Welcome to

ASHTECH TECHNOLOGIES PVT. LTD.

(Pneumatic Conveying Systems)

ASHTECH House,
30 POPATWADI, KALABDEVI ROAD
MUMBAI 400 002 (India)
COMPANY PROFILE
Journey Started from SATISH CARRIER in 1994 – specialized transportation of Fly Ash from Ukai to Magadalla

Started selling Fly Ash in 1996 from Mumbai

Tied up with Dahanu Thermal Power Station in 1997 for Fly Ash utilization

Started Export of Fly Ash in 2000 to Middle East

Set up first RMC Plant at Pune in 2005

Installed Pneumatic conveying system and Fly Ash Silos for Fly Ash at NTPC, Badarpur & Commissioned Fly Ash Classifier

Commissioned first Cement blending unit in 2012 for producing PPC by blending route

In 2016, Commissioned first in India, Ultrafine production facility using Spanish Classifier
BULK HANDLING SYSTEMS
- Wet/Dry coal
- Other fuels
- Limestone
- Sand

CONTINUOUS FEED SYSTEMS
- Wet/Dry coal
- Other fuels
- Limestone
- Sand

BOILER
5MW - 800MW
- Stoker-fired
- AFBC
- PFBC
- PF water tube
- Incinerator

CONTINUOUS LIMESTONE FEED SYSTEMS

REINJECTION SYSTEMS
- Clinker ash
- Bed ash
- Economizer ash
- Air heater ash
- Etc.

FLY ASH
- Local / Long distance

FGD PLANT
- Wet / Dry process

DRY GYPSUM
- Byproduct

To Silos
ASH
CONVEYING TECHNOLOGIES
• Wet method:
  • Conventional Slurry Disposal System (10 – 35% Solid Concentration).
  • High Concentration Slurry Disposal System (55 – 65% Solid Concentration).

• Dry method:
  • Mechanical (Conveyor, Drycon etc.)

• Pneumatic:
  – Lean Phase system.
  – Medium Phase system.
  – Dense Phase system.
- Oldest method of Pneumatic Transport.
- Low Material to Air Ratio.
- High Conveying Velocities (> 20 m/sec)
- Restricted Applications
- Restricted to Short Distances.
- Material flow in PLUG form.
- Low Conveying Velocities (Less than 3 – 8 m/sec.).
- High Material to Air ratio.
- Low on operating / maintenance costs.
- Suitable for wide range of applications from powdery to granular materials.
- Attractive economics for short / long distance conveying.
DENSE PHASE – CYCLE OF OPERATION

1. System at rest
2. Vessel filling
3. Vessel full
4. System conveying
ASH GENERATION STATISTICS W R T THE COAL CONSUMPTION

ASH GENERATION – UP TO 48% OF COAL CONSUMPTION

BOTTOM ASH - 20% OF ASH GENERATED

ECO/APH/DUCT HOPPERS - 10% OF ASH GENERATED

ESP ASH -70% OF ASH GENERATED
(80% CONSIDERED FOR SYSTEM DESIGN)
FLY ASH GENERATION & UTILIZATION STATISTICS

(AS PER THE REPORT OF NATIONAL POWER PORTAL)
AS PER THE DATA PROVIDED BY NATIONAL POWER PORTAL, AVERAGE UTILIZATION OF FLY ASH GENERATED IN POWER PLANTS IS 60% AND IT WAS ONLY 61% IN THE YEAR 2015 - 16 AND IN THE YEAR 2016 – 17 IT WAS APPROX. 63% ONLY
TOTAL POWER GENERATION CAPACITY (TPP) – 157.46 GW

COAL CONSUMPTION - 509.46 MT

FLY ASH GENERATION - 169.25 MT

FLY ASH UTILIZATION - 107.10 MT

PERCENTAGE WISE UTILIZATION – 63.3%

(MT – MILLION TONNES)
ASHTECH TECHNOLOGIES IS COMMITTED TO WORK ON THE SYSTEM BY WHICH WE CAN IMPROVE THE ASH UTILIZATION BY EFFECTIVE EVACUATION OF ASH FROM ESP/ ECO/ APH HOPPERS ETC. AS WELL AS BY PROPER ASH MANAGEMENT
PROBLEMS GENERALLY OBSERVED IN ASH HANDLING SYSTEMS WHICH IMPEDES THE EFFECTIVE UTILIZATION OF FLY ASH
EFFICIENT WORKING OF ASH COLLECTION HOPPERS (ESPECIALLY ESP HOPPERS)

All ESP Hoppers must be charged properly as ash collection must be even for proper evacuation of ash through Pneumatic System.
Roughness of Inside Surface ESP Hoppers –

This causes the formation of Heap in the ESP Hoppers which causes rat-hole formation and also a danger to the ESP Structures.

Solution – Smoothening the surface of ESP Hoppers (This is generally done by providing the SS Claddings)
CASE - A

- HEATING ELEMENTS (TYP)
- ASH LEVEL INDICATOR HIGH LEVEL (TYP.)
- HOPPER ACCESS DOOR
- POKE HOLE TUBE
- PROVISION FOR FLUIDISING PAD (2 NOs. IN THE OPPOSITE SIDES.)

DETAIL - A
CASE - B

SECTION - QQ

MILD STEEL PLATE
STAINLESS STEEL
LINEAR

6MM ROD
MOUNTING FLANGE

PAD COVER

SPACE FOR FIXING
FLUIDISING PAD

DETAIL - A
COMPRESSORS SIZING

QUANTUM OF ASH/ PIPE LINE SIZE

PARTICLE SIZE OF ASH

DISTANCE

TYPE OF ASH TRANDPORTATION VESSELS
Ineffective Fluidization of ESP Hoppers & No Local Heaters –
Due to this reason Ash does not fall down in full and starts accumulating in the Hopper.

Solution - Controlled Fluidization with Local Heaters are a good option to overcome this issue/ Replacement of Fluidization Pads/ Heater Element may also work.
TYPICAL CASE OF NO FLUIDIZATION IN TRANSITION PIECE OF CHUTE BELOW ESP HOPPERS WHICH REDUCES THE ASH FLOW FROM ESP HOPPERS
Jamming of Ash Conveying Pipelines –
On choking of line Fly Ash is generally Flushed out which is a loss of Ash as well a reason for air pollution.

For small distance conveying systems it can be reduced/ avoided by using PIP Arrangement & for long distance Conveying systems we can avoid the jamming by providing Air Dryer to Remove moisture from the Conveying Air.
Improper Tanker Loading–

Generally Ash from Silo is loaded in to tankers while using Telescopic Type Unloading Spouts which spills a lot of ash on Ground causing ash loss as well as air pollution.

Solution – Level Switch based Unloading Spout to be used with proper sealing at Tanker Hatch
ADDITIONAL FIELDS IN WHICH ASHTECH TECHNOLOGIES IS EXPLORING

• ZERO LIQUID DISCHARGE

• ASH WATER RECOVERY SYSTEM – RECYCLING OF ASH DYKE WATER

• MUNICIPAL/ WASTE-WATER RECYCLE PLANTS

• WATER/ ENERGY/ ENVIRONMENTAL AUDIT
PANAROMA OF OUR CLIENTELE
Our few valued clients

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And Many More

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THANK YOU FOR YOUR ATTENTION