



State-of-the-art
process technology for
corn/maize

Efficient processing solutions for the whole world of corn products.

Corn/maize offers a great market opportunity. Every year one billion tons of corn is harvested worldwide. 175 million tons is processed into food, and that figure is rising due to population growth and gluten-free trends. As leading provider of grain milling solutions, Bühler is an expert in corn processing offering the process know how for traditional products like flaking grits, brewers grits, snack grits, meals and flours. In addition Bühler has tremendous experience with specialty products such as tortillas, arepas, brazilian cuzcuz and instant maize meals.

Expertise and process technology

We are aware that in corn processing efficiency is the key to success. So we continuously optimize solutions from single machines to entire processes. Bühler offers comprehensive milling solutions for the diverse corn varieties and end products around the globe. Due to our expertise and vast experience we can support our customers in every stage of the process. This also includes the latest online quality monitoring systems such as NIR, particle size measurement and color measuring devices.

Benefits

- Complete solution provider for all corn processes
- Expert support and application labs around the globe
- Innovative approaches to conventional processes to improve your bottom line and CO₂ footprint



Raw yellow corn



Raw white corn



Yellow corn grits



White corn grits



Yellow corn flour



White corn flour

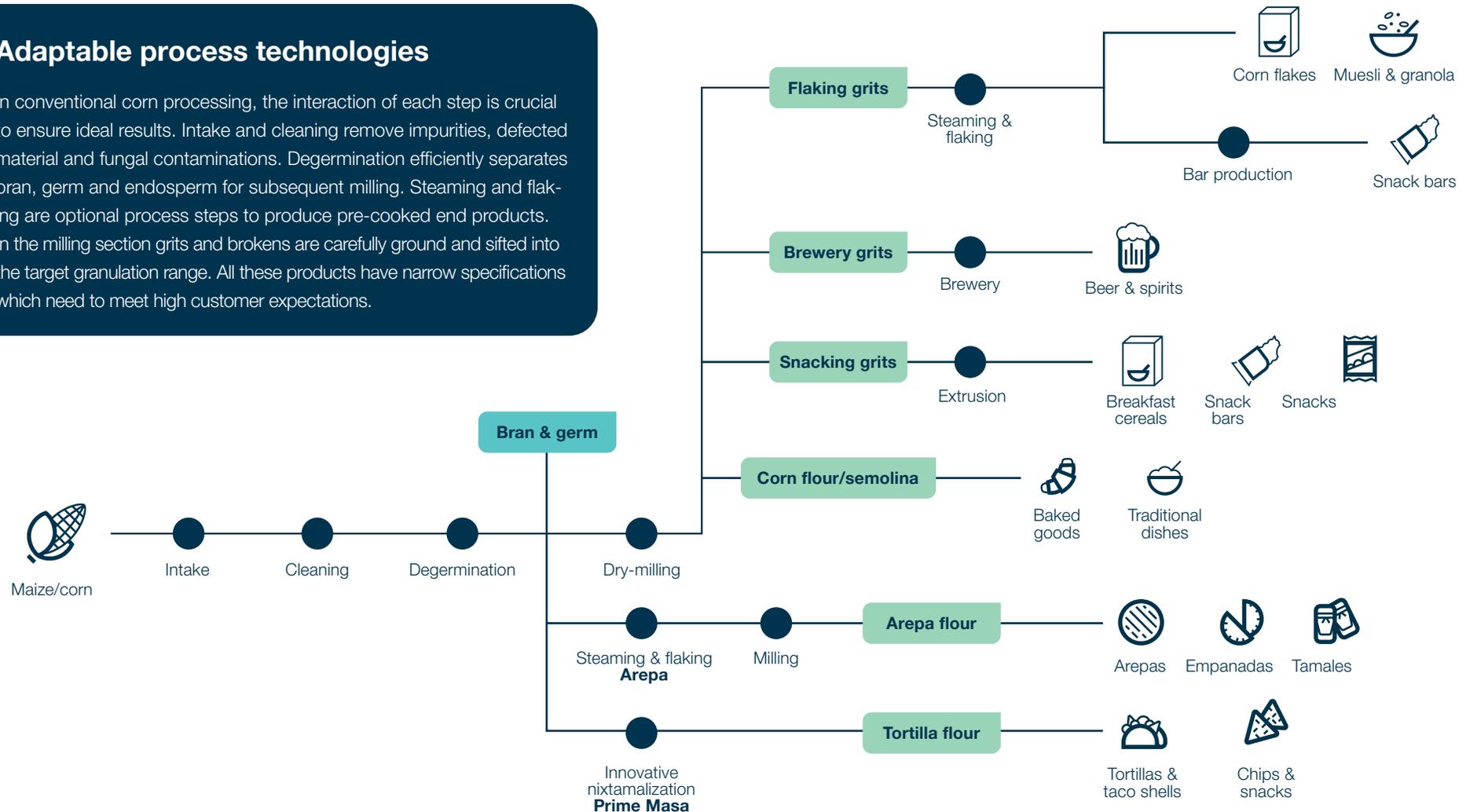
Products

Corn is the world's most important cereal grain in terms of production quantities. It is processed into a wide range of valuable products, including premium-quality grits and flour.

Corn/maize processing solutions from one hand. For safe and efficient production of quality products.

Adaptable process technologies

In conventional corn processing, the interaction of each step is crucial to ensure ideal results. Intake and cleaning remove impurities, defected material and fungal contaminations. Degermination efficiently separates bran, germ and endosperm for subsequent milling. Steaming and flaking are optional process steps to produce pre-cooked end products. In the milling section grits and brokens are carefully ground and sifted into the target granulation range. All these products have narrow specifications which need to meet high customer expectations.



Pre-cooked corn products. Innovative technology for traditional taste.

Bühler has developed pioneering technologies in corn processing, which reduce cooking times of maize meals and allow waste water free production of nixtamal flour. Appearance, taste and texture of the pre-cooked products are absolutely equivalent to those prepared in the traditional way.

Prime Masa: A revolution in sustainable Nixtamal production

With the proven and dependable Prime Masa technology of Bühler it is possible to produce Nixtamal flour with significantly less resources while retaining flavor, texture and mouth

feel of the conventional product. Bühler has a patented solution offering two plant modules for 100 t/d and 200 t/d of finished product respectively.



Benefits over the entire Bühler Prime Masa Nixtamal process

Save water



Waste reduction



Save energy



Increase yield



Arepa flour

We offer a highly efficient industrial process to produce Arepa flour. The flour is made from degerminated corn which is pre-cooked with steam and afterwards ground to flour. It is used to make Arepas, Empanadas and Tamales which are staple foods in Venezuela and Colombia.



Prime Masa Nixtamal

Prime Masa is a corn flour used to make tortillas, nachos, tortilla chips and other snacks. Our process uses 90 % less water than traditional methods – without any waste water. It also has a high degree of automation, lowering energy use and maintenance time, while producing a higher flour yield.



Our technology gives you advantage. **Use our knowhow to extend it.**

Technology and automation

Automation contributes significantly to the efficiency of corn mills. Our plant control and MES systems, coupled with online sensors, provide you with process data in real time. This optimizes quality and increases throughput while saving resources and ensuring a high level of traceability.

Customer success

Thanks to our global presence in over 140 countries, Bühler customers are able to benefit from local market know-how as well as from fast and competent support. Bühler has the local worldwide presence you can rely on.

Training and product development

Our trainings – in Bühler’s [training centers](#) and onsite – are designed to keep you up to date on products and technologies, giving you the confidence and experience you need.

Visit our [application centers](#) to test and perfect your business ideas to successfully bring them to market.

Integrated components. Effectiveness for maximum yield.

Bühler develops integrated technology for producing premium-quality corn products. Flexible processing enables maximum yield through efficient cleaning, conditioning and degermination, up to final grinding. Reliable automation enhances productivity, reduces energy consumption and minimizes maintenance.



Combistoner MTCG: Combined functions for maximum efficiency



Sortex optical sorter: Mycotoxin reduction



Corn degerminator MHXM: Intensive degermination

Combistoner

Bühler offers cleaning systems perfectly tailored to one another to ensure maximum food safety. The cleaning objective is clear: to increase the quality of finished products and process reliability.

Sortex optical sorter

Equipped with Bühler custom-built inspection and lighting systems, Sortex BSAC removes a range of defects including discoloured grains, black tips, broken or split grains, foreign materials and detection and removal of dangerous mycotoxin.

Degermination

The degerminator separates bran, germ and endosperm. An intensive corn treatment by the roll rotor, and the specially structured sieve jacket, control the fat content of the end products. Several machine types are available for soft, medium-hard and hard corn varieties.



Dolomit roller mill MDDP: High grinding capacity

Roller mill grinding

Dolomit roller mills grind degerminated corn grits into semolina and flour. Robust machine controls, compact roll packs and direct aspiration systems lead to consistent grinding quality and dustfree operation. Its optimal geometry meets highest sanitation standards.



Arenit plansifter MPAV: Flexible and efficient sieving

Sieving and grading

The plansifter is characterized by its sifting, sorting and classifying flexibility. An efficient separation of coarse and floury corn particles results in high throughput and premium product quality. In addition, the greater sifting area and optimal space utilization leads to high sifting performance.



Norit purifier MQRH: Results in clean, first-class semolina

Purifying

Norit purifier efficiently sieves and separates bran from semolina. The ground corn particles are cleaned to reduce specks content for pure, high-quality semolina. Reliable feeding enables a continuous process and reproducible product quality. Metal sieve frames with brush cleaners and easy cleaning accessibility prevent product deposits.

Online sensors



NIR multi online analyzer MYRG

Reduction of costly laboratory tests

The NIR Multi Online Analyzer MYRG allows real-time analysis of raw material and end products at various measuring points. With the latest Bühler NIR technology, one spectrometer evaluates up to 6 different measuring points.



Online color and specks measurement unit MYHB

Real-time quality analysis

MYHB allows online checking of the product color and specks during production. The measurement probe supplies reproducible color values in the CIE 1976 color space (L^* , a^* , b^*) and classifies specks by size and color.



Online particle size measurement system MYTA

Consistent granulation

The measuring system is suitable for continuous particle size measurement in the 10 - 5000 μm range. The operating software shows deviations of the particle size distribution and provides the basis for a monitored and traceable product quality.

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