# Thermal Processing

BCR
Solid Solutions

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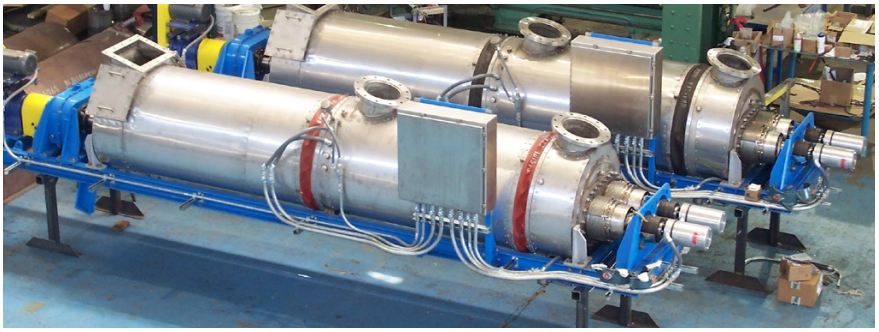
### Why Choose Screw Processors

BCR screw processors are all continuous, indirectly heated or cooled processors, meaning the material flows into the equipment and out of the equipment in a continuous stream and the heating medium, such as water, steam, thermal oil or hot gasses are never in direct contact with the feed stock.

The result is accurate thermal processing without material degradation or contamination. The screw type thermal processor has a greater density of heat transfer surface area per cu.ft. of equipment volume than most other thermal processor technology. As a result the size and footprint of a BCR screw processor is typically smaller than other thermal processing technology.

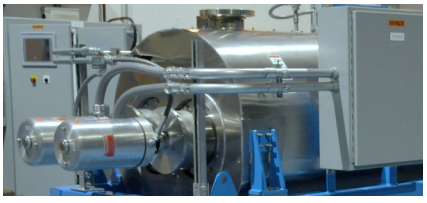
Automated control with precise thermal regulation for safe, efficient and reliable operation. Additionally, BCR PLC controlled thermal processors have the added benefit of requiring minimal operator attention.



## Electric-Scru™

The Electric-Scru™ is an indirectly heated screw type continuous processor for the efficient, controlled heating and thermal desorption of bulk materials. The Electric-Scru™ can generate process temperatures of over 1200°F while operating at sub-ambient vacuums as low as 50 millitorr or at pressures as high as 500 psi. The Electric-Scru™ processor uses resistance heating to heat the rotors and housing. The system can be designed to put out over 2 megawatts of energy. The Electric-Scru™ is fully insulated and can be skid mounted to facilitate easy on-site installation. Depending on the application, the Electric-Scru™ can incorporate single, double or quadruple rotors. The Electric-Scru™ processor can be fabricated from plain carbon steel for low temperature applications or specialized high temperature, corrosion-resistant alloys for higher temperature applications.

- **Max Operating Temperature: 1200˚F**
- **Max Operating Pressure 350 psi**
- **Max Operating Vacuum 50 millitorr**



## Holo-Scru™

### Heat Transfer Mediums Include: Thermal Oil, Steam, Liquid Salts, & Water

With over two thousand installations worldwide, hollow screw processors are the most widely used and versatile thermal processors for bulk materials on the market. The BCR Holo-Scru™ is a continuous, indirectly heated screw type heat exchanger that can be used for heating, cooling, drying and a variety of other processes where there is a need to put heat into or take heat out of flowable materials. The Holo-Scru™ consists of hollow flighted rotors and a jacketed housing through which a medium such as water, steam, or thermal heat transfer fluids are circulated. Holo-Scru™ processors are available with single, twin, or quad rotors up to 60 inches in diameter. Holo-Scru™ processors used for heating have the highest thermal efficiency due to the continual closed loop recycling of heat transfer medium. The result is almost all the heat put into the system is imparted into the bulk material with very little being lost to the environment.

- **Max Operating Temperature: 720˚F**
- **Max Operating Pressure 350 psi**
- **Max Operating Vacuum 50 millitorr**

## Cooling-Scru™

BCR's Cooling-Scru™ technology, with indirect cooling can deliver the product exit temperature you need while maintaining a continuous (in/out) process flow. Indirect cooling technology delivers accurate temperature control without directly contacting the product with liquids or gasses. The rotor and housing of the screw conveyor are jacketed allowing the cooling medium, water or water glycol mixture, to indirectly cool the feed as it is conveyed down the length of the Cooling-Scru.™ The cooling can occur at ambient pressure in a pressure or vacuum. Cooling-Scru™ technology can be used to cool anything from Apples to Zinc.

- **Max Operating Temperature: 1800˚F / 30 ˚F**
- **Max Operating Pressure 35 psi**
- **Max Operating Vacuum 10 in H20**

## PROCESS TECHNOLOGY:

Calcining
Cooking
Cooling
Crystallizing
Drying
Heating
Pyrolizing
Thermal Desorption

## INDUSTRIES SERVED:

Chemical
Food Processing
Mining
Petrochemical
Power Generation
Environmental
MSW & HAZ Waste Treatment
Sludge and Wastewater
Waste Water Treatment
Paper & Pulp

## SERVICES OFFERED:

Engineering
Design
Manufacture of Process Equipment
Equipment Repair
Fabrication / Welding
Field Service
Machine Work
Technical Support

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