Liquids Handling in Bakeries.
Competence from grain to bread.
Ingredient handling from a single source.

Process solutions supplied by Bühler include preparation of all liquids used in bakeries. The system design gives as much consideration to cleaning as it does to the production process itself.

An in-house process control system covers both the dry and the liquid ingredients, thus ensuring maximum process reliability. Innovative solutions for making sponge dough or for producing scalded and gelatinized flours are as much part of the offerings as are the related product and development tests conducted in the Bakery Innovation Center. Bühler – your reliable partner from grain to bread.

Benefits
- Complete solutions from a single source, including process automation
- Hygienic, completely CIP-cleanable equipment
- Innovative solutions for making sponge and sour dough
- Application tests for product development in the Bakery Innovation Center (BIC)
Due to their positive baking characteristics, industrial-scale bakeries are increasingly relying on sponge and sour dough. The innovative Bühler solution JetMix is capable of producing homogeneous sponge dough and has unparalleled hygiene.

JetMix offers a novel method for uniform hydration of flour. Each flour particle is uniformly moistened. Within seconds, a fine and creamy sponge dough is obtained, just as it has always been with traditional, proven artisanal techniques.

Reproducible and flexible
The system ensures optimal temperature control – as the slurry temperature can be controlled on the basis of the water added. The fully automatic mixing, feeding, maturing, and cleaning process is easy to control and monitor through the process automation system. In addition to the production of sponge and sour dough, JetMix also enables the hydration of scalded or soaked grains.

Benefits
- Homogeneous sponge dough with optimal characteristics
- Maximum hygiene due to integrated CIP system
- Fully automatic process for easy reproducibility
JetMix.
Perfectly matched sponge dough process.

Consistent dosing of flour for obtaining homogeneous dough
State-of-the-art microdosing technology enables flour to be dosed to the process with unparalleled accuracy. This is ensured by the separately powered agitator, detacher, and feed screws of the MSDF-A micro-differential proportioning scale.

Uniform hydration with high oxygen content
Mixing by JetMix ensures that each flour particle is uniformly moistened. The whirling of the flour, combined with mixing under negative pressure conditions, increases the oxygen content of the dough. This activates fermentation and improves gluten development. The result: Workable dough with good machine processing characteristics.

Automatic cleaning
The JetMix, which has been designed in compliance with EHEDG guidelines, is the ideal solution due to its straightforward and hygienic design. It is constructed completely of stainless steel and can automatically be cleaned at the push of a button, without any manual intervention.
Fermentation and storage tanks. The ideal tank for every process.

Bühler tanks are ideal for fermentation of sponge and sour dough, for tempering scalded and soaked grains and for storing liquid yeast. As a result, heated, cooled, and insulated design versions are available, as well as a selection of different agitators. In order to ensure a safe and reliable process, manhole and temperature monitoring systems are included standard.

Hygiene as a top priority

As liquid processes pose a particular risk of microbial contamination, Bühler is uncompromising when it comes to hygiene. All tanks are made of stainless steel and are completely without gaps. Their clean-in-place (CIP) concepts are unique and ensure dependable, residue-free cleaning.

Benefits

– Tanks especially designed for bakery applications
– Automatic, residue-free CIP cleaning
Bühler offers a unique container unit for storing and feeding liquids such as oil or syrup. It consists of two modules, the main and the standby module.

**Maximum process reliability**
The main module incorporates the mass flow rate counter, the pump, and the entire valve technology. A buffer tank integrated in the support frame registers the level of the liquid, automatically switching to the next container (standby) when necessary. This ensures a high level of process reliability.

**Smart design**
The container unit is made of stainless piping, allowing easy cleaning and minimum dust deposits. The support surface is inclined based on the level of liquid inside the container to ensure complete discharge of the liquid.

**Benefits**
- Maximum process reliability due to automatic switching from main to standby module
- Excellent residual discharge due to an inclining support surface
Cleaning concepts.
A clean system at the push of a button.

Sanitation requirements are continuously rising in the baking industry. The focus is on complete traceability, residue-free systems, and absolute product separation. The application of CIP systems offers numerous advantages.

Comprehensive CIP know-how
In order to completely remove product residue and obtain clean surfaces, the conveying lines are automatically cleared after the production process by a sophisticated pipe cleaning system. The piping is then cleaned with an alkaline solution and acid, then flushed with water.

Maximum product safety
The application of an automatic CIP cleaning system satisfies the demand for safe products while reducing the cleaning requirement and the need for manual interventions. In conjunction with CIP cleaning, Bühler systems allow flexible and fast recipe changes and ensure continuous and completely automatic preparation of the required dough.

Focus on CIP
In CIP cleaning, two basic processes have been established based on the use of either recycled or fresh cleaning media. The concept using recycled media reuses the cleaning media more than once and is particularly suited to a large number of cleaning cycles. When fresh media are used, they are discarded after cleaning. This offers a high level of flexibility and reproducibility especially for small operations with high sanitation requirements.

Benefits
– Exceptional cleaning processes using recycled or fresh cleaning media for the CIP system
– Reproducibility and traceability for maximum product safety
– Economic systems meeting specific requirements