

AGGLOMERATION SOLUTIONS



Since 1951, FEECO has been engineering and supplying custom agglomeration equipment and systems for industries around the world. From a single piece of equipment, to a complete system, we can offer you a customized solution, tailored to your processing needs. All FEECO equipment is engineered around the material to be processed, and built with longevity in mind.

UNMATCHED EXPERTISE

FEECO has experience around hundreds of materials and derivatives, giving us a unique and high-level perspective on material processing for both novel and traditional applications.

COMPREHENSIVE SUPPORT

FEECO provides comprehensive support for every stage of the process lifecycle. This starts with options in batch and pilot testing in our Innovation Center, as well as tolling for process and product development, and finishes with our extensive parts and service capabilities to assess, repair, and optimize equipment and existing production lines. We are also a Rockwell Automation partner, allowing us to outfit all equipment with control systems.

WHO WE WORK WITH

FEECO's expertise has been sought by everyone from start-ups to Fortune 100 companies seeking innovative solutions in process design, engineering, and manufacturing for a variety of industries. Some of these companies include:



COMMON MATERIALS:

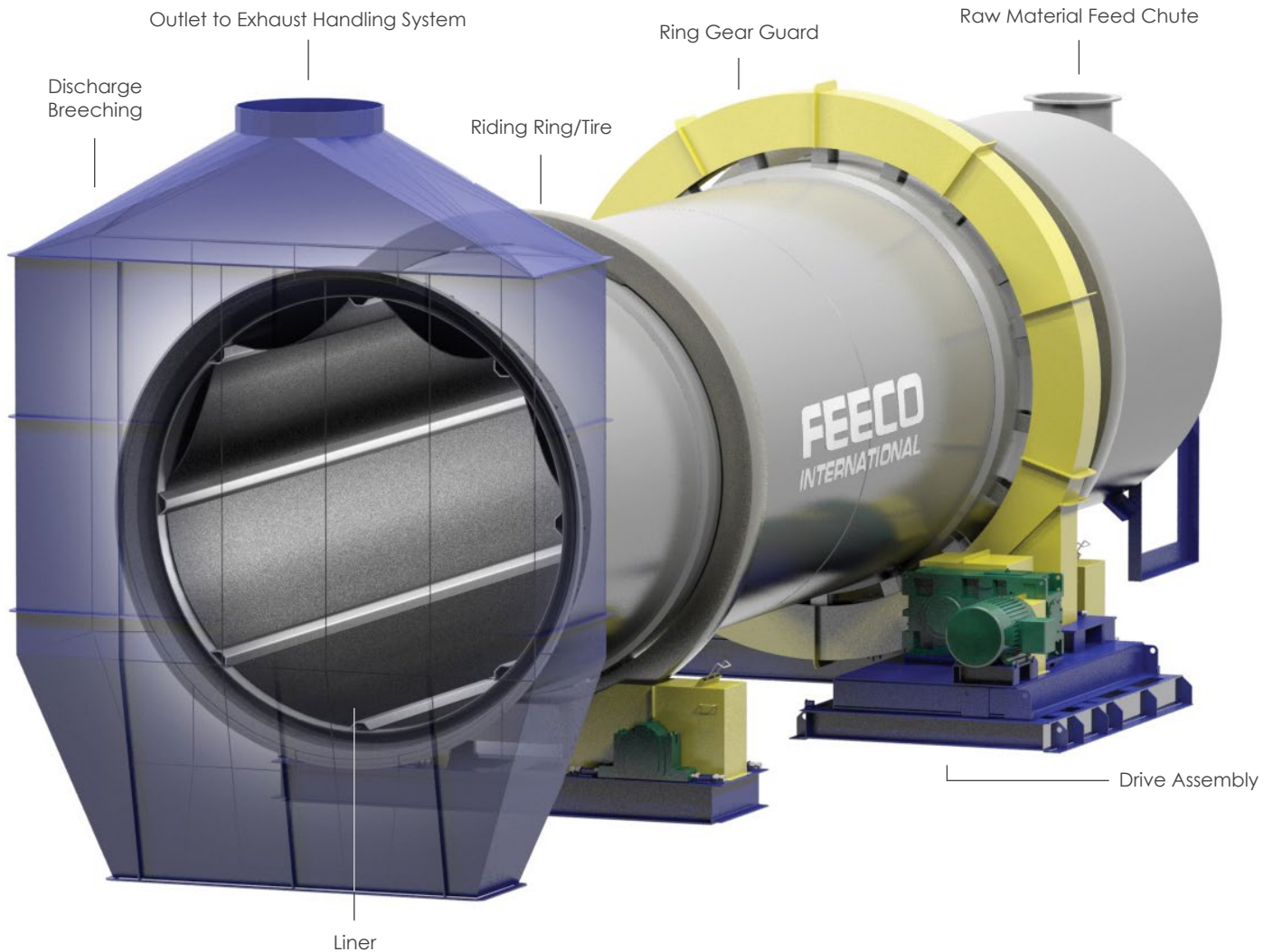
- Aggregates
- Animal Feeds
- Biomass Products
- Clinker
- Coal
- Copper Ore
- Fertilizer Products
- Frac Sand
- Grain
- Gypsum
- Inorganic Chemicals
- Iron Ore
- Lignite
- Limestone
- Nickel
- Organic Chemicals
- Petroleum Coke
- Potash
- Pulp & Paper Products
- Sulfur

For additional information on our agglomeration capabilities, as well as project profiles and more, please see **The FEECO Handbook**.

AGGLOMERATION, CONDITIONING AND COATING DRUMS

Rotary drums serve as the basis for several different types of drums—agglomeration, conditioning, and coating among them. They are also a good option for when agglomeration is carried out with a chemical reaction, such as in the production of granular fertilizers.

Depending on the type of unit, the drum may be equipped with a variety of customizations such as tumbling flights, liners, integrated spray systems, and more. These drums are highly customizable to suit specific production goals, while offering a reliable, high-capacity processing solution. They are often operated with screening and recycle.



FEATURES

- Efficient bed turning/flight designs
- Robust design and construction
- Various material options

CAPACITY | 500 lb/hr - 3500+ TPH

SIZE | Drum diameters from 36" - 15' (1 - 4.6m)

OPTIONAL COMPONENTS

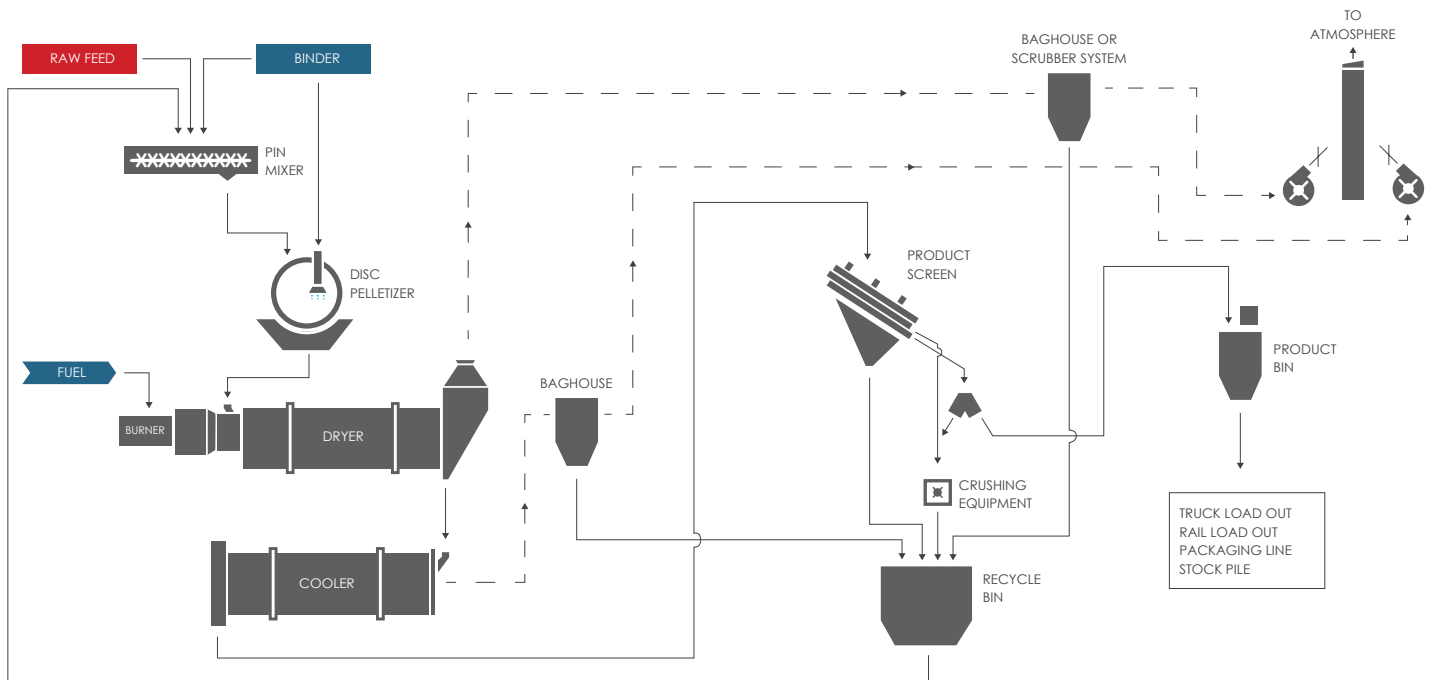
- Spray Systems
- Various Liner Options
- Machined Bases
- Screw Conveyor Feeder
- Automatic Gear Lubrication System
- Variable Speed
- Variable Slope
- Variable Frequency Drive (VFD)

DISC PELLETIZERS

The disc pelletizer can be used for a variety of materials, and is often chosen for its ability to fine-tune a pellet product. Material is fed onto the disc, where it is taken up by the rotation. Both material feedstock and binder are continuously fed onto the pelletizer, making this a continuous process. The binder causes the fines to be tacky, which allows them to pick up more fines as they tumble on the disc. This results in an effect similar to rolling a snowball, referred to as coalescence. Several variables can be adjusted during operation to refine end product characteristics in order to meet exact product specifications.

Disc pelletizers create a round pellet product ideal for use in many applications. They are especially popular in the soil amendment industry, because they create a premium product that can withstand handling and transportation, but still break down easily upon application.

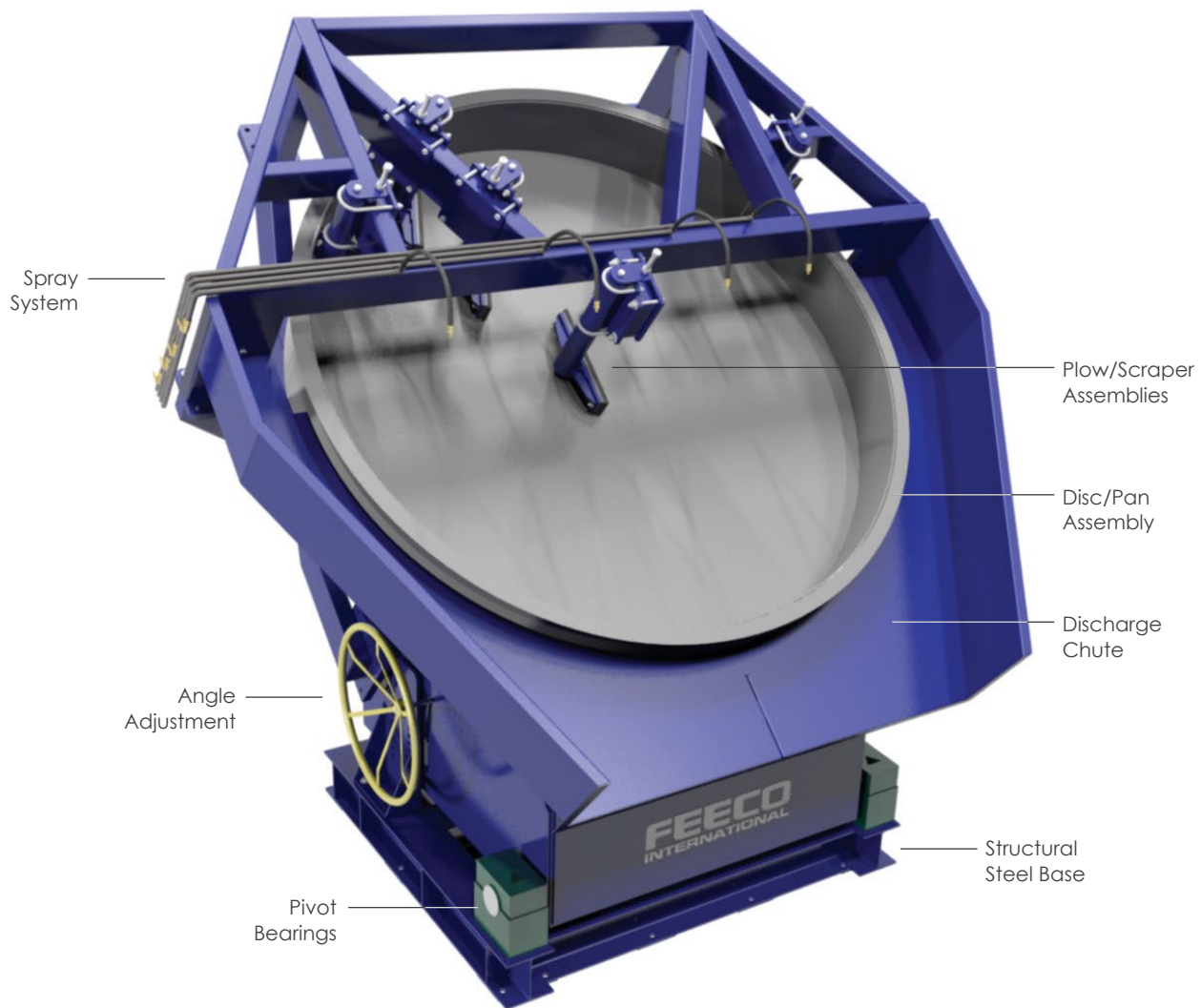
SIMPLIFIED PELLETIZER-DRYER SYSTEM



The diagram above illustrates a typical disc pelletizing system with a preconditioning step. The preconditioning step in the mixer helps to make the process more efficient and more effective by pre-mixing the material and binder in a pin mixer or pugmill mixer.

Copper Hydroxide micro pellets
created in the FEECO Innovation Center

Fly ash granules created in the
FEECO Innovation Center



FEATURES

- 6' (1.8m) and larger discs are lined with expanded metal to reduce abrasive wear
- A hand-wheel operated jacking screw allows for easy adjustment of disc angle
- The base and plow support members provide maximum rigidity, while simultaneously allowing rapid disc angle adjustment, without the need for separate plow adjustment
- Individually mounted vane-type plows easily control and maintain the product layer over the disc's entire surface
- The pivot base is mounted on heavy-duty, anti-friction bearings

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

CAPACITY | 100 lb/hr - 100 TPH

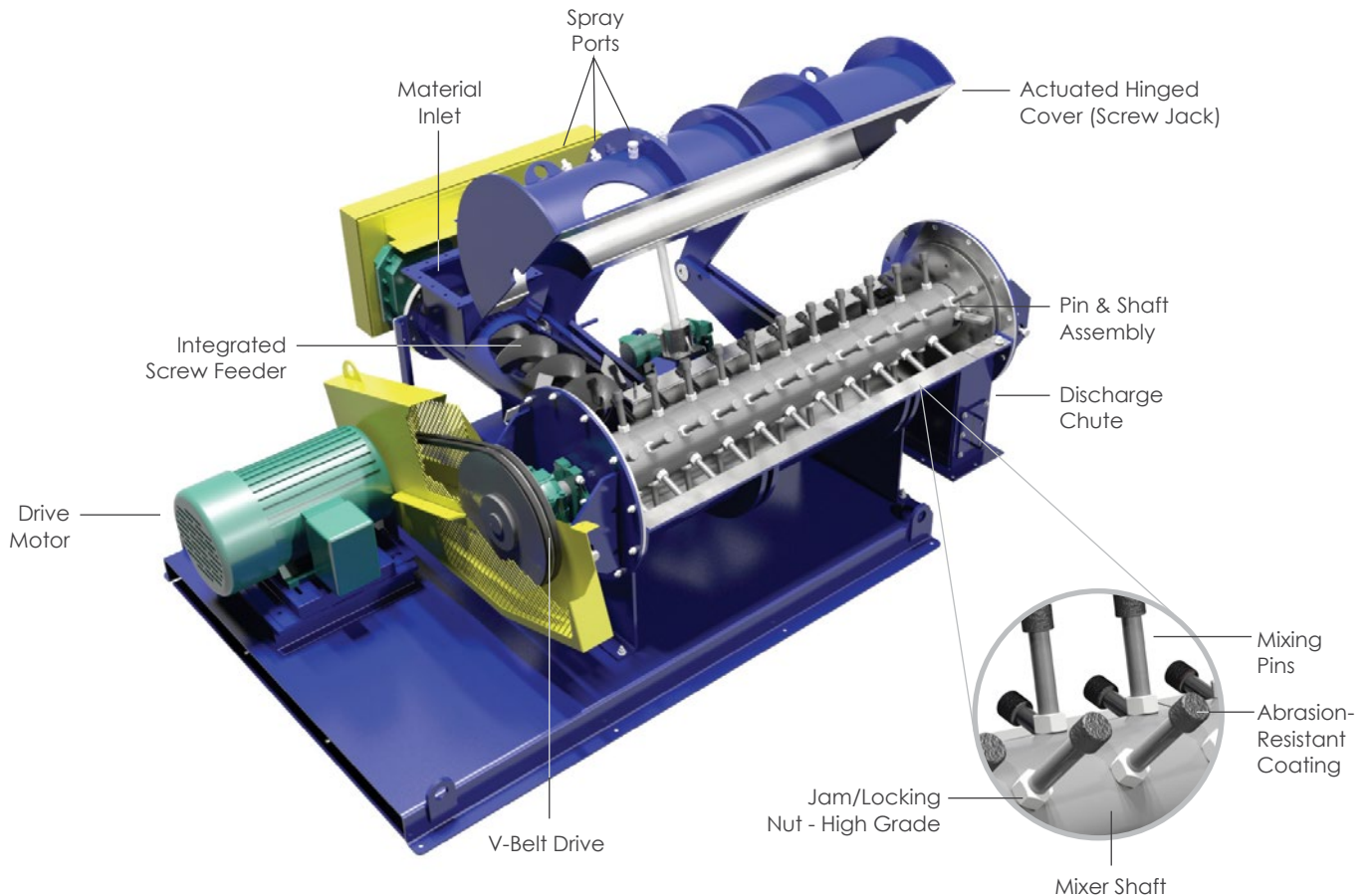
OPTIONAL COMPONENTS

- Reciprocating Scraper
- Partial Hood
- Full Hood
- Stainless Steel Construction
- Variable Frequency Drive (VFD)

*Testing and rental options available

PIN MIXERS

Pin mixers are industrial mixers that are ideal for micro pelletizing and de-dusting applications. Pin mixers are particularly adept at processing ultra-fine materials in the presence of a binder, and can be used as a stand-alone agglomeration unit, or combined with a disc pelletizer or agglomeration drum to produce a premium pelletized product. Pin mixers use a high-speed spinning action to both mix and agglomerate materials in the presence of a binder. A single shaft affixed with rods (pins) rotates at a constant speed, creating a densified product through the use of motion.



FEATURES

- Full sweep pin design
- Polished stainless steel liner to improve machine operation
- Available custom configuration
- Accurate feed ratios of powder to liquid for precise quality control
- Accurate production rates
- Custom designed control panel for housing controls

SIZE | 10" - 50" (254 - 1,270mm)

CAPACITY | 200 lb/hr - 70 TPH

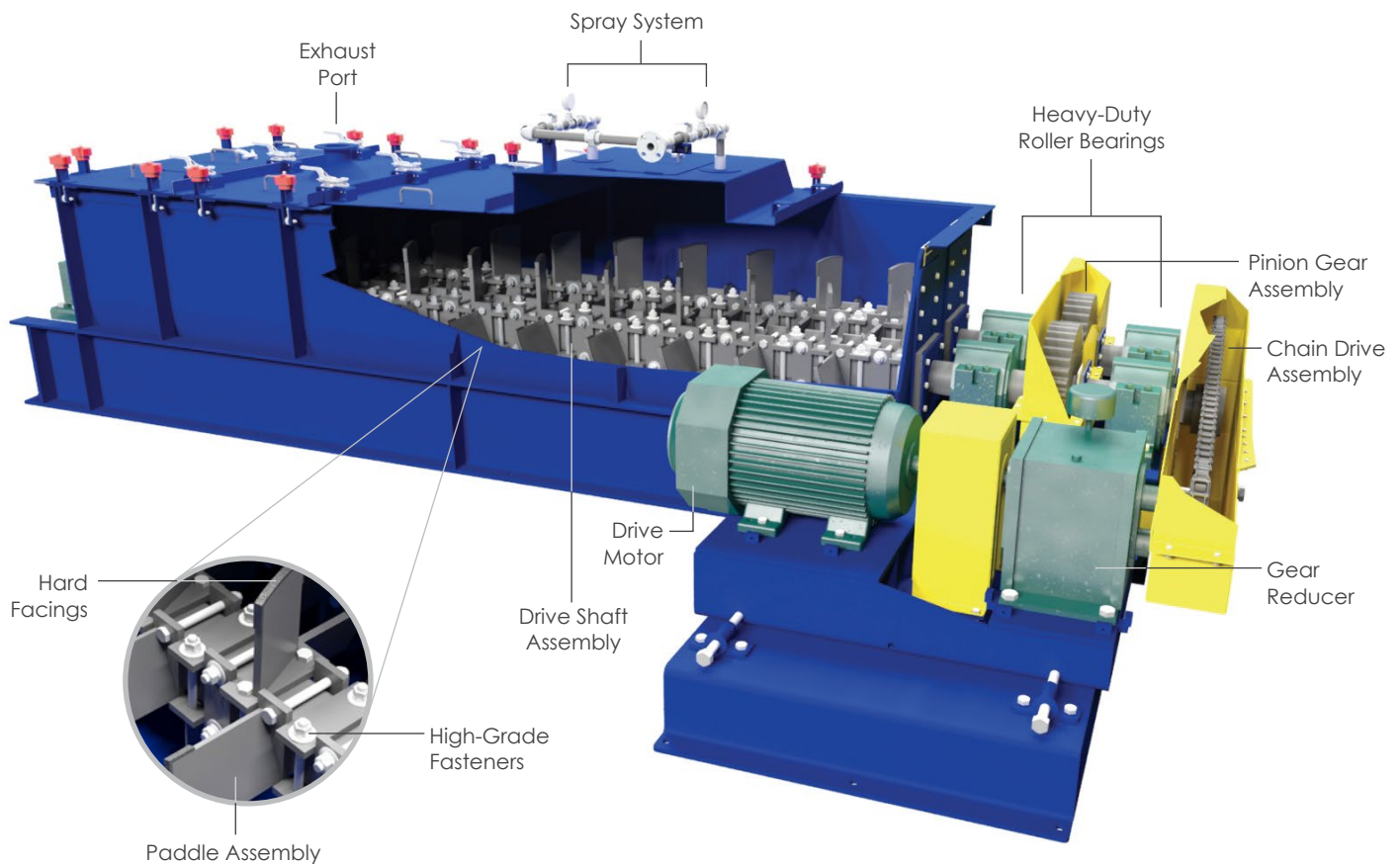
OPTIONAL COMPONENTS

- Zero Speed Switches
- Raising Cover Assembly
- Abrasion-Resistant Pin Coatings
- Two Screw Feeders
- Various Pin Arrangements
- Variable Frequency Drive (VFD)

*Testing and rental options available

PUGMILL MIXERS

Pugmill mixers, also known as pug mills or paddle mixers, are industrial mixers reserved for especially heavy-duty processing applications, such as those found in the mining industry. These industrial mixers are highly adept at processing materials in the presence of a binder to provide thorough mixing of both liquid and solid feed. Pugmill mixers utilize dual shafts with pitched paddles to create a kneading and folding-over motion inside the mixer, resulting in an intimate mixture of materials. Pugmill mixers can be used as a stand-alone agglomeration device, or as a precursor to a disc pelletizing or agglomeration drum setup.



FEATURES

- Double shaft design for thorough mixing of materials
- Heavy-duty construction for years of reliable operation
- Binder spray system to accommodate a liquid feed
- Options in paddle facings to help prevent wear
- Reversible paddles for modifying mixing pattern

SIZE | 14" - 78" (356 - 1,981mm)

CAPACITY | 500 lb/hr - 250 TPH

OPTIONAL COMPONENTS

- Zero Speed Switches
- Mid-Height Cover w/ Spray Assembly
- High Cover w/ Spray Assembly
- Electronic Shock Relay
- Stainless Steel Wetted Parts
- Bottom Doors Open for Cleanout
- Direct Drive

*Testing and rental options available

Calcium Aluminate pellets created in the FEECO Innovation Center

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.

