



Customer-Oriented Process Engineering

For chocolate and more



All from one Source

From Development to Commissioning – Customer-Oriented and Efficient!

We are a medium-sized company founded in Mannheim in 1993, specialised in process equipment for the food industry, particularly chocolate manufacture, and also well suited to processes in the chemical industry. The focus is on providing bespoke solutions for our customers. We offer high-quality machinery, plant and services for mechanical and thermal process engineering.

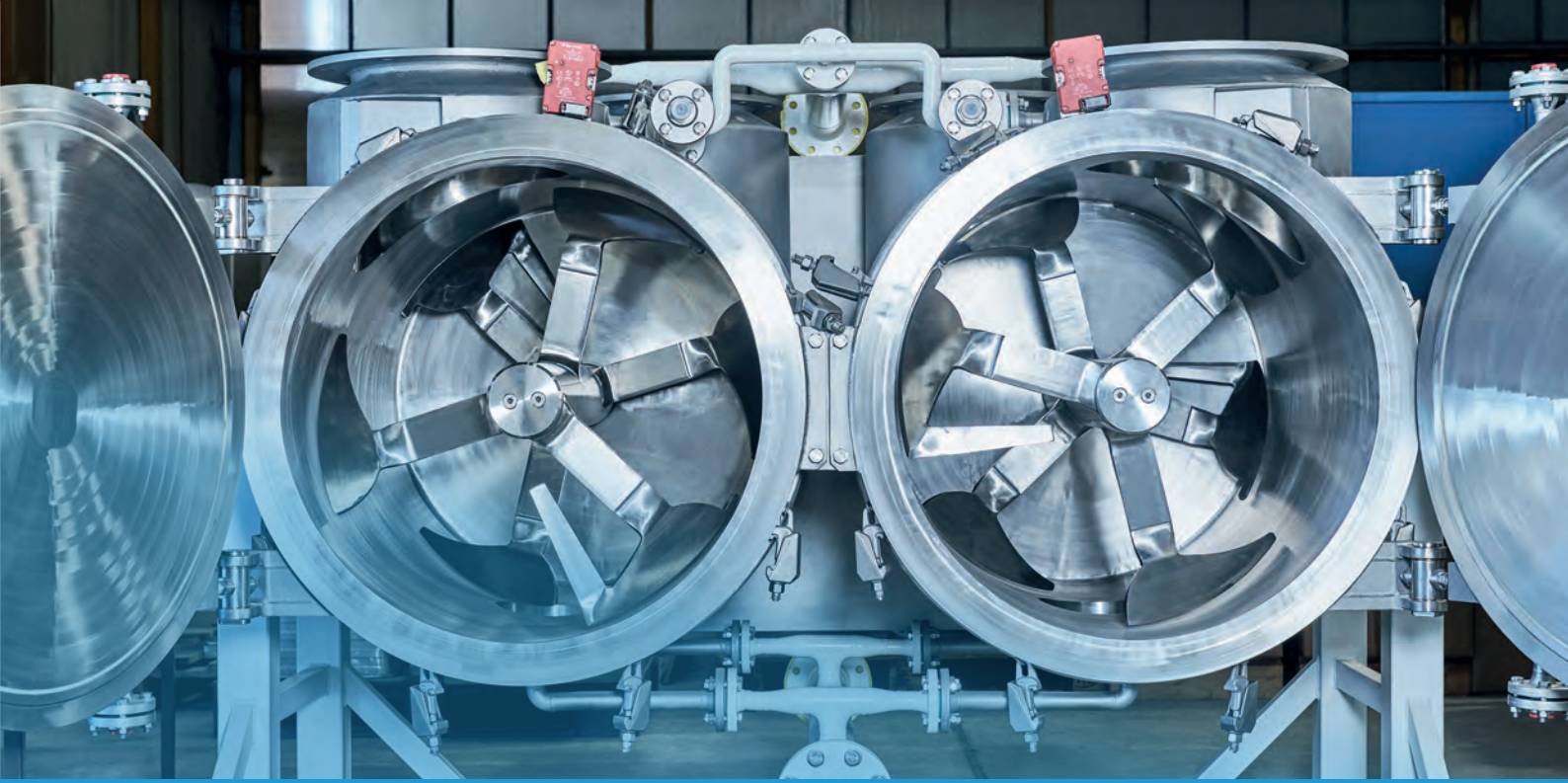
LIPP products enable the following processing steps to be carried out: Mixing, Conching, Reacting, Drying, Dispersing, Alkalisising and Grinding.

Our comprehensive service portfolio supports our customers through all project phases – from process development, plant layout and machine design through to engineering, quality assurance, acceptance testing, and on-site installation and commissioning – **all from a single source!**

Since 2021, we have been part of the STREICHER Group, a diversified company with more than 4,500 employees. This affiliation strengthens our position in the sectors of chocolate/confectionery, food and pet food applications, chemicals and building materials. It also enables us to continue successfully implementing complex, forward-looking projects and developing innovative, environmentally friendly solutions for our customers.



Frederic Schöffel, Managing Director



Reliable. Global. Personal.

Our Solutions are Developed in Close Collaboration with our Customers

- **Installation & Commissioning**
Mechanical and electrical installation carried out by our experts – including training for your team.
- **Maintenance & Repair**
For LIPP machines and comparable third-party equipment. Service contracts ensure availability and preserve value.
- **Spare Parts Worldwide**
Fast delivery of tested spare and wear parts – for efficient and sustainable operation.
- **Remote & On-site Support**
Direct technical support, remote maintenance and repairs at your premises.
- **Long-term Support**
Comprehensive service throughout the entire lifespan of your plant.



Our Products

Mixer

Intensive Mixers for Flexible, Energy-Efficient Processes

Our **Intensive Mixers** enable efficient mixing of solids with different particle sizes and bulk densities, as well as precise mixing of liquids in variable proportions and viscosities. They are available for batch and continuous operation and offer maximum flexibility. In addition, they are available in sizes from 5 to 20,000 litres, as well as in custom-designed special solutions.



Laboratory Multifunction Mixer

The Perfect All-Rounder for your Laboratory: Homogenising, Drying and Reacting

- Versatile: Total volume from 10 to 80 litres (e.g. 50 litres for a capacity of 15 - 35 kg)
- Robust and flexible: For temperatures up to 200 °C and pressure ranges from vacuum to 20 bar
- Easy to clean: Slewable front door for quick and thorough inspection

Further Benefits:

- Development of new formulations
- Processing of complex powder and paste mixtures
- Efficient laboratory processes with maximum precision
- Drying and reaction under vacuum and overpressure





Optimal Conching

With Versatile Solutions

Conching Time Reduced by up to 50 % – Milk Chocolate in just 1 - 1.5 Hours

The horizontal, cylindrical mixing drum with the central **TRIQUENCE®** mixing mechanism ensures homogeneous and intensive mixing with high shear forces. The small gap between the blades and the wall enables optimal heat transfer. The **VORTEX CHAMBER®** provides an additional boost. This high-shear homogeniser significantly reduces conching times – to just 1.5 hours for milk chocolate – whilst simultaneously reducing the fat requirement. Our conches are available in capacities ranging from 100 to 12,000 kg of chocolate mass. Shorter conching times not only mean significant energy savings, but also more compact machines and thus lower investment costs.

Further Advantages:

- Variable speed control via frequency converter
- Conching at constant power or constant speed
- Forced ventilation of the interior with a fan
- PLC automation for all functions with process visualisation on the display
- Heating/cooling system
- Low-maintenance, durable and efficient

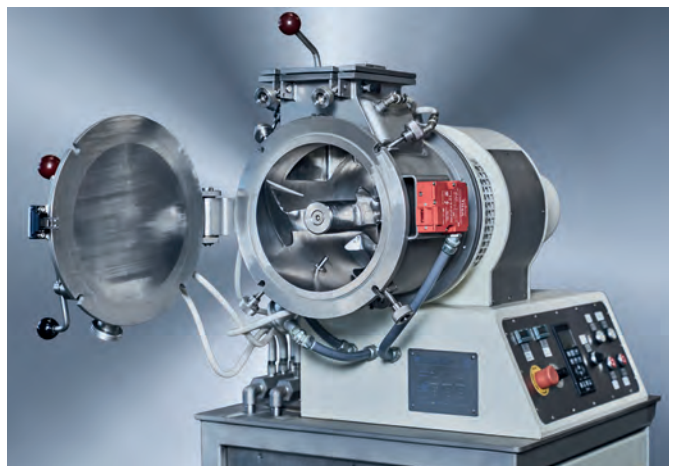


Lab-Conche

Precise Recipe Development: Simple and Efficient

The LIPP **laboratory conche** is the ideal solution for developing precise formulations on a laboratory and pilot scale.

- Compact & flexible – total volume e.g. 10 litres for a capacity of 4 - 8 kg
- Ready for immediate use – comes complete with heating/cooling system and control unit; simply connect to water and electricity
- User-friendly – simple operation for quick results



Our Products

TRIQUENCE®

Patented Mixing System for Optimal Efficiency

The patented **TRIQUENCE® mixing system** improves heat transfer and increases the dispersing effect. This allows higher shear energy to be generated in order to break up agglomerates and increase product surface area during dispersing, reaction, drying, and conching processes. The heat generated can be dissipated more effectively allowing for excellent temperature control in the mass.

- Chocolate conching: **Reduction of conching time by up to 30 %** – Reduction of fat and emulsifier content
- Vacuum mixing drying: Significantly increased heat transfer – significantly shorter drying process
- Reaction processes: More efficient process control through better heat dissipation and higher shear energy



Mixers / Dryers / Reactors / Conches in Cantilever Design

Hygienic and Efficient: Mixer with Single-Sided Bearing and Large Front Door

Our mixers in cantilever design **with large front doors allow for easy cleaning and thorough inspection** – ideal for demanding hygienic requirements and frequent changes to the formula.

Technical Highlights:

- Capacity: 5 to 5,000 litres (laboratory to production)
- Only one shaft seal
- Quick and thorough cleaning



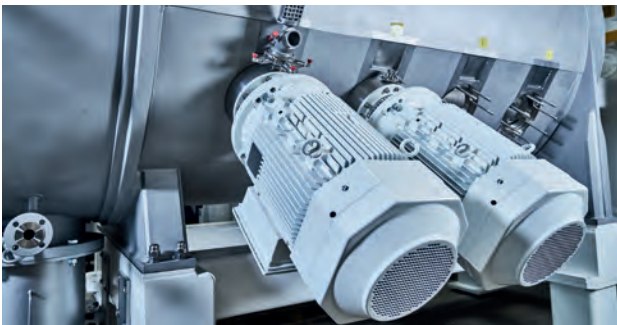


VORTEX CHAMBER®

Process Acceleration Through High Shear Force Input

The **VORTEX CHAMBER®** installed at the bottom of the mixing drum significantly increases the efficiency of homogenisation and reaction processes without protruding into the drum. This means that the entire drum surface is covered by the main mixing mechanism, and dead spaces are avoided due to the design – for processes with high hygienic and cleaning requirements. The product is heated and melted (e.g. during conching) through direct energy input, whereby the continuous formation of new surfaces results in improved product yield. The processes are therefore highly resource-efficient.

- Lump-free wetting of powders
- Dust-free dispersion in viscous products
- Increased surface area during drying and reactions
- Melting and pasting (e.g. chocolate)
- Grinding and homogenisation of rework products



Piston Valve

This unique valve was developed by LIPP Mischtechnik to continuously transfer paste-like products from ambient atmosphere to a vacuum. In combination with the **VORTEX CHAMBER®**, it offers an optimal solution for accelerated drying and reactivity.

The valve is equipped with a heated double jacket to avoid product solidification.



Our Products



ECO²-CHOC[®]

The Real Alternative to the Traditional Chocolate-Making Process

Unlike the traditional method, the process begins with conching in the powder phase, which enables the efficient removal of volatile substances such as moisture. This real dry conching step is significantly enhanced by the use of the **VORTEX CHAMBER[®]**. The flavour development and moisture reduction achieved in this way results in high-quality chocolate that is in no way inferior to that produced using the traditional process. At the same time, the **energy required for conching is reduced by up to 50 %**, and a residual moisture content of $\leq 1\%$ ensures resource-efficient grinding in our **agitator bead mill IMPACTOR[®]**.

Conching before Grinding

Efficient removal of volatile substances in the powder phase for high-quality chocolate. A residual moisture content of $\leq 1\%$ enables lower energy input during grinding.

Advantages

- Shorter conching time
- High hygiene standards
- Compact design
- Less maintenance
- Lower labour costs





Rework Processing Systems

Processing of Chocolate, also with Wafer, Biscuit and Nut Content

At the heart of our **rework systems** is a highly effective shear mixer that breaks down, liquefies and homogenises the product in a very short time, whether in batch or continuous operation. For rework involving water content, an optional drying stage can be integrated.

	Without Moisture	With Moisture
Products	Chocolate bars, pralines, with or without filling, nuts, wafers, biscuits	Additional liquid fillings (water/alcohol/caramel)
Process	Melting, Crushing, Homogenising	+ vacuum drying
Suitable Process	batch-wise or continuous	batch-wise
Machines	TRIQUENCE® mixer with VORTEX CHAMBER® homogeniser (batch) or REFLECTOR® (continuous)	TRIQUENCE® mixer with VORTEX CHAMBER® homogeniser
Product Quality	Homogeneous, pumpable mass, fineness < 250 µm	Homogeneous, pumpable mass, particle size < 250 µm, moisture content < 1 %
Batch Duration	approx. 10 - 20 min	approx. 1 h
Continuous (REFLECTOR®)	100 - 3,000 kg/h (application-specific) for various machine sizes	—
Grinding (Continuous)	IMPACTOR® bead mill down to < 30 µm	IMPACTOR® bead mill down to < 30 µm
Continuous (IMPACTOR®)	125 - 1,000 kg/h (application-specific) for various machine sizes	125 - 1,000 kg/h (application-specific) for various machine sizes

Our Products

Inline Shear Mixer – REFLECTOR®

Ideal for Deagglomeration, Dispersion and Crushing

This continuous-operated mixer with axial forced conveyance combines the functions of an intensive mixer, a rotor-stator shear head and a pump, making it ideal for deagglomeration, dispersion and crushing.

- **Wetting** of powders with liquids without lumps
- Dust-free and homogeneous powder distribution in viscous media
- Processing of pastes and high-viscosity liquids
- Homogeneous **melting** due to high shear forces: energy-efficient, as no heating medium is required (e.g. liquifying chocolate)
- **Crushing** and homogenising of chunky products (e.g. chocolate rework with wafer, biscuit and nut content)
- Available in various sizes from laboratory to production scale (50 l/h - 30 m³/h for liquids or 50 kg/h - 3 t/h for powders)



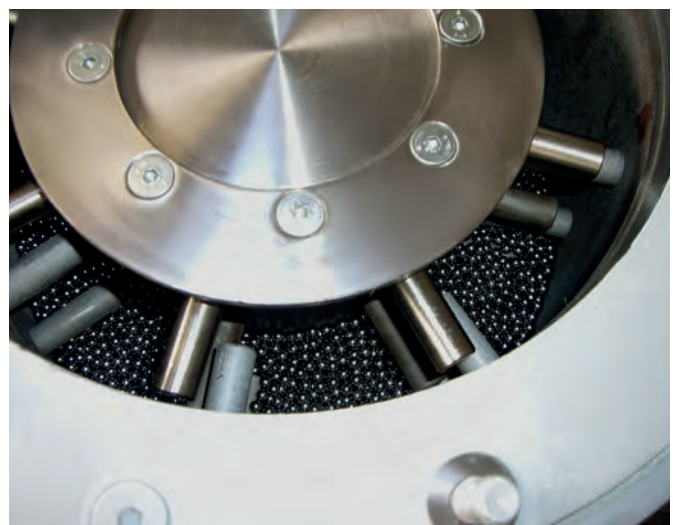
Bead Mill IMPACTOR®

Efficient Bead Mill for Optimal Chocolate Processing

LIPP Mischtechnik has developed an energy-efficient agitator bead mill for medium- to high-viscous, temperature-sensitive products. This vertically operated ball mill has significantly improved cost-effectiveness, time savings and resource efficiency.

The **IMPACTOR®** series is thus positioned as an attractive option for liquid grinding in the confectionery sector, with throughputs ranging from 10 l/h up to 1 m³/h.

- Crystal sugar-based chocolate: < 30 µm in the ECO²-Choc® process
- Rework with chunky ingredients: Processing a wide variety of chocolate mixtures
- Hazelnut grinding: Fast and effective processing
- Grinding chamber volume: from 5 to 240 litres



Application Technology Centre

Advantages of our Machines and Test Various Processes

At LIPP Mischtechnik, we offer a state-of-the-art **application technology centre** to demonstrate the benefits of our machines and test various process parameters using original materials. Our aim is to work with our customers to develop a process for manufacturing high-quality products that offers the best possible cost-effectiveness whilst meeting high hygienic standards.

Technical Specifications:

- Experiments in batch and continuous processes:
Mixing, Conching, Reacting, Drying, Wet Grinding and Melting
- Temperatures up to 180 °C
(heating with pressurised water or steam)
- Pressure ranges from vacuum to 10 bar
- Electronic recording and documentation of all process parameters

Safety & Flexibility:

- Designed for explosion-proof operation
- Mobile rental machines for trials directly at your site

Your Benefits:

- Reliable data on product quality and efficiency
- A basis for scaling up to production scale
- Expert support from experienced engineers





LIPP MISCHTECHNIK Portfolio:

LIPP offers machinery, plant and services for mechanical and thermal process engineering, specialising in:

- Mixing
- Conching
- Drying
- Reacting
- Dispersing
- Alkalisiation
- Grinding

Customers come from the following sectors:

- Chocolate / Confectionery
- Food and pet food applications
- Chemicals
- Building materials

LIPP MISCHTECHNIK GMBH

Boveristr. 40-42
68309 Mannheim
Germany

T +49 621 72 70 9- 0

E info@lippmischtechnik.de

www lippmischtechnik.de

