

New Pump Technology Reaps Benefits For Printing Company

While many industrial companies are feeling the crunch with rising energy prices, Bolger Concept to Print has reduced their energy costs by installing a new dry running combination pressure/vacuum pump on their Heidelberg Model 102V press. As a result, this full service commercial printing company, located in Minneapolis, MN, received a rebate check for over \$900 from their local energy company, Xcel Energy.

Bolger Concept to Print was using an oil-recirculating, rotary vane combination pressure/vacuum pump on their Heidelberg Speedmaster 102V. After several years of operation, the performance of the vane pump was starting to deteriorate due to high temperatures and with the constant overheating, it eventually caused seal failures resulting in the breakdown of the drive bearings. Also, the pressmen were complaining about how much heat it generated and the high heat was causing problems with the air lines contributing to excessive downtime and repairs. They also experienced the same problems with the numerous rotary carbon vane pumps they had used in their Heidelberg Speedmaster. The rotary carbon vane pump, after three years of use, had to either be rebuilt or replaced.

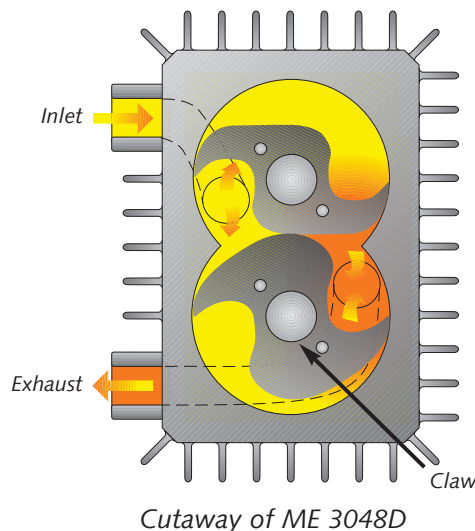
Rather than purchase another rotary vane pump, Bolger decided to switch to a different type of print pump. Darren Doheny, Plant Engineer, wanted a pump that would require less maintenance, could run cooler, operate consistently with minimum downtime and would offer a lower cost of ownership than the vane pump. He found that the Busch ME3048 Merlin combination pressure/vacuum pump would satisfy all those requirements, plus save on rising energy costs.



The Busch Merlin ME 3048D

The Busch Merlin Series combination print pumps are positive displacement, rotary claw-type pumps that feature non-contacting, non-wearing internal components. Pressure and vacuum are provided by independent pumping chambers, which are 100% oil-free. Their highly efficient design and rugged construction make them highly reliable and tolerable to paper dust and offset powder.

Upon installation of the Merlin ME3048, one of its many benefits was quickly noted. The ME3048 uses 5.5 kW versus the vane pump's 9 kW. An engineering survey was conducted which determined that a savings of 3.5 kW, resulted in a reduction of 24,700 kW hours of operation. Based on this reduction of energy consumption, Bolger applied to Xcel's Custom Solutions Program for industrial users. In the Custom Solutions Program, industrial users, such as printing companies, can apply for energy rebates for motor driven equipment, not covered under a standard rebate program. In order to receive a rebate, a company must show equipment information and operating hours.



In Bolger's case it was with the Busch Merlin pump. The vane pump Bolger was using had a 71% efficiency rating at 9 kW opposed to a 90% efficiency rating at 5.5 kW for the ME3048. All Busch Merlin pumps use claw-type rotors instead of vanes for compression. The non-contacting rotors run friction free, allowing the use of a smaller motor that consumes less electricity. With less electricity being used, Bolger reduced their kW hours of operation which significantly decreased their yearly energy bill. In addition, there is also less down time with the ME3048 because it requires no regular routine preventative maintenance or replacement vanes.

Xcel Energy's application process goes through a technical group that reviews each case individually and estimates how much energy is saved, to determine the dollar amount of the rebate check. Projects must be pre-approved before ordering and installing equipment to qualify for rebates. Due to the wide variety of companies and industries that

can apply for this program, not all rebates will be the same. Rebates may be available when, for example, a plant switches to a different type of machinery from the standard that provides a higher level of efficiency and with better output as an end result.

"A lot of printers could use this pump and then they could get a rebate," said Chris Conrad, Xcel Energy Representative. "And that to me is a big selling point."

Chris Conrad, Xcel Energy Representative, submitted the application on behalf of Bolger Concept to Print.

"Bolger's situation is pretty cut and dry. There was nothing unique about it, but the pump is unique," said Conrad.

"Lots of printers use sheet fed presses and this pump is unique in its design and it requires less maintenance. A lot of printers could use this pump and then they could get a rebate. And that to me is a big selling point."

Bolger Concept to Print currently uses fifteen vacuum pumps; nine are both pressure and vacuum, two are straight vacuum and the remaining four are straight pressure. The Busch Merlin is the first contact-free combination dual pump that they have installed.

"The pressmen are really happy with it, especially because it runs cooler," said Doheny. "It's contact free, plus its energy saving. So it's by far a superior pump. If there was another spot, I would put a Busch pump in it."

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