

BREWERY TECHNOLOGY



PRODUCT SOLUTIONS FOR BREWERY TECHNOLOGY



sera

Competence in dosing, conveying and compressing liquids and gases

The **sera Group** is an independent family-run company group with headquarters in Immenhausen in the heart of Germany.

Since the company founding in 1945, the **sera** name has stood for quality, competence, innovation, reliability and flexibility. As one of the world's leading companies in dosing and compressor technology, **sera** today offers efficient application solutions optimally tailored to customer requirements which ensure the precise dosing, conveying and compression of liquids and gases.

EXCELLENCE IN FLUID TECHNOLOGY

We create added value for people and the environment.

sera has a wide range of products, which provide the right solutions for many of your ranges of application all over the world: whether for water and wastewater treatment and disinfection, or for the precise dosing and conveying of chemicals and liquids.

Products for system monitoring and planning as well as customised solutions round off our portfolio. Our customers all over the world also benefit from our extensive range of services: From providing support in planning and commissioning systems, to quickly and easily replacing devices all over the world, through to developing innovative technologies.



Comprehensive product portfolio

Whatever you require, we create customised solutions for your applications. This means that you can choose from a wide range of standard products and also configure customised systems completely according to your needs.



Speed, reliability and flexibility

Our reliable and competent contacts will provide you with the best possible customer service and support throughout the entire offer, order and project realisation process. We always respond flexibly to your requirements and process and handle everything quickly and reliably. From engineering to production, through to after-sales service, we provide high-quality products and services.



Long-lasting products and high quality

For over 70 years, the name **sera** has stood for exceptional quality and know-how. As part of this, we develop dosing pumps and systems for extreme operating conditions and long operating times. That's why the quality and reliability of our products always comes first. You can always rely on the expertise and experience of our team.

GOOD DOSING IS HALF THE BREWING

Our Expertise for Your Success

Wherever food is handled, the work area must be regularly cleaned and kept hygienic. This is especially true for beer brewing. Producing great-tasting beer requires not only a sophisticated brewing process but also ways to clean and disinfect industrial production systems as well as methods to treat all the water needed for the brewing process.

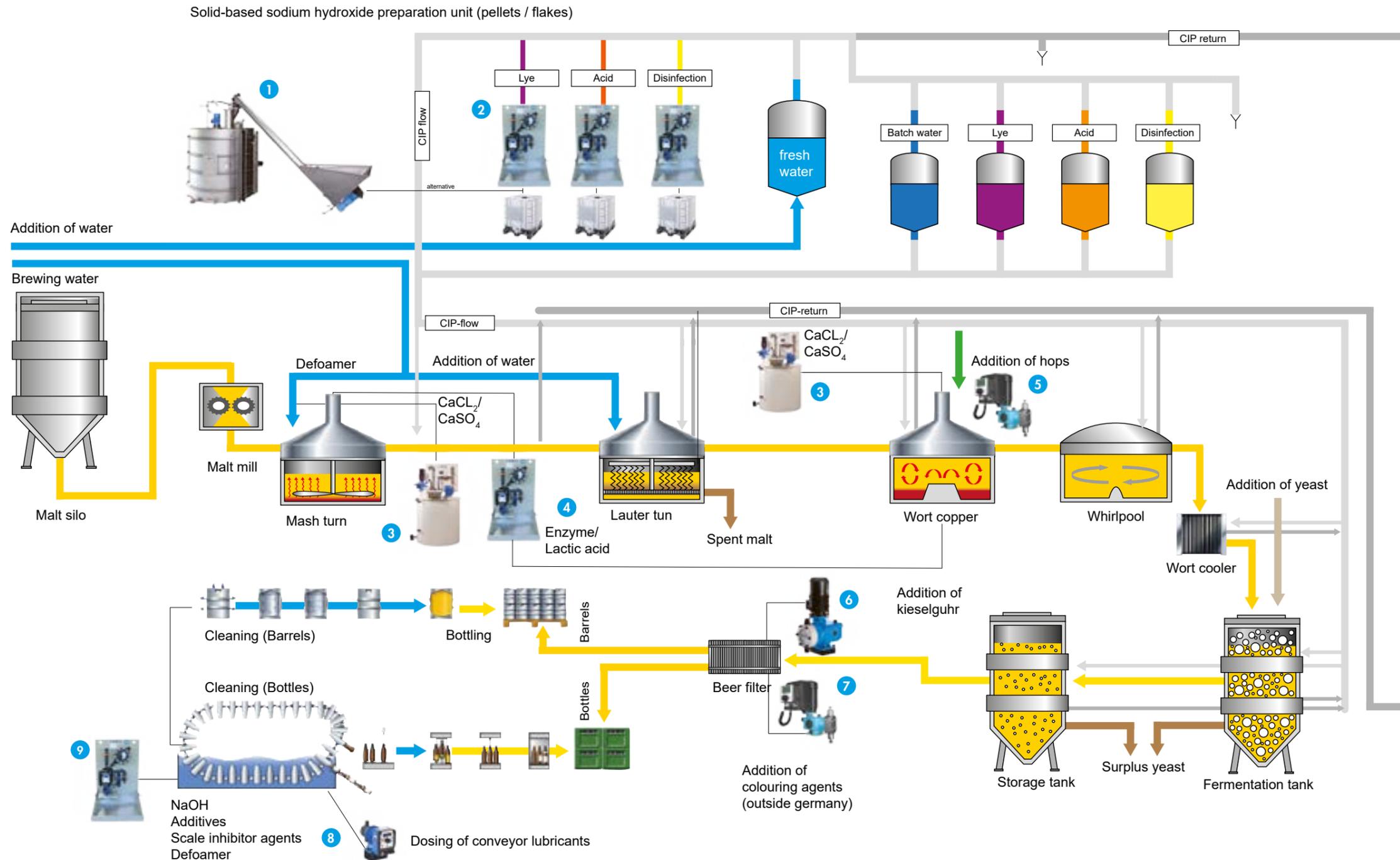
That's exactly why **sera** pumps and dosing systems have been an important and reliable building block in the production plants of many breweries for decades.

Our comprehensive range of products and services includes metering and feeding pumps, standardised dosing units and systems, and customised system and plant solutions for:

- Disinfection / CIP
- Brewing Water Treatment
- Beer filtration (kieselguhr)
- Brewing water hardening
- Wastewater treatment
- Removal of Biofilm from Pipes
- Process water sterilisation
- Enzyme and additive dosing
- Conveyor Lubricant Dosing

FOR EVERY PROCESS STEP THE PERFECT SOLUTION

The process of the brewery technology



We provide an extensive product range so that the best possible solutions for each step of the process are always available. Here are some examples of solutions from our comprehensive range, based on typical processes for brewery technology:

- 1 Perparation of caustic soda
- 2 Dosing of enzymes, Disinfection, CIP
- 3 Preparation and dosing of calcium chloride (CaCl_2) and calcium sulphate (CaSO_4)
- 4 Dosing of enzymes and lactic acid
- 5 Addition of liquid hops
- 6 Addition of kieselguhr / beer filtration
- 7 Dosing of colorants
- 8 Dosing of conveyor lubricants
- 9 Dosing of chemicals

PREPARATION OF CAUSTIC SODA FROM SOLIDS



...all around the world.

Due to poor infrastructure the delivery of fluid caustic soda is problematic in many parts of the world. The **sera CausticPrep** allows the safe and easy preparation of caustic soda from solids and thus ensures the NaOH supply in remote parts of the world. Furthermore **sera** supplies the necessary equipment for the storage and dosing of the prepared lye.



The preparation of caustic soda from solids causes an exothermic reaction with temperatures up to 95°C. The design of the **sera CausticPrep** allows the easy refilling with solids from a safe distance to the hot tank.



AREAS OF APPLICATION:

Preparation of caustic soda from pellets and flakes



INSTALLATION:

The caustic solids are supplied into the stainless steel tank by a feeding screw that is filled by the operator. Thanks to the distance to the tank, the operators safety is guaranteed.



DESIGN DATA:

The final product is NaOH solution with a concentration of 20-50%. Due to the exothermic reaction the temperatures can reach 95°C

AVAILABLE SIZES:

- 1 m³ preparation tank
- 2 m³ preparation tank
- 3 m³ preparation tank
- 5 m³ preparation tank



CHARACTERISTICS:

- Medium-affected parts are made of stainless steel
- Debagging with screw conveyor approx. 1000 kg/h
- Level indicator with shut-off valve
- Electric agitator
- Temperature control with thermometer
- Overflow pipe with siphon
- Manual addition of water
- Tubular safety guard
- Debagging station is kept away from the hot areas



ACCESSORIES:

- Suction device
- Transfer station
- Storage tank
- Dosing station

PREPARATION AND DOSING OF CALCIUM CHLORIDE (CaCl_2) AND CALCIUM SULPHATE (CaSO_4)



Calcium chloride (CaCl_2) and calcium sulphate (CaSO_4) are added to the brewing water to adjust the taste of the beer to a more soft, full-bodied taste or to a dryer, hoppier taste.



AREAS OF APPLICATION:

Preparation and dosing of CaCl_2 and CaSO_4 .



CHARACTERISTICS CaCl_2 :

- Very aggressive towards stainless steel
- Dissolving anhydrous CaCl_2 generates heat



CHARACTERISTICS CaSO_4 :

- CaSO_4 is a suspension and therefore abrasive
- The product has to be kept floating by an agitator



INSTALLATION PREPARATION TANK:

- Manual preparation of bagged chemicals
- Manual addition of water
- PP tank with tapered bottom for draining
- Feed chutes for bagged chemicals
- Electric agitator
- Capacitance liquid level sensor, adjustable
- All components are suitable for suspensions and heat-proof



INSTALLATION STORAGE TANK:

- Manual addition of water for draining
- PP tank with tapered bottom for draining
- Electric agitator
- Capacitance liquid level sensor, adjustable
- All components are suitable for suspensions and heat-proof



The **sera** stations are built for the special requirements of CaCl_2 and CaSO_4 preparation. The tanks are designed with a tapered bottom that ensures the complete draining of the station after a CaSO_4 preparation. The high-quality materials can cope with the heat that is generated when preparing a solution with anhydrous CaCl_2 . To guarantee the continuous supply of chemicals, **sera** offers specially designed storage tanks.



The exact metering of disinfectants, acids and lyes is essential for the cleaning processes in breweries. The standardized dosing units CVD come with an enormous variety, very short delivery times and an unmatched cost/performance ratio.

DOSING OF CHEMICALS FOR CIP, COLORANTS AND KIESELGUHR



INSTALLATION:

The fully modular design allows users to customize their system with standardized components according to their dosing requirements – much like a construction kit. The CVD models are suitable for use with IBCs, barrels, small containers and storage tanks.

- compact design, modular system
- space-saving wall mounting
- Options with one pump (CVD1), two pumps (CVD2) or in compact design CVD1s.
- short delivery times
- high operation and process stability



AREAS OF APPLICATION:

- Dosing of chemicals into the CIP-process
- Treatment of beer with CIP-cleanable pumps



CHARACTERISTICS:

- CIP-cleanable pump head
- Compliant with FDA and EG 1935/2004 standards
- Suitable for suspensions
- Controlable pumps also available with Profibus
- Stepper motor pumps for exact dosing with minimal pulsation



The chemicals in larger breweries are usually stored in large storage tanks. **sera dosing stations** do not only facilitate the extraction of the chemicals from the tanks but also make sure that they are exactly metered, even over long piping distances.

EXTRACTION FROM STORAGE TANKS



AREAS OF APPLICATION:

Extraction from acids, lyes and disinfectants in large breweries and dairies.



INSTALLATION:

Due to the installation *tank in drip pan*, the removal of the fluids can only be done from the top.

Therefore a siphon device is installed on top of the tanks and the **sera** dosing units are equipped with a priming aid.



CHARACTERISTICS:

- Siphon device on top of the tank
- Priming aid
- Pulsation damper
- Flow measurement





OUR REFERENCES AT A GLANCE

Around the globe customers trust in **sera** products that satisfy even highest demands. In R&D we work closely with the largest brewery suppliers of the world in order to supply the various end customers not only with a product that fulfills their demands but with a solution that excites them.

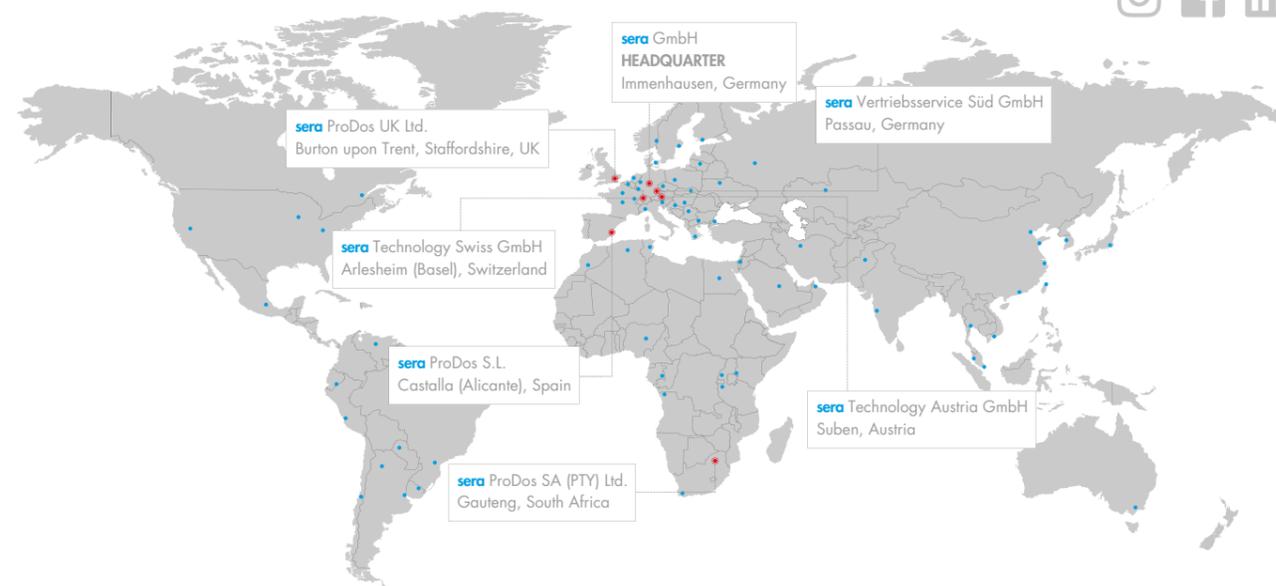
An extract of major projects where **sera** supplied dosing stations for CIP, CaCl₂/CaSO₄ preparation units and CausticPrep:

Year	Project	Country
2016	Siberia	Russia
2016	Phnom Penh	Cambodia
2016	Accra	Ghana
2017	Lagos	Nigeria
2017	Meoqui	Mexico
2017	Lubango	Angola
2018	Port Louis	Mauritius
2018	La Fortuna	Costa Rica
2019	Lion Brewery	Sri Lanka
2019	Port Moresby	Papua Neu Guinea
2019	Ha Thin	Vietnam
2019	Phnom Penh	Cambodia
2019	Zambesi	Mozambique

INDIVIDUAL SOLUTIONS

sera ProDos offers servicing and repairs on site and in our workshop. Our experienced service staff carries out maintenance of your installed dosing stations in your factory, so downtimes are kept at a minimum.

Worldwide our customers can rely on five **sera** branches and on our global network of trained retail partners, so quick service is guaranteed.



WORKING FOR YOU ALL OVER THE WORLD

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