



Particulate  
Removal  
Systems

# Ash Handling Systems

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In a coal or fuel oil fired power plant, ashes from the combustion process are collected in different locations. The Bottom Ash, representing 15 to 20% of the total ash, is collected below the boiler. The ash collected below the economizer and the air-preheater represents 5% and the Fly Ash collected in the Electrostatic Precipitator or Fabric Filter represents 75 to 80% of the total generated ash.

KC Cottrell has a wide proven experience in handling these ashes with specific physicochemical properties.

## Bottom Ash Handling System

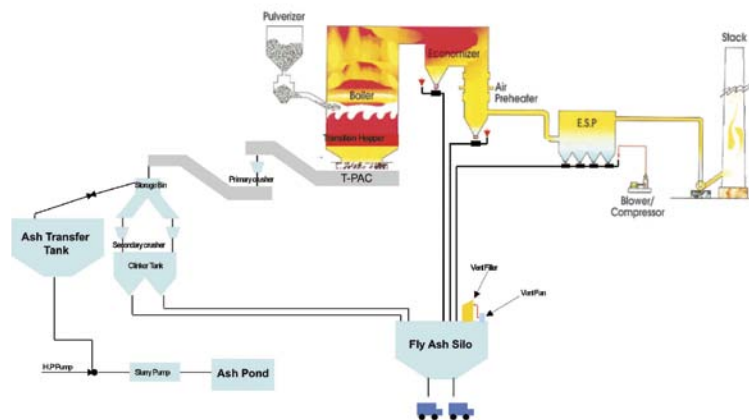
Slag and ash falling from the furnace are temporarily stored in the bottom ash silo. They are then sent to the ash pond using a hydro ejector. Alternatively, a submerged drag chain conveyor or dry ash extraction conveyor will transport bottom ash to bottom ash silo for ash recycling.

- Bottom Ash Hopper System utilizing Hydro-ejectors
- SDCC(Submerged Drag Chain Conveyor) System
- Dry Ash Extraction System
- Ash Water & Slurry System

## Fly Ash Handling System

Conveying air from the blower or air compressor is used to transport ash to the ash silo via ash transport pipe line.

- Positive Pressurized Conveying System
  - Lean(Dilute) Phase System
  - Medium Phase System
  - Dense Phase System
- Negative Pressurized Conveying System(Vacuum System)
- Combination System
- Economizer & Air Preheater Ash handling System / Ash Disposal System



Ash Handling System Flow Diagram

## References



Bottom & Fly AHS, Dangjin Thermal Power Plant

- Youngnam Thermal Power Plant Unit No.1&2, Korea (2002)
- Samcheonpo Thermal Power Plant Unit No.1&2, Korea (2002)
- Jeju Thermal Power Plant, Korea (2004)
- Dangjin Thermal Power Plant Unit No.5&6, Korea (2006)
- Boryeong Thermal Power Plant Unit No.7&8, Korea (2008)
- Yeosu Thermal Power Plant Unit No.2, Korea (2011)
- Gheco Thermal Power Plant Unit No.1, Thailand (2013)
- Rabigh 6 Power Plant Unit No.1~4, Saudi Arabia (2014)
- Jeddah South Steam Plant Unit No.1~4, Saudi Arabia (2015)
- Semangeum Power Plant No.1~2, Korea (2016)
- Samcheok Green Power Plant Unit No.1&2, Korea (2016)
- Shuqaiq Steam Plant Unit No.1~4, Saudi Arabia (2018)
- Songhau 1 Thermal Power Plant, Vietnam (2019)
- Masinloc Coal Fired Power Plant Expansion Project, Philippines (2019)
- Vinh Tan 4 Extension Thermal Power Plant, Vietnam (2020)