

Allen-Sherman-Hoff® 3600 Style II Pugmill

Applications

The Allen-Sherman-Hoff® (A-S-H®) 3600 Style II pugmill, offered by Babcock & Wilcox (B&W), combines dry fly ash from a silo with water to form a moist mixture. This mixture is readily transferable and transportable with minimal dust emissions.

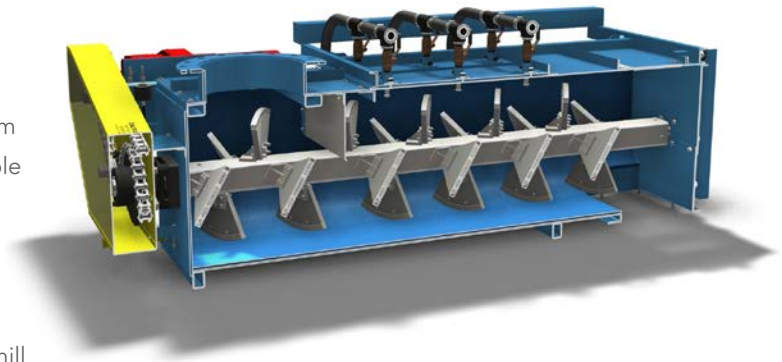
Design Features

The Challenge – To design and engineer a pugmill to accommodate the need for a long lasting, easily maintainable conditioner. Our goal was to create a state-of-the-art design for incorporation into any OEM's system and reduce operating and maintenance costs. We accomplished this by designing a fully assembled unit for ease of installation, using durable materials of construction to lengthen wear life and improve component accessibility for easy on-line inspection and maintenance.

Inlet and Outlet – The standard inlet has an 18 in. (450 mm) flange. The rectangular outlet connects to a discharge chute.

Spray System – The 3600 Style II pugmill has a primary and secondary spray system. The primary system surrounds the inlet and moistens the ash as it enters the pugmill. This design feature reduces airborne dust. The secondary system meters additional water into the mixer to ensure the ash is sufficiently moist to minimize dust emissions while unloading. The water content at the outlet is adjustable depending on your requirements (between 15 to 25%). This pugmill requires maximum water pressure of 50 psi (3.5 kg/cm²) and flow rate of 80 GPM (18.2 m³/h).

Paddle Shafts – The two, single piece shafts have a square cross-section with Ni-Hard paddles mounted on all four sides. The shafts rotate counter to one another in an inward direction toward the base of the



vessel. The paths of the paddles overlap and pass closely to the opposite shaft. This creates a self-cleaning effect on the opposite shaft and exposes all dry pockets of ash to water.

Drive Train – The standard pugmill motor rotates the paddle shafts at 38 RPM. This low speed rotation lengthens retention time, reduces paddle wear and minimizes energy consumption.

Maintenance Accessibility – The new pugmill design allows for easy access and maintenance. The spray system piping attaches to the outside of the mixing chamber enabling the operator to replace nozzles without opening the unit. The chamber is easily accessible through the large, hinged door on the top of the vessel. It secures with quick release toggle clamps. This allows easy access for wash-down of the unit or paddle inspection. The paddle shaft bearing mounts are on the exterior of the mixing chamber allowing the operator to replace seals without removing the shafts or drive components. Shafts are removable by disconnecting the end panels.

Safety – The observation door has a protective screen to prevent the operator from contacting the rotating paddles during operation. A guard encloses the moving parts of the drive to prevent accidental contact.

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Pugmill inlet.



Two paddle options are available

Options

Paddle replacements and upgrades – Two readily interchangeable options are available to meet varying wear and budget requirements:

- **Ni-Hard** – This material is our standard offering on all new equipment. It displays excellent life and wear characteristics on most fly ash applications.
- **Ceramic** – For highly abrasive ash handling applications, ceramic paddles are a favorable alternative to our standard offering. The benefits of ceramic include excellent abrasion and impact resistance. The paddles have a ceramic overlay.

Inlet Metering Devices – Two metering devices are available to control inlet ash flow:

- **V-Orifice Knife Gate Valve** – This 6 in. (152 mm) valve is easily adjustable to ensure desired material flow. It is ideal for metering fly ash into the pugmill.
- **Rotary Feeder** – When silos contain a mixture of fly ash and bottom ash, a rotary feeder is better suited to ensure a consistent feed rate.

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