



PRECISION MACHINE'S PMV ROTARY VALVES DELIVER SWEET BENEFITS TO LANCE PRIVATE BRANDS

Each and every working hour, 10,000 pounds of sugar is processed at the Lance Private Brands bakery in Burlington, Iowa. The company produces about 5 million pounds of product per week: 180,000 cases of crackers and numerous pallets of sandwich creams and wire-cut premium-brand cookies for major stores around the country.

The Burlington plant uses rotary valves as airlocks to meter sugar into a pressurized airflow that carries it up to the third floor, then through a sifter into holding tanks before mixing into the cookie dough. Because sugar is very abrasive, similar to sand in its coarseness and its effect on transport mechanisms, the Lance plant has been using valves designed for severe-duty operation. The company has used multiple valve suppliers over the years, searching for one vendor who could provide valves that are rugged enough to take the punishment year-in and year-out.

The problem with most rotary valves is that they have cast housings. When the seals fail, which happens often in abrasive environments, the housing is typically worn beyond repair. According to Dan Purdum, Lance Private Brands' Maintenance Scheduler/Planner, the company typically needed to rebuild its sugar rotary valve every month in order to keep the factory operating. If new parts were required, there was usually an 8-week lead time for machining, which caused plant maintenance personnel to need to plan ahead for outages in order to avoid significant downtime. When a cast housing valve needed replacing, the whole sugar transport apparatus needed to be disassembled to remove it.

In the fall of 2009, Lance Private Brands looked for a better solution to their rotary valve reliability issues, and was introduced to Precision Machine and Manufacturing by Dale McCarville of Van Meter Industrial, Precision Machine's sales representative in Iowa. "What interested me the most about Precision's PMV rotary valve is its modular construction," said Dan. "We can hang the valve in place and assemble it piece by piece, which makes maintenance safer and quicker than with other manufacturers' valves."

Dan discussed his reliability issues with previous valves with Dale McCarville who explained that Precision could make engineering changes to any of its valves to meet unique requirements. With this in mind, Dan ordered a severe-duty version of Precision's PMV rotary valve with an extra long shaft that enabled him to add a gearbox for driving the valve rotor. The gearbox eliminated a chain and sprocket arrangement that caused added maintenance costs with the old valves.

Lance cookie and cracker production, Burlington, Iowa



Macro photograph of sugar crystals



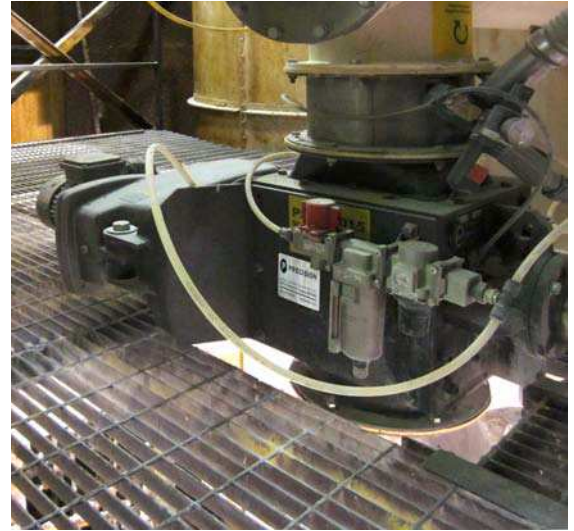
Precision Machine and Mfg's modular PMV® severe-duty rotary valve uses 500 Brinell hardening alloy for the barrel sides and rotor. The barrel sides and end wear plates are coated with RW-90 to extend life. RW-90, exclusively formulated for Precision Machine, is chrome-like in appearance and hardness, but has superior wear characteristics compared to chrome.



As a result, the original valve supplied by Precision Machine has been in service for more than a year, with no repairs required to date. "We did, however, upgrade to Inpro seal, but," Dan pointed out, "by changing from monthly teardown for maintenance with the old valves to running more than a year with no service problems concerning the Precision valve, we saved considerable time and money."

"Another advantage in preventive maintenance is the fact that with Precision's valve the bearings are greasable, something that you don't get with other manufacturers' rotary valves," Dan added.

Since the initial PMV rotary valve was purchased, Lance Private Brands has installed three other Precision valves that also meter sugar. Dan is considering installing Precision valves when the rotary valves that handle starch and flour need to be replaced. "Working with Precision Machine has been a great experience," concludes Dan. "Precision's designs have made the problems that we have been experiencing with other rotary valve manufacturers just go away."



One of four Precision PMV[®] severe-duty rotary valves at Lance, Inc.'s bakery in Burlington, Iowa.

For more information,
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