

Advanced Non-Contacting Vacuum Technology Reduces Excessive Maintenance & Energy Costs

Crown Cork & Seal is a leading manufacturer of packaging products. One of their plants in Sandston, Virginia manufactures the liner in soda bottle caps that seals in the carbonation. They have 12 lining machines that use two dry vane pumps per machine. In January of 2000, Secondary Manufacturing Manager, Bart Patton and Lead Maintenance Mechanic, T.C. Atkinson, noticed the dry vane pumps were becoming problematic.

The vanes on the dry vane pumps needed replacement about every six months. In some instances, the vanes impacted the sides of the vacuum cylinder, causing damage to the cylinder, which resulted in a reduction of vacuum stability. The wear became so immense that the dry vane pumps had to be rebuilt about 50% of the time. If the wear was too great the pump could not be rebuilt and had to be replaced. This caused Crown Cork & Seal to switch out the dry vane pumps and replace them with a back up pump, while the original pump went in for repairs. The expense of replacing vanes, rebuilding the pumps and the downtime was costly.

"We were having major durability issues with the dry vane pumps," said Atkinson. "We were using up a lot of dry vane pumps and for a six



Mink MI 1124 BV at Crown Cork & Seal

month period, we were going through about one a month. We had to change the situation."

The Engineering Department went looking for an advanced vacuum technology, which would solve their problems. They investigated several types of vacuum pumps that would require little maintenance, no unscheduled downtime, a lower cost of ownership and save on rising energy costs.

They found the ideal replacement for their dry vane pumps with a Busch Mink MI rotary claw-type vacuum pump. The Mink MI 1124 BV is a dry, single stage vacuum pump. Two non-contacting claws trap a volume of air at the inlet and convey it to the exhaust where it is compressed and discharged. Wearing parts are separated from the pumping chamber, which leads to a longer pump life with a minimal amount of maintenance.

One Mink pump was able to replace two dry vane pumps on the lining machines. In addition to saving on maintenance costs and eliminating costly downtime, Crown Cork & Seal enjoyed another benefit that the Mink has to offer. The Mink pump

consumes less energy than the two dry vane pumps together. The two dry pumps each had 2 HP motors, whereas the one Mink pump only has a 3 HP motor.

"It's a very simple solution. We went from two pumps to one pump," said Atkinson.

To date, six more Minks have replaced a total of twelve dry vane pumps in Crown Cork & Seal's lining department. With the success of the Mink in the lining department, other departments at Crown Cork & Seal's Sandston plant are starting to replace their outdated vacuum pumps with the Busch Mink.

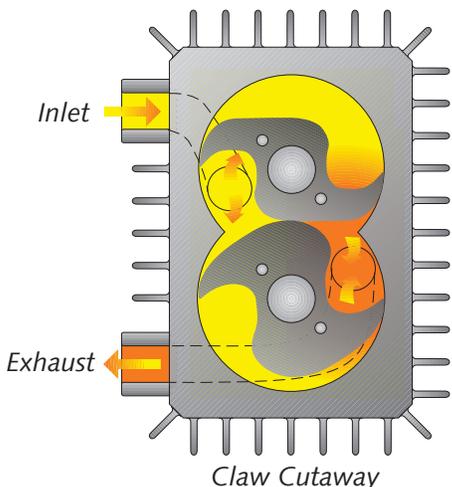
"We no longer have our durability issue," said Atkinson. "We never have any problems with our Mink pumps. We now have a total of seven Busch pumps, with plans to



Mink Rotary Claw-Type Vacuum or Pressure Pump

replace more," said Atkinson. "It is very well made pump. We are happy with how Busch vacuum pumps have worked seamlessly with our application."

With the rotary claw-type Mink vacuum pumps, they have eliminated unscheduled downtime, have gone to a virtually maintenance free schedule, have reduced their energy consumption and have increased productivity.



Busch, Inc.
516 Viking Drive
Virginia Beach, VA 23452
1-800-USA-PUMP
www.buschpump.com