

SOLUTIONS IN THERMAL POWER GENERATION



Motors | Automation | Energy | Transmission & Distribution | Paints



TRANSFORMING **SOLUTIONS IN ENERGY**

Our future is built day after day with the intelligent use of energy sources, which bring economy for companies and sustainable growth for Brazil and the world.

WEG has solutions for the most diverse segments and develops technologies that guarantee high performance and efficiency to its customers' production processes in contribution to the sustainable growth of the planet.

Due to the importance of decarbonization of energy systems, thermoelectric plants, from the biomass, play an important role in using renewable waste.

A more sustainable future is directly linked to a more efficient present. That's why we keep thinking of new ideas to transform solutions into energy.



ALL COMPONENTS
MANUFACTURED,
INSTALLED AND
WITH **100% WEG**
TECHNOLOGY.

We develop projects that enable, in addition to generating energy for your company or industry's own consumption, the generation of surplus that can be marketed, providing an increase in financial income.

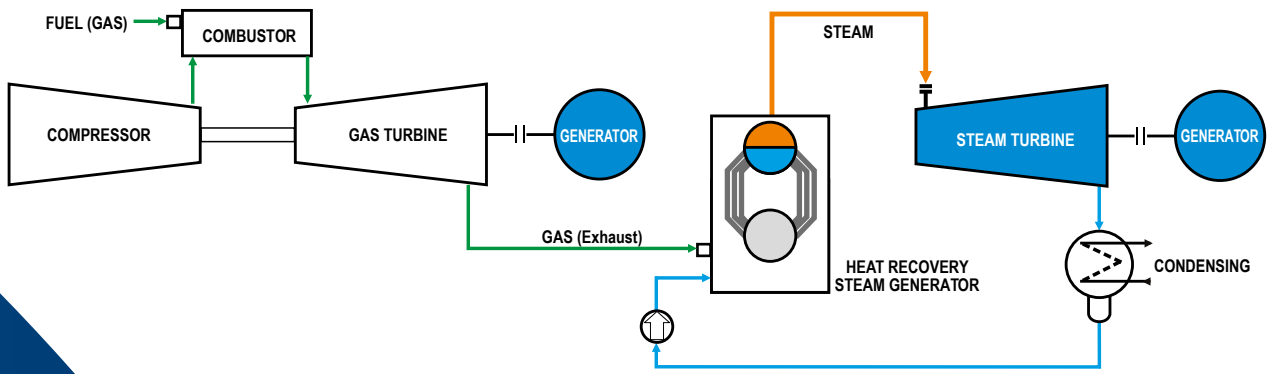
TRANSFORM YOUR WASTE INTO **ELECTRIC POWER**

In order to maximize and commercialize the surplus energy, WEG provides the study of the thermal balance with analysis of thermodynamic efficiency, electric power consumption and self-sufficiency.

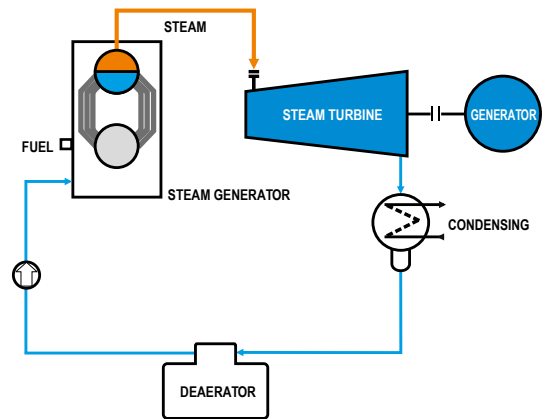
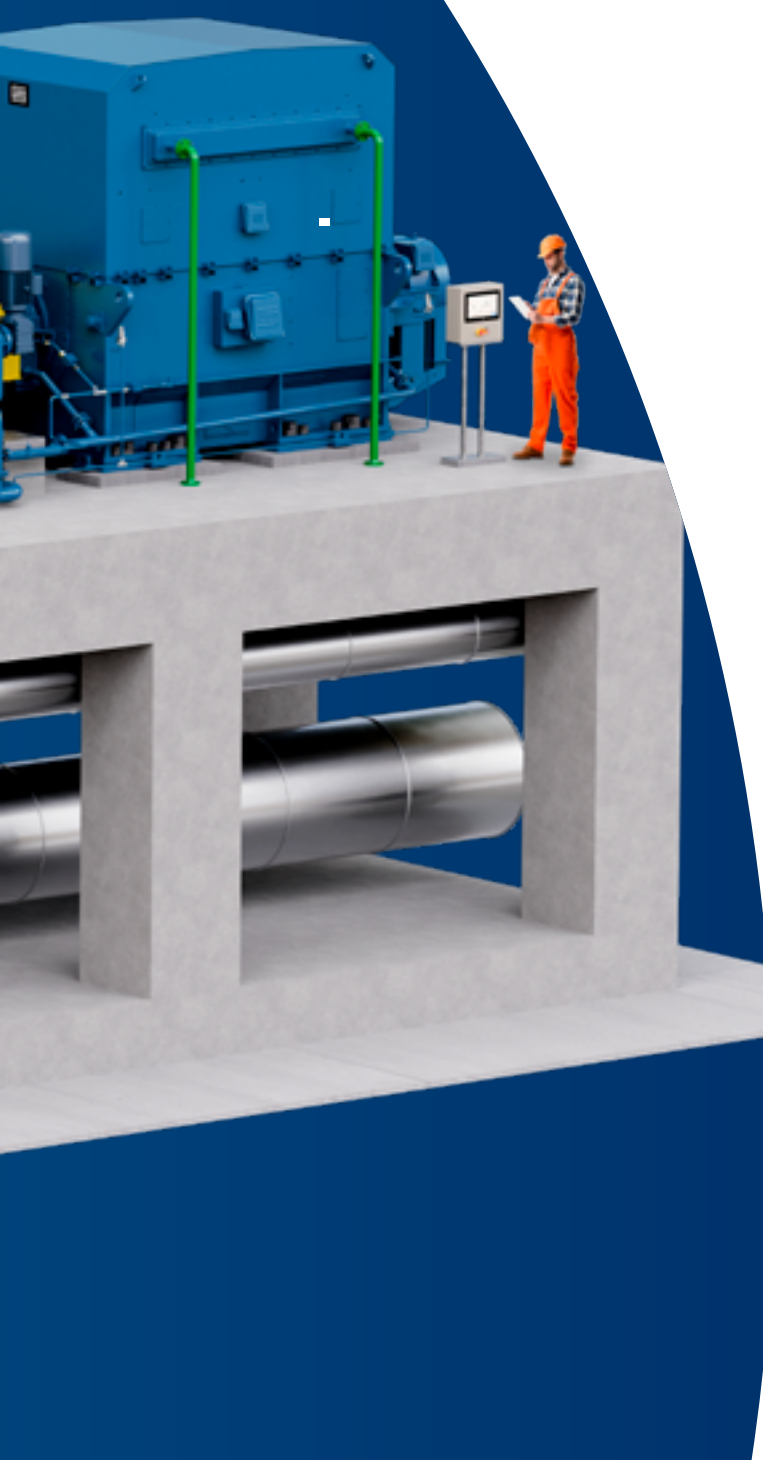
Segments Served:

- Food & Beverage
- Pulp and paper
- Cement
- Wood
- Naval and Offshore
- Mining
- Oil, Gas and Petrochemical.
- Waste-to-Energy
- Steel industry
- Sugarcane
- Thermal Power Plants

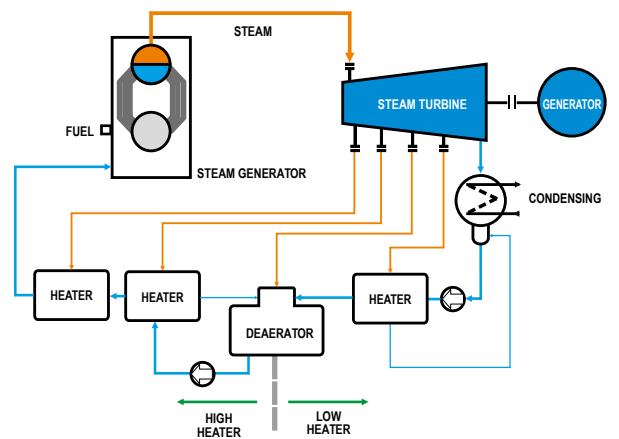




Basic flowchart of combined cycle power generation (gas/steam)



Basic flowchart of conventional power generation (Rankine)



Basic flowchart of energy generation in regenerative cycle

Complete and Integrated Solutions

WEG has full mastery of its technologies. As a result of constant investments in research, development, manufacturing, installation and after-sales services, WEG is among the main global suppliers of solutions and equipment for small, medium and large thermoelectric plants by supplying electric power turbogenerator sets.

- Consultancy and Technical Feasibility Studies
- Electric Power Projects in Generation and Cogeneration Systems
- Studies Engineering of Thermal Balance
- Systems Engineering
- Safety Engineering and Control in Turbomachinery
- Organization and management based on guidelines and goals for sustainability
- Meets the certifications required around the world
- Modern and complete industrial parks
- Products with high levels of operational efficiency, safe, compact, easy to use and low maintenance
- Performing overhaul, maintenance, repowering and modernization services on equipment
- Structure and service on 24hr a day, 7 days a week



Turbogenerator Sets

WEG 2 and 4 pole power generation systems are available in powers up to 200,000 kVA and higher powers, upon request, designed according to each customer needs, operating with voltages up to 13,800 V. Manufactured with the latest technology that guarantee versatility, high performance, quality of its components, provides reliability, long life and low maintenance.





Installation Types

Metallic Base

- Integrated tank serving as a base for the turbo gearbox or generator, with the ability to install it at ground level or higher.
- Separate tank on two floors with equipment installed on the upper level and a tank on a lower level.

Civil Base

- Installed on two floors (lower/upper) to support the Turbogenerator set with a separate oil tank with radial exhaust (down/up) directing the steam to the condenser or to the production process.
- Installed on the ground level to support the turbogenerator set with turbine exhaust upwards.

Installation Layout

- Generator installed in front or rear

Types of Steam Cycles for Turbogenerator Installation

- Rankine
- Regenerative
- Combined

Types of Exhaust

- Turbine with axial exhaust always supported on metallic skid
- Turbine with radial exhaust to up or down.

Full Axial and Sub Axial Flow

- They have a compact and simple installation, at the C level or higher.



Full Axial Flow



Sub Axial Flow

Our Supply



Control and automation

WEG automation equipment facilitates the operation and control of power generation through systems integration, thus ensuring the information security and reliability.

In addition, measurements for equipment maintenance management and reports of power production and consumption.

Integrated Systems

- Distribution, Control and Protection Panels
- Medium Voltage Operation and Control Panels
- Supervision and Control

Steam turbines

WEG's industrial plant in Sertãozinho provides a complete line of steam turbines for electric power generation, from small to large scale for any industrial segment in Brazil and abroad. With infrastructure and advanced technology equivalent to the largest factories in the world. In addition to drives in generators, steam turbines are also applied in mechanical drives, such as turbo pumps and planetary gears.

Technical Characteristics

- Reaction Technology
- Impulse Technology
- Backpressure
- Condensing
- With Extraction
- With Controlled Extraction
- Extraction with Induction
- Rated output power up to **150 MW**
- Intake pressure up to **2030 psia**
- Intake temperature up to **1004 °F**

Lines

- BT and BTE
- CT and CTE
- TM-A and TME-A
- TMC-A and TMCE-A
- TM and TME
- TMC and TMCE
- MCT
- TG
- TM Flex
- TS and TS-P



Gearboxes

The SuperTurbo line has an excellent semi-flexible gear coupling that provides greater safety in equipment assembly. Available up to 60MW in the 4 pole turbine generator set. When using the 2-pole generator, the gearbox is not necessary.

Lines

- SuperTurbo
- RTS/RTM
- GearFlex

Qualifications

- Heat Treatment
- Oil Laboratory
- Sleeve Bearings
- Factory testing of gearboxes in rated rotation condition

Generators

Developed for power generation applications, the generators have a wide range of powers, defined with based on WEG's experience in supplying and sizing of turbogenerators.

Lines

- ST20
- ST40
- ST41



Ground level installation with metallic base, radial exhaust upwards and 2-pole generator.



Higher level installation with civil base, downward radial exhaust and 2-pole generator.



Higher level installation with civil base, downward radial exhaust and 4-pole generator.



Higher level installation with civil base, downward radial exhaust and 4-pole generator.



Ground Level installation with metal base, radial exhaust upwards and 4-pole generator.



Higher level installation with civil base, downward radial exhaust and four-pole generator.



Higher level installation with civil base, downward radial exhaust and four-pole generator.



Higher level installation with civil base, downward radial exhaust and 2-pole generator.

Our services



WEG, through its service units, performs factory and field maintenance on turbogenerators, turbo gearboxes, steam turbines, generators and motors.

Retrofit

Since it's possible to reuse the equipment, when it is identified that replacing the equipment with a new one is unfeasible, the service assumes a very important role in reducing the environmental impacts.

Trainings

On-site and distance courses that feature tools for optimal use of equipment aimed at training the team, reducing costs industry operational.

Planned Maintenance

Ensures increased availability of equipment, providing an efficient shutdown with prevention, recovery, modernization and parts replacement services. In the market, the field team is considered the biggest and best in meeting the customer's needs.

Long Term Contract

It is an important maintenance concept that guarantees efficiency, availability, process safety and plant profitability. In this way, industries reduce their risk of unwanted stops, premature equipment wear and excessive expenses with unplanned maintenance.



Field Services

Erection supervision, commissioning, start-up, assisted operation and practical training. In addition, WEG's assistance is available 24h a day, 7 days a week for emergencies.

Technical assistance

WEG's phone assistance is available 24h a day, 7 days a week for emergencies.

Once the customer's needs are identified, the assistance works to reestablish the equipment's natural conditions in the shortest possible time. All services are performed by teams trained to serve customers in Brazil and abroad.



High efficiency equipment, technology and reliability.



Largest manufacturer of steam power generation systems from Latin America.



92% of WEG's Thermal Energy Solutions are based on biomass energy generation.

Our Energy





14 GW of installed power in steam turbines.



Complete supply of generation and cogeneration system



Customization of the project with dimensioning according to the customer's need, meeting the industry requirements.



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

Meet about WEG's
Worldwide operations



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Subject to change without notice.

The information contained are reference values.