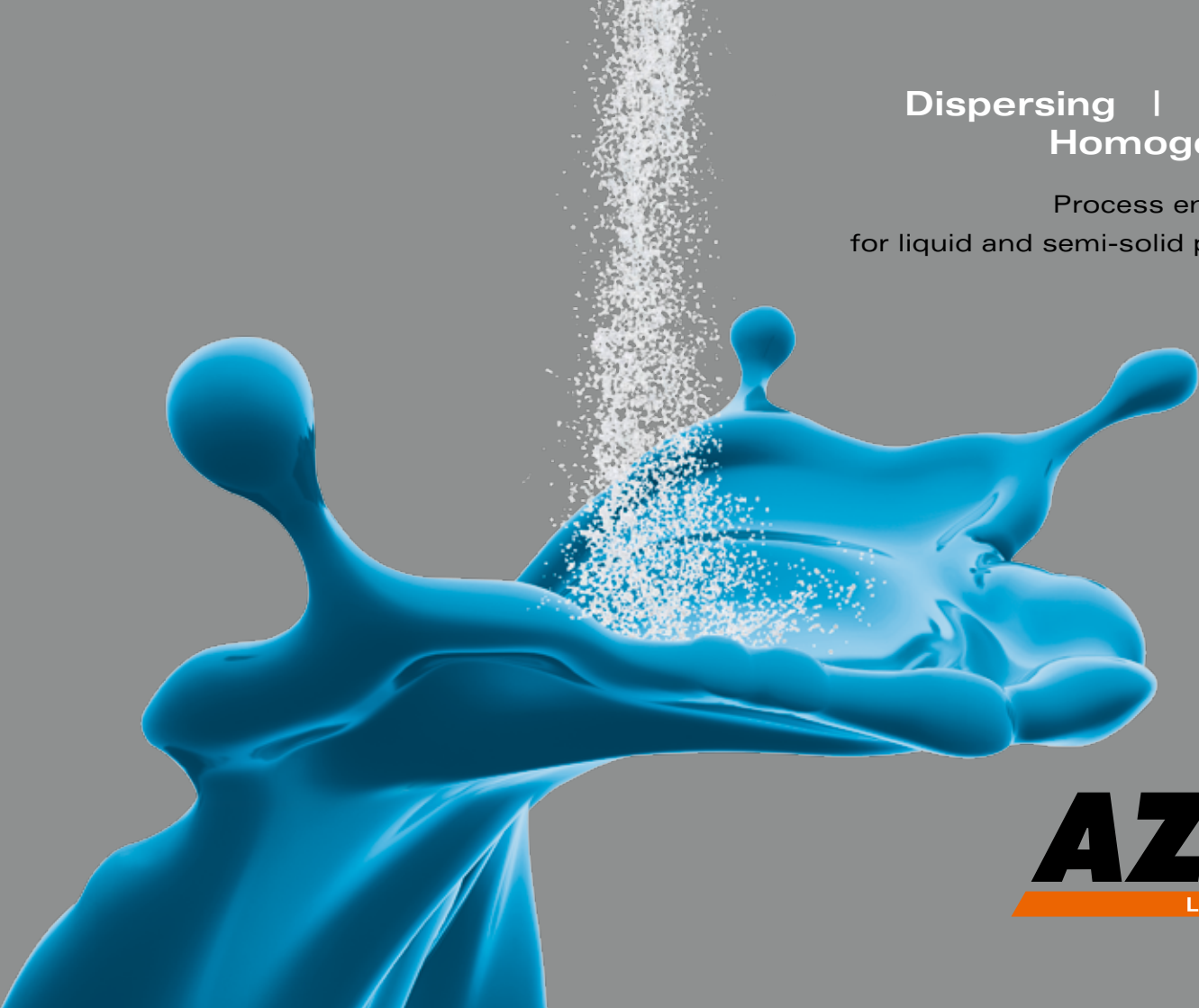


Dispersing | Mixing Homogenising

Process engineering
for liquid and semi-solid processes



AZO.[®]
LIQUIDS

**Mixing
Dispersing
Homogenising**

AZO LIQUIDS is the partner you can rely on when it comes to innovative solutions for liquid and semi-solid processes in the pharmaceuticals, cosmetics, food and chemicals industries.





Go with the flow!

Constant changes in markets and products influence our thinking and everyday actions.

Innovative solutions for your liquid and semi-solid processes

AZO LIQUIDS GmbH was founded in 2008 as Zoatec GmbH by engineers with many years of accumulated experience in the area of liquid and semi-solid processes. We developed a new generation of batch and continuous processing plants with an innovative homogeniser for fully automatic production of liquid to paste-like products.

Since then, we have been improving our machinery and plants on an ongoing basis and adapting them to meet future market requirements and the needs of our customers. We are open to new ideas and we also have the courage to make them reality in innovative systems for dispersing, mixing and homogenising liquid and semi-solid products.

The benefit for our customers is always the yardstick by which we measure the quality of our performance. Maximum availability – and hence high efficiency – are ensured by the reliability of our plants in combination with perfectly coordinated process controls.

As a member of the AZO Group, with the three specialists AZO SOLIDS, AZO CONTROLS and AZO LIQUIDS, we deliver comprehensive turnkey plants for automated processes with solid and liquid materials.

We look forward to welcoming you to Neuenburg am Rhein.

zoatec® IL
Inline mixer

One for all!

Whether as a standalone machine or as a component in our batch and continuous plants:

Our innovative homogeniser guarantees maximum performance and process accuracy at all times.





Consistent foresight

The unique design is what sets the InLine zoatec® IL mixer apart from all conventional rotor-stator systems.

zoatec® IL Inline mixer: The smart further development

- Outstanding, innovative design with product flow away from the drive. This results in the mechanical seal having the longest useful life of any comparable technical solution and it can be replaced without dismantling the connected pipe lines.
- The mixer is fully CIP/SIP compatible. The GMP-compliant design meets the most stringent requirements for hygiene.
- The use of conventional O-ring gaskets, moulded gaskets, a single or a double-acting mechanical seal is feasible without making changes to the standard design.
- The homogeniser can also be used as a CIP pump thanks to its high pump capacity.
- It is available in four different sizes up to 75 kW with different shear stress.

**zoatec® BG vacuum
processing plant:**

Best for Batch!

Modular design

Advanced homogeniser

Patented pump mode for
careful product handling

Separation of the processing
and supply unit

Machine frame in expandable
honeycomb form





Efficient and flexible

- various agitator combinations possible
- honeycomb design supported on just four machine feet
- four load cells provide maximum accuracy for analyses
- design complies with FDA and EHEDG regulations

zoatec® BG vacuum processing plant:

Ingenious modularity provides the flexibility to satisfy every requirement

- Modular, consistent machine design – scale-up from lab operation to large-scale production. Separation between production and technical area
- The agitator/s modular design allows a combination of stationary and moving vortex breakers. Other agitator elements can be integrated on a custom basis (e.g. dissolvers, jet mixers, propeller agitators, etc.)
- All components at the process hopper are easily accessible from outside for simple operation, cleaning and maintenance. The dispersing and pump mode for adding and mixing lumpy materials is available as an option.
- All plants can be adapted to meet process requirements and current guidelines for quality assurance such as GMP (Good Manufacturing Practice), 2006/42/EC and CIP, SIP, DIP and ATEX.

We can do continuous processing too!

Bespoke solutions for the most diverse applications in the pharmaceuticals, cosmetics, food and chemicals industries.





Automatically continuous

We also develop reliable solutions offering maximum efficiency and flexibility for continuous processes.

zoatec® CPU continuous plants:

Precise metering and mixing of powders in liquids

- Continuous mixing and dispersal of liquid and paste-like substances with a varying amount of dry substances needing to be processed. This means the dry materials no longer need to be mixed beforehand.
- The shear rate may differ depending on the nature of the raw materials. Powders, granulates and coated pellets can be processed simultaneously.
- Precise metering of solid substances combined with a flow meter for liquids makes continuous production possible with consistently high product quality. Intelligent control engineering allows optimum process control.
- It is possible to configure several zoatec® CPU continuous plants in series.
- GMP design with options for CIP/SIP.

Rely on us and work with AZO!

Our experience for decades
in engineering and plant
construction guarantees reliable
implementation of your
requirements and
customisation to meet
your needs.





Your partner for solutions delivering all-round satisfaction

Modular plant engineering in accordance with your requirements, and needs and complying with guidelines to ensure your products' quality.

AZO LIQUIDS Plant Engineering: Reliable implementation of your requirements

- As a member of the AZO Group, AZO LIQUIDS plans, designs and builds batch and continuous production plants.
- We deliver efficient and flexible solutions for the most diverse applications in the pharmaceuticals, cosmetics, food and chemicals industries.
- Collaboration based on trust and absolute reliability are paramount to us.

We are a partner you can rely on for your plant engineering and construction projects.

We implement your engineering plants in conformance with GMP, FDA, 3ASSI and EHEDG specifications.

Flexibility and on-time delivery are therefore our fundamental principles.

Systematic process control

zoamatic smart:
the SMART represents the basic version of our intelligent plant controls.

zoamatic professional:
the modular SCADA concept.

zoamatic remote:
PLC with an interface for connection to an external system.

zoamatic lib:
integration into the customer's primary process control and instrumentation system or into that of AZO CONTROLS.

Smart Professional Konti





Intelligent plant controls all included

zoamatic controls:

zoamatic controls are a modular system that satisfies every requirement.

Various configuration levels and optional modules, from the operator control panel solution to the PC-assisted, scalable SCADA solution ensure maximum flexibility.

zoamatic controls allow fully automatic recipe operation mode, where entire batches or partial quantities are produced totally automatically in accordance with your formulations.

Plant status is visualised dynamically. Process data are recorded and stored and can

be printed according to batch and/or archived as needed.

Guidelines are complied with reliably, e.g. project history in accordance with GAMP, software structure in accordance with the ISA S88.01 model and 21CFR Part 11 conformance.

It is easy to connect zoamatic controls to external, primary controls using a remote interface.

Customer Process Centre

The Customer Process Centre provides help in optimising existing formulations and processes.

This is where we develop innovative solutions for liquids and semi-solids together with you.

The data obtained make it possible to safely expand to production scale.





Knowledge that pays off

Get to know a team of experts that delivers benefits for both your production and your products thanks to their many years of experience in process engineering!

CPC – Customer Process Centre: Technical support for your products and processes

- You can experiment with different approaches in our CPC lab using your own formulations and at the same time familiarise yourself with our technology close-up.
- Our experienced team can help you with feasibility studies, optimising formulations and processes, new technologies or tests on a production scale. We offer product analyses, pilot tests and scale-up calculations.
- Where continuous processing plants are concerned, we also develop appropriate formulations and assist in the transfer of batch production through to continuous production.
- We lease appliances (such as zoatec® BG10 vacuum processing plants, zoatec® IL inline homogenisers) for trials in ongoing operation.
- We also provide training in the operation of our products in the CPC or on site.

After Sales Service

Our after-sales staff will provide you with support and ensure you have the very best solution.





Tailored support services

Just contact us!

Tel. +49 (0) 7631 9739 - 222

azo-liquids-service@azo.com

24/7 service hotline
upon request!

AFTER SALES - Service:

Modernisation, support and supplies of spare parts

- Our customer service team is available to you at all times and ensures concerted support and the best possible solutions. We are at your disposal at all times to answer any queries you have about AZO LIQUIDS products.
- We offer direct advice and support for the control systems. Various service contracts can be drawn up for this.
- We would be happy to provide you with comprehensive information about our maintenance agreements and our spare parts management.
- The main machinery components are always available as spare parts for you to call up.
- We are quick to respond, offer reasonable prices and assist you with preventive servicing, regular maintenance and plant shutdowns, whatever the cause.

The AZO Group

Your specialist when it comes to automation of raw materials and processes.

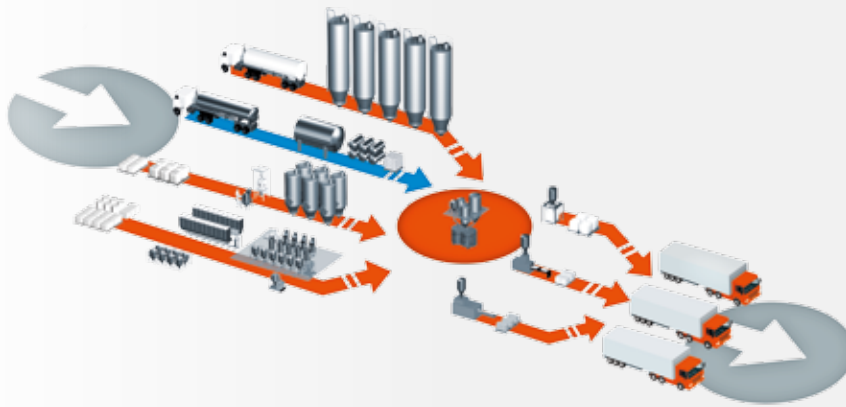
With its network of production, engineering, sales and service companies, the AZO Group helps successful businesses all over the globe to realise their innovative projects using next-generation technology.

AZO[®]
SOLIDS

AZO[®]
LIQUIDS

AZO[®]
CONTROLS





The strength
of our group to drive
your projects

AZO Group:

Pioneering automation engineering from a single supplier

The AZO Group, with the three specialists AZO SOLIDS, AZO CONTROLS and AZO LIQUIDS, delivers comprehensive turnkey plants for automated processes with solid and liquid materials.

Plant engineering, bulk materials handling, process engineering for liquids and semi-solids and process IT dovetail seamlessly.

Thanks to its wide-ranging experience of the food, pharmaceuticals, chemicals and plastics industries, AZO has acquired

very extensive knowledge in the field of raw materials handling and the production of liquid and semi-solid products.

The Customer Service and Engineering divisions round off the portfolio.

You benefit from our extensive knowledge of engineering, from the expertise and stability of the AZO Group.

For liquid processes



AZO.[®]
LIQUIDS

AZO LIQUIDS GmbH
www.azo.com

Gottlieb-Daimler-Straße 4
D-79395 Neuenburg am Rhein

Tel.: +49 (0)7631 9739-0
azo-liquids@azo.com