

ENHANCEMENTS TO THE ZMI PORTEC DETENTION LIME SLAKER

IMPROVE SAFETY | SAVE MONEY | INCREASE PRODUCTIVITY

■ WETTING BOWL

(See Figure 1 for more details)

Ancillary device added at slaker inlet, which creates a water curtain around the dry feed stream.

BENEFIT: Increases efficiency and saves you money by preventing the buildup of lime, putting more lime in your process. Improves safety due to reduced dusting with less potential for upstream plugging.

■ FORCED DRAFT WET SCRUBBER

(See Figure 2 for more details)

A component that captures the dust and steam by introducing a water curtain across the air stream from the slaking chamber.

BENEFIT: Increases safety by reducing undesired emissions and lowering exhaust temperature. Saves money on wasted lime and maintenance time due to quick access connections and no moving parts.

■ STUB SHAFT TO AGITATOR SHAFT CONNECTION

Centering pilot flanged connection between stub and agitator shafts eliminating any play at joint.

BENEFIT: Saves time and money by reducing seal packing wear, extending shaft life and decreasing replacement frequency.

■ AGITATOR SHAFT BEARINGS

Bearings are external to the slaker where they are not exposed to the lime slurry.

BENEFIT: Saves time and money by minimizing wear and tear due to no contact with the lime slurry. Facilitates easier replacement meaning less maintenance costs.

■ NEW SEAL ARRANGEMENT

(See Figure 3 for more details)

Asymmetric packing type seal arrangement with water flush.

BENEFIT: Improves safety and saves money by reducing seal leaks and extending the shaft life. Increases productivity due to its maintenance friendly design where there is no need for special or precision tooling or training.

■ AUTOMATION/CONTROLS

A programmable logic controller (PLC) monitors inputs and outputs, and makes logic-based decisions to control the system's water flow.

BENEFIT: Increases productivity by producing the best quality lime slurry. Saves you time and money by minimizing the manpower needed to monitor the system.

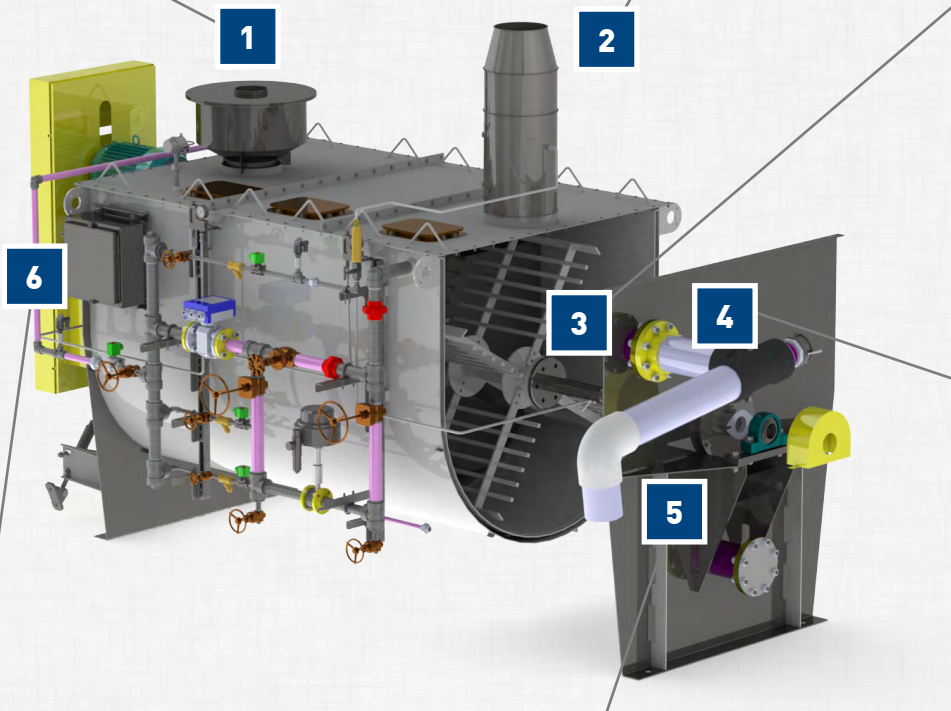
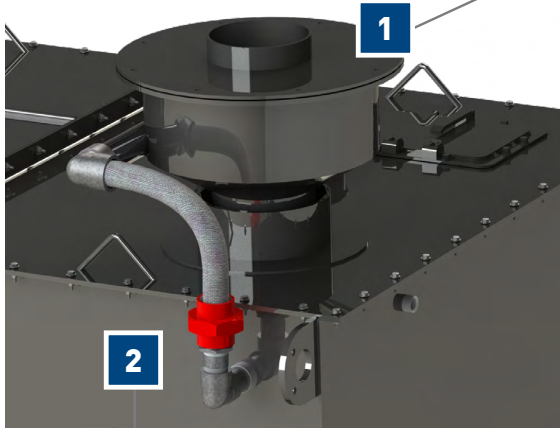


FIGURE 1 - **WETTING BOWL**

A cone of water is created at the lime inlet to prevent any wet lime from plugging the slaker feed inlet.



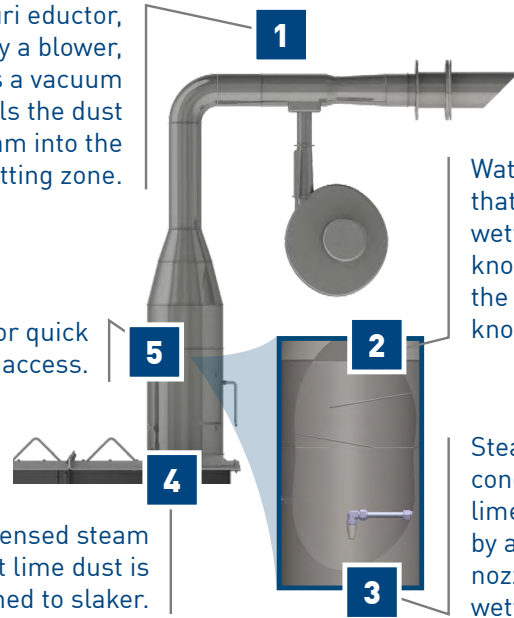
Less lime build up on interior wall and cover.

FIGURE 2 - **FORCED DRAFT WET SCRUBBER**

A venturi eductor, driven by a blower, induces a vacuum that pulls the dust and steam into the wetting zone.

Door for quick inspection access.

Condensed steam and wet lime dust is returned to slaker.



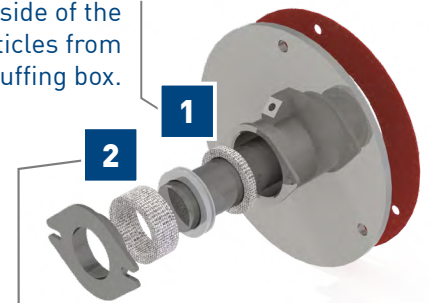
Water particles that escape the wetting zone are knocked out by the baffles in the knockout zone.

Steam is condensed and lime dust is wetted by a water spray nozzle in the wetting zone.

FIGURE 3 - **NEW SEAL ARRANGEMENT**

Gasket spacer(s) on the slurry side of the lantern ring prevent slurry particles from entering into the stuffing box.

Asymmetric distribution of packing rings on two sides of the lantern ring forces flush water into the slaker. This prevents slurry particles from entering the stuffing box and getting trapped between the stub shaft and the packing rings.



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