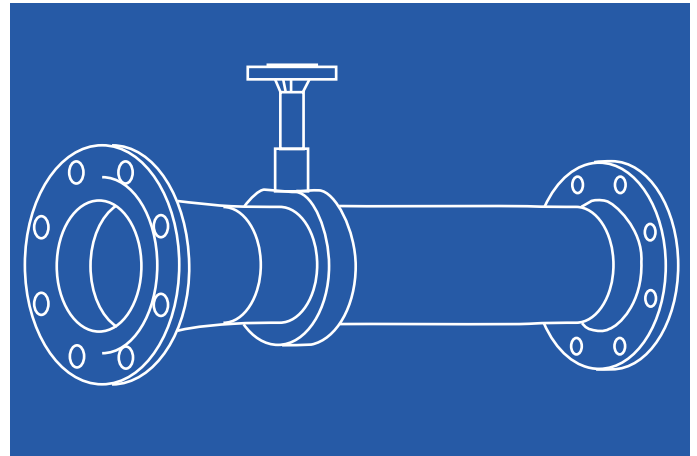


CS-NOZZLE

- Simple design
- Very reliable technology
- Low investment and operation costs
- Maintenance free



The Concept

An innovative gas-injection device, the **CS-NOZZLE** leverages technology based on a pressure drop from 0.5 to 1.2 bar, which results in an expansion-dispersion effect to efficiently mix wastewater, biomass liquor or slurry, and carbon dioxide, oxygen or nitrogen.

Thanks to a high flow velocity, the **CS-NOZZLE** prevents blockage and injects a much higher amount of gas than conventional static mixers.

It is well-suited for all types of installations where:

- Ejector nozzles for distribution already exist
- Gas has to be dissolved into recirculation pipes or closed loops
- There are compact systems with no need for further distribution of the gas-liquid blend

Applicable Industries

The **CS-NOZZLE** is used to pre-treat an effluent prior to further processing for re-use or discharge purposes in municipal wastewater treatment plants and multiple industries, such as:

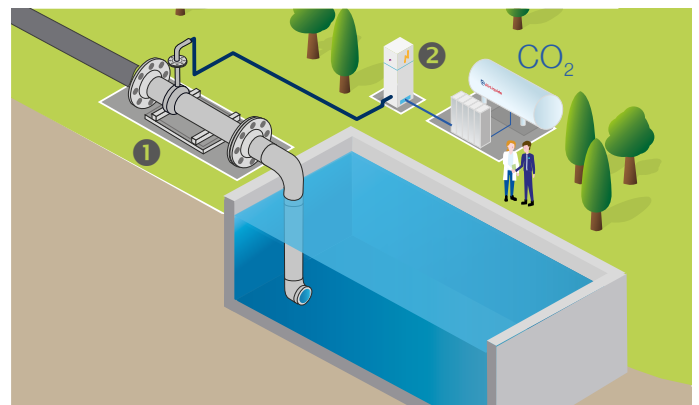
- Dairy Products and Beverages
- Petrochemicals and Chemicals
- Pulp and Paper
- Textiles
- Mining and Extractive Metallurgy

Special Features

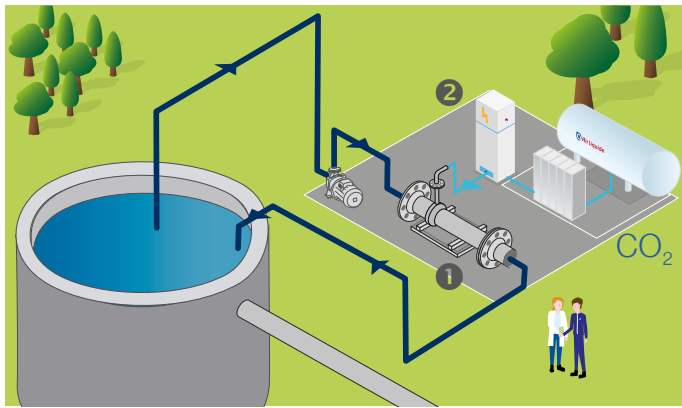
The **CS-NOZZLE (1)** is fed via a pressurizing pump that draws water into it. An intensive mixing of the effluent with gas takes place inside. The gas-water mixture is subjected to a defined pressure drop, so that fine micro bubbles are present at the outlet. The large exchange area created ensures rapid and loss-free gas dissolution.

A **GAS CONTROL CABINET (2)** is installed close to the basin and connected to the gas injection unit.

When used for pH control, it is an essential component of a fully automated neutralization system, which regulates the pH by metering carbon dioxide.



Main pipe configuration (water flow <math>< 500\text{m}^3/\text{h}</math>)



Bypass loop configuration (water flow >500m³/h)

The **CS-NOZZLE** can also be placed in front of an **INJECTOR-BICONE** when a downstream mixing reactor is required.

Technical Data

The **CS-NOZZLE** is typically suitable for volumes from 1 l/h up to 2 000 m³/h.

The determination of the orifice diameter of a **CS-NOZZLE** is based on:

- Processing demand of gas flow
- Liquid flowrate
- Pressure drop

It is available in all DN sizes, from DN6 to DN1 000

Related Offer

The **CS-NOZZLE** is a part of our **Nexelia for pH Control**, **Nexelia for Remineralization** and **Nexelia for Uranium In-Situ Leaching** solutions, which are designed for your specific needs. These comprehensive offers combine the best of our gas-application technologies and expert support. As with all solutions under the **Nexelia** label, we work closely with you to pre-define concrete results, and we commit to delivering them.

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