Neutralization of Alkaline Wastewater with Flue Gas

Problem: Alkaline wastewater is a by-product of many industries. It needs to be neutralized before feeding it to a biological wastewater treatment plant or discharging into a sewer system.

Examples:
- laundries
- beverage and food processing
- mercerization
- leather glue production
- calcareous sandstone industry
- cement factories
- ash removal in brown coal combusting power plants
Neutralization of Alkaline Wastewater with Flue Gas or CO₂

The solution: Neutralization with CO₂ and SO₂ contained in the flue gas

\[
\begin{align*}
\text{NaOH} + \text{CO}_2 & \rightarrow \text{NaHCO}_3 \\
\text{Ca(OH)}_2 + 2\text{CO}_2 & \rightarrow \text{Ca(HCO}_3\text{)}_2 \\
\text{NaOH} + \text{SO}_2 & \rightarrow \text{NaHSO}_3 \\
\text{Ca(OH)}_2 + 2\text{SO}_2 & \rightarrow \text{Ca(HSO}_3\text{)}_2
\end{align*}
\]

Advantages:

- no chemicals required
- low operating costs
- simple process control

Gas transfer: FUCHS CENTROX Aerator for flue gas CX-G

- self-aspiration of the hot flue gas from the chimney without blower assistance
- fine-bubble aeration and high gas uptake rate
- reliable operation
- low maintenance

Subject to change!