Products, Services and Presence

L.A. Turbine delivers innovative turboexpander design, manufacturing and testing of application-specific, highly engineered turboexpanders used in hydrocarbon processing, geothermal power generation, industrial gas, power-recovery and refrigeration applications. The company is also a leader in aftermarket service, repair, redesign, maintenance and spare part production for LAT and non-LAT turboexpander brands. A global FX-TURBO Field Service Team provides commissioning, diagnostic, maintenance and emergency support 24/7/365 via the +1 855 FX-TURBO Hotline.

L.A. Turbine’s global headquarters are in Valencia, California with sales and service centers in California and Europe. In addition, LAT’s partner and agent network provides customer sales, distribution and aftermarket service support across five continents.

We Offer . . . Expertise, Innovation, Performance, Reliability and Results

> **We deliver.** Since 2003, LAT has been the go-to aftermarket service provider to thousands of global customers regardless of the turboexpander make or model. Since 2007, LAT has sold, engineered, built and delivered 150+ L.A. Turbine turboexpanders, and of those, have commissioned 100+ units.

> **We are innovators, diagnosticians and solution providers.** Our best-in-class engineering team draws from industry experience in rotating equipment, aerospace, transportation, and medical devices, and in partnership with our shop craftsman, deliver outside-the-box solutions for turboexpander design, problems and manufacturing. The design and market delivery of ARES, the industry’s first active magnetic bearing (AMB) turboexpander-compressor with a skid-mounted AMB control panel, within two years from concept to a tested and fully operational machine, is a testament to our capabilities.

> **We keep our promise.** LAT designs, manufactures, builds, and tests all equipment within its shop so turboexpanders are ready to commission upon delivery. Plus, agreed upon client timelines are not dependent on other vendors as LAT controls the process and deliverables. Only LAT holds this unique position within the turboexpander manufacturing and service marketplace.

> **We bring trustworthy expertise to your site.** Our FX-TURBO Representatives are turboexpander specialists, not generalists, with an average 20+ years of hands-on experience working on LAT and non-LAT turboexpander brands.

> **We perform and so do our machines.** Customers give LAT above average to excellent ratings, year after year, when scoring our technical knowledge, accuracy, responsiveness, testing capabilities, and machine performance.
Turboexpander Configurations & Specifications

L.A. Turbine provides turboexpander configurations in a range from 3kW to 14MW, capable of handling up to 3000 PSIG, and temperatures between -195°C and 260°C, which include:

- Expander/Compressor*
- Expander/Generator
- Expander/Gear/Generator
- Expander/Dyno (Oil Brake)**

<table>
<thead>
<tr>
<th>Turboexpander Configurations (1)(2)</th>
<th>EC*/EG/ED</th>
<th>EC/EG/ED</th>
<th>EC/EG/ED</th>
<th>EC/EG</th>
<th>EC/EG</th>
<th>EC/EG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame Sizes</td>
<td>L1000</td>
<td>L2000</td>
<td>L3000</td>
<td>L4000</td>
<td>L5000</td>
<td>L6000</td>
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<tr>
<td>Bearing Types (3)</td>
<td>Oil</td>
<td>Oil/AMB</td>
<td>Oil/AMB</td>
<td>Oil/AMB</td>
<td>Oil/AMB</td>
<td>Oil/AMB</td>
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<tr>
<td>Inlet Flow (max.)</td>
<td>600</td>
<td>1,500</td>
<td>4,000</td>
<td>7,500</td>
<td>10,000</td>
<td>16,000</td>
</tr>
<tr>
<td>Inlet Pressure (max.)</td>
<td>206</td>
<td>206</td>
<td>206</td>
<td>206</td>
<td>206</td>
<td>206</td>
</tr>
<tr>
<td>Temperature</td>
<td>-195 to 260°C</td>
<td>-195 to 260°C</td>
<td>-195 to 260°C</td>
<td>-195 to 260°C</td>
<td>-195 to 260°C</td>
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<tr>
<td>RPM (max.)</td>
<td>105,000***</td>
<td>52,000</td>
<td>31,000</td>
<td>29,000</td>
<td>18,000</td>
<td>15,000</td>
</tr>
<tr>
<td>Seal Types</td>
<td>Labyrinth Seal</td>
<td>Labyrinth Seal/ Dry Gas</td>
<td>Labyrinth Seal/ Dry Gas</td>
<td>Labyrinth Seal/ Dry Gas</td>
<td>Labyrinth Seal/ Dry Gas</td>
<td>Labyrinth Seal/ Dry Gas</td>
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<tr>
<td>Wheel Power (max.)</td>
<td>800 kW</td>
<td>1,500 kW</td>
<td>3,000 kW</td>
<td>6,000 kW</td>
<td>10,000 kW</td>
<td>14,000 kW</td>
</tr>
<tr>
<td></td>
<td>1,070 hp</td>
<td>2,000 hp</td>
<td>4,000 hp</td>
<td>8,000 hp</td>
<td>13,400 hp</td>
<td>18,700 hp</td>
</tr>
</tbody>
</table>

(1) Configurations:
EC* = Expander-Compressor
EG = Expander-Generator
ED** = Expander-Dyno (Oil Brake)
(2) High Pressure/High Power does not apply on ED equipment
(3) Bearing Types:
AMB = Active Magnetic Bearings
Oil = Oil Bearings

*EC is available with Oil and Active Magnetic Bearings
**Operates at a lower power level than the range shown above
***Maximum RPM of 105,000 applicable to ED only

Global Headquarters

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Learn More
www.LATurbine.com

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