A COMPANY COMMITTED TO **PLAYING AN IMPORTANT ROLE** IN FIELD SERVICE.

### ABOUT TURBINE GROUP





TURBINE GROUP is a company with a continuous track record specializing in Gas and Steam Turbines services, as well as electromechanical maintenance service for the industry in general as its main activities since 1995.

Our technical team has training and experience of work on the main brands of gas and steam turbines and their auxiliary equipment. Additionally, team expertise includes on-site technical direction, outage planning and scheduling.

Currently, all TURBINE GROUP team have vast experience in providing technical service in Scheduled Maintenance of Gas and Steam Turbines, both nationally and internationally.

At TURBINE GROUP, we continually work to stay updated by training courses and participating in everything related to Gas and Steam turbines to achieve a more solid, skilled and consolidated work team, so that we can provide solutions and cover our client's needs.





#### ABOUT TURBINE GROUP

#### **OUR VISION**

To be a leading and client-oriented company on the market with a prestigious track record in the local Machining Service business and in the Specialized Technical Service business for Turbine mounting and maintenance throughout the continent, keeping our organization at the forefront of technological advances and prioritizing individual training of our staff.

#### **OUR MISSION**

To provide reliable and proactive service in order to constantly satisfy the company's clients' needs by means of outstanding work executed by our professional staff who improve their performance day by day.



#### **EHS MANAGEMENT SYSTEM**

The safety of our team, customers and the environment quality in which we work is always our core value, never a priority to be balanced. Safety planning is at the center of every task we perform and emphasized at all levels of the organization through continuous training and educational programs.

Accordingly, TURBINE GROUP is committed to applying and continuously improving its EHS Management System by implementing working practices that prevent personal, environmental, and material damage based on the principles covered by the Standards ISO 9001.2015, ISO 14001.2015 and ISO 45001.2018 and in compliance with its Code of Ethics.

#### OUR SERVICES

Technical service of gas and steam turbines.

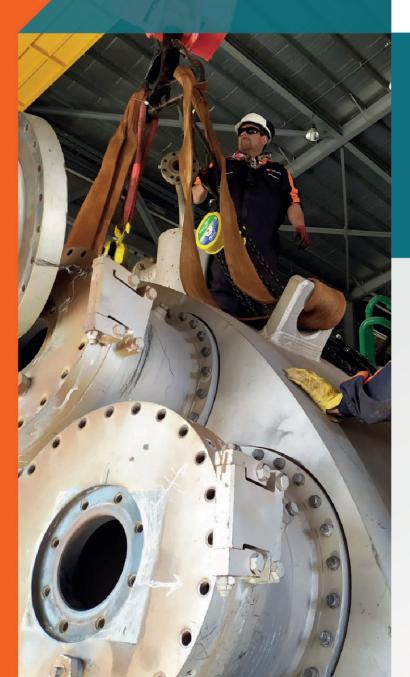
General electromechanical plant maintenance.

Machining and manufacturing of parts.



## TECHNICAL SERVICE OF GAS AND STEAM TURBINES





It has been our main activity since 1995. Turbine Group's field service division has successfully provided technical support for planned and unplanned outages in more than six countries and twenty-three power plants around the world.

Our turbine experts performe lectromechanical maintenance on gas and steam turbines for electrical generation, and their generators and maintenance for compression for oil & gas industry, with experience in General Electric, Westinghouse, Mitsubishi and Siemens frames, among others.

#### **SOLUTIONS SUCCESSFULLY COMPLETED ON POWER PLANTS**

- Specialized manpower for different overhauling projects, such us, Combustor Inspections., Hot Gas Path and Major Inspections. The manpower includes mechanics, electricians and I&C technicians.
- Repair and welding parts on site.

- Field Engineer, Technical Field Advisors and Technical Direction.
- Maintenance Outage Planning and Scheduling.
- Technical Support and Consultation based on our experience and expertise.

#### **OUR GAS & STEAM TURBINE MAINTENANCE EXPERIENCE**

	<b>%</b>	Westinghouse AMITSUBISHI	SIEMENS
	GENERAL ELECTRIC	WESTINGHOUSE / MITSUBISHI	SIEMENS
No. of the	Turbines: 6F / 9FA FRAME 5 / LMS 100	Turbines: 251 / 501 D / 501 F / 701 D 701 F / M300 / TC2F-40.5	Turbines: SST-900

## TECHNICAL SERVICE OF GAS AND STEAM TURBINES

The technical service we provide includes the range of the following types of **Interventions for Gas and Steam Turbines**.



#### **GAS TURBINE**

- ▶ Combustor Inspection.
- ▶ Turbine Inspection / Hot Gas Path.
- ▶ Major Inspection.
- ▶BOP / Auxiliary Equipment.



#### **STEAM TURBINE**

- ▶ Bearings Inspection.
- ▶ Major Inspection.
- ▶BOP / Auxiliary Equipment.



#### **GENERATOR / COMPRESSOR**

- ▶ Bearings Inspection.
- ▶ Hydrogen & Oil Seals Inspection.
- ▶ Major Inspection.







#### **BACKGROUND OF MAINTENANCE**



Our worldwide maintenance experience has been in the following countries: Argentina, Spain, Brazil, Colombia, Chile, Dominican Republic.

ARGENTINA				
POWER PLANT	CLIENT	TURBINE MODEL		
C.T. AGUA DEL CAJÓN	CAPEX S.A.	W251 B-11G / M 701 DA		
O.I. ACOA DEL CACOIT	OAI EX O.A.	M-VAPOR 300 MW		
C.T. LOMA LA LATA	PAMPA ENERGÍA	GE 9001 / SST-900 / LMS 100		
C.T. ALTO VALLE	SULZER	GEC ALSTHON 25 MW		
O.I. ALIO VALLE	JOLZEN	CA PARSONS 15 MW		
C.T. COSTANERA	MITSUBISHI JAPÓN (MHI)	M 701 F		
C.T. SAN NICOLÁS	AES PARANÁ	M701F		
C.T. LOMA CAMPANA	YPF LUZ	LMS 100		
C.T. EL BRACHO	YPF	GE 9001		
C.T. PATAGONIA	SULZER	GE 6000		
C.T. TERMO ROCA	GRUPO ALBANESI	GE 9001		
C.T. CHIHUIDO	FIELDCORE	GE LM 2500		
C.T. ALTO VALLE	ORAZUL ENERGY	ALSTHON 53718 FRAME 5		
C.T. MARANZANA	GRUPO ALBANESI	GE 5001		
C.T. CRUZ ALTA	GENNEIA S.A.	EQUIPO: GE 9001		
C.T. CERRO DRAGÓN	FIELDCORE	GE FR 6B		
DOMINICAN REPUBLICS				
LUGAR	CLIENTE	EQUIPO		
P. E. PUNTA CAUCEDO	AES ANDRÉS	M 501 F		
P. E. LOS MINA	AES DPP	W 501 D5 SIEMENS		
BRAZIL				
LUGAR	CLIENTE	EQUIPO EQUIPO		
C.T. URUGUAIANA	AES URUGUAIANA	W 501 D5 SIEMENS		
COLOMBIA				
LUGAR	CLIENTE	EQUIPO EQUIPO		
C.T. TERMOVALLE	MITSUBISHI USA (MPHSA)	W 501 D		
C.T. CANDELARIA	MITSUBISHI USA (MPHSA)	W 501 D		
CHILE				
LUGAR	CLIENTE	EQUIPO EQUIPO		
C.T. SAN ISIDRO	MITSUBISHI JAPÓN (MHI)	M 701 F		
		VAPOR TC2F-40.5 (320MW)		
SPAIN				
LUGAR	CLIENTE	EQUIPO		
C.T. CRISTOBAL COLÓN	ENDESA ESPAÑA	M 701 F		
C.T. CASTELNOU	ENDESA ESPAÑA	M 701 F		
C.T. CARTAGENA	AES CARTAGENA	M 701 F		



Provision of technical manpower for daily on-site assistance (such as mechanical, electrical i&c technicians) to attend the needs of the different sectors of a plant.

The support is completed by providing a comprehensive service that includes the logistics, repair, machining and manufacturing of machines parts and/or production systems in our machine shop.

### SOME OF THE MAIN ACTIVITIES WE CARRY OUT IN THIS AREA ARE

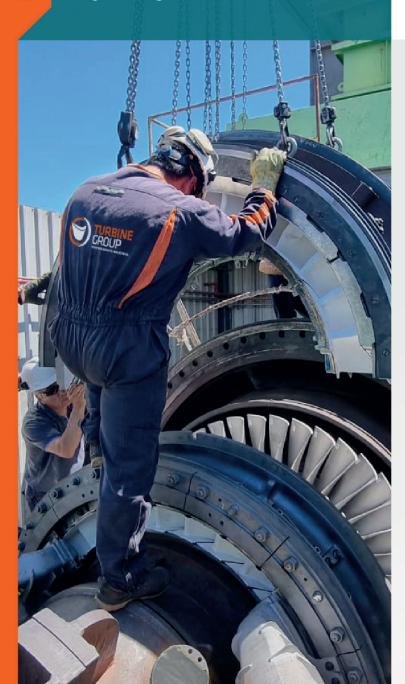
- Assembling, mounting and lining of pumps.
- Assembling, mounting and lining of cooling fans for air/oil systems.
- Repairing, assembling and mounting of alternating and continuous current engines.
- Dismounting, maintenance and mounting of high- and low-pressure water/steam valves.
- General maintenance in water cooling towers (replacement of blades, angle calculation, replacement of carbon fiber axis, maintenance and mounting of reduction gearboxes).





# MACHINING AND MANUFACTURING OF PARTS





#### **OUR OFFERING**

- Our commitment to working together with the client.
- Quality work that always adjusts to the client's needs.
- On-time delivery at a reasonable price.
- Professional capabilities to respond to normal and unexpected circumstances.
- The safest and best trained workforce available.
- 24/7 rapid response program.
- · Advice to our clients for each of the required tasks.

### THE SCOPE OF DIFFERENT MACHINING WORKS WE PROVIDE IS

- · Mechanical precision turning.
- · Machine cutting.
- Welding
- Repair from reducers to gears.
- · Manufacture of gears.
- Manufacture of special devices from blueprints.
- Knurling
- · Plasma cutting.
- Rust proofing of parts.





#### **SHOP EQUIPMENT**





To carry out our machining and part manufacturing work we have the following technological equipment.

- Sliding lathes with digital numerical control.
- · Machine cuttings with digital numerical control.
- Machine cutting with computerized numerical control.
- · Mortising machines.
- · Arc and Tig welding machines.
- · Bench drilling machines.
- · Grinding machines.
- · Hydraulic presses.
- · Plasma cutting.
- Additional tools and devices to fit the parts when required.





- ► MORE OF 30 YEARS OF EXPERIENCE.
- ▶ MORE OF 250.000 HOURS OF FIELD WORK WITHOUT ACCIDENTS.
- ► MORE THAN 280 PROJECTS SUCCESSFULLY COMPLETED.
- ▶ MORE THAN 21 THERMAL POWER PLANTS ASSISTED.
- MORE THAN 6 COUNTRIES IN ASSISTANCE.
- MORE THAN 20 SATISFIED CUSTOMERS.



#### OFFICE

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#### **WORKSHOP**

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