

# Putting the Flow in Rotating Machinery

Rotoflow, a manufacturer and operator of turbomachinery, is comprehensive in its approach to support the industry and provide machinery solutions.

BY TIMOTHY LUKAC

**R**otoflow, an Air Products business, is known for technological innovation in the development and production of turbomachinery over the last 65 years. The first Air Products turboexpander was developed in 1952, and the first practical application of radial turboexpanders in hydrocarbon processes by Rotoflow took place shortly thereafter. Its product range encompasses rotating equipment, alongside aftermarket services and support.

The company's work is involved in turboexpander technology for the hydrocarbon, LNG, petrochemical, and industrial gas markets. Phillip Schuepbach, Business Development Manager – New Products and Aftermarket at Rotoflow, said, "Rotoflow's designs have millions of successful hours of operation with over 3,000 units currently worldwide. Our core products include compressor-loaded expanders (componders), generator-loaded expanders, energy dissipative expanders, and specialty turbomachinery."

Its full-service aftermarket solutions include field service, shop and field repairs, spare parts inventory, upgrades and rerates, performance and reliability assessments, remote monitoring, and training. Rotoflow's service technicians can service turbomachinery at all phases of equipment lifecycle and plant types.

"Rotoflow equipment is efficient and reliable, which is a huge factor for oil and gas industry customers tasked with maintaining plant onstream availability. Our power recovery expanders are utilized to recover electrical energy from the expansion of the process stream fluid," Schuepbach said. This recovered power can be used to offset other electrical usage in the plant, increasing the sustainability of a facility. By eliminating the costly gearbox for low power applications under 500 hp (<370 kW), customers can increase the sustainability of their facilities and recover more power, according to Schuepbach.

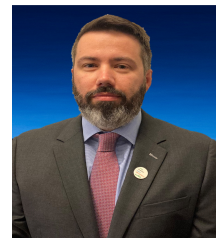


**The Rotoflow EC 40 turboexpander is available in two types: oil-bearing or mag-bearing. Rotoflow's high-pressure compressor-loaded turboexpanders (componders) provide refrigeration for the most efficient air separation and liquefaction facilities in the world. Credit: Rotoflow.**

## FULL-SERVICE OEM

As an OEM, Rotoflow can provide both machinery solutions and turnkey support. "With service centers and field service technicians around the globe, we can mobilize quickly to safely and efficiently repair your equipment no matter where you are," said Schuepbach. Rotoflow's field service technicians and engineers handle everything from expander overhaul and changeouts to pump and compressor work, in addition to construction assistance and start up/commissioning activities.

One example of Rotoflow's global reach is the Shanghai Solution Center. Rotoflow opened the



**Phillip Schuepbach, Business Development Manager - New Products and Aftermarket, Rotoflow**



**Rotoflow's full-service OEM capabilities enable local service, reliable spare parts inventory, and quick access to system upgrades for turbomachinery.** Credit: Rotoflow.

new center in the Qingpu district of Shanghai, China to better serve the turbomachinery needs of customers throughout Asia, reported Schuepbach. In addition to servicing turboexpanders, centrifugal compressors, reciprocating compressors, cryogenic pumps, small steam turbines, gearboxes, fans, and blowers, the facility will also be used to build new expanders for small nitrogen generation plants. Finally, it will support Air Products equipment for the company's *Hydrogen for Mobility* initiative.

## BEST EQUIPMENT PRACTICES

Setting up inspection and service schedules can help preemptively identify repairs and overhauls. Onsite assessments serve as one of the best strategies for ensuring overall performance of rotating equipment, said Schuepbach. Rotoflow's experience as an owner/operator can be leveraged to get the most out of equipment. Proper training alongside product and operating knowledge minimizes downtime, maximizing safety, productive operations, and reliability.

Rerates and rebuilds also provide an opportunity to improve the longevity of turbomachinery. Rotoflow can identify causes of damage, recommend performance upgrades that reduce wear and

tear, and help prevent future problems. "We have immediate access to materials and equipment and can rapidly dispatch a technician to complete your maintenance needs or get you back online as soon as possible," said Schuepbach. Routine maintenance involving dirt cleaning, dust, debris, relubrication, and others must be considered, even in the cleanest work environments.

## MARKET POSITIONING

Rotoflow delivers design, engineering and production, and custom solutions. The company's turbomachinery capabilities service the gasification, air separation, helium, LNG, hydrocarbon, petrochemical, and energy market segments. "In addition to broadening our footprint across the United States, we are enlarging our presence in many previously under-served local markets abroad," said Schuepbach. Turbomachinery operators demand higher levels of reliability and efficiency. OEMs like Rotoflow—with investments in product development, vertical integration, and skilled teams—will subsequently see further growth. Demand in under-served markets like China and India will also be a strong driver for aftermarket turbomachinery service and support. ■