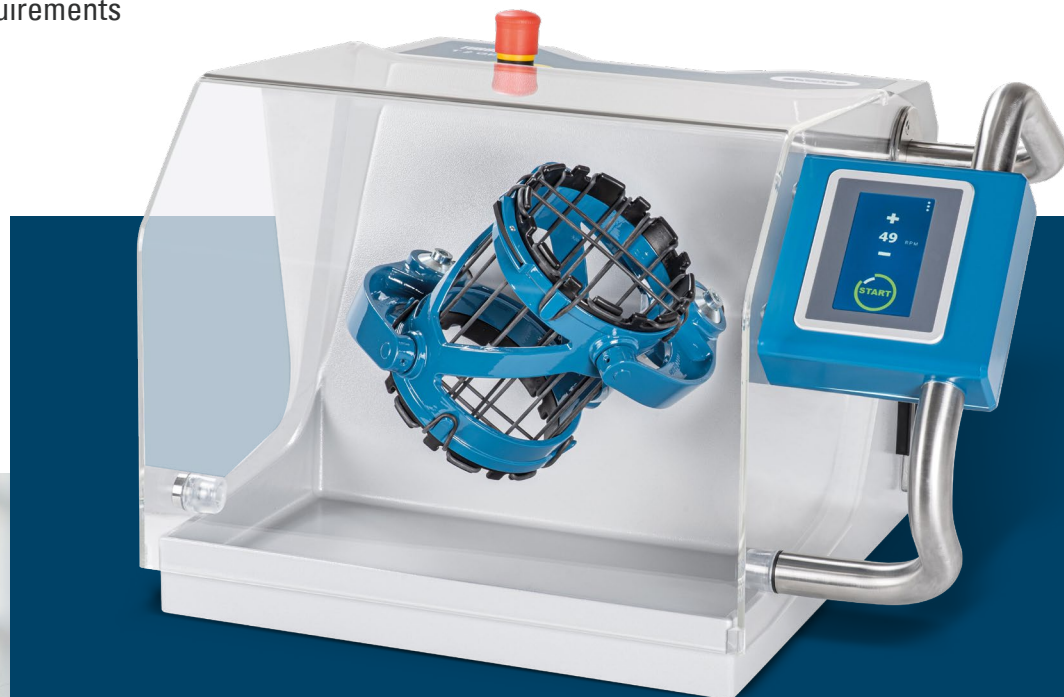


TURBULA®

3D SHAKER MIXER T 2 G / T 2 GE / T 30 A / T 50 A

High-quality mixing results in the shortest time,
which meet the highest requirements



RELIABLE PARTNER FOR YOUR PROCESS

Our many years of experience in mixing technologies as well as our closed and safe systems mean that our 3D shaker mixers with their optimised mixing movement stand out from existing alternatives.

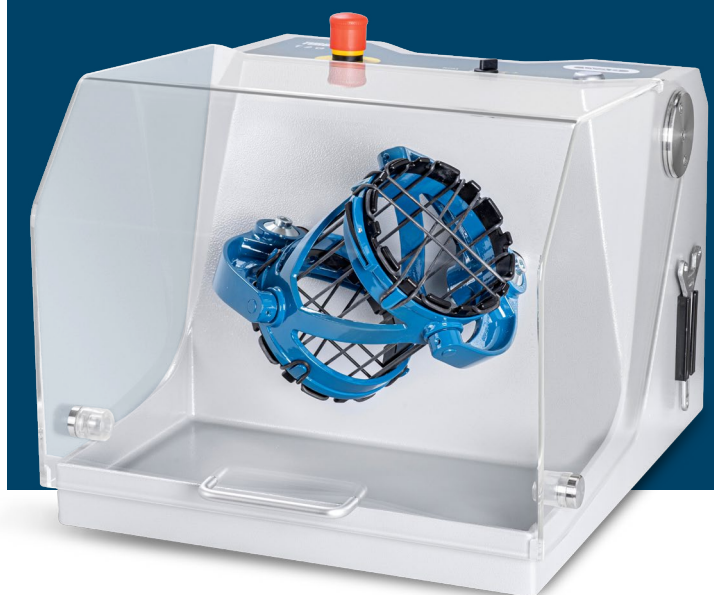
Our TURBULA® series have been developed for users in industry (e.g. pharmaceuticals, food & beverage, surface treatment, ceramics, battery materials etc.), who want to mix their individual product efficiently and guaranteed as homogeneous – whether solid-solid, liquid-solid or liquid-liquid.

The safe and user-friendly 3D shaker mixers with integrated control options, such as recipe management and timer function, guarantee reproducibility in your applications.



MAXIMUM FLEXIBILITY FOR EXACTING REQUIREMENTS

You are flexible in the selection of mixing containers for your application. You can use containers of different sizes (0.1-55 litres), shapes and materials. Furthermore, various control concepts are available. This flexibility makes the TURBULA® series a popular mixer in labs and production.



3D MIXING APPLICATIONS

The 3D shaker mixers are used in all industries, in research and development as well as in production, where the highest demands are made on the homogeneity of the mixtures, short mixing times, surface treatment as well as the support of lengthy dissolving processes.



Pharmaceuticals



Diamond tools



Chemicals



Electro-technology



Surface treatment



Wear test



Cosmetics



Food & Beverage



Analytics



Ceramics



Sintered metals



Coatings



Pyrotechnics

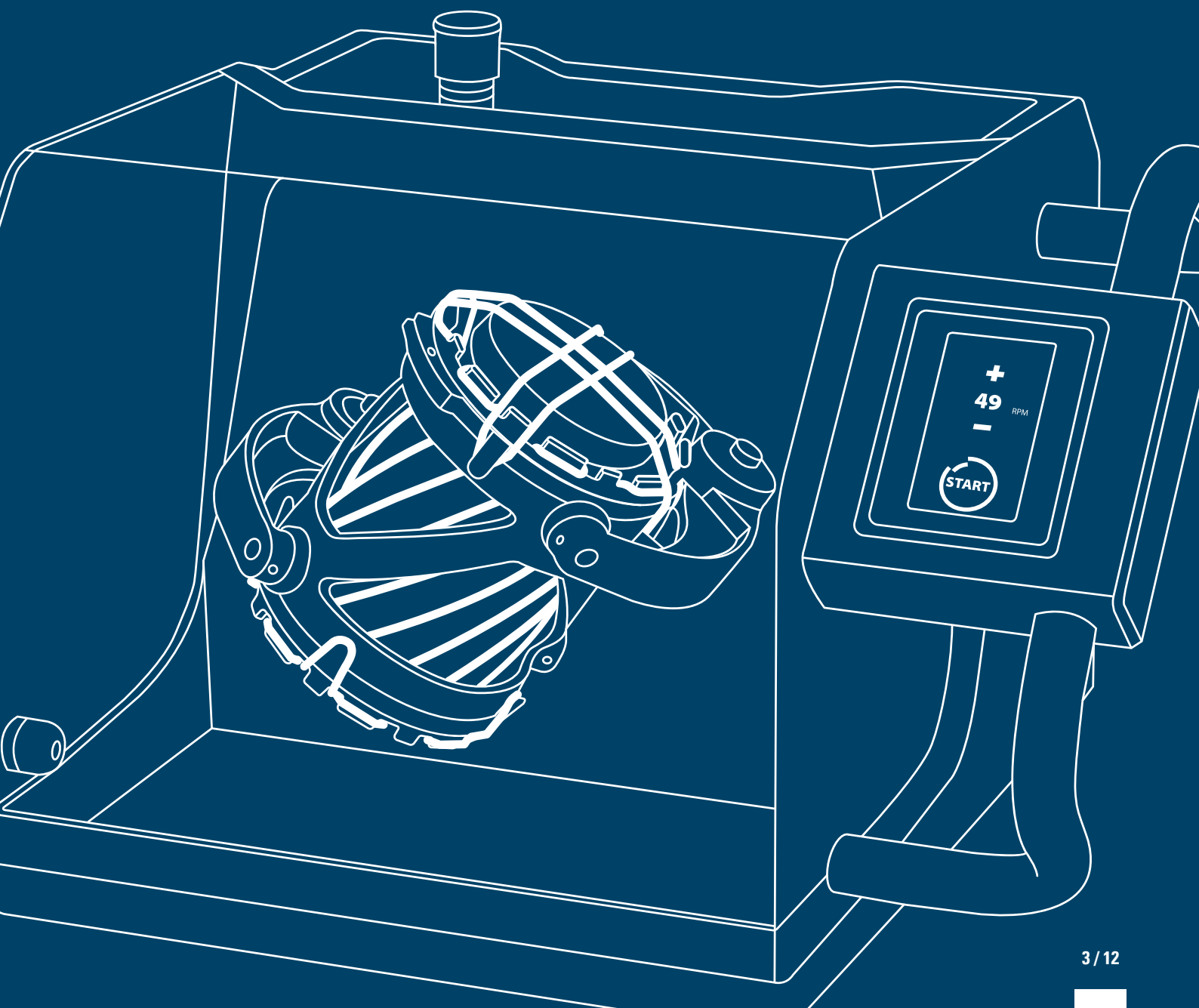


Battery materials



Industrial paint

The mixing process takes place in a completely closed container, which means that the process is free of contamination and the machine does not come into contact with the product. The TURBULA® series allows the use of mixing containers with a volume of 0.1 to 55 litres.



TURBULA® T 2 G / T 2 GE UP TO 2 LITRES

Simple operation and maximum reproducibility

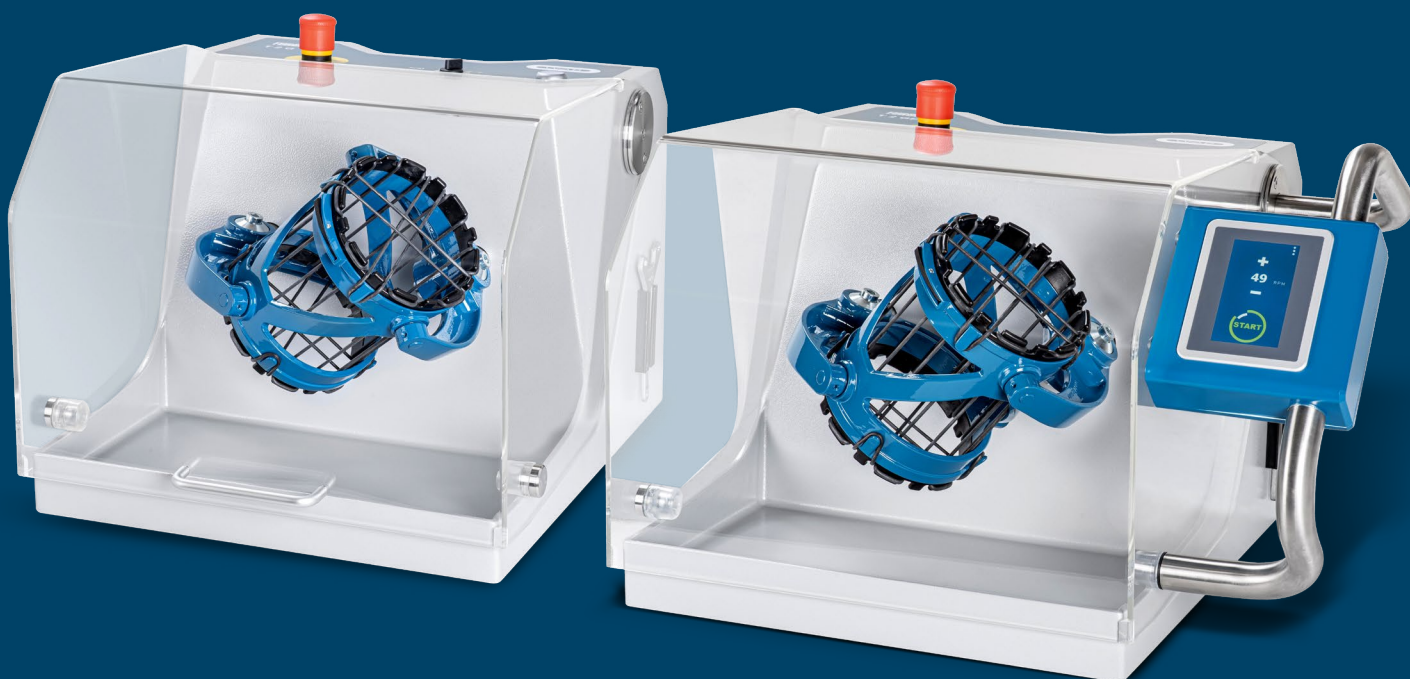
Benefit from our many years of experience and our technical know-how in the area of mixing technologies. Our TURBULA® mixer creates added value for your production process.

Reproducibility of the results

Synchronisation of the mixing movement (every 4 ms) means uniform energy input is achieved.

Quick mixing container change

The mixing basket is designed to hold standard mixing containers of up to 2 litres volume. The maximum load including container is 6 kg (23-101 1/min) resp. 10 kg (23-72 1/min).



Safe

Fast "ready-to-load" function. Directly after the TURBULA® mixer stops, the mixing basket moves to the loading position, thus meeting the highest safety requirements.

User-friendly

T 2 G:

A functional selector switch leads to easy speed selection, even during the mixing process.

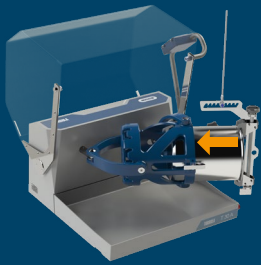
T 2 GE:

The speed can be infinitely adjusted and customised mixing recipes can be saved using the intuitive touchscreen on the control panel.

Low-maintenance

Electrical instead of mechanical drive concept which means that no chain tension service is necessary, no grease or oil consumption and no rubber abrasion.

TURBULA® T 30 A UP TO 30 LITRES



Quick mixing container change

The mixing basket is designed to hold standard mixing containers of up to 30 litres volume. The maximum load including container is 40 kg. Inserts for smaller container sizes are available.

Reproducibility of the results

Synchronisation of the mixing movement (every 4 ms) means uniform energy input is achieved.



Machine table

If required, a table can be ordered in addition. This ensures optimum working height, stability and flexibility.



Safe

Fast "ready-to-load" function. Directly after the TURBULA® mixer stops, the mixing basket moves to the loading position, thus meeting the highest safety requirements.

User-friendly

The speed can be infinitely adjusted and customised mixing recipes can be saved using the intuitive touchscreen on the control panel.

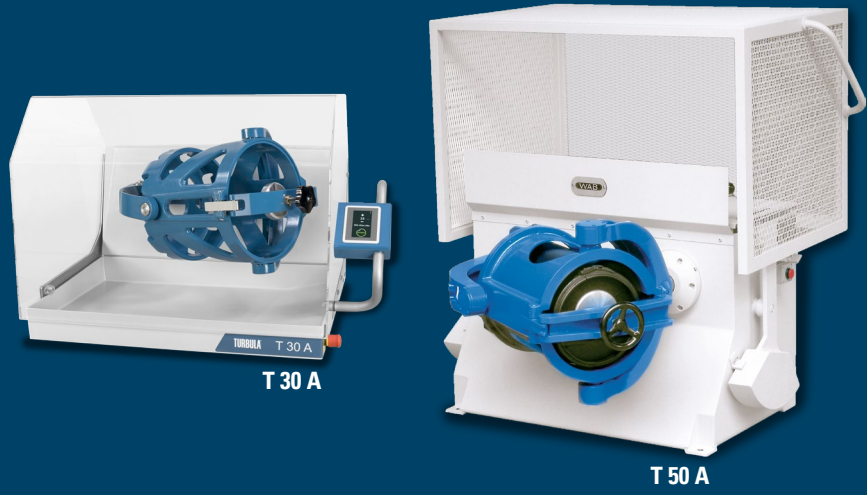
Low-maintenance

Electrical instead of mechanical drive concept which means that no chain tension service is necessary, no grease or oil consumption and no rubber abrasion.

MAXIMUM FLEXIBILITY IN THE CHOICE OF CONTAINER



Material	Container Size (litre)
Glass	1
	2
PE FDA	1
	2
PE Special	0.25
	0.5
	1
	1.5
	2
Stainless steel	2



Material	Container Size (litre)
Glass and stainless steel	3
	5
	8
	10
	12
	17
	23
	30
	55*

* only T 50 A

Other container sizes and materials on request.

TURBULA® T 2 GE / T 30 A

THE NEW 3D SHAKER MIXER WITH INTUITIVE TOUCH SCREEN

The intuitive operation panel touch screen with user-friendly interface and a PLC-based control system make the 3D shaker mixer an innovative product for your application.

✓ **Continuously adjustable speed selection:**

T 2 GE: 23–101 1/min

T 30 A: 15–44 1/min

✓ **Start/stop function**

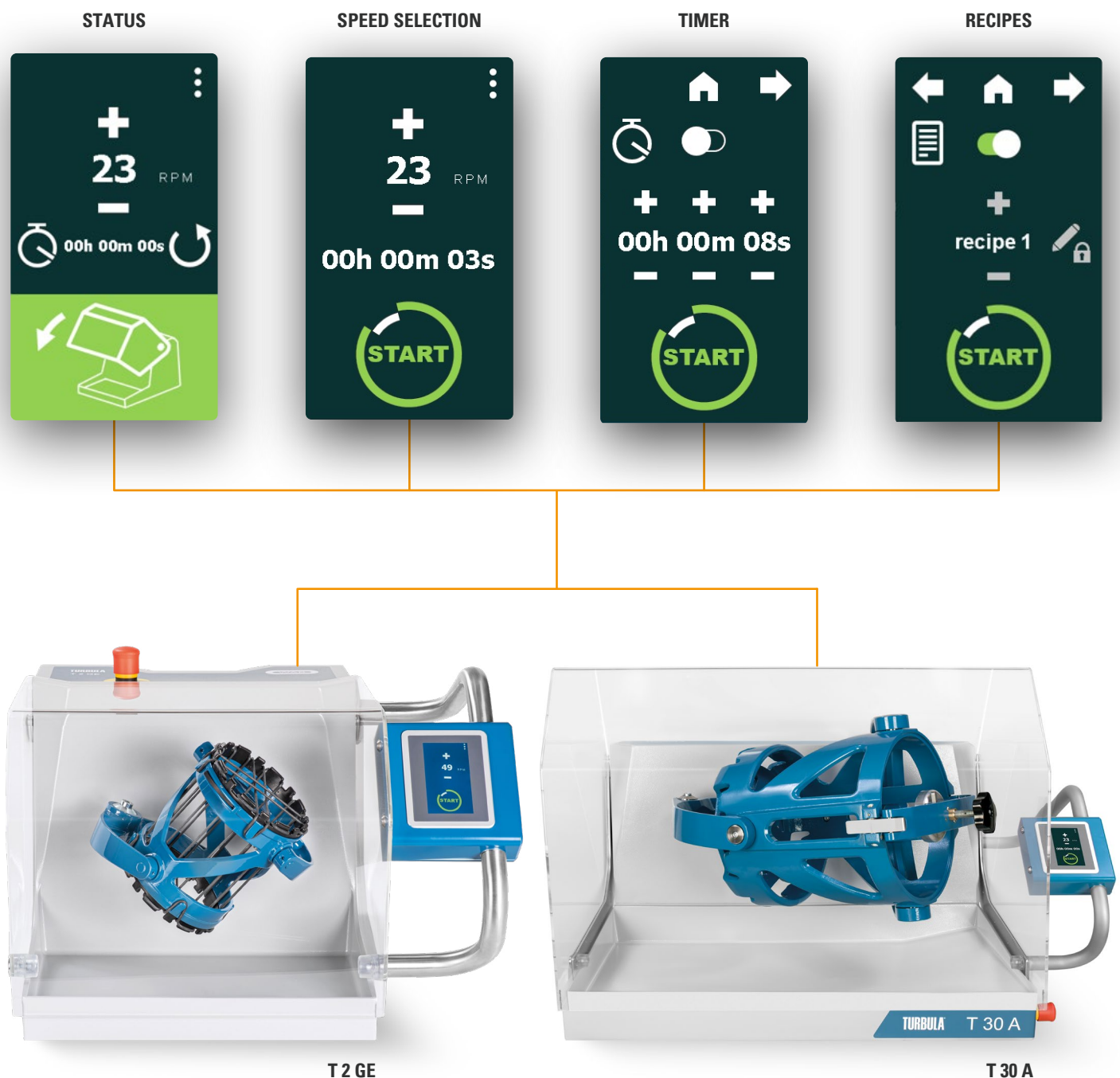
✓ **Recipe management**

(up to 20 recipes)

✓ **Password-protected operation**

✓ **PLC-based control system**

✓ **Timer function**



TURBULA® T 50 A UP TO 55 LITRES

Wide range of applications

The TURBULA® T 50 A is preferred in the pharmaceutical industry, as well as for mixing sintered metals, ceramics and sensitive products.

Reproducibility of the results

Equalisation by means of pendulum operation ensures an even energy input.

Quick mixing container change

The mixing basket is designed to hold standard mixing containers of up to 55 litres volume. Inserts for smaller container sizes are available.



Ready-to-load

The mixing basket is brought into loading position by an extra slow speed drive. A hand-cart (optionally delivered with the machine) is used for loading.

User-friendly

The speed can be varied by adjusting the position of the V-belt on the 5-step pulley or by means of an optional frequency converter set up next to the machine.

Operating principle

The movement of the mixing basket is controlled by a silent pendulum chain drive.

SPECIFIC DESIGNS FOR A VARIETY OF APPLICATIONS

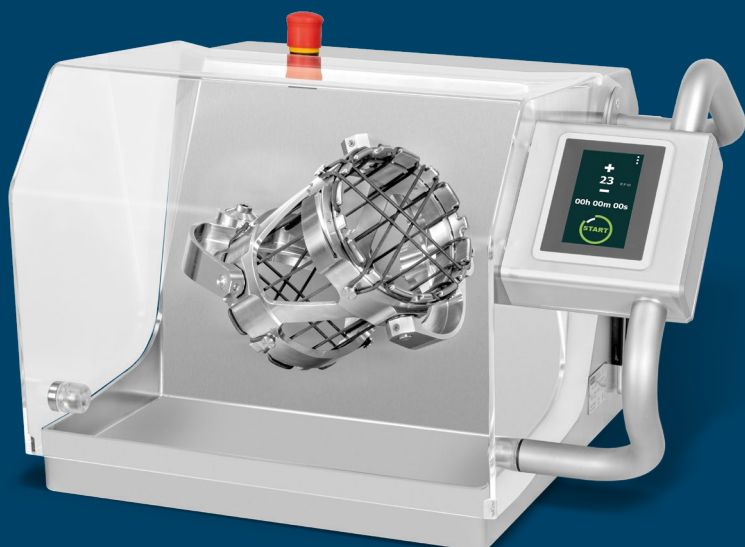
For use in the cosmetics, pharmaceutical and food & beverage industries, our TURBULA® mixers are available in different configurations on request.

Examples of different designs

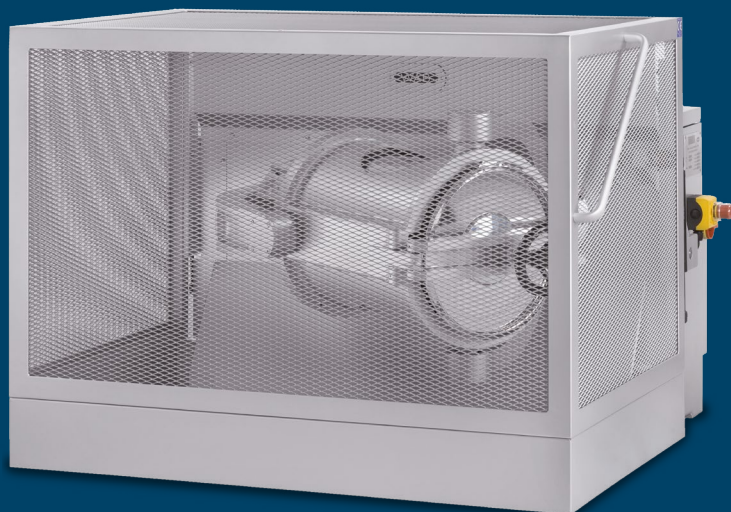
- Suitable for installation in isolators
- Hermetically sealed machine basement with ventilation system
- Available in stainless steel version or with food grade paint
- Stainless steel table

To meet the requirements of the industry, qualification documents (DQ, FDS, FAT, SAT, IQ & OQ) as well as certificates (FDA, calibration, material etc.) are available for our TURBULA® mixers.

Benefit from the experience of our specialists and take the opportunity to find a suitable solution on site together with our process experts in one of our Process Technology Centres (PTC).



T 2 GE
in stainless steel version



T 50 A
in stainless steel version

dyna-MIX®

OUR SOLUTION FOR LARGER CONTAINER VOLUMES FROM 40-1'500 LITRES

Hygienic and dust-free

Mixing in closed containers produces neither contamination nor emissions. The cleaning effort is very low.

Reproducibility of the results

The principle of the patented shaker-mixer is based on its controlled three-dimensional movements. This motion is generated by using a hinged universal joint for mounting of the container and results from two vertically superimposed rotations. The movement ensure a gentle, constant and reproducible mixing process at all times.

High Variability

The clamping device for containers can be adapted to the actual circumstances, with your requirements and ideas having top priority.



Highest homogeneity

Due to the gentle product acceleration and the changeover from gentle orbital to rolling movements the highest homogeneity of the mixtures are achieved.

User-friendly control system

The PLC control system allows you maximum flexibility. You can use up to nine mixing parameters with duration and speeds. The speeds can be steplessly adjusted with the two frequency converters.

Data export via Ethernet and the storage of the protocols via USB interface enables you to document the mixing process.

GMP-compliant equipment

The WAB qualification concept ensures a GMP compliant equipment qualification according to international standards. The documents of the qualification phases DQ, IQ, OQ and PQ-support are available. FAT and SAT are integrated parts of the qualification concept.

TURBULA® AS ADDED VALUE ALL ADVANTAGES AT A GLANCE

Target of every mixing process is the even distribution of individual substances to a precisely defined homogeneity. WAB-GROUP® focuses on 3D shaker mixer technology, which masters even the most difficult applications, for example mixing components with very different specific weights, different particle sizes or large differences in concentration.

- ✓ **Easy to handle**
- ✓ **Application-specific solutions**
- ✓ **High loading weight**
- ✓ **Highest reproducibility of results**
- ✓ **Minimal vibrations**
- ✓ **Use of different containers**
- ✓ **Safe container clamping**
- ✓ **High safety standard**
- ✓ **Solid, robust design**
- ✓ **Easy to clean**
- ✓ **Wide speed range**
23–101 1/min
- ✓ **Maintenance-free**

TRIALS FROM LABORATORY TO PRODUCTION SCALE

Working in partnership with our customers is a key aspect for WAB-GROUP®. That is why we offer our customers the opportunity to carry out trials in our Process Technology Centres. This enables us to ensure that the desired requirements are met before a machine is purchased.



WAB-GROUP® ENTITIES

WAB-GROUP® is your reliable and global partner. With our local sites and technical specialists on site, we are happy to be at your service as a proficient mechanical engineering company and proven process expert. In our production facilities on four continents, we manufacture to the highest quality standards and assure professional and comprehensive support.

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FOR MORE INFORMATION!**

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