



THE
SPRAY NOZZLE
PEOPLE

Case Study

TANK CLEANING



AGROCHEMICALS PROCESSING SOLUTION

01273 400092

www.spray-nozzle.co.uk

Upgrading process vessels offers an opportunity to take advantage of today's super efficient CIP systems. Saving water while delivering high impact cleaning can seem an impossible challenge but modern rotary systems can do just this and more. Their versatility, small size and light weight also bring other benefits, making them a popular choice when companies look to modernise production.

► PROBLEM:

A UK-based manufacturer of agrochemicals was looking for a solution to clean 20 of its chemical processing tanks. The residue left by the product was thick and sticky and therefore any cleaning system needed to deliver a high impact action across the entirety of the tank walls. The tanks were a variety of sizes, from 5m³ up to 30m³, and the client ideally wanted a one-size-fits-all solution that would provide a consistently high level of cleaning across all of the different sized vessels.

► SITUATION

The client was upgrading its production to steel tanks. It had previously used plastic processing vessels and had used a spray ball cleaning system as it was concerned that the high impact delivered by other CIP nozzle systems might damage the plastic of the old tanks. With the upgrade to the more robust steel tanks, however, it was considering options that could deliver a higher impact and thus a higher level of cleaning whilst also reducing water consumption.

The client was able to supply water up to 9 bar. The openings available for the nozzle were 150mm. The tanks each had two agitation baffles, one on either side, and a paddle mixer in the centre.



Orbitor Compact - système de nettoyage très puissant, petite



WHY CHOOSE SNP FOR YOUR TANK CLEANING NEEDS?

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

With SNP you get our world-class customer support from an industry pioneer who has been creatively solving problems for many decades.



THE
SPRAY NOZZLE
PEOPLE

01273 400092

www.spray-nozzle.co.uk

The Solution

SNP proposed the use of Orbitor Compact rotary jet cleaners.

The 4x4mm Orbitor Compacts were recommended as these could clean all of the different sizes of tank and were able to comfortably fit through the 150mm opening. Two Orbitors were proposed per tank to counter the effect of shadowing caused by the baffles and the central paddle mixer.

At the 9 bar available pressure, each Orbitor would give a flow rate of 113 l/min and a cleaning cycle time of 11.5 minutes. This equated to 2599 litres per cleaning cycle per tank, a significant reduction on the water used with the previous spray ball system.

While the 4x4mm Orbitor machines would work effectively across all tank sizes, the client did choose to use a more powerful model, the 4x6mm, in its largest tanks for added reassurance.

► CHALLENGES

- Sticky residue requiring high impact
- Ideally same solution for different sized tanks
- Required a reduction in water consumption
- Baffles on either side of tank

Spray characteristics:

Flow rates: 48.3 - 198 l/min
Working Pressure: 4 - 12 bar
Jet length: Up to 8.6 metres
Wash pattern: 360°
Cycle times: 9.5 - 22 minutes

Materials:

Housing: 316L
Nozzle Head: 316L
Gears: PEEK + 316 SS
Bushings: Carbon Filled PTFE

Weight: 2.5Kg

► ORBITOR COMPACT ADVANTAGES

- Reduces cycle times
- Self cleaning
- Self lubricating
- Made from 316ss
- Small - can fit through 85mm opening
- Robust and light
- Can be taken apart in 15 minutes with no special tools
- ATEX certified for use in all zones and temperatures

Orbitor Eco