



For every
requirement
the best
milling solution.



The challenges are growing. **Together, we convert them into opportunities.**

Feeding a rapidly growing population poses great challenges to all of us. How do we supply an increasing number of people worldwide with healthy and safe food in the future?

How do we fight hunger, malnutrition and obesity at the same time? How do we minimize large food losses between field and plate? And how can we reduce energy and water consumption while increasing productivity and product quality at the same time? Here at Bühler we have found innovative answers to these questions together with our customers for more than 150 years. As family-

owned business, we always think in generations and place high value on sustainability – when handling valuable resources and maintaining our customer relationships. We are the solution provider and future partner for the milling industry and support you worldwide with comprehensive process solutions and services.

You can respond to trends. **Or drive them through innovations.**

At Bühler we are always looking for new ways to develop future-oriented solutions for the central challenges and trends in feeding the world's population.

Rethinking processes.

Driving innovations means so much more than optimizing machinery. We rethink and reinvent comprehensive processes considering the big picture. This is the only way to continuously increase yield, quality, food safety, and efficiency. Just like with Bühler's Mill E3. This future-oriented milling solution break new ground at all levels – from machines, to processes, to the complete plant layout. The result sets new benchmarks with respect to efficiency – with fast installation times, lower energy consumption, and less space requirements.

Preserving the good, revolutionizing technology.

Further examples are PesaMill™ and Prime Masa Nixtamal. Using innovative technologies, these two Bühler processes achieve the taste and “mouthfeel” of traditionally produced flours – with significantly higher yield and using less resources. Learn more on page 11.





We work on five major topics. For your success.

We always pursue two objectives with our innovative solutions for the milling industry – providing our customers with competitive advantage and making the world a little bit better. In that, we are guided by five central topics.

Digitalization.

Digitalization opens new possibilities for more productivity and efficiency. We are pressing ahead with automation and data services, as the mill of the future is intelligent. Already today, sensors optimize production in real time. And Bühler experts support customers worldwide with remote monitoring. Bühler is leading in the development of digital solutions. For example, in predictive maintenance, which can decisively contribute to increasing system efficiency.

Energy savings.

Processing grains is energy-intensive. Thus, we always focus on energy efficiency when developing our products. Our new generation of scales determines raw material and product weights throughout the entire process precisely and saves energy and costs sustainably. The scale uses a unique electro-

mechanical drive instead of a common pneumatic drive system. This lowers the energy costs by about 95 %.

Food safety.

10 % of the world population fall ill every year due to contaminated food – and the majority is children. Highest food safety has always been a central topic for Bühler. In every process step and down to the smallest detail. Every employee is a food safety ambassador. In addition, a team of acknowledged experts deals with topics, such as mycotoxin reduction, hygienic design, and foreign object separation, on a daily basis.

Sustainability.

Natural resources are valuable. With the process for producing Nixtamal flour (masa flour) for tortillas and tortilla chips, Bühler demonstrates a new technology that saves more than 90 % of water.

Production does not generate wastewater and allows a higher flour yield with less energy and steam consumption.

Nutrition.

Significantly more protein is required to meet the nutrition requirements of an increasing number of people. Pulses are a valuable alternative with the potential of closing this protein gap. Together with our customers worldwide, we develop new products for processing, e.g., peas, beans, and lentils into protein-rich flours, pasta products, snacks, and meat substitute products.

There is a best solution for every of your requirements. **Made by Bühler.**

Our solutions for the milling industry are used around the globe. About 65 % of the wheat milled worldwide is processed on Bühler mills. Our customers operate in different markets with different requirements on a mill.

As leading solution provider for the milling industry, we create sustainable added value for our customers worldwide. This also means that we are always close to the market and flexibly adjust to the requirements of our customers. During our consultation, we check and clarify, which factors are essential for the success of your mill – from energy consumption to hygiene standards to degree of automation. Based on this comprehensive analysis, we derive our recommendations for new Bühler machines and systems. For this reason, our solutions are custom-made for your requirements – tailored to existing resources, employee qualification, and HR costs, the competitive situation and the trends in your market.

Bühler stands for highest quality and reliability worldwide.

You can always count on quality without compromises “Made by Bühler”. Based on our consistent quality management, state-of-the-art production sites, and the daily quality standard of our employees, we can ensure you that your high expectations on Bühler products and services will be met reliably.





The world of grains is changing. **Bühler mills follow.**

An increasing variety of grain types is grown worldwide. The variety of our process solutions follows this development. We are pursuing the optimum process for producing the desired products for every grain – efficiently, sustainably, and in top quality.

We have always offered technologies for processing of classical grains, such as wheat, durum wheat, corn or oats. In addition, we process rye, buckwheat, barley, spelt, sorghum, soy, and pulses. Processes for the same raw material can be different by region. For example, for our customers in South Asia, we process durum wheat to Atta flour, and in Middle East to bulgur. Our portfolio also includes process solutions for the production of grain-based biorefinery products, such as ethanol, pellets, starch or vital gluten.

One mill instead of twenty.

The Bühler Atta process featuring Pesa-Mill™ is the first industrial process technology for the production of authentic Atta flour. Taste and “mouthfeel” are identical to the flour produced on traditional Chakki stone mills. The big difference is the fully integrated overall process with innovative milling technology. The unique high-compression Pesa-Mill™ can replace up to twenty traditional stone mills – with numerous additional advantages, such as higher yield, reduced energy consumption, and the possibility to produce several flour qualities on the same system.

90 % water savings.

The innovative Bühler process for the production of Nixtamal flour (masa flour) for tortillas and tortilla chips combines the advantages of traditional processes with latest food technologies. This allows wastewater-free production with higher flour yield and significantly less energy and steam consumption. Enabling savings of 90 % of water. The result of this reliable and flexible process is masa flour of the highest quality with the taste and “mouthfeel” of traditional production.



Image on the left side: We offer technologies for processing of wheat, soy, lentil, barley, sorghum, chickpeas, corn, oats, spelt, buckwheat, and many other types.

We support you with our service. Throughout the entire life cycle of your mill.

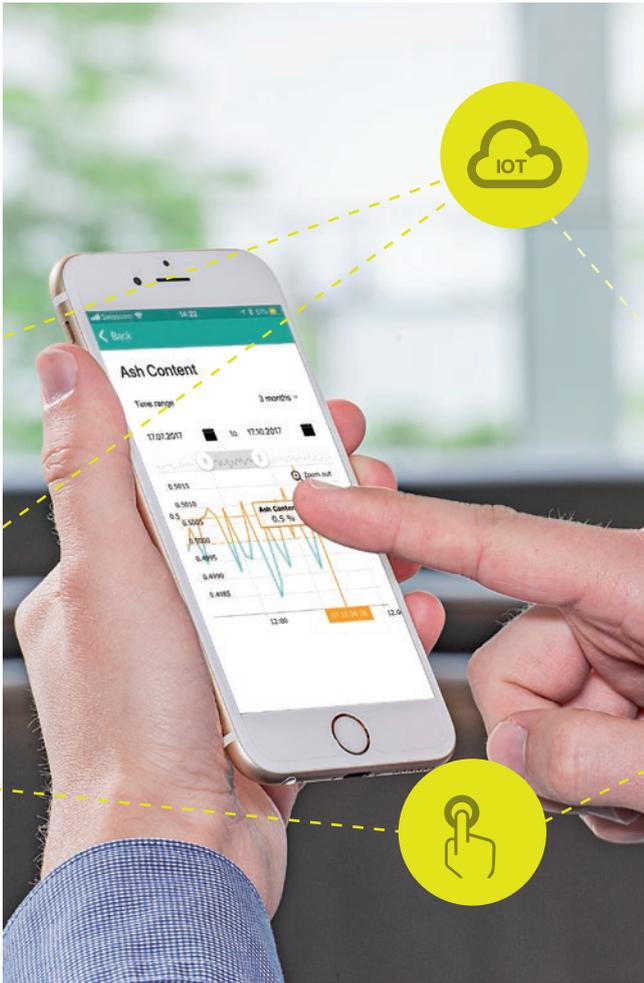


Consulting and engineering.

During our comprehensive consultation, we want to understand your requirements in detail to deliver solutions that will advance your sustainably. With our decades of experience in planning and realization of milling systems, we design flexible, economic, and reliable solutions for you – from standard mills to fully customized systems.

Process systems and equipment.

A mill is more than the sum of its parts. As technology leader in the grain processing industry, we always consider the overall process. This gives you peace of mind that all of our solutions are perfectly tailored to one another – from spare part to machine to complete system. This means consistently more productivity and quality for you.



Automation.

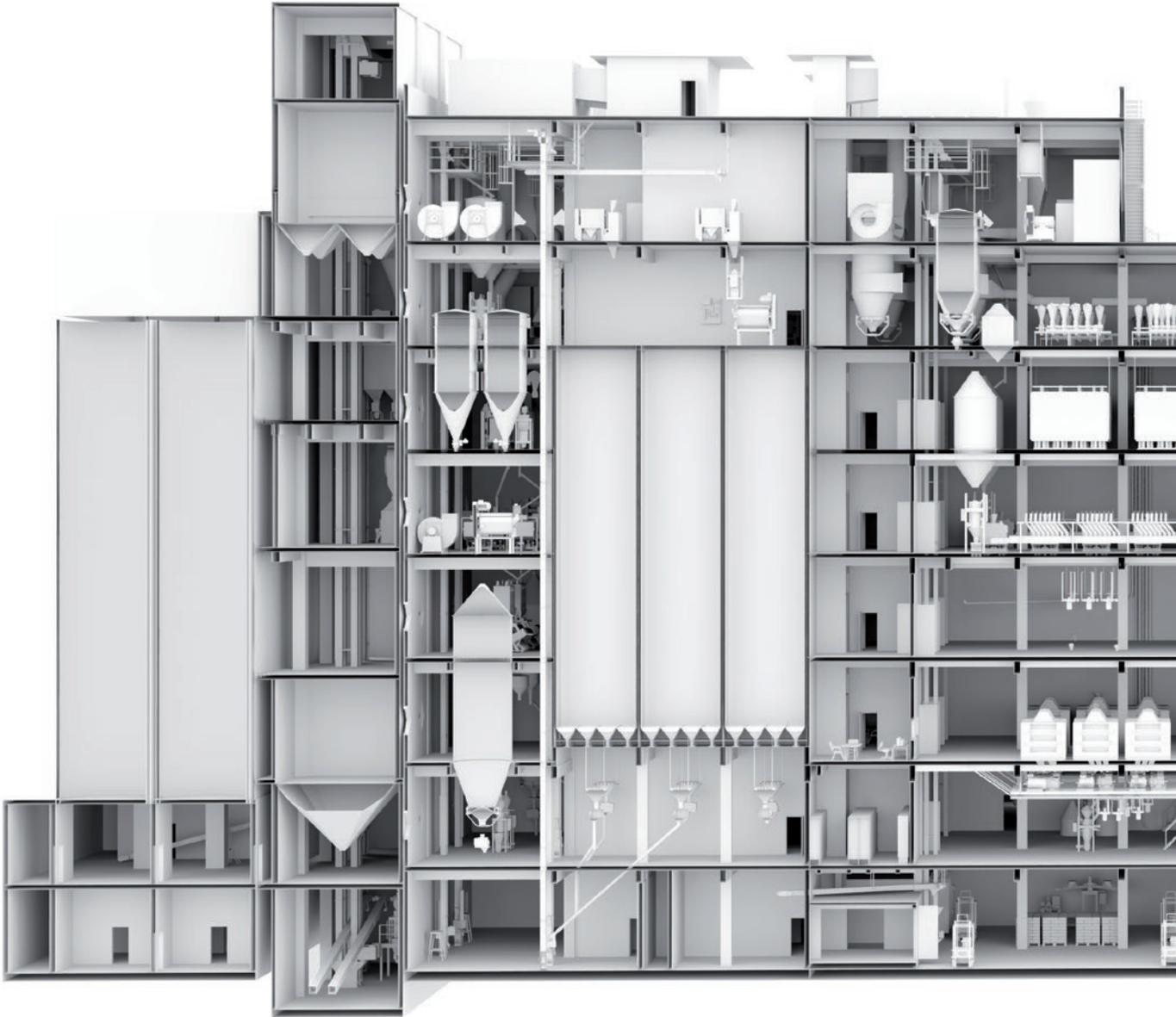
Integrated automation solutions make production sequences more efficient, lower energy consumption and increase operational safety. We offer the complete package for your automation – from installation to ERP integration. Bühler systems are ready for the digital transformation – with comprehensive networking and increasing digital services.

Customer Service.

Highly trained service staff in 140 countries worldwide advise and support on site. Beyond that, we offer a digital overview of your machines and a simplified procurement process with our online platform myBühler. Whether maintenance, spare parts, retrofits, repair, revisions, or digital services – our services extend the lifetime of your system, minimize downtime, and increase your productivity.

For every requirement
the best milling solution.

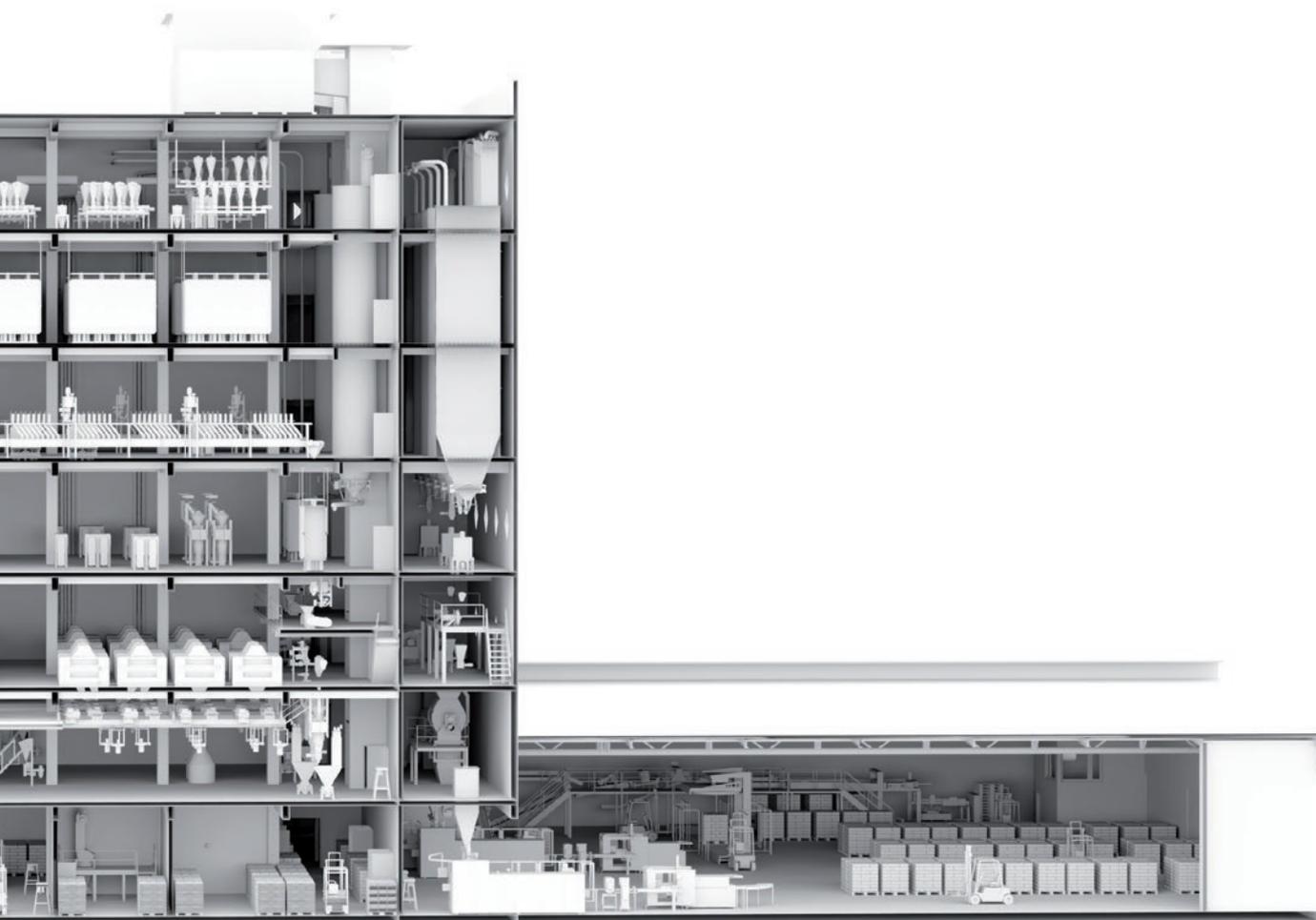
From grain to finished flour. **Step by step a perfect process.**



Receiving,
Pre-cleaning,
Storage

Cleaning

Grinding
& Sifting



Weighing
Dosing
Mixing



Bagging
& Loading





Highest quality starts with cleaning. **Combined with highest productivity and efficiency.**

The cleaning objective is clear: To increase the quality of the finished products and process reliability, the delivered raw grain must be reliably separated from contaminations. This includes, e.g., foreign seeds, stones, metals and dust, as well as harmful substances, such as mycotoxins.

Bühler offers cleaning systems perfectly tailored to one another to ensure maximum food safety. However, the focus is always on maximum productivity and efficiency. The optical sorting systems of the SORTEX series are just one example. Equipped with powerful detection, illumination, and ejector systems, they enable the detection and removal of smallest defects at capacities of up to 40 tons per hour.

Your Bühler success factors:

- Highest cleanliness of finished products with high throughput
- Elimination of contamination and foreign seeds
- Extension of machine service life in downstream processes



Grinding without compromises. Perfect team work for best flour.

Grinding is the heart of the mill: Here, the endosperm is separated from hull and germ and processed to flour. This is realized through multiple interactions of roller mills and different sieves.

Bühler roller mills set new standards in grain processing again and again. They are the ideal solution for all grain varieties – whether corn, wheat, durum wheat, rye, barley or malt. Uniform product distribution and feed to the grinding rolls in connection with a roll pack with self-contained forces create the conditions for achieving perfect grinding results. Hygienic design and appropriate materials ensure highest product and food safety.

The grains are sieved after every roller mill using sifters. Individual particles are separated based on their size using a circular motion. Efficiency and food safety are of utmost importance here as well. Bühler plansifters feature high dynamic acceleration for an outstanding sifting efficiency. They enable high capacity in the smallest space possible. Thanks to their modular design, the number of modules can be adjusted as required. High-quality insulation and design of all parts in

contact with product in stainless steel or PUR ensure excellent hygiene.

Purifiers support separation additionally – with high throughput and maximum separation resolution in compact dimensions. The completely enclosed machines satisfy the most rigorous international hygiene regulations.

Your Bühler success factors:

- Gentle grinding
- High quality of the finished products with maximum yield
- Low energy consumption





Precise weighing, dosing, and mixing. To exactly meet customer requirements.

After the grinding process, the different products are stored in different finished product silos. Producing flours according to customer specifications requires proper mixing of different base flours.

Bühler weighing and dosing systems guarantee a precise and controlled process. Using a micro dosing scale, smallest parts, such as gluten or vitamins, can be added precisely to improve the quality of the finished products. The batch mixer allows fast and homogeneous mixing of powders, flakes, and granulates. This way, premixes for bread or other baked goods can be produced in addition to flour mixtures.

Your Bühler success factors:

- Maximum flexibility in the production of customer-specific flours
- Consistent finished product quality

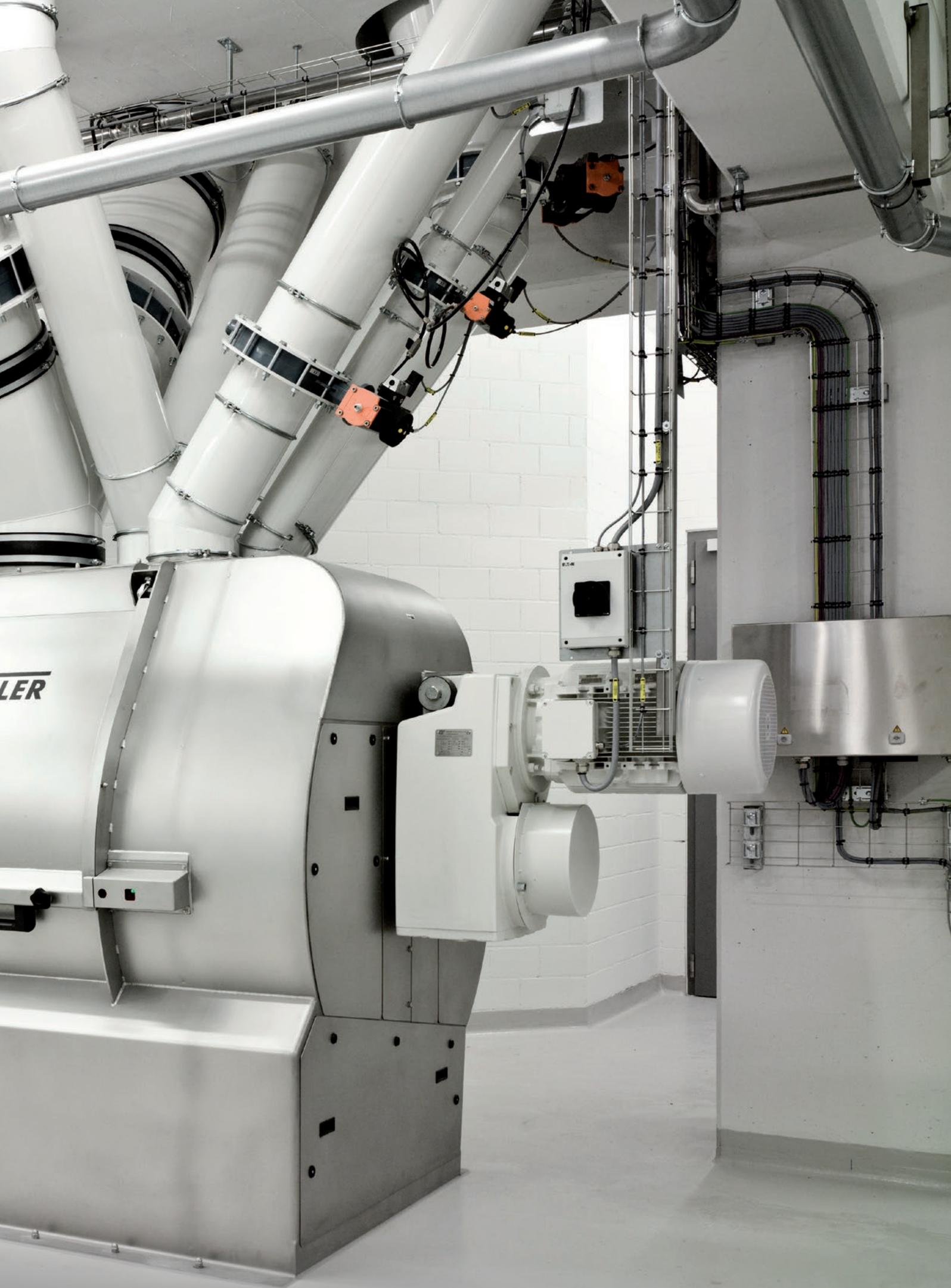
Receiving,
Pre-cleaning,
Storage

Cleaning

Grinding
& Sifting

Weighing
Dosing
Mixing

Bagging
& Loading





25kg

Farine fleur
Weissmehl
farina bianca

1208
25 kg

1208
TPO 1

More efficient bagging and loading. For consistent economic viability.

In the last process step, finished products are shipped in bulk or in bags. Efficiency, accurate filling weights, and food safety are important here as well. Bühler has developed a large variety of systems, which combine these strengths for your requirements – manually or fully automatically for different bag materials and weights ranging from 10 to 50 kg. The Maia bagging station is an example for extremely operationally safe and efficient bagging

of flour, premixes, and granulates. The high level of reliability and performance results in a higher bagging capacity per hour with consistently accurate filling weights. Powdered products are optimally compacted and bagged free from dust by a patented filling screw and integrated aspiration. This saves bag material and allows optimal bag logistics. At the same time, automation relieves of manual routine tasks.

Your Bühler success factors:

- Best accuracy and high level of performance
- Excellent sanitation
- High operational safety





Our technology gives you an advantage. **Using our knowhow, you extend it.**

Close customer relationships and highest customer satisfaction are of great importance to Bühler. Therefore, we maintain close and constructive partnerships with our customers worldwide. This also means sharing our competence and knowhow with you. This way, you and your employees can get the best out of our machines, systems, and processes in the long term.

Training centers.

We want our customers to fully exploit the potential of their Bühler solution. Therefore, our experts transfer their knowledge and experiences to you in our training centers. We offer inhouse training in our training centers worldwide. Here we provide theoretical and practical training in technology, maintenance, system management, and quality assurance. We also offer on-site training, as well as customer- and plant-specific seminars.

Bühler Grain Technology Center.

The Bühler Grain Technology Center represents the most powerful and renowned development and test center for industrial grain and pulse processing worldwide. The extensive, modern machine park allows process simulation on an industrial scale. In addition, the entire knowhow of Bühler technologists is available for tests and trials.

Bakery Innovation Center.

The Bakery Innovation Center (BIC) is a unique competence center for the mill and bakery industry. The BIC experts communicate Bühler knowhow from decades of experience along the entire value-added chain. For only people, who understand the entire breadmaking process, can evaluate the flour.

What mills does tomorrow's world need? **We will find the answer together.**

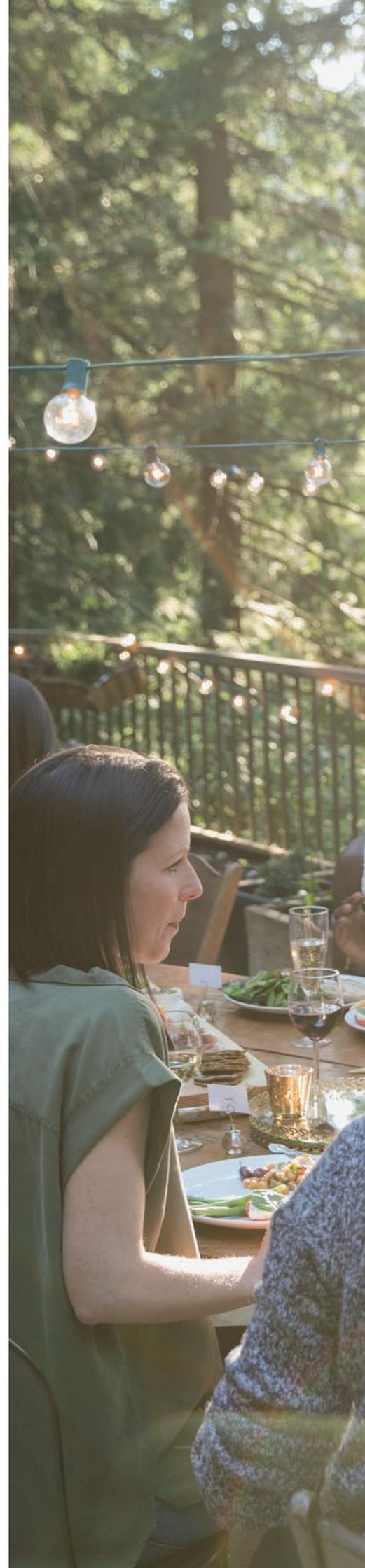
Producing much more efficiently, significantly lowering the energy consumption, minimizing downtimes, utilizing valuable raw materials even better, increasing the nutritional value of food, tracking processes and products without gaps, responding faster to changing markets – Bühler is your partner in achieving your objectives.

We support you along the entire value chain from grain to perfect finished products with our innovative solutions. From wheat and spelt to corn, sorghum, and soy. With comprehensive consulting and high engineering competence, we establish the basis for planning and realization of flexible, efficient, and reliable mills. We combine machines and systems to optimally aligned processes with custom automation. Our extensive service portfolio helps you in operating more effectively and efficiently or in developing new potentials faster and more specifically. Thanks to digitalization and the Internet of Things, we are going to create for you even more added value in all areas. Bühler understands themselves as trustworthy partner for generations.



*“Together, we shape
the future for a better
world, and convert your
challenges into sustainable
opportunities for your
company success.”*

Stefan Birrer, Head of Milling Solutions





A close-up photograph of a metal milling process. A large, curved metal chip is being removed from a workpiece, creating a shower of smaller metal shavings. The scene is illuminated by bright, directional light, highlighting the metallic textures and the dynamic nature of the machining process.

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