APPLICATION SPOTLIGHT

ARO®

PUMPING HIGH VISCOSITY FLUIDS IN CONFECTIONERY MARKETS

HEAVY DUTY SOLUTION

Project Overview

Positive displacement pumps are required for high viscosity and shear sensitive fluids and slurries, as well as the metering of dyes, flavorings, and preservatives common to the processing of confectioneries. Some common pumping applications in the candy processing market include chocolates, candy mass, sugar slurries, and fillings.

ARO's Heavy Duty (HD) pumps are ideal for handling high viscosity candy mass and fillings, as well as shear sensitive chocolate and chocolates with edible solids that require the low shear operating feature of the HD Series.

Solution

CHOCOLATE

The positive displacement, circumferential piston pump design of the HD Series utilizes external timing gears to synchronize rotation of single or double lobe impellers without contact. Because there is no meshing of rotating equipment, shear sensitive chocolates or chocolates with edible solids such as fruits or nuts are pumped successfully without damaging the quality of the product unlike with a traditional gear pump design.

CANDY MASS

Candy mass is a generic term used for processing candies such as jellybeans, gumdrops, and licorice. Typically produced in batches, the HD Series is commonly used to transfer candy mass from the cooker or blender to a machine used for shaping. Because candy mass tends to be of a high viscosity, it is typically pumped at a higher temperature. ARO's HD pump is ideal for this application because of its ability to handle fluids with viscosity in excess of 2 million centipoise, and pumping temperatures up to 525°F.

SUGAR SLURRIES

Sugar slurries are used in many candy coatings and hard candies, and range in both viscosity and temperature. Sugar slurries can become very difficult to handle when exposed to air or a decrease in temperature, crystallizing and becoming abrasive, risking damage to mechanical seals. The HD Series is able to successfully pump these slurries due to their abrasion-resistant rotating elements and pump internals.

FILLINGS

Fillings encompass a variety of application and are typically highly viscious, often containing solids such as figs, jams, peanut butter, and coconut. ARO's HD pumps are recommended for these applications due to their ability to pump at extremely slow speeds (5-50 RPM) and high torque shaft strength.

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