



MINING & MINERAL PROCESSING EQUIPMENT



TOMORROW'S PROCESSES, **TODAY.**

FEECO.com

SINCE 1951

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ABOUT

FEECO International, Inc. was founded in 1951 as an engineering and equipment manufacturer. Today, we provide an array of process solutions, equipment, and services to companies looking to solve material problems, develop advanced processes, and streamline production. We've built a reputation on custom, quality work that has allowed us to serve thousands of companies around the world with the best in agglomeration, thermal processing, and material handling equipment.

FEECO is recognized globally as an expert in providing:

- Custom Equipment Manufacturing
- Engineering
- Feasibility/Materials Testing
- Process Design & Development
- Process Optimization
- Product Development
- Parts & Service
- Tolling

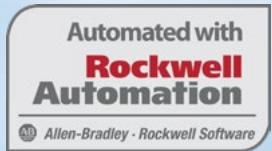
WHO WE WORK WITH

Many of the world's most notable mining companies rely on FEECO for innovative solutions in process design, engineering, and manufacturing, including:



COMMON MATERIALS WE WORK WITH

- Abrasives
- Aggregates
- Alumina
- Aluminum
- Bauxite
- Clay
- Coal & Coke
- Copper Concentrates
- Copper Ore
- Diatomaceous Earth
- Frac Sand
- Garnet Sand
- Gold Ore
- Graphite
- Gypsum
- Iron Ore
- Limestone
- Lithium Ore (\$podumene)
- Nickel Ore
- Phosphates
- Potash
- Salts
- Silica
- Tailings
- Talc
- Tin Ore
- Titanium
- Uranium Ore
- Zinc



CE Certification is available on request

EQUIPMENT

BUILT FOR LONGEVITY

APPLICATIONS

FEECO equipment can be found in every sub-sector of the mining industry, throughout the entire lifecycle of raw material to finished product, accomplishing a range of objectives:

THERMAL

- Drying
- Cooling
- Heating
- Calcination
- Heat Setting
- Incineration
- Thermal Desorption
- Organic Combustion
- Reduction Roasting

AGGLOMERATION

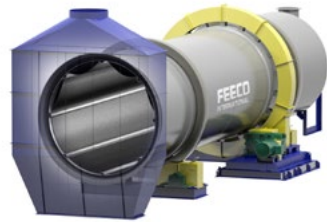
- Balling
- Coating
- Conditioning
- De-dusting
- Heap Leach
- Impregnating
- Mixing
- Pelletizing
- Scrubbing

HANDLING

- Conveying
- Feeding
- Transferring

AGGLOMERATION EQUIPMENT

AGGLOMERATION DRUMS

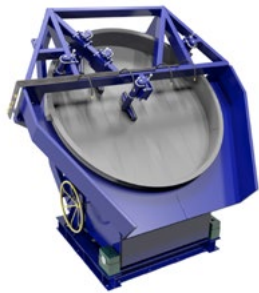


ABOUT
[Agglomeration drums](#) are diverse in their ability to accomplish a variety of objectives. They are favored for their durability and high throughput.

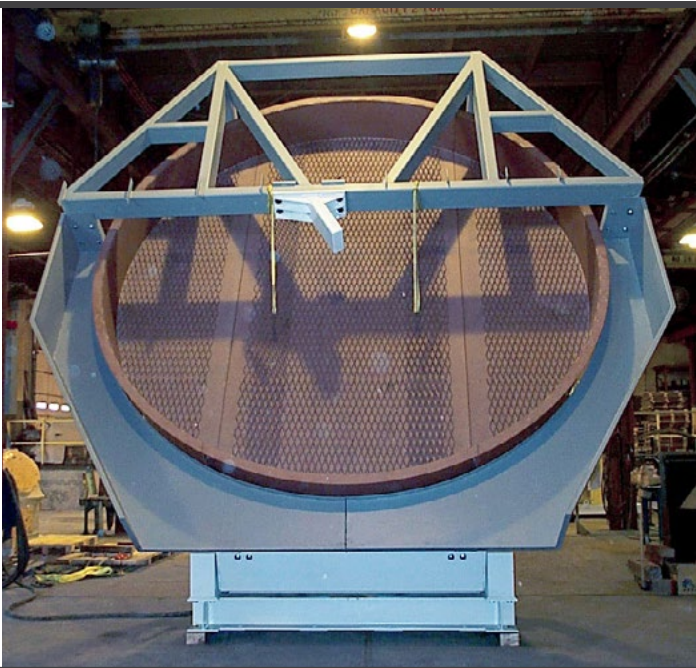


SIZE Diameters from 36" - 15' (1 - 4.6m)	APPLICATIONS <ul style="list-style-type: none">- Agglomeration- Balling- Conditioning- Coating- Heap Leach	<ul style="list-style-type: none">- Mixing- Scrubbing
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DISC PELLETIZERS



ABOUT
[Disc pelletizers](#) offer a high level of particle size control, producing refined, rounded pellets. They are often combined with a pin mixer.



SIZE 24" - 25' (0.6 - 7.5m)	APPLICATIONS <ul style="list-style-type: none">- Granulation- Agglomeration
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CAPACITY
100 lb/hr - 100 TPH

PUGMILL MIXERS



ABOUT
[Pugmill mixers](#) (paddle mixers) use kneading and folding action to thoroughly mix solid and liquid feed components and if desired, produce granules.



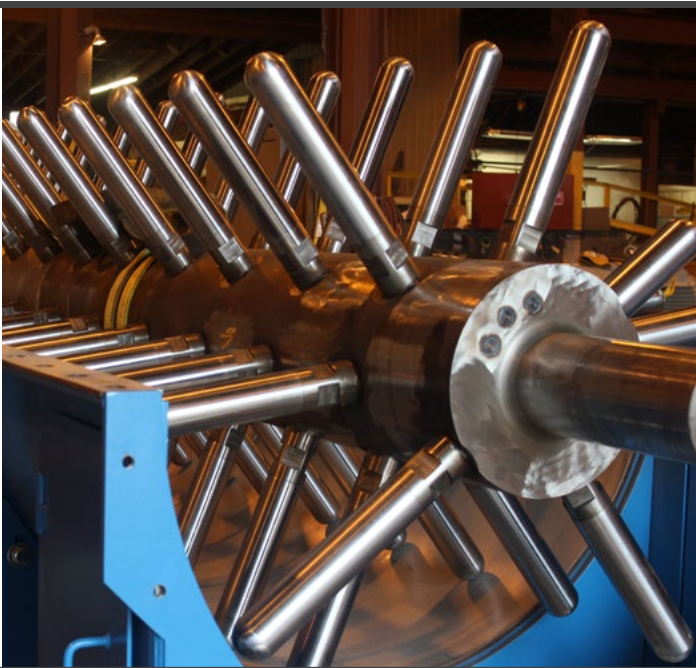
SIZE 14" - 78" (355 - 1,980mm)	APPLICATIONS <ul style="list-style-type: none">- Granulation- Agglomeration- Conditioning- Coating- Mixing
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CAPACITY
500 lb/hr - 300 TPH

PIN MIXERS



ABOUT
[Pin mixers](#) use an intense spinning action to homogeneously mix solid and liquid feed components and produce dense granules.



SIZE 10" - 50" (255 - 1,270mm)	APPLICATIONS <ul style="list-style-type: none">- Granulation- Agglomeration- Conditioning- Coating- Mixing
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CAPACITY
200 lb/hr - 70 TPH

THERMAL PROCESSING EQUIPMENT

ROTARY DRYERS



ABOUT Rotary dryers are known as a workhouse when it comes to drying bulk solids. They offer a high throughput, tolerance to changes in feedstock, a robust build, and long-term longevity and reliability.	SIZE 3' - 15' (1 - 4.6 m)	CONFIGURATIONS <ul style="list-style-type: none">- Direct<ul style="list-style-type: none">— Co-Current— Counter-Current- Indirect
	CAPACITY 1 TPH - 200 TPH+ (1 MTPH - 181 MTPH+)	

ROTARY COOLERS



ABOUT Like rotary dryers, rotary coolers offer a high-throughput processing solution for cooling bulk solids. They are also recognized for their heavy-duty construction, reliability, and long lifespan when properly maintained.	SIZE 3' - 15' (1 - 4.6 m)	CONFIGURATIONS <ul style="list-style-type: none">- Direct<ul style="list-style-type: none">— Co-Current— Counter-Current- Indirect Water Deluge
	CAPACITY 1 TPH - 200 TPH+ (1 MTPH - 181 MTPH+)	

For additional details and specifications on thermal processing equipment, see our [Rotary Dryer & Cooler](#) and [Rotary Kiln](#) brochures.



▲
Indirect
Rotary Kiln

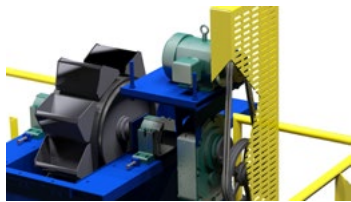
ROTARY KILNS



ABOUT Rotary kilns are used to carry out chemical reactions and phase changes in bulk solids. They are frequently used in applications involving incineration, calcination, thermal desorption, carbon reactivation, and more.	SIZE Up to 15' (4.6m) diameter x 100'+ (30.5m+)	CONFIGURATIONS <ul style="list-style-type: none">- Direct<ul style="list-style-type: none">— Co-Current— Counter-Current- Indirect
	CAPACITY 1 TPH - 50 TPH (1 MTPH - 45 MTPH)	

BULK MATERIAL HANDLING EQUIPMENT

BUCKET ELEVATORS



ABOUT
[Bucket elevators](#) are the industry standard for vertical handling, capable of moving everything from ores to fine chemicals.



SIZE
Buckets from 8" - 52"
(0.2 - 1.3 m wide)

CAPACITY
20 - 600 TPH

CONFIGURATIONS

- Centrifugal Chain
- Centrifugal Belt
- Continuous Chain
- Continuous Belt

TROUGHED BELT CONVEYORS



ABOUT
[Troughed belt conveyors](#) horizontally convey a wide range of materials at angles between 0°-20°, or up to 30° with cleated belting.

SIZE
18" to 72" (0.5 - 1.8 m) wide

CAPACITY
up to 6,000 TPH



For additional details and specifications on agglomeration equipment, see our [Belt Conveyor](#) & [Bucket Elevator](#) brochures.

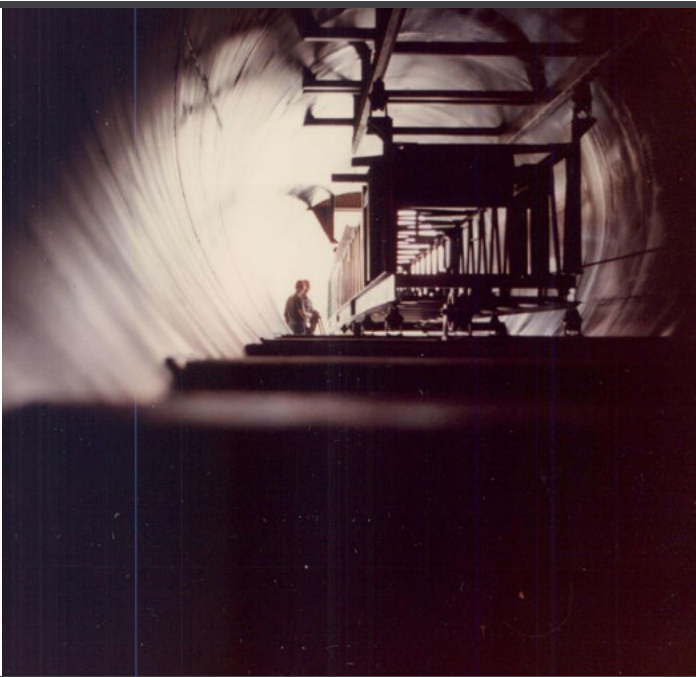
REVERSING SHUTTLE CONVEYORS



ABOUT
[Reversing shuttle conveyors](#) are used for building in-line, continuous piles, or feeding multiple fixed discharge points.

SIZE
18" to 72" (0.5 - 1.8 m) wide

CAPACITY
Up to 6,000 TPH



STEEP INCLINE CONVEYORS



ABOUT
[Steep incline conveyors](#) are a great substitute for drag chains or bucket elevators, because of the reduced noise and the elimination of transfer points.

SIZE
18" to 72" (0.5 - 1.8 m) wide

CAPACITY
Up to 600 TPH





▲
Sand Dryer with
Combustion Chamber

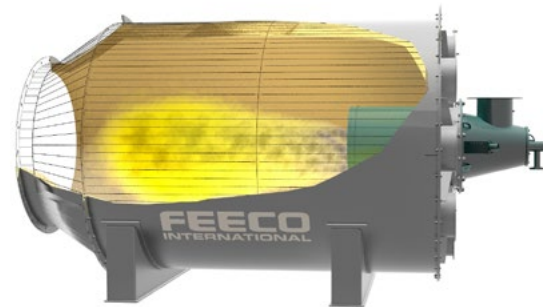
SUPPLEMENTAL EQUIPMENT

HAMMER MILLS

COMBUSTION CHAMBERS



FEECO double rotor [hammer mills](#) are a heavy-duty crusher for use in size reduction efforts. Two sets of chain/bar links reduce dry and semi-moist materials with a minimum amount of fines and caking or plastering within the crusher.



[Combustion chambers](#) serve to house the actual combustion reaction in direct dryers and kilns, preventing the flame from coming into contact with the material being processed.

BELT TRIPPERS

BELT PLOWS

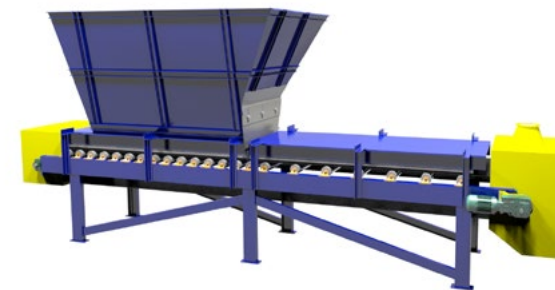


[Belt trippers](#), or traveling trippers, add versatility and functionality to troughed belt conveyors by creating multiple discharge points along the conveyor, along either side of the belt.

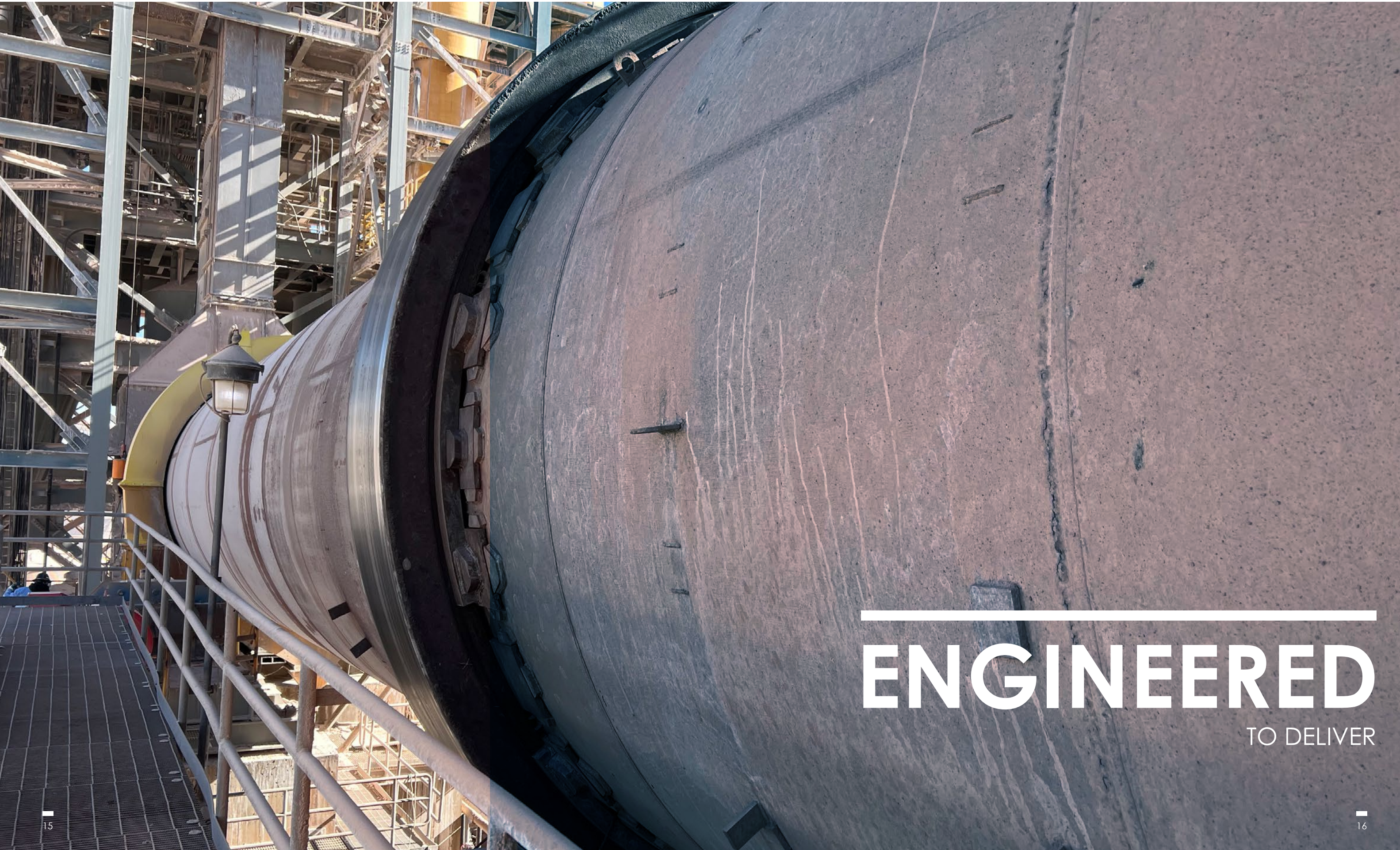


[Belt plows](#) add another stationary point of discharge along a belt conveyor on either side of the belt to increase its flexibility.

BELT FEEDERS



[Belt feeders](#) are used to provide a controlled discharge rate of material. Commonly used when material that is either stockpiled or loaded (at an uncontrolled rate) in a bin or hopper needs to be introduced into the system at a controlled feed rate.



ENGINEERED
TO DELIVER

ENGINEERING CAPABILITIES

One of the advantages to working with FEECO is our extensive experience in engineering; our highly qualified staff of chemical, mechanical, and electrical engineers provides a well-rounded approach to system design, whether you are in need of a single piece of equipment, or a complete process system.

We can help bring your project to fruition with our versatile capabilities in front-end engineering, including the provision of:

- Equipment engineering
- Process flow diagrams/Mass balance
- Conceptual plant layouts
- Plant general arrangement drawings
- Civil works guide drawings with static and dynamic loads
- Structural steel and access platform guide drawings
- Chute and ductwork guide drawings
- Vendor interface, bid evaluation and analysis
- P&ID development
- Electrical and control systems engineering
- Material handling engineering
- Installation and commissioning review
- Site supervision for installation & start-up

Our engineering department works closely with our on-site fabrication facility to ensure stringent design and quality standards are met.

Project managers work to oversee your system is designed, manufactured, and installed to spec—on time and on budget.



◀ Covered Pugmill Mixer with observation panels for use in animal feed production

▲ Copper Ore Agglomeration Drums



▲ Rotary Dryer Interior

All project managers and sales team members are experienced engineers and work with our staff of fully trained CAD and Inventor users to engineer a system around your unique requirements.



UNMATCHED
R&D

THE FEECO INNOVATION CENTER

The [FEECO Innovation Center](#) is a unique testing facility where we can test your material at both batch and pilot scale. Testing offers a host of invaluable information, allowing you to gain critical data on your material, work out process variables, fine-tune product characteristics, and develop a recipe for process scale-up. We've built a vast database on a variety of materials and test procedures. We offer comprehensive testing services in four categories:

- 1. **Feasibility/Proof of Concept** - An initial, non-witnessed batch testing phase in which the possibility of creating a product is explored.
- 2. **Proof of Product** - A more in-depth batch testing phase in which more time is spent determining whether a product can be made to desired specifications.
- 3. **Proof of Process** - A continuous testing phase that aims to establish the equipment setup and parameters required for continuous production of your specific material.
- 4. **Process/Product Optimization** - An in-depth study to optimize your specific material's characteristics and/or production parameters

UNPARALLELED REPORTING CAPABILITIES

The FEECO Innovation Center features a Rockwell Automation PLC/MCC system, which utilizes current technologies for optimizing testing operations through the collection and reporting of critical process data. These capabilities not only provide real-time insight into process performance, but they also allow returning customers to pick up exactly where they left off.

INTERESTED IN TESTING?

It's easy!

- 1

Fill out some **paperwork**
- 2

Send us a **sample**
- 3

We'll run some **tests**
- 4

We'll mail you the **results**

Get started today by going to: [FEECO.com/contact-us/](https://www.feeeco.com/contact-us/)



TYPES OF TESTING CONDUCTED IN THE FEECO INNOVATION CENTER:

AGGLOMERATION

- Pelletizing (Rotary drum, disc pelletizer, pin mixer)
- Micro-Pelletizing
- Coating
- Conditioning

THERMAL

- Drying
- Calcination
- Carbon Activation
- Catalyst Production
- Heat Setting
- Metal Recovery
- Organic Combustion
- Reduction
- Thermal Desorption
- Upgrading of Ores

Rotary Kiln
Batch Testing



Synthetic Gypsum
pelletized at FEECO





COMPREHENSIVE

PARTS & SERVICE

SERVICE

From start-up and installation support, to preventative maintenance, FEECO offers a comprehensive [customer service](#) program to help keep your equipment running its best for years to come, whether your equipment is FEECO brand or otherwise. We offer the following services:

- Installation & Start-up Support
 - Spare Parts
 - Field Services
 - Tire & Trunnion Grinding
 - Drum Trunnion Training
- Alignments
 - Gear Replacement
 - Spare Parts Installation
 - Laser Alignment
 - Inspections
- Equipment Audits
 - Training Programs
 - Process Optimization

PARTS

FEECO offers an extensive parts program to assist customers in keeping an inventory of wear-critical parts, as well as providing parts on an as-needed basis. In addition to providing parts for all FEECO equipment, we will also provide replacement parts for equipment built by other brands.

Our line of parts includes everything from the smallest component, to major items, including:

- ROTARY DRUMS**

- Tires (Riding Rings)
 - Trunnion Wheels
 - Thrust Rollers
 - Drum Shells
 - Drive Components
 - Girth & Pinion Gears
 - Seals
 - Bearings
- DISC PELLETIZERS**

- Spray Systems
 - Disc Assembly
 - Drive Motor
 - Scrapers/Plows
 - Gear Reducer
 - Bearings
- MIXERS**

- Pins & Paddles
 - Shafts
 - Shaft Bearings
 - Drive Motors
 - Spray Ports/System
- ELEVATORS & CONVEYORS**

- Buckets
 - Chains & Belts
 - Drive Motors
 - Pulleys
 - Gear Reducers
 - Guarding
 - Bearings
 - Idlers
 - Covers
 - Drives
 - Dust Collection Hoods
 - Trippers
 - Plows
 - Feeders



◀ Rotary Drum
Repair

Rotary Drum
Tire Mounting ▶





ABOUT FEECO

FEECO International, Inc. was founded in 1951 as an engineering and equipment manufacturer. We are recognized globally as an expert in industry-leading process design, engineering capabilities (including everything from process development and sample generation, to feasibility studies and detailed plant engineering), custom equipment manufacturing, and parts and service. We serve a range of industries, including fertilizer and agriculture, mining and minerals, power/utility, paper, chemical processing, forest products, and more. As the leading manufacturer of processing and handling equipment in North America, no company in the world can move or enhance a concept from process development to production like FEECO International, Inc.

The choice to work with FEECO means a well-rounded commitment to quality. From initial feasibility testing, to engineering, manufacturing, and parts and service, we bring our passion for quality into everything we do.

FOR DETAILED PRODUCT INFORMATION & CAPABILITIES, **DOWNLOAD THE FEECO HANDBOOK** AT: [FEECO.com/FEECO-handbook/](https://www.feeco.com/FEECO-handbook/)