



FILTER/SEPARATOR

For High-Efficiency Ash/Air Separation



Filter/Sepa

UCC Filter/Separator

UCC Filter/Separators are designed as all-in-one units that provide high separation efficiency in fly ash, bed ash, bottom ash and economizer systems to meet stringent emissions requirements. This unit integrates separation and filtration into one vessel. Equipment costs are substantially reduced compared to multi-vessel systems and the UCC Filter/Separator occupies little space in a vacuum pressure transfer area or on a small or congested silo roof. It also requires fewer controls, access structures and piping, thereby reducing overall equipment and maintenance costs.

With over 600 installations worldwide, the UCC Filter/Separator is recognized as an industry standard for optimal performance and proven reliability.



The UCC Filter/Separator Advantage

The UCC Filter/Separator has proven itself in severe duty, abrasive environments for decades. UCC's innovative technology offers customers cost-effective solutions for their specific application.

- **Longer Service Life**

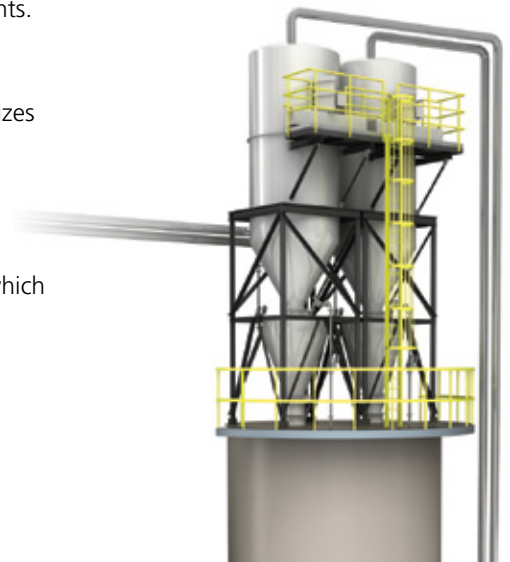
UCC Filter/Separator components provide superior wear resistance for extended service life in abrasive and corrosive environments.

- **Increased Filter Efficiency**

UCC system design with pulse-on-demand operation maximizes filter efficiency, extends bag life and lowers operating cost, while minimizing compressed air usage.

- **Reduced Equipment Costs**

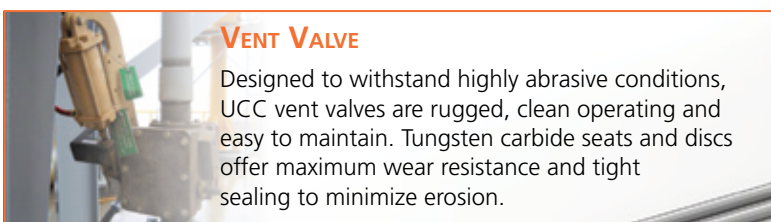
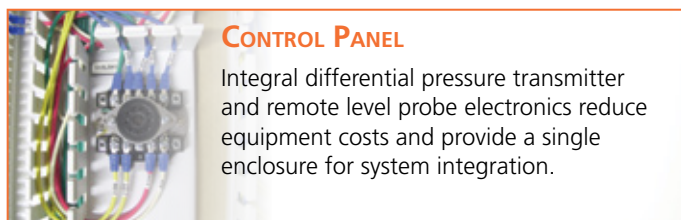
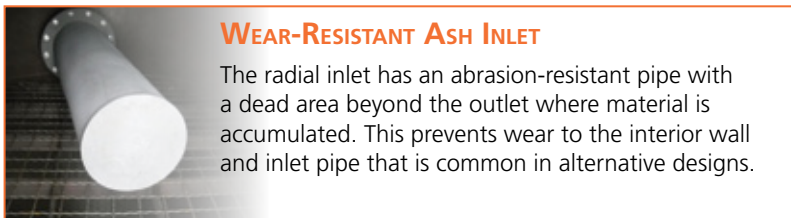
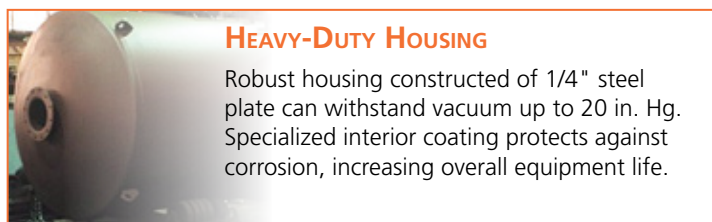
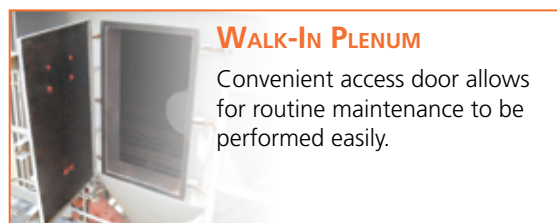
Single vessel requires fewer structures, controls and piping which reduces capital costs.



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The UCC Filter/Separator

UCC Filter/Separator components are specifically chosen for each application to optimize system performance. Transfer hopper gates along with vent valves have been designed for continuous service in severe-duty, abrasive conveying applications. These highly reliable components are rugged, easy to maintain and in-stock to accommodate short lead times.





TUBESHEET

The tubesheet is constructed of heavy 3/16" carbon steel. Precision cut holes and welded stiffeners ensure bag/ tubesheet alignment for tolerance control to minimize leakage. Optional stainless steel construction is available.



FILTER BAGS AND CAGES

Bags are designed to fit UCC filter cages and withstand operating temperatures, some rated to 500°F. Acid and/or alkali-resistant options are available and UCC filter bags are kept in-stock. UCC stainless steel filter cages provide corrosion resistance to boiler flue gas and extend the bag life.



PULSING NOZZLES

Precise nozzle position allows complete cleaning and maximum use of the bag for filtering compared to a venturi design.



PRE-PIPED AND PRE-WIRED ASSEMBLY

Optional full assembly with structural supports simplifies field erection, reducing installed cost. Single interface point of power, control and air piping simplifies system integration and installation.



DISCHARGE EQUIPMENT

Steep sloped vessel walls promote material flow. Large inlet and discharge gates prevent ash from arching across openings. Direct integration is also available with a pressure conveying system using NUVA FEEDER® vessels.

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Design Flexibility

UCC Filter/Separator vessel and component selections are specifically engineered to each application, incorporating considerations such as material flow characteristics, surge capacity and final disposal point.

- **Chisel Bottom Vessel**

A chisel bottom is preferred in most vacuum/pressure transfer systems where two outlets are required. The straight sides and steep slope promote mass flow and temporary storage to accommodate surge capacity. It is very economical as it eliminates the need for transfer bins and hoppers.

- **Concentric Cone Vessel**

A concentric body style is preferred for vacuum to silo system configurations that require a single outlet with no additional storage needs.

- SINGLE VESSEL DESIGN
- INCREASED FILTER EFFICIENCY
- LOWER OPERATING COSTS



Dependable Performance

The UCC Filter/Separator offers distinct performance advantages in either continuous or intermittent mode of operation.

- **Pulse-On-Demand**

The pulse-on-demand feature automates the cleaning operation to maintain a light coating of ash on the bag for high efficiency filtering and to extend the bag life. During the cleaning cycle, nozzles force a burst of air inside the bag, creating a shock wave that causes it to flex and the ash particles to drop off. Nozzles are located sufficiently above the bag allowing the entire bag length to be utilized for effective filtering, as compared against alternative designs using a venturi within the bag.

- **Dump-On-Demand**

The dump-on-demand feature optimizes the transfer hopper operation by reducing gate cycling. A vibrating level probe senses a pre-defined ash level in the transfer hopper. When triggered, the upper gate automatically closes and the lower gate opens to discharge ash into the silo. Optional guided wave radar probes are available for increased system control and monitoring. The dump-on-demand feature reduces gate wear and increases capacity and reliability.



The UCC Commitment

As an industry innovator, we have long been at the forefront of ash handling technology. We recognize the importance of providing customers with the best equipment and latest technology that meet their demanding requirements and plant needs.

With our own advanced testing and technology lab, we are able to maintain control over the quality and delivery of our systems and equipment. The result is superior and predictable performance for our customers.

Our dedicated team of engineers, sales, service and in-house designers spans the globe covering six continents, assuring you that we can provide exceptional service whenever needed. This is our commitment to you.

UCC Material Handling Solutions

Fly Ash (Dilute, Medium and Dense Phase)

- Vacuum Systems
- Pressure Systems

Bottom Ash (Wet and Dry)

- Hydraulic Systems
- Pneumatic Systems
- Mechanical Systems
- Vibratory Systems

Mill Rejects

- Hydraulic System
- Pneumatic Systems

Economizer Ash

- Hydraulic Systems
- Mechanical Systems
- Pneumatic Systems

Dry Sorbent Injection

- Predictive (CFD) Modeling
- On-Site Testing and Demonstration
- Pneumatic Systems
- Installation

Lime Handling

- Truck and Rail Unloading
- Pneumatic Systems

System Components

- Crushers
- Mixer/Unloaders
- Gates/Valves
- Pipe/Fittings
- Filter/Separators
- Tanks/Vessels

Global Operations in:

United States • Europe • China • India
Systems in over 60 Countries

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