DOCUMENTATION TECHNIQUE

Têtes de lavage et équipements de nettoyage

Caractéristiques, plans et instructions du fabricant.
Pour le choix de votre équipement et la préparation d'une demande de devis.

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BETE®
PERFORMANCE SPRAY ENGINEERING

Case Study

SOLVING NOZZLE CLOGGING AND SEIZING CAUSED BY STICKY RESIDUE

FOOD PROCESSING INDUSTRY



VESSEL CLEANING SOLUTION

When cleaning sticky residues from tanks and containers, choosing the proper spray nozzle is essential to ensure optimal cleaning, prevent costly maintenance, and minimize downtime.

▶ PROBLEM: NOZZLE SEIZING DURING OPERATION

A prominent beet sugar producer in the US contacted BETE for a more effective solution for cleaning their vacuum pan vessels during the crystallization stage. In this phase, thick syrup produced at the previous evaporation stage is boiled to separate sugar crystals from the syrup. Previously, they relied on rotating tank cleaners, which was not ideal – the sticky syrup produced a buildup on the nozzle bearings, causing the nozzles to stop spinning. The nozzle seizure led to increased maintenance expenses and extended periods of downtime.



▶ SOLUTION: HYDROCLAW® CLOG-RESISTANT TANK CLEANING NOZZLE

After testing two BETE tank cleaning nozzles, the HydroClaw against the CLUMP (a manifold design), they discovered the HydroClaw provided superior cleaning results with no interruptions from seizing. The HydroClaw design also ensured that the beet residue could pass through the nozzle easily, preventing clogging issues. Impressed with the initial results, they proceeded to order a second batch of HydroClaw nozzles for further tests that ensured the durability of the prongs under rigorous process conditions.





Results

The challenging environment of the sugar refining process presented numerous obstacles in selecting the right nozzle for cleaning vacuum pans. Rotating tank cleaners proved ineffective because the internal gears seized and prevented the nozzle from working. BETE's HydroClaw nozzles were selected for their durability, free passage, and overall efficiency in cleaning the vacuum pan vessels.

The customer now experiences effective cleaning, minimal downtime, and reduced maintenance, as the HydroClaw has no moving parts. BETE offers a comprehensive range of spray nozzles for tank and equipment washing, each tailored to handle applications with specific requirements. In this case, the HydroClaw stands out as the ideal cleaning solution where clogging can be a problem.

CHALLENGES WITH OTHER TANK WASHING NOZZLES

- Small holes and moving parts lead to clogging
- Nozzle blockage and seizing leads to unreliable cleaning, increased maintenance hours, and less productivity
- The expense of high water consumption from extra wash cycles

ADVANTAGES OF THE BETE HYDROCLAW®

- Unique patented clog-resistant design with no moving parts
- Low pressure/high flow operation reduces water consumption
- 316L stainless steel construction is perfect for clean-in-place (CIP) and food grade applications
- Complete 360° coverage

BETE®
PERFORMANCE SPRAY ENGINEERING

SPRAY NOZZLE & SPRAY SYSTEMS EXPERTS

- ISO 9001:2015 Certified
- The ability to solve unique and complex process challenges
- Trusted nozzle design and manufacturing with consistent quality assurance

BETE is an innovation leader in the development and manufacturing of specialized spray technology solutions.

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