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.

GEDO FRANCE

04 85 88 02 75

tete@gedo.fr

tetelavage.gedo.fr

565 avenue du Prado - 13008 Marseille - France

BETE®
PERFORMANCE SPRAY ENGINEERING

Case Study

IMPROVING CLEANING EFFICIENCY AND WORKER SAFETY

CHEMICAL PROCESSING INDUSTRY

TANK CLEANING SOLUTION



Tank cleaning applications vary in requirements, including tank sizes and types of soils to be removed. While manual cleaning is common, automated processes using specialized spray devices have shown to be successful. Choosing the right tank cleaning nozzle for your specific application is key to achieving optimal results.

▶ PROBLEM: MANUAL REMOVAL OF SLURRY RESIDUE AND PROLONGED CLEANING TIME



A leading manufacturer of specialty chemical additives, essential for catalytic chemical reactions, was challenged by their current tank cleaning process. High-pressure washers were used to manually clean a thick slurry residue inside conical-shaped mixing tanks. The manual cleaning process required the tanks to be opened from the top where the operator was exposed to steam for approximately 45 to 60 minutes per tank. The slurry residue accumulated to a thickness of 6 inches on the interior side walls and 16 inches at the bottom of the tank. The customer was seeking a modification to this process to improve worker safety and reduce the cleaning cycle time.

▶ SOLUTION: BETE HYDROWHIRL® ORBITOR ROTARY JET TANK CLEANING MACHINE



To address the challenge of heavy residue, BETE Engineers recommended the HydroWhirl Orbitor rotary jet tank cleaning machine, known for its superior performance with high-impact solid jet streams. For the initial test, two Orbitors with a 180° spray pattern were installed approximately 1/3 from the ID and 6 inches above the mixing paddles of the 10-foot diameter by 13-foot-tall vessel. While the initial cleaning performance was impressive, the customer wanted to conduct a trial using only one Orbitor with a 360-degree spray pattern. This trial proved to be even more effective, leading to the decision to implement a Clean-In-Place (CIP) system for convenience and safety.



Results

The manual cleaning process posed risks to workers and required a longer cleaning cycle, especially with heavily caked residue. Implementing rotary jet tank cleaning machines offered an automated solution, eliminating the need for hazardous manual labor. BETE's HydroWhirl Orbitor was chosen for its powerful jet streams and effective removal of the slurry residue.

The company saves approximately 2,500 hours annually by automating their process using tank cleaning nozzles. This has not only improved efficiency but eliminated worker exposure to dangerous steam, reducing the risk of injury. The company was particularly impressed by the low maintenance requirements and ease of repair. The HydroWhirl Orbitor has proven to be the ideal solution for effectively and efficiently removing challenging substances in less time.

CHALLENGES WITH MANUAL CLEANING

- Significant labor
- Excessive maintenance time
- Inconsistent and less effective cleaning
- Risk for injury
- High water consumption

ADVANTAGES OF THE BETE HYDROWHIRL® ORBITOR

- High-impact jet streams easily remove difficult soils
- Complete 360° spray coverage for reliable cleaning results
- Minimal moving parts, easily repairable on-site
- Reduces cleaning cycle times
- Clean-In-Place (CIP) improves worker safety and less labor intensive

BETE®
PERFORMANCE SPRAY ENGINEERING

SPRAY NOZZLE & SPRAY SYSTEMS EXPERTS

- ISO 9001 Quality System ensures the quality of all BETE products
- Over 70 years of experience solving unique and complex spray challenges
- Innovators in nozzle design, fabrication, and complete spray system solutions

50 Greenfield Street,
Greenfield, MA 01301 USA

800-235-0049
413-772-0846

www.BETE.com
sales@BETE.com