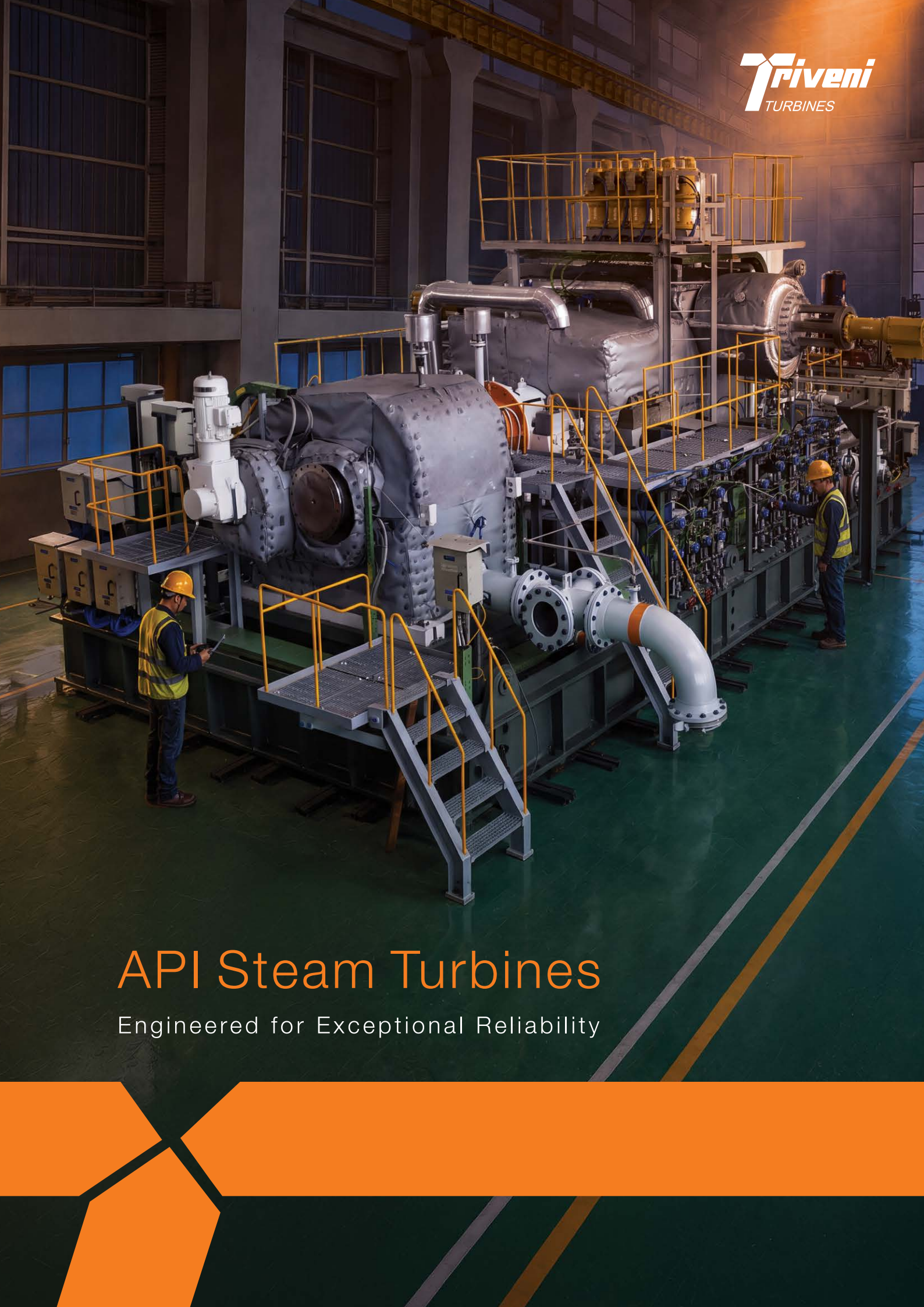


Triveni TURBINES

API Steam Turbines

Engineered for Exceptional Reliability



A JOURNEY DRIVEN BY PURPOSE AND POWERED BY PRECISION

Established in 1968, Triveni Turbine Limited (TTL) is a globally recognised leader in heat and power solutions and decentralised, sustainable energy systems.

TTL's journey in the Oil & Gas sector began three decades ago. Since then, the Company has built a strong presence across petroleum refineries, petrochemical and chemical facilities, working with major National Oil Companies, licensors, EPC contractors and global OEMs. Our API 611 and API 612 compliant steam turbines are designed to meet stringent project specifications and deliver reliable performance.

With a proven track record, global manufacturing capability and lifecycle support, TTL provides engineered-to-order API steam turbine solutions for critical drive and power-generation applications across the Oil & Gas value chain.



API SPECIAL & GENERAL PURPOSE PRODUCT PORTFOLIO

Triveni Turbines offers API steam turbines up to 100 MW in back-pressure and condensing configurations, designed for reliable, continuous operation across demanding process environments. The turbines cater to industries including refining, chemicals, petrochemicals, fertilizers, green ammonia, gasification, utilities, and steel.

Key capabilities:

- Suitable for desert, coastal, tropical, and frigid environments
- Modular, highly customizable construction
- Configurable for stringent process and project requirements
- Compliant with API, licensor, National Oil Company, and industry-specific standards
- Designed for Hazardous area and high SIL rating applications

GLOBAL REACH.
LOCAL CAPABILITY.

Houston, USA: Triveni Turbines' Houston facility provides **API steam turbine manufacturing, service and lifecycle support**, combining local responsiveness with global engineering expertise to serve customers across the Americas.



GLOBAL NETWORK

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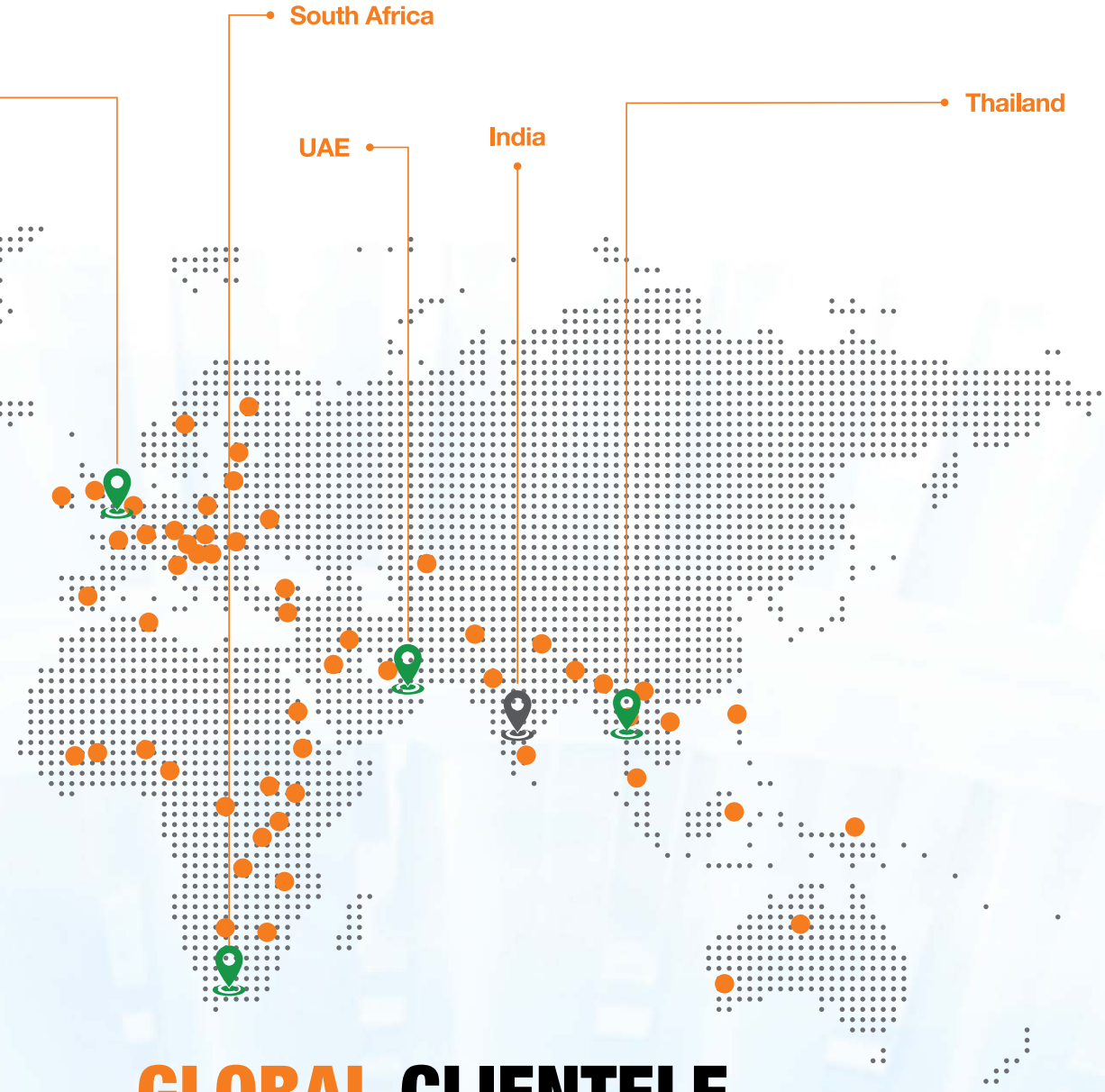
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Triveni TURBINES



GLOBAL CLIENTELE

ADNOC · Bapco · KIPIC · sabic · QatarEnergy · PEMEX · ExxonMobil · IndianOil

GAIL · NTPC · SUNCOR · EIL A Navratna Company · TOPSOE · JSW · SAIPEM · TECNICAS REUNIDAS

LARSEN & TOUBRO · PUPUK INDONESIA HOLDING COMPANY · SAMSUNG · TECHNIP ENERGIES · TECNIMONT · TOYO ENGINEERING · NMDC ENERGY Formerly NPCC

wood. · FLUOR · Worley · SULZER · FLOWSERVE · Atlas Copco · KSB



PROVEN PERFORMANCE BEFORE IT POWERS YOUR PROCESS

Advanced String and Load Testing ensures every API Steam Turbine delivers reliability, efficiency, and operational confidence from day one.

56 MW String Test



33 MW Load Test

MAESTROS OF MANUFACTURING

With four state-of-the-art manufacturing facilities across India, South Africa and the USA, we deliver fully integrated turbine solutions spanning manufacturing, assembly, testing and refurbishment—ensuring our customers receive reliable, performance-ready turbines, on time, every time.





MANUFACTURING IT-ENABLED OPERATIONS

Business Software

SAP - HANA

- Salesforce.com
- Primavera
- IoT - Fleet RMD
- IoT- CNC shop
- ITO- Cost tools
- Prime-Ops

Technical Software

- CFX
- ANSYS, SP3D
- Concepts Aero Suite
- Dyrobes, ARMD
- PLM - Teamcenter
- Pro-E, Unigraphics
- Ax-turbo
- MISES
- Thermoflow, Gate cycle Mat lab

ENGINEERING EXCELLENCE

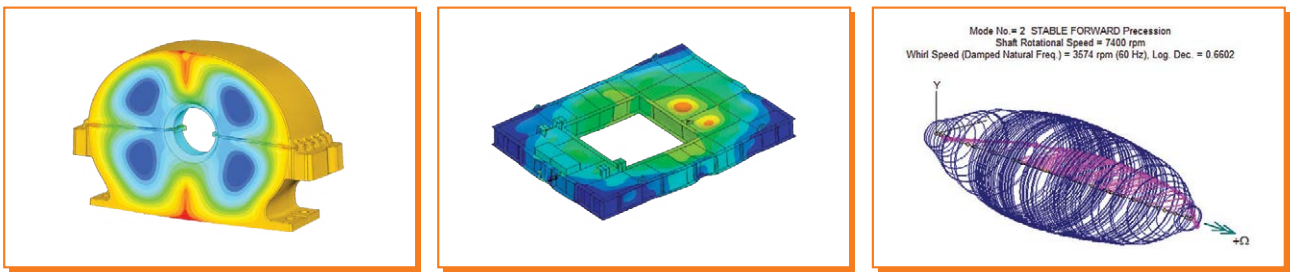
At Triveni Turbine Limited, precision is not viewed in isolation, but rather as the result of integrated engineering expertise applied across every stage of turbine manufacturing.

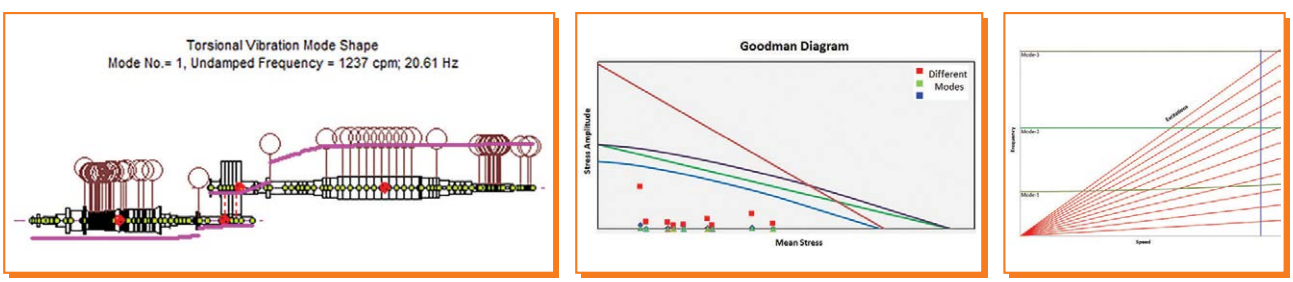
- **Cutting-edge solutions with minimum lifetime ownership cost**
- **Customer-centric research & development with more than 250 IP Rights**
- **Extensive in-house tests and field validation programs**
- **Fully-equipped design team with latest software and processes to engineer reliable solutions:**



Engineering Capabilities





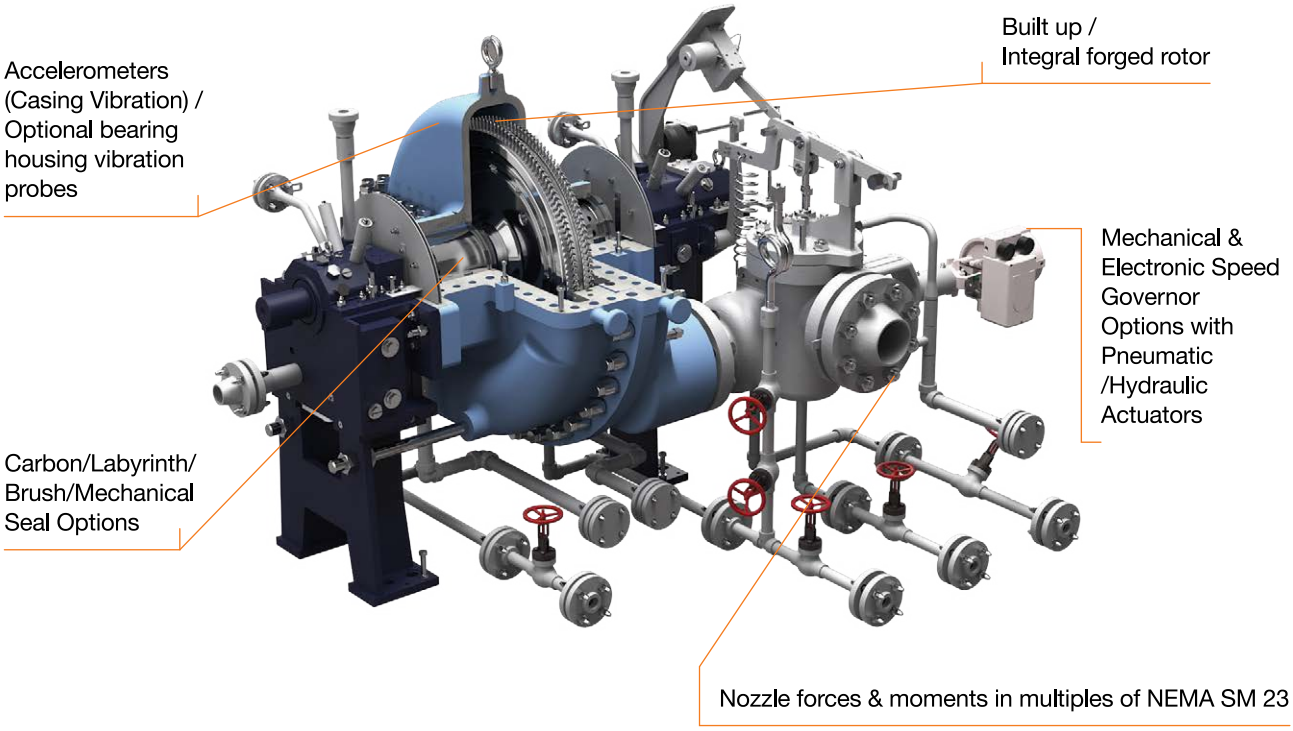


API 611 GENERAL PURPOSE TURBINES

Our versatile steam turbines provide a comprehensive range of applications, with power generation capacities up to 100MW. These turbines are designed to optimize efficiency per cost for diverse applications. They are also compliant with the robust API standards, making them suitable for Oil & Gas applications.

FEATURES

- Oil Relay (NEMA A) Governor / NEMA D Electronic Governor
- Unattended Auto Start
- Up to SIL 3 rated Solenoid Valves for remote tripping and Partial Stroke test
- Hydrodynamic Bearing (Journal) / Anti Friction bearing (Thrust) with optional hydrodynamic thrust bearing
- Combined Trip & Throttle Valve (Manual/Optional Unattended Auto Start
- Robust between bearing design
- Mechanical / Electronic Over Speed Protection systems



SLN	1	2	3	4	5	6	7	8	9	10	11	12
Model	TST 1003 Series	TST 1008 Series	TST 1015 Series	TST 1018 Series	TST 1025 Series	TST 1030 Series	TST 1060 Series	TST 1120 Series	TST 2010 Series	TST 2025 Series	TST 2030 Series	TST 2150 Series
Turbine Type	BP	BP (Horizontal/	BP	BP	BP	BP	BP	BP	BP &	Condensing	Condensing	BP &
Max Inlet Pr in kg/cm²g / psi g	64	64	64	64	64	72	85	110	85	72	72	85
Max Inlet Pr in °C / °F	485	485	485	485	485	510	530	550	485	510	530	530
Max Exhaust Pr in kg/cm²g / psi g	9	24	9	24	18	18	32	45	-0.533 till 45	-0.533	-0.533	-0.533 till 45
Max Speed in RPM	7000	7500	6000	7500	7500	7500	7500	6900	7500	7500	7500	6900
Max Rating in kW	600	3000	3000	4000	3000	5000	8000	15000	1500	2500	5000	15000

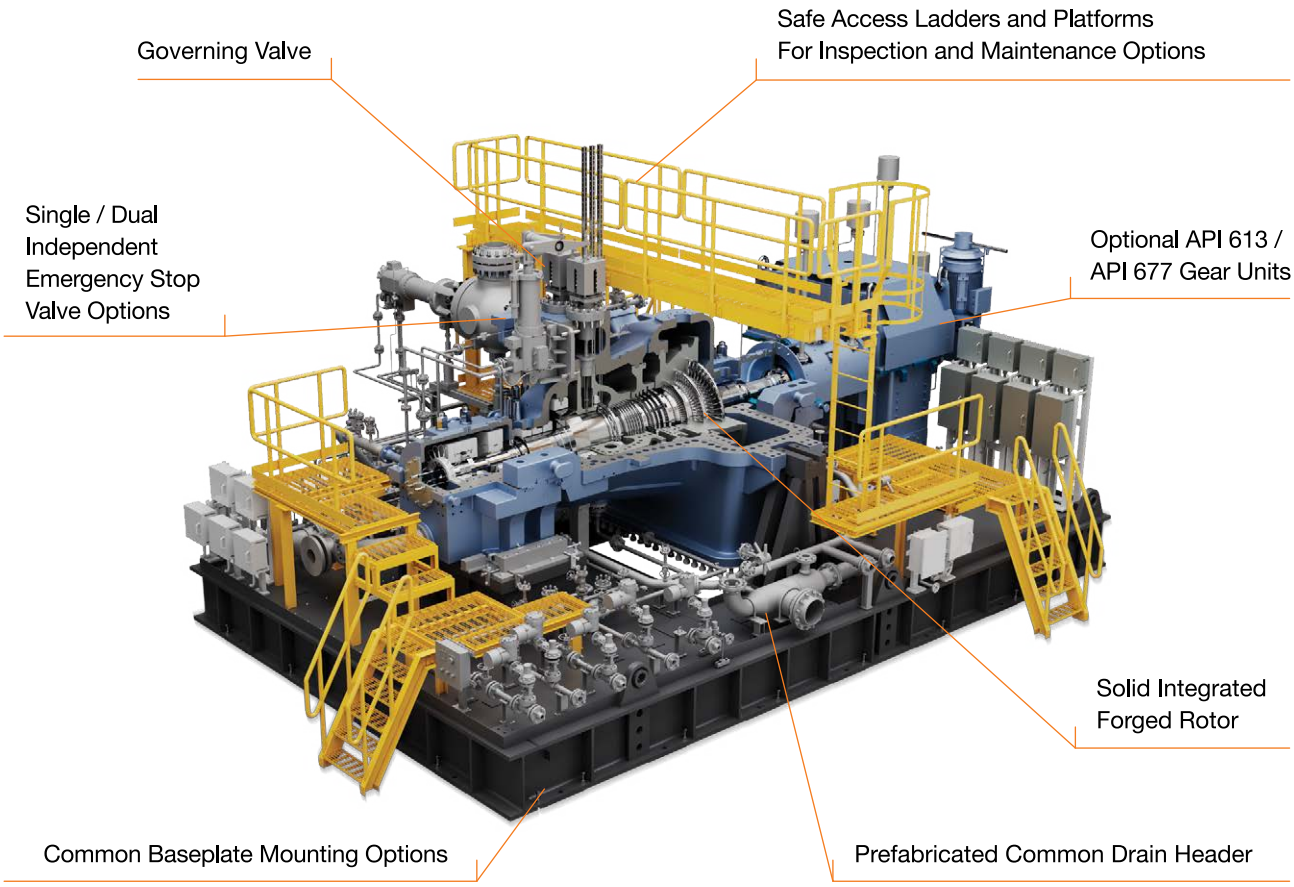
*For other sizes, kindly contact the Sales and Marketing Team

API 612 SPECIAL PURPOSE TURBINES

API 612 steam turbines are available in the range up to 100 MW for various drive applications and power generation.

FEATURES

- Constant / Variable speed turbines
- Suitable for installation in harsh outdoor environment with extremely low MDMT (-50°C) and high ambient temperature of up to 50°C.
- SIL 3 Rated solenoid valve
- Active type speed probes for long distance signal transmission
- Prime mover in dual drive arrangement.
- Fully compliant to human factor engineering
- Integrated Machinery Condition Monitoring

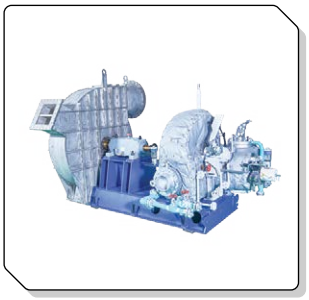


SLN	1	2	3	4	5	6	7	8	9	10	11	12
Model	TST 1018 Series	TST 1025 Series	TST 1060 Series	TST 2030 Series	TST 2080 Series	TST 2180 Series	TST 2230 Series	TST 2300 Series	TST 4H Series	TST 6H Series	TST 8H Series	TST 10H Series
Turbine Type	BP	BP	BP	Condensing	Condensing	BP & Condensing	BP & Condensing	BP & Condensing	BP & Condensing	BP & Condensing	BP & Condensing	BP & Condensing
Max Inlet Pr in kg/cm2 g	64	64	85	72	72	87	140	140	145	145	145	145
Max Inlet temp °C	485	485	530	530	530	515	545	545	565	565	565	565
Max Exhaust Pr in kg/cm2 g	24	18	32	-0.533	-0.533	-0.533/ till 45	-0.533/ till 45	-0.533/ till 45	-0.533/ till 45	-0.533/ till 45	-0.533/ till 45	-0.533/ till 45
Max Speed in RPM	7500	7500	12000	12000	12000	9000	9000	9000	6900	5000	3600	3600
Max Rating in kW	4000	3000	8000	5000	8000	18000	23000	30000	50000	65000	80000	100000

*For other sizes, kindly contact the Sales and Marketing Team

API STEAM TURBINES
APPLICATIONS & ACCESSORIES

APPLICATIONS



Forced/Induced Draught Fans/ Blowers (for boilers and reformers)



Boiler Feed Water Pump



Cooling Water Pump



Compressor Drive (Air/Blower)



Generator Drives



Compressor Drive (Process)



Process Pump



Vertical Drive Applications

ACCESSORIES



Control Oil & Lubricating Oil Systems (API 614)



Condensing System (HEI/TEMA)



Gear Box (As per API 613 & API 677)



Alternator (As per API 546 or IEC 60034)

- Couplings (API 671) - high speed and low speed
- Gland vent condensers, Condensing system (HEI/TEMA)
- Control Panels with Governors, Over Speed Protection System, Vibration Monitoring & Protection Systems (AP 1670)
- Electrical - AVR and excitation panel, Relay panel, Metering & Synchronizing & TG MCC panel
- Instruments, Control Systems with PLC, SCADA
- Switchyard and Balance of Plant Accessories

FULL-PACKAGE TESTING SOLUTIONS DELIVERED FOR SITE READINESS

Triveni Turbine Limited is among the few steam turbine manufacturers globally with the capability to conduct complete String Testing of steam turbines under live steam conditions. This advanced capability enables customers to evaluate the behavior and performance of the complete train within the controlled factory setup itself, significantly improving overall system reliability while reducing commissioning time at site.

OUR WORLD-CLASS MANUFACTURING FACILITIES ARE EQUIPPED WITH ADVANCED TESTING INFRASTRUCTURE, INCLUDING:

- High-speed vacuum balancing facilities for rotors up to 55 tonnes, supported by dedicated vacuum balancing tunnels across both manufacturing units.
- Live steam load testing using mechanical dynamometers for performance validation under operating conditions
- No-load live steam mechanical run testing through in-house boilers, condensers, and dedicated test beds.
- Complete STRING Testing of job-specific turbine trains, including turbines, gearboxes, and driven equipment such as generators under live steam operation.







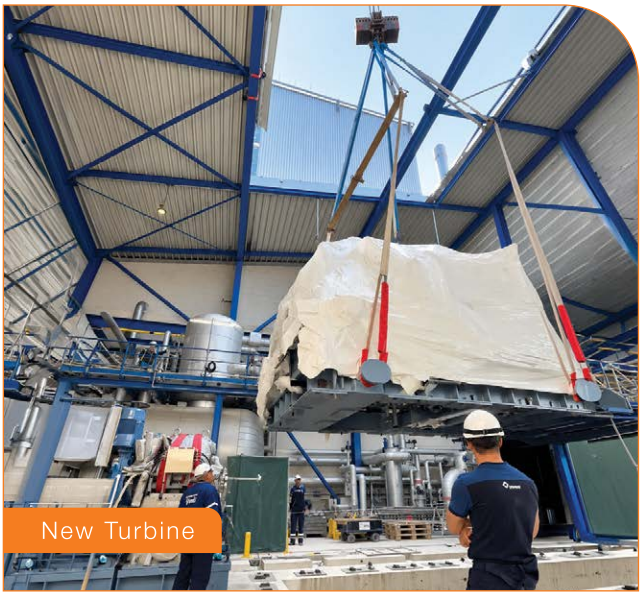
ENGINEERED FOOTPRINT REPLACEMENT SOLUTIONS

Our engineered Footprint Replacement Solutions are designed to modernize existing turbine systems while maximizing the utilization of available plant infrastructure These drop-in replacement solutions are specifically engineered for These drop-in replacement solutions are specifically engineered for:

- Compatibility with existing foundations
- Space-constrained turbine bays
- Brownfield modernization projects
- Reduced shutdown and installation timelines
- Enhanced operational reliability and performance

Through optimized turbine configurations and advanced interface engineering, Triveni Turbines enables seamless integration with existing balance-of-plant systems, ensuring modernization with minimal disruption and maximum operational continuity.


Old Turbine


New Turbine


Installed Turbine

360° CUSTOMISED SERVICE PORTFOLIO

1000+ CUSTOMERS SERVED ANNUALLY

CUSTOMISED SERVICE SOLUTIONS

TOTAL CUSTOMER SATISFACTION

HIGH REPEAT CUSTOMER ORDERS

MULTIBRAND SERVICE

Spare Part Supply

Steam Turbine Expertise for all Application

FSE, QA/QC & Onsite Repair Engineer

AMC for Process Gas Train and Rotating Equipment

Installation or Supervision Support for Rotating Equipment

Dedicated Team for any OEM Rotating Equipment - Triveni REFURB™

Maintenance, Repair & Overhaul

Reverse Engineering & Efficiency Enhancement

Shutdown Maintenance & TAR Services



IMAGINE.
INNOVATE.
INSPIRE.

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Triveni Turbines
Corporate Film

Website

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