

**FEECO**  
INTERNATIONAL

## FRAC SAND DRYERS





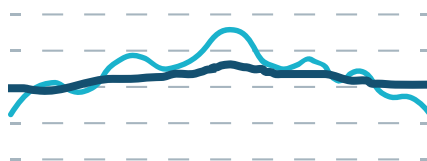
## WHY ROTARY

[Rotary dryers](#) are the industry standard for drying frac sand, and for good reason—they provide a number of benefits over other dryer types, as explained below. When engineered and constructed with the unique characteristics of frac sand in mind, rotary dryers provide a heavy-duty industrial drying solution for the most demanding settings.



### HIGH THROUGHPUT

Capable of processing in excess of 300 TPH in a single unit, rotary dryers are the preferred choice in frac sand drying because they offer a high throughput. In an industry where production capacity is critical, a high capacity dryer is an obvious choice.



### TOLERANCE TO FEEDSTOCK VARIATION

One of the primary reasons why rotary dryers are chosen for frac sand is their tolerance to variance in the feedstock, which is often a given when it comes to frac sand. Frac sand fed to the dryer covers a range of particle sizes and can vary in moisture content.

Rotary dryers provide a uniform drying solution, despite such variance, while other dryer types are highly sensitive to changes in feedstock, requiring a uniform feedstock to maintain efficient operation.



### LONG-TERM RELIABLE PROCESSING

Our dryers have a reputation for being the best in the industry. Heavy-duty construction and strict quality standards ensure our dryers are built for years of reliable service.

# DIRECT ROTARY DRYERS

Direct dryers rely on direct contact between the material and drying air. This direct contact, combined with the use of lifting flights, maximizes the heat transfer between the material and drying air, offering a highly efficient processing solution.

**CAPACITY** | 1 TPH - 300 TPH+  
(1 MTPH - 272 MTPH+)

**DIAMETER** | 3' - 15' (1 - 4.6 m)

## FEATURES

- Specially designed lifting flights
- Heavy-duty design and construction
- Process and mechanical warranties
- Co-current or counter current design

## OPTIONAL COMPONENTS

- Various Seal Options
- Knocking Systems
- Trommel Screen
- Liners
- Machined Bases
- Screw Conveyor Feeder
- Automatic Gear Lubrication System
- Exhaust Handling Equipment
- Various Burner Configurations
- Ductwork

## MATERIAL OPTIONS

- Carbon Steel
- Stainless Steel
- Specialty Alloys
- Explosion Bonded
- AR Steel

## DRIVE OPTIONS

- Chain & Sprocket
- Girth & Pinion Gear
- Friction Drive
- Direct Drive at discharge end

## Accommodates Various Fuel Types

- Fuel Oil
- Natural Gas/Propane
- Waste Heat
- Biogas



# ADVANTAGES OF A FEECO FRAC SAND DRYER

As a leader in thermal processing since 1951, FEECO has extensive experience in designing drying systems around hundreds of materials. As such, our frac sand dryers offer a number of advantages over our competitors.

## REDUCED CARRYOVER & DUST

While some manufacturers may use a larger diameter drum to accommodate a slower airflow velocity, thereby reducing the amount of carryover, the larger the drum diameter, the higher the cost of the equipment.

FEECO optimizes the drum diameter, which in turn maximizes efficiency. However, with increased airflow comes a risk of entrainment. By utilizing an oversize discharge hood (knockout chamber), FEECO is able to use maximum airflow, while minimizing carryover, resulting in a process that is both high capacity and high efficiency. The use of an optimal diameter drum also reduces the cost of the system.

Along with reduced carryover comes reduced dust and mitigation of its associated issues. The ability to minimize dust on-site is becoming increasingly critical, as regulations around dust control tighten. In addition to minimizing dust from carryover, dust can be further reduced through the selection of a proper seal between the rotating drum and the discharge breeching.

## IMPROVED PRODUCT INTEGRITY

FEECO utilizes our custom [combustion chambers](#) to maintain product integrity. The use of a FEECO combustion chamber prevents the burner flame from coming into direct contact with the product. When working with frac sand, this avoids breakdown of the product, which can occur if critical breakdown temperature were to be reached as a result of direct contact between the material and the flame. This also reduces CO emissions to the atmosphere.

Combustion chambers also promote increased efficiency through more uniform drying, as well as reduced drying costs due to a more complete combustion of the fuel.

## BUILT FOR LONGEVITY

The abrasive characteristics of frac sand, combined with high capacities, require a drying system designed to withstand such aggressive demands. By utilizing higher grade materials in the design of the unit, frac sand dryers can last reliably for years to come.

It's important to note that this harsh processing environment will also influence the design of frac sand handling equipment. Bucket elevators and conveyor systems will require a heavy-duty design to withstand the demands of handling frac sand.

## CUSTOMIZED FLIGHTS

While flights have always been used in frac sand dryers, flight design and pattern has become more customized to drying frac sand. Advancing flights are often used at the inlet of the dryer to help move sand into the dryer. Flights can also be fabricated of abrasion-resistant steel and bolted in for easy replacement when they wear out.