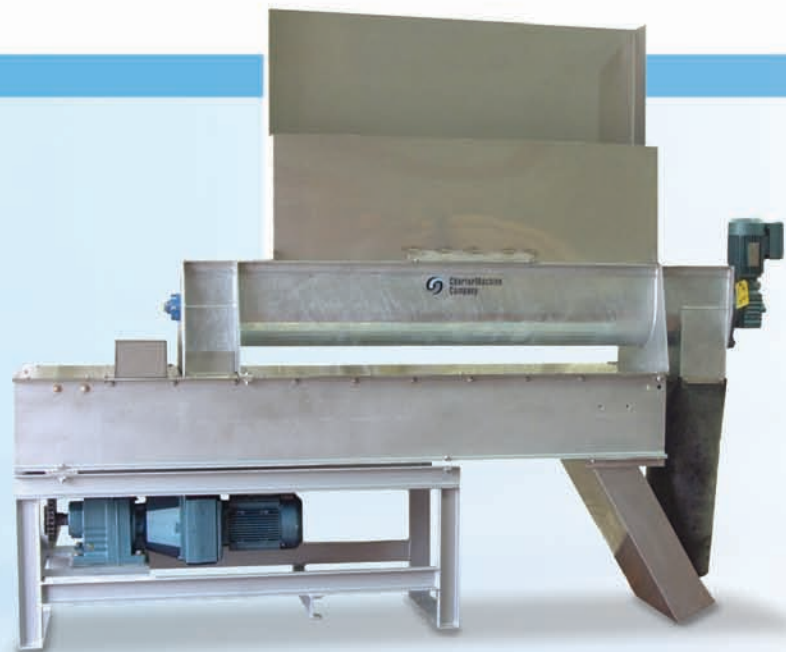




**CharterMachine  
Company**

Better.   
Smarter. Faster.  
**Charter.**



**ROEMIX<sup>®</sup>**

LIME POST TREATMENT SYSTEM

# Quicklime makes quick work of pathogens.

Wastewater sludge can be more easily and more economically neutralized and disposed of in an eco-friendly manner.

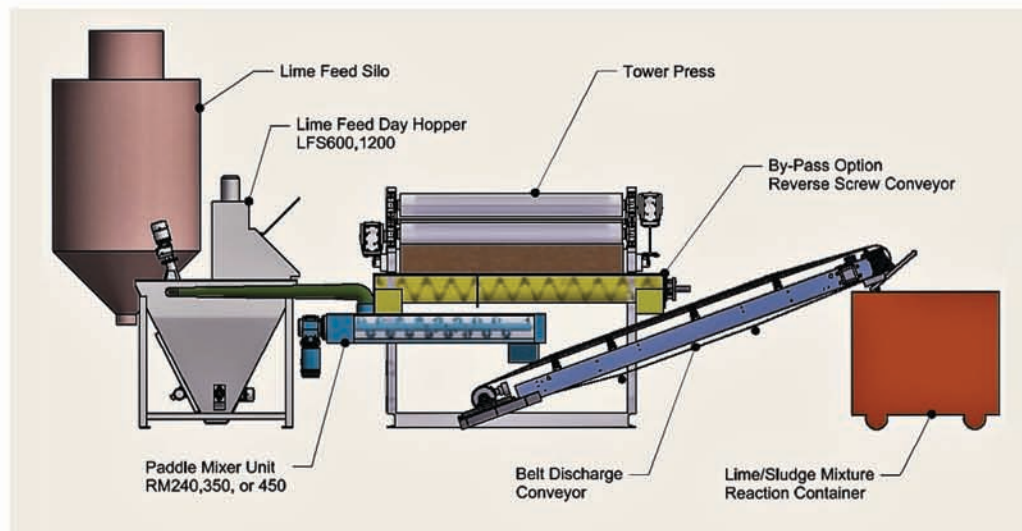
Quicklime treatment controls conditions in biosolids that may support the growth of pathogens. It converts sewage sludge into a usable product and is sanctioned by the U.S. Environmental Protection Agency's biosolids regulations.

More specifically, EPA 40 CFR Part 503 establishes two biosolids classes – Class A and B – that specify performance goals and the degree of treatment biosolids must receive before beneficial use or disposal:

- Class B biosolids contain higher pathogen concentrations than Class A, but have levels low enough for some beneficial uses, such as land application with restrictions. To meet Class B requirements using lime stabilization, the pH of the biosolids must be elevated to more than 12 for 2 hours and subsequently maintained at more than 11.5 for 22 hours.
- Class A biosolids contain extremely low pathogen concentrations and have few or no use restrictions. To meet Class A requirements using lime stabilization, the Class B elevated pH requirements are combined with elevated temperatures (70°C for 30 minutes) or other EPA-approved time/temperature processes.

Because sludge must reach a pH of 12 at temperatures above 50° C to be hygienized sufficiently, only quicklime reacts with the remaining water in dry sludge well enough to produce such high temperatures. Hydrated lime alone isn't as effective. The high pH and a rise in temperature both reduces pathogens and reduces offensive odors as well.

Further, aerobically and anaerobically stabilized sludge, and even raw sludge, can be effectively conditioned with quicklime due to the chemical stabilization resulting from the elevated pH.



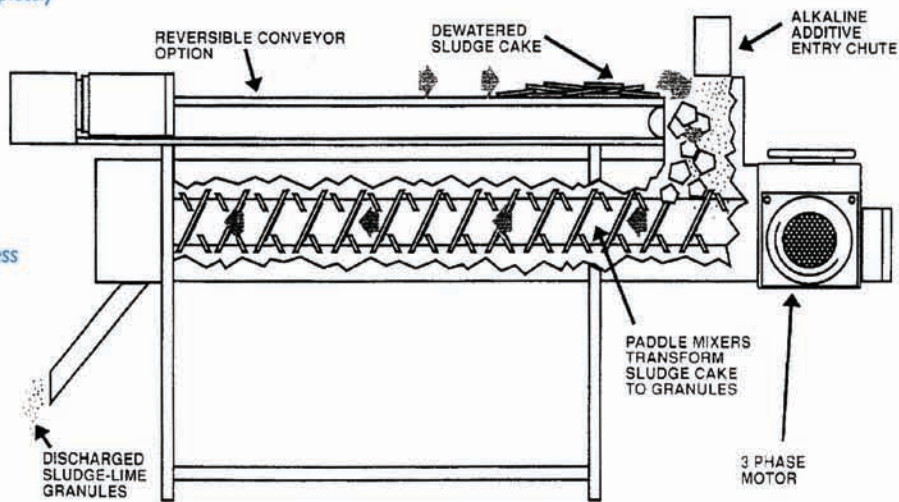
# A better way to do the right thing.

When it comes to sludge, dryer is better. Roediger Lime Post Treatment Modules further dewater sludge creating a dry, crumbly mixture that will not clog equipment and is easy to haul.

## Roemix® Lime Post Treatment Model RM240

The reversible conveyor allows you to bypass the unit completely if liming isn't needed.

Roemix LPT modules use less lime which saves money.



Each one is extremely energy efficient and highly productive handling of up to 42,000 lbs. of sludge an hour.



304 stainless steel paddle construction.

Find the model that fits your capacity demands and contact Charter Machine Company for more information.

SPECIFICATIONS	RM150	RM240	RM350	RM450
Roediger Lime Post-Treatment Module (LPT) Maximum capacity range, lbs. of sludge per hour	2,000-8,000	3,000-12,000	8,000-25,000	14,000-42,000
LPT Mixer Dimensions*				
length, overall (feet)	7.2	9.3	9.3	9.3
width, overall (feet)	2.4	3.0	3.5	4.0
height (feet) variable	1.7	2.0	2.5	2.9
Electrical Power Requirements				
Mixer (hp)	3.0	5.0	7.5	10.0
Reversible conveyor (hp)	0.75	0.75	1.0	1.0

Lime Post Treatment Modules can be added to existing equipment at current facilities.

# Roemix Lime Storage Hopper and Feed System



**MODEL LFS 600**



**MODEL LFS 1200**

## HOW IT WORKS

Pulverized quicklime is conveyed by a 3" elevator screw and a 3" horizontal feed screw. The elevator screw is driven by a mechanically variable traction disc drive with 3/4 HP constant-speed AC motor. The horizontal feed screw is driven by an infinitely adjustable SCR drive using a 1 HP DC motor. Speed control of the drives lies in the lime post treatment or belt press control panel. Lime flow is maintained by means of a double agitator driven by a 0.5 HP constant speed AC drive plus an electrical vibrator, channel mounted on the hopper body.

## SPECS

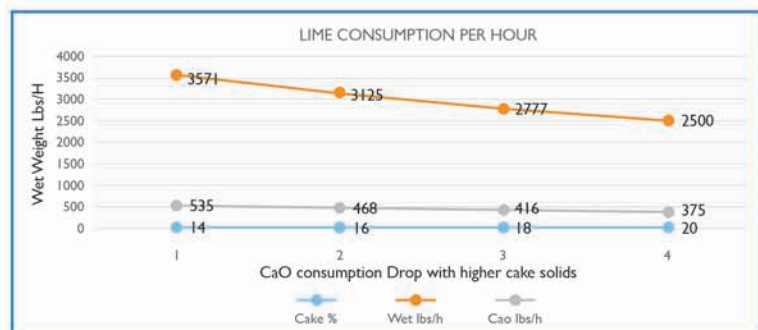
The lime storage hopper is made of welded carbon steel construction, leg mounted, square at the bottom, with sides sloped at 60 degrees minimum to the horizontal.

- Complete with bag shelf and self-supporting lid.
- Comes with loading platform, steps and railings.

## DETAILS

- All external surfaces are primed coated with two part epoxy of four (4) mil dry film thickness plus two (2) finish coats of two part epoxy at four (4) mil per coat dry film thickness.
- Drives and accessories shall be factory coated in similar manner.
- Controls, starters, lights and alarms shall be located in the lime post treatment or belt filter press control panel.

Sample	Infeed Solids %	Flow Rate GPM	LBS/DS/H	Cake %	Wet lbs/h	CaO lbs/h
1	0.5	200	500	14	3571	535
2	0.5	200	500	16	3125	468
3	0.5	200	500	18	2777	416
4	0.5	200	500	20	2500	375



## Optional Loading Platform

The optional loading platform and steps are made of carbon steel tread plate. Railings protect both sides of the steps and all of the platform except stair access and bag dump access. Platform height and orientation allow for comfortable access to the bag shelf. All platforms, steps, and railings if required will comply with OSHA standards.

## Optional Dust Collector

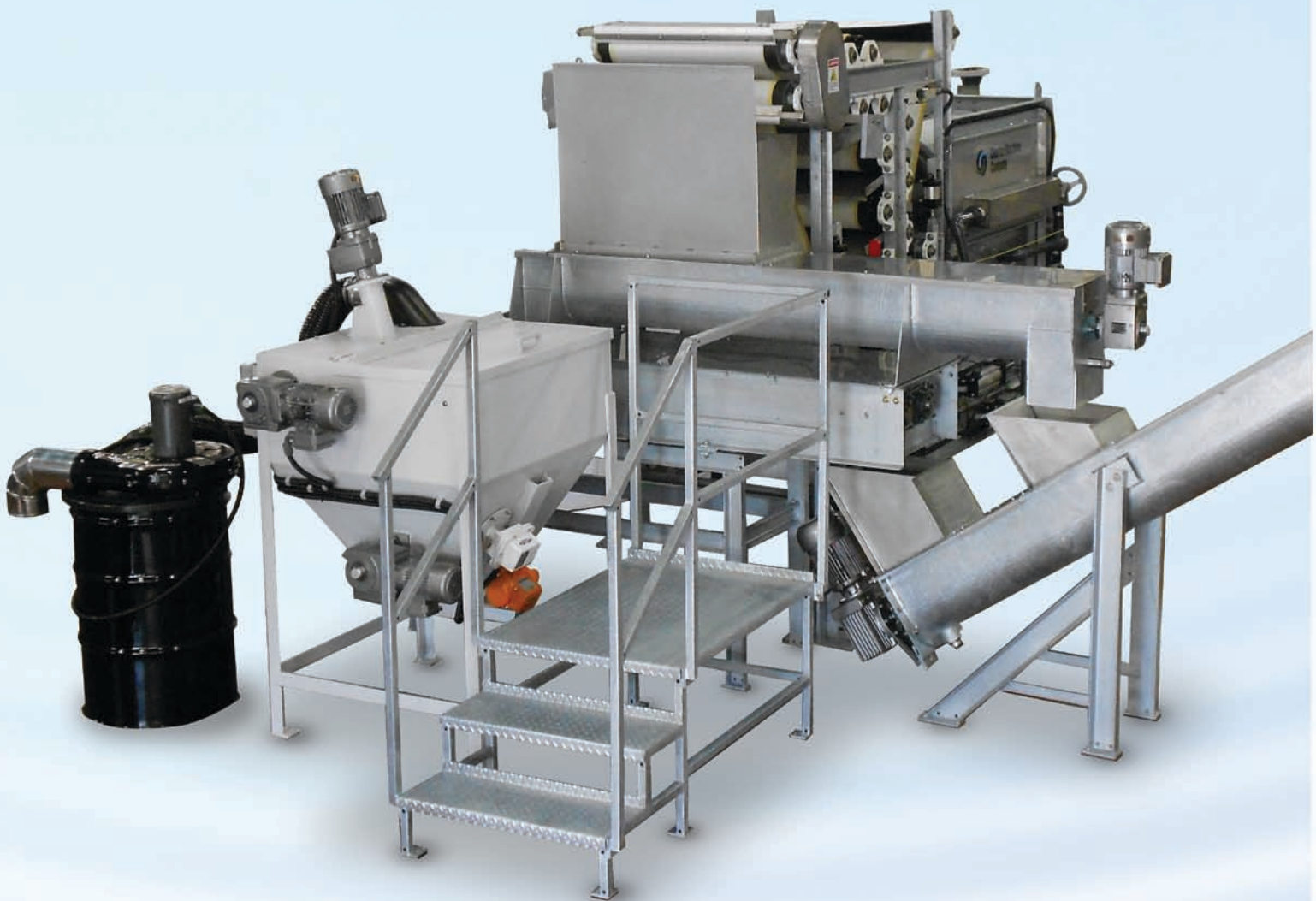
Dust collector is flange mounted to the hopper body and will return collected dust to process without secondary handling, contamination, or waste. Filtered air vents to work area. Cleaning cycle can be automatically controlled by a solid-state timer in a factory mounted NEMA 12 enclosure. The unit has a hinged access door for visual inspection of filter bags. The jet pipe and filter tube are capable of individual removal. Drive is 1 HP AC. The dust collector will require a minimum of 3/4" air connection.

# Saves dollars. Makes sense.

Lime treatment of wastewater solids is already Europe's preferred method of recycling treated sludge. Today, it is quickly being mandated throughout America.

Lime stabilization is generally more cost effective than alternative biosolids options. A series of studies comparing lime stabilization to composting, thermal drying and digestion technologies found that lime stabilization has unit costs as much as 60 percent lower than alternatives. Reduced capital cost requirements of lime stabilization are even more dramatic – particularly with communities with limited capital budgets.

As populations rise and environmental standards tighten, the need for better solutions to sludge disposal becomes more critical. Roemix lime post treatment systems can be an economically-smart and ecologically-sound sludge hygienization option.



# Seamless Solutions for Biosolids Handling and Treatment.

Whether its dewatering, thickening, polymer addition, conveyance or lime stabilization, Charter Machine provides customized and integrated biosolids solutions.

With our in-house staff of design engineers, we have complete control over the design, fabrication and start-up of biosolids systems perfectly suited to your operation. As a result, we can provide seamless total system responsibility -- from sludge testing, to design assistance to equipment start-up and training.

Occasionally our equipment will need servicing. At Charter Machine Company we maintain a complete inventory of replacement parts ready for immediate shipment. Assistance is a phone call away with help in troubleshooting and problem solving. Technicians are available for on-site visits.

We strive very hard to meet all your biosolids processing needs and would welcome the opportunity to be of service.



55 Wester Avenue, Metuchen, New Jersey 08840

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