

Thermal Processing Conveyors

S. Howes manufactures screw conveyors designed for thermal heating and cooling processes where indirect heat transfer is required or preferred. Heat transfer is accomplished through contact with an external jacket (bolt-on or integral) and/or through the transfer auger itself. The material is heated or cooled while being transferred down the length of the conveyor. A variety of heating or cooling media may be used.

Heating and cooling jackets for thermal processing can be integrated on Twin Screw, Tubular, and U-Trough Conveyors.



Complete Range of Process Equipment

- Thermal Processors
- Mixers & Blenders
- Screeners & Sifters
- Screw Conveyors
- Size Reduction
- Filtration Systems



Features & Benefits

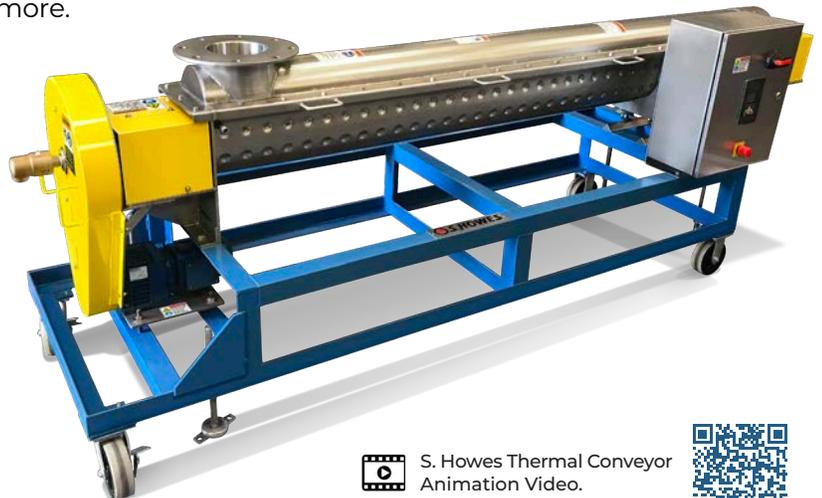
- Thermal treatment occurs in the conveyor during the conveying cycle to eliminate secondary process steps and unnecessary additional equipment.
- Independent jacket configuration allows a parallel feed of fluid to each jacket panel where product is always exposed to a fresh temperature cycle.
- Indirect heat transfer design often does not require air filtration or exhaust permits like direct heating methods.
- Control of temperature during material transfer for maximum efficiency.
- Accurate control of thermal treatment time ensures precise requirements are met.
- Greater heat transfer surface area per unit of product than batch mixer systems.
- Proprietary design delivers increased efficiency with a smaller footprint as compared to traditional conveyor designs.
- High efficiency auger design features rotary unions to flow fluid through the auger itself to maximize the amount of product that has direct contact with the heat transfer surfaces and minimize the formation of deep, untreated product beds.
- Auger features a chain drive and adjustable speed design to economically achieve the slower speeds necessary for varying heating and cooling processes.
- Auger shaft seals are typically packing gland style seals that provide a wide range of temperature and chemical compatibility.
- Designs for high pressure applications that meet the requirements of the ASME Boiler and Pressure Vessel Code.



Sample Applications

Heating and cooling screw conveyors are used around the globe for thermal processing in industries such as biomass conversion, paper and pulp, biofuels, food and dairy, chemicals, petrochemicals, minerals processing, and many more.

- Drying
- Polymerization
- Heat curing
- Cooling/freezing
- Microbial kill
- Sintering/calcining
- Dewatering



Options & Accessories

Heaters & Coolers

- Single and multiple zone configurations
- -50 to over 600 degrees F temperature control
- Recirculating designs available
- Designed for your needs

Auger Types

- Single, Twin, Multi Screw
- Heated or Cooled shaft
- Stir tabs to promote product turnover
- Standard or cut flighting

Jacket Types

- Cooling jackets
- Heating jackets
- Integral or bolt-on
- ASME "U" stamp

Seal Types

- Rotating Mechanical
- Packing Gland
- Custom

Instrumentation

- Temperature in/out readout
- Flowmeters
- Variety of pressure gauges
- Customized control panels

Additional Customization

- Customizable covers
- Temperature sensors, level sensors, limit switches
- Explosion-proof motor design
- Inlet and outlet custom designs
- Built-to-order support stands
- Purge port for compressed air or inert gas
- Various insulation options



Quick Access Clamps



Chain Drive



Thermal Expansion



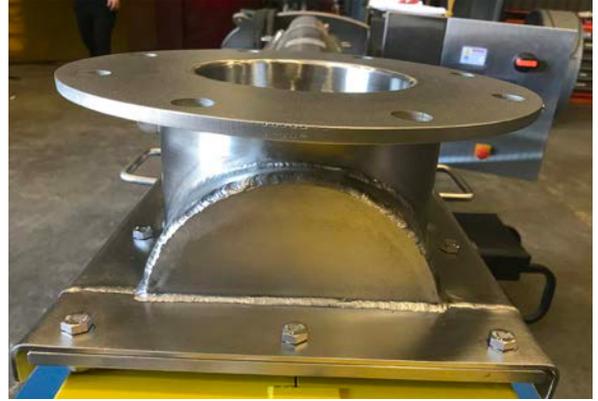
Shaft Seal

Complete Integrated Systems

S. Howes can provide additional processing equipment such as dryers, coolers, and air pollution control systems to handle various stages of material processing. These machines can be integrated upstream or downstream into existing or new process lines.

Engineering & Manufacturing

- 3D equipment modeling
- State-of-the-art manufacturing facilities on three continents with robotic cutting and welding
- Manufacturing expertise working with mild steel, various grades of stainless steel, duplex steels and other exotic alloys for specialty applications
- Welders certified to ASME & AWS standards
- ISO 9001:2015 certified



Innovation Center & Testing Lab

Be confident that your powder and bulk solids processing is efficient with CPEG's 15,000 ft² state-of-the-art test lab. With our lab, you have access to the most extensive testing capabilities in the industry. Multiple pieces of equipment can be combined for multistep and multistage testing to simulate field operation, validate new equipment designs and provide complete process solutions. Combined with our full analysis of material characteristics and measurements of material behavior in specific processing applications, you are assured an efficient, reliable and safe solution.

Field testing with rental equipment is available when lab testing would not effectively simulate process operating environments.

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