Complete Feed Mills, Plants and Machines
AMANDUS KAHL HAMBURG, founded in 1876, is a medium-sized family-owned company. Complete feed mills, plants and machines are sold all over the world. Hydrothermal treatment and hygienization in compound feed plants are the speciality of Amandus Kahl. Constant innovations set us apart.

Research and development, synergies with institutes and universities as well as the dialogue with our international customers are essential functions of our company. Our services include extensive engineering from design to assembly and a worldwide network of agencies, service technicians, subsidiaries and sales offices.

Systematic and extensive investments in modern machining centres ensure not only our location in Germany, but also the high quality of our plants and machines, our productive efficiency and production acceleration. This has a direct impact on the satisfaction of our customers and employees.
Crushing at its best

Economical crushing coupled with the nutritional benefits of coarse grinding.

Pelleting
For decades, KAHL pelleting plants have been applied successfully for compacting organic products.

Drying/cooling
More than 1,000 KAHL belt driers and coolers are used worldwide for various technical applications.

Crushing at its best
Economical crushing coupled with the nutritional benefits of coarse grinding.

Spraying
The main part of the Rotospray® system is a rotation nozzle which allows ultra-fine spraying of liquids on solids.

Control and regulation
User-friendly control systems, also for highly complex plants and factories.

Know-How in Process Technology is the Key to Success

Quality feed with the
KAHL Annular Die Expander
2 in 1 – expanding and pelleting.

KAHL Crown Expander
Flexible and economical.

KAHL Extruder OEE
Robust and powerful.

KAHL Pelleting Presses
Automated operation.

KAHL Process Control
Bespoke in modular design.

KAHL Belt Drier/Cooler
Cost-saving micro-spraying system.

KAHL Rotospray®
Effective for high-quality products.

KAHL Crushing Roller Mill
Security for our customers.

KAHL Stands for Maximum Quality
Worldwide on the road to success.

KAHL Expertise for Turnkey Factories

Hydrothermal treatment
For the reduction of undesirable substances in raw components, feed mixtures, legumes and oilseeds.

Pelleting

Drying/cooling

Crushing at its best

Spraying

Control and regulation
Quality Feed with the KAHL Annular Gap Expander

For animal-friendly feed
Outstanding product properties have made the KAHL annular gap expander a success.

EXPANDAT® ensures an improved feed conversion and excels by its high quality:

- Hygienic, biological, structurised, homogeneous
- Low dust content
- Granular structure that meets the animals’ needs
- Excellent flow properties
- Quickly soluble in water
- Free from pathogenic germs and fungi

Crown expander OEK
- Expanding with additional shaping
- Easy processing of feed mixtures, also of mixtures which are difficult to process or which cannot be pelleted
- Significant improvement of the flexibility of expansion (SME control with hydraulically adjustable cone)
- Coarse particles remain coarse, contrary to traditional pelleting
- Very high starch modification possible

Structurized feed
Compared to traditional pellets, the outstanding qualities of expanded structurized feed, whether coarsely crushed or finely granulated, represent an alternative feeding strategy.

Pellets from Expandat® absorb larger quantities of liquid compared to traditionally produced pellets.

Flexibility with the crown expander
Improve your expander with respect to a higher quality and flexibility.

Existing expanders can be easily modified to crown expanders
- Low energy consumption
- High throughputs
- Different pellet diameters
- Production of pellets for all animal species

Simple change of the outlet head for pellet production.

New products for new markets can be manufactured.
Flexible and economical.
KAHL Extruder OEE

The extruder OEE is equipped with a replaceable and hydraulically adjustable die. The KAHL extruder plant, available in different sizes, is user-friendly and designed for different applications. Many parameters can be influenced for ensuring optimum product quality:

- Starch is modified by 90%
- Applicable for all animal species
- High water absorption capacity
- High fat contents of up to 30% for supplementary feed and concentrates
- Different product shapes possible

Contrary to conventional extruders, the KAHL extruder OEE is equipped with a hydraulically adjustable die.

Product and tool changes are simplified and accelerated significantly. There are hardly any product losses during the starting and stopping phase.

Cattle
A coarse structure reduces the starch degradation in the rumen, the pH-value remains stable, optimum utilisation of the genetic performance.

Pigs
No stomach diseases, high feed consumption, high fattening yields, drier manure.

Pets
Dimensionally stable extruded feed, high starch modification.

Poultry
No feed selection, longer retention time in the intestine.

Fish
Floating, slowly or very slowly sinking pellets.

Crustaceans
Water-stable pellets for shrimps and other crustaceans.
Robust and powerful.
KAHL Pelleting Presses

Whether small, medium or high capacities - no problem for our flat die pelleting presses, which have proven their worth for decades, even for feed mixtures which are very difficult to process.

The fields of application:
- Compound feed for all animal species
- Raw components
- Mineral mixtures
- By-products of the food industry
- Dried forage
- Straw and mixtures with a straw content
- Biomass

Robust, powerful, and versatile
- KAHL builds economic high-quality flat die pelleting presses.
- Top-quality pellets with a diameter of 2 to 40 mm can be produced with these presses.
- The product is formed into endless strands which are precisely cut by means of knives.
- With a roller speed of only 2.5 m/s an optimum deaeration of the product is achieved.
- The plants are extremely silent with a noise level of less than 70 dbA.
- 12 types of pelleting presses are available for different applications.

Pelleting press, type 14-175, for small-scale production

The Kahl pellet hardness tester serves for quality control

Pelleting press, type 39-1000, for high capacities
Sophisticated machines such as the annular gap expander and the pelleting press require an appropriate control system. For this reason, the ESEP (Electrical control System of the ExPander) and the EAPR (Electrical Automatic system for PResses) have been developed by the company KAHL.

The individually programmed control of a complete plant or the automation of complete production lines also belongs to our range of services.

We have our own switch cabinet manufacturing department.

The process is optimised by means of the automatic control system EAPR and the automatic distance control DISTAMAT.

- Automation of the complete production line
- Constant product quality at high throughput
- Lower manpower requirement
- Up to 3 lines on a PC
- Improved monitoring of the production process

- High availability due to the use of proven quality components
- High process flexibility, adjustable and extensible without any problems
- Rapid and economic commissioning
- Field bus system saves installation costs
Bespoke in modular design.
KAHL Belt Drier/Cooler

Gentle drying and cooling
KAHL belt units dry and cool pellets without the formation of cracks.
- Convectional cooling provides heat exchange between product and air.
- Evaporative cooling removes water from the product.
- The cross and counter-current principle is efficient.

Custom-made units thanks to modular design
By means of modular design, the size and the process technology of the plant can be exactly adapted to the particular requirements. Subsequent extension of the plant is also possible.

Depending on the demands, ambient air or recirculated air with a temperature of up to 200 °C are used in KAHL belt units. Inert gas designs avoid emissions and dust explosions.

The feeding device is adapted to the pellets' consistency. A special fabric belt is available for pasty products.

- 2 - 350 m² process surface in modular design
- Small and large units are assembled in modular design
- Subsequent extensions and additional storeys are possible
- Three standard widths are available
- Special widths can be supplied
- More than 1,000 KAHL belt units are now in operation worldwide
Cost-saving micro-spraying system.
KAHL Rotospray®

1 millilitre of liquid is diffused into ~ 10,000,000 droplets
With this spraying system, liquids and micro-components are added without pressure.

The main part of the system is a rotation nozzle which allows an ultra-fine spraying of the liquids. The special distribution of the solid matter flow ensures spraying of the product from all sides.

**Benefits of the Rotospray®**
- Low space requirement
- Automatic adjustment of the liquid flow to the solid matter flow
- Undiluted spraying
- No residual liquid quantities
- No spoilage
- Insensitive to dust
- No danger of clogging
- Unpressurized liquid supply
- Economical application

Also available for very high capacities.

**The system is appropriate for the following liquids:**
- Enzymes, particularly phytase
- Disinfectants
- Vitamins
- Aromatic substances
- Flavourings
- Vegetable oils
- Organic acids
- Dust binders

**Appropriate product shapes:**
- Mealy products
- Crumbles
- Expandat, extruded product
- Pellets with any diameter
Effective for high-quality products.
KAHL Crushing Roller Mill

Using the KAHL crushing roller mill cereals, legumes, oilseeds, and feed mixtures can be crushed efficiently and with a considerably lower expenditure of energy compared to the hammer mill. Our chilled cast iron rollers are available in four sizes. The advantages of the KAHL plant:

- Narrow particle size distribution is possible
- Reduced wear
- Smooth operation
- Easy adjustment of the grinding gap
- Rapid roller change

High-quality products
Animal feed for pigs, poultry or cattle produced in the KAHL crushing roller mill offers advantages in animal nutrition:

- Improved digestion
- Fewer diseases
- Better meat quality
- Better housing environment

Nutritional advantages of coarse grinding:

**Cattle feed**
A coarse structure reduces the starch degradation in the rumen, the pH-value remains stable, optimum utilisation of the genetic performance.

**Pig feed**
No stomach diseases, high feed consumption, high fattening yields, drier manure.

**Poultry feed**
No feed selection, longer retention time in the intestine, drier manure, better housing environment, high meat quality, high egg yield.
Security for our customers.
KAHL Stands for Maximum Quality

Professional implementation of innovations
The KAHL pilot plant is an example of the professional way of working to the benefit of our customers. The pilot plant helps you to steadily optimise your products and processes.

Market requirements, product trends and process developments are investigated and advanced.

We offer decades of experience in test engineering. In our pilot plant, a comprehensive test data base with more than 2,000 products from our international customers and prospective buyers is available.

Bespoke tests can be carried out with a few kilograms or several tons of product in our laboratory and pilot plant – according to your particular requirements. Process know-how, machines and plants as well as modern analysis instruments for quality assurance are at your disposal. Furthermore, we co-operate closely with renowned institutes. On the basis of the obtained results, plant designs and offers can be prepared individually. As a matter of course, we ensure utmost confidentiality towards our customers and prospective buyers.

Planning and projecting
The knowledge obtained from the tests are considered in the planning and projecting, when it comes to the proper plant design.

Modern production
AMANDUS KAHL has 11 production halls. All main machines are produced in Reinbek near Hamburg – they are made in Germany.

Spare parts service and support
To best serve our customers and respond to their individual requirements, we offer a wide variety of after-sales services.
AMANDUS KAHL HAMBURG today looks back on more than 135 years of machine and plant construction. In 1920, the first pelleting press designed as a worm extruder was produced. The range of products is advanced permanently. In 1991, the KAHL Group was founded.

The companies of the KAHL Group:
- AMANDUS KAHL
- NEUHAUS NEOTEC
- SCHULE MUEHLENBAU
- HEINEN FREEZING

KAHL Plants
Turn-key feed mills and plants for compound feed, shrimp and fish feed, pet food, premix / concentrate, roughage, straw, green forage, dried beet pulp, wood and biomass, recycling plants for waste tyres, household and industrial waste and composting plants.

KAHL Machines
Proportioning and weighing equipment, mixers, hammer mills, liquid proportioning units, continuous mixers, conditioners, hydrothermal reactors, sterilizers, annular gap expanders, extruders, pelleting presses, driers/coolers, crumblers, Rotospray®, control and process visualisation systems.