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 all makes and models of turboexpanders. A global FX-TURBO field service team provides commissioning, diagnostic, maintenance and emergency support 24/7/365.

L.A. Turbine’s global headquarters are located in Valencia, California with sales and service in both Valencia and Houston, Texas. U.S. staff supports North America, Canada, South America, Asia and Australia. Our European headquarters in Belgium serve the sales and customer service needs of Europe, the Middle East and Africa. The company’s client portfolio extends to 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 gives outside-the-box thinking to turboexpander design, problems and production. In 2019, LAT delivered and commissioned ARES, the industry’s first active magnetic bearing (AMB) turboexpander-compressor with a skid-mounted AMB control panel.

➢ We keep our promise. We design, manufacture, build, and test all equipment under one roof at LAT. That means your turboexpander is ready for immediate commissioning. Plus, delivery is on your timeline, not at the mercy of other vendors. Only LAT holds this unique position within the turboexpander manufacturing marketplace. Our facility is equipped with state-of-the-art technology, production equipment and dedicated craftsmen.

➢ We bring expertise to your site. Our FX-TURBO field service team represents turboexpander specialists, not generalists, with an average 20+ years of hands-on experience working on all makes and models of turboexpander equipment.

➢ We perform, and so do our machines. Customers give LAT above average to excellent scores, year after year, when rating our technical knowledge, accuracy, availability, testing capabilities and performance results.
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>
</tr>
<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>
</tr>
<tr>
<td>Inlet Flow (max.)</td>
<td>ACMH (SI Unit)</td>
<td>600</td>
<td>1,500</td>
<td>4,000</td>
<td>7,500</td>
<td>10,000</td>
</tr>
<tr>
<td></td>
<td>ACFM (English Unit)</td>
<td>350</td>
<td>880</td>
<td>2,350</td>
<td>4,400</td>
<td>5,900</td>
</tr>
<tr>
<td>Inlet Pressure (max.)</td>
<td>BARG</td>
<td>206</td>
<td>206</td>
<td>206</td>
<td>206</td>
<td>206</td>
</tr>
<tr>
<td></td>
<td>PSIG</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Temperature</td>
<td>Celsius</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>
</tr>
<tr>
<td></td>
<td>Fahrenheit</td>
<td>-320 to 500°F</td>
<td>-320 to 500°F</td>
<td>-320 to 500°F</td>
<td>-320 to 500°F</td>
<td>-320 to 500°F</td>
</tr>
<tr>
<td>RPM (max.)</td>
<td>105,000***</td>
<td>52,000</td>
<td>29,000</td>
<td>15,000</td>
<td>15,000</td>
<td></td>
</tr>
<tr>
<td>Seal Types</td>
<td>Labyrinth Seal</td>
<td>Labryinth Seal/ Dry Gas</td>
<td>Labryinth Seal/ Dry Gas</td>
<td>Labryinth Seal/ Dry Gas</td>
<td>Labryinth Seal/ Dry Gas</td>
<td>Labryinth Seal/ Dry Gas</td>
</tr>
<tr>
<td>Wheel Power (max.)</td>
<td>kW</td>
<td>800 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>hp</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>
</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

*S 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

Serving North America, South America, Asia and Australia

L.A. Turbine
Headquarters
28557 Industry Drive
Valencia, CA 91355 USA
T: +1 661 294 8290
F: +1 888 674 6503
sales@LATurbine.com

Services
Design, Sales, Manufacturing and Service

Contact
Danny Mascari
President
DMascari@LATurbine.com

Serving Europe, Middle East and Africa

L.A. Turbine - Europe
Sales & Service Center
Rue des Semailles 22/5
4400 Flémalle BELGIUM
T: +32 4 247 30 11
F: +32 4 290 03 93
salesEurope@LATurbine.com

Services
Sales, Manufacturing and Service

Contact
Christian Maskaluk
Managing Director
CMaskaluk@LATurbine.com

The L.A. Turbine logo is a trademark of L.A. Turbine Corporation in the United States and/or other countries. All other trademarks are the property of their respective owners. © 2020 L.A. Turbine Corporation. All rights reserved. Printed in the USA, 1001 011520