

Ground Beef

Issued By: Jim Brink, District Sales Manager
Date: February 12, 2021
Bulletin No: PA2-21

Waukesha
Cherry-Burrell®

Pump: [Universal 3 Series Positive Displacement Pump \(U3\)](#)

Industry / Application:

A food plant receives bulk quantities of ground beef, cooks and re-packages it for distribution to restaurants in a major fast-food chain. This process involves gently pumping the cooked ground meat to a package filling machine while maintaining product texture. Hot grease from the cooked meat acts as a carrier fluid for the pumping process.

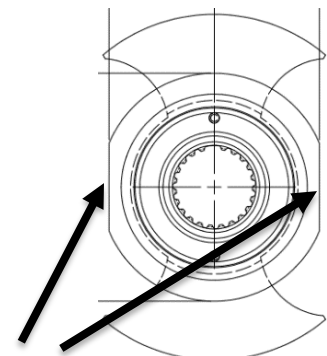


Problem:

The Customer's* plant had been using Positive Displacement (PD) pumps to pump the ground beef, but the meat started packing behind the pumps' rotor hubs which squeezed the hot grease carrier fluid out of the beef. Over time, the beef became harder and harder and eventually broke the pump seals. Although the pumps were designed for CIP cleaning, manual intervention was regularly required to disassemble and clean the meat away from the rotor hubs, reducing production runtimes and adding unacceptable maintenance overheads to the process.

Solution:

SPX FLOW design engineers created a rotor with 'flats' on each side of the hub on a [Waukesha Universal 3 PD Pump](#) to improve circulation behind the rotor hubs. The U3 has tight clearances to pump the low viscosity hot grease along with the ground beef and its large rotor cavities provide gentle pumping to preserve the texture and characteristics of the meat. The processor installed the modified rotor into a U3 size [130](#) pump which proved to stop the build up of meat behind the rotor hub. The rotors with flats were subsequently installed in three additional pumps in the Customer's plant which have been running trouble-free and cleaning very well during CIP cycles. Front loading seals on the pumps further helped reduce maintenance times.



Flats on each side of the rotor hub improve circulation behind the hub to help stop the build-up of product

* Company name not disclosed for confidentiality reasons