

Spiral Cooler

The Helical Casting Cooler is a specially designed spiral conveyor that uses vibration feeder technology to simultaneously cool and vertically convey materials. The conveyor belt has a slight incline and moves product up a spiral tower.

Helical casting coolers combine the advantages of gentle, vertical movement of materials using vibration feeder technology on a spiral conveyor while applying thermal treatment, and they can be driven by a variety of cooling agents. Product is moved using the micro throwing movement, a well-known technique in vibration feeding technology that can be individually set up for each application and machine type through the adjustment of swing, frequency and articulation (throw angle). Helical casting coolers are available for contact, convective and combined heat transfer methods.

With contact heat transfer – without direct contact between the cooling agent and the product – the double-bed design leads to uniform heat transfer over the entire width of the tower. The design of the cooling plate, with welded platform panels, produces high levels of mechanical stability. This eliminates the normal reduction in sheet thickness in the bending radius required by otherwise standard pressure on the spiral tower. Cooling water supply from the cooling water distributor is also adjusted to suit the application when delivered.

For convective heat transfer, the cooling agent – with direct contact between the cooling medium and the product – is introduced directly to the product and either flows over or through the product.

The drive bracket has two variable unbalance vibrators in the pivot angles. This, combined with adjustable swing and adjustable operation with a frequency converter allows for optimal machine operation. Helical coolers can be delivered in a variety of materials including normal or stainless steels, or a combination thereof. Depending on the application, the helical cooler can be equipped with a static or oscillating enclosure as an option.



APPLICATIONS

- Plastics
- Chemical Products
- Food
- Forgings

ADVANTAGES

- ✓ Customizable to perfectly suit individual applications
- ✓ Compact design
- ✓ High levels of mechanical stability of the spiral due to welded plate
- ✓ Low maintenance
- ✓ Gentle, vertical conveyance
- ✓ Simultaneous conveyance and thermal treatment
- ✓ Efficient heat transfer
- ✓ Combination of contact and convective heat transfer possible



OPTIONS

- Spiral conveyors with fluid bed area available
- Static or oscillating enclosure possible
- Multiple degrees of freedom to change operating parameters
- Special sizes and models available
- Models in normal steel and stainless steel
- Use of cooling water and cooling brine possible
- ATEX model

TECHNICAL DATA

- Spiral diameter: standard 320 mm to 1,400 mm as well as special custom diameters
- Conveyor height: depending on diameter, up to 9,000 mm
- Drive output: up to 2 x 6 kW
- Conveyor output: standard up to approx. 5 m³/h, for synthetic granulate it depends on cooling requirements
- Heat transfer media: cooling water, cooling brine, ambient air, cold air