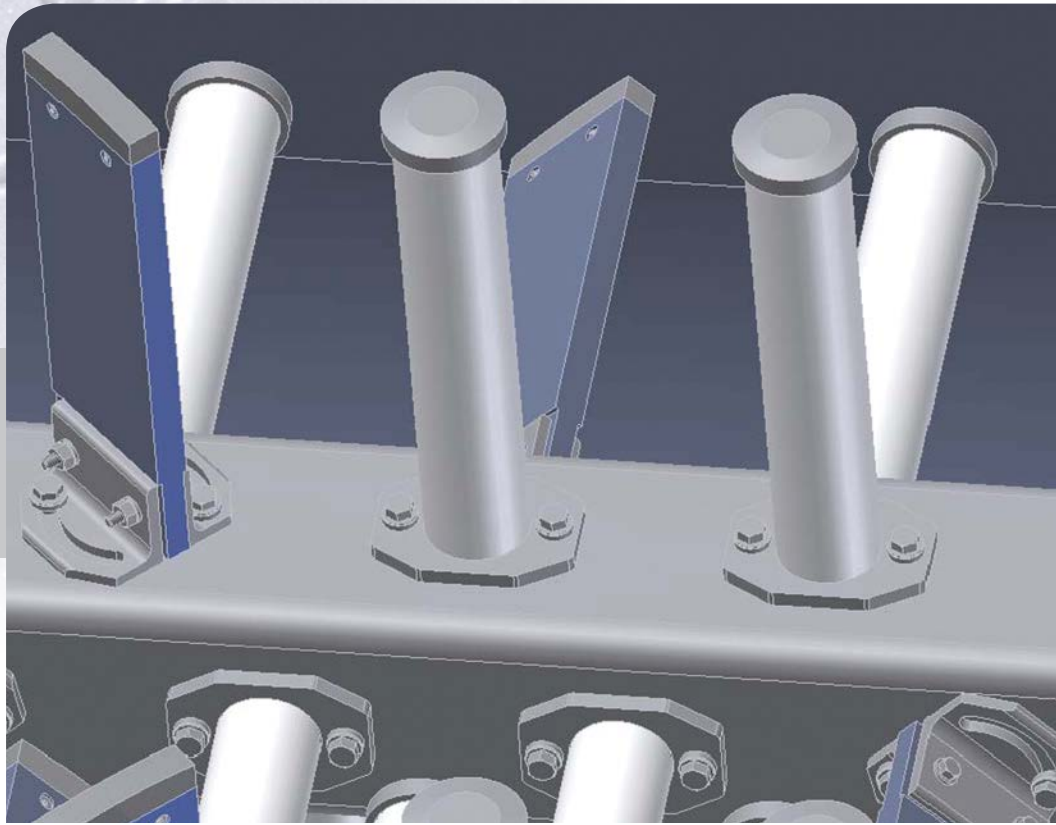


# Pugmill Recycler

For high calcium fly ash and FGD water recycling

A unique solution  
for ELG regulations



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# Pugmill Recycler

## Designed specifically for high calcium ash and byproduct material applications, including wet FGD water recycling

Unlike conventional pugmills that use plant process water for their wetting system, the Allen-Sherman-Hoff® pugmill recycler is a robustly designed system that **enables wastewater from flue gas desulfurization (FGD) systems to be blended into the ash for processing**. This system provides a unique solution for Effluent Limitation Guidelines and Standards (ELGs) for steam electric power plants. It not only minimizes the use of plant process water for ash processing, but also provides a beneficial use for FGD wastewater by conditioning the fly ash for transport and preventing fugitive dusting at the landfill.

## Superior Wetting System Design

### Optimal mix of water

The wetting system includes externally mounted spray nozzles and a flow regulating valve that supplies a fine mist of water to the pugmill. The water flow rate can be monitored by a digital readout from an inline vortex flow meter, and is controlled by a flow regulating valve. Alarm input safeguards notify operators of inadequate water supply pressure.

### Overlapping pin and paddle configuration minimizes dust and ash buildup

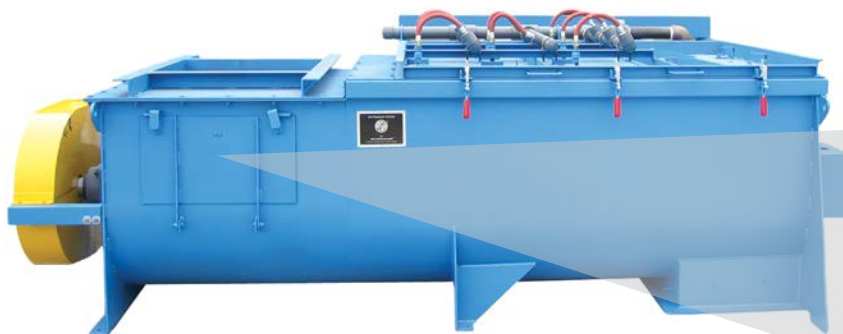
Counter-rotating mixing pins and paddles, coated with ultra-high molecular weight (UHMW) polyethylene, provide the proper mix for transport, while reducing the tendency for material buildup on the pins and paddles.

### Two isolation curtains for optimum control and containment

An isolation curtain contains fine water droplets and water vapor within the mixing area to prevent wetting and clumping of dry ash in the upstream components such as rotary feeders or knife gate valves. A second isolation curtain compartmentalizes the inlet section from the mixing area to contain fugitive dust in the inlet section.

### Experience

More than 200 Allen-Sherman-Hoff pugmills have been installed worldwide.



View of pins and paddles with abrasion resistant tips for wear resistance

### ■ Features

The Allen-Sherman-Hoff pugmill recycler is designed with the following features for optimum performance:

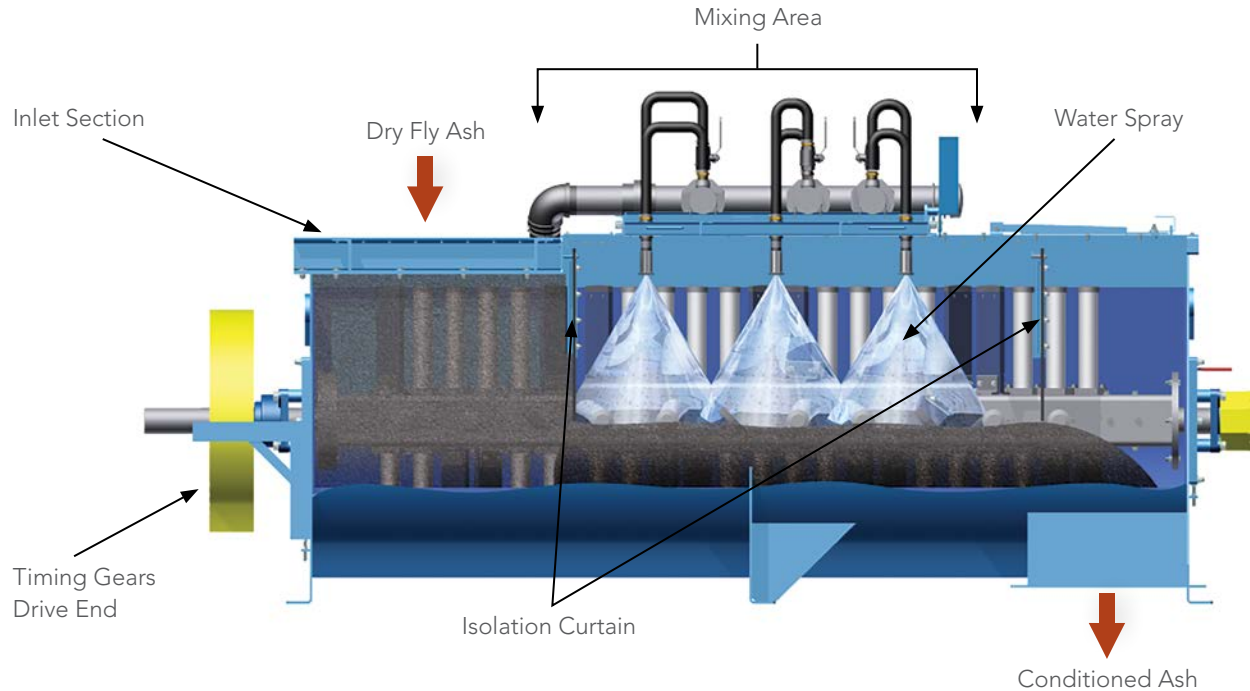
- Robust stainless steel construction
- Precisely controlled and evenly distributed moisture additions
- Efficient mixing and continuous throughput using proven pin and paddle design
- UHMW polyethylene coating on the mixing chamber and paddles and polymer coating material on shafts to reduce deposit formation
- Hinged top lid with inspection door and hinged inlet and outlet doors to improve access
- Externally mounted nozzles and water supply manifolds for improved access and maintenance

### ■ Benefits

- Provides an economical way to recycle FGD water in the fly ash which is sent to the landfill for disposal
- Minimizes fugitive dust during operation by using flexible isolation curtains
- Optimal mix to avoid unabsorbed water in transport vehicle
- Overlapping paddle configuration minimizes ash buildup
- Nozzles specifically target mixing area with fine mist of water
- Easy access for routine maintenance
- Water meter and valve for precise water flow control



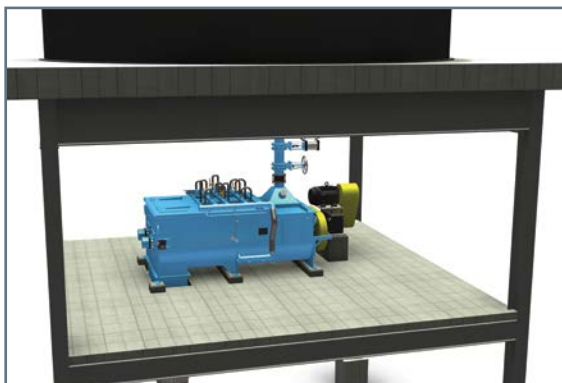
# Pugmill Recycler Cross-section



The key to obtaining the right ash consistency for transport is the Allen-Sherman-Hoff pugmill's wetting system technology.

## Options

Discharge Chute	One section – fixed carbon steel with optional UHMW liner Two sections – upper fixed section of carbon steel (lined with UHMW as option)
PLC-Based Control System	Analog data input from the field instruments (water and/or mass flow meters) Touch screen PLC interface for operator input and control Pendant control station at the truck level
Ash Feed Control	V-orifice knife gate valve or rotary feeder



Pugmill under silo

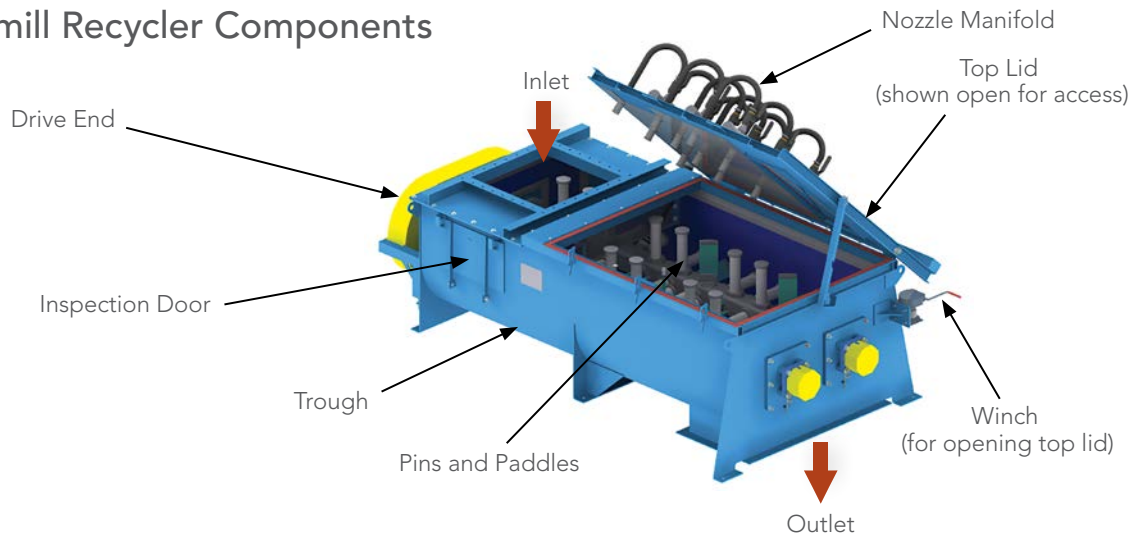


Rotary feeder inlet arrangement



Knife gate valve inlet arrangement

# Pugmill Recycler Components



Robustly designed, stainless steel construction for FGD water recycling

## Allen-Sherman-Hoff® Pugmill Recycler Specifications

Model	6600	11000
Conditioning Capacity	Approx. 150 to 225 t/h	Approx. 250 to 350 t/h
Drive Size	Typical 50 hp	Typical 75 hp
Length (inlet to outlet)	7 ft – 6 in. (2286 mm)	8 ft – 6 in. (2591 mm)
Height (not including 6 in. [152 mm] concrete piers)	4 ft – 4.3125 in. (1329 mm)	5 ft – 8.5625 in. (1741 mm)
Weight (pugmill w/drive)	8500 lb (3856 kg)	11,450 lb (5194 kg)
Water Supply	250 gpm (16 l/s) maximum at 60 psig (414 kPa) minimum supply pressure	430 gpm (27 l/s) maximum at 60 psig (414 kPa) minimum supply pressure
Components	Two shafts coated with a polymer material, UHMW lined trough, UHMW coated pins and paddles with AR steel tips, flexible isolation curtains, externally mounted spray nozzles	
Housing	Stainless steel housing with four hinged doors and safety latches; easy-open top lid, inlet cover, inspection door, and outlet access door	
Controls	PLC-based control system	

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Babcock & Wilcox supplies Diamond Power boiler cleaning and Allen-Sherman-Hoff ash handling equipment and systems.

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