Fristam FDS & FDS Nano Help Ice Cream Manufacturer Out Of Sticky Sitution!

Replacing Progressive Cavity Pumps on Caramel Application.

Application:
Pumping & dosing small volumes of room temperature caramel (5,000cP) with 5-7mm chopped nut inclusions.

Challenge:
Progressive Cavity Pumps were breaking down regularly, straining the maintenance budget. Seals were wearing into the product, causing contamination. Nuts were sheared too small.

FDS Nano
Max discharge pressure: 10 bar
Max flow rate (product): 5-500L/h

FDS
Max discharge pressure: 25 bar
Max flow rate: 500m³/h

Customer brief:
An Italian ice cream manufacturer faced major production issues. Their popular caramel-nut bars were in high demand, but the progressive cavity pumps couldn't handle the thick caramel and hard nut particles. Running six hours a day, five days a week, the pumps' seals frequently failed, contaminating the product with rubber. As a result, large batches were discarded, and maintenance costs soared.

The Solution: The Fristam FDS and The Fristam FDS Nano
Following a free trial, the manufacturer purchased an FDS1 pump and six FDS Nano3 pumps for their multi-stage process:

Bulk transfer:
x1 FDS1 pumped room-temperature caramel (5,000cP) with 5-7mm nut particles from a tank, to 6 dosing pumps at a steady flow rate of 100 l/h.

Precise Dosing:
x6 FDS Nano3 pumps with slow running gear motors dosed the nutty caramel to 24 parallel lines through 4 pipes at 65-135l/h, 3-5 bar.

Low flow pumping:
x1 FDS Nano installed under a cooking vessel fed a cooling tunnel at a low flow rate. A hygienic upgrade for this part of the process.

Outcome:
After upgrading to Fristam double screw technology, the production line resumed at full capacity to meet demands without interruption. End product quality improved, as the pulsation free flow gave the ice cream bars a more even coating. Running maintenance free so far, the 8 pumps are estimated to pay for themselves within just 18 months. Delighted with the transformation the manufacturer plans to standardize with Fristam pumps across all production lines over the next 5 years!

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Fristam
Hygienic Pumping Experts