In every size and application, GE steam turbines are highly reliable, efficient and easy to maintain. Our advanced technologies—including abradable coatings, steam path aerodynamics, and welded rotor construction—contribute to world-class plant operability and combined cycle performance.

COMMON FEATURES:
- All models benefit from a large family of last stage buckets that cover a wide range of condenser pressures for any 50Hz and 60Hz plant cooling applications.
- On-demand startup and turndown capabilities ensure ease of grid synchronization to meet fluctuating demands.
- Compact and cost-effective multi-shaft and single shaft configurations enable flexible plant operations and maintenance.
- Standard A650 axial exhaust and D650/D600 side exhaust enables a lower equipment foundation height and reduced plant construction costs. Downward facing exhaust is available.
- Self-synchronizing clutch improves operational flexibility by reducing auxiliary steam requirements during start-up cycles.

**A650 AXIAL EXHAUST**
- Fully assembled HP and IP/LP sections reduce installation time by up to three months.
- **85-300 MW Output**
- **Up to 41.5% Efficiency**

**D650 THREE CASING, DOUBLE-FLOW LP SECTION**
- Shorter bearing spans enable tighter clearances and sealing control which reduces leakage between turbine sections and increases efficiency.
- HEAT* construction with stationary nozzles improves aerodynamics and nozzle area control and increases efficiency.
- Common LP architecture supports a standard shaft line length and plant arrangement that reduces foundation and construction costs.
- One or two double-flow LP modules enable enhanced performance for sites with low condenser pressure.
- **150-500 MW Output**
- **Up to 42.5% Efficiency**

**D600 DOUBLE-FLOW LP SECTION**
- One or two double-flow LP modules enable enhanced performance for sites with low condenser pressure.
- **180-700 MW Output**
- **Up to 42% Efficiency**
STEAM TURBINE PRODUCT PORTFOLIO OVERVIEW

Power and Performance
A world leader in the development and application of steam turbine technology, GE has shipped more than 10,000 units totaling over 600 GW since 1901. Our combined cycle steam turbines are specifically configured to contribute to highly efficient and cost effective applications when paired with GE or other OEM gas turbines.

Solutions to Meet Your Power Needs
GE’s combined cycle steam turbines accommodate a broad range of site conditions and operational needs while providing the performance needed in today’s demanding energy environment. GE works with customers from the earliest stages of the project, through construction, commissioning, and operation to provide a highly efficient and cost effective turbine that integrates smoothly with the gas turbine and overall plant operations.

Experience, Strength, and Stability
Built upon more than a century of steam turbine experience, GE’s steam turbines are manufactured with high quality materials and craftsmanship. Modular product configurations deliver customization options with reliable, proven components.

Advanced Technology Features

High Efficiency Steam Paths
• High reaction steam path technology allows for the proper application of high efficiency technology for the steam conditions.
• High reaction 3D airfoils in both buckets and nozzles increase efficiency; free vortex flow improves aerodynamics.
• Integral cover buckets with continuous contacting surfaces provide superior damping.
• Nozzle construction that provides individually adjustable radial clearances as well as predictable and controllable throat area.
• Shaft and tip brush seals improve leakage control.
• Abradable coatings on stationary seals enable radial clearance reduction, which reduces long-term degradation.

Low Pressure (LP) Section
• Side exhaust configuration significantly lowers turbine centerline height when compared to down exhaust machines.
• Shortened hood and inner casing developed through a comprehensive testing program.

Life Cycle Product Management
• Remote monitoring and diagnostics.
• Outage planning and predictive maintenance.
• 12-year to first major outage.
• Enhanced operation.

Constructability
• Hardware modifications to reduce labor intensive field activities such as tops-on/tops-off alignment.
• Installation features like standard fixators, a three-piece flanged cross-over pipe and lube oil flush boxes expedite installation.
• Industry leading construction and commissioning cycles.

Broad Family of Highly Efficient Last Stage Blades
• Full tip shroud with integral sealing features reduce leakage loss.
• Enhanced tip section with low shock loss.
• Aerodynamic part span connector.
• Increased root reaction improves off-configuration performance.
• Advanced radial vortexing improves performance and hood integration over a range of loads.
• Enhanced dovetail configuration for longer life.

PRODUCT

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>REHEAT</th>
<th>NON-REHEAT</th>
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<tbody>
<tr>
<td></td>
<td>Up to 2,400 psig/165 bar</td>
<td>Up to 1,800 psig/124 bar</td>
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<td></td>
<td>Up to 1,112°F/600°C</td>
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<td>GE ST-D650</td>
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Output (MW)

100 200 300 400 500 600 700

Relative statements are with respect to GE technology unless otherwise noted.

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GEA31717 (04/2015)