


TECHNICAL INFORMATION

LIME SLAKING PLANT

Our lime slaking plant constitutes a system for manufacturing lime milk from quicklime and water. The plant can be designed to function by the batch or continuously.

AREAS OF USE
1.1

Hydrated lime has a very broad spectrum of applications in **environmental engineering**:

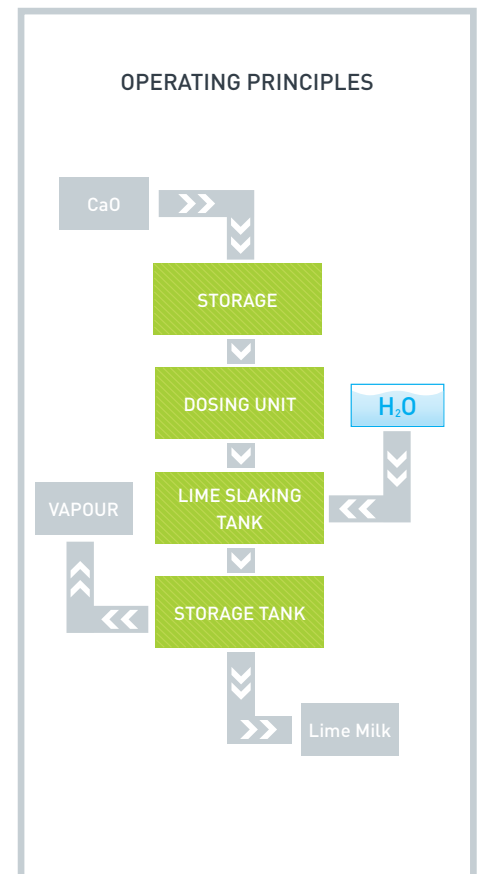
- Flue gas cleaning
- Drinking water treatment
- Wastewater treatment

Lime is also used in a variety of **industrial applications**.

PROCEDURE
1.2

Dosing units for water (H₂O) and unslaked lime (calcium oxide, quicklime) are used to determine the desired concentration of the lime milk suspension. In the lime slaking tank quicklime is mixed with water and a lime milk suspension is created by an exothermal reaction. The concentration is 20 to 25% by weight depending on the lime product used.

The lime milk is diluted to the concentration needed for use in downstream storage tanks. Our plant has the added benefit of a wet scrubber that extracts the vapours generated by slaking from both tanks, scrubs them in a water trap and releases the scrubbed clean air into the atmosphere.



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**LIME
SLAKING
PLANT****PLANT DESIGN****1.3**

Our lime slaking plants are economically viable for a lime consumption volume of 500 t/a or more.

We design your lime slaking plant individually applying the following criteria:

- Quicklime consumption
- Duration of quicklime storage
- Lime milk concentration
- Dosing accuracy
- Duration of storage of lime milk / lime milk buffer volume
- Redundancy requirement of the customer

MAIN ELEMENTS OF THE LIME SLAKING PLANT**2.0**

The main assemblies are as follows:

- Storage
- Dosing unit
- Lime milk tank
- Storage tank
- Pump unit

STORAGE**2.1**

The dimensions of the quicklime silo depend on the requirements for the supply and standby time and the replenishment capacity. The load capacity of the vehicle delivering the lime has to be considered as well. Silo accessories

such as the dust removal unit, level indicator, discharge assistance etc. are selected on a projectspecific basis.

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**LIME
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PLANT****DOSING UNIT****2.2**

The dosing unit consists of a cellular wheel sluice and a downstream lime conveyor screw. The ratio of quicklime to water can be determined volumetrically or gravimetrically.

a) Volumetric dosing

In the case of volumetric dosing, the ratio of powdered quicklime and water is controlled by the speed of the cellular wheel sluice and the current throughput of the slaking and dilution water.

b) Gravimetric dosing

In gravimetric dosing, only the slaking water quantity and then the powdered quicklime are weighed in. Dilution water is added in the downstream storage tank by means of a magnetically inductive flow meter.

THE ADVANTAGES OF GRAVIMETRIC DOSING ARE THE EXACT DOSING ACCURACY AND A CONSTANT, EASILY ADJUSTABLE LIME MILK CONCENTRATION.

LIME SLAKING TANK**2.3**

In the lime slaking tank water and powdered quicklime are mixed together in an exothermic reaction to form a suspension. The slaking temperature is monitored. If a maximum

slaking temperature is exceeded, more slaking water is added and an alarm is signalled. The plant works dust-free when combined with the wet scrubber.

STORAGE TANK**2.4**

The lime milk produced in the lime slaking tank is kept in suspension by constant agitation and diluted to the desired concentration

by the addition of dilution water. The lime milk can be withdrawn continuously.

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A wet scrubber is installed in order to clean the vapours produced in the slaking process. The vapours are cleaned in a water trap

in the centrifugal force principle. Secondary air is regulated from the complete container system by means of adjustable throttles.

PUMP STATION**2.6**

The pump station is designed according to customer requirements. It can be designed as a stub or ring circuit. Withdrawal points from the ring circuit with dosing units for

lime milk are configured individually and tailored to the downstream consumers.

OUR RANGE OF SERVICES COMPRISES:

- › Plant engineering
- › Consultancy and design
- › Engineering
- › Service and provision of spare parts
- › Restoration and modernisation

**CERTIFIED QUALITY –
WE ARE CERTIFIED TO****INTERESTED? GOT ANY OTHER QUESTIONS? JUST CALL OR SEND US AN E-MAIL.****ENGINEERING.
CONSTRUCTION.
SERVICE.**

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