



Technology for  
**High-quality**  
**Oat Products.**

# Industry know-how and process expertise. **Committed to quality by tradition.**



- 1 Groats
- 2 Cut groats
- 3 Oat bran
- 4 Oat flakes
- 5 Fine oat flakes
- 6 Oat flour

## **Increasing processing requirements.**

Oats are a popular food thanks to their high vitamin, mineral, and amino acid contents as well as their pleasant taste. For a long time, they were particularly appreciated because they are easy to prepare. Today, the focus has increasingly shifted toward higher quality requirements due to changes in eating habits and growing health-consciousness. This is associated with higher processing requirements. Bühler identified this trend early on, thanks to its long tradition and its vast know-how especially in the design and construction of oat mills and the development of the related equipment and processes, responding to them by rolling out new technologies. End products made on Bühler plant and equipment are therefore distinguished by their high quality, their good shelf life, and their agreeable taste.

## **Flaking roller mill ensures high product quality.**

The heart of any Bühler oat mill is its dehuller, kiln, and flaking roller mill. The flaker's accurate gap adjustment and its consistently high roll pressure ensure a uniform product quality. In addition, the high level of automation of this flaker ensures optimal productivity and complete traceability of the oats processed.

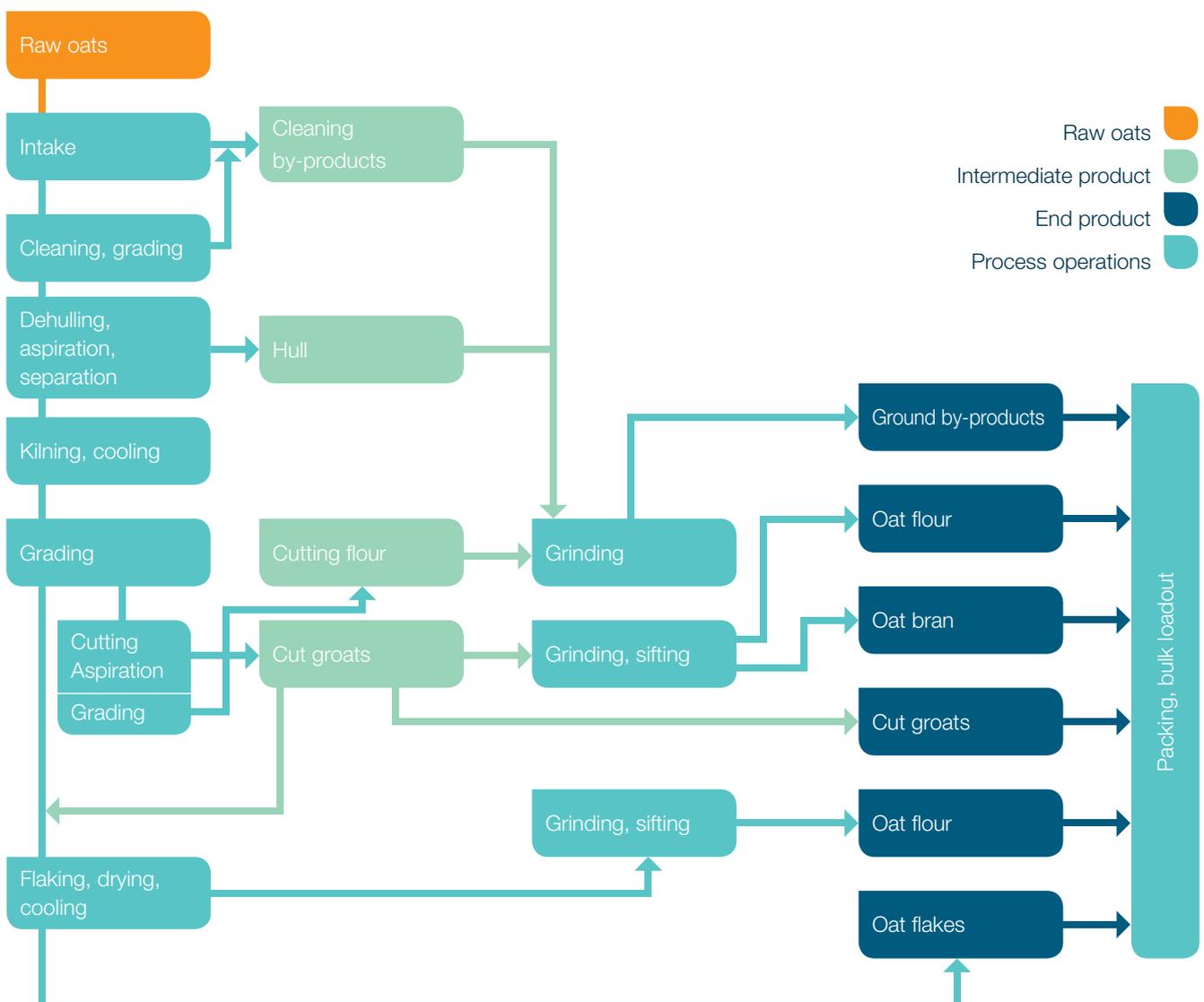
### **The benefits at a glance:**

- Optimal productivity
- Low operating costs
- High-quality end products of consistent quality
- High yield

# From raw oats to end product. Precision down to the last detail.

## Every step counts for achieving a perfect result.

In oats processing, every operation must be implemented with the utmost care to ensure that the overall process will yield an optimal result. Cleaning and grading frees the grain completely from coarse impurities and sand, preparing it optimally for the dehulling process. Precise removal of the hull from the oat ensures that only top-quality groats are fed to the kiln. Hydrothermal treatment during kilning, size reduction during groats cutting, and starch gelatinization during flaking will ultimately ensure that an outstanding end product is obtained.



# Integral solution from a single source. **Greater success through maximum yield.**

Bühler develops integral oat processes featuring various machines and technologies ranging from cleaning and grading to flaking. Consistent automation enhances productivity to a high-quality standard, reduces energy requirements, and simplifies maintenance.

## **Cleaning, grading.**

The Vega high-capacity grain cleaner is suitable for separating coarse impurities, sand, low-density matter and for grading oats by size. This grain cleaner is distinguished by its high separating efficiency and its low energy requirement.

With its high separating precision, the Bühler destoner removes even small and specifically light stones from the product stream. The separation of contaminants reduces the wear and tear on the downstream equipment and improves the quality of the end product.

A clipper is used in the cleaning and grading stage for separating double outs and to clip off the tips.

## **Dehulling, aspiration, separation.**

In the next process operation, a dehuller eliminates the indigestible hull from the kernel. The grooved impeller flights of the unit's rotor align the product so that it strikes the impact ring horizontally. In the process, the husk is separated from the kernel. This solution offers several benefits: In addition to a high throughput capacity and dehulling degree with minimized product breakage, the dehuller is also characterized by its energy efficiency and high yield.



Vega high-capacity grain cleaner: excellent separation of impurities.



The Bühler dehuller: high throughput capacity and high oat dehulling degree.

## Separation.

Using a combination of preliminary and final separation deck in a single machine, the Twitor® table separator achieves the optimal accuracy in separating the as yet unhulled oat kernels. Unhulled oats are passed a second time through the dehuller.

## Kilning.

Hydrothermal treatment of the oats in a Granotherm kiln increases shelf life, reduces their total germ count, and produces an outstanding taste.

## Cutting, aspiration, grading.

The groats cutter cuts the dehusked oats. An indented separator removes the uncut groats.



Twitor® table separator: optimal separating efficiency.

## Steaming, flaking.

Uniform steaming ensures optimal preparation of the product prior flaking. In the flaking roller mill, starch gelatinization promotes the food-specific values of the oats while at the same time ensuring an attractive appearance of the end product.

The steamer in conjunction with the flaking roller mill and the fluid-bed dryer fulfills the highest sanitation requirements and ensures a consistent flake quality.



Flaking roller mill: starch gelatinization promotes food-specific oat values.

# Automation. **Reliable control of product quality.**



## **Automation solutions for reliable control of product quality.**

As a market leader and process specialist, Bühler has comprehensive, practical experience in planning, commissioning and servicing efficient automated solutions. Bühler automated systems improve system performance and availability, result in measurable improvements to efficiency and productivity, reduce energy consumption, simplify servicing operations and ensure raw materials and end product can be traced throughout the production chain.

Bühler offers an extensive range of services for the automation of plants and equipment. Our basic rule is always “single source supply”.

## **WinCos® plant control system.**

WinCos® satisfies all of the requirements mentioned above, making it a sound system. It offers a favorable price-to-performance ratio, compatibility with all commonly used systems, and can be customized to suit every company-specific need. With WinCos®, Bühler has developed an automation system which integrally combines process technology and automation. This is the key to achieving the best production standards and highest level of competitiveness.

# Complete range of services. For maximum investment protection.



Bühler service: At your service around the globe.

## Proven process performance: Bühler Applications Centers.

Bühler operates more than 10 Applications Centers around the globe. These development and test centers allow customers to extensively simulate the processing of their products. In the Applications Center in Uzwil (Switzerland), for example, grain processing can be tested from intake to end product. These centers also allow testing of the processes and equipment used for producing high-quality oat products.

## Production systems and processes at their best.

Bühler offers a wide range of different services to ensure oat processing plants can operate without interruptions. Over 1000 excellently trained service employees in over 140 countries support and advise our customers on site, on topics including customized maintenance contracts, fast repair and support services and innovative updates.

## A selection of our services:



### Retrofits.

- Up-to-date technology and efficiency standards
- Low operating costs
- Longer life cycles
- Fast adjustments



### Repairs.

- Short response times
- Reduced downtimes
- 24/7 global helpline



### Wear and spare parts.

- Longer machine life cycles
- Maximum operating reliability
- Bühler warranty



### Consulting.

- Process optimization
- Productivity increase
- Higher energy efficiency



### Training.

- Training and continuing education in training centers around the world



### Maintenance.

- Minimized downtimes
- High reliability and availability
- Scheduled machine servicing

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