

Bartlett-Snow™ Guide to Quality Equipment

Solutions for heat transfer applications

- Latest engineering techniques
- State-of-the-art manufacturing
- Exclusive testing resource center
- OEM replacement parts
- Full range of technical services



Bartlett-Snow's long established capability to supply processing equipment and systems is the key to the success of our product line. It is the result of many years of specialized experience in the design, development and application of reliable equipment for the process industries.

Our extensive knowledge covers the full spectrum of drying, cooling, and calcining applications, as well as resource recovery applications, such as activated carbon regeneration, tire pyrolysis, metal reclamation and soil remediation.

Engineering capabilities

Every unit is custom designed utilizing the latest engineering techniques and processes. This includes two and three dimensional CAD modeling, Finite Element Analysis (FEA) for mechanical and thermal stress analysis and Computational Fluid Dynamics (CFD) for optimizing designs for airflow and heat transfer related issues.

Technical services

Our experienced field service engineers are available to assist with commissioning, maintenance and troubleshooting of our complete product line.

Manufacturing

Our products are manufactured in facilities that we have comprehensively assessed as possessing state-of-the-art manufacturing resource planning systems, production equipment and quality assurance techniques in support of fabrication, welding, machining, assembly and testing.

Testing resources

Our pilot plant facility is used exclusively to test and demonstrate the capabilities of Bartlett-Snow™ equipment under simulated production conditions. It houses a wide range of pilot and full-scale equipment capable of thermal processing, grinding or classifying a wide variety of minerals, chemicals, foods or other materials. Tests are conducted on large material lots to determine the physical data needed for proper equipment selection.

OEM replacement parts

Bartlett-Snow™ original parts are the best match for your equipment. We maintain a database of the original specifications of all equipment, by serial number and model. This results in an accurate record for each piece of equipment including custom designed variations for specific applications, ensuring that the parts you order are always correct.

Bartlett-Snow™ thermal processing equipment

Bartlett-Snow™ rotary thermal processing equipment share many of the same basic design features. Material is fed into an inclined rotating cylinder causing the material to be transported through the unit. The cylinder is supported by riding ring mounted on the cylinder, each ring rests on a trunnion roll assembly. Thrust rolls located on both sides of one ring help constrain lateral movement of the cylinder. The cylinder is rotated by either a chain and sprocket or gear and pinion in conjunction with a reducer and drive motor. The ends of the cylinder are enclosed by breechings that contain the material feeding and discharge provisions, as well as seal components that prevent transfer of process atmosphere with the ambient environment.



Bartlett-Snow™ Rotary Calciners

Indirectly heated by a series of burners or electrical heating elements, the calciner is ideal for processing fine powders, pellets and extrudates, and granular materials in high temperature oxidizing, reducing or inert atmospheres.

- Sizes from:
Diameter 6-21in / 152- 522mm
Length 7-100 ft / 2.13-30.48m
- Cylinder materials and temperatures
metallic 2460°F / 1349°C,
ceramic 2800°F / 1538°C
graphite 3990°F / 2199°C
- Options including integral cooling, pre-piping, pre-wiring, and internal bed temperature monitoring



Bartlett-Snow™ Rotary Indirect Lab Calciners

Ideal for laboratory, pilot plant, or small quantity production. Features a 2in / 50mm screw feeder, four zone electrical heated furnace, breeching with bellow seals, indirect water spray cooling section and cylinder drive mounted on a frame with support legs and provisions for slope adjustment.

- Sizes from:
Diameter 6.5in / 165mm
Length 11ft / 3.35m
- Standard operating temperature to 2010°F / 1099°C
- Special designs to 3990°F / 2199°C
- Knocker assemblies for sticky materials
- Temperature and power controls in free standing panels



Bartlett-Snow™ Rotary Dryers

Directly heated dryers bring heated air, tempered products of combustion, or other heated specialty gases into contact with the process material. Drying media can be provided by breeching mounted burner, independent air heater, steam coils, or waste heat sources.

- Sizes from:
Diameter 18-156in / 457-3962mm
Length 10-100ft / 3.04-30.4m
- Process temperature to 930°F / 499°C
- Option for pre-piping and pre-wiring of burner train



Bartlett-Snow™ Rotary Indirect Dryers

Indirectly heated by a series of burners, electric heating elements, or waste heat source, the indirect dryer is designed for removing moisture or volatiles from powders, pellets, extrudates, and granular materials in oxidizing, internal reducing or inert atmospheres.

- Sizes from:
Diameter 6-120in / 152-3048mm
Length 10-100ft / 3.04-30.4m
- Process temperature to 930°F / 499°C
- Options including integral cooling, pre-piping and pre-wiring of burner train, and bed temperature monitoring



Bartlett-Snow™ Rotary Coolers

The direct air-swept design with internal flighting, brings hot material into direct contact with the cooling medium, in a counter-current flow configuration. The cooling medium may be ambient air, cooled air or special gases. The cooled material temperature can approach to within 10-20°F / 5-10°C of the cooling media temperature.

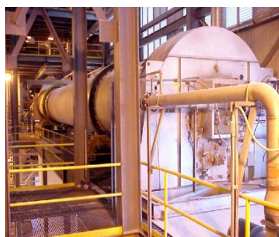
- Sizes from:
Diameter 18-156in / 457-3962mm
Length 10-100ft / 3.04-30.4m
- Standard metallic design
1290°F / 690°C
- Specialized designs to
2910°F / 1599°C



Bartlett-Snow™ Rotary Indirect Coolers

The indirect design consists of a cylinder enclosed in a cooler jacket with water sprays along its active length. Appropriate for applications involving fine powders, pellets, granular materials in oxidizing, reducing or inert atmospheres.

- Sizes from:
Diameter 6-120in / 152-3048mm
Length 10-100ft / 3.04-30.4m
- Standard metallic design
2370°F / 1299°C
- Cooled material temperature can approach 212°F / 100°C



Bartlett-Snow™ Rotary Kilns

Directly fired refractory lined kilns are effective for processing materials in a oxidizing or slightly reducing atmospheres that can be in direct contact with products of combustion and/or the burner flame envelope. Material particle size range, shape and specific gravity must accommodate the gas velocities within the cylinder.

- Sizes from:
Diameter 24-144in / 609-3659mm
Length 12-160ft / 3.65-48.7m
- Process temperatures to
2910°F / 1599°C
- Gas, oil or dual fuel burners
- Co-current or counter-current operation
- Option for pre-piping or pre-wiring of burner train



Raymond® Flash Drying Systems

Process material is conveyed in the drying media, thus providing the rapid removal of moisture from mesh and micron sized particles that quickly release water, primarily as surface moisture. They are easy to operate and can process materials that are fine, sticky, moderately abrasive and heat sensitive. Flash cooling and flash calcining are also available.

- Evaporative capacity up to
44,000 lbs/hr / 19958 kg/hr
- Oxygen control using recirculation of vent gases
- Fuel sources include gas, oil, steam coils and customer waste heat or dual fuel burners
- Cooling medium is typically ambient or conditioned air

Design features common to the various arrangements of Raymond® flash drying systems typically include a feeder, vertical column in which the majority of the drying, cooling and calcining is done, cyclone collector, secondary collector, system fan and connective ductwork. These systems can also include a double paddle mixer for conditioning and homogenizing the feed, cage mill to help deagglomerate the material as fed, and provision for heating or cooling the transport media.

Bartlett-Snow™ Technical Services

Technical field service

Our staff of experienced field service engineers are available to assist with equipment commissioning, maintenance, and service of our entire product line.

Equipment inspection

An important factor in reducing maintenance costs and improving general performance is regular equipment inspections. A member of our technical service team will visit your site and conduct an in-depth mechanical inspection or process evaluation of your system's equipment.

Operating seminars

Conducted at your facility, these training seminars have proven to be extremely valuable in aiding plant personnel to operate and maintain equipment more effectively resulting in reduced costs and downtime. For more information on seminars please contact our maintenance sales department.

Modification and upgrade packages

We have developed a number of improvements that can be installed in existing equipment in the field as conversion packages. These include but are not limited to replacement cylinders, upgraded feed systems, gas tight process seals, high performance internal flights, and internal thermocouple-spargue tube assemblies.

Bartlett-Snow™ OEM Replacement Parts

- Cylinders – replacement cylinders fabricated from basic carbon steel through exotic alloys.
- Riding Rings – forged high carbon steel alloy with straight or tapered side configurations.
- Girt gear, girt sprockets & pinions – forged or cast high carbon steel alloys, one piece or split with surface and through hardening as required.
- Trunnion roll, shafts & bearings – forged high carbon steel alloys with heat treated tread surfaces.
- Thrust rolls, shafts & bearings – straight or tapered thrust rolls in high carbon steel alloys with heat treated tread surfaces.
- Rotary seal components
 - Angle seals – basic rotary seal design for use on medium to high leakage applications.
 - Iris seals – flexible overlapping segments that provide a more positive seal for medium to low leakage applications.
 - Flex seals – face contact seals for more positive seal on low leakage applications.
 - Bellow seals – positive face contact seal for gas tight applications.

Pilot Plant Test Facility

Bartlett-Snow™ and Raymond capabilities

- Bartlett-Snow™ High Temp Rotary Calciner
- Bartlett-Snow™ Rotary Dryer
- Bartlett-Snow™ Rotary Kilns
- Bartlett-Snow™ Rotary Cooler
- Raymond® Flash Drying System

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