The Good: The STT ZMI Portec Slaker. We bought the ZMI Portec design because it was one of the best on the market: small footprint, efficient system, jacketed design and seven different sizes to meet many different needs.

The Bad: It had a number of flaws which needed fixing, like a leaky seal and a poor connection for the agitator shaft.

The Best: After we bought the ZMI Portec Slaker we redesigned it and corrected all its issues, in doing so we created the best slaker on the market.

STT ENVIRO CORP
SYSTEMS & SOLUTIONS

ZMI PORTEC LIME SLAKERS

Buy a new one or retrofit your old one

STT Enviro Corp purchased the ZMI Portec line of slakers and improved them significantly:

- **New and improved seal design –** eliminates seal leak issues
- **Improved connection between stub and agitator shaft –** to increase shaft life and reduce seal packing wear/replacement frequency
- **Abrasion resistant steel construction** of the agitator assembly prolongs agitator life
- **Induced draft wet scrubber** eliminates steam and dust issues and makes the environment safer around the slaker, plus it eliminates the need for frequent scrubber maintenance
- **Pre heat jacket-** facilitates production of high quality slurry even at lower slaking water temperature

The STT ZMI Portec Lime Slaker produces 25% (4:1) rich creamy slurry requiring far less storage capacity.

BENEFITS

- Eliminates need to add water that must be removed later – especially for sludge treatment
- Slakes all normally reactive pebble quicklime, powdered to ¾" – no jamming by grit build-up
- Water jacket conserves heat to speed up slaking – in most cases no outside heat source is required
- Continuous monitoring and automatic control of slaking temperature
- 25% slurry reduces scaling in pipes and valves

STT ZMI LIME SLAKERS PROVIDE

- High Solids Concentration (25%)
- Completely Mixed – No Hot Spots
- Accepts quicklime up to ¾" size
- Forced draft wet scrubber for effective steam/dust removal
- Vibrating screen for grit removal (optional)
- 7 different sizes (500 lbs – 26,000 lbs)
- Available with fully automated controls package

SLAKER SPECIFICATIONS

Construction
The ZMI slaker is all welded carbon steel construction (stainless steel available). The water jacket in the slaking zone provides for pre-heating of incoming slaking water thus reducing or eliminating the need for pre-heaters. Jacket and barrel walls are rolled steel plates. Water piping is SCH40 standard but can be upgraded to meet customer requirements.

Instrumentation
The ZMI Slaker is equipped with a temperature transmitter, a magnetic flow meter and a flow control valve to operate in a fully automated fashion after start up. The temperature transmitter controls the slaking water rate to operate the slaker at optimum slaking temperature. Manual valves with solenoids control water to the seals and the dust arrestor. Temperature operated valves supply emergency water in case of a temperature runoff.

The ZMI Slaker is also available with a temperature switch, manual slaking water flow control and a flow-indictor.

Replaceable Wear Plates
Slaking chamber is fitted with wear plates made of ¼" thick steel.

Agitator
Mixing in the slaking zone is provided by an agitator made from abrasion resistant steel. The agitator ensures complete mixing of water and lime. It also prevents formation of hot spots and keeps the grit in suspension at all times.

Combination Seal
A combination of a mechanical and a packed seal ensures that the slaker operates for a long time without any seal leak issues.

Forced Draft Venting
A dual spray wet scrubber combined with a forced draft venturi eductor ensures that the slaker operates at slight vacuum in the slaking zone and all the dust and steam is effectively captured and removed safely. Clean air is vented to the outside while spray water with lime dust is returned to the slaker thus maintaining overall water balance.

Grit Separation
16-mesh, stainless steel vibrating screens act as a positive barrier to any grit and other larger particles and removes them from the slurry thus resulting in longer slurry pump impeller life. The diameter of the screen is based on the slurry flow through it.

Grit Screw
Grit removed by the screen is conveyed to disposal through a grit screw conveyor. The screw conveyor length and diameter is sized to meet the application requirements.

Drive Package
The agitator is driven by a combination of an appropriately sized motor, reducer and pulleys and V-belts. Motors are 3-phase, chemical duty and can be supplied to meet customer specifications.

STT ZMI Portec Lime Slakers

Available in seven models 500 to 26,000 lbs/hr

Model	Ca0 lbs./hr	Drive HP
M-5	1,000	1.5
M-15	2,500	2.0
M-25	5,550	5.0
M-40	9,000	7.5
M-55	12,500	10.0
M-60	16,000	15.0
M-90	26,000	20.0

MUNICIPAL AND INDUSTRIAL APPLICATIONS

Water and Wastewater Treatment

pH Control

Coal Storage Run-off

Heap Leach Mining

Flue Gas Desulfurization

Water Softening

Metal Precipitation

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