

# Bartlett-Snow™ Rotary Coolers

## The Smart Choice for Your Process Solids Cooling Applications

Since 1885, Bartlett-Snow™ products have been the benchmark for quality thermal process equipment. Our rotary coolers, both direct air swept and indirect water spray designs, are engineered to assure reliable operation, enhanced efficiency, maximum availability, and facilitate necessary maintenance. Units are simple to erect, easy to operate, and require minimal maintenance. These features help make our rotary coolers the smart choice for your process solids cooling applications.

ALSTOM Power, Air Preheater Company, offers an extensive range of systems, components and services to support our Bartlett-Snow™ product line. From initial laboratory scale test work, equipment design and manufacture; to training, start-up and commissioning; through long term maintenance assistance and supply of replacement parts, we are committed to meeting our clients needs. Drawing on our technical expertise and a wealth of experience, we offer innovative solutions to our clients thermal processing requirements, solutions that are economical and environmentally friendly.

### Design/Construction Features

Our rotary coolers are designed and manufactured with exacting standards to meet processing requirements for a variety of industries worldwide.



Bartlett-Snow™ indirect water spray cooler

Materials used for cooler construction vary based upon the process requirements for a given application. These materials include carbon steel, stainless steel, high grade alloys, and composite cladding.

■ Direct air swept rotary coolers are available in sizes ranging from 18" to 156" in diameter, with lengths from 10' to over 100'.

■ Indirect water cooled rotary coolers are available in sizes ranging from 6" to 120" in diameter, with lengths from 10' to over 100'.

### Typical Materials Processed

- Alumina
- Activated Carbon
- Metallic Oxides
- Granulated Fertilizers
- Rare Earth Compounds
- Manganese Oxide
- Catalysts
- Food Products
- Titanium Dioxide
- Proppants
- Coke
- Ferrites
- Clays
- Nuclear Materials
- Pigments



Air Preheater Company  
Raymond Operations

### **Bartlett-Snow™ Rotary Coolers**

Our rotary coolers are offered in two basic designs, one utilizing atmospheric or conditioned air and the other using indirect water spray as the cooling media. These designs are readily adaptable to a wide variety of processing applications and are offered as standalone unit, or as part of complete thermal processing systems.

### **Air Swept Coolers**

Air swept rotary coolers use air as the cooling media. The hot process material is introduced into one end of the rotating cylinder where it is lifted on flights secured to the ID of the cylinder and showered through the cooling air stream. The air passes through the cylinder countercurrent to the material, thus providing the most efficient heat transfer and coolest product temperature. In special cases, the air for cooling can be refrigerated to remove moisture from the air or to cool the product below ambient temperature.



Typical intergal flighting

If the material to be cooled is at an extremely high temperature, the feed end of the cooler can be refractory lined or fabricated from high temperature alloys to prevent damage to the cylinder. Used in series with a direct fired rotary dryer or rotary kiln, the hot air leaving the cooler can serve as preheated secondary combustion air, thus increasing the thermal efficiency of the drying or heat treating process.

### **Indirect Water Spray Coolers**

Indirect coolers are an excellent way to cool process solids that are easily entrained, need to be gently handled, or require special process atmospheres, including inert, oxidizing, or reducing gases. The indirect water spray cooler design features a rotating cylinder housed along its active length in a water jacket. Arranged within the water jacket are series of water spray nozzles that direct cooling water over the exterior of the cylinder. Evaporation of the water cools the wall of the cylinder, which cools the material inside. Clean water is the recommended cooling media; however, special nozzles and water distribution systems are available for operations that require use of waste water or recirculated water that may have suspended particulate matter.

### **Specialty cooler designs**

Planetary and water bath coolers, can be supplied to address unique applications.



Nozzles spraying on cylinder exteriors

Alstom Power, Air Preheater also offers the following services:

- pilot plant material testing
- replacement parts
- field service support

Contact your Alstom Power, Air Preheater, Bartlett-Snow™ representative for further information.

