

Thermascrew

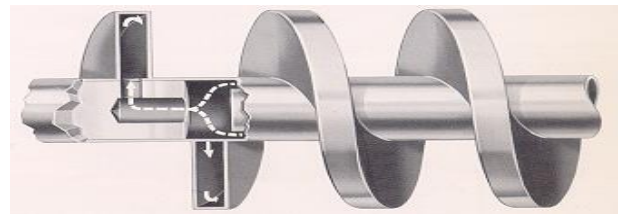
The Bepex Thermascrew is a modified screw-type conveyor offering significantly more heat transfer surface than other conveying devices. In either continuous or batch operation, it provides efficient and uniform heating, cooling, evaporating or other processing. Heat transfer media flows through both the rotor and body to offer many advantages, including:

- **Uniform Processing** – Full heat transfer surface utilization and continuous mixing action
- **Continuous or Batch Operation** – Depending on the degree of control required
- **Compactness** – High ratio of heat transfer surface to equipment size
- **Sanitary** – Externally mounted bearings and easy access to contact parts
- **High Quality Product** – Even mixing action minimizes burning, sticking, abrasion, dusting, crushing or breaking
- **Versatility** – Heating, cooling, drying of liquids, slurries, powders and granules
- **Plug Flow** – Consistent residence time

In operation, the product usually enters one end and moves by screw rotation to the discharge point at the other end. It is heated or cooled when it comes into contact with the hollow screw shaft and jacket surfaces, through which the heat transfer medium (HTM) flows.

The heat transfer medium enters at the rotary joint, moves through the hollow screw and back out again. The medium also enters the jacket near the product outlet point, discharging at the opposite end of the trough. A baffle arrangement in the jacket ensures positive flow and maximum heat transfer.

Screw rotation speed controls retention time and discharge temperature of the product. The tumbling action of the short pitch screw makes the heat exchange uniform and efficient.



Cutaway showing HTM circulation

The unique design of the Thermascrew allows for usage in a variety of applications, including

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|-----------------|-----------------------|
| • Blanching | • Heating |
| • Chilling | • Mixing |
| • Cooking | • Evaporating |
| • Cooling | • Desolventizing |
| • Crystallizing | • Reacting |
| • Drying | • Toasting & roasting |



Model TJ24 with single rotor for grain cooling

Thermascrew Designs:

- Conveyor Type – one or more rotors with a conventional bottom discharge
- Agitated Vessel Type – rotors mounted in a jacketed vessel with overflow discharge

Thermascrew Features:

- Carbon, stainless or exotic steel construction
- Jacketed or non-jacketed body
- Cylindrical or U-shaped body
- Single or multiple hollow screws
- Fixed or variable speed drive speed
- High temperature designs for cooling/heating

Application Specific Options:

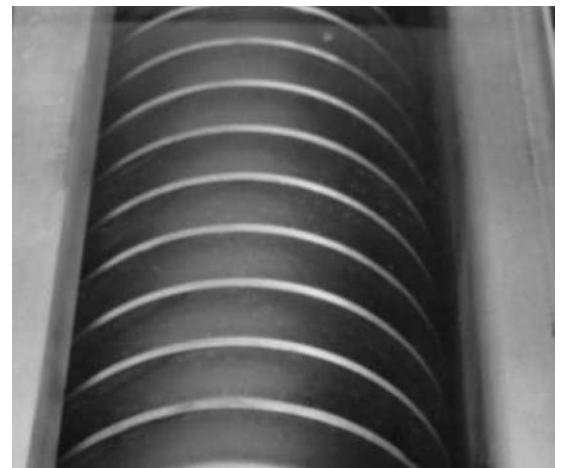
- Steam orifices in trough for cooking/sterilizing
- Designs for pressure/vacuum operation
- Lifter bars for mixing
- Ribbons for better filling & mixing
- Multiple screws for increased heat transfer surface
- Intermeshing screws for self cleaning
- Variable frequency control for flexibility

Typical products

- | | |
|-------------------------|-------------------|
| • Chemicals & polymers | • Meals |
| • Fats | • Sugar |
| • Feeds | • Meat byproducts |
| • Fish | • Salt |
| • Fruits and vegetables | • Starch |
| • Glutinous materials | • Nuts |
| • Coffee | • Ores & ash |



Twin rotor polymer crystallizer



Sanitary design for vegetable thawing

