

It Takes A Team To Be Clean

ROTTERDAM'S NTC TANKCLEANING USES SYSTEMS FROM GRÖNINGER THAT FEATURE WILDEN® AIR-OPERATED DOUBLE-DIAPHRAGM (AODD) PUMPS TO RAISE THE PERFORMANCE BAR IN CRITICAL TANK-CLEANING APPLICATIONS



Michel Bosch, left, of NTC Tankcleaning, Gerrit Klaassen, center, of Holland Air Pumps, and Henk Klein of Gröninger Cleaning Systems put their heads together to come up with the best solution for NTC's new tank-truck cleaning facility at the Port of Rotterdam. Key to the system's cleaning capabilities are a series of Wilden® Air-Operated Double-Diaphragm (AODD) Pumps.

In May 2013, a steady stream of tanker trucks began to line up outside pristine bay doors, the large gray numerals above each of the huge slatted metal doors signifying one of the available entry points to the 14 positions inside NTC Tankcleaning Services B.V.'s newly constructed tanker-cleaning facility.

The NTC Tankcleaning Services facility in Rotterdam, The Netherlands, is one of the largest tanker-cleaning facilities in Europe. While Rotterdam is well known as one of the largest and busiest ports in the world, where the number of ship arrivals can exceed 36,000 annually, the area may now be noted for yet another essential point of commerce — the state-of-the-art NTC tanker-cleaning facility.

The Port of Rotterdam stretches over a distance of 40 kilometers (25 miles) and it consists of the city centre's

historic harbor area, which was established in the 14th century, and now includes the reclaimed Maasvlakte area, which projects port operations into the North Sea. The region is an entry point for mass volumes of European commerce.

The importance of Rotterdam and the consistent movement of materials through the five distinct port areas and three distribution parks are massive. Facilitating the needs of a hinterland with 40 million consumers, Rotterdam is the perfect place to host an operation with the scale of the NTC tanker-cleaning facility.

Quality And Quantity

For almost 25 years, NTC has been providing complete tanker-cleaning service to both operators and lease companies at cleaning sites in Rotterdam and Moerdijk.

Since 2010, a new depot in the Botlek (part of the Port of Rotterdam) has been operating with an area of 50,000 square meters (164,000 square feet).

The new Rotterdam NTC facility, one of the larger stations in Europe, offers 14 tanker-cleaning positions, which further solidifies NTC as a leader in the tank container cleaning industry. The new facility is key to maintaining future growth in the market for the transport of liquid substances where tank containers are increasingly used.



NTC Tankcleaning's new facility at the Port of Rotterdam offers 14 distinct tanker-cleaning positions, all of which are outfitted with systems supplied by Gröninger Cleaning Systems.

“(The NTC facility) has worldwide coverage coming in for cleaning, but the majority is European-based tank-container operators and lease companies. Eighty percent of our cleaning has a European base and 20% has an international base,” said Michel Bosch, Director of Cleaning for NTC Tankcleaning Services. “On a daily basis we have a full capacity of 350 tank cleanings, but to keep it operational at a certain level we are targeting 200 to 250 cleanings a day.”

The growing need for transporting a myriad of liquids in tanker vessels has also given way to a need for increased regulations and stringent legislation that governs the sanitary conditions and ensures compliance among transporters. Herein lies the importance of a facility such as the NTC tank-cleaning operation.

From corrosive chemicals or lubricants to foods such as yogurt, milk or orange juice, tankers coming into the NTC facility can carry a very diverse listing of materials. NTC's responsibility is to make certain the tanker's interior and exterior surfaces are cleansed, disinfected and sterilized appropriately in preparation for the next load in order to avoid any possible contamination from the previous content.

In addition to providing thorough cleaning services, time is an essential part of measuring the effectiveness of any tank-cleaning operation. “Quality is very important, but it is something that is at the core of every business,” said

Bosch. “The lead time needs to be as low as possible for the drop-offs and the cleaning time as a whole needs to be as short as possible.”

According to Bosch, making the most of the time available to handle a tanker cleaning really boils down to the equipment. “We need to have perfect quality products that are well-maintained and properly operated. That's why we use Gröninger, which is renowned for its quality cleaning systems,” he said.

To Bosch's point, facilities like NTC's massive operation do not build themselves. The impressive NTC tank-cleaning operation in Rotterdam, with its high-tech equipment and specialized features, is made possible by Gröninger Cleaning Systems B.V., Schiedam, The Netherlands, a specialist in high-pressure cleaning systems and equipment. Gröninger's experience brings together specialized equipment with proven distributors and equipment suppliers that work well together. “In Europe, there are about 700 tank-cleaning stations — about 200 of which we have built — that do approximately four million cleanings per year,” said



A number of the 200 to 250 tanks that are cleaned daily by NTC Tankcleaning at the Port of Rotterdam wait in line before being transferred to the cleaning bays.

Henk Klein, Director of Gröninger Cleaning Systems. “Our systems do about 25%, which is one million cleanings per year, meaning that per working day there is about 4,000 to 5,000 cleanings performed by Gröninger Cleaning Systems.”

At its core, the cleaning system is complex. When you look at the service volumes at a facility like NTC's, those numbers can only be obtained by using the most reliable equipment.



A combination of the proper chemicals delivered by high-pressure dosing machinery and sprayers, highly trained and capable site personnel, and various sizes and styles of Wilden® AODD pumps are coming together to make NTC Tankcleaning's new facility one of the foremost in the world.

The NTC facility is filled with high-pressure machines, high-pressure guns, all sorts of rotor jets and spinners that clean the tanks from the inside. According to Klein, the detergent and chemical dosing is highly controlled and the tank is cleaned according to a specific recipe, based on what material was previously carried inside the tank.

"We also do everything that has to do with wastewater treatment, the heating, the steam boiling and the purification systems," said Klein. "We choose to work only with eight suppliers, a standard set of high-end suppliers."

Where There's A Wilden®, There's A Way

In addition to the obvious electronic equipment required to orchestrate the cleaning process, the use of high-pressure pumps is an essential part of Gröninger's successful formula for outfitting a cleaning facility. For a solution, Gröninger has consistently relied on air-operated double-diaphragm (AODD) pump technology from Wilden®, Grand Terrace, CA, USA, part of the Dover Corporation's Pump Solutions Group (PSG®), Oakbrook Terrace, IL, USA.

"For the pumps we use for dosing and wastewater treatment systems, we have been working with Wilden for 25 years," said Klein. "The relationship has developed and has worked quite well. Especially when you look at dosing equipment, which is a major component in tank cleaning."

Together with Wilden, Klein said Gröninger developed a dosing system that ensures a good cleaning result that clearly meets the customers' expectations. The use of dosing pumps makes reliability and required maintenance intervals a necessary consideration for choosing equipment.

"The pump is the heart of the system. The pumps are very, very important, without pumps there is no

cleaning possible," said Bosch. "The reliability of the pumps is paramount. They must be very reliable and the Wilden pumps are extremely reliable. They have proven themselves for years."

Bosch stressed the Wilden pump reliability, but he also mentioned the need for safety, a key consideration when many of the materials that are being removed from the tanker or are used in cleaning it can be dangerous, flammable, corrosive and toxic substances. Cleaning these substances and properly removing the wastewater and disposing of it are a matter of safety and of stringent regulations.

"The chemicals used in tank cleaning are very industrial products and may damage inferior pumps. It's important that the material in the pumps is of top quality," said Klein. "For some purposes, very aggressive chemicals are used and it's important that, together with a supplier like Wilden, we select the right material that is resistant to the aggressive materials used at a tank-cleaning site."

In addition to their compatibility with a wide array of corrosive or aggressive materials, Wilden AODD pumps, which are available in either metal or plastic Original™ clamped and Advanced™ bolted styles, feature a positive displacement operating principle that guarantees the product flow rate will remain volumetrically consistent, which is a critical concern when dosing tank-cleaning chemicals. A variety of elastomer options, including PTFE, are also available to meet any abrasion, chemical compatibility and temperature concerns.

Additionally, Wilden's Original and Advanced Series AODD Pumps are now available with the innovative Pro-Flo® SHIFT Air Distribution System (ADS). The Pro-Flo SHIFT incorporates a revolutionary air control spool that helps



Chemical usage is one of the main cost considerations in a tank-cleaning operation and Wilden® AODD pumps offer the leak-free operation and accurate dosing that helps optimize that chemical usage.

reduce the pump's air consumption by up to 60% with no corresponding reduction in flow or production rate.

To ensure consistency and access to Wilden pumps, Holland Air Pumps, Oirschot, The Netherlands, has been Gröninger's pump supplier of choice for 20 years. Holland Air Pumps works with Gröninger to create solutions utilizing the Wilden pumps. Attaining the proper dose of chemicals in exactly the right percentage, before the pumps are brought to pressure, is very important because chemical usage is one of the major cost components for tank cleaning and the overall quality of the outcome.

"Imagine that you load one product and then need to load the next product, it needs to be clean, if you deliver foodstuffs — yogurt one time, next time orange juice, you don't want contamination," said Gerrit Klaassen, Commercial Director for Holland Air Pumps.

The NTC facility utilizes 40 to 50 Wilden AODD pumps, which have a very broad resistance to whatever might be inside a tanker. According to Klaassen, a Wilden pump can handle a very broad range of products.

"You can pump everything with them — thin to thick, acid to caustic, and never worry about the pump," said Klaassen. "That's very important because they never know what's inside a tanker."

Conclusion

Indeed, client uptime is a key component to success for a Gröninger cleaning system utilizing Wilden pumps. If the tank-cleaning site's pumps stop working, the whole process can be shut down, which is a worst-case scenario for a transport industry business that constantly has its margins under pressure. Downtime for a pump equals a loss of revenue.

"Over the years, we have tried all sorts of pumps for dosing, but we have found in the last 20 years that Wilden really uses the highest quality of materials in their pumps and they have been proven to last in all situations, and we really trust them in our tank-cleaning systems," said Klein.

WILDEN[®]
Part of Pump Solutions Group
A DOVER COMPANY

www.wildenpump.com

World Headquarters

Wilden Pump & Engineering, LLC
22069 Van Buren Street
Grand Terrace, CA 92313-5607 USA
T: (909) 422-1730 / F: (909) 783-3440

PSG[®]
PUMP SOLUTIONS GROUP
A DOVER COMPANY