

# Pneumatic conveying for the fly ash management industry



# Fly ash management

- **Proven equipment for harsh environments**
- **Low capital cost**
- **Energy efficient**
- **Rugged and dependable**



Fly ash intercept



Dome storage

The ash marketing community expects value for its investments. Since the movement of fly ash within areas of ash beneficiation and distribution adds no specific value to the product, the material handling systems should be low capital cost, energy efficient, rugged and reliable.

FLSmidth's systems and components have been field proven in harsh industries such as coal-fired power, cement manufacture, and minerals processing – and have proven their dependability and uptime in many fly ash applications.

## 1 Fly ash intercept

- Utilize existing vacuum or pressure source
- Capture ash dry from existing plant ash handling systems
- Re-route ash convey path, while leaving existing path in place as back-up

## 2 Process conveying

- Ash conveying rates can be regulated to suit process needs
- Over 300 meter (1,000 feet) convey distances, if required
- Systems driven by simple positive-displacement blower packages
- Compressor-driven systems can convey up to 1,500 meters (5,000 feet)
- Standard schedule 40 pipe used for convey line

## Ceramic feeder

- Suitable for 24 hour/day operation
- Wear life up to five times the standard
- Steel / iron construction with ceramic tile and hardened tips
- Feed rates up to 45 MTPH (50 TPH)

## Fuller-Kinyon™ pump

- Rugged construction, continuous-duty solids line-charger (airlock)  
Sizes for 4.5 to 450 MTPH (5 to 500 TPH)
- Suitable for ash temps up to 205°C (400°F)
- Hundreds of fly ash installations since the 1920's

## 3 Long term dome storage and aerated reclaim

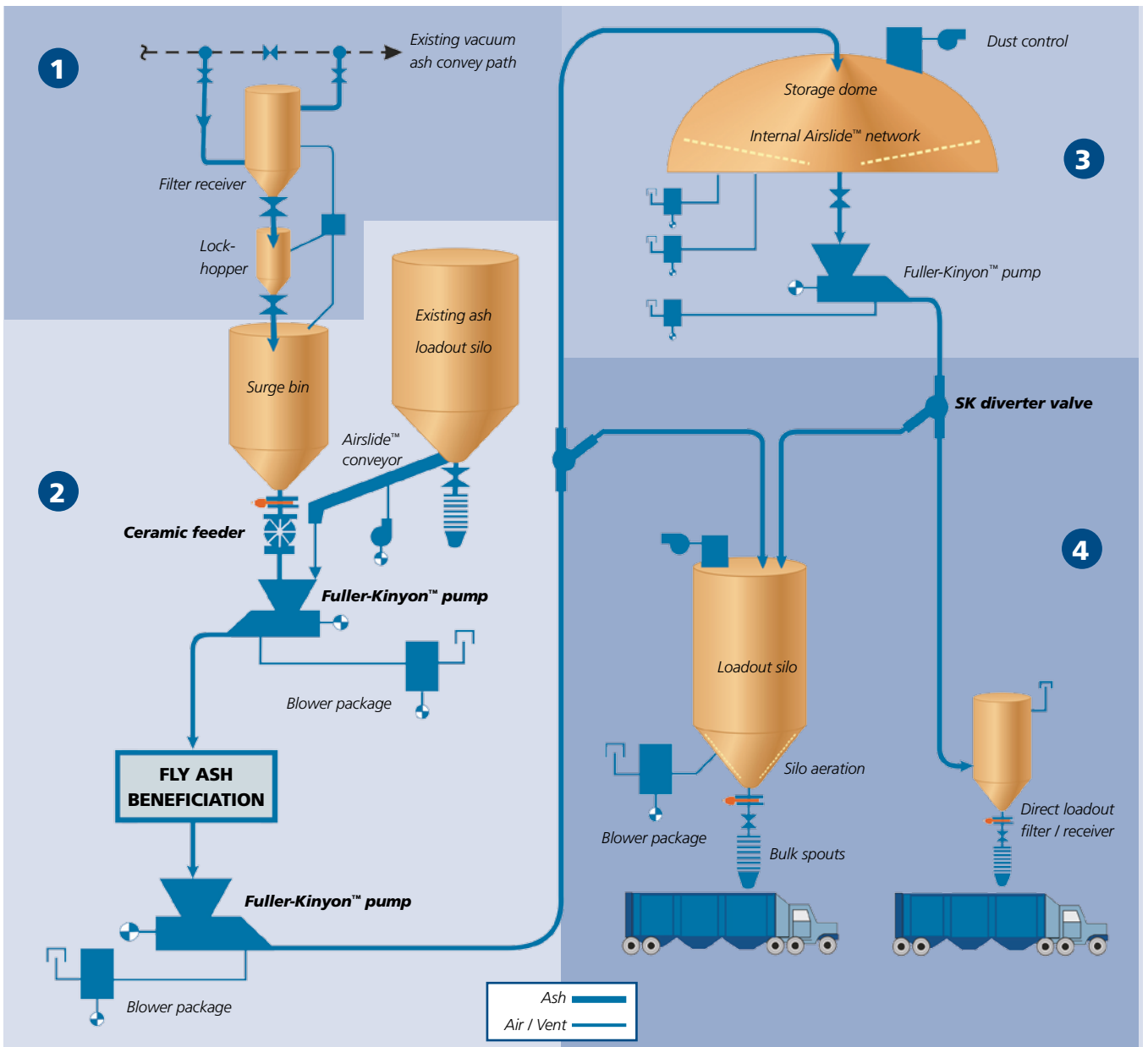
- Airslide™ conveyor fluidizes ash, causing flow to discharge
- No moving parts in dome
- Low power consumption
- Consistent reclaim feed control
- Domes have over 27,000 metric ton (30,000 ton) capacity

## 4 Silo reclaim and truck loadout

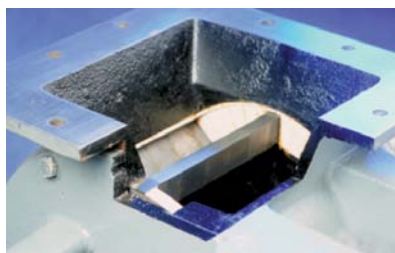
- Regulated reclaim from silo, with loadout to truck or railcar through vented bulk spouts
- Systems can be incorporated with truck / rail scales
- Systems can include lump breakers and tramp-metal traps

## SK diverter valve

- Automated convey path selection
- Hardened disc and seats for abrasive duty



2-way SK diverter valve



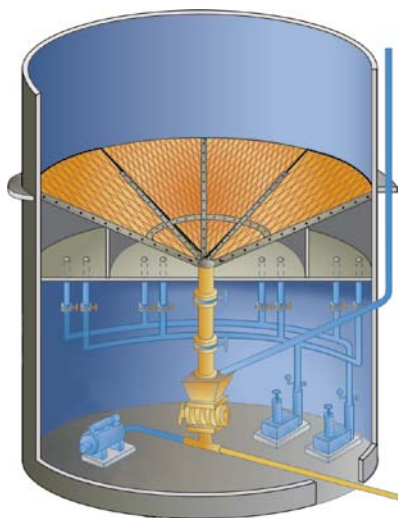
Abrasion-resistant ceramic feeder



Fuller-Kinyon™ pump

# Fly ash blending

[www.flsmidth.com](http://www.flsmidth.com)



## AIRMERGE™ blender technology

- Blends various fly ashes for homogeneous chemistry, LOI, color, etc.
- Blends dry, pulverized free-flowing materials
- Gentle blending action with diffused fluidizing air through porous membrane fabric for silos up to 2,800 cubic meters (100,000 cubic feet) in volume
- Fluidized silo bottom is separated into quadrants that can be controlled with varying airflow intensities to achieve the blend required

## Additional pneumatic conveying capabilities

- Power plants - primary ash systems for ESP / baghouses, sorbent/reagent handling and injection
- Distribution systems - railcar unloading, marine terminals, barge and ship unloading (pneumatic and mechanical)
- Research & Development Labs - material evaluation, conveying and blending optimization

## Advantages

- 3-in-1: blender, storage, efficient discharge
- No moving parts, low maintenance
- No mechanical wearing parts, low noise
- Gentle blending action
- Storage and blending combined into one vessel
- Can be effectively used to overcome bridging or funnel flow when discharging silos
- Rapid and total discharge capability

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