Craftsmanship in the animal feed and food processing industry
THE COMPANY

Ottevanger Milling Engineers is a leading global supplier of production equipment and processing lines for the grain processing and compound feed industry.

Founded in 1909, Ottevanger Milling Engineers is today still an independent, privately owned and successful Dutch company, under the management of the fourth generation of the Ottevanger family.

At our modern and well-equipped manufacturing facilities in Aalten and Moerkapelle, we design and produce a comprehensive range of process equipment according to the latest standards, and incorporating the newest technologies.

Our expertise lies in engineering, manufacturing, project management, and cereal processing. We plan, design and manage the construction of complete production facilities or individual lines for processes such as:

» Feed mills
» Premix and concentrate plants
» Aqua feed and Pet food installations
» Cereal processing lines
» Biomass installations

Ottevanger does business world-wide as a dependable, high-quality component supplier, but also as a prime contractor or subcontractor on large-scale projects. The best solutions are the result of close cooperation with our customers, from the initial requirements specification through to training and handover.
The engineering and project management department plays a central role in our organization. They safeguard our standards, initiate improvements, and monitor developments in technology and legislation. At their disposal are decades of accumulated expertise acquired by Ottevanger Milling Engineers on successful customer projects. This concentration of know-how and skill is continuously augmented by regular training.

| Feasibility study | » Practicability  
<table>
<thead>
<tr>
<th></th>
<th>» Budget cost</th>
</tr>
</thead>
</table>
| Project phase    | » Layout         
|                  | » Technical specs|
|                  | » Price calculation |
| Contract stage   | » Detail design  
|                  | » Purchase       |
|                  | » Manufacture    |
| Erection         | » Supervision    
|                  | » Installation   |
|                  | » Commissioning  |
| After sales      | » Training       
|                  | » Spare parts    |
|                  | » Maintenance    |

The project managers guide your project smoothly through all the necessary phases, from concept to realization. For the construction phase Ottevanger Milling Engineers will designate an experienced site manager who is familiar with local circumstances, and can supervise the project through to successful completion.
TURNKEY PROJECTS

Otlevanger-built plants deliver outstanding performance and reliability on a daily basis, around the globe. We design and build our installations to meet specific customer needs, according to the latest standards of safety, quality and reliability.

Every installation is assigned to a dedicated team of engineers and product specialists, experienced in performance-based design and manufacturing.
ABB Grain Viterra, New Zealand
Feedmill 30 T/H

Mera petfood, Germany
Petfood plant 10 T/H

Rothkötter Mischfutterwerk, Germany
Feedmill 50 T/H
Animal feed industry
Since the founding of our company, we have acquired more than 110 years of experience in a process of continuous development, improving and enhancing the performance of the equipment and processes by applying modern design standards and employing the latest production techniques.

Our designers take full account of the norms and directives that apply to the intended installation, including CE, ATEX and GMP.

Some of the products we develop and manufacture in-house:

» Smooth or corrugated wall silos
» A wide range of conveyors
» Dosing/proportioning equipment
» Macro, midi and micro ingredient scales
» High and low speed hammer mills/grinders
» Single and double shaft batch mixers
» Continuous mixers
» Conditioners and sanitizers
» Pellet mills
» Expanders/extruders
» Fat coaters/continuous atmospheric Vacuum coaters

### Paddle Mixers
100 - 12,000 litres

**Features**
- homogeneity of mixture
  - 1:100,000/C.V. < 4%
- short mixing time: < 120 seconds
- discharge time approx. 15 seconds
- simple, reliable construction
- small over-all dimensions
- low power consumption

### Hammer mills
Optional with automatic screen change
CEREAL PROCESSING

One of Ottevangers specialties is the design of complete process lines. We share our expertise by describing the basics of soy processing, premix & concentrates, grain storage & handling, compound feed, pet food and aqua feed. Every process line will be tailor made designed by our engineers. We do not promote or apply a “standard” plant design and each project is assessed on its own merits. We take time consulting with customers to ensure we fully understand customer requirements and more specifically requirements of the specific market the customer is serving.

PET FOOD

At Ottevanger Milling Engineers we acknowledge and understand how trends in the pet industry impact the design of pet food processing solutions. We took great care over many years developing technologies and equipment meeting and exceeding the growing demands of the global petfood industry.

AQUA FEED

Aquatic feeds have very high requirements in terms of both nutritional and physical characteristics of feed. These nutritional and physical feed requirements are driven by the life stage of a specific species under consideration. Physical characteristics include issues such as pellet size and shape; pellet density allowing us to produce floating, slow sinking and sinking feeds; water stability and pellet durability. The challenge is to achieve all of these while having a negligible effect on the environment.
PREMIX & CONCENTRATES
A very long history in the Industry gave Ottevanger Milling Engineers the experience and expertise to supply tailor-made solutions for the complete spectrum of Premix & Concentrate applications. Engineering and Equipment solutions range from small mill-and-mix operations to large dedicated feed mills.

Ottevanger equipment for premix and concentrate plants meet and exceed international standards in terms of design, hygiene, safety and efficiency. Innovative design results in exceptional mixing accuracy and end product quality. State-of-the-art engineering layout and process control design leads to negligible cross contamination.

SOYBEAN PROCESSING
The worldwide interest in the use of full-fat soya has increased in the last few years. Processing soybeans into full fat soya creates a high-quality raw material for the production of animal feed. Full fat soya is an important protein source to feed poultry, ruminants, pig, rabbit, fish and crustaceans. Because of new methods for growing soybeans the availability and utilization is improving. The improved circumstances for growing, storage and processing is causing a variation in the composition and nutritional values of the full fat soya.

There are various methods for the processing of soybeans. The most effective soya processing method consists of a combination of heat treatment and crushing. This method removes the anti-nutritional factor and makes the oil more accessible.
It is now more than 50 years since Ottevanger began the development of compact pre-assembled installations for a variety of different processes.

These modular installations are based on standard 20ft containers that can be easily transported over land or sea, and installed very quickly.

These containerised mills are available as:

- Feed mills with capacities of up to 40 tons per hour
- Cereal processing plants (e.g. for flour and soya)
- Individual pelleting lines
- Premix and concentrate plants
- Aqua feed and pet food lines

Benefits

- All standard components are assembled and tested before shipping
- Minimum on-site installation time
- Low shipping costs and easy handling
- Complete with supporting steel structures
- Low height means savings on building and energy costs
- Easily dismantled when necessary
- Proven concept with many satisfied customers
Modular solutions

These modular systems are a unique concept developed by Ottevanger Milling Engineers. Over a period of 50 years, a complete range of highly efficient modular production lines has been developed and continuously upgraded to fulfill the latest standards in milling technology.

<table>
<thead>
<tr>
<th>Type</th>
<th>Mash</th>
<th>Pellets</th>
<th>Batchsize (kg)</th>
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<tbody>
<tr>
<td>C3</td>
<td>2</td>
<td></td>
<td>500</td>
</tr>
<tr>
<td>C3-2</td>
<td>3</td>
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<td></td>
<td>500</td>
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<tr>
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<td>5</td>
<td>5</td>
<td>500</td>
</tr>
<tr>
<td>C10</td>
<td>10</td>
<td></td>
<td>1000</td>
</tr>
<tr>
<td>C10-5/10</td>
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<td>5 (2x)</td>
<td>1000</td>
</tr>
<tr>
<td>C20</td>
<td>20</td>
<td></td>
<td>2000</td>
</tr>
<tr>
<td>C20-10-10/20</td>
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<td>10 (2x) / 20</td>
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<tr>
<td>C30</td>
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<td></td>
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</tr>
<tr>
<td>C30-15-15/20/30</td>
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<td>15 (2x) / 20 / 30</td>
<td>2000</td>
</tr>
<tr>
<td>C40</td>
<td>40-45</td>
<td></td>
<td>3000</td>
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<tr>
<td>C40-20-20/30</td>
<td>40-45</td>
<td>20 (2x)</td>
<td>3000</td>
</tr>
</tbody>
</table>

Reduced installation time: the complete containerised mill is pre-assembled and tested before leaving the factory, avoiding the risk of problems during installation on-site, and reducing installation time by between 70 and 80%. The electrical, compressed air and control systems are our responsibility.
Smooth wall modular silos
Rothkötter Mischfutterwerk, Germany | dosing silo | 2.750 m³ | 26 bins
Benefits of Ottevanger storage silos:

» Optimum product discharge
» Maximum storage capacity (+25%)
» No dust build-up between bins
» Dust-tight for safe and healthy working environment
» Flexible and customisable
» Easily extended

STORAGE AND HANDLING

The correct techniques for the handling and storage of the wide range of raw materials used in the feed and food processing industry require specific know-how and expertise.

With more than a century serving the industry, Ottevanger Milling Engineers is in a unique position to apply this experience to the design of every part of your project, guaranteeing you maximum efficiency and reliability while complying with all hygiene and food safety standards.

Ottevanger’s conveyor range:

» Bucket elevators
» Screw conveyors
» Chain conveyors
» Flight conveyors
» Belt conveyors
» Pneumatic conveying systems
» Rotary distributors
To achieve operational excellence with high quality Ottevanger-built plant and equipment, you need a high-performance and reliable control system.

Our installations rely on Batch Explorer, an advanced, modular MES automation system developed by our sister company Inteqnion. Batch Explorer is software with an open structure: stable, powerful, and easy customised to meet the specific requirements of each customer.

**Powerful and user-friendly**
Batch Explorer includes all the features you need to operate in a batch and/or continuous processing environment. Processes are visualised by means of SCADA, developed in Siemens WinCC.

**Modular design**
Batch Explorer has a modular structure, enabling a customised system configuration to be defined easily. The configuration can be quickly and efficiently modified and/or extended.
Ottevanger Milling Engineers offers after-sales support to its customers around the world. Among our support services, we also offer training for operations staff, either in the Netherlands or on-site.

An efficient system is in place for ordering spare parts, and in urgent cases we will send an engineer to your location. Furthermore, any questions you might have regarding the functioning or operation of your plant and equipment will be quickly answered by a qualified support specialist.
» Design » Engineering » Manufacturing » Erection and commissioning
» Feed mills » Pet food plants » Aqua feed plants » Cereal processing plants
» Soybean processing plants » Premix and concentrate plants
» Silos » Bulk storage and handling systems » Electric control and automation