Ash and Material Handling Capabilities
Proven technologies, reliability and durability

Allen-Sherman-Hoff® | B&W Loibl
More than 3,600 material handling system units installed worldwide.
Through its Allen-Sherman-Hoff® ash handling product line and B&W Loibl subsidiary, Babcock & Wilcox (B&W) is a leading global supplier and manufacturer of customized material handling solutions. Combining the strengths, history and experience of these two great industry names, B&W’s extensive knowledge of the physical and chemical properties of various material combinations has made us an integral supplier of customized solutions.

Each project begins with careful analysis and planning to meet scheduling, execution and performance goals. We also provide dependable after-sales support, with spare or replacement parts, maintenance services, and component and system upgrades to maximize the life of your material handling equipment.
Industries and Materials

With more than 150 years of experience, the B&W name is synonymous with providing engineered system solutions and reliable technologies to a wide range of industries and applications.

Fossil Fuel Power Production
- Boiler bottom ash
- Fly ash
- Wet and dry scrubbing system sorbents (e.g., limestone and gypsum) and byproducts
- Powdered activated carbon

Renewable Fuels Power Production
- Solid fuels including biomass, municipal solid waste (MSW) and refuse-derived fuel (RDF)
- Bottom and fly ash
- Wet and dry scrubbing system sorbents (e.g., limestone and gypsum) and byproducts

Pulp & Paper
- Bark ash, wood chips, kaolin, pulp, waste paper, salt deposits

Steel and Metal
- Ore, slag, coal, concentrate and mixtures
■ Chemical Plants
Powder, granulate, minerals and mixtures

■ Petrochemical Plants
Pet coke ash, coker vessel unloading, transport, dewatering

■ Construction
Rock, gypsum, lime, soil, sand, stone and other materials

■ Mining
Salt, limestone, slag

■ Food
Salt, grain, oil seeds, sugar beets, processed sugar, mill projects
Bottom Ash

In addition to providing operational and environmental benefits, B&W’s Allen-Sherman-Hoff bottom ash systems are a reliable and cost-effective alternative to ash storage ponds. Our bottom ash systems are available in either wet or dry types.

- **Hydraulic (wet) systems**
  - Open and HydroASH closed channel sluicing systems
  - Submerged chain conveyor
  - Remote submerged chain conveyor
  - Hydrobin® dewatering systems

- **Dry bottom ash conveyors**
  - Submerged grind conveyor

- **Auxiliary components and equipment**
  - Hoppers, slag tanks, boiler skirt seals, bottom ash gates, clinker grinders
## Bottom Ash Features & Benefits

<table>
<thead>
<tr>
<th>Product</th>
<th>Features/Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Submerged Grind Conveyor</strong></td>
<td>A retrofit design of the submerged chain conveyor, designed for low headroom spaces</td>
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<td>Flexible design</td>
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<td>Capable of providing 100% redundancy</td>
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<td></td>
<td>Capable of 100% online maintenance</td>
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<tr>
<td><strong>Submerged Chain Conveyor</strong></td>
<td>Eliminates storage ponds</td>
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<td>Removes material using less power</td>
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<td>Uses less water to operate</td>
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<td></td>
<td>Automatic ash dewatering</td>
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<td></td>
<td>Less maintenance with fewer components</td>
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<td></td>
<td>Easy access for inspection or maintenance</td>
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<tr>
<td><strong>Remote Submerged Chain Conveyor</strong></td>
<td>Eliminates storage ponds</td>
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<tr>
<td></td>
<td>Simple design for ease of maintenance</td>
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<tr>
<td></td>
<td>Flexible design allows multiple ash disposal options</td>
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<td>Up to twice the storage time of a submerged chain conveyor system installed under the boiler</td>
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<td>Located remote from the boiler</td>
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<td>Easy retrofit to plant having an existing bottom ash slurry transport system</td>
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<tr>
<td><strong>Hydrobin Dewatering Systems</strong></td>
<td>Engineered for efficiency, durability and reliable operation</td>
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<td></td>
<td>Self cleaning decanter screens provide ease of maintenance</td>
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<td></td>
<td>Decanting is automatically sequenced and controlled</td>
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<td>Inflatable seal tube prevents water leakage between gate and frame</td>
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<td>Floating decanter quickly siphons off standing water above the material</td>
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<tr>
<td><strong>Open and HydroASH Closed Channel Sluicing Systems</strong></td>
<td>Most common type of ash removal system prior to 1990s</td>
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<td>Transport as a slurry or by sluicing provides most flexible egress from congested boiler house</td>
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<td></td>
<td>Water viewed as a favorable inerting agent for all types of ash</td>
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</tbody>
</table>
B&W’s Allen-Sherman-Hoff fly ash systems are a reliable, low maintenance, cost-effective means of conveying and collecting fly ash from a boiler and its emissions control systems. Four basic types of pneumatic transport systems and related components are available from B&W depending on your specific application.

- **Vacuum systems**
  Collection hoppers, dust valves, segregation valves, piping and pipe supports, vacuum producers, silos, rooftop collectors, collector filters, silo aeration, pugmills, dry dust unloaders, truck loading bay fugitive emission collection, system controls (PLC or DCS)

- **Pressure systems**
  Collection hopper, airlock valves, blowers or compressors, piping and pipe supports, bin vent filters, silo aeration, pugmills, dry dust unloaders, truck loading bay fugitive emission collection, system controls (PLC or DCS)

- **Vacuum/pressure combination systems**
  Transfer stations

- **Dense-phase pressure systems**
# Fly Ash Features & Benefits

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<tr>
<td>Vacuum System</td>
<td>Uses air as transport media below atmospheric pressure to entrain and convey material&lt;br&gt;Vacuum source is located at the discharge end of the conveying system&lt;br&gt;Ideal for shorter transport distances (&lt; 1500 ft [500 m])&lt;br&gt;Safest design for indoor and hazardous environments&lt;br&gt;Uses fewer components&lt;br&gt;Less clearance required under hoppers&lt;br&gt;Low initial system cost</td>
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<tr>
<td>Vacuum/Pressure Combination System</td>
<td>Used for long conveying distances where vacuum system benefits are desirable in confined or hazardous locations, then transfer to pressure system for long distance&lt;br&gt;Initial material discharge from hoppers is by a vacuum system&lt;br&gt;Requires an intermediate collection vessel/transfer station&lt;br&gt;Pressurized conveyance system to storage silo</td>
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<td>Pressure System</td>
<td>Can convey over longer distances (1000 to 10,000 ft [300 to 3000 m])&lt;br&gt;Simpler ash/air separation equipment at the storage silo&lt;br&gt;Airlock is required to transfer material from collecting hoppers to high pressure conveying line (higher clearance under hoppers is required)&lt;br&gt;Lower cost silos and related equipment&lt;br&gt;Lower operating costs&lt;br&gt;Eductor-based pneumatic system available for special applications</td>
</tr>
<tr>
<td>Dense-Phase Transport System</td>
<td>Variation of pressurized system but operates at higher ash-to-air ratios&lt;br&gt;Smaller transport line sizes, for intermediate material transport rates, will often be the lowest initial and operating cost system&lt;br&gt;Long distance conveyance, same capabilities as pressure transport systems</td>
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Fuel Conveyors

The reliable, safe and uninterrupted supply of fuel for boilers is essential to power generation. B&W provides a range of solid fuel conveyance and in-feed technologies to transport and process fuel for power, heat and process steam generation. Fuels include coal, biomass, and waste fuels including MSW and RDF.

Reagent/byproduct Transport

B&W's material conveying systems can support the conveyance, injection, processing and storage of reagents and byproducts of environmental systems, including limestone, lime, sodium, or other sorbents, as well as gypsum byproduct from the wet scrubbing process.
Bulk Material Transport

B&W Loibl engineers and manufactures a wide range of customer-specific conveyance solutions for bulk materials of all types, ranging from single conveyor belts to customized, complete conveyance technology systems. Applications include power, paper, steel and metal, chemical, mining, food, construction and other process industries.

Applications

- Sidewall belt conveyors
- Drag chain conveyors
- Bucket conveyors
- Belt conveyors
- Plate/pan conveyors
- Closed conveyors
- Pipe conveyors
- Screw conveyors

Aftermarket Services

An extensive network of worldwide regional service centers, field service engineers and technical support personnel are available to provide the customized services and aftermarket solutions for your requirements.

Aftermarket solutions

- System assessment, walk-downs
- Technical assistance with operations issues (fuel changes, pluggage problems, etc.)
- Startup support, commissioning
- Control system support
- Component and system upgrades
- Replacement and spare part supply
- Inventory management programs
B&W’s Allen-Sherman-Hoff® and B&W Loibl material handling systems are recognized worldwide for quality, reliability and durability to meet the unique needs of a wide range of industries.