



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 companies, across nearly all industries, rely on FEECO for innovative solutions in process design, engineering, and manufacturing, including:



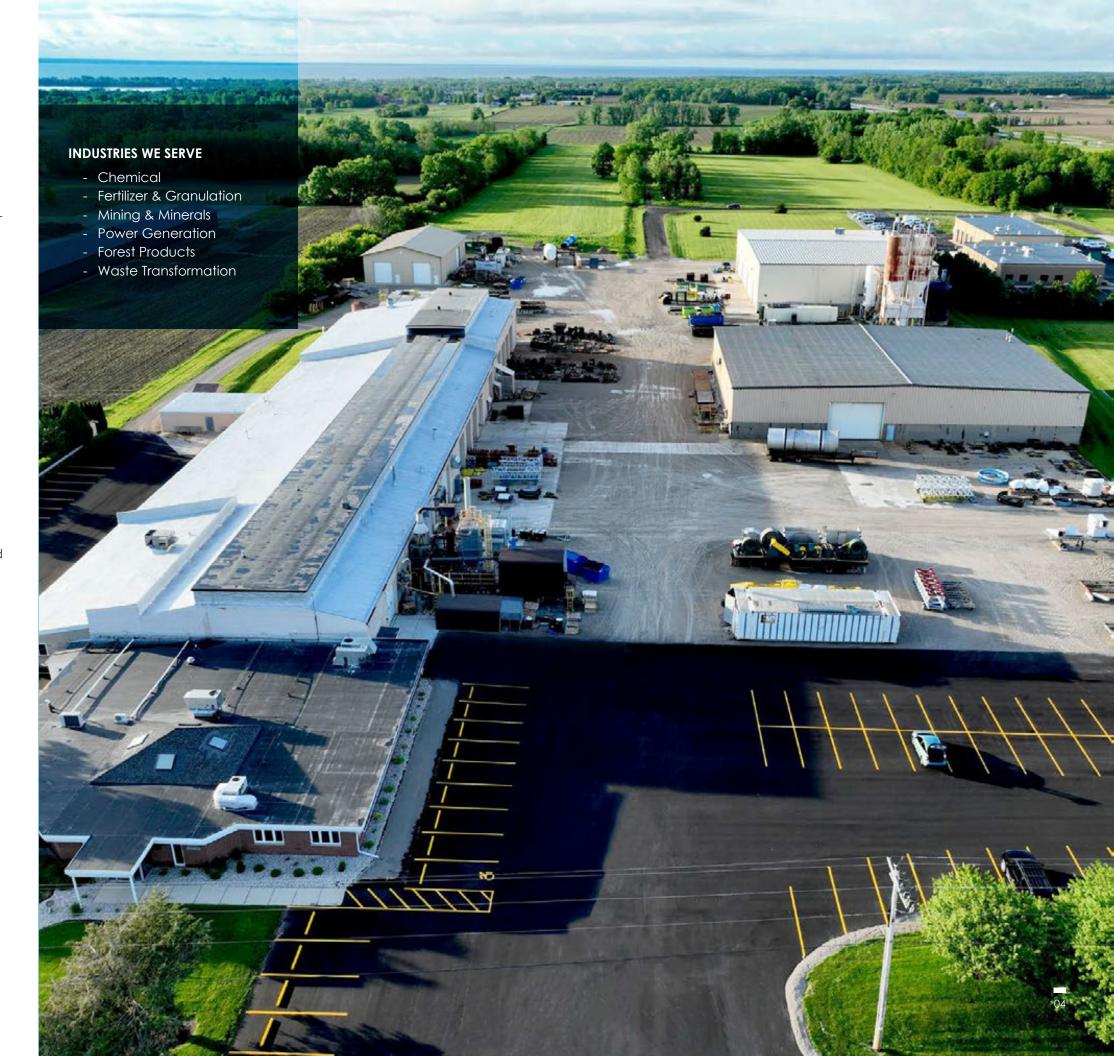














AGGLOMERATION EQUIPMENT

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)

CAPACITY

500 lb/hr - 3500+ TPH

APPLICATIONS

- Granulation
- Agglomeration
- Conditioning
- Coating
- Mixing



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)

CAPACITY

500 lb/hr - 300 TPH

APPLICATIONS

- Granulation
- Agglomeration
- Conditioning
- Coating
- Mixing



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)

CAPACITY

100 lb/hr - 100 TPH

APPLICATIONS - Granulation

- Agglomeration



PIN MIXERS



ABOUT

Pin mixers use an intense spinning action to homogeneously mix solid and liquid feed components and produce dense granules.

SIZE

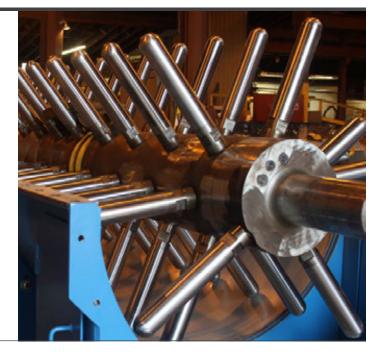
10" - 50" (255 - 1,270mm)

CAPACITY

200 lb/hr - 70 TPH

APPLICATIONS

- Granulation
- Agglomeration
- Conditioning
- Coating
- Mixing



For additional details and specifications on agglomeration equipment, see our <u>Agglomeration Equipment brochure</u>

THERMAL PROCESSING EQUIPMENT

ROTARY DRYERS





ABOUT

Rotary dryers are known as a workhouse when it comes 3' - 15' (1 - 4.6 m) to drying bulk solids. They offer a high throughput, tolerance to changes in feedstock, a robust build, and long-term longevity and reliability.

SIZE

CAPACITY

1 TPH - 200 TPH+ (1 MTPH - 181 MTPH+)

CONFIGURATIONS

- Direct
- Co-Current _ Counter-Current
- Indirect



Indirect Rotary Kiln

ROTARY COOLERS





ABOUT

Like rotary dryers, rotary coolers offer a high-throughput 3' - 15' (1 - 4.6 m) processing solution for cooling bulk solids. They are also recognized for their heavy-duty construction, reliability, and long lifespan when properly maintained.

SIZE

CAPACITY

1 TPH - 200 TPH+ (1 MTPH - 181 MTPH+)

CONFIGURATIONS

- Direct
- Co-Current Counter-Current
- Indirect Water Deluge

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+)

CAPACITY

1 TPH - 50 TPH (1 MTPH - 45 MTPH)

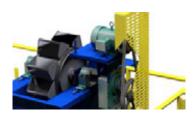
CONFIGURATIONS

- Direct
 - Co-Current _ Counter-Current
- Indirect

For additional details and specifications on thermal processing equipment, see our Rotary Dryer & Cooler and Rotary Kiln brochures.

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



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



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



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



For additional details and specifications on agglomeration equipment, see our **Belt Conveyor** & **Bucket Elevator** brochures.

SUPPLEMENTAL EQUIPMENT

HIGH-SPEED MIXERS

HAMMER MILLS



<u>High-speed mixers</u> are incorporated onto pug mills in the production of MCP, DCP, and DFP animal feeds. This improves the pre-mixing step in animal feed granulation, producing a more thorough reaction.



FEECO double rotor <u>hammer mills</u> 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.

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.



<u>Belt plows</u> add another stationary point of discharge along a belt conveyor on either side of the belt to increase its flexibility.

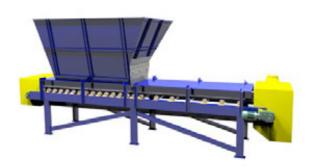
COMBUSTION CHAMBERS



<u>Combustion chambers</u> serve to house the actual combustion reaction in direct dryers and kilns, preventing the flame from coming into contact with the material being processed.

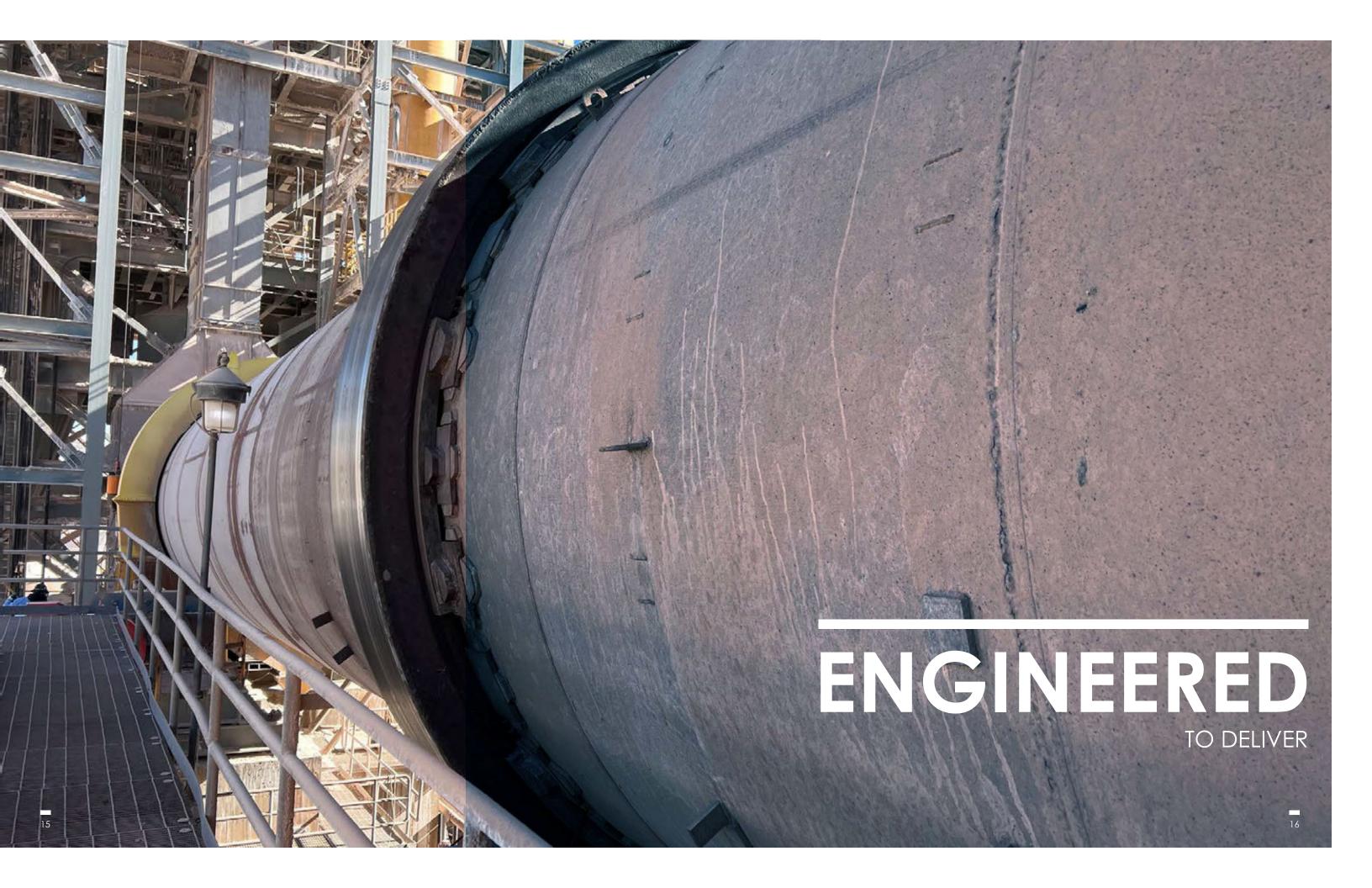


BELT FEEDERS



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.

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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.

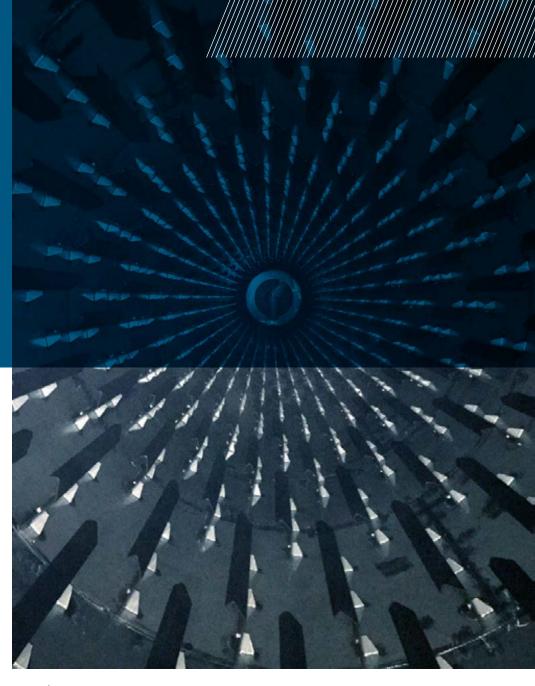
Project managers work to oversee your system is designed, manufactured, and installed to spec—on time and on budget.







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.



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!



Fill out some paperwork



We'll run some **tests**



Send us a **sample**



We'll mail you the **results**

Get started today by going to: FEECO.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

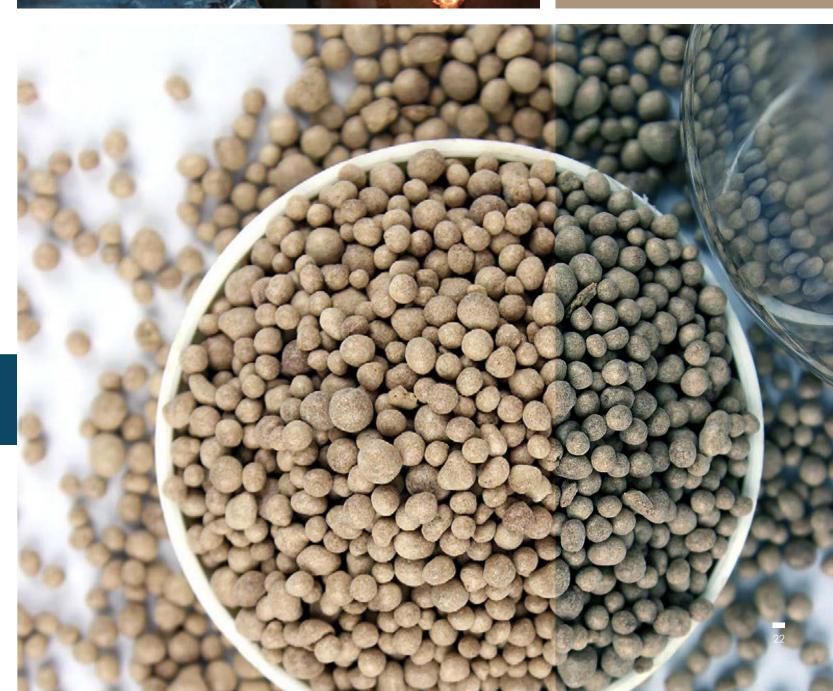
- Drying
- Calcination
- Carbon Activation
- Catalyst Production
- Heat Setting
- Metal Recovery
- Organic Combustion
- Reduction
- Thermal Desorption
- Upgrading of Ores







Synthetic Gypsum pelletized at FEECO





SERVICE

From start-up and installation support, to preventative maintenance, FEECO offers a comprehensive <u>customer service</u> 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

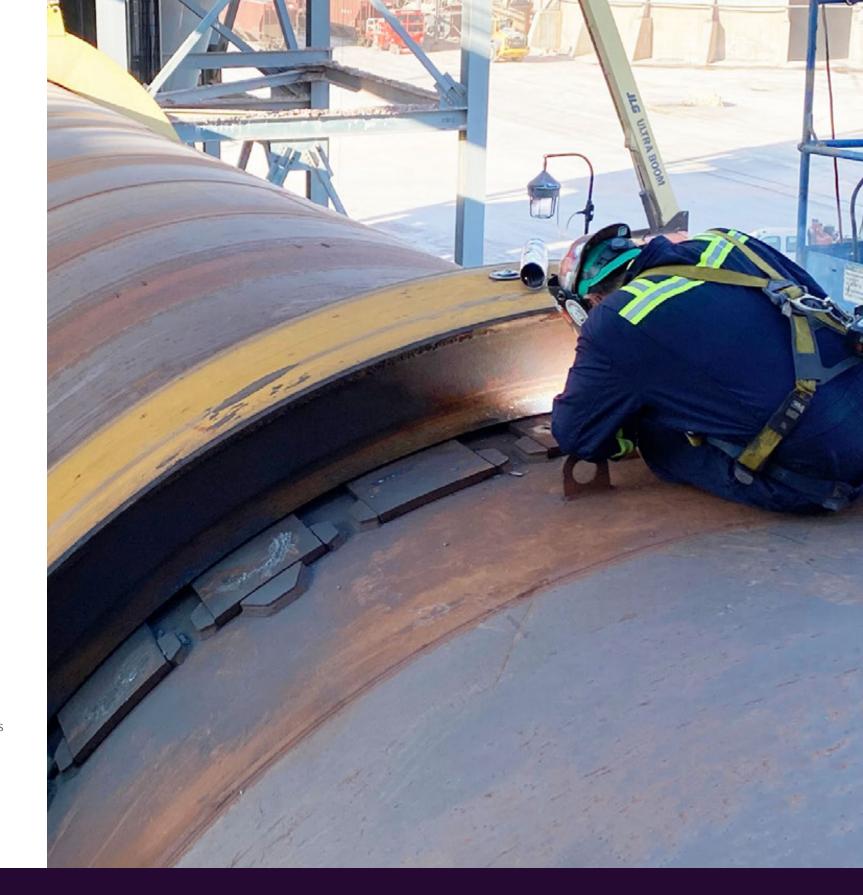
Gear Reducers

- /System Pulleys
 - Guarding
 - Bearings
 - Idlers
 - Covers
 - Drives
 - **Dust Collection Hoods**
 - Trippers
 - Plows
 - Feeders



Rotary Drum
Tire Mounting







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/

