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

CORROSION PROBLEMS
TANK WASHING APPLICATION



HYDROFLUORIC ACID TANK WASHING SOLUTION

Cleaning tanks that contain corrosive materials can be problematic. The corrosion-resistant materials used to make the vessels are not usually ideal for manufacturing tank cleaning nozzles. When the environment is corrosive to even the highest grade steels, tank cleaning solutions are limited – particularly in larger tanks where rotary tank cleaners are required.

▶ PROBLEM: CORROSION OF THE TANK CLEANER

Hydrofluoric acid (HF) is well known for its ability to dissolve many materials, including glass. Many traditionally "chemically resistant" materials, including stainless steels, are not suitable for use in an environment where HF exposure is likely.

To make matters worse, HF can cause crystallization of waste products onto surfaces in many applications – which may clog the nozzle and increase downtime. A chemical processing plant approached BETE to procure a tank cleaning system for such an environment.



▶ SITUATION: LARGE TANKS

The tanks were quite large for this type of application, requiring a cleaning diameter of four meters. Static nozzles are generally not a feasible solution in this case, and the crystallization problem is likely to cause frequent clogging in the small orifices found in many nozzle designs. Most spinning or rotary tank cleaners could achieve the required reach, but metallic components will not last very long in the tanks.





SOLUTION

The HydroWhirl Poseidon is one of the few wholly PTFE rotary tank cleaners on the market. With no metal parts, the HWP's PTFE construction is resistant to higher concentrations of HF. PTFE also has the advantage of having one of the lowest friction coefficients in any material.

So, the properties of PTFE solves both challenges. PTFE is highly resistant to HF corrosion, and its non-stick properties mitigate the crystal deposit problem. BETE recommends following proper filtration guidelines (process specific) to ensure optimum performance and longevity of the HWP.

THE HWP IS AN ALL PTFE TANK CLEANER SUITABLE FOR SEVERAL SPECIALIST TANK CLEANING SITUATIONS IN THE CHEMICAL INDUSTRY. EXAMPLES INCLUDE:

- Glass-lined vessels
- Corrosive environments
- Compatible with a variety of caustics and solvents

CHALLENGES WITH OTHER TANK WASHING NOZZLES

- Not enough reach from static nozzles
- Frequent clogging due to crystallization
- Corrosion of metallic parts in other rotary nozzles

ADVANTAGES OF THE BETE HYDROWHIRL® POSEIDON

- Complete PTFE design offers ultimate corrosion resistance
- Non-stick surfaces limits bearding and residue deposits
- Slow, steady rotation executes efficient cleaning
- Complete 360-degree coverage



BETE®
PERFORMANCE SPRAY ENGINEERING

WHY CHOOSE BETE FOR YOUR TANK WASHING NEEDS?

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

BETE's innovative spray technology is manufactured with durable and corrosion-resistant materials to perform in harsh chemical processing environments.

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