

TECHNICAL DATASHEET

LIME SLAKER

DETENTION TYPE, 0.5 TO 8 TPH QUICKLIME, SKID MOUNTED

Detention-type slakers that convert quicklime to a stable milk-of-lime slurry, complete with grit removal and vapour scrubbing, delivered as a single skid that lands on a plinth and runs.

0.5–8

TPH CAO

82–85

°C SLAKING

15–25

MIN RETENTION

1

SKID

SUPPLIED AS ONE SKID — SINGLE LIFT, SINGLE PLINTH

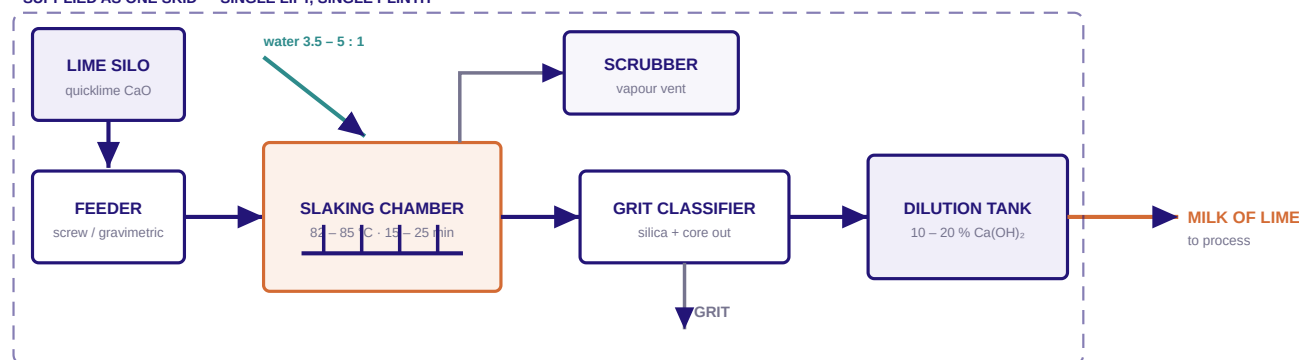


Fig. 1 – Process flow, skid battery limits

HOW IT WORKS

- Quicklime is metered into the slaking chamber by a volumetric or gravimetric feeder.
- Water is added on ratio control to hold the slaking chamber between 82 and 85 °C — the temperature band that gives the highest-reactivity hydrate.
- Retention of 15 to 25 minutes completes the reaction; paddles keep the chamber homogeneous and prevent lime balls.
- The slurry is diluted to the delivery concentration and passes to a grit classifier, which removes unreacted core and silica.
- Vapour from the chamber passes through a wet scrubber before venting.

OPERATING ENVELOPE

PARAMETER	VALUE
Capacity	0.5 – 8 TPH as quicklime (CaO)
Water : lime ratio	3.5 : 1 to 5 : 1 by weight, ratio controlled
Slaking temperature	82 – 85 °C, thermostatically held
Retention time	15 – 25 minutes
Slurry concentration	10 – 20 % Ca(OH) ₂ at discharge
Grit removal	Inclined screw classifier with dewatering zone
Automation	Semi-automatic standard; fully automatic with PLC option
Installation	Skid mounted — single lift, single plinth

SIZE AND SELECTION

Standard build sizes. Filtration areas are calculated from the geometry, not nominal. Intermediate and larger sizes are built to duty — send the slurry, the throughput and the target cake moisture and we will size it against a leaf or pilot test.

MODEL	CAPACITY (TPH CAO)	SLAKING DRIVE (KW)	GRIT CLASSIFIER (KW)	SLAKING WATER (L/MIN)	CHAMBER VOLUME (L)
FLS-05	0.5	1.5	1.0	33.3	833
FLS-10	1.0	2.0	1.0	66.7	1667
FLS-20	2.0	3.0	1.0	133.3	3333
FLS-30	3.0	4.0	1.5	200.0	5000
FLS-50	5.0	5.0	2.0	333.3	8333
FLS-80	8.0	6.0	2.5	533.3	13333

MATERIALS OF CONSTRUCTION

COMPONENT	OPTIONS
Slaking chamber	SS 304 · SS 316L
Paddles and shaft	SS 304 with hardfaced tips
Grit classifier	SS 304 · mild steel epoxy
Dilution and slurry tank	SS 304 · MS rubber lined
Skid frame	Mild steel, epoxy painted
Vapour scrubber	SS 316L · polypropylene

SCOPE OF SUPPLY

- Slaking chamber with paddle agitator and drive
- Lime feeder — volumetric screw or gravimetric belt
- Water ratio control valve, flow meter and temperature control loop
- Grit classifier with dewatering discharge
- Dilution tank with agitator
- Vapour scrubber and exhaust fan
- Skid frame with all interconnecting piping and wiring pre-installed
- Local control panel

NOT INCLUDED

- Civil foundation, grouting, anchor bolts and civil works
- Erection, alignment and commissioning supervision unless separately quoted
- Slurry feed pump, vacuum pump and filtrate pump unless listed in scope
- Power, air, water and effluent lines up to the equipment terminal points
- Instrumentation beyond the items listed in scope of supply
- Any statutory approvals, insurance or third-party inspection charges

OPTIONS

OPTION	WHAT IT DOES
Gravimetric feeder	Loss-in-weight feeder for tight CaO dosing accuracy
Fully automatic PLC	Recipe control, temperature trending, remote enable
Lime silo and bin activator	Storage, aeration and discharge to the feeder
Slurry ring main	Circulating loop with back-pressure valve to prevent settling
Paste slaker configuration	Higher-density paste for lower footprint duty

APPLICATIONS

- Water and effluent treatment — pH correction and softening
- Flue-gas desulphurisation
- Sugar refining — carbonatation
- Mineral processing — pH control in flotation and leaching
- Paper — causticising and lime mud reburning circuits

UTILITIES AT BATTERY LIMIT

PARAMETER	VALUE
Power	415 V ± 10 %, 3-phase, 50 Hz, 4-wire
Control supply	240 V AC 1-phase / 24 V DC
Instrument air	6 bar (g), oil-free, dew point –20 °C
Vacuum	By Filcare-supplied pump or client system, at battery limit
Wash water	Client supply at 3 bar (g), free of suspended solids > 200 µm

INSPECTION AND TEST

- Material test certificates (EN 10204 3.1) for all pressure-retaining and wetted plate
- Dye-penetrant examination of wetted welds
- Hydrostatic / leak test of vat, drum and filtrate lines
- Dimensional inspection against approved GA drawing
- No-load trial run at works: rotation, valve timing, agitator sweep
- Drive and gearbox test certificates from the OEM

PAINTING AND FINISH

Surface preparation to SA 2½, two coats epoxy primer (2 × 40 µm DFT) and two coats epoxy finish (2 × 50 µm DFT). Stainless steel parts supplied pickled and passivated, unpainted.

TO RECEIVE AN OFFER

Send us:

Slurry description and solids concentration · required throughput · target cake moisture · wash requirement · slurry temperature and pH · materials already proven in your plant.

TALK TO US

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Offers are prepared by Mr. T. Srikanth. Machine down? The same number takes breakdown calls.

Filcare reserves the right to alter specifications in the course of development. Dimensions, weights and powers in this datasheet are for selection and budget purposes; certified data is issued with the approved general-arrangement drawing. Document FIL/DS/FLS/01 · Rev 0 · Sep 2026.