

# THERMAL PROCESSING EQUIPMENT

An overview on the equipment options for  
**drying, cooling, and high temperature processing**  
of bulk solids

## ROTARY DRYERS & COOLERS

For drying and cooling of bulk solids

### KEY ADVANTAGES



*Reliability, Robust build, Tolerance to feedstock variance, High capacity*

#### DIRECT DRYERS



**SIZE** Drum Diameters **36" - 15'** | **CAPACITY** **1 TPH - 200+ TPH**  
**AIRFLOW** Co-current (Parallel) or Counter Current

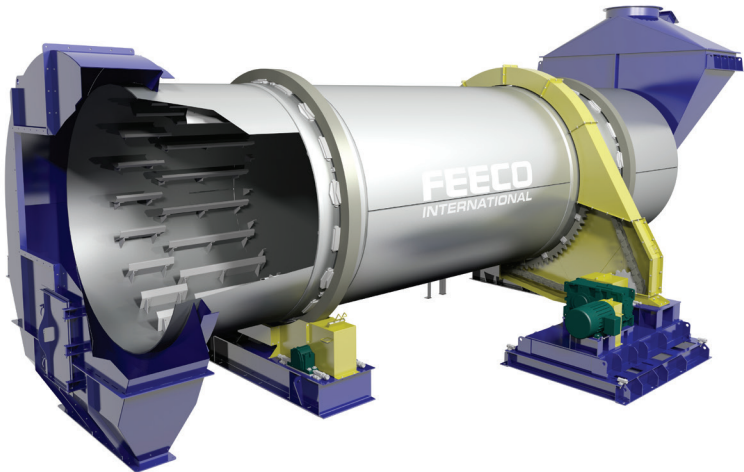
#### WORKS BY

Tumbling solids in a rotating drum in the presence of a process gas. Flights pick up and drop material through the air stream to maximize heat transfer efficiency.

#### TYPICAL APPLICATIONS

- Fertilizers & Soil Amendments
- Ores and Concentrates
- Gypsum | Limestone | Sand
- Potash | Animal Feed
- Biomass | Salts & Sugars
- Animal Bedding from Manure
- Aggregates

#### DIRECT COOLERS



**SIZE** Drum Diameters **36" - 15'** | **CAPACITY** **1 TPH - 200+ TPH**  
**AIRFLOW** Counter Current

#### WORKS BY

Tumbling solids in a rotating drum in the presence of a chilled or ambient air. As with direct dryers, flights are utilized to increase heat transfer.

#### TYPICAL APPLICATIONS

- Fertilizers & Soil Amendments
- Ores & Concentrates
- Gypsum | Limestone | Sand
- Potash | Animal Feed
- Biomass | Salts & Sugars
- Aggregates

**INDIRECT OPTIONS:** Both rotary dryers and coolers are also available in an indirect configuration to provide a setting that avoids entrainment of the material in the air stream and can be used to create an inert processing environment.

## ROTARY KILNS

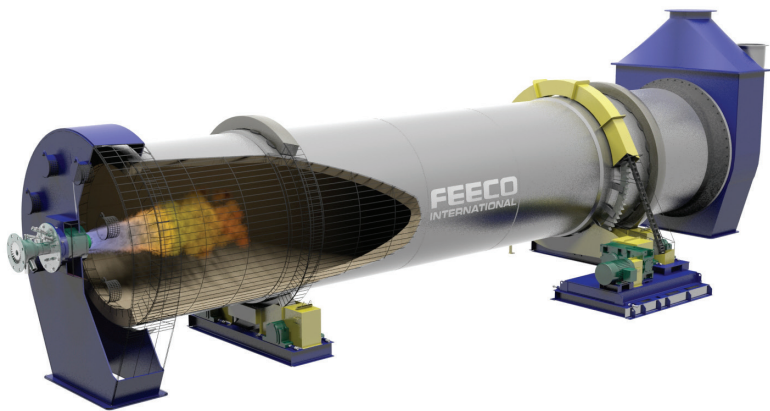
For high temperature processing of bulk solids  
to carry out a **chemical reaction** or **physical change** in the material

### KEY ADVANTAGES



*Highly engineered and capable of carrying out a variety of objectives.*

#### DIRECT-FIRED KILNS



**SIZE** Up to 15' Diameter x 100'+ | **CAPACITY** **1 TPH - 200+ TPH**  
**AIRFLOW** Co-current (Parallel) or Counter Current

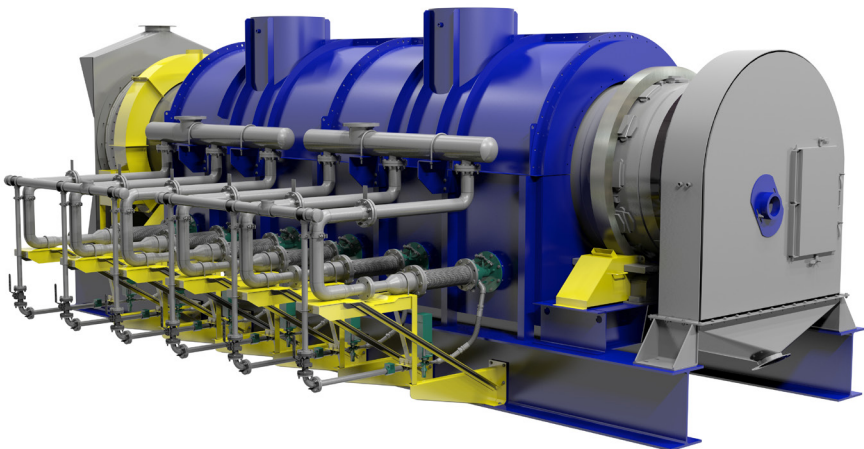
#### WORKS BY

Tumbling solids in a rotating drum in the presence of a high temperature process gas.

#### TYPICAL APPLICATIONS

- Activated Carbon | Alumina
- Electronic Waste | Catalysts
- Pigments | Precious Metals
- Proppants | Phosphate Ore
- Specialty Ceramics
- Waste Materials

#### INDIRECT-FIRED KILNS (AKA CALCINERS)



**SIZE** Up to 15' Diameter x 75'+ Heated Length  
**CAPACITY** **200 LB/HR - 20 TPH** | **AIRFLOW** Cross Flow

#### WORKS BY

Tumbling solids in a rotating drum, which is sealed off and externally heated, creating an inert environment and mitigating the risk of entrainment of fines in the process gas. Material is heated by contact with the shell of the drum.

#### TYPICAL APPLICATIONS

- Activated Carbon | Alumina
- Electronic Waste | Catalysts
- Pigments | Precious Metals
- Proppants | Phosphate Ore
- Specialty Ceramics
- Waste Materials

## THERMAL PROCESSING SOLUTIONS

FEECO is a globally recognized provider of custom thermal processing equipment and process solutions. We offer custom equipment, including everything mentioned here, as well as process and product development services. We also offer a unique feasibility testing lab - The Innovation Center, where thermal processes can be tested at both batch and pilot scale to gather process data and develop a recipe for process scale-up.

For more information, contact us today at [FEECO.com/contact](https://www.feeeco.com/contact)