



Haarslev Steam Drying Concept

All steam heated dryers of Haarslev Industries are designed for continuous cooking or drying of a wide range of materials.

Haarslev Industries manufactures three types of disc dryers and two types of coil/tube dryers with different characteristics and designed for various applications:

- Rendering
- Fish meal industry
- Chemicals
- Fertilizer
- Brewers & distillers by-products
- Sludge applications
- Biomass

Haarslev Industries also supplies replacement rotors for existing disc dryers.

High Quality Standards

All dryers are carefully inspected and pressure tested by a neutral authority before each shipment. To ensure the best quality the dryers are constructed according to international standards and all materials used are first-class quality products.

Haarslev Industries

Through the acquisition of Atlas-Stord Denmark A/S in 2006 Haarslev Industries became the leading supplier of processing

equipment for fish meal factories all over the world, and gained access to markets for equipment for handling of by-products from production of bioethanol.

Since the acquisition we have integrated the dryer programme from Atlas-Stord in the Haarslev range of dryers. Sharing know-how and experience enable us to develop and optimize machine and process design.

Our solutions are designed for improved product quality, reduced environmental impact and energy consumption.

HM-Disc Dryer

The HM type disc dryer is specially designed for heavy duty applications such as continuous cooking and drying of animal by-products.

Design Features

The rugged design gives a very robust machine with minimum welding.

The heating plate design provides a concentrated heating surface offering maximum evaporation capacity in a compact design.

The design of the HM disc, consists of two round plates, which form double walls.

We manufacture customized rotors and discs designed according to individual product requirements. The HM disc dryer is manufactured completely in stainless steel or with rotor in mild steel.

Application

The HM disc drying solution is used worldwide for a variety of cooking and drying applications mainly in rendering and biomass plants when mechanical strength and reliability is important.



TST

The Stord-Bartz TST dryer is now fully integrated in the dryer program of Haarslev Industries.

Design Features

The design principles provide a strong and rigid construction with safe and simple operation.

The TST disc consists of two round plates supported by stay bolts and welded together. The result is a cone shaped profile especially designed for processing of sticky and lumping materials.

Applications

The TST is designed for a variety of drying applications and is the preferred design for all sludge drying applications.



Configuration parameters for all types of disc dryers

- Additional stator heating surface
- Vacuum operation
- Rotor and disc design:
 - Material thickness
 - Disc diameter
 - Agitators and paddles
 - Meal breakers

RCD

High evaporation capacity and smooth heating plate design are special features of the RCD.

The Atlas-Stord RotaChannel Dryer (RCD) is now fully integrated in the dryer programme of Haarslev Industries.

Design Features

The heating plate design provides perfect contact between the product and the heating surface, thus increasing the specific capacity and reducing power consumption and wear.

The design of the RCD disc, consisting of concentric channels, results in a large smooth heating surface for gentle and efficient drying.

Application

The RCD drying technology is especially suitable for drying of low fat or defatted products such as blood, feather and pressed animal by-products eg. as in the continuous low temperature wet rendering process or at fish meal plants.



The design principles of the disc dryer concept allow full rotor interchangeability of the HM, RCD and TST type of discs.

Continuous Condi Dryer

Haarslev Continuous Condi Dryer is ideal for low temperature drying and when high-protein meal of the best quality is required.

Design Features

The rotor with coils is steam-heated and the material is transported by means of paddles bolted on the rotor.

The Condi Dryer can be produced as a vacuum dryer and optionally be supplied with adapted cyclone and fan.

Applications

The Haarslev Continuous Condi Dryer is designed for efficient and controllable low temperature continuous drying or after-drying of blood, feather or fish meal, and other low fat products.



RTD

The Atlas-Stord RotaTube Dryer, type RTD is a compact steam heated dryer offering up to 2000 m² heating surface in a single machine.



Design Features

The RTD is a contact dryer built as a rotating drum with internal lifting shovels and a tube bundle heating surface. Drying takes place when the wet product led into the rotating drum is lifted by the internal shovels and distributed over the steam heated tubes.

Applications

RTD drying solutions are recommended for drying of several types of biological material such as by-products from production of 1st and 2nd generation bioethanol, from breweries and distiller's spent grains (DDG and DDGS).



From the production of four RTD dryers for mechanical dewatering of stillage at Lantmännen Agroetanol AB in Sweden. Each dryer represents a heating surface of 1900 m². Altogether, these four drying machines evaporate 9080 gallons of water/hour.

Applications for Steam Heated Driers	HM	TST	RCD	Condi	RTD
Fish meal	X		X	X	X
Rendering	X		X		
Rendering, feather / blood	X		X	X	
Distillers by-products, DDGS	X		X		X
Sludge		X			
Biomass	X	X		X	X

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