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L.A. Turbine Reaches 100 >

Company produces 100th unit, while collaborating with Waukesha Bearings

BY DJ SLATER



■ The LAT 560EC is L.A. Turbine's 100th turboexpander. It is a two-stage, skid-mounted L3000 turboexpander-compressor with active magnetic bearings and a common seal gas system.

Photo courtesy of Matt Waugh Photography

In its first four years, L.A. Turbine wasn't focused on building its own turboexpanders, opting instead to specialize in aftermarket services. But when 2007 arrived, the company found an opening, a chance to design and manufacture an L2000 turboexpander destined for Tunisia.

That decision shaped the company, which has already shipped six turboexpander units this year. One of those units — the LAT 560EC — serves as the company's 100th turboexpander.

"It's pretty remarkable to ship 100 units," said Danny Mascari, president, L.A. Turbine. "In less than 10 years, we've become a leader in creating an engineered solution."

The LAT 560EC is a two-stage, skid-mounted L3000 turboexpander-compressor with active magnetic bearings and a common seal gas system. L.A. Turbine tested the unit at its Valencia, California, facility before shipping it to Texas, where it will be used in an ethylene processing facility.

"We built our reputation with the customer by building a

product from the ground up," Mascari said. "It's been an exciting ride."

That ride began in 2003 when the company used its machine and fabrication shop strictly for aftermarket services. Now, L.A. Turbine has a presence in the turboexpander landscape.

"We control 95% of the process in regards to designing, manufacturing, testing and servicing this equipment," Mascari said. "We've even gone a step further in establishing a global technician network so we can be on site to assist our customers."

Design and manufacturing a turboexpander is not an easy feat, Mascari said, adding that it's an engineered creation, not an off-the-shelf product.

"As an engineered solution, each project is a new project," he said. "We evaluate the gas dynamics, develop the aerodynamic design and design the core of the turboexpander. You also have to create the auxiliary system and

determine if the customer will use oil or magnetic bearings. And, of course, you have to design the controls for the equipment.”

Of the six units shipped this year, four were designated for customer sites in the United States, with Texas accounting for three units. Two of those units, which are L2000 turboexpander-compressors with oil bearings, went to West Texas where they are being used for processing natural gas liquids.

But one of them didn't originate in L.A. Turbine's facility. The unit was originally built by another original equipment manufacturer (OEM) in the 1980s, Mascari said. The unit needed to be redesigned and refurbished to operate at an increased gas flow. L.A. Turbine also updated the analog control system to the latest programmable logic controls to better operate and monitor the refurbished equipment.

“We were able to shorten the delivery time by 50% by optimizing their existing equipment rather than build from the ground up,” Mascari said.

The other U.S.-based unit — an L4000 turboexpander-compressor with an oil-bearing auxiliary system — was sent to North Dakota for natural gas liquids processing. The remaining two units — an L3000 turboexpander-compressor with magnetic bearings and an L1000 turboexpander-



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compressor with oil bearings — went to Algeria for dew-point control and Canada for LNG processing, respectively.

In addition to getting six turboexpanders out the door this year, L.A. Turbine also has an ongoing collaboration with Waukesha Bearings to test retrofit options for active magnetic bearings (AMB) systems. The collaboration began last year, Mascari said.

“It really gives advantages to the customers,” Mascari said. “Together with Waukesha, we've come up with enhancements to the turboexpander and the bearings and the control system.” [CT2](#)