

# AVOIDING DOWN TIME AND HAZARDS

**Semi-dry flue gas cleaning process. Previously, safe system operation was often not possible without high maintenance.**

An alkaline washing suspension, in most cases lime slurry  $\text{Ca}(\text{OH})_2$ , is injected into the hot waste gas. The added droplets are evaporated by the transferred heat. At the same time, pollutants such as sulphur dioxide  $\text{SO}_2$ , hydrogen chloride  $\text{HCl}$  and hydrogen fluoride  $\text{HF}$  react with the reactants in the washing liquid. The lime slurry often caused damaging deposits and blockages inside the nozzles and lances.

**Lechler solved this problem by introducing the LOC system.**

**LOC makes images like this a thing of the past!**



Twin-fluid nozzle lances in an existing system, with tables for the frequently necessary disassembly and cleaning of the nozzle lances



Hazardous manual cleaning of the nozzle with acid



» When lime slurry suspension is being sprayed, the LOC cleaning system very effectively prevents deposits from forming on the nozzles.«

Dipl. Ing. Jörg Gödde,  
EGK Entsorgungsgesellschaft  
Krefeld GmbH & Co. KG



» By preventing formation of lime deposits in the mixing chamber and at the outlet of the twin fluid nozzle, the LOC method ensures a fine droplet spectrum with the minimum amount of maintenance.«

Prof. Dr.-Ing. Dieter Wurz,  
Baden-Baden

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**Test our mobile demonstration system!**

A demonstration system is available for making a direct comparison with your existing installation. This enables an existing nozzle lance to be connected to a mobile Lechler online cleaning system on site and tested without major effort.



Our experts would be happy to give you their competent advice. For further information please send an e-mail to [info.loc@lechler.de](mailto:info.loc@lechler.de).

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Edition 05/15 · EN · 500 · M-2015-9550-077 · [www.dgm-walliser.de](http://www.dgm-walliser.de) · S · Subject to technical modifications.

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## The Cleaning-in-Place System for Twin-Fluid Nozzle Lances



FLUE GAS CLEANING  
**GREATER ECONOMY  
 THANKS TO MINIMUM MAINTENANCE**

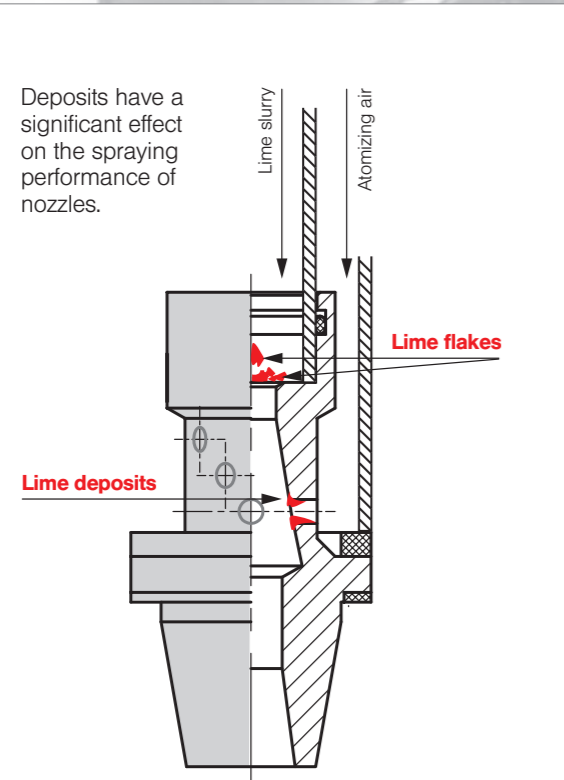
In flue gas cleaning processes at refuse incineration plants and power stations, lime slurry is repeatedly injected into spraying towers. In most cases, twin-fluid nozzle lances are used for these injection operations. With the lime slurry concentrations used for the flue gas cleaning, there is a significant risk of the pipelines, nozzle lances and nozzles becoming blocked.

In such plants, the safe operation of twin-fluid nozzle lances requires frequent disassembly and cleaning of the nozzle lances by maintenance staff, which can result in expensive downtime. Good process-related results are obtained at the cost of high maintenance.

**Lechler is your reliable partner.**

As a recognised specialist company for twin-fluid nozzle lances with unsurpassed experience in flue gas cleaning, Lechler regards itself not merely as a manufacturer of these high-grade components, but also as an effective contact partner when it comes to the economy of the entire system.

Trust in our know-how based on over 130 years of practical experience, and the advantages that only a globally active company can offer.



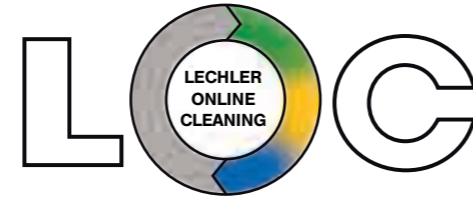
Deposits have a significant effect on the spraying performance of nozzles.



Nozzle blocked as a result of operation with lime slurry



Automatic cleaning after 45 seconds



**AUTOMATIC CYCLICAL NOZZLE CLEANING WITHOUT PROCESS INTERRUPTION**

**LOC makes your plant more economical.**

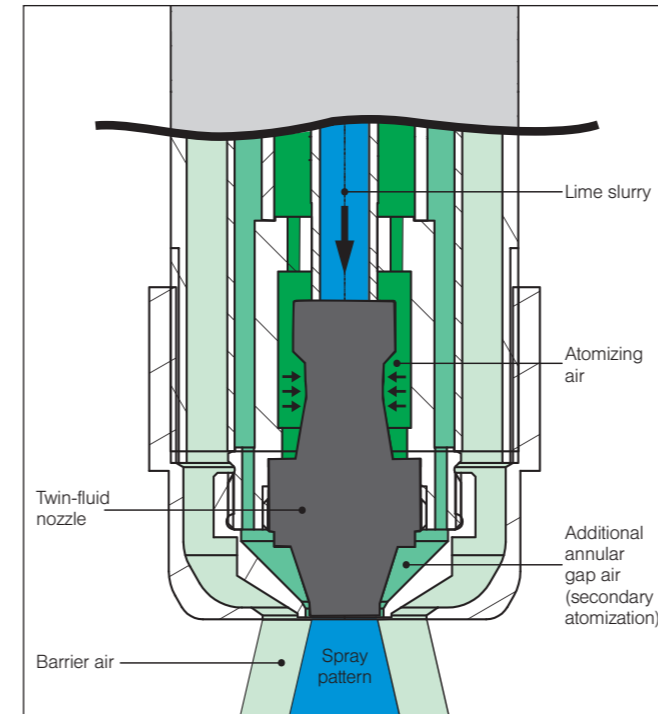
Lechler provides an online cleaning system\* designed for the respective application that allows reliable continuous operation and low-cost cleaning of the nozzle lances:

- Twin-fluid nozzle lances optimised for the atomising of suspensions.
- Cyclical twin-fluid nozzle lance cleaning process with the precisely coordinated use of cleaning and flushing media.
- In many cases, it is sufficient to use diluted citric acid, water and compressed air as a cleaning or flushing medium.
- Compact, robust modules with controller that can also be retrofitted for existing lime slurry nozzles.

**The following modules are optionally available:**

- Tank with agitator for preparing the cleaning liquid.
- Suction unit for the suspension lines of the nozzle lances, for removing larger solid particles and accumulations and separating them in a container.

\* Patent pending



**The latest nozzle technology.**

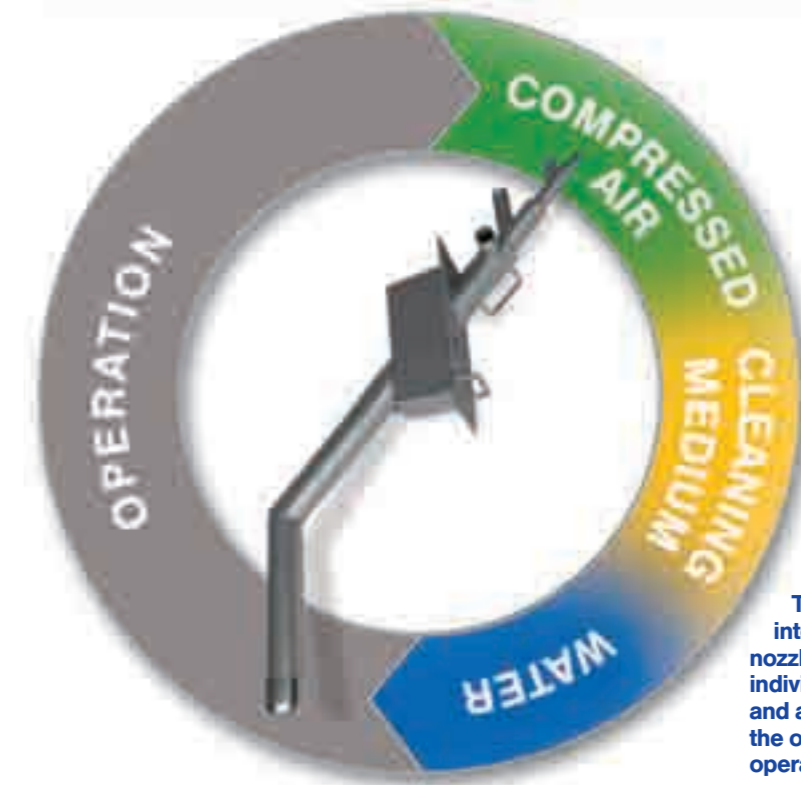
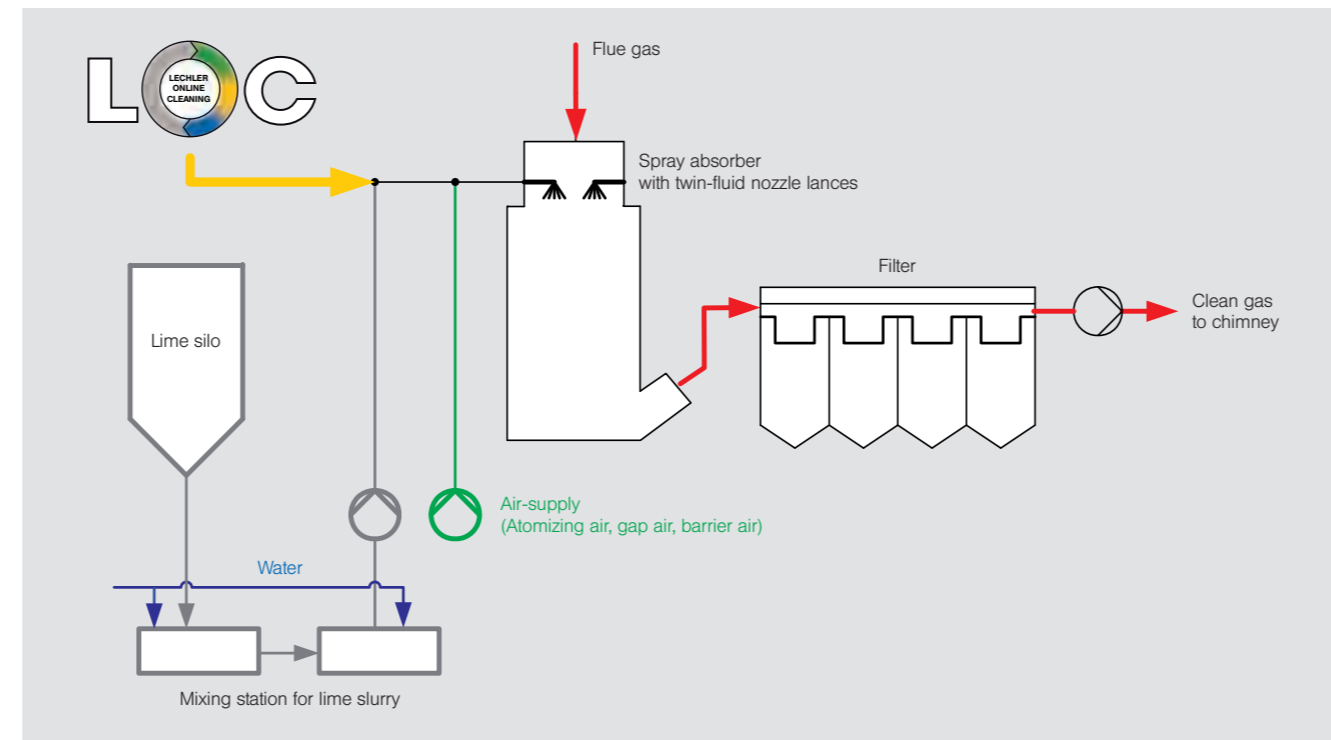
The nozzle\* with annular gap atomization, developed specifically for the atomization of lime slurry, is optimally suited to this type of waste gas cleaning method. The carbide nozzle also sets new standards in resistance to wear and its large free cross sections.

\* Patent pending

**The advantages of LOC**

- Simple integration into new plants
- Low-cost retrofitting possibilities
- Safe function
- Unproblematic consumables
- Significant increase in the entire plant's operating period
- Reduced maintenance costs
- Short pay-back period

Cyclical cleaning



The nozzle and the internal pipes of the nozzle lance are cleaned individually, cyclically and automatically, with the other lances still in operation.



Control unit with integrated controller

