OPTIMIZING CANDLE WAX QUALITY

Votator® II Scraped Surface Heat Exchanger

The Waukesha Cherry-Burrell® Votator® II 6x72 Scraped Surface Heat Exchanger helps candle manufacturer improve the cooling and crystallization of paraffin wax, delivering significant positive results.

Challenge

The customer had been unsuccessfully processing with a 6" diameter tubular heat exchanger fed by a gear pump, then followed by a crude air incorporation methodology into the product stream. This original process design yielded inferior product qualities: especially regarding appearance, including discoloration (yellowish tint) and poor texture (lumpiness). The customer looked to SPX FLOW for a solution. By leveraging our history and knowledge in fats and oils, we were confident that our scraped-surface heat exchanger technology would successfully deliver the desired product characteristics.

Delivering smooth, textured, homogenous product consistently.

Solutions

An SPX FLOW single cylinder Votator® II Scraped Surface Heat Exchanger was utilized to rapidly cool and crystallize the paraffin wax to enhance the overall quality, giving a more visually appealing product in the clear containers. Given our application experience with other major suppliers and retailers of candle products, including various color schemes and fragrances, we were able to demonstrate the use of scraped-surface technology to process a smoothly textured, homogeneous product at the filling point consistently. As part of this process, we proposed a controlled distribution of gas dispersed into the product stream at the discharge of the supply pump.

Results

By finely dispersing the air molecules before the cooling step, the product had a brilliant white appearance, which had not been obtained in the previous design.

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