



TOMORROW'S PROCESSES, **TODAY.**

[FEECO.com](http://FEECO.com)

SINCE 1951

## ORGANIC & INORGANIC FERTILIZER GRANULATION SYSTEMS

FEECO was founded in 1951 as the Fertilizer Engineering & Equipment Company. Since our founding, we've developed a reputation as the premier name in custom equipment and complete process systems for the production of both [organic and inorganic fertilizers](#).

You can rest assured when you purchase FEECO systems and equipment, you're getting equipment that was engineered around the material to be processed, and built with longevity in mind. Our engineers work closely with our in-house fabricators to ensure everything is crafted just right. We use only the best materials to provide you with a dependable solution that will work reliably for years to come.

Whether you need replacement equipment, are looking to modify your current process, or you have an idea for a new product you'd like to test out, FEECO can help take you from idea to full-scale production.

### WHO WE WORK WITH

FEECO's expertise has been sought by nearly every big name in the fertilizer industry. Producers come to FEECO for the best in innovative solutions in process design, engineering, and manufacturing. Some of these companies include:



### FEECO CAN SUPPLY

- Acidulators
- Bucket Elevators
- Coating Drums
- Combustion Chambers
- Conveyor Systems
- Disc Pelletizers
- Fluid Bed Dryers
- Granulation Drums
- Hammer Mills
- Pin Mixers
- Pug Mills (Paddle Mixers)
- Rotary Dryers & Coolers
- Tanks, Hoppers, and Chutes

### ORGANIC & INORGANIC MATERIALS

FEECO has experience processing a wide variety of fertilizers and soil amendments, including:

- Ammonium Sulfate
- Chicken Litter
- Chicken Manure
- Compost
- Dairy/Cattle Manure
- Gypsum
- Hog Slurry
- Limestone
- MAP, DAP
- Municipal Sewage Sludge/Biosolids
- NPK
- Potash
- Separated Dairy Manure
- SSP, TSP
- Urea



Automated with  
**Rockwell  
Automation**  
Allen-Bradley · Rockwell Software



CE Certification is available on request

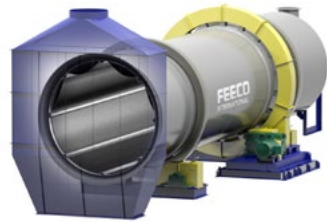
---

# EQUIPMENT

BUILT FOR LONGEVITY

# 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**

- 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)

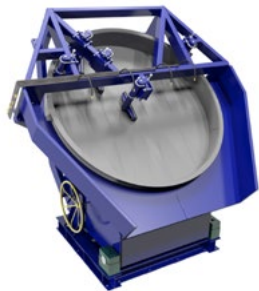
**CAPACITY**  
 500 lb/hr - 250 TPH

**APPLICATIONS**

- Granulation
- Agglomeration
- Conditioning
- Coating
- Mixing



## DISC PELLETIZERS



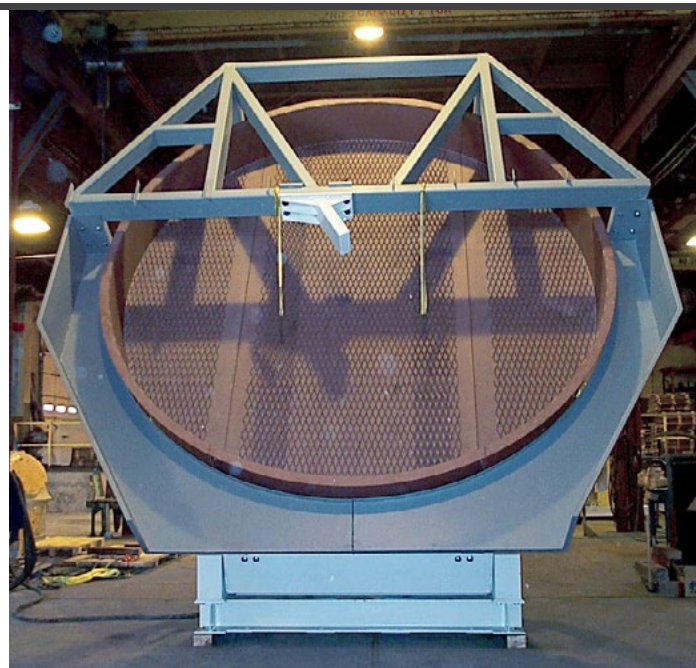
**ABOUT**  
Disc pelletizers offer a high level of particle size control, producing refined, rounded pellets. They are often combined with a pin mixer.

**SIZE**  
 24" - 25' (0.6 - 7.5m)

**CAPACITY**  
 100 lb/hr - 100 TPH

**APPLICATIONS**

- Granulation
- Agglomeration



## PIN MIXERS



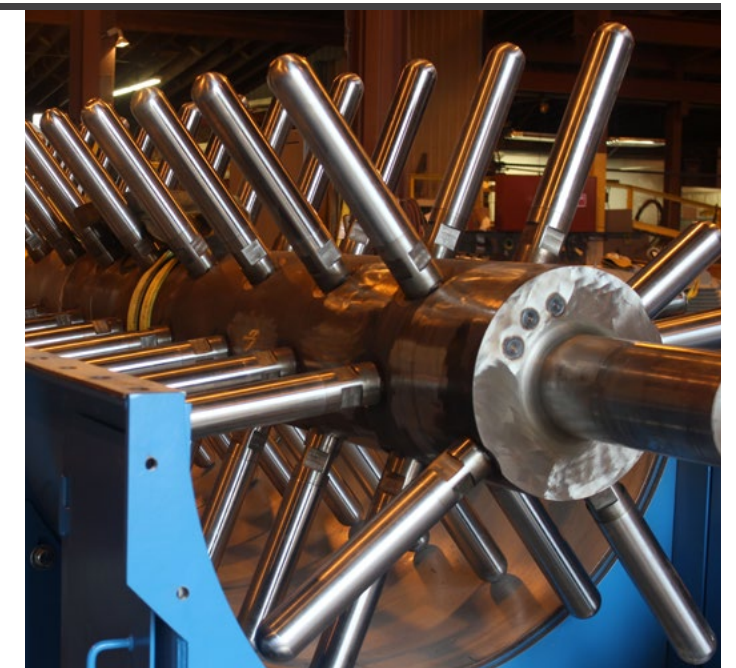
**ABOUT**  
Pin mixers use an intense spinning action to homogeneously mix solid and liquid feed components and produce dense granules.

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

**CAPACITY**  
 200 lb/hr - 70 TPH

**APPLICATIONS**

- Granulation
- Agglomeration
- Conditioning
- Coating
- Mixing



# DRYING & COOLING EQUIPMENT

## ROTARY DRYERS



### ABOUT

[Rotary dryers](#) are known as a workhorse 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)

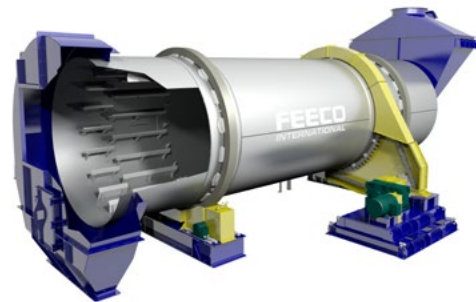
### CAPACITY

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

### CONFIGURATIONS

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

## 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 life span when properly maintained.

### SIZE

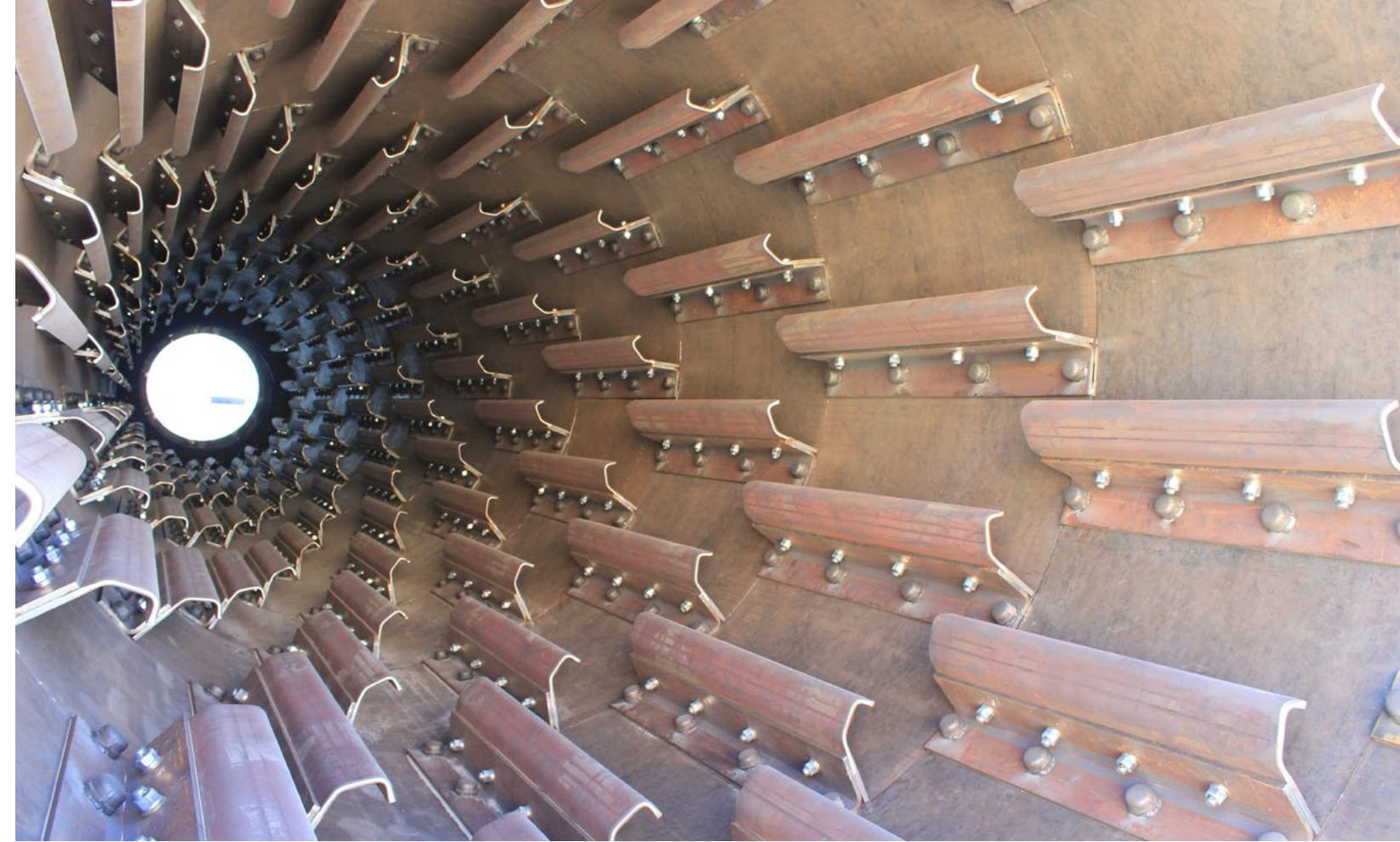
3' - 15' (1 - 4.6 m)

### CAPACITY

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

### CONFIGURATIONS

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



## HAMMERMILLS

### ABOUT

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.

Hammer mills are ideal for use in fertilizer production and can convert oversize agglomerates into the desired product range of minus 4 mesh to plus 20 mesh.

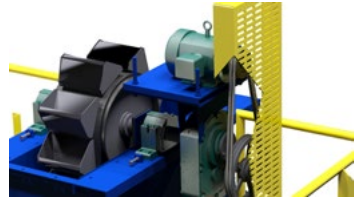
### FEATURES

- Utilize a cracking action instead of grinding or pulverizing
- Non-clogging design
- Designed for easy accessibility
- Durable construction
- Simplified maintenance
- High throughput
- Removable screen



# 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



## REVERSING SHUTTLE CONVEYORS



### ABOUT

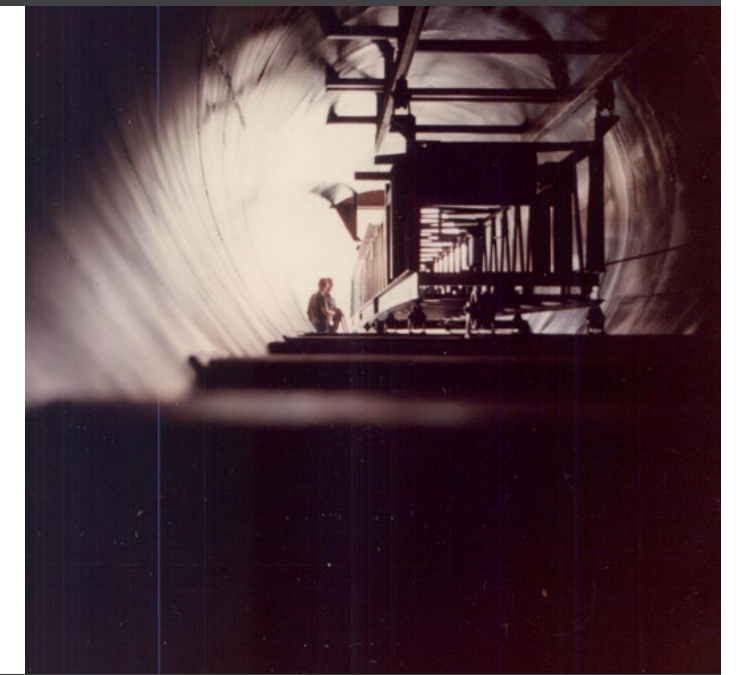
[Reversing shuttle conveyors](#) are used for building in-line, continuous piles, or feeding multiple fixed discharge points.

### 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





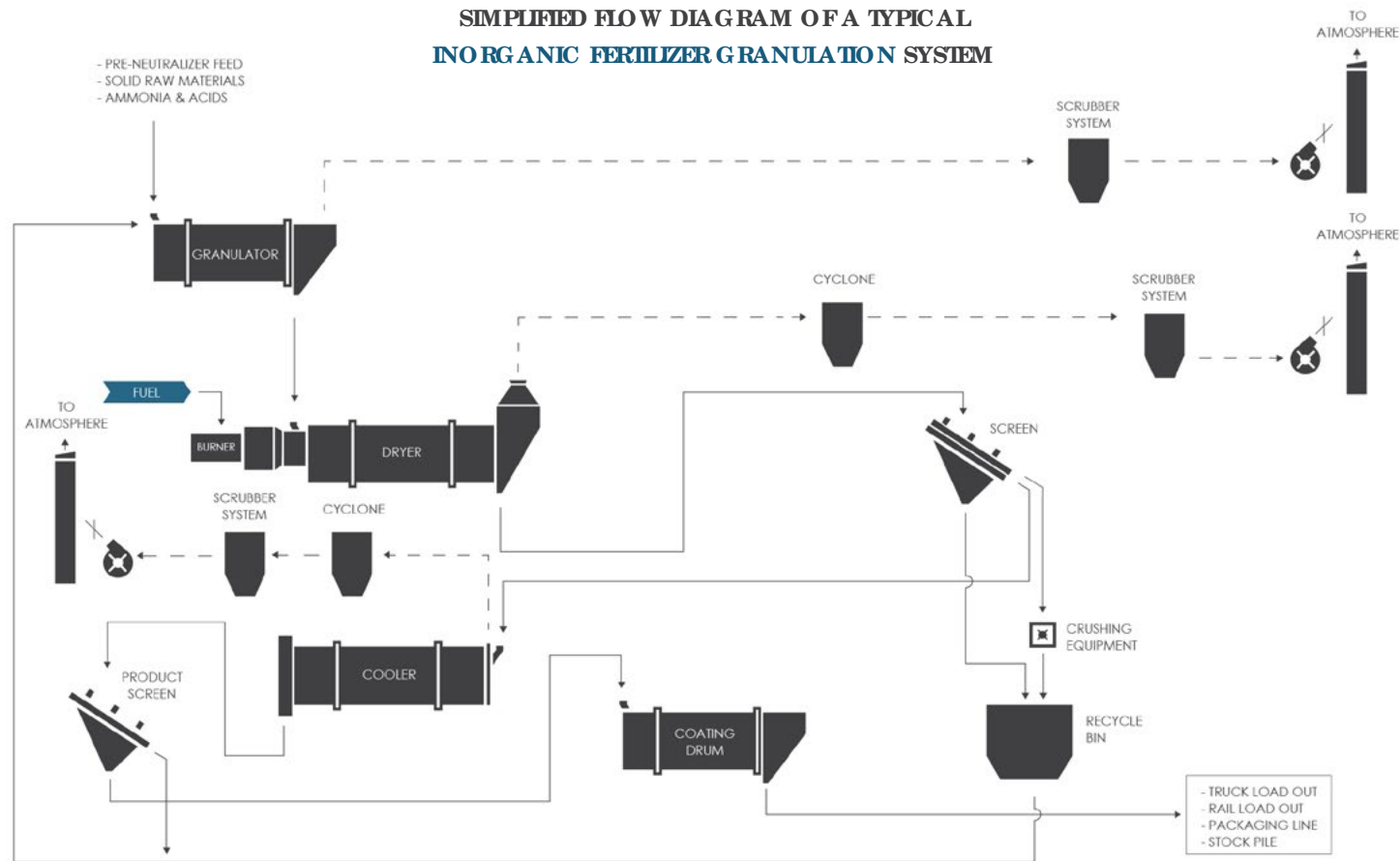
# SYSTEMS

DESIGNED TO PERFORM

# ORGANIC & INORGANIC SYSTEMS

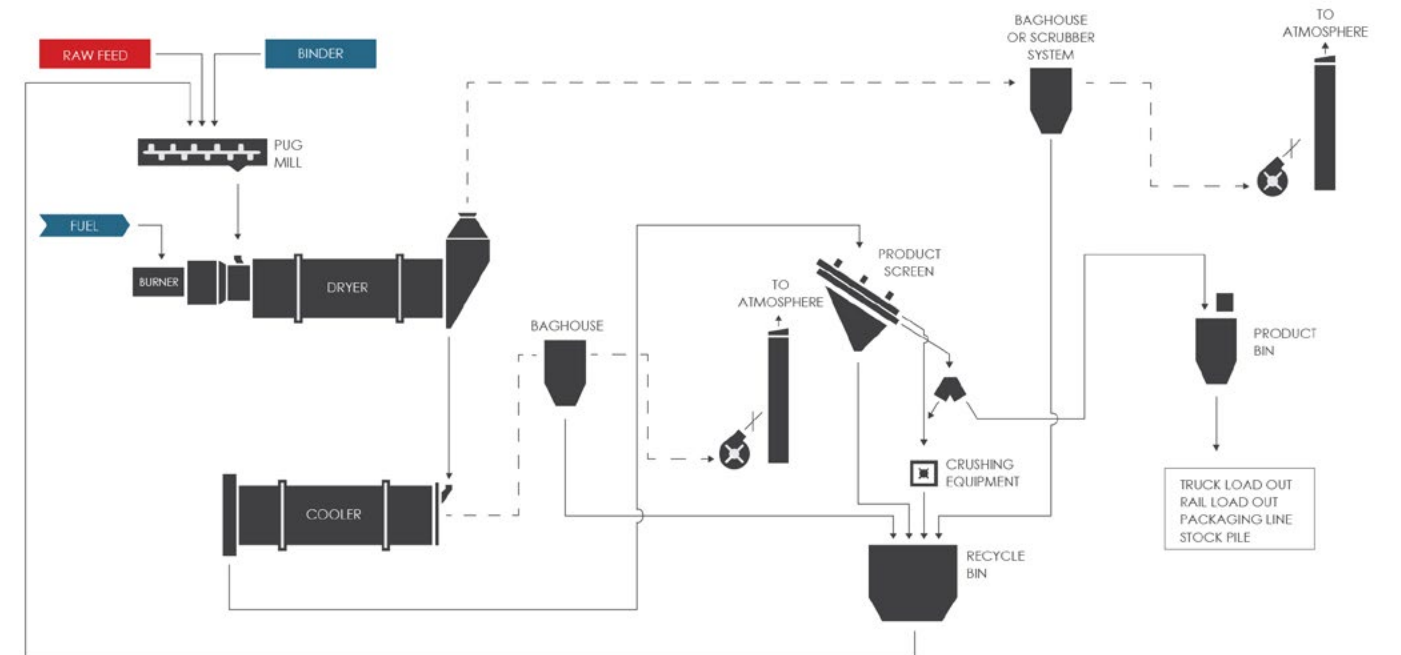
FEECO offers expertise in all approaches to fertilizer granulation, from traditional processes to the latest advancements, as well as novel processing techniques and custom formulations. We can provide everything from a single piece of equipment, to a complete granulation system.

**SIMPLIFIED FLOW DIAGRAM OF A TYPICAL INORGANIC FERTILIZER GRANULATION SYSTEM**

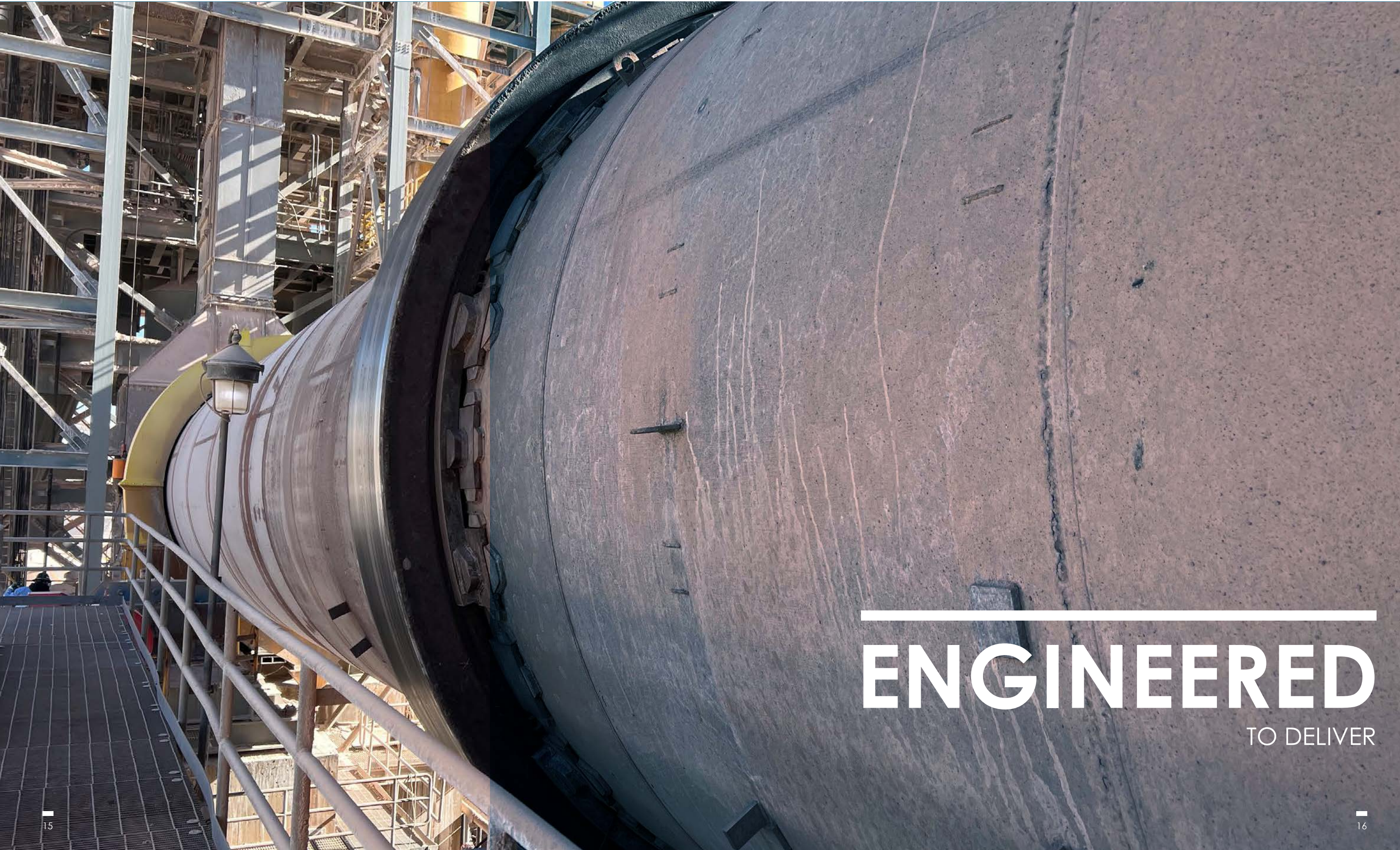


Manure-based fertilizer

**SIMPLIFIED FLOW DIAGRAM OF A TYPICAL ORGANIC FERTILIZER GRANULATION SYSTEM**







---

**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

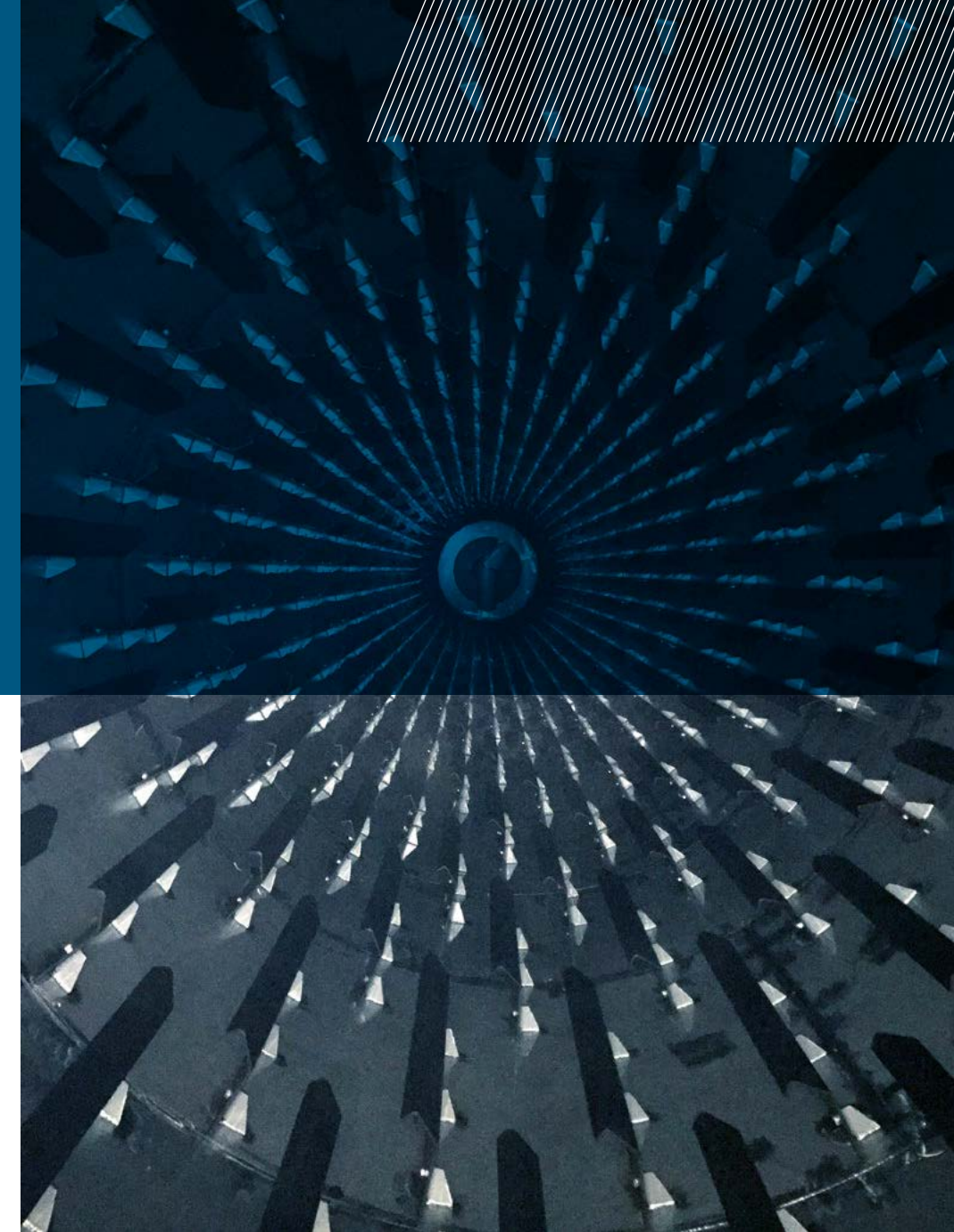
Our engineering department works closely with our on-site fabrication facility to ensure stringent design and quality standards are met.

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://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

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 & Tunnion Grinding
- Drum Tunnion 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)
- Tunnion Wheels
- Thrust Rollers
- Drum Shells
- Drive Components
- Girth & Pinion Gears
- Seals
- Bearings

### DISC PELEIZERS

- Spray Systems
- Disc Assembly
- Drive Motors
- Scrapers/Plovers
- 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
- Tipper
- Plovers
- 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.feeeco.com/FEECO-handbook/)**