

Bartlett-Snow™ Rotary Calciners

For high temperature processing

- **Highly effective and cost efficient means for high temperature processing**
- **Maximum product uniformity**
- **Greater yields**
- **Reduced capital and operating costs**



Bartlett-Snow™ Rotary Calciners are a highly effective and cost efficient means for high temperature processing of various granular products and powders.

System overview

Material is fed into a rotating cylinder that is externally heated according to process driven related time versus temperature criteria. As the cylinder rotates, the material is gently tumbled as it flows from the feed end of the cylinder to the discharge end. This action promotes uniform exposure of the product to a defined environment. Various processes employ reaction gases in direct contact with the product to propagate a given reaction or cover gases to protect the product.

Proper selection of the calciner cylinder material is critical and is determined by process temperature, process compatibility and physical size considerations.

Design features

Bartlett-Snow™ Rotary Calciners are provided with automatic temperature, pressure and electrical controls with furnaces featuring gas/oil burners or electrical heating elements. Gas tight seals are available to allow processing atmospheres to be tightly controlled to oxidize, reduce, inert, steam or pyrolyze. Operation can be co-current or counter-current.

Units are available with frame mounting and sizes ranging from:

- Diameter range: 6-120in / 150-3048mm
- Length range: 10-100ft / 3.04-30.48m

Typical materials processed include activated carbon, catalysts, tungsten compounds, metallic oxides, zinc oxide, vanadium compounds, ceramic compounds, uranium compounds, rare earth compounds, titanium oxide, manganese oxide.

Typical Cylinder Capacities

Max Operating Temperature	1150°F 621°C	1500°F 815°C	1800°F 982°C	2000°F 1093°C	2250°F 1230°C	2732°F 1500°C	3632°F 2000°C	Max. Tube Diameter	Max. Heated Length
304SS/316SS	X							120in/3048mm	90ft/27.43m
309/310	X	X						120in/3048mm	90ft/27.43m
330	X	X	X					120in/3048mm	90ft/27.43m
600 Series Alloy	X	X	X	X				120in/3048mm	90ft/27.43m
Quartz	X	X	X	X				24in/609mm	20ft/6.09m
Alloy(proprietary)	X	X	X	X	X			10in/260mm	7ft/2.13m
Mullite	X	X	X	X	X	X		8in/203mm	7ft/2.13m
Alumina	X	X	X	X	X	X		8in/203mm	5ft/1.52m
Silicon carbide	X	X	X	X	X	X		14in/356mm	9ft/2.74m
Graphite	X	X	X	X	X	X	X	18in/457mm	10ft/3.04m

Advantages

Compared to conventional tunnel or mesh belt style equipment Bartlett-Snow™ calciners offer the following advantages:

- Maximum product uniformity - the material is constantly being turned over, all of it exposed uniformly to its required environment.
- Greater yields – all of the material is processed uniformly preventing overheating or under heating
- Reduced process time factor – due to the dynamics of the product bed, process time requirements are significantly reduced.
- Reduced capital costs – with reduced process time requirements, the equipment is smaller and therefore less costly.
- Reduces operating costs – material is continuously conveyed, eliminating the ongoing replacement costs of holding containers and automation devices

Available equipment features and services

- Equipment type – continuous, batch
- Method of heating – electric resistance, natural gas, propane
- Operating atmosphere – oxidizing, reducing, steam, pyrolyzing
- Lubrication systems – auxiliary backup capability, bearings, gears, sprockets, riding rings, rolling components, seals
- Cylinder drives – auxiliary backup drives, chain drives, gear drives, tube rotation monitoring, fixed and variable speed
- Components – adjustable slope capability, off-gas systems, gas mixing panel, heat recovery system, innovative equipment seals, integral product cooling, material metering equipment, PLC control system.
- Services – process development, size selection capabilities, installation & commissioning, operation & maintenance training, OEM replacement parts, technical field service

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