

May 2016

## **A hidden cleaning solution**

The retractable PopUp Whirly nozzle from Lechler cleans where other systems cannot.

**The compact PopUp Whirly rotating nozzle from Lechler closes cleaning gaps wherever space is limited or where a permanent nozzle system would get in the way. PopUp Whirly nozzles are installed flush with the tank wall and are sealed completely and they are visible only in operation. This nozzle is ideal for cleaning tanks and pipe systems used for supply and discharge applications in the chemical, pharmaceutical or food industries. The inexpensive, easy-to-install rotating nozzle is controlled by its own cleaning medium and is made of high-quality stainless steel. The nozzle guarantees reliable cleaning results and is undoubtedly the only solution available in this segment.**

Based in Metzingen, Germany, Lechler offers a wide range of integrated cleaning solutions for cleaning containers, tanks and industrial installations. The systems are tailored to their corresponding applications and feature extremely versatile and efficient nozzle technologies.

However, there is not always space available for external installation of a cleaning system because it would either interfere with mechanical components or the relevant processes.

This is particularly true for numerous supply and discharge lines, pipes and ducts in the chemical, pharmaceutical, cosmetic and food industries. Whether it is a liquid, gas, powder or granulate substance, they all have to be transported through these systems and have to be cleaned from time to time in order to avoid, soiling, mixing and cross-contamination. If possible, this should take place with less disassembly time or excessive cleaning work, which would mean long downtimes.

Lechler has developed the compact PopUp Whirly rotating cleaning nozzle for cleaning applications in confined spaces and to supplement large-area cleaning systems (e.g. eliminating spray shadows). The unique

feature of this system is that the nozzle appears only during the cleaning process. The system is integrated flush inside the tank wall. With a fluid pressure of approximately one bar in the supply line, it pops out of the housing and the rotating nozzle starts to rotate with its flat jets. The recommended operating pressure is 2 bar or 30 psi. If the pressure falls as a result of the pump being switched off or a valve closing, the rotor is retracted to a closed position again by a spring. Operation with foam is also possible. Since the PopUp Whirly is driven by its own cleaning medium, no pneumatic or electrical connections are necessary.

The PopUp Whirly is used in fluidized bed dryers and granulators at the Swiss company Mino Engineering AG, which is based in Muttenz, Switzerland. They are a manufacturer of fluidized bed systems for the pharmaceutical, chemical and food processing industries. The nozzle is used for pre-washing easy-to-clean products in combination with removing heavy soiling such as encrusted or adhering contamination.

*"The PopUp Whirly is a powerful, inexpensive, flush-mounted and retractable cleaning system which we are pleased to use for efficient pre-washing of our fluidized bed systems. The fact that the PopUp Whirly does not require additional operating energy and also does not need any control connections makes it a particularly attractive solution,"* says Lukas Frey, Chief Engineer at Mino Engineering AG.

At a manufacturer of cosmetic powders, it took two employees at least two to three days to clean with their existing installation.

When designing the new installation, the goal was to reduce the cleaning time.

Thanks to the PopUp Whirly retractable rotating nozzle from Lechler, the cleaning job is now completed in within one to two hours for the new installation. The company, headquartered in Augsburg, is part of the Hosokawa Micron Gruppe and produces mechanical process machinery which manufactures fine powders. These machines among other things are needed in the cosmetic and pharmaceutical industries. When crushing and preparing face powders, the high grease content requires high demands for cleaning mills, pipelines and cyclones. The available installation space is often small, and non-retractable cleaning nozzles

would be located in the middle of the bulk goods and would interfere with the material flow or flow in the cyclone separator.

The PopUp Whirly from Lechler makes it possible for Hosokawa Alpine AG to appreciate closed installations with compact dimensions. Without having to open the production equipment, the retractable rotating nozzles clean the entire installation in a very short time. *"Using the PopUp Whirly nozzle from Lechler allows us to realize much more compact mill designs. And compact dimensions are a major factor in realization of CIP-capable mill installations,"* says Olaf Born, Engineering Team Manager in the Pharma & Lab department at Hosokawa Alpine.

The rotating cleaning nozzle is available in two sizes with diameters of 38 or 50 millimeters for a maximum spray diameter of 0.8 or 2 meters. The compact nozzle can be installed easily and flush in the tank wall with the connection of a threaded or special flange, depending on the hygiene requirements. The nozzle is connected to the supply line by an easy-to-handle Tri-Clamp standard fittings.

The new PopUp Whirly is made of high-quality materials (AISI 316L, PEEK). The spring material is made of AISI 316Ti, and the entire design as a result has a high level of corrosion resistance. CIP- and SIP-capable O-rings made of FKM guarantee reliable sealing in closed conditions. The simple, high-quality system design, ease of assembly and service all lead to relatively low investment costs.

The PopUp Whirly rotating nozzle from Lechler closes a cleaning gap in areas that previously had to be cleaned manually with a great deal of time and effort. When planning new installations or retrofitting existing systems, it is worthwhile to develop an integrated cleaning concept from early on and obtain corresponding advice from the experts for cleaning technology. Based on individual requirements, the cleaning goals can be turned into efficient cleaning concepts. This is particularly important if perfect hygiene is essential in order to achieve uniform, high quality products.

The Metzingen-based nozzle specialist Lechler offers a wide range of precision nozzles for industry, metallurgical, environmental and agricultural sectors. With a history that dates back to 135 years, the company is long established in the industry. Lechler provides technical

advice and support for companies from the planning stage, through the manufacturing process up to the operating phase. The goal is always to achieve reliable and highly automated cleaning solutions that plant and machine operators can rely on.

*Illustrations (see email attachment for files)*

- *PopUp Whirly product photo*
- *PopUp Whirly spray pattern*
- *PopUp Whirly installation situation*