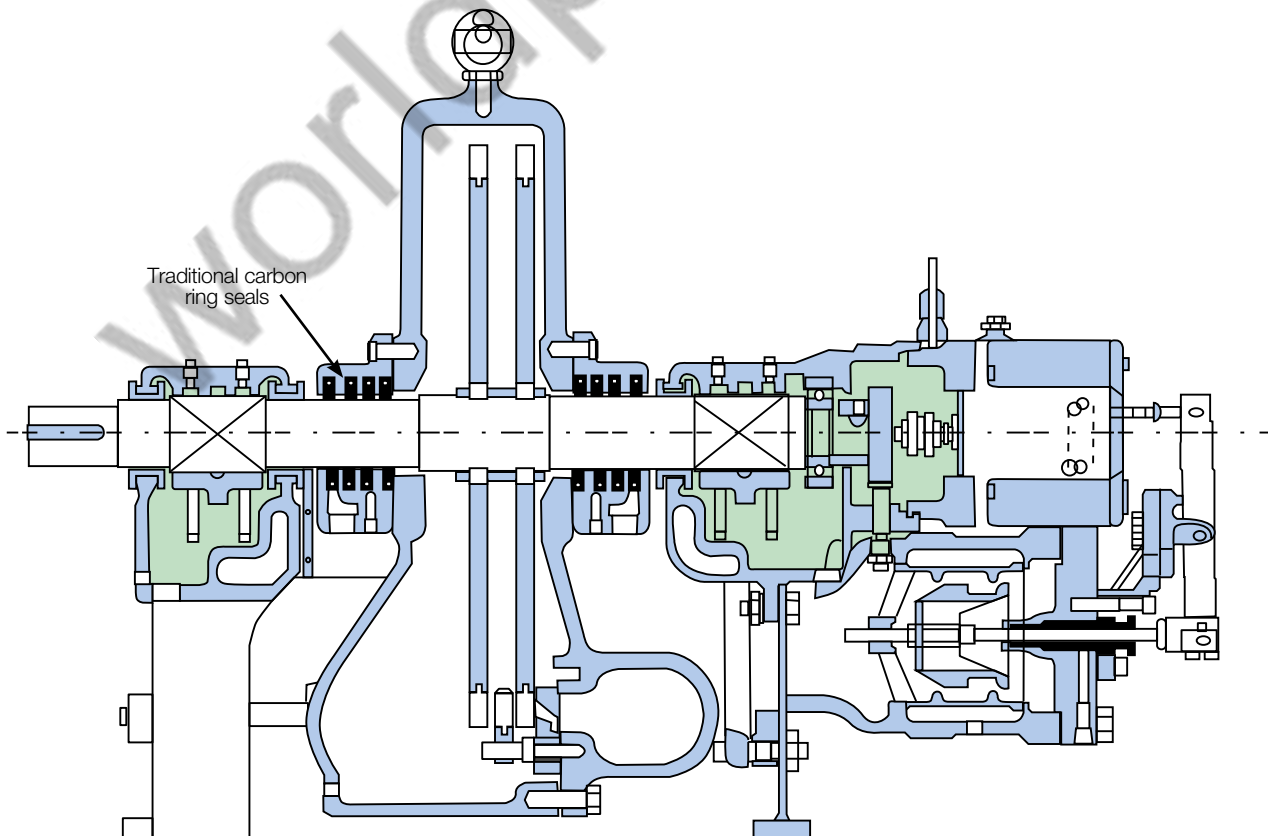


Features and Benefits

- Modern Dry Gas Seal Technology — Virtually eliminates steam leakage
- Modular Cartridge Design — Simple to install and suitable for a wide range of steam turbines
- Innovative Clamp Design (Pat. Pending) — Suitable for Hardened Shafts

General Specification

Size Range	25mm to 100mm (1.000" to 4.000")
Face Options:	Hard versus Hard GSIC/GSIC
Secondary Seal Options	Graphite filled wedge Polymer
Gasket	Graphite



Typical Steam Turbine Cross Section

LabTecta®66ST – Bearing Protector for Steam Turbines

Process steam turbines present a unique challenge for bearing protection.

As the carbon rings containing the steam wear, high temperature / high velocity steam travels down the shaft directly at the bearing seal. Standard OEM labyrinth seals have proven to be ineffective preventing steam ingress.

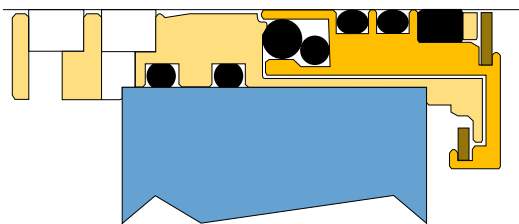
AESSEAL® has developed LabTecta®66ST designs specifically designed for steam turbine applications.

This design features:

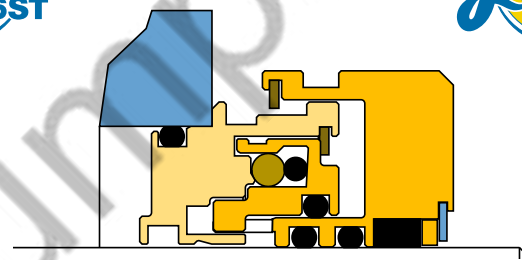
- Extra clearances for thermal expansion
- Steam deflector / Flinger
- TFE/P 'O' rings as standard
- Internal shut-off valve



**View case history
'Preventing steam
ingress into the
bearing housing'**



LabTecta-ST™



LabTecta-STAX™

For smaller steam turbines, the LabTecta®66ST design provides excellent protection in a compact package. For larger steam turbines, the LabTecta®66STAX provides easy installation with the capability to accommodate large axial shaft movement.

**Standard designs are available for common steam turbines models.
Specific designs can be manufactured at no additional charge.**

This brochure is fully recyclable. When laminated, a sustainable, biodegradable and recyclable lamination is used.

For further information and safe operating limits contact our technical specialists at the locations below.



Use double mechanical seals with hazardous products.

Always take safety precautions:

- Guard your equipment
- Wear protective clothing

WARNING

AESSEAL plc is certified to ISO 9001, ISO 14001, ISO/IEC 20000, ISO/IEC 27001, ISO/TS 29001, ISO 37001, ISO 45001 & ISO 50001

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