115 Years And Growing

PAYING TRIBUTE TO THE PAST TO PERPETUATE THE FUTURE

BY ANGELA JARRELL

Blackmer — a part of PSG, a Dover company — is celebrating its 115th anniversary. Headquartered in Grand Rapids, Michigan, USA, Blackmer provides positive displacement sliding vane and screw pump, regenerative turbine and centrifugal pump, and reciprocating compressor technologies for the transfer of liquids and gases in mission critical applications. Sold globally through a network of distributors and original equipment manufacturers, Blackmer's products are supported by field sales and customer service personnel in a multitude of applications in the process, energy, and other markets.

SOLUTIONS GROWN FROM FRUSTRATION

In 1899, Robert M. Blackmer engineered a vane-type pump design out of frustration with the pumping inconsistencies and inefficiencies that were caused by the operation of the rotary gear pumps. His principle virtually eliminates flow-rate degradation, because as the vanes wear away at the tips, they move further out of the rotor slots to self-adjust and maintain the original rate. His invention, the rotary, self-compensating pumping principle, laid the foundation for today's positive displacement sliding vane pumps.

In the early 1900s, the automobile and petroleum industries were looking for a volumetrically consistent pump technology that could transfer thin liquids. "The true genius of Blackmer's invention lies in the fact that while the gears in a gear pump will wear as they age, creating larger clearances that adversely affect flow rates and operational efficiency, sliding vane pumps do not have those concerns," said Bob Lauson, general manager at Blackmer. "The secret is a set of vanes that radiate out from the pump's central rotor, forming pumping chambers that carry a defined amount of liquid to the discharge port. As the vanes wear at the tips, they just slide further out of the rotor slots so that volumetric consistency and flow rates will be maintained until the vanes eventually wear out. Then, when the vanes do need to be replaced, it takes just seconds to do so with no need to remove the entire pump from service."

The general operating principle of the first Blackmer pumps has remained the same for 115 years, but the design has been enhanced. Materials of construction have been improved to accommodate a wider range of abrasive and corrosive fluids. To lower costs, metal vanes have been replaced with plastic Duravanes, which last longer. A significant update to the family of sliding vane pumps occurred in 1954 when pumps that are able to handle liquified petroleum gas and other critical high-value industrial gases were introduced.

GROWING ITS PORTFOLIO

"When the opportunity has arisen, the company has strategically expanded its product offering. The first significant addition was the creation of the Compressor Division in 1980," said Lauson. "That has been followed by the acquisition of the System One centrifugal pump line in 2000, an agreement in 2014 that enabled Blackmer to manufacture

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and distribute the Australian-based Ebsray line of regenerative turbine pumps in the United States and the debut in 2015 of its new family of screw pumps. Additionally, since 1964, Blackmer has been a member of the Dover Corporation and,

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in 2008, became a founding brand, with four other pump companies, which has grown to become 12 product brands 10 years later."

The company's latest product is the NGH100 Series horizontal oil-free reciprocating gas compressor. Constructed of ductile iron with a balanced forged-steel crankshaft, it offers flexible cylinder sizes, can handle various flow rates and operating pressures, and can manage motor speeds up to 1800 rpm. "Available in single- and two-stage configurations, it was developed for use in wet- and dry-gas handling activities in the upstream oil and gas market, specifically in vapor recovery, wellhead transfer, and artificial lift applications. It also has the added value of being able to handle hydrogen sulfide up to 8%," said Lauson.

In 2017, Blackmer introduced its GNX and GNXH Series sliding vane pumps. According to Lauson, these pumps eliminate alignment problems between the pump and the motor, reducing the overall package footprint, simultaneously improving reliability and performance.

"In light of concerns for the environment and increased environmental regulations, Blackmer launched a sliding vane pump with dual radial seals which can fit in the same envelope of existing, single-seal pumps. The patented, dual-seal design allows customers to provide industry standard seal flush plans to pumps in small envelopes while protecting the environment," said Lauson.

Blackmer reciprocating gas compressors and positive displacement sliding vane pumps are used in many different applications around the world.

INTO THE FUTURE

For 115 years, Blackmer has had a manufacturing and assembly presence in the United States. The majority of its pumps and compressors are assembled in the 180,000-sq ft. (16,723-m^2) Michigan facility. This commitment to a domestic and original sense of community has provided the capabilities to design, prototype, and develop Blackmer's own components. "Not only do we rely on our years of design expertise, we also have cradle-to-grave part processing, manufacturing processing, and manufacturing expertise that creates a system of ensured quality control from the beginning to the end of the manufacturing chain. For the customer, this delivers obvious benefits regarding performance, reliability, trustworthiness, and responsiveness to any concerns," said Lauson.

Even though there have been significant changes in the customer base since 1903, Blackmer's vision has stayed the same for these 115 years — to focus on the safe, efficient, and reliable transfer of materials for flow-control solutions. This change in customers has enabled "Blackmer pumps and compressors to provide solutions around the globe, from the ice road near the Arctic Circle to Amazonian oil fields in Peru, from natural gas wells in Algeria to gold mines in Australia," said Lauson.

"A company has zero chance of celebrating its 115th anniversary if it does not have at least one eye focused firmly on the future, ready to deal with the ups and downs and twist and turns that will surely be encountered, and being prepared to take advantage of the opportunities that will present themselves. So, where Blackmer plans to go from here is where it has always gone — on a search to develop new or refine existing pump and compressor technologies and flow-control systems, as market forces and customer demands dictate," said Lauson. "In doing this, Blackmer will always keep front-of-mind the best interests and productivity of every individual end user, as well as the greater global community as a whole." GCW

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