

Reagent Handling Systems For Utilities



From Your Trusted Partner For Material Handling

1920

Why United Conveyor Corporation?

When it comes to material handling expertise, United Conveyor Corporation (UCC®) is the industry leader and preferred supplier, by far. That's why a majority of the utilities and companies that produce ash and use reagents are our customers.

We have the knowledge and experience that few can offer. We know your business. We know the subtleties involved in choosing and handling reagents, as well as its potential impact on existing ash handling systems. Plus, we've been a trusted partner for utility companies and design firms since 1920.

At UCC, we provide engineered solutions that optimize performance for unmatched reliability. That means our system does exactly what we say it will do from the time it is commissioned. No matter how long you own our equipment, we'll stand behind it.

Full Service For Every Step Of The Process.

For us, full-service means taking care of the entire cycle: from the design and testing through installation and post-installation. Our field engineers are there for you to ensure a smooth start-up and keep your system up and running for as long as required. And, if you ever need replacement parts, we'll make those parts available when and where you need them.

Our commitment to quality covers our product, our engineering and our customer service. With our proven technology...delivery dates that are met...and support that is second to none, it's clear why we maintain such long-standing customer relationships.

When you partner with UCC, you'll get the confidence and the peace of mind of knowing your process will run smoothly.

Knowledge and Technology.

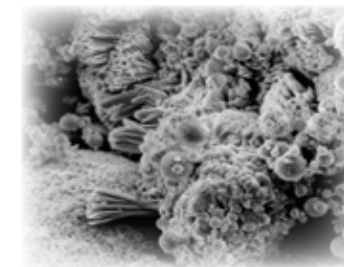
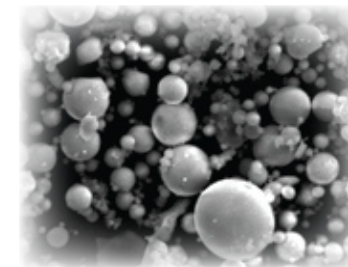
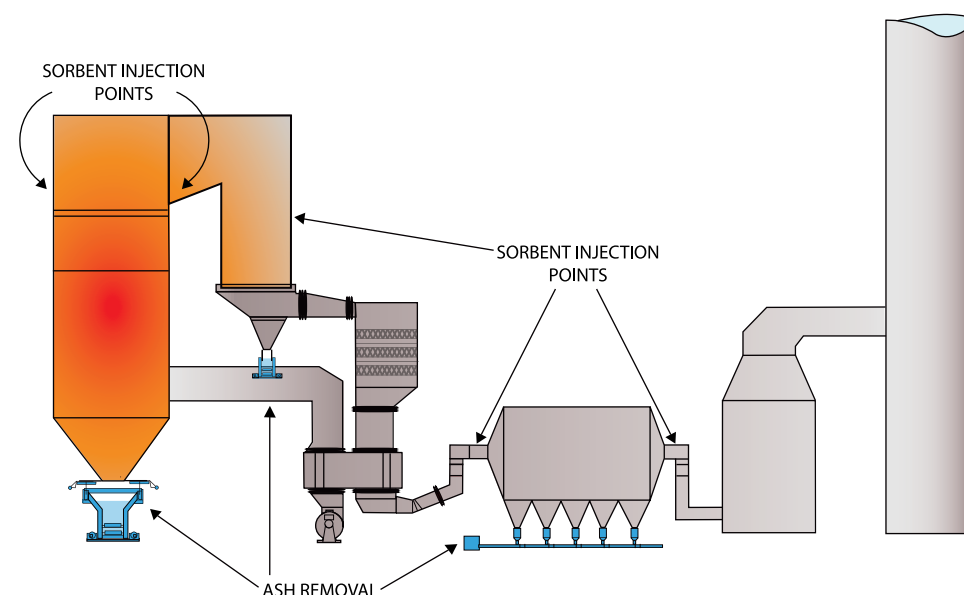
At UCC, we're not just a conveyor company. As an industry innovator, we have extensive knowledge and understanding of the entire process—from how SO_2 and SO_3 are formed to how they impact your business. We take a broader view of the process, not just the reagent handling.

We know the effects reagents can have on your current ash handling system and its potential impact on plant performance. A reagent by-product can drastically alter the material characteristics of your existing fly ash, thereby affecting its flow properties and performance of existing hoppers and conveying pipes. As the leader in ash handling, we can determine whether your existing ash handling system will manage the additional load (bulk density and volume) caused by the addition of the reagent to your process.

We have the knowledge and technical capability to create a unique solution that is exactly right for you and your plant. We'll work with you as a partner in the process. Plus, we'll demonstrate our solution in our state-of-the-art lab to prove it's the right one for you.



Typical Power Plant Process



Fly ash is naturally spherical (left), but material flow characteristics can be negatively affected by the introduction of calcium sulfate, the by-product of SO_x removal, which is a jagged, rose-shaped structure (right).

"We've worked with UCC in the U.S. and overseas. Their project management skills have always allowed us to meet our scheduled commitments, and their design approach has proven effective in handling a variety of sorbents."

— Design Engineer

System

The System.

UCC has the knowledge and technical capability to handle your requirements from start to finish.

System Design

- Our extensive knowledge of particle characteristics and flow behavior yields the optimal blower selection for power efficiency, total cost of ownership and system reliability.
- UCC is the industry leader in dense, medium and dilute phase conveying systems.
- We have extensive experience with pneumatic conveying of coarse and fine materials.
- Our systems include optional PLC and distributed controls (DCS).

Bin/Silo

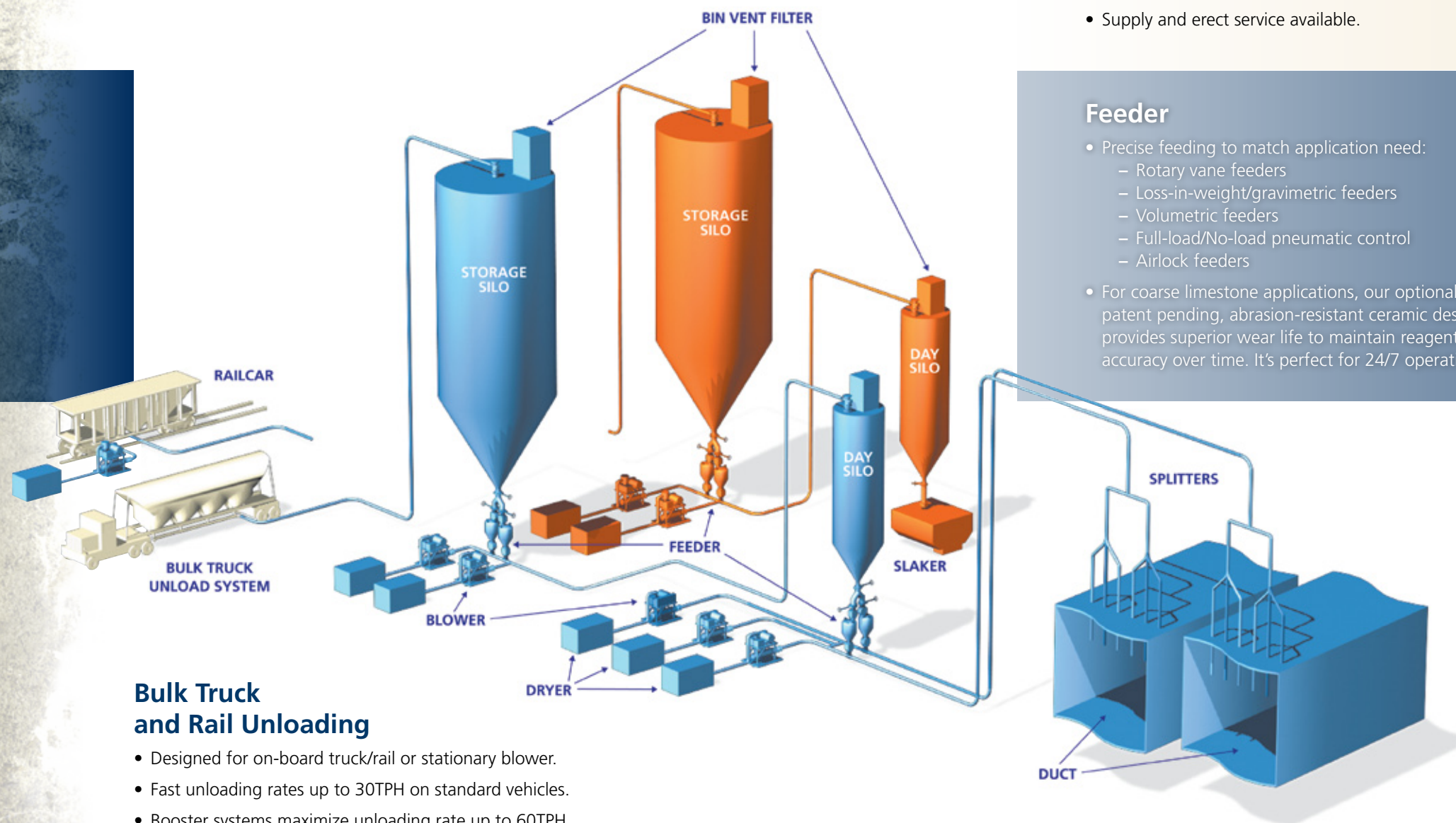
- Our bin/silo solution is based on material and flow characteristics to eliminate rat-holing and arching, thus guaranteeing proper flow from silo to feeder.
 - Flat bottom or truncated cone with fluidizer
 - Conical bottom with vibrating bin discharger
 - Welded steel, bolted steel or concrete construction
- Mass flow silo designs available.
- Supply and erect service available.

"We choose United Conveyor because their support is the best in the industry, especially for new product development and spare parts."

— Process Engineer

Feeder

- Precise feeding to match application need:
 - Rotary vane feeders
 - Loss-in-weight/gravimetric feeders
 - Volumetric feeders
 - Full-load/No-load pneumatic control
 - Airlock feeders
- For coarse limestone applications, our optional, patent pending, abrasion-resistant ceramic design provides superior wear life to maintain reagent feed accuracy over time. It's perfect for 24/7 operations.



Bulk Truck and Rail Unloading

- Designed for on-board truck/rail or stationary blower.
- Fast unloading rates up to 30TPH on standard vehicles.
- Booster systems maximize unloading rate up to 60TPH with increased conveying distance.
- Fast unloading means quicker turnaround of vehicles and greater plant efficiency.

Splitter

- A simple, yet engineered splitter design resists clogging and results in even distribution of reagent at each injection port.
- Our in-depth understanding of air flow and particle characteristics is used to optimize pipe routing for trouble-free operation and system compliance.

Confidence

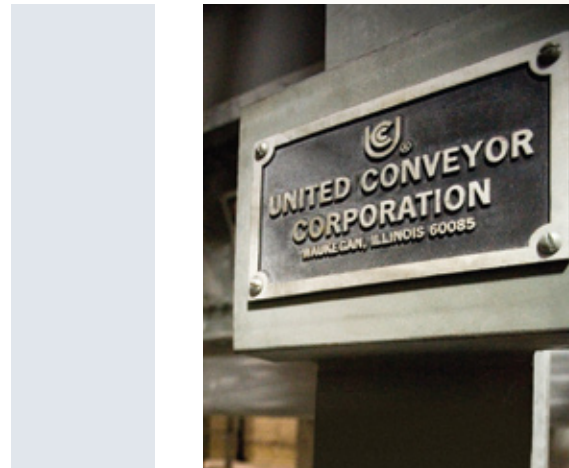
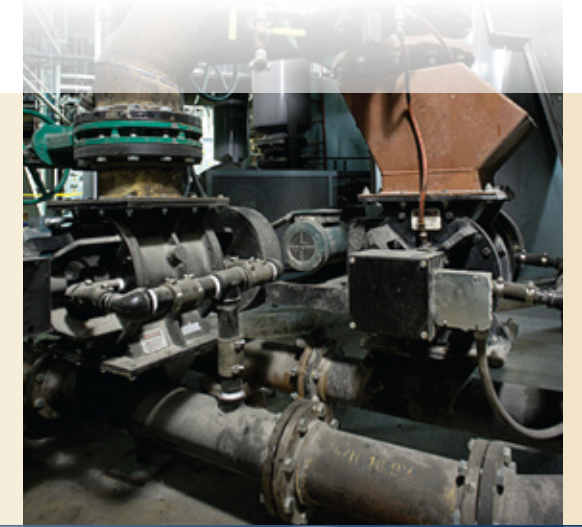
Expertise and Experience.

At UCC, we keep current on the latest trends, regulations, processes and materials. Our industry expertise and experience in all facets of reagent handling will give you the confidence that your system meets the latest requirements for removal of SO₂ and SO₃.

We're experts in conveying various types of reagents—including limestone, pebble lime, hydrated lime, trona and magnesium oxide—and we know the subtle differences between reagent materials. We'll show you how those differences can make a big impact in conveying performance and results.

"UCC field service engineers are the most knowledgeable, hands-on experts in the industry. When we need help, they respond quickly and stay until everything is running right. I can always count on UCC."

— **Plant Manager**



You Get More with UCC

We also understand material variability (density, deaeratability, particle size and shape, velocity/loading, hardness), along with arching and rat-holing indices, material sources and how they affect system design and performance.

Finally, we know reagent behavioral conditions and how they can be dramatically altered depending on the percentage of moisture in the reagent. In every case, UCC systems are designed to minimize plugging from excessive moisture and to maximize cost savings by reducing slip (unused reagent) in your process.

With UCC, you simply get more than with any other supplier. More experience. More know-how. More choices. And more value.

You get the value of our expertise and experience, which will save you money in the long run. Go with the company that is already the leader in ash handling — the one source for all of your material handling needs. It makes sense.

One should consider the up-front risks of using inexperienced suppliers. Will they deliver on schedule? Will they charge higher maintenance fees to fix problems because the system wasn't designed right in the first place? Will you have to pay fines for not complying with emissions regulations? Do they have the expertise to anticipate impact to your plant's existing ash handling system?

You don't need problems or penalties. You need *solutions* you can count on. And that's exactly what you'll get when you partner with us.

UCC is your source for all of your reagent and ash handling requirements.

UCC Material Handling Solutions

Fly Ash (Dilute, Medium & Dense Phase)

- Vacuum Systems
- Pressure Systems

Bottom Ash (Wet and Dry Solutions)

- Pneumatic Systems
- Mechanical Systems
- Vibratory Systems

Mill Rejects

Reagent Handling Systems

Pulverized Fuel

System Components

- Crushers
- Feeders
- Filters
- Gates/Valves
- Mixers
- Pipe/Fittings

You already know UCC as a trusted partner for your ash handling needs. As the industry leader, we also offer the expertise and know-how for all your reagent handling requirements. You get the same value and confidence you've come to expect from us. After all, we've been helping utilities and companies like yours since 1920.

Let us show you what we can do for you. We'll provide budget studies, testing, proposals and consultation—everything you need to make an informed decision.

For more details on the UCC Reagent Handling System, call your local rep or visit our website: unitedconveyor.com

