



P R O C E S S A N D E N G I N E E R I N G T E C H N O L O G Y



Haarslev Industries has global coverage with sales and service offices in

important markets. We combine know-how, technology and products from several former brands:

*Tremesa S.A., Atlas-Stord Denmark A/S, Stord-Bartz, Sværtek A/S and Haarslev A/S, brands that have been
recognised world-wide for reliability and high quality.*



Haarslev Industries manufactures processing equipment to customers in the meat, pet food, fish, oil, environmental protection and biofuel industries world-wide.

We work in close cooperation with our customers. Plant durability, reliability and service are key-words for Haarslev supplies, whether it is a single piece of equipment or a complete turnkey plant. Over the years Haarslev Industries has specialised in mechanical and thermal dewatering for different industries. We are an experienced equipment and process designer who integrates plant delivery with process know-how. Upgrading of products, energy savings and environmental protection are important parameters for supplies from Haarslev Industries.

The company, Haarslev Machine Factory, was founded in 1973. Being a dynamic company and

with the aim to explore new markets we acquired Atlas-Stord in 2006 and in 2008 the Spanish company Tremesa. That is why Haarslev Industries has a history that goes back more than a hundred years. Throughout the years Haarslev has become known as an experienced company, which has always been at the forefront of the technological development and a trendsetter in the market.

Our process and engineering technology concentrates on customised solutions in order to make our customers' business more profitable and sustainable.



Rendering and Pet Food



Slaughterhouses and meat producers around the world are faced with increasing demands regarding handling of animal by-products. Rendering of animal by-products not only solves a waste problem, it also creates high grade end products with good market value, such as meat and bone meal and animal fats.

Haarslev Industries is specialised in manufacturing plants and equipment for processing animal by-products and fallen stock. We develop and supply processes and equipment to meet the demanding requirements and challenges that the rendering industry is facing due to environmental consideration and legislation. Haarslev designs focus on optimal and economical utilisation of raw material and energy as well as product quality, regulatory conformance, and environmental impact.





We supply a wide variety of equipment and complete plant solutions to support batch as well as continuous processes. Our process solutions cover all variants of wet and dry rendering, processing of poultry feathers and hog hair, processing of blood and fat melting.

PET FOOD INDUSTRY

Based on our experience in the rendering industry we have developed a range of raw material handling and preparation equipment for the pet food industry.

Our products range covers bulk handling and pumping systems, frozen block crushers, grinders and emulsifiers all designed for high efficiency and reliability.





Fish Meal and Fish Oil

Our wide range of equipment, all designed for specific applications, form an ideal basis for Haarslev Industries to design and optimise fish meal plants as well as to upgrade existing plants. Haarslev Industries has integrated the know-how and competences built up over several decades by Atlas-Stord, Stord Bartz and Hetland. This makes us able to offer a unique equipment programme for turning raw materials into high quality products.



INDIVIDUAL SOLUTIONS

Haarslev Industries is specialised in fish meal technology, including plant and equipment design. Although fish meal processing generally follows the same principle, the process requirements vary not only from one area to another, but also from one plant to another. Freshness of the catch, type of fish, requirements for meal and oil quality and environmental issues dictate the need for individual plant solutions. We offer a full delivery programme to meet such challenges.

Fish meal plants from Haarslev Industries operate all over the world. Our delivery programme ranges from small land-based or ship-based units and up to the largest fish meal plants in the world. Our plants are known for maximum energy efficiency, reliability, safety, and compliance with local environmental standards.



Brewers and Distillers By-Products



Haarslev Industries supplies presses, evaporators, driers and complete installations for dewatering and drying. Applications include waste streams from the grain processing industry such as distilleries, breweries, fuel alcohol plants, corn wet milling and the starch industry.

We help our customers solve environmental problems by turning by-products into valuable marketable feed products. We are dedicated to supplying process know-how and plants for the recovery of protein by-products from breweries and distilleries.

BIOETHANOL

Protein-containing waste streams can be turned into valuable products during a process where water is removed mechanically and thermally. The optimum process solution in each case depends on the specific applications with regards to product quality and energy recovery.



In the production of alcohol and in particular first generation bioethanol a valuable by-product can be produced from the spent grain. Whether the spent grain is from corn, wheat, barley or rye, it has a high value once dried. The main use of DDG or DDGS is in the animal feed industry, where the product is used as a protein supplement in e.g. ruminant diets. Alternatively it is used as a solid fuel for energy production.

Next generation bioethanol activities based on lignocellulosic material are growing fast and several process alternatives are being tested. Haarslev Industries supplies equipment such as hydrolisers, evaporators and drying systems to this upcoming part of the industry.

Biomass and Biofuel



Biofuels, such as wood chips, forest residues, bark, and peat, typically contain high amounts of moisture. Moisture makes biomass expensive to transport, difficult to store and reduces its thermal value. Haarslev Industries supplies superior drying equipment for the production of pellets and briquettes. Solutions include the disc drier system featuring efficient heat transfer and optionally an integrated waste heat recovery system used for the production of district heating. Disc drier systems can recover up to 80 percent of the energy input.

DISC DRIERS

The absence of air in the drying process secures a non-explosive atmosphere inside the drier and makes this system one of the safest on the market. Finally, our fully enclosed drier technology ensures compliance with ATEX guidelines, minimum downtime and low emission levels when compared to traditional open systems.





Disc driers are highly versatile and can process almost all types of biomass. The disc drier system offers superior moisture control of the final

product along with easy inspection access and low maintenance costs. The compact design minimises building and installation requirements.

Municipal and Industrial Sludge



Haarslev Industries has built up a firm foundation of expertise within drying of sludge from wastewater treatment plants. In 2006 Haarslev Industries acquired Atlas-Stord, a well-reputed supplier with decades of experience within drying of municipal and industrial sludge from for instance the pharmaceutical and chemical industries.

As landfill has to be avoided or minimised according to legislation, it is still more common to utilise sterilised sludge as a fertiliser or as a sustainable energy source. Haarslev Industries focus on equipment for environmental protection, energy conservation and optimal resource utilization, and we supply both single machines and complete plants designed to meet individual customer requirements.



We design and supply first-class systems to handle sludge, which is an inherently difficult product to dry. Our driers comprise a simple, compact solution with only one self-cleaning slow rotating component. Further, we can achieve supreme energy efficiency due to minimal heat loss and the possibility to recover heat for use in the process or for district heating. Output is formed as paste, powder, granules, pellets or briquettes allowing for a great variety of application.



URBAN WASTEWATER MANAGEMENT

Deliveries from Haarslev Industries include disc drier systems for several big city municipal wastewater treatment plants, as well as driers and processors for various chemical and pharmaceutical industries. Our systems are characterised by high efficiency, energy savings, reliability and less space requirements compared with more conventional systems.

Today major cities such as New York, Seattle, Moscow, Istanbul, Amsterdam and Hamburg rely on the performance of Haarslev sludge drying equipment.



Sugar and Vegetable Oil

For the extraction of oleaginous seeds, e.g. sunflower, rape, soya and jatropha seeds Haarslev Industries has developed different pressing technologies for both pressing of pre-heated seeds and cold pressing, which obtains the highest quality of crude oil, ideal for the biodiesel and food industries.

Our systems can be supplied in a wide range of capacities from small compact plants up to large scale production plants including equipment for reception and storage, preparation and pressing of seeds, as well as filtering and storage of oil. The press cake can either be further processed or used as an ingredient in animal feed, if obtained by means of full pressing with low residual oil content.

TWIN SCREW PRESS

Mechanical dewatering is a corner stone in the business of Haarslev Industries. The twin screw press has been developed for cost-effective dewatering of fibrous materials, and it is applied in a range of different industries, where it has



replaced less efficient dewatering equipment. The twin screw press provides for the most cost efficient separation of large quantities of water from materials, which later may be further processed by thermal processes. The twin screw press is applied to sugar beet pulp. In this industry more than 60 percent of the world's factories use the twin screw press.

Other applications are fruit and vegetable residuals such as those originating from pectin and alginate production and pressing of the essence from citrus shells.

Haarslev Service



We are well aware that the perfect functioning of our machinery and equipment will contribute to maximum profitability for our customers. Therefore we employ competent and experienced service engineers and supervisors working world-wide.

The Service Departments of Haarslev Industries set a pride in supporting our customers in order to optimise the operation of our equipment. We are always in dialogue with the customers in order to establish a system for supplying spare parts. All equipment is supplied with a list of spare parts based on a part number system, which secures that the parts are in accordance with the original design specification. Our files contain documentation for all equipment supplied and can be used to confirm or identify the specifications for parts supplied more than 30 years ago.

We also offer re-building of most of our products in one of our service centres. By renovating equipment, we increase the efficiency of the production line, and our customers avoid investing in completely new machinery.



DENMARK · NORWAY · GERMANY · UK
SPAIN · RUSSIA · PERU · BRAZIL · USA

HEAD OFFICE
Bogensevej 85
DK-5471 Sønderso
Denmark

Tel: +45 63 83 11 00
Fax: +45 63 83 11 20

E-mail: info@haarslev.com
Web: www.haarslev.com

