

Bartlett-Snow™ Rotary Kilns

For high temperature applications

- Known for their high on-line availability and operational integrity
- Extensive range of systems, components and services
- Designed and manufactured with exacting standards



The Bartlett-Snow™ Rotary Kilns are known for their high on-line availability and operational integrity for tough applications involving high temperatures, corrosive conditions and atmospheric control operations.

We offer an extensive range of systems, components and services to support the Bartlett-Snow™ product line. From initial pilot plant testing, equipment design and manufacture; to training, start-up and commissioning; maintenance assistance and supply of replacement parts, we are committed to meeting our client's needs.

Design features

Bartlett-Snow™ Rotary Kilns are designed and manufactured with exacting standards to meet processing requirements for a variety of industries worldwide.

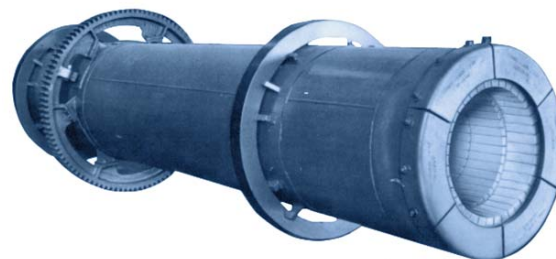
Direct-fired refractory lined kilns are provided for applications requiring material temperatures up to 3000°F / 1600°C and atmospheres that are oxidizing or slightly reducing. The units can be arranged for co-current or counter-current operation, with counter-current arrangement most frequently utilized.

In addition, the process material must tolerate contact with products of combustion and/or the burner flame envelope, as well as reflect a particle size range, specific gravity and shape permitting reasonable gas velocities through the cylinder.

They are designed and shop fabricated in sizes ranging from:

- Diameter range: 24-144in / 610-3658mm
- Length range: 12-160ft / 3.65-48.76m

Typical materials processed include activated carbon, alumina, aggregates, bauxite clay, catalysts carriers, calcium carbonate, chromium oxides, ferrites, kaolin clay, ore concentrates, petroleum coke, silica foundry sand, titanium dioxide and zircon sand.



Rotary kiln cylinder

System overview

The Bartlett-Snow™ Rotary Kiln design consists principally of a revolving refractory lined cylinder supported in two riding rings, each resting on two trunnion rolls. The cylinder is rotated by means of a girth gear and pinion drive arrangement.

Although most kiln cylinders have the same diameter throughout the length, we can provide special kilns with enlarged firing ends to retain the processed material longer in the area of highest temperature, in order to meet unique processing requirements.

The time for material to pass through the kiln is controlled by the slope of the cylinder to the horizontal, the cylinder rotation rate and velocity of the gases through the cylinder. The cylinder imparts a rolling and mixing action to the material which produces a homogenous end product.

Both ends of the cylinder are enclosed by stationary breechings with rotary seals as required for the application. The feed breeching is refractory lined and can utilize a feed chute or a variety of feeding mechanisms.

At the discharge end, the refractory lined firing hood is carriage mounted so that it can be rolled back to permit access to the cylinder interior.

Rotary kilns are provided with automatic temperature, pressure and electrical controls, with burner systems capable of firing natural gas, propane and/or oil.

Retention time considerations

$$\text{Retention Time: } T = (K_f \cdot L) / (R \cdot D \cdot S)$$

T = Retention time of material through the cylinder

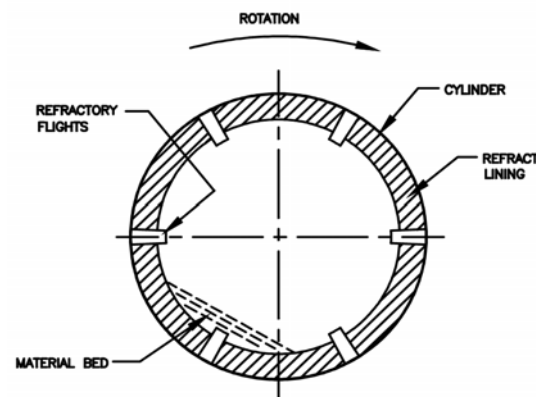
K_f = Empirical factor determined by test work

R = Cylinder RPM

D = Diameter of cylinder

S = Slope of cylinder

L = Length of cylinder



Rotary kiln with internal flights

Coperion

7901 NW 107th Terrace
Kansas City, MO 64153
816-891-9300
info@coperion.com
www.coperion.com/fpm