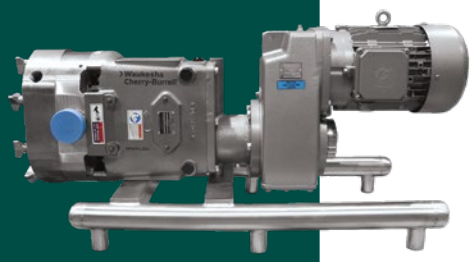
SOLVING HIGH-TORQUE CHALLENGES AND REDUCING COSTS IN POLYMER PROCESSING

Universal 2 ND (U2 ND) Positive Displacement Pump



Challenge

A customer in the polymer processing industry faced repeated pump failures with their mag-drive gear pump due to high torque requirements. Initially, the mag-drive gear pump was selected to avoid complications with double mechanical seals, barrier fluid seal pots, and a nitrogen blanket. However, soon after installation, the pump began to fail; its internal rotor and magnet couldn't generate enough torque to drive the external gear, leading to decoupling of the magnets. The motor continued running while the internal magnet stopped rotating, preventing fluid transfer. To mitigate the issue, the customer started heating the product in silos to reduce viscosity—an expensive and inefficient workaround that significantly increased operational costs.

Solution

The customer upgraded to the Waukesha Cherry-Burrell® (WCB) U2 ND model 320 pump, featuring a single mechanical seal. This pump's advanced design, including large shaft diameters, a robust bearing structure, and external circumferential piston (ECP) rotors, enabled it to handle the high-viscosity, high-torque application without requiring an additional flush system. Key to this solution was WCB's unique Tru-Fit design, which simplifies pump-motor alignment and saves valuable production space.

Result

The WCB U2 ND ECP-style pump proved to be a highly reliable solution, maintaining a consistent product flow and eliminating the costly need to heat the polymer. The customer now saves thousands of dollars annually on operational costs and enjoys increased productivity thanks to uninterrupted pump performance. The innovative Tru-Fit® design also resolved alignment issues, reducing installation time and enhancing workspace efficiency.

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