

## Multi-Shaft Mixer



**The Ideal Machine for Processing Highly Viscous, Pumpable Products**

## Multi-Shaft Mixer

Based on decades of experience, GRIESER develops and produces multi shaft mixers with exchangeable vessels, or in a stationary version for the manufacture of high-viscosity, pumpable products.

Through the use of different mixing tools in combination with the individually driven shafts, the multi-shaft mixer is very flexible and can be set-up for various mixing demands.

For batch sizes of up to 2,500 litres there are machines equipped with removable vessels that can be squeezed for extraction purposes. Larger quantities are usually equipped with stationary vessels.

The reliable, safe and economic operation of our multi-shaft mixers in numerous industrial fields proves the quality of our machines and the flexibility of their application.

Together with our customers across various industries we are constantly working on new technologies and looking to improve steadily our existing products.

We will find the right solution for your requirements, whether it be a standard or customized configuration - from a single state-of-the-art machine to a fully integrated turnkey solution.

We are pleased to advise you.

**Designed and  
Made in Germany**

## System Benefits

Extremely robust technology for multifunctional use.

- Currently the most modern and economical method for large-scale production of adhesives, sealants and other paste products.
- Optimal tuning of mixing tools. A slow running wall and floor scraper is continuously feeding the other mixing tools with the product, stops deposits from building up and allows for an effective heat transfer at the vessel wall. In stationary containers the scrapers are also used for discharging. In most cases, a separate worm screw provides high-volume mixing in the vessel along with a fast running shaft with one or more dissolver-discs for the necessary dispersion power.
- Higher product quality through optional vacuum operation with complete degassing of the product.
- GRIESER optimized process to suck in the product by vacuum below the product level.
  - Faster injection and incorporation of fillers leads to shorter mixing times and result in a gentle product treatment combined with a more efficient application of energy.
  - Lower particle size, as the filler agglomerates are broken up upon entry into the vessel by the expansion of trapped air. This immediately wets the primary particles.
  - Dust-free - as there is immediate contact with the liquid phase.
- Safety standards in accordance with the current European Machinery Directives and safety standards.



# Multi-Shaft...

## Applications

We offer solutions for the handling of large quantities in the building chemical-, chemical-, plastics- and dental industries.

Typically used for the production of:

- Adhesives
- Sealants
- Filler compounds
- Coatings
- Silicones
- Dental compounds



# ...Mixer

# Your Specialist for Mixing and Grinding Technologies



## Versions

Our product range includes various designs with numerous options.

- Modular system for individual set-up of upright machines with change vessels
  - Laboratory multi-shaft mixers (1.6 - litres)
  - Multi-shaft mixers as pilot installation (6 - 180 litres)
  - Upright multi-shaft mixers in four standard sizes (180 - 2,500 litres)
- Custom sizing of stationary multi-shaft mixers
  - Vessel with welded bumped boiler end.
  - Strong, reinforced construction.
  - Mounted either on feet or with clamps for steel structure installation.
  - Includes required inspection and mounting holes, drain hole and desired nozzels.
- One or more dispersion devices such as the butterfly, fine-toothed disc, rough-toothed disc, combi-disc and the multi-suction disc.
- Mixing tools in stainless steel as standard. With abrasive products, special materials or wear-protective coatings can be used.
- Vibration-free operation though rigid design and a large bearing distance.
- Optional vacuum system depending on applications with strainer, cyclone, fine filter or condenser.
- Option of a height-adjustable, oscillating dissolver-disc for better integration of the filler entering from the top.
- Optional dust or vacuum cover with light and sight glass with either a filler lid or supply connector.
- Vessel variants
  - Change vessels from 1.6 to 2,500 litres in different materials and surface finishes. Upon request with double jacket and double bottom. Larger designs are possible. Outlet with either ball valve or dead-space-free plug. Change vessel on wheels, with forklift tabs or floor stands.
  - Stationary vessels range up to 16,000 m<sup>3</sup> - though larger designs are possible.
- Depending on requirements -protection available for all zones according to ATEX 94/9/EG.



## Laboratory

GRIESER has a well equipped laboratory at its Lampertheim site in Germany.

Here we offer the implementation of mixing experiments and the optimization of industrial processes. The results can be transferred to full-scale under real production conditions. Over decades we have established an extensive know-how in the areas of mixing and milling.

Our customers have the opportunity of borrowing a machine from our lab for a certain period of time, in order to study the advantages of our machines under their production conditions.



# Multi-Shaft... Mixer

## Operation and Monitoring

Safety and ease of use are of great importance to us.

- Maximum security through:
  - Form-closed vessel lock
  - Safety switch for vessel lock and column lift
  - Two-handed safety switch for column lift
  - All rotating parts are covered
  - Flap for manual intervention with security monitoring or safety mesh
  - Optional dust-free bagging with extractor
- Display of process parameter:  
eg. power, speed, pressure, temperature, etc.
- Freely configurable machine monitoring with optional remote analysis for e.g. speed, torque, vibration, bearing temperature, etc.
- Step-less speed control through use of frequency converters.
- Programmable mixing times on demand.
- PLC control with recipe management and connection to storage management systems.

## Service

We are your reliable, fast and professional partner for a variety of services and many companies are provided with maintenance services in six monthly or annual intervals. This also applies to any machines not manufactured by GRIESER.

The results are documented in accordance with DIN ISO 9001:2008. With this methodology any necessary repairs are spotted on time and cost as well as downtime can be kept at a minimum.

Should an operational problem occur, we will be on hand to fix it within 24 hrs (within a 1,000 km radius). We supply all kinds of spare parts, including those from other manufactures. In addition we are also specialised to refurbish and rebuild your existing machinery.



**A professional,  
fast and reliable partner for the**

- **Paint and lacquer industry**
- **Adhesive and sealant industry**
- **Building chemicals industry**
- **Chemical industry**
- **Pharmaceutical industry**
- **Food industry**

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