Innovative solutions for the grain-based beverage industry.
Grain.
Valuable raw material for the beverage industry.

Grain is a high-grade raw material for the beverage industry. The processing of malt, barley, wheat, corn (maize) grits, broken rice, or starch requires both superb process know-how and high-quality equipment.

As the market and technology leader in the grain processing industry, Bühler offers state-of-the-art process technologies and solutions from a single source also for the beverage industry. The goal is to always produce high-quality raw materials through optimal grain preparation and processing to provide an ideal basis for an efficient beverage process.

The Bühler portfolio is extremely varied, ranging from classical malting, bulk storage, and malt handling systems to various grinding technologies and corn (maize) mills for grits production. The Bühler competencies also include processing and handling of starch and sugar or processes for making high-grade pregelatinized products.

Malt & grain
Intake, precleaning, handling & storage
Cleaning
Conditioning
Grinding
Additional elements
Grist
Bühler – a global partner for plant engineering. Worldwide operations, local roots.

As a global organization, Bühler is at home throughout the world, offering solutions that are tailored to local needs. Regional customer service and local support ensure the permanent availability of every plant and equipment – for customer satisfaction is the top priority.

The vast experience and expertise of Bühler are based on a close partnership and collaboration with customers all over the world.

Bühler offers consulting, engineering, plant design and construction, complete project management, installation, start-up, automation, and after-sales service – close to your site.
Storage and mechanical conveying solutions. Reliable material flow.

Malt and grain handling from receiving (intake) pit into the brewing house – Bühler conveyors and dischargers plus smart automation solutions ensure smooth operation.
Pneumatic material handling solutions. Specialty malts, starch, and sugar.

Bühler masters all aspects of pneumatic powder and bulk materials handling
Bühler builds low-velocity and high-velocity conveying systems for moving granular and powdered bulk solids. The required airlocks, line diverters (switches), and separators (receivers) are also developed and built in-house. The solutions vary from manual intake systems and Big Bag dumps to tanker receiving systems and equipment for storage, discharge, and proportioning. Applications include the handling of specialty malt, starch, sugar, and kieselguhr.

Taktschub low-velocity conveyor
For gentle malt handling

Fluidlift high-velocity conveyor
For handling flour/mealy and granular products

Combined Big Bag and standard-size bag dump
Dumping of specialty malts and small volumes

Bulk reception (intake) with storage and discharge systems
Efficient storage of powdered and granular products

Pneumatic pressure conveying lines
Flexible material handling solution

Pneumatic suction conveying system
Optimally suited to multiple product feed including aspiration
Typically, grain and malt will contain impurities. Before processing, it is therefore necessary to remove foreign seeds, stones, and other foreign objects as well as dirt. Color sorting is also capable of removing fusaria-infested grains.

**Comprehensive cleaning equipment portfolio for all applications**
Destoners and screens remove foreign objects and thereby reduce wear in the processing equipment and in the conveying systems. This appreciably increases the service life of rolls, hammers, and screens in hammer mills as well as the components of conveying systems. If particularly high-end product quality requirements must be satisfied, color sorting or surface cleaning equipment will be found to be the optimal solutions. Magnetic separators within the process round off cleaning.
Efficient cleaning equipment.
Consistently pure end products.

**Sieving machine**
Optimized grain storage characteristics and quality of the product to be cleaned

**Destoner**
For increasing the lifecycles of rolls and hammers and for preventing spark generation

**DC Peeler**
For intensive surface cleaning

**Combi-cleaner**
Compact machine combining four functions in one unit: grading by specific gravity, removal of fine and coarse particles by screening, destoning, and aspiration of the low-density (lightweight) fraction

**SORTEX optical sorter**
Optical sorting with exceptional accuracy and separating efficiency, for example of fusaria-infested grains

**High-capacity grain cleaner**
For efficient removal of fine and coarse contaminants or grading by particle size
Optimal conditioning.
Fast wort separation, accurate water metering.

State-of-the-art lauter tub systems achieve top wort separation rates both in wet crushing and dry crushing applications. The conditioned dry crushing system offers maximum yield with a high husk volume and thereby increases economy.

Condimat – fast and uniform water dispersion
The Condimat gently intermixes the water with the malt. Uniform moisture addition optimally conditions the malt grains prior to grinding. This self-cleaning machine has been designed to ensure that no deposits will be created.

Accurate water metering for ensuring a consistently high husk volume
The automatic water metering unit accurately meters water at a rate of 1–6 %. The water volume is selected on the basis of the process control system of the brewing house and can be tailored to specific recipes and thus be optimally matched to the lautering tub.
Malt and raw grain grinding.
Bühler sets grist quality standards.

Bühler offers an extensive portfolio of grinding systems for breweries and distilleries. Across the world, Bühler equipment is in service for producing grist, both for mash filter and for lauter tub systems.

**Roller mill grinding – high economy**
Dry grinding not only produces a higher yield through optimal grinding in three passes. It also cuts energy consumption thanks to the higher wort concentration and lower power requirement of roll grinding as well as consistent grinding results even when processing small grains.

**Hammer mill grinding – flexible for malt and raw grain**
Hammer mills allow all grain varieties as well as malt to be reduced to fine particle sizes. They are distinguished by their ease of operation, maintenance, and servicing.
State-of-the-art roller mill portfolio.
Fits all capacity sizes.

**Newest-generation grist mill**
The Maltomat™ III is distinguished by its powerful roll pack with direct drive and its large screen areas for excellent separation of husks, coarse grits, and flour. The Maltomat™ III enables malt and raw grain to be optimally processed. A well-thought-out maintenance and cleaning concept with fast roll and screen changes is as much part of this new grinding system as are its high safety standard and ease of operation.

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**Four-roller grist mill up to 900 kg/h**
Stainless steel mill for small breweries with high grist quality requirements

**Six-roller mill Maltomat™ III 1500**
Malt and raw grain mill for high capacities

**Six-roller mill Maltomat™ III 500**
Ideal for small and midsize breweries with high standards

**Four-roller raw grain mill**
Mill with universal applications for processing grains such as rice, corn (maize), barley, wheat, or sorghum

**Four-roller malt and raw grain mill**
As a malt mill for small breweries or alternatively as a high-capacity raw grain mill
High-capacity hammer mill portfolio.
Fits every mash filter.

**Comprehensive hammer mill portfolio**
Bühler hammer mills are in service in breweries and distilleries around the world in applications involving all mash filter makes. The Vertica vertical-rotor hammer mill cuts energy consumption by as much as 30% in comparison to conventional hammer mills. Special fine particle sizes as well as top throughput capacities up to 70 t/h can be achieved with horizontal mills.

**Patented feeder module**
Optimal product feed including gravity separator for removing high-density matter and magnetic separator

**Horizontal hammer mill**
Universal applications

**Granulex high-capacity hammer mill**
Processes up to 70 t/h of malt

**Vertica vertical hammer mill**
30% energy savings

**Twin vertical mill**
With centralized feed module and for high throughput capacities
Bühler additional elements.
Complete solutions from a single source.

Numerous elements are required to complete a plant. They range from gravity spouting and dust control systems to online sensor systems and quality assurance. Controlled material flow is ensured by the weighing and proportioning technology of Bühler.

**Industrial weighing solutions**
Bühler offers a comprehensive range of weighing equipment – from reception (intake) and bin discharge by automatic flow balancer to process scales and micro-feeders.

**Leaders in online sensor systems for grain**
Today, the moisture content, component substances, and particle size distribution can be determined online. This allows quality assurance and process fine-tuning and prevents downtimes.

**Complete range of dust collection filter technology**
Bühler possesses a comprehensive range of technologies and system components for dust control in the grain processing industries.

**Reliable quality assurance**
Sampling and sample collection for ensuring complete traceability and analysis of the malt and grist quality are firm parts of the Bühler quality assurance philosophy.
Dust control technology.
Dust-free and safe production environment.

Dust control technology – developed and produced by Bühler
Bühler has a broad portfolio of dust control components developed and manufactured in-house, ranging from large to small filters. Top priority is placed on ensuring a high safety standard and a sanitary design with high separating efficiency, as well as easy maintenance and a low residual dust content. Thus, for instance, all centralized filters are of round design and pressure-shock-resistant with pressure relief underneath the filter bags (sleeves).

Round filters
Centralized aspiration system

Top-mounted dust collection filters
Decentralized aspiration of storage bins, grist bins, and conveyors

Large filters for grain receiving (intake) sections
Low-dust materials reception

Centralized vacuum cleaner system VacuumClean
Keeps the building clean
Weighing and proportioning.
Top-level precision.

Micro-feeder
Highly accurate feed of powdered enzymes and ingredients

Differential proportioning scale
For adding powdered products such as kieselguhr or corn (maize) starch

Transflowtron continuous scale
Weighing of a continuous product stream on the basis of the loss-in-weight measurement principle

Batch scale
Highly accurate weighing of bulk materials and flours – Continuous flow rate thanks to rotary discharger or outlet slide gate

Flowbalancer
Flow rate measurement and control combined in a single unit – Ideal underneath storage bins for automatic creation of malt blends and for addition of specialty malts

Intake scale Granex
High-capacity receiving (intake) scale for malt and cereal grains
Grist and raw material analysis. For high process reliability.

**Laboratory sifter**
Reproducible grist analysis

**Universal laboratory mill**
For perfect malt analysis

**Automatic grain sample collector**
Consistent product tracing

**Online particle size measurement unit**
Real-time monitoring of the grist produced by roller and hammer mills

**Automatic flow rate and water content measurement of grain**
For quality assurance and moisture control

**NIR Multi Online Analyzer**
Determination of ingredients at several measurement points
Hops processing.
From extraction to pelleting.

Extraction, mixing, and pelleting
Vibro-sieves ensure efficient extraction of the alpha acid at sub-zero temperatures. The coarse material and alpha acid are fed with high accuracy to the mixer and then processed into high-quality pellets.

Vibro-sieve
Extraction of alpha acid

Mixer
Mixing of alpha acid with hops fibers

Pellet mill
For processing spent hops into pellets
Bühler Grain Technology Center.
Application and process development.

The Bühler Grain Technology Center is the world’s most versatile and renowned development and test center for industrial processing of grain and pulses. Its comprehensive, state-of-the-art range of mechanical equipment, backed by the know-how of Bühler technologists, allows tests, simulations, and product development to be performed on an industrial scale.

Bühler possesses comprehensive grain expertise and the associated process know-how to develop customized solutions.

Partially upgraded cereals influence the taste and the process efficiency in beverage production.
Automation solutions from a single source. An integral approach.

Bühler develops automation systems which incorporate process technology and control in an integral manner. This is the key to smooth production processes and thus to top competitiveness. Bühler offers a complete package from installation to process control system integration.
Customer service. Worldwide.

Customer satisfaction has top priority. Therefore, the Bühler service people are locally available and ready to respond at short notice. More than 1000 employees in over 100 countries care for the needs and requirements of customers and ensure that their plant and equipment is looked after throughout its lifecycle.

Higher yield thanks to optimal system settings
Bühler specialists ensure that plant and equipment will permanently deliver its full performance. After all, optimally set systems – also in the dry section – increase the raw material yield and improve operations in the brewing house.

Stable production processes
Genuine Bühler spare parts ensure a high uptime of production systems. Preventive checking of conveyors, airlocks, cleaning equipment, and grist mills prevents unplanned downtimes and increases the service life of the machinery. Moreover, the lifecycle of processing systems can also be increased on the basis of special machine upgrades.

Comprehensive range of services
Bühler offers a wide portfolio of different service solutions, ranging from roll leasing to professional spare parts and maintenance management using the purpose-developed WinCos Care software to complete outsourcing. Individualized service packages allow maintenance costs to be reliably predicted and enable production operations to be focused on their core business.