

STEAM TURBINES

Application in electricity generation
and mechanical drives

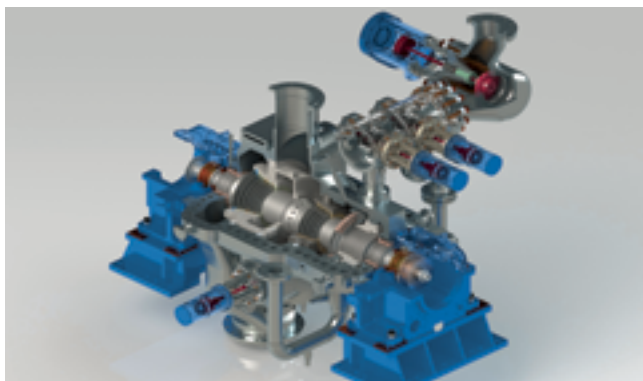


Motors | Automation | Energy | Transmission & Distribution | Coatings

Steam Turbines

TGM Turbine Line is available from 0.1 to 150 MW and is used for electric energy generation or mechanical drive. Its modular construction guarantees great installation flexibility in every type of industrial process, always taking into account convenience, safety, efficiency and, mainly, cost-effectiveness.

The company has engineers and technicians specialized in the construction, development and installation of products and services. It uses advanced graphic and aerodynamic calculation software applications, in addition to studies for special material applications.



The turbines and parts are manufactured in modern machines that ensure the shortest lead time, greater precision and perfect finishing. TGM's infrastructure presents several advantages, especially the manufacture of blades and bearings, being considered the biggest and the best in Latin America.

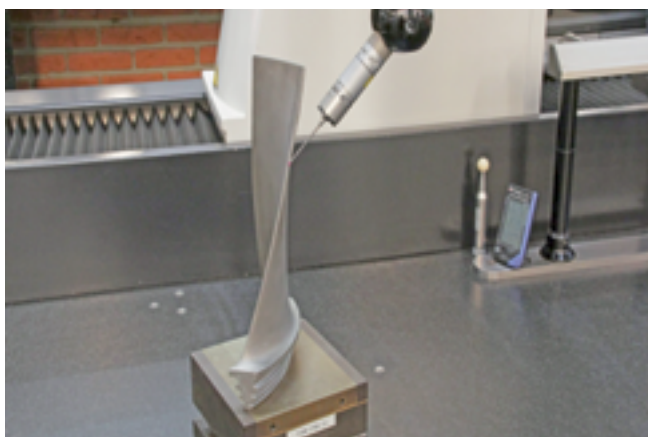


Quality

The main commitment of TGM is to deliver high quality product, parts and service, meeting the customers highest level of satisfaction. In order to do so, the quality system supervises and seeks the continuous improvement of the processes, complying with administrative procedures, technical instructions, production standards, training and continuous development.

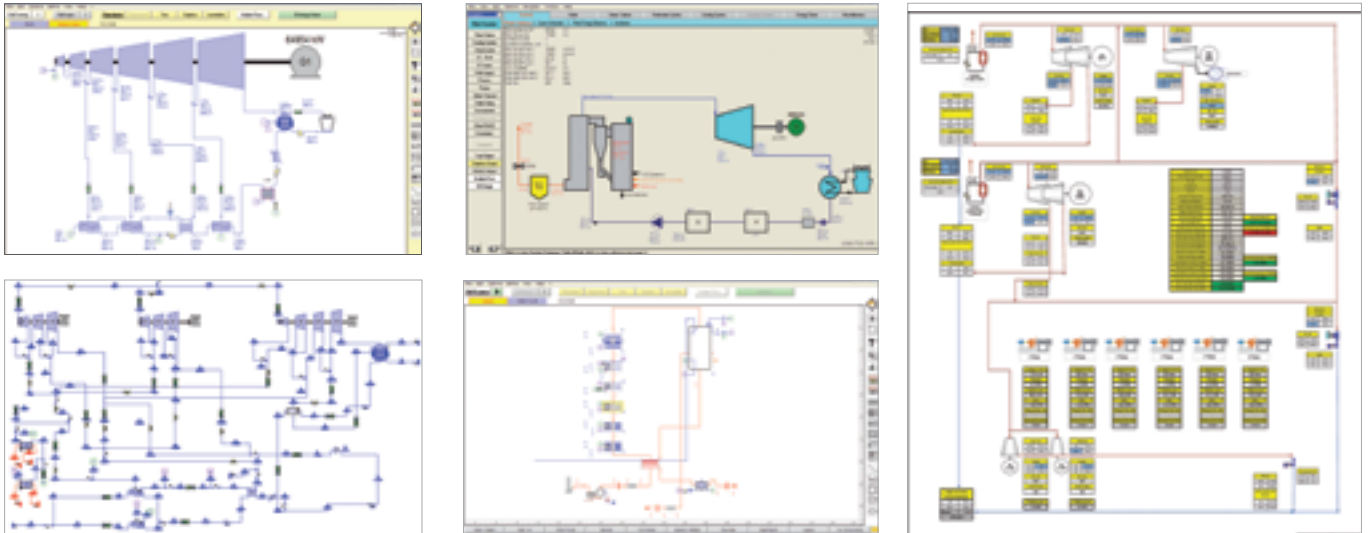
Certifications

TGM has the ISO 9001 and ISO 14001 certifications, which proves its quality and respect for the environment.



Heat Balance Study

Performed in any industrial process requiring steam, the mass and energy balance study of the plants is a complete analysis of the thermodynamic efficiency and electric energy consumption that maximizes the availability of energy surplus for sale



Application Engineering

Focused on efficiency, savings, profitability and operational safety, TGM's application engineering integrates various machines into a single customized solution that meets the most demanding requirements of every industrial process that needs mechanical drives or power generator drives.



Steam Turbine - Reaction Technology

BT / BTE Line

Backpressure - Extraction

Technical Characteristics

- Nominal power output up to 150 MW
- Inlet pressure up to 2030 psia
- Inlet temperature up to 1004 °F
- Speed up to 13.600 rpm
- Extraction pressure up to 652 psia
- Exhaust pressure up to 232 psia



Steam Turbine - Reaction Technology

CT / CTE Line

Condensing - Extraction



Technical Characteristics

- Nominal power output up to 150 MW
- Inlet pressure up to 2030 psia
- Inlet temperature up to 1004 °F
- Speed up to 13.600 rpm
- Extraction pressure up to 652 psia



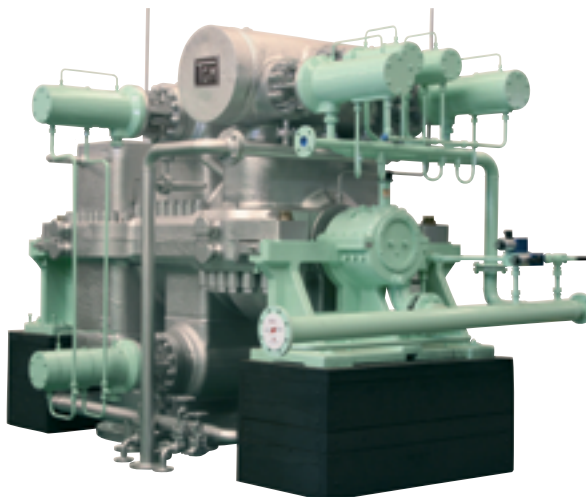
Steam Turbine - Impulse Technology

TM-A / TME-A Line

Backpressure - Extraction

Technical Characteristics

- Nominal power output up to 55 MW
- Inlet pressure up to 1015 psia
- Inlet temperature up to 986 °F
- Speed up to 8,000 rpm
- Extraction pressure up to 435 psia
- Exhaust pressure up to 145 psia



Steam Turbine - Impulse Technology

TMC-A / TMCE-A Line

Condensing - Extraction



Technical Characteristics

- Nominal power output up to 25 MW
- Inlet pressure up to 1015 psia
- Inlet temperature up to 986 °F
- Speed up to 8,000 rpm
- Extraction pressure up to 435 psia



Steam Turbine - Impulse Technology

TM / TME Line

Backpressure - Extraction

Technical Characteristics

- Nominal power output up to 20 MW
- Inlet pressure up to 652 psia
- Inlet temperature up to 842 °F
- Speed up to 8,000 rpm
- Extraction pressure up to 290 psia
- Exhaust pressure up to 87 psia



Steam Turbine - Impulse Technology

TMC / TMCE Line

Condensing - Extraction



Technical Characteristics

- Nominal power output up to 17 MW
- Inlet pressure up to 652 psia
- Inlet temperature up to 842 °F
- Speed up to 8,000 rpm
- Extraction pressure up to 290 psia



Steam Turbine - Impulse Technology

TM FLEX Line

Backpressure

Technical Characteristics

- Nominal power output up to 5 MW
- Inlet pressure up to 652 psia
- Inlet temperature up to 842 °F
- Speed up to 6,500 rpm
- Exhaust pressure up to 58 psia



Steam Turbine - Impulse Technology

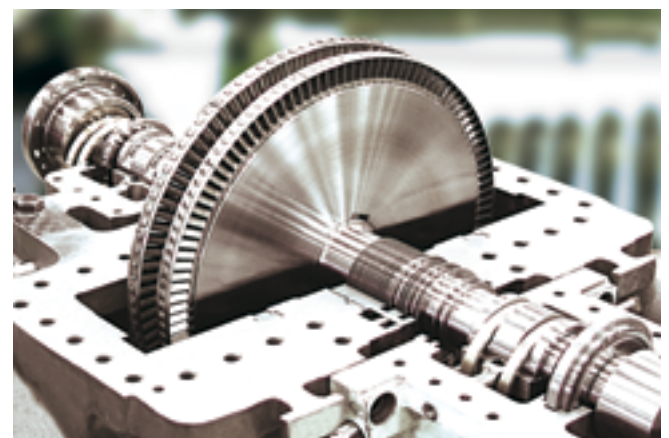
TS-P / TS / TG Line

Backpressure



Technical Characteristics

- Nominal power output up to 2 MW
- Inlet pressure up to 943 psia
- Inlet temperature up to 896 °F
- Speed up to 10,000 rpm
- Exhaust pressure up to 218 psia



Steam Turbine - Reaction Technology

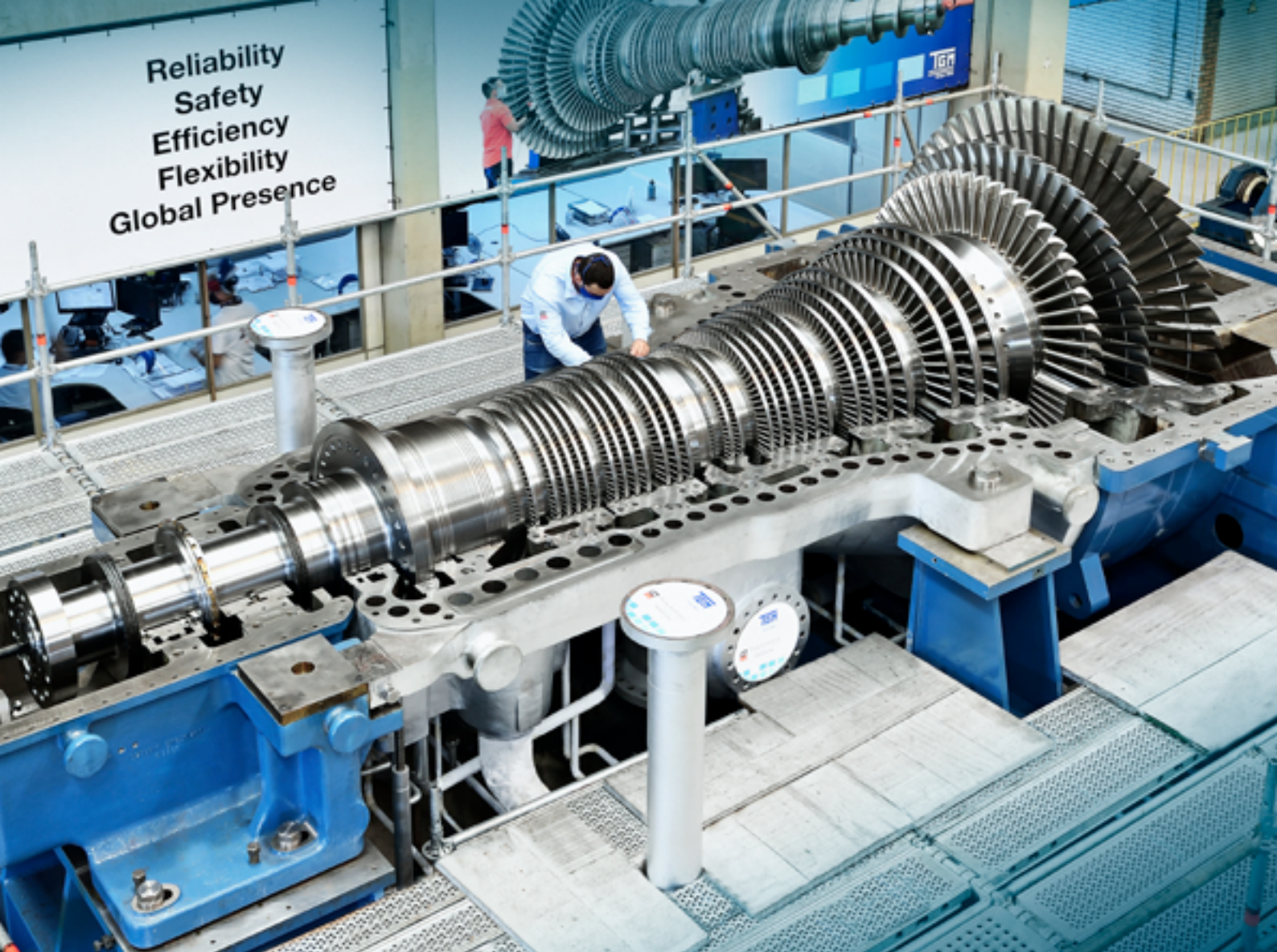
MCT Line

Condensing

Technical Characteristics

- Nominal power output up to 3 MW
- Inlet pressure up to 652 psia
- Inlet temperature up to 842 °F
- Speed up to 9,000 rpm





Retrofit

When the thermal balance study is carried out, the retrofit of a specific equipment can be indicated, which is a safe alternative to increase the efficiency of the generation or process.



Services on Steam Turbines

TGM is specialized in servicing turbines from other manufacturers, restoring them to their original operating conditions. The use of advanced techniques allows servicing the whole equipment or just part of it on a case-by-case basis.

When it is identified that replacing the equipment with a new one is not viable, the service assumes a role of great importance in reducing environmental impacts, since it is possible to reuse the equipment.





Turbomachine Safety and Control System

It is an electronic system integrated to protection devices for greater safety and operational availability, entirely designed and validated by the safety and control system engineering, being extremely important for the operation of the electric energy generation system or mechanical drive. A system without monitoring and control is susceptible to operational problems, which may cause accidents or unnecessary downtime, raising the costs.

Spare Parts and Parts

By means of modern processes and strict control and quality standards, TGM manufactures spare parts for steam turbines with timely delivery. They are parts such as bearings, bushings, labyrinth seals, sealing rings, among others. For some turbine models, TGM keeps parts, mechanical and electronic components in stock.

Technical Assistance

The company provides technical assistance, installation, operation and general services on rotating machines. It has the great competitive edge of the market, the 24/7 service for any emergency, which speeds up and guarantees the most reliable and efficient performance in mechanical and electrical drives 365 days a year. It is carried out by trained and up-to-dated teams ready to work in Brazil and abroad.



TGM, headquartered in Sertãozinho City/SP, is a company of the WEG Group, belonging to the WEG Energy business unit. Weg Energy develops and applies solutions for electric power generation in Wind Power, Biomass and Hydroelectric Power projects, providing large-sized electric motors, alternators, generators and wind turbines. It also provides inspection and recovery services of electrical rotating machines.



The WEG Group's scope of solutions is not limited
to the products and solutions presented in this catalog.
To learn more, contact us.

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Subject to change without notice.

The information contained are reference values.