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Making The (Up)Grade

CHROMALLOY IMPROVES OPERATIONS AT ITS FACILITY IN THE NETHERLANDS BY UPGRADING ITS AODD PUMPS TO THE ENERGY-EFFICIENT WILDEN® PRO-FLO® SHIFT ADS

By Philippe Leguay

Chromalloy has operated its facility in Tilburg, The Netherlands, since 1975. The facility provides service and repairs for gas-turbine engine components (inset) used on planes operated by airlines and other applications.

A technology company founded in 1951, Chromalloy has grown to earn the reputation as a leading provider of solutions that reduce manufacturing and operating expenses, and extend the life of gas-turbine engines for operators in the commercial airline, military and power industries. Truly a global presence in the industry, Chromalloy operates a sprawling network of sales offices, manufacture/repair facilities and customer-service/support centers in a total of 17 countries around the world, from the United States to France, Thailand, China and Saudi Arabia.

One of its most important facilities is the 120,000-square-foot location in Tilburg, The Netherlands, which has been in operation since 1975. It is in the Tilburg facility that Chromalloy provides service and repairs for gas-turbine engine components that are used on airlines and other applications. The engine components that are serviced at the facility constitute a veritable who's who of turbine-engine manufacturers.

"This facility is a repair shop for parts that are used on airplane engines and in other applications," explained John Bollebakker, Manager of Maintenance and Facilities. "If an engine needs an overhaul, certain parts will be sent here where they will be inspected and repaired, with all necessary paperwork completed, and then we will deliver the part back to the OEM in the shortest time possible."

QUICK FACTS

Company: Chromalloy
Location: Tilburg, The Netherlands
Market: Aviation, Energy and Military
Distributor: Holland Air Pumps, Oirschot, The Netherlands
Challenge: After 16 years of reliable service, Chromalloy was looking to upgrade the efficiency and noise levels of the Wilden® AODD Pumps that are used to aid in the service and repair of gas-turbine engines.
Solution: *New Pro-Flo® SHIFT ADS added to Wilden® Original™ Series AODD Pumps*

The Need To Improve

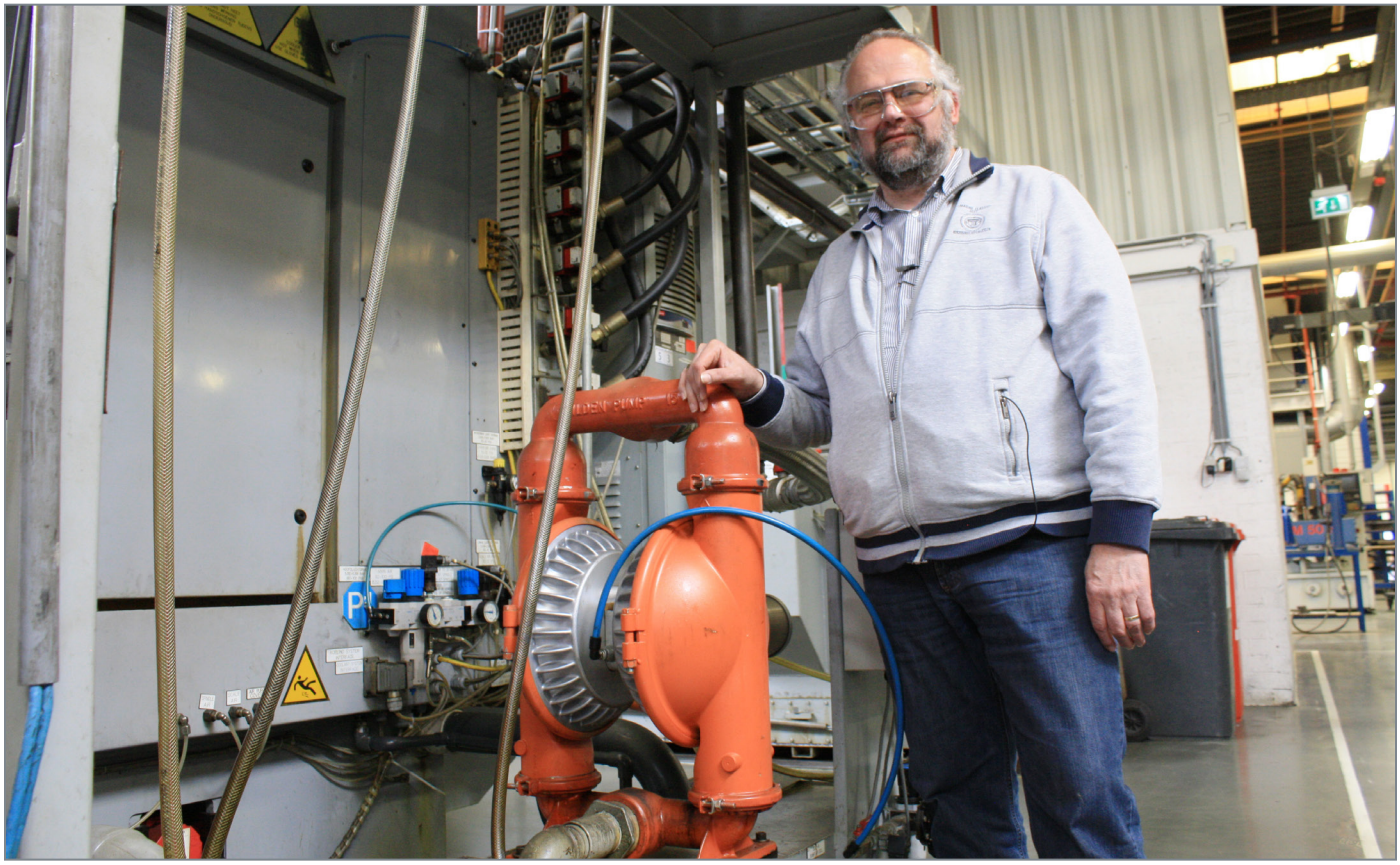
A key stage in the engine-repair process involves the continuous transfer of cooling fluids that help keep the repair and refinishing machinery operating safely. Since 1998, Chromalloy has been relying on Wilden® Original™ Series (clamped) Air-Operated Double-Diaphragm (AODD) Pumps to reliably facilitate the process. Part of PSG®, a Dover company, and located in PSG's Grand Terrace, CA, USA, facility, Wilden invented AODD-pump technology in 1955 and has spent the ensuing six decades establishing itself as the world's leading brand of AODD pumps.

"What we have in one area is a press pipe that introduces the cooling fluid into the process and from there it runs back to the tank where the Wilden pump pulls it out and sends it to the next installation," said Bollebakker. "In another area, we are pumping with the main pumps to the machines and the Wilden gets the fluid to the tank and back to the filter where it is cooled. After that, the main pumps will get it out and pump back to the machine again. This Wilden pump is used for both cooling and filtering."

Since their installation 16 years ago, the Wilden pumps have performed admirably—"The only maintenance is the seals will be replaced, I think, once a year or so," said Bollebakker —but evolving operational demands regarding air usage, efficiency, noise levels and overall operating costs had forced Bollebakker to consider ways that pump performance could be improved.

"I realized I would have to get the older machines more efficient, while we also constantly look into safety issues; we want a healthy work environment," he said. "Therefore, we were looking at where we could improve environmental issues or create cost savings by doing whatever it takes to make our ROI the right percentage. From all aspects, we try to do the best thing we can for the company. It should fit into the complete organization, but also fit into the budget."

To aid in the process of identifying pumping technologies that could potentially improve efficiency and cost-effectiveness while making operations more "green," Bollebakker turned to Chromalloy's pump supplier, Holland Air Pumps, Oirschot, The Netherlands, specifically Commercial Director Gerrit Klaassen. Holland Air Pumps is a dedicated supplier of Wilden pumps in The Netherlands.



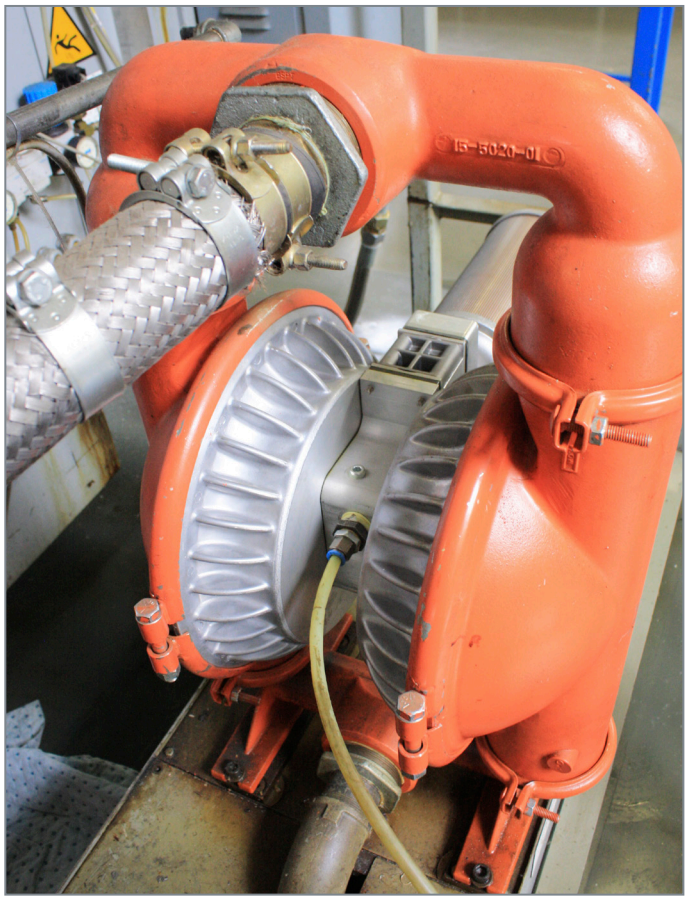
John Bollebakker is the Manager of Maintenance and Facilities at Chromalloy. For more than 15 years, he has trusted Wilden® Original™ Series AODD Pumps to reliably transfer the cooling fluids that are used to keep the repair and refinishing machinery operating safely when servicing the gas-turbine engine components used by commercial airlines and other operators.

"Too Good To Be True"

Bollebakker's search for a more efficient AODD pump came at the perfect time. In June 2013, Wilden had introduced to the market the innovative Pro-Flo® SHIFT Air Distribution System (ADS). The Pro-Flo SHIFT is a revolutionary breakthrough in ADS operation as its design and incorporation of an air control spool—which eliminates costly air "overfilling" at the completion of the pump stroke—can help operators realize up to 60% savings in air consumption while costing 50% less to operate than pumps with traditional mechanical or electronically actuated ADS technology.

"It's too good to be true," Klaassen said of the Pro-Flo SHIFT's performance. "When we take our test unit to a customer and show them what it really is and what it does and how it can work for them, and they really see it happening and listen to the pump, they see that they suddenly have 30% to 40% more capacity." (See Sidebar)

One of those customers who got a visit from Klaassen after the release of the Pro-Flo SHIFT was Bollebakker and Chromalloy.



By upgrading its existing Wilden® Original™ Series AODD Pumps with the new Pro-Flo® SHIFT ADS, Chromalloy has been able to reduce its operational costs while still enjoying the benefits of reliable Wilden AODD Pump operation.

On The Road

Every company is rightly proud of its technologies, but the real trick is turning that pride into sales to end-users. In 2013, Wilden® proudly launched the Pro-Flo® SHIFT Air Distribution System (ADS) for use in its Original™ and Advanced™ Series of Air-Operated Double-Diaphragm (AODD) Pumps. The Pro-Flo SHIFT ADS is truly a "game-changing" technology that can reduce AODD-pump air consumption by up to 60%.

Rather than just tell their customers about the revolutionary new technology, the folks at Holland Air Pumps, Oirschot, The Netherlands, a longtime distributor of Wilden pumps in Europe, built a skid outfitted with a Pro-Flo SHIFT pump and took the message to the masses.

Leo de Haas (left) and Gerrit Klaassen of Holland Air Pumps with their Wilden® Pro-Flo® SHIFT mobile test skid.

"We said instead of just having features and benefits on paper or on YouTube, let's build something and take it to the people, make it live," said Leo de Haas, Owner of Holland Air Pumps. "That's why we built the skid and we've been doing the road show for eight months and it has been received very well; it is very convincing."

Holland Air Pumps is also able to open the eyes of prospective customers by informing them that a chemical plant that installed a 2-inch Pro-Flo SHIFT pump, which operates 12 hours a day, six days a week, will have an annual operational savings of €48,000 ($52,440), which can equal an ROI of six to eight months.

"Isn't there a saying, 'You can bring a horse to water, but you can't make it drink?'" said de Haas. "That's pretty much what we do. We say, look, it's a fantastic product, it's great and we can actually prove it, we can give you the numbers. Then it's up to the customer to make a decision—and it's easy to choose Wilden."

"Holland Air Pumps was here in December 2013 and ran a test of one of their pumps and one of my colleagues observed the test," said Bollebakker. "From what we saw, we decided we had some interest in the Pro-Flo SHIFT pump and when Wilden sent me a total overview of how much money we could save they convinced me, and once I convinced my general manager it was real quick to get the investment approved."

Once the deal was struck, it was a simple operation to remove the old ADSs from the eight existing Wilden pumps at the facility and insert the new Pro-Flo SHIFT ADS. Replacing the old ADSs with the new Pro-Flo SHIFT was so simple, in fact, that Chromalloy's 16-hour-a-day operating schedule did not need to be compromised.

"We had the existing pumps and all we did was take out the ADS and put in the new one," said Bollebakker. "From a production point of view, I can't allow myself to go without production for four or six or eight hours because we have to run for 16 hours. In reality, there were only one or two hours that each pump was out of production. It was an easy job."

Once the pumps with the new Pro-Flo SHIFT ADS were up and running, it didn't take Bollebakker long to notice the cost savings.

"We've taken four cents per cubic meter per hour (m^3/hr) off the operating cost and at 16 hours a day, five days a week, we recalculated the investment we made and we will be saving €11,000 ($12,020) per year for the eight pumps," marveled Bollebakker. "The new Pro-Flo SHIFT ADS investment will be paid for in 12 months."

Conclusion

Chromalloy has been successfully doing what it does for more than 60 years, but to keep being successful it must adjust to a constantly changing operational climate. So, as the desire to make operations more "green" continues to grow, modifications must be made in the way things are done. In that regard, Chromalloy has found the perfect solution to enhance the performance of the Wilden AODD Pumps used at the facility: the Wilden Pro-Flo SHIFT ADS.

"The plant has several areas where we try to improve our systems and look constantly for ways to do it quicker, better, faster," said Bollebakker. "From the moment we rebuilt the air section on the Wilden pumps there was an immediate reduction in air supply, but the flow remained the same. When the pump comes in and it's working like the way we want it to work, the case is closed."

An on-site demonstration from Gerrit Klaassen, left, Commercial Director of Holland Air Pumps, quickly convinced John Bollebakkler of Chromalloy to upgrade his eight existing Wilden® Original™ Series AODD Pumps with the innovative new Pro-Flo® SHIFT ADS.

About the Author:

Philippe Leguay is the Regional Manager – Northern Europe for Wilden® and PSG®. Mr. Leguay can be reached at Philippe.Leguay@psgdover.com. Wilden is a leading brand of air-operated double-diaphragm (AODD) pumps from PSG®, a Dover company. Headquartered in Oakbrook Terrace, IL, USA, PSG is comprised of several leading pump brands, including Abaque®, Almatec®, Blackmer®, Ebsray®, Griswold™, Maag Industrial Pumps, Mouvex®, Neptune™, Quattroflow™, RedScrew™ and Wilden®. For more information on Wilden or PSG, please go to www.wildenpump.com or www.psgdover.com.