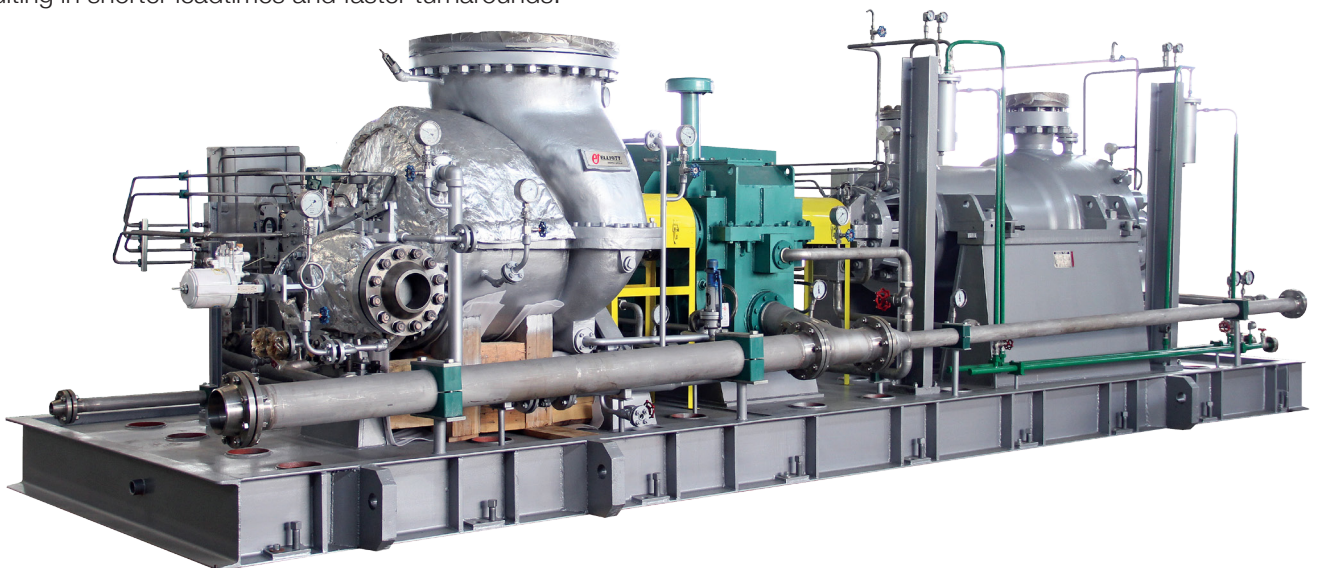


YR Steam Turbines



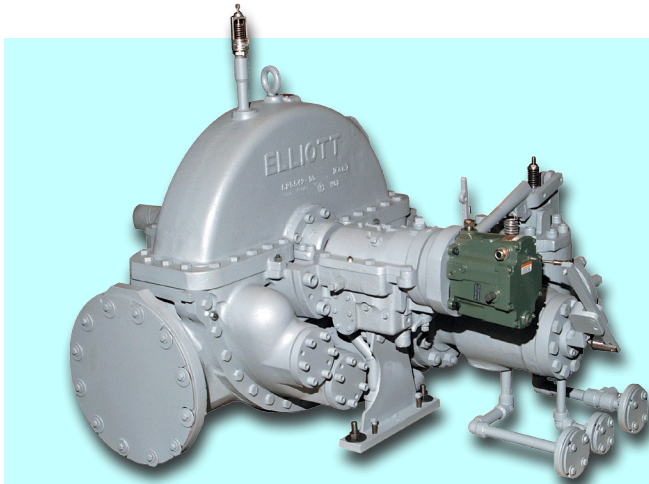
Elliott YR steam turbines are rugged and reliable pieces of precision turbomachinery. These masterpieces of Elliott engineering and craftsmanship serve thousands of customers continuously day and night under conditions ranging from humid tropical heat and rainfall to freezing icy tundra and snowfall. Many YRs have been performing for decades - day after day, year after year.

Elliott YR turbines are found in many applications such as driving pumps, compressors, fans, blowers, generators, sugar mill tandems, cane shredders, paper machine lineshafts and many other applications. Elliott YR steam turbine models are standardized and components are stocked, resulting in shorter leadtimes and faster turnarounds.



■ ELLIOTT YR TURBINE

Single-valve, single stage Elliott YR turbines have a worldwide reputation for the highest quality, reliability and adaptability to serve a wide range of requirements. Available in multiple frame sizes and ratings up to 3,500 hp (2,610 kW), Elliott YR turbines are cost-effective in their design and perform under varying conditions.



■ ELLIOTT MULTI-YR TURBINE

For improved steam consumption, Elliott engineers designed the Multi-YR (MYR) steam turbine product line. The MYR design combines the reliability and parts interchangeability of our popular YR turbine with the power and efficiency of multistage turbines. The MYR produces more power without additional steam, and can be installed in many areas where single-stage steam turbines currently are operating. Elliott MYR turbines are available up to 12,000 hp (8,950 kW).



■ STANDARD FEATURES

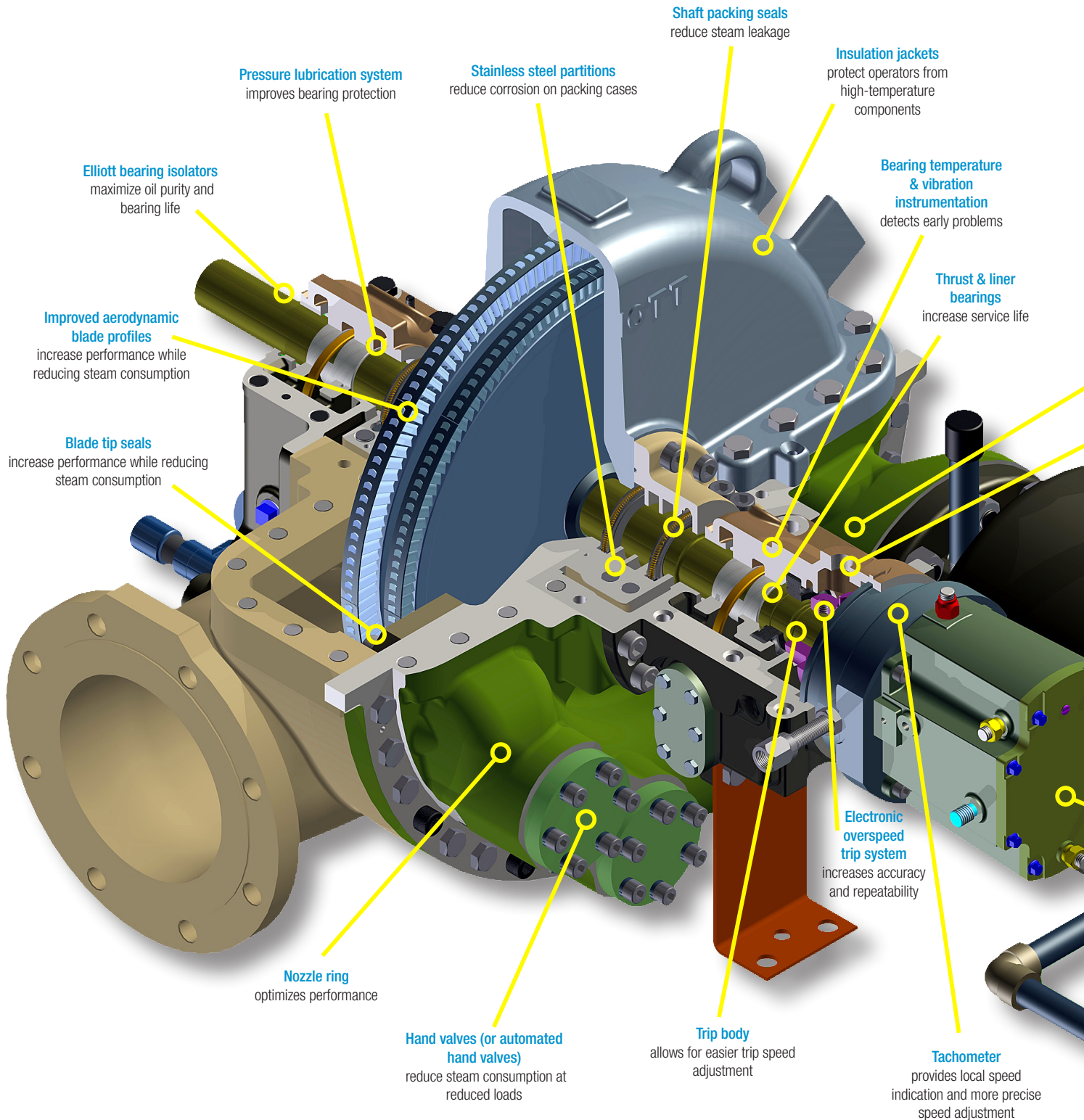
- ♦ Horizontally split casing
- ♦ Built-up rotor construction
- ♦ Center line support
- ♦ Multiple shaft end configurations
- ♦ Carbon ring steam end
- ♦ Spark-proof, overspeed trip with independent trip valve
- ♦ Separate steam seal covers for ease of maintenance
- ♦ Ring oiled or pressure lubrication
- ♦ Steam hand valves for optimal efficiency
- ♦ Sentinel warning device
- ♦ Dynamically balanced multi-plane rotor
- ♦ No-load mechanical run test

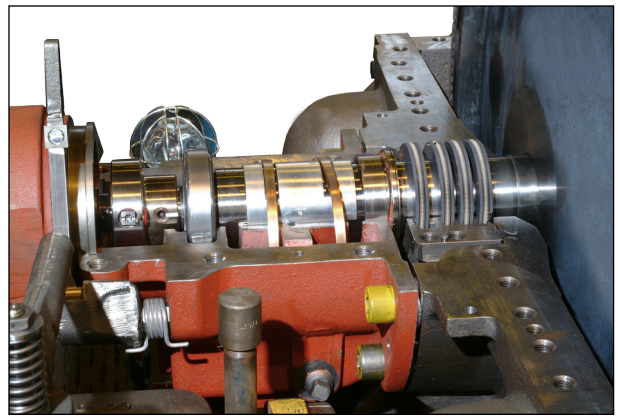
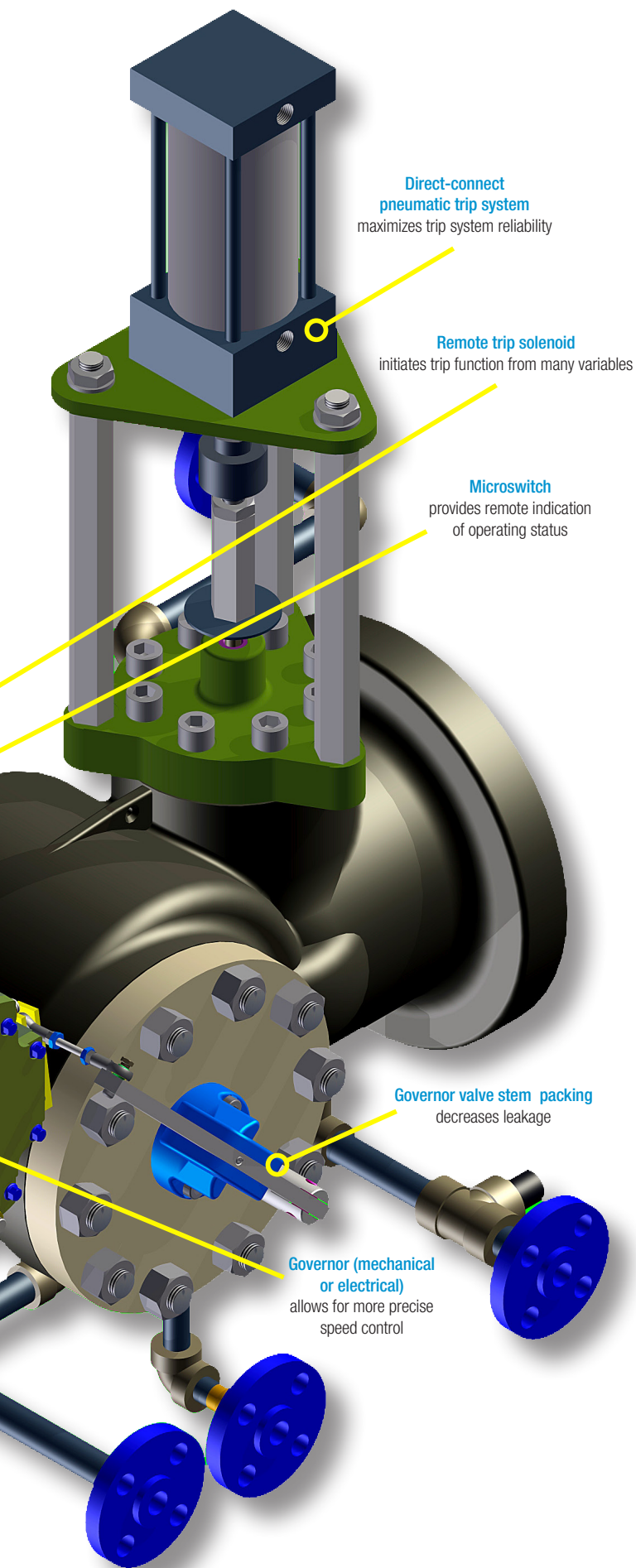
■ OPTIONAL FEATURES

- ♦ API 611/ API 612 compliance
- ♦ Solid, integral rotor
- ♦ At-speed rotor balance
- ♦ Tilting-pad journal and thrust bearings
- ♦ Bearing vibration and temperature instrumentation
- ♦ Steam seal upgrades
- ♦ Electronic governors and trip systems
- ♦ Trip and throttle valves
- ♦ Thermal/acoustic insulation
- ♦ Shaft-mounted main oil pump
- ♦ Unattended auto-start

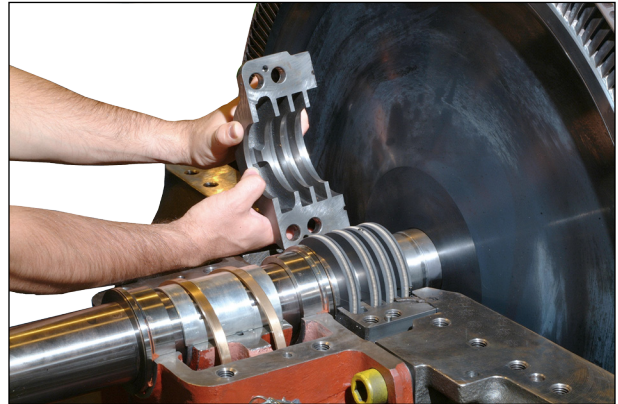
■ ELLIOTT YR COMMON FEATURES & UPGRADES

Engineering expertise, rugged design, and precision manufacturing come together in Elliott YR steam turbines for years of continued service. These powerful workhorses provide exceptional value and performance in a broad range of mechanical and power generation applications, around the clock and around the globe, in environments of every extreme.

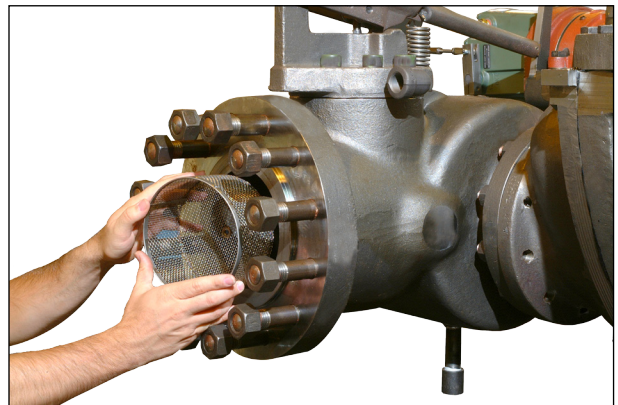




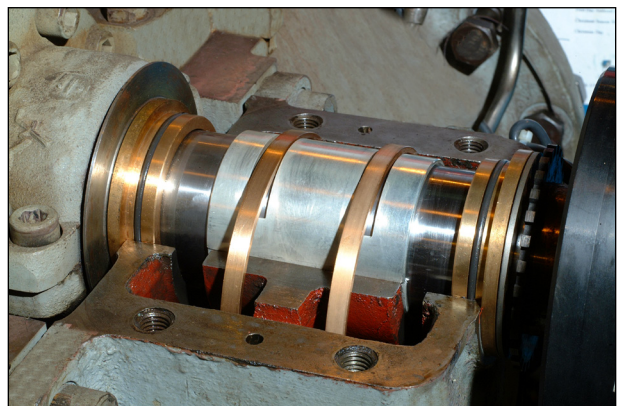
Self-locating rotor with no fitting or clearance adjustment required.



Easy-to-inspect and replace liner-type bearings and shaft seals.



Steam strainer prohibits foreign objects.



Elliott bearing isolators increase bearing life by reducing oil contamination.

■ GENERAL SPECIFICATIONS

Frame	PYR	AYR	BYR	BYRH & BYRHH	DYR & DYRH DYRM & DYRN	MYR
Initial pressure (psig/bar)	650/45	700/48	700/48	900/62	900/62	900/62
Initial temperature (F/C)	750°/400°	825°/440°	900°/482°	900°/482°	900°/482°	900°/482°
Exhaust pressure (psig/bar)	100/6.9	vac-100/6.9	vac-100/6.9	375/25.9	vac-150/10.3	vac - 250/17.2
Speed (rpm)	5000	7064	6675	7090	5770 (4)	8500
Wheel pitch diameter (inch/mm)	12/305	14/360	18/460	18/460	28/710	28/710
Number of stages (impulse type)	1	1	1	1	1	9
Inlet sizes (ANSI, inch)	3"	3"	3", 4"	3", 4", 6"	3", 4", 6", 8"	3", 4", 6", 8", 10"
Exhaust size (ANSI, inch)	6"	6"	8"	8"	12", 14", 16"	Up to 48"
Range of capacities (hp/kW)	200/150	750/560	to 1400/1044	to 3000/2237	to 3500/2610	to 12,000/8950
Shipping weight (lb/kg)	550/250	870/400	1275/580	2300/1050	2600/1180	to 17,000/7710

■ PACKAGING SOLUTIONS FOR TURBOMACHINERY

Effective, efficient turbine packages begin with a thorough understanding of the site specifications, from the pad to the placement of panels and other components. Elliott Group is a global leader in the design, manufacture and packaging of rotating equipment, lubrication systems, and sealing and fueling systems for turbomachinery. Our packages are engineered to reduce installation and maintenance costs by consolidating the equipment footprint, minimizing on-site alignment, and tightly integrating all connections.



A standard steam turbine package includes:

- Elliott YR steam turbine
- Gearbox
- Baseplate
- Coupling
- Electrical system
- Lubrication & control-oil consoles
- Gland vacuum, sealing and leak-off systems

■ INTEGRATED MACHINERY CONTROLS

Through a strategic alliance with Tri-Sen Systems, Elliott provides customers with closely integrated turbomachinery controls. Tri-Sen control systems are standard offerings with all Elliott compressors and turbines, for new products and installed equipment. Customers benefit from a single-point of contact for software issues, turbomachinery component questions and retrofit applications. Elliott Engineered Solutions also upgrades and modifies controls and offers site evaluations that can provide anticipated efficiency gains as well as financial justification for a governor upgrade.



The Tri-Sen 310SV regulates speed and provides cascade control for process variables such as suction/discharge pressure or suction flow. The self-contained unit has manual push-button turbine controls, user-friendly software applications, and a 24-volt DC or optional 120/140-volt AC power supply.



The Tri-Sen TS300 is a self-powered digital controller providing automatic startup and speed control for single-valve general-purpose steam turbines driving a mechanical load.

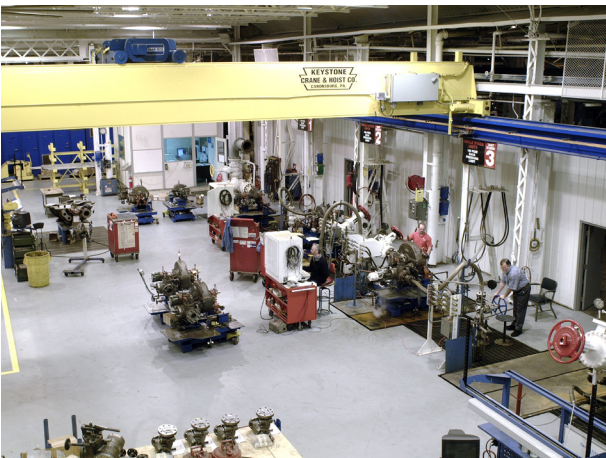
MANUFACTURING AND TESTING CAPABILITIES



Induction heating of rotor disks speeds the assembly of YR turbine rotors.



Innovative rotor assembly processes have reduced lead times and costs.



Elliott's Jeannette manufacturing plant has four test stands for simultaneous YR and MYR testing.

GLOBAL SERVICE AND SUPPORT

Elliott offers comprehensive service, support and training for all types of turbomachinery regardless of the original manufacturer. Our global service network provides installation, maintenance, repair, overhauls, parts, rerates, modifications and training. Our service teams have the experience and expertise to keep equipment performance high and maintenance costs low.



Turn to Elliott for original, quality parts.



The Elliott YR Site Service program offers maintenance of Elliott YR turbines in North America's Gulf Coast region. Based in Elliott's Houston service center, fully stocked units are dispatched to handle common services such as standard inspections and replacement of worn or damaged parts. The team also can transport a turbine to an Elliott service center for more extensive overhauls and repairs.



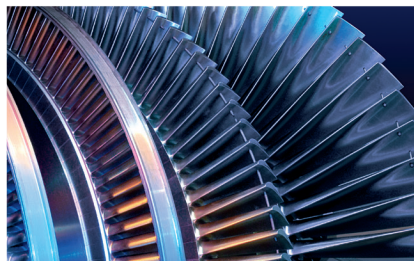
Elliott Group is a global leader in the design, manufacture and service of technically advanced centrifugal compressors, steam turbines, power recover expanders and axial compressors used in the petrochemical, refining, oil & gas and process industries, as well as in power applications. Elliott Group is a wholly owned subsidiary of Ebara Corporation, a major industrial conglomerate headquartered in Tokyo, Japan.



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T H E W O R L D T U R N S T O E L L I O T T



C O M P R E S S O R S ■ T U R B I N E S ■ G L O B A L S E R V I C E