

Turbomachinery and Process Package Solution Provider



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PTC

Petro Team Corporation



ABOUT US

Petro Team Corporation (PTC) is one of the active companies in the region's Energy Market with the experience of unique strategic partnerships with first-class world-leading companies such as Hyundai Heavy Industries Turbomachinery, Shell, AEG, GS and other reputable European and Korean companies, in design, procurement and construction of industrial packages and turbomachinery products focusing on efficiency, sustainability and also localization capabilities.

PTC with over four decades of experience has successfully performed many projects in the fields of Pump, Turbine, Compressor, HRGS, Boiler, Gas Engine, and Reactor packages mainly in Oil & Gas, Petrochemicals and Power Plant business through its supply chain and offices enabling this company to serve our customers with the best and most reliable services worldwide.

Petro Team's activities in this industry are divided into engineering, manufacturing, service, installation & commissioning, after-sales support and spare parts supply.

Currently, through strategic synergies and the contribution of experienced engineers and partners, we offer a portfolio of equipment and services to the Oil and Gas, Industrial Gases, and Energy markets.

High performance, reliability and flexibility are our targets in each project, from the initial design stage to the operation and to the whole lifecycle.

Furthermore, this company has established localization for process/air compressor packages to meet the requirements of local customers.



PTC PORTFOLIO

- Process Gas & Air Compressors (API 617, 618, 619 & 617)
- Air Separation Units (ASU, Cold Box)
- Centrifugal Pumps (Cryogenic, Process, Sea Water Intake, BFW & Cooling)
- Turbo Expanders
 - Rotary Lobe Blowers
 - Steam and Gas Turbines
 - Power Generation Plants

TURBOMACHINERY SERVICE ACTIVITIES

- Revamping & Retrofitting of Steam Turbine and Pumps •
- Spare Parts Supply •
- Engineering Services •
- Service and Overhaul of Gas and Steam Turbines •
- Long-Term Service Agreements (LTSA) •
- Fact-Finding and Troubleshooting •
- Plant Management and Training •
- Reverse Engineering •
- Rehabilitation Feasibility & Plant Study Remote Equipment Operation •

OUR VALUES

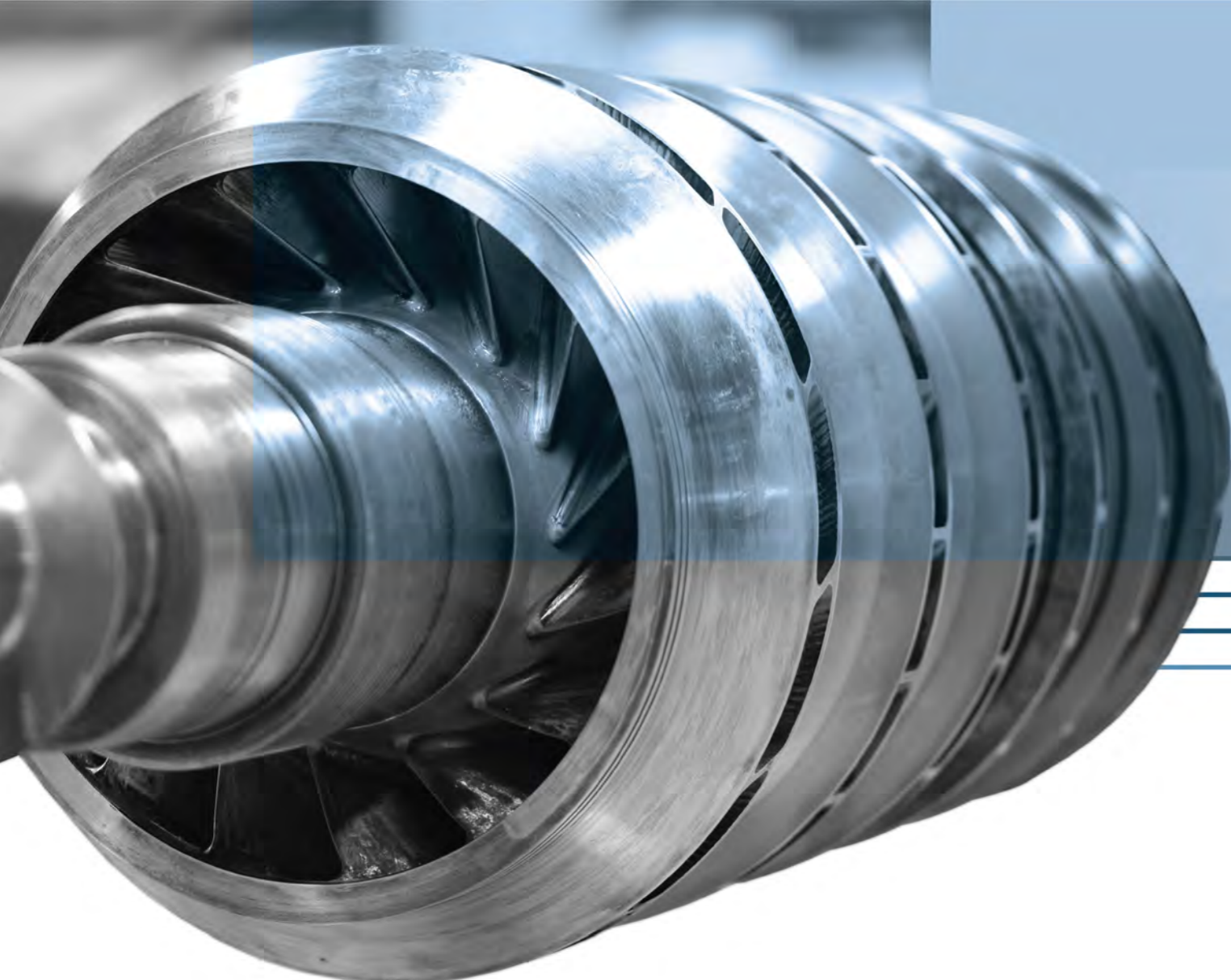
- Customer satisfaction
- Quality and reliability of our products and services
- Promote positive work ethics
- Environmental commitment and sustainable development

COMPRESSION SOLUTIONS

Through highly skilled engineers, we are ready to support our customers with packages of compressor trains driven by Steam Turbines, Gas turbines, Expander and Electromotor to provide the best performance for all applications such as air, process gas (lean and sour), neutral, toxic, explosive, etc. according to API standards as follows:

- Centrifugal (API 617 & 672)
- Reciprocating (API 618)
- Screw (API 619)



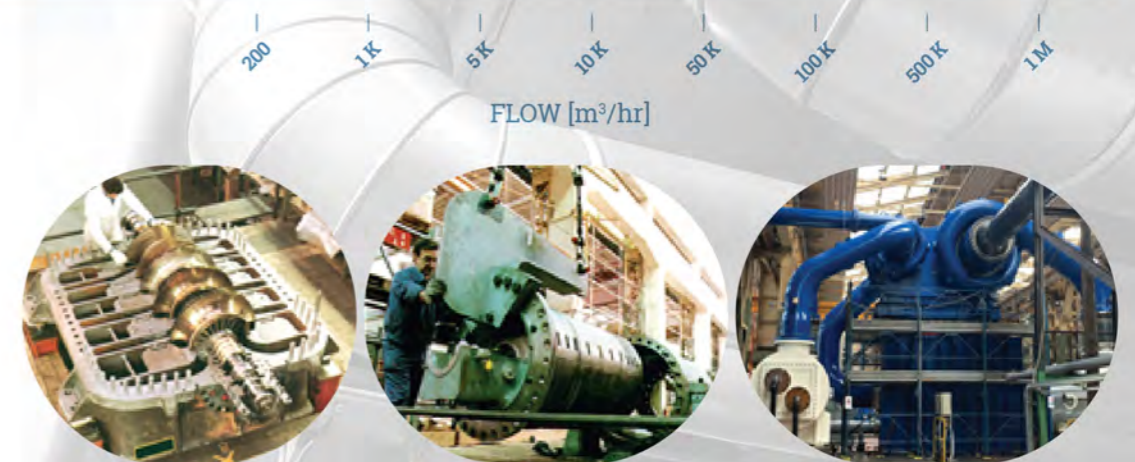


STANDARD SIZING RANGE

The product range includes up to 60MW, with Horizontal or Vertical splits casings and Integrally Geared configurations.

HORIZONTALLY SPLIT	72
VERTICALLY SPLIT	800
INTEGRALLY GEARED	100

PRESSURE [bar]



CENTRIFUGAL COMPRESSORS (API 617 & 672)

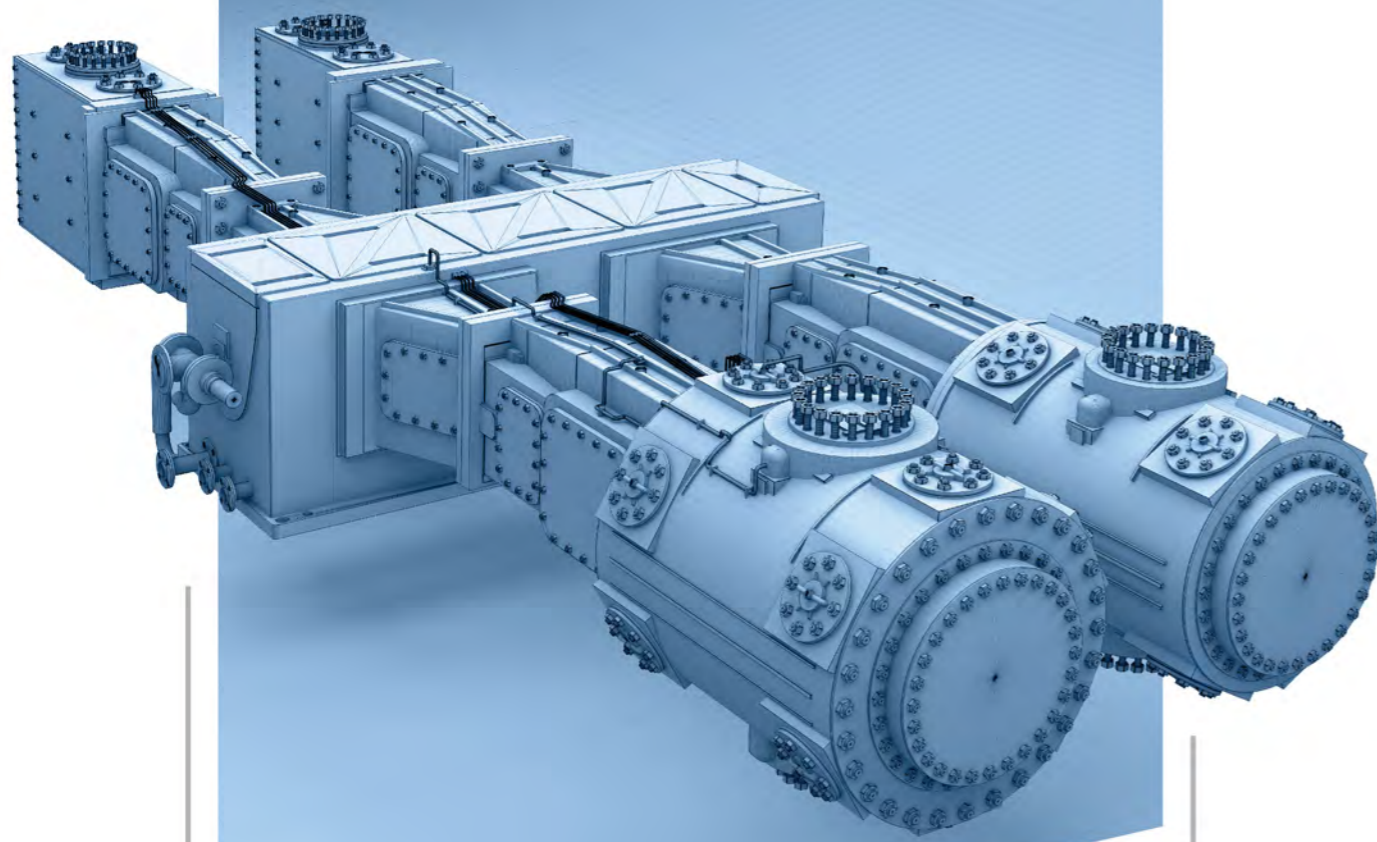
We are honored to furnish a complete range of process gas compressors for various industries and applications as follows:

- Oil & Gas: Gas Injection, Gas Lift, Gas Gathering, Gas Boosting Stations, LNG Trains, etc.
- Petrochemicals and Plastics: Alcohols & Glycols, Polyolefin (PE, PP & PS), etc.
- Refining: Hydrocracking (Make-Up & Recycle), Steam Reforming, Fluid Catalytic Cracking (RFCC), RHU, Off-Gas Recovery, Flash-Gas Boosters, etc.
- Fertilizers: Nitric Acid, Ammonia Production, Urea Production

CENTRIFUGAL COMPRESSORS

	HORIZONTALLY SPLIT CASING (Single & Multi Shaft)	VERTICALLY SPLIT TYPE (Barrel Type)	INTEGRALLY GEARED (IGC)
Max Discharge Pressure (bar)	≤72	≤800	≤100
Range of Capacity (m ³ /h)	850,000	450,000	1,500 - 850,000
Stages	≤7	≤10	≤8
Speed (RPM)	≤30,000	≤30,000	≤40,000
Shaft Sealing	Labyrinths seal (floating rings), dry gas seals, Carbon Rings	Labyrinths seal (floating rings), dry gas seals, Carbon Rings	Dry Gas Seals, Carbon Rings





ROTARY SCREW PROCESS GAS COMPRESSORS

High-performance and low-maintenance process screw compressors are widely used in all kinds of industries, especially for oil, gas, and petrochemical applications like natural gas, petrochemical industry, oil refinery, coalbed methane, steel and iron industries. PTC's most reliable, skid-mounted screw compressors comply with the API 619 with high stability, explosion-proof capability and two-stage energy-saving technology with a highly automated control system that can be used for diverse gas applications such as flammable, explosive, acidic, sour and corrosive, etc.

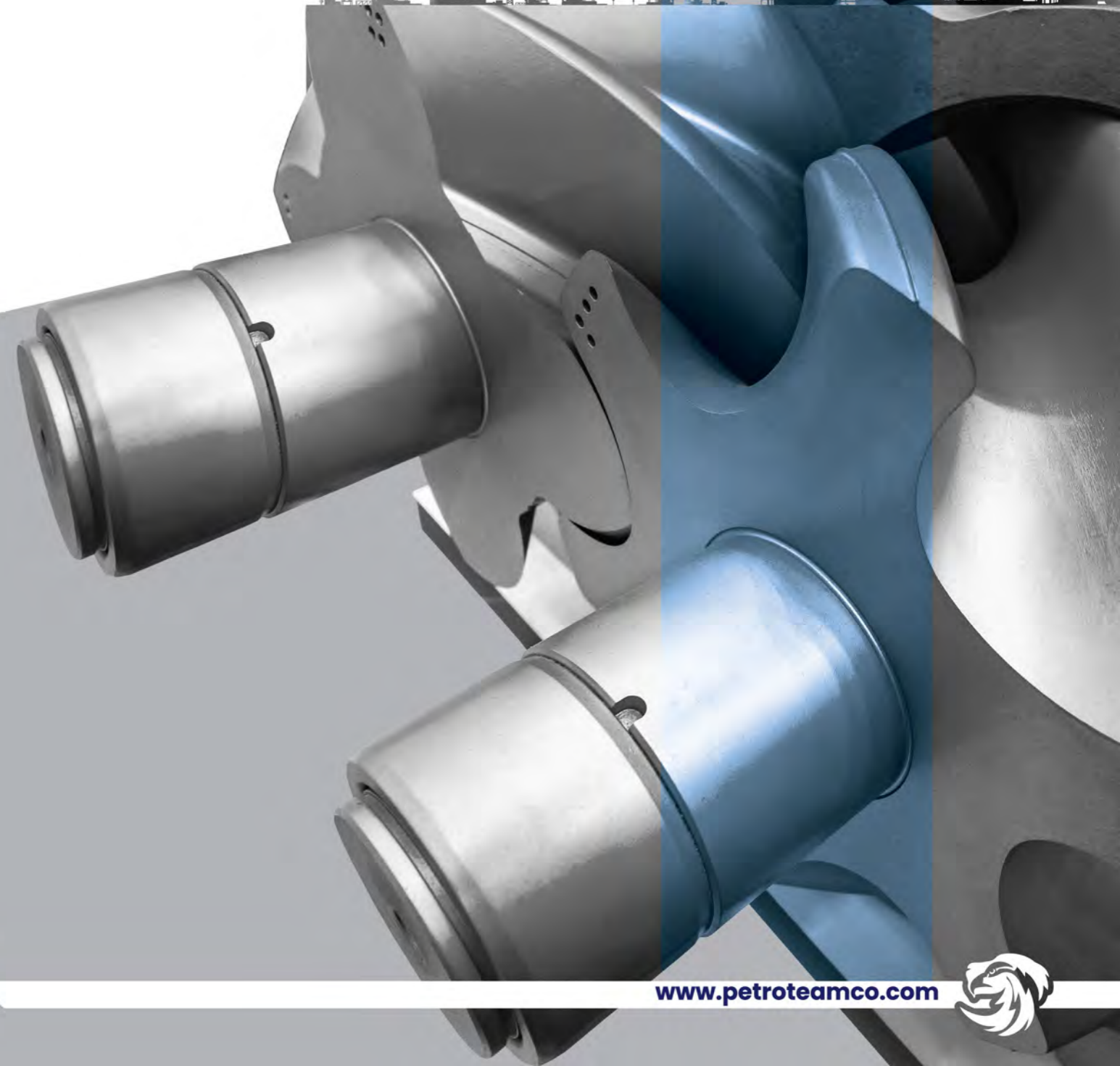
RECIPROCATING PROCESS GAS COMPRESSORS

PTC is a manufacturer of reciprocating compressors according to API 618, for a wide range of applications, mainly in the refineries and petrochemical complexes as below:

Maximum Shaft Power:	Up to 12,800 kW
Maximum Discharge Pressure:	375 bar
Standard strokes:	178 to 406 mm
Number of throws:	Up to 8
Cylinder bore range:	41 to 1,232 mm max bore

The equipment is developed and produced with the highest quality whether at the highest precision shop for demanding customers.

Our solutions are based on the latest compression technologies that allow us to deliver maximum reliability compressors and tailored-made machines with a strong reputation in the market.





ASU

AIR SEPARATION UNIT (ASU & Cold Box)

PTC is a service provider specialized in the delivery of all types of ASUs (with maximum localization content) with the capacity to design and produce more than ten sets of large and medium-sized ASUs per year. We currently deliver large, medium, and small ASUs, high-purity oxygen, nitrogen, and argon units, low-purity oxygen and nitrogen units, energy-saving ASUs, liquid air separation plants, liquefaction plants, natural gas purification, liquefied natural gas (LNG) and other units. The company is committed to build complete sets of high-quality ASUs with advanced technology, reliable quality and high performance via a group of highly sophisticated technical R&D talents. Also, by working with a high-level licensor with the intelligent workshop for the air separation systems equipped with the advanced technology of AI (Artificial Intelligence) algorithms and machine learning, our Air Separation's intelligent packages go further in product quality, greatly improving product consistency and energy saving and increasing product quality and precision by %10 - %15.

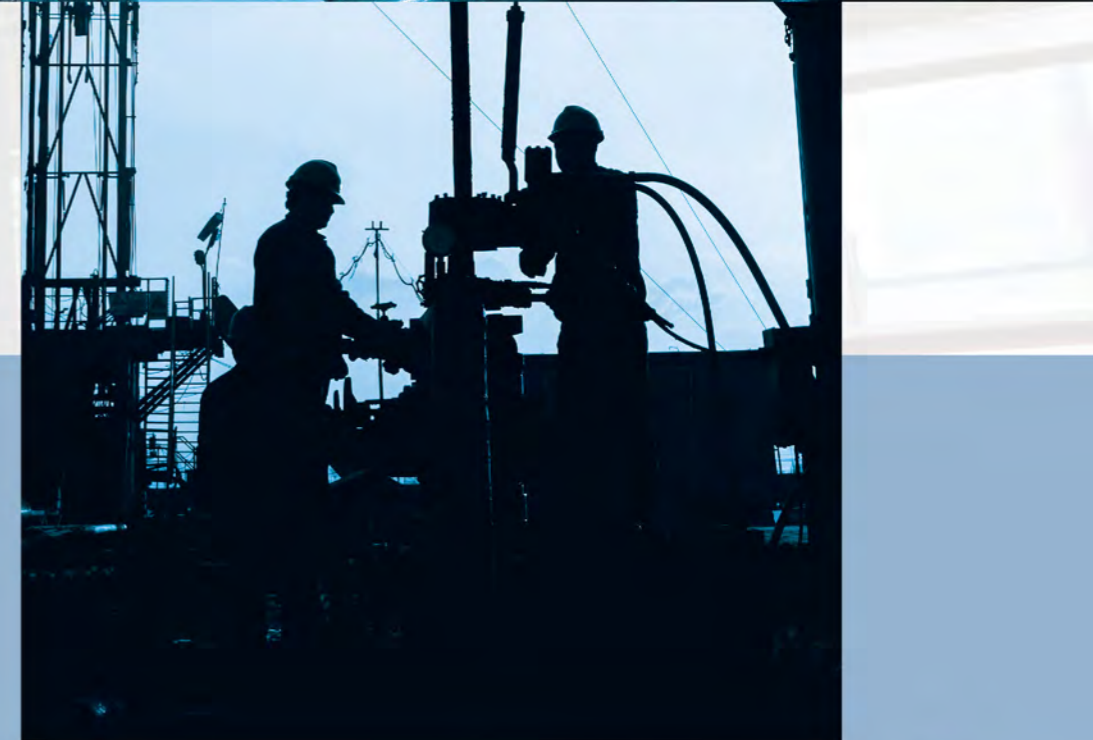
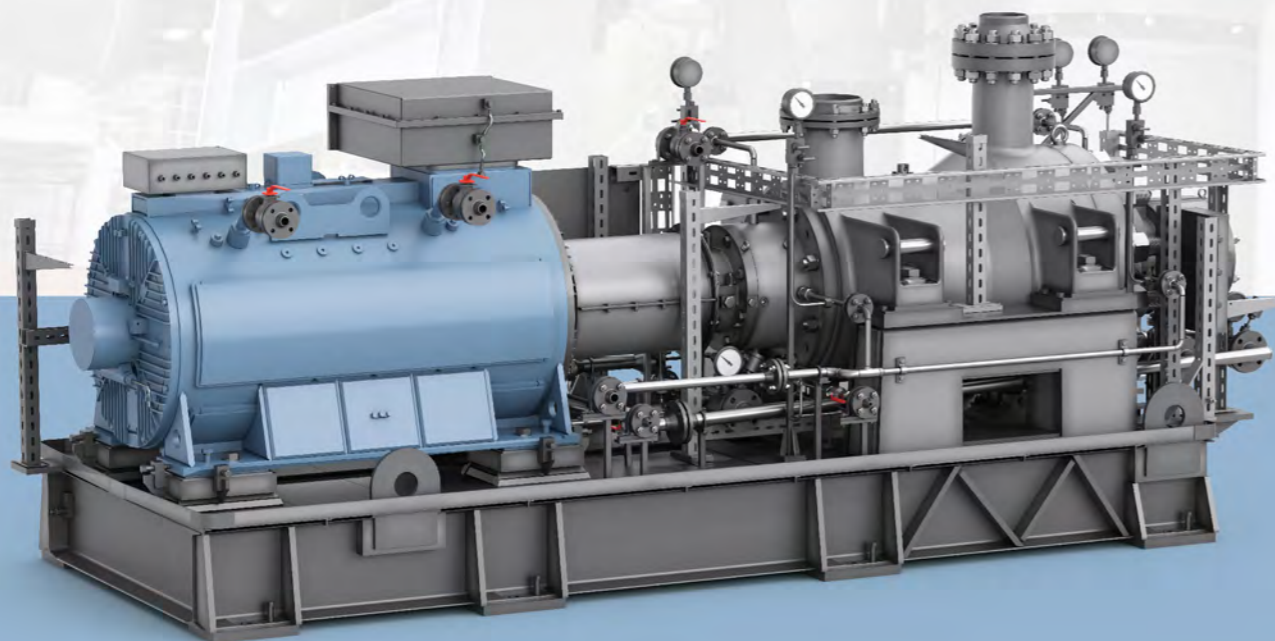


PUMP

PTC could provide a wide range of engineering and procurement services for pump packages that comply with API 610, API 685, API 676 for all OH, BB, and VS types in oil, gas & petrochemical plants, utilities, power plants, oil & water transfer and water treatment units with the highest efficiency achievement.

CENTRIFUGAL PUMPS APPLICATION / RANGE

Application	Capacity (m ³ /hr)	Pressure (bar)
Boiler Feed Water	6,000	400
Sea Water Intake	120,000	16
Process	4,500	50
Cryogenic	4,000	150
Cooling Water	10,000	10
Condensate Extraction	4,000	150
Oil & Water Transmission	2,000	250

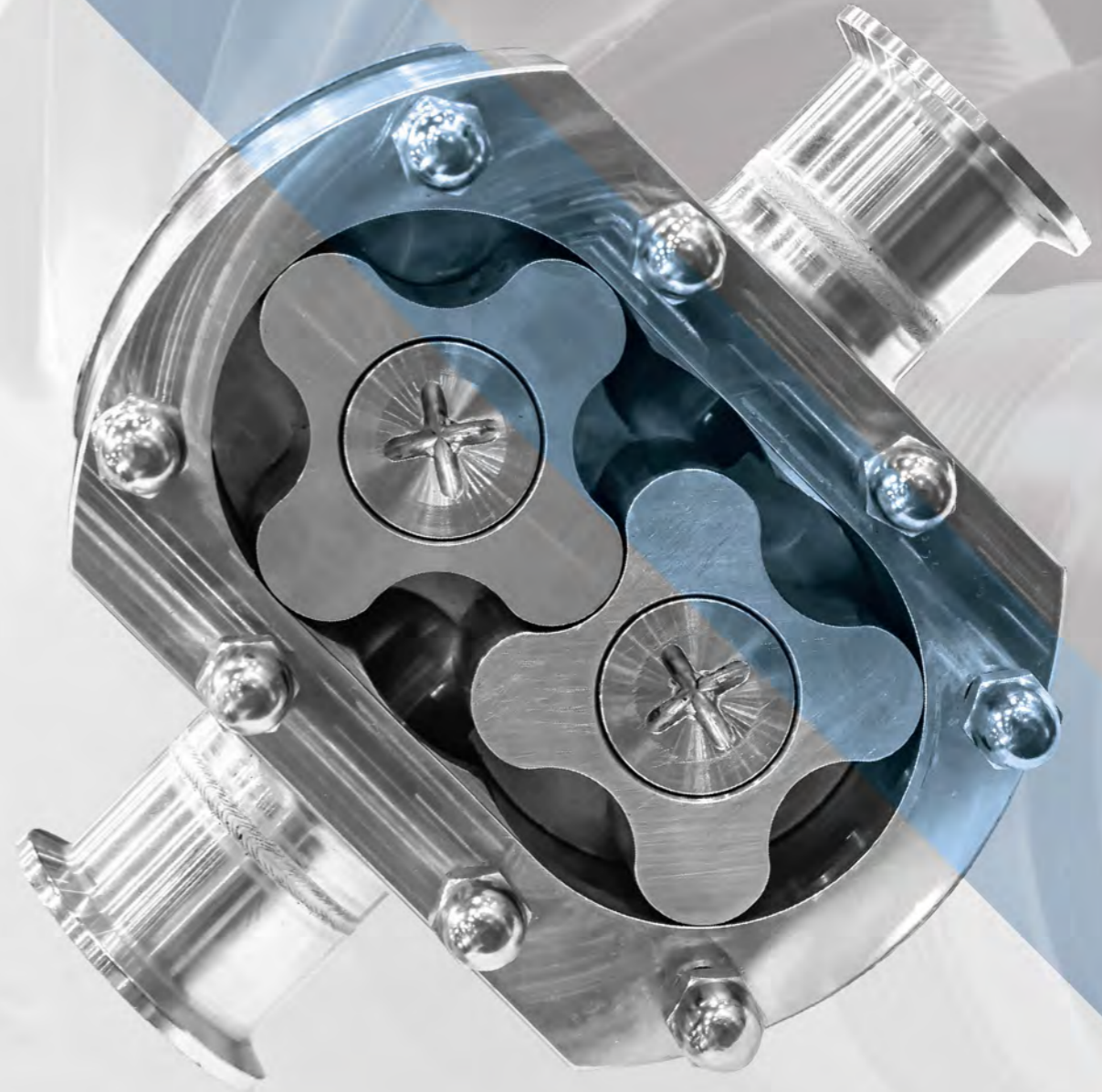


TURBO EXPANDERS

Turbo Expanders are widely used in petrochemical applications (propane, propylene & PTA), Air Separation Units for cryogenic expansion and gas processing units like NGL, by the well-known manufacturers and according to API and non-API standards.

By considering our portfolio in turbomachinery products, we would be pleased to supply the following types for our expander units:

- Expander – Generator (TEG series)
- Expander - Booster Compressor (TEB series)

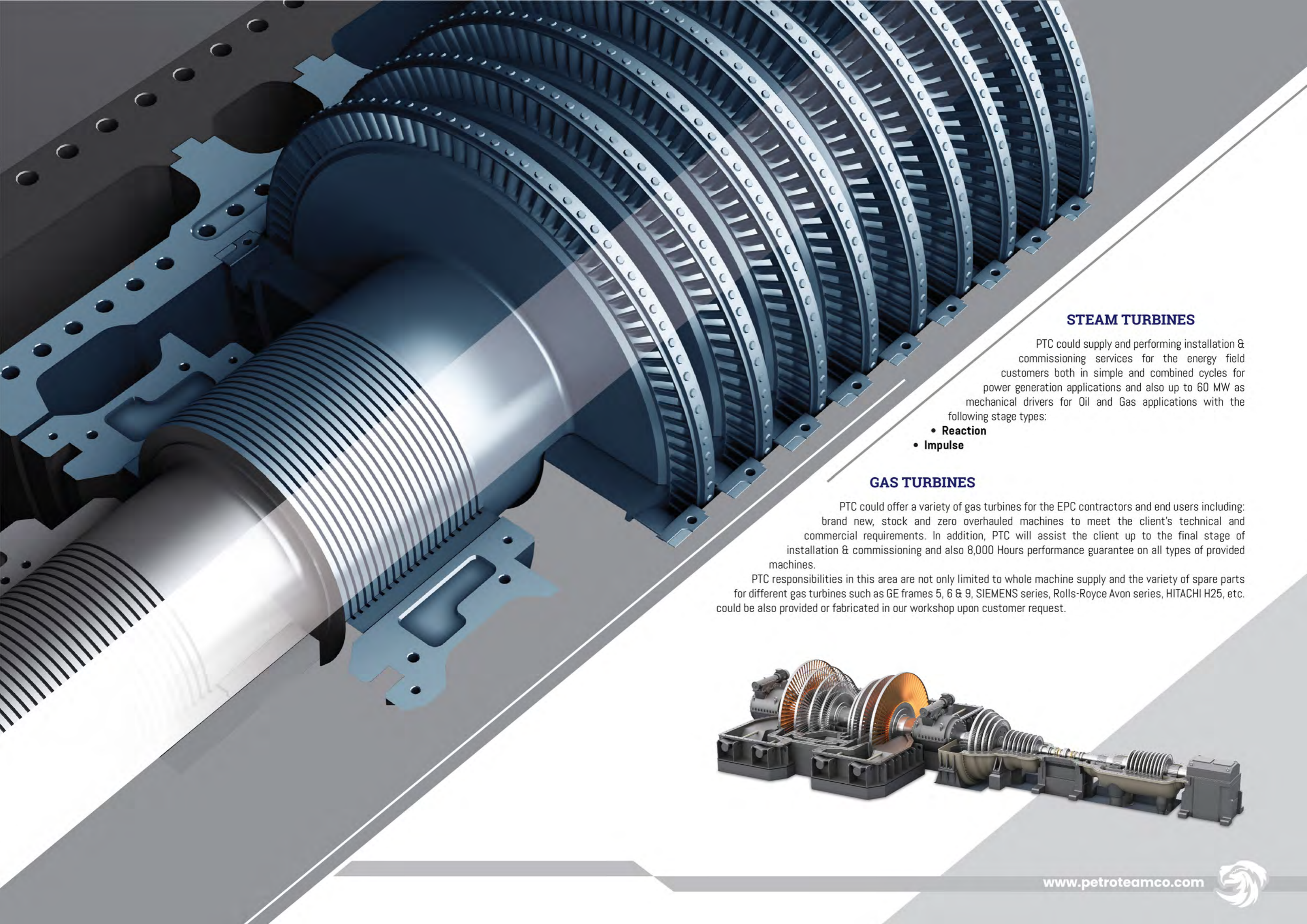


CENTRIFUGAL AND ROTARY LOBE TYPE BLOWERS

PTC has a wide product range of centrifugal and rotary lobe (Roots) blowers for all the demands of industrial ventilation from the small process blowers up to the huge blowers for energy sector applications with over 4MW of installed power.

	Turbo Expander & Booster (TEB Series)	Turbo Expander & Generator (TEG Series)
Type	Single unit and Dual unit (warm and cold)	Single-stage and Multi stages
Flow Rate	4,000 ~ 120,000 Nm ³ /h (up to 120,000 Nm ³ /h ASU)	4,000 ~ 120,000 Nm ³ /h
Pressure Range	0.2 ~ 7.0 MPa	0.2 ~ 7.0 MPa
Pressure Ratio	Up to 21:1	Up to 70:1
Temperature Range	-260 ~ 200 °C	-260 ~ 200 °C
Expander Efficiency	Up to %89	Up to %87
Refrigeration Power	100 ~ 3,000 kW	50 ~ 8,000 kW
Shaft Speed	10,000 ~ 80,000 rpm	5,000 ~ 30,000 rpm
Impeller Size	80 ~ 550 mm (one-piece forged closed impellers)	80 ~ 550 mm (one-piece forged closed impellers)
Covered Gas	Gas including Air, Nitrogen, Hydrogen, Natural Gas and other Hydrocarbon Gases.	





STEAM TURBINES

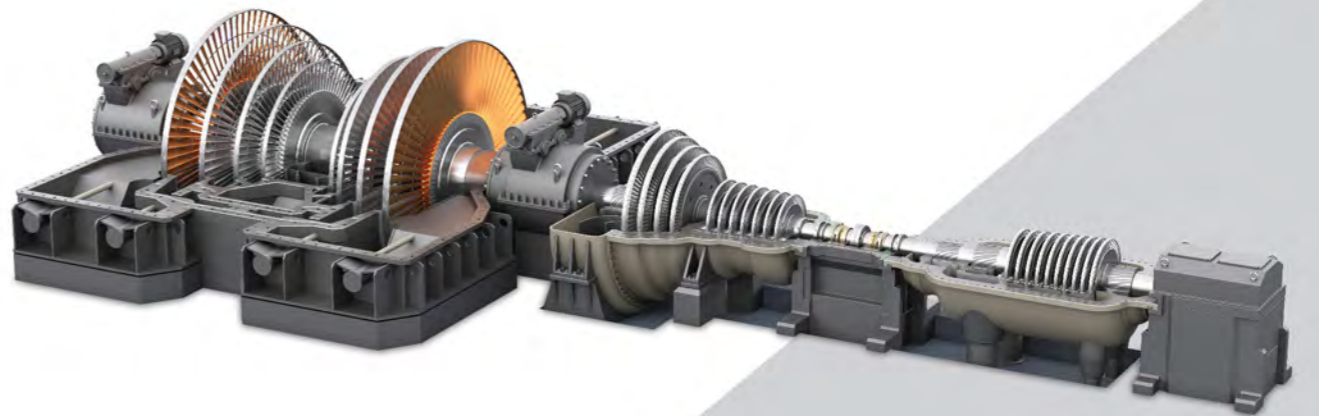
PTC could supply and performing installation & commissioning services for the energy field customers both in simple and combined cycles for power generation applications and also up to 60 MW as mechanical drivers for Oil and Gas applications with the following stage types:

- Reaction
- Impulse

GAS TURBINES

PTC could offer a variety of gas turbines for the EPC contractors and end users including: brand new, stock and zero overhauled machines to meet the client's technical and commercial requirements. In addition, PTC will assist the client up to the final stage of installation & commissioning and also 8,000 Hours performance guarantee on all types of provided machines.

PTC responsibilities in this area are not only limited to whole machine supply and the variety of spare parts for different gas turbines such as GE frames 5, 6 & 9, SIEMENS series, Rolls-Royce Avon series, HITACHI H25, etc. could be also provided or fabricated in our workshop upon customer request.



PETRO TEAM CORPORATION

ENGINEERING SERVICES

PIONEER IN INNOVATION

At PTC, we recognize that the Oil & Gas industry is constantly transforming along with the growing global demand for energy. New frontiers of production have boosted the scale, risk, cost and complexity of projects. Merging innovative technologies with real-world applications, fiscal responsibility and meeting regulatory, environmental and sustainability criteria are challenges that we all face.

INTERNATIONAL KNOWLEDGE

Looking to fine-tune operations, improve downtimes, streamline processes, and cost reduction, we can provide customized services that are flexible and adaptable. We are committed to delivering our projects at cost and on schedule, with robust quality control and design review processes

SERVICE SUPPORT

We are ready for the engineering services to be provided in EPC projects and the existing plant including mechanical, electrical, I&C and process optimization for the customer in the power, oil, gas and petrochemical plants as follows:

- Part Manufacturing
- CM and PM services
- Revamping and Repair for Units and Trains
- Plant Optimization
- Lifetime Assessment

REVAMPING

PTC offers extensive solutions for revamping turbomachines including Steam Turbines, Compressors and Pumps in industrial plants by the support of capable partners across the world, hardware and software which makes us able to offer:

- Output Optimization (Increasing/Decreasing)
- Efficiency Increasing
- Emission Control

GAS TURBINES

Service and spare parts for

- GE frames 5,6 & 9
- SIEMENS SGT 100 ,200 ,400 ,600 ,800
- Rolls-Royce Avon 1533 ,1534 ,1535
- HITACHI H25

STEAM TURBINES

Service and spare parts for

SIEMENS, Dresser-Rand, Nuovo Pignone, GE, Mitsubishi, HITACHI

COMPRESSORS AND TURBOEXPANDERS

Service and spare parts for

SIEMENS, Dresser-Rand, Nuovo Pignone, GE, Mitsubishi, HITACHI, Atlas Copco

