

# LECHLER NOZZLES FOR CONTAINER AND TANK CLEANING

When it comes to tank and container cleaning, efficiency has the highest priority. Cleaning has to take place quickly and thoroughly to ensure that no residues are left. The Lechler nozzle range offers innovative nozzle technologies as well as a large selection of sizes and materials for cleaning and flushing containers, tanks and

induction hoppers as well as for homogenization of tank contents.

**The scope of our portfolio is unique on the market and offers the perfect solution for every application. Application fields include plant protection, animal husbandry (feeding, milk industry) and wineries.**



## Nozzle selection

The choice of the right Lechler rotating cleaning nozzle or a suitable static spray ball is determined primarily by the type of dirt to be cleaned and the tank diameter.

Rinsing is often sufficient in the case of non-adhering substances. Static spray balls meet these requirements. However, the higher the level of soiling and the more

stubborn the dirt, the more important the jet force of the nozzle. In such cases, cleaning with rotating cleaning nozzles is recommended. It must be ensured that the

diameter of the tank to be cleaned is smaller than the maximum possible tank diameter specified for the nozzle.

	Injector agitator nozzles	„WallCleaner“	Static spray ball 540/541	„MicroWhirly“ 500 and 566	„ContiCleaner“	„MiniWhirly“ 500.186	„CanCleaner“	„MiniSpinner“ 5MI
Spray geometry								
Page	88	89	94	95	95	96	96	97
Rinsing of container and tank	●●	-	●●	●●	●●	●	-	●●
Rinsing inside of induction hopper	-	●●	●	●●	○	●	●	-
Rinsing of canister	-	-	●	●	-	●	●●	-
Continuous internal cleaning	-	-	-	●	●●	●	-	-
Function and max. rinsable diameter	Mixing of liquids	Rinsing of products and side walls cleaning	Rinse up to max. 6 m	Rinse up to max. 1,6 m	Rinse up to max. 1,6 m	Rinse up to max. 1,3 m	Rinse up to max. 1,3 m	Rinse up to max. 2,6 m
Features	efficient mixing	Rinsing up to under the edge	high operating reliability	Easy start-up thanks to slide bearing	reliable start-up at low pressure	ball bearing-mounted	increased flow rate towards canister bottom	efficient rinsing of big tanks

●● = very well-suited ● = well-suited ○ = less well-suited - unsuitable

## Nozzles for cleaning and rinsing

### Static

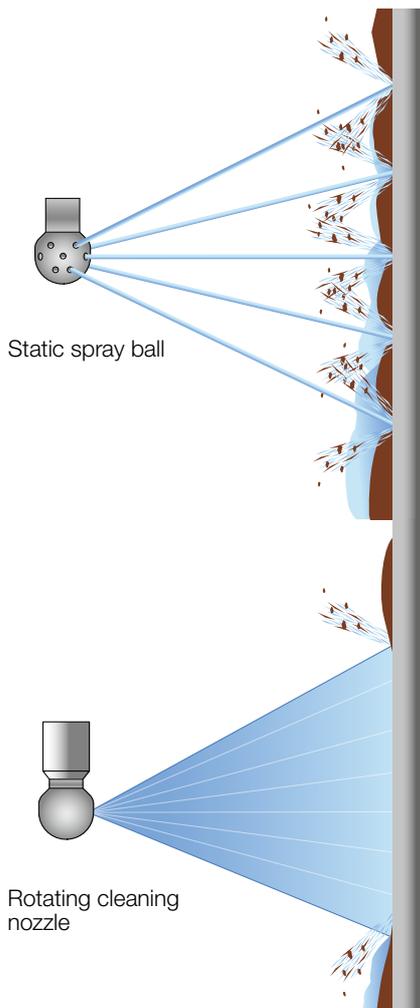


Static spray balls do not rotate and therefore require considerably higher liquid quantities. They are used primarily for rinsing tanks. They are inexpensive to purchase and are very robust (trouble-free).

### Free-spinning



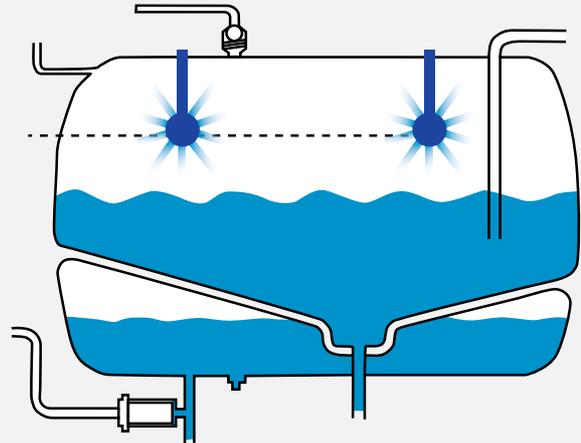
The cleaning fluid drives the spray head by means of specially aligned nozzles. The rapidly repeated impacts detach the dirt and rinse it from the tank surface. This results in optimum cleaning efficiency at low pressures in small to medium-sized tanks.



### Nozzle positioning

The nozzles must be positioned in the upper part of the tank where possible. It must be ensured that sufficient cleaning fluid reaches the tank ceiling.

When cleaning large tanks, it is essential to install several nozzles. The nozzles should then be positioned so that their spray jets overlap. The spray jet can then reach almost every surface to be cleaned.



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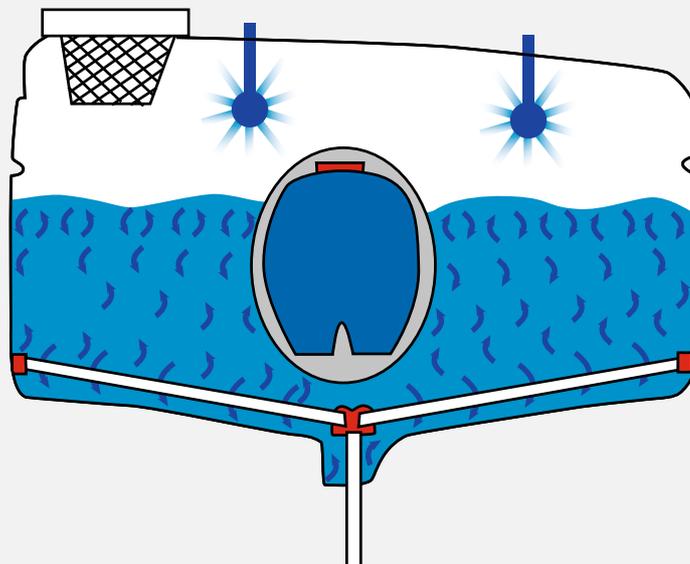


## Avoidance of spray shadows

Baffles, agitators or lines prevent the spots behind them from being impacted directly by the spray jet of the tank cleaning nozzle. Cleaning by direct impact is not possible in these spots.

For this reason, several nozzles must be used in tanks and containers with built-in equipment.

The number of nozzles should be chosen so that the spray shadows of the individual nozzles are eliminated.



### Nozzles for continuous internal cleaning

In the case of continuous internal cleaning, the nozzles are selected according to the working width of the field spray boom (number of nozzles). For an efficient cleaning, the volume flow of the cleaning nozzles should be max. 90% of the total nozzle output (all nozzles – full working width).

A boom sprayer with 15 m working width and 30 nozzles IDKN 120-03 has a total nozzle output of 29,1 l/min at

2 bar cleaning pressure. The nozzles for the continuous internal cleaning need an output of max. 26,2 l/min. This ensures that there remain no spray residues in the tank. The last remaining spray mixture is applied in the field via the nozzles. The number of cleaning nozzles needed, depends on the shape of the tank and on fittings such as, for example, baffles in the tank. It is important that all corners are

cleaned and that there are no dead angles. The “ContiCleaner” has been designed especially for this application. It runs easily with reduced volume flow even at low pressure. For larger working widths, depending on the total nozzle output, the “MicroWhirly” or the “MiniWhirly” can also be used for continuous internal cleaning.



### Nozzles for agitation and homogenization

After the plant protection product is flushed into the tank of the sprayer, Lechler injector agitator nozzles ensure fast and homogeneous mixing of the spray mixture. The injector effect of the nozzle reinforces the turbulence of the solid jet. As a result, a large volume in the tank can be circulated in a short time with a low flow rate.

Several injector agitator nozzles with a lower volume flow produce a more intensive agitation effect than a single, large agitator nozzle. In particular, corners and suction sumps are reached more effectively. Dead zones are avoided.



The agitator is located centrally in the fluid tank

### Nozzles for induction hoppers

Lechler offers special, user-friendly nozzle technology for induction hoppers. This leads to improved user protection and effectively prevents residues. The induction hopper nozzles clean the wall surfaces of the induction hopper completely up to under the edge.

As a result of the rotating liquid flow, premixing already takes place during induction and therefore ensures lump-free induction of powder plant protection products by the rotating liquid flow.

