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# TROLLEY TUMBLER

GENTLE MIXING, TUMBLING AND REFINING





**Trolley Tumbler**

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Grey printed variants are alternatively available.

### Choose the best technology German engineering has to offer.

For over 175 years now, Maschinenfabrik Seydelmann KG has been at the forefront of the development, production and distribution of premium quality food processing machines. Manufactured exclusively in Southern Germany, Seydelmann Bowl Cutters, Mixers, Grinders, Emulsifiers and Production Lines are employed on all five continents in over 130 countries worldwide. Seydelmann machines are



durable and efficiently produce highest quality, thus ensuring competitive advantages for their users.

During the process of planning, development and construction, the experienced and highly motivated personnel in the factory in Aalen places highest demands on material and technology. Therefore, Seydelmann Cutters guarantee best possible emulsification and fineness, while Seydelmann Grinders are known for their constantly clear cut. Regardless of whether deploying the vacuum or the cooling function, Seydelmann Mixers ensure a gentle and homogeneous mixing, whereas Seydelmann Emulsifiers reliably achieve high hourly outputs in a continuous operation. With the Seydelmann Trolley Tumblers a new machine is now available, which mixes, tumbles and refines products particularly gently. Constant research and development ensure an extraordinary performance, highest safety as well as easiest handling and cleaning of the machines.

With Seydelmann, artisan and industrial meat processors of all enterprise sizes will find the fitting machines. Every Seydelmann machine is produced on order. Accordingly, specific customer needs and requests can always be taken into account. Therefore, the Seydelmann machinery program, including over 80 basic models, exhibits an unmatched manufacturing width.

With Seydelmann you are “In the hands of the best”.

## Applications

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Pork neck



Spare ribs



Ham



Chicken wings





Pulled pork



Kebab



Marinades and Sauces



Shrimps



Seafood salad



Sausage salad



Pasta salad



Potato salad



Couscous



Greek salad



Cole slaw



Vegetables



Vegan and vegetarian products



Dried fruits and nuts



Frozen fruitblocks



Muesli

## The Trolley Tumbler

The trolley tumbler expands the large machine portfolio of the Maschinenfabrik Seydelmann KG by an important machine group. It has been developed, to mix, tumble and refine products even more gently and intensively. As a flexible allrounder for the most diverse applications and product areas, it represents the connection of a mixer with a vacuum tumbler, using a trolley as mixing container. Due to the rotation of the trolley, without the use of a mixing unit but with the use of mixing crosses, a very gentle process is ensured. This system enables fast product changes, saves time and minimizes product losses during removal.

### The following processes are possible with the Trolley Tumbler:

Mixing	Tumbling
Dry marinating	Wet marinating
Hydrogenation	Refining
Massaging	Separating
Breaking frozen products	Evacuating
Dry salting	Coating

### Advantages at a glance:

- High flexibility with frequent product changes, since trolleys serve as mixing containers. This eliminates loading and unloading times.
- No product losses through remaining product in the mixing container.
- Constant quality mixes due to bi-directional rotation.
- Increase in productivity due to reduced batch times.
- Minimal product damage due to gentle mixing without paddles (axes) or moving mixing arms.
- Significantly shorter mixing times and higher filling level of the machine, compared to the standard tumbler.
- High filling level of the machine, as raised mixing lid serves as additional mixing space.
- Savings in personnel costs, due to automatic program operation of the machine.
- Easy and fast cleaning of the machine, since, besides the trolley, the machine only has contact with the raw materials in the mixing lid.
- Complete security due to the housing and electrically locked safety door.
- Vacuum function causes a lower volume of the end product while the weight remains the same. It enables intensive massaging and mixing of meat products. The removal of oxygen also results in a longer shelf life and better color stability and improves the absorption of brine, spices and marinades.

# Machine variants

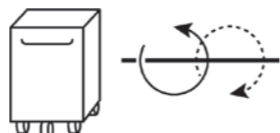
## Trolley Tumbler TT 200

- Mixing geometry: Horizontal rotation
- Suitable for 200 l trolleys
- Matching mixing lid for 200 l trolleys
- Large selection of specially designed mixing crosses



## Trolley Tumbler TT 300

- Mixing geometry: Horizontal rotation
- Suitable for 300 l trolleys
- Matching mixing lid for 300 l trolleys
- Large selection of specially designed mixing crosses

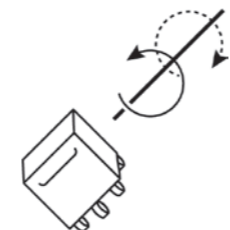


## Vacuum-Trolley Tumbler VTT 200 / VTT 300

- Vacuum values up to max. 70 % in a capsule vacuum at the beginning of the program start
- Further details as TT 200 / TT 300

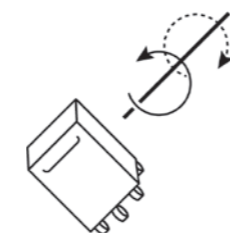
## Trolley Tumbler TT 200X

- Mixing geometry: Cross rotation
- Suitable for 200 l trolleys
- Matching mixing lid for 200 l trolleys
- Large selection of specially designed mixing crosses



## Trolley Tumbler TT 300X

- Mixing geometry: Cross rotation
- Suitable for 300 l trolleys
- Matching mixing lid for 300 l trolleys
- Large selection of specially designed mixing crosses



## Vacuum-Trolley Tumbler VTT 200X / VTT 300X

- Vacuum values up to max. 80 %, constant during the program sequence and variable in the program steps
- Further details as TT 200 X / TT 300 X

# Functionality

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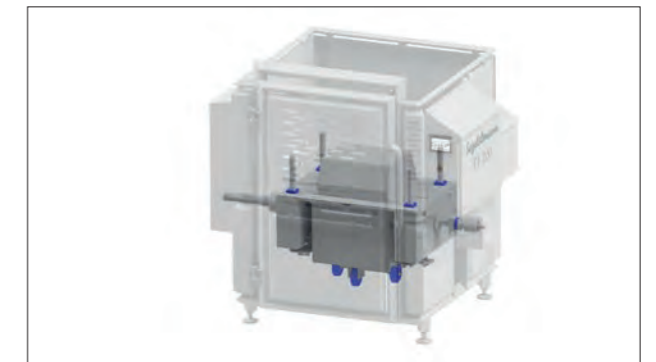
## 1. Preparation of product

Weighing and preparing the raw materials and ingredients in the trolley.



## 2. Start of process

Inserting the trolley into the machine and selecting the processing program.



## 3. Start of programm

Running of the mixing/tumbling process according to the preset, individually created program. Processing / manufacturing of the product.



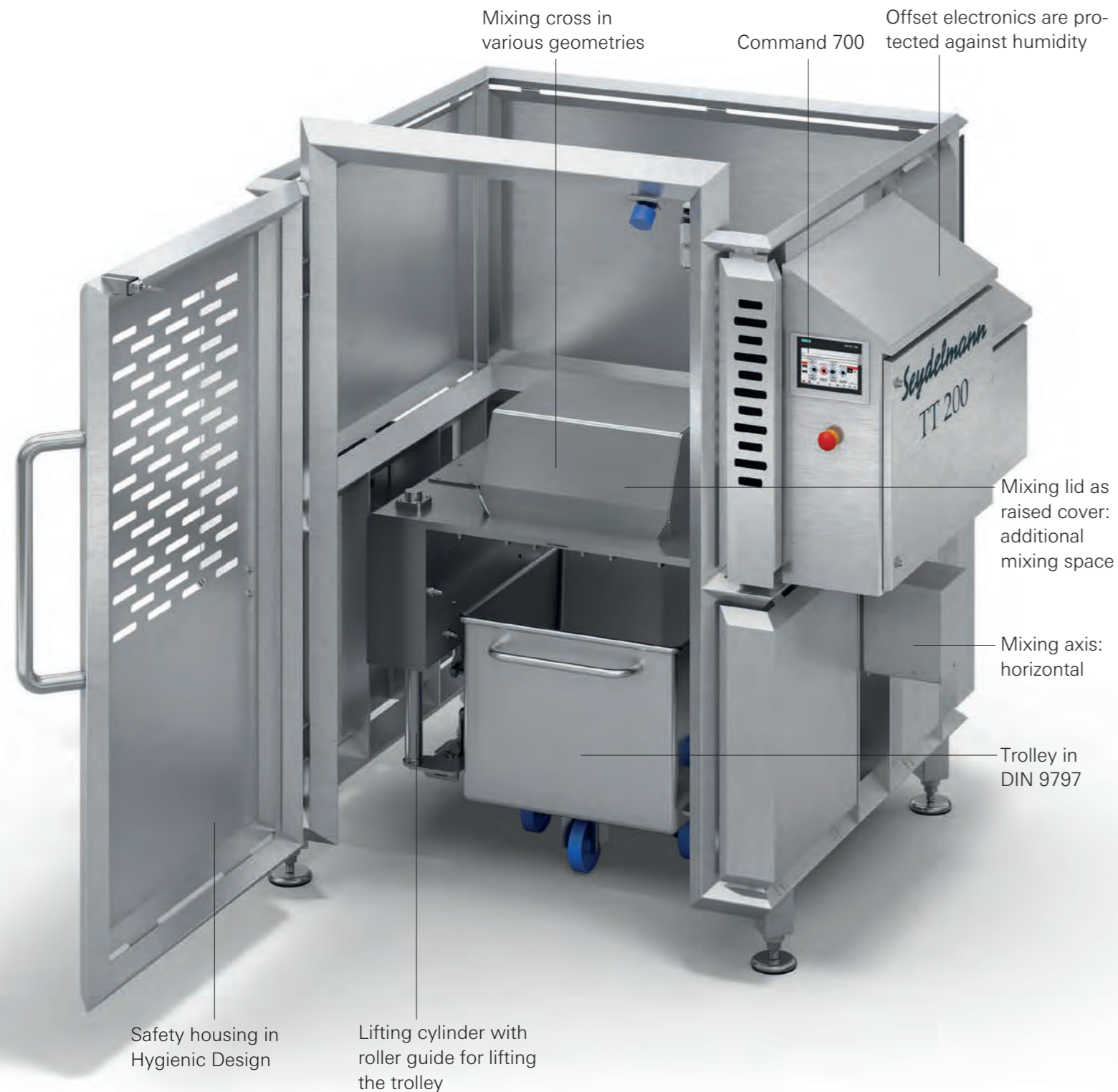
## 4. End of process

Removal of the trolley with the final product.



# Trolley Tumbler TT 200 / TT 300

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## Convincing simplicity

With the Trolley Tumbler TT 200 / TT 300 and VTT 200 / VTT 300 a gentle but intensive processing of products is possible.

Due to the horizontal rotation of the trolley, the product is processed without being crushed, like it is the case with moving paddle axes or mixing arms. Only gravity / centrifugal force and the free product space in the raised mixing lid allow the product to move.

In addition, a bidirectional rotation takes place, whereby the trolley moves in both directions. This mixing process enables very gentle, fast processing results. Since the trolley also remains product container in the process, loading and unloading of the machine is not necessary.

Process times within the batch, as well as batch changes are particularly fast and product residues in the machine are minimal. This leads to enormous time savings, a simplification in the operational process and an increase in productivity compared to mixers and tumblers.

The following examples show the many possible applications of this machine:

- Marinating pieces of meat in the process of making marinated steaks
- Tumbling of products in the kebab production
- Mixing of liquid and/or dry products in the production of sauces or marinades
- Separation of dried or frozen fruit blocks for processing in the baking industry
- Hydrogenation of raw materials in the production of vegan or vegetarian products

The specially designed, raised mixing lid for 200 or 300 liter trolleys is ideal due to its hygienic design and helps to avoid crushing and not stressing the product too much. Polished surfaces and large radii minimize product build-ups.

Each Trolley Tumbler is also equipped with a mixing cross quick-change system. The mixing crosses are specially adapted to product requirements and, in addition to the six standard variants, customer-specific solutions for special applications can be offered. The mixing crosses can be changed or removed quickly and easily without the use of any tools.

The following examples show the possible applications of the various mixing crosses:

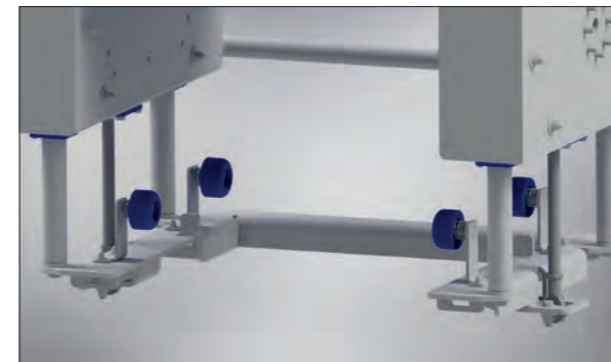
- Marinating meat; the mixing crosses massage the muscle fibers
- Separation of frozen blocks; the mixing crosses ensure fast and gentle separation

With the VTT 200 / VTT 300 model series, processing under a capsule vacuum is optionally possible. Once the filled trolley has been positioned, a vacuum of up to 70 % is generated. This vacuum is maintained during the entire further processing. In general, products processed under vacuum cause a volume reduction while keeping the same weight. Since atmospheric oxygen is removed from the final products, they have better color stability and a longer shelf life.

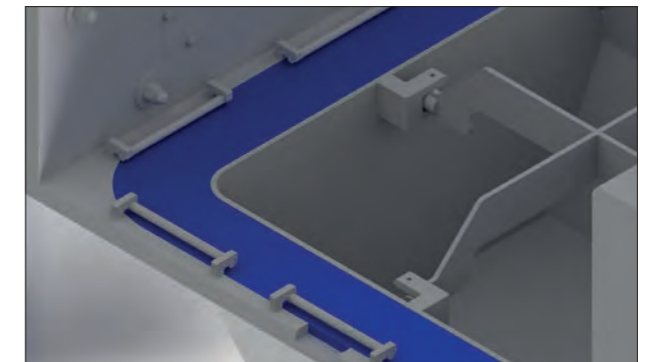
The technological advantages can be seen, for instance, in the processing of meat. Under vacuum, the meat fibers absorb brine, spices and marinades better.

With the Command 700 control, recipe-dependent, automatic operation is possible whereas up to 99 programs can be set up.

## Details



Secure fixing of the trolley by mechanical clamping.



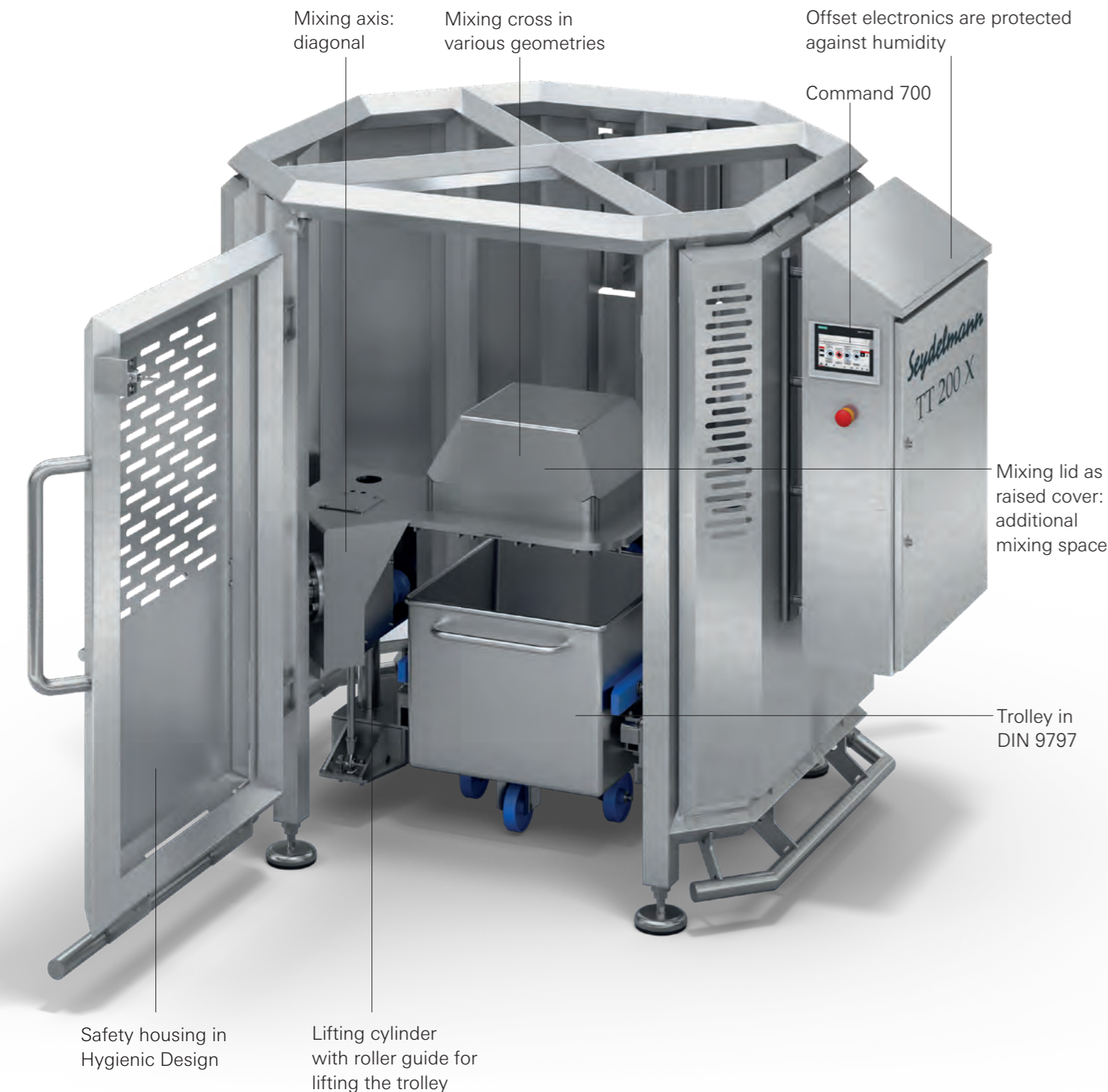
Quick-change system of the mixing crosses and extended support seal.

## Machine design

- TT 200 / VTT 200 suitable for 200 l trolleys
- TT 300 / VTT 300 suitable for 300 l trolleys
- Command 700: easy to understand touch control with up to 99 programs
- Hygienic Design: Machine frame and contact areas in stainless steel 1.4301
- Mixing crosses in various designs with quick-change system
- Stepless frequency-controlled drive: 1-20 rotations per minute
- Mix/pause interval
- Capsule vacuum up to max. 70 % before program start within the VTT 200 / VTT 300 series

# Trolley Tumbler TT 200 X / TT 300 X

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## Perfection down to detail

The model series of the TT 200 X / TT 300 X and VTT 200 X / VTT 300 X has been developed to mix, tumble and refine products even more gently and intensively.

The following examples show the many possible applications of this machine:

- Mixing of various ingredients in the production of fine salads
- Marinating pieces of meat in the process of making marinated steaks
- Tumbling of products in the kebab production

- Dry salting of meat or fish in the production of ham or smoked fish
- Mixing of liquid and/or dry products in the production of sauces or marinades
- Separation of dried or frozen fruit blocks for processing in the baking industry
- Blending or coating in the production of vegetable products
- Hydrogenation of raw materials in the production of vegan or vegetarian products

The difference to the TT 200 / TT 300 series is the special mixing principle of the cross rotation of the Trolley Tumbler TT 200 X / TT 300 X. For this purpose, the trolley is moved into the machine at an angle of 45° to the actual mixing movement. Unlike the horizontal rotation of the TT 200 / TT 300 series, which causes the product to fall, the cross rotation of the Trolley Tumbler TT 200 X / TT 300 X causes the product to slide over sloping surfaces in the trolley and the mixing lid. At the same time, the position of the product pieces changes more frequently, which shortens the process time and reduces the pressure on the products due to their own weight. The bidirectional rotation of the trolley creates a multi-axial movement of the product, making the process even more efficient, faster and more gentle on the product.

The models TT 200 X / TT 300 X and VTT 200 X / VTT 300 X also have a specially designed mixing lid with a product-oriented design. The mixing cross quick-change system is part of the basic equipment of both machine types.

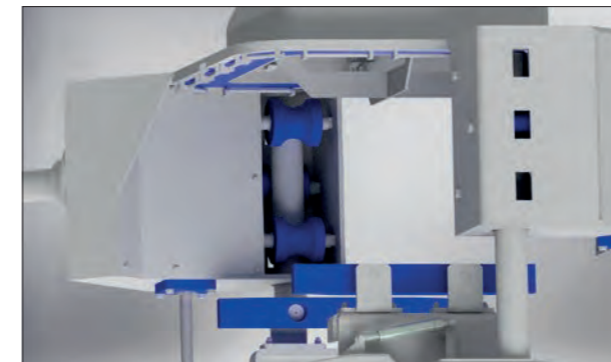
The following examples show the possible applications of the various mixing crosses:

- Marinating meat; the mixing crosses massage the muscle fibers
- Mixing of fine salads; the mixing crosses allow an easy mixing
- Separation of frozen blocks; the mixing crosses ensure fast and gentle separation

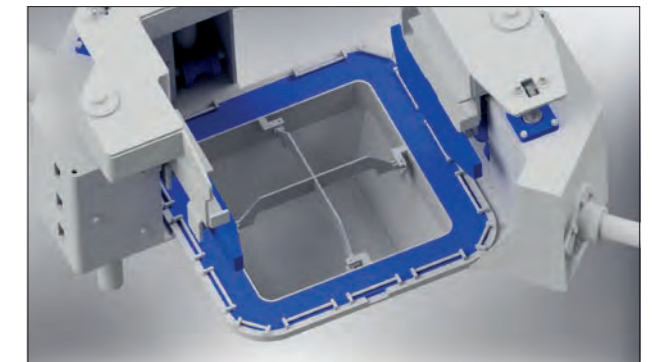
The vacuum function with permanent vacuum up to 80 % is also available as an option for the VTT 200 X / VTT 300 X. With the control, vacuum steps can be run or changed during the entire process.

With the Command 700 control, recipe-dependent, automatic operation is possible whereas up to 99 programs can be set up.

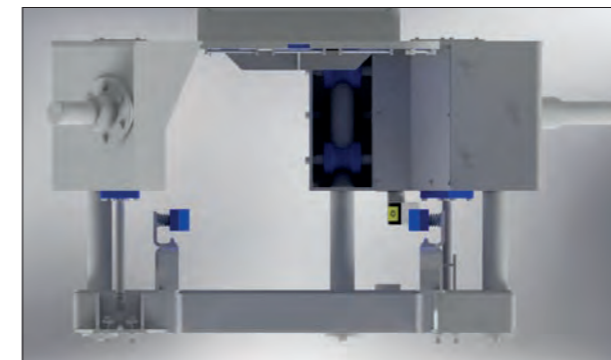
## Details



Roller guide for positioning the trolley exactly in the machine.



Inside of the lid: rounded and fully polished surfaces. Vacuum values of up to 80 % are possible due to the lid seal.



Secure fixing of the trolley by mechanical clamping.



Rotary feedthrough vacuum for a constant vacuum during the whole process.

## Machine Design

- TT 200 X / VTT 200 X suitable for 200 l trolleys
- TT 300 X / VTT 300 X suitable for 300 l trolleys
- Command 700: easy to understand touch control with up to 99 programs
- Hygienic Design: Machine frame and contact areas in stainless steel 1.4301
- Mixing crosses in various designs with quick-change system
- Stepless frequency-controlled drive: 1-20 rotations per minute
- Mix/pause interval
- Constant vacuum up to max. 80 % and ventilation intervals within the VTT 200 X / VTT 300 X series

# Mixing crosses

## Standard models and individual solutions

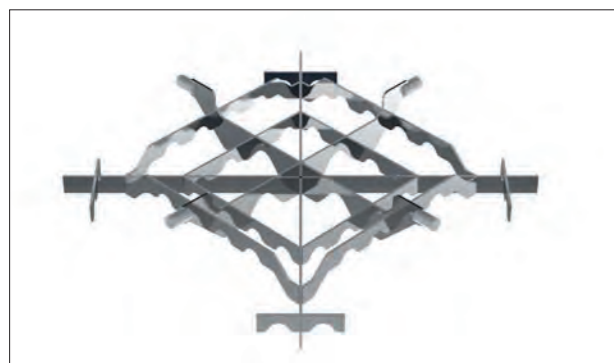
For all Trolley Tumblers, a wide range of specially designed mixing crosses is available. Optionally, the mixing crosses can be custom-made on request and according to product requirements.



Mixing cross standard: for a gentle but complete mixing of fine salads



Mixing cross cranked: for gentle marinating and refining processes



Mixing cross serrated: for a very intensive mixing and breaking up of product blocks



Mixing cross 12-fingers: for gentle processing of granulated products



Mixing cross paddle: for intensive processing of viscous products



Mixing cross frame: for an intensive production of homogeneous masses

# Control

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## Command 700

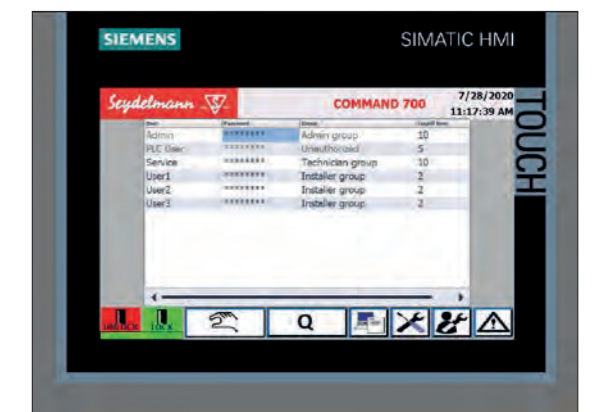
The trolley tumblers are controlled with a simple and easy to understand 7"-touch control. The programming is designed to be user-friendly, simple and system-based, therefore programs can be set up in the shortest possible time. An operation of the machine is possible without expertise. After starting the program, all process steps and set parameters are processed automatically.

The following freely selectable process parameters demonstrate the flexibility and range of application of the machine:

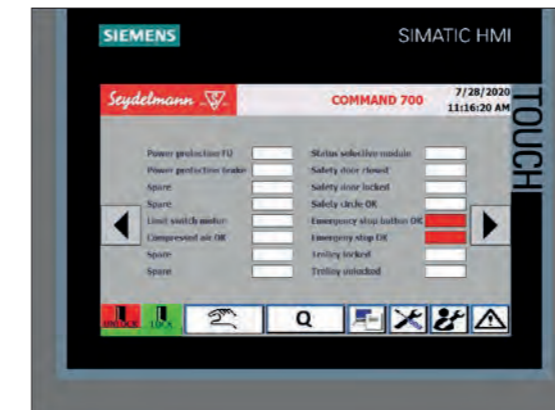
- Stepless adjustment of the frequency-controlled drive: 1-20 rotations per minute
- Mix/pause interval
- Vacuum up to max. 70 % within the series VTT 200 / VTT 300
- Vacuum up to max. 80 % and ventilation intervals within the series VTT 200 X / VTT 300 X



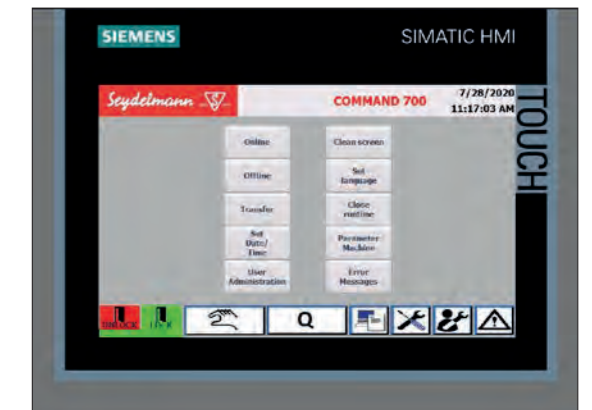
Recipe program Command 700



User administration



Error diagnosis



Service menu (settings, language etc.)

# Vacuum function

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## **Vacuum pump**

An efficient, integrated vacuum pump with a dirt and moisture separator is optionally available for the trolley tumbler. This provides even greater flexibility.

The technological advantages of the vacuum function can be seen in the end product. The removal of oxygen results in a lower volume of the end product while the weight remains the same. As a result, the products have better color stability and a longer shelf life.

In addition, the vacuum function causes an increase in the volume of the meat fibers during processing of meat products. This makes the Trolley Tumbler also suitable for marinating and mixing meat products, as the meat fibers absorb brine, spices and marinades better.

Within the VTT 200 X / VTT 300 X series, the vacuum can be run and changed during the mixing process without interruption. The mixing process of the trolley tumblers VTT 200 / VTT 300 must be interrupted to create the vacuum.

## **Chemical effect of the vacuum**

Due to the low input of atmospheric oxygen, the reaction of oxygen to fatty acids, the fat oxidation, is considerably reduced. This guarantees a longer freshness and shelf life. The low level of air entrapment results in considerably better preservation of the product's flavor.

## **Biological effect of the vacuum**

By excluding oxygen, the color stability of products is improved to achieve a stronger and more durable color.

The soaking of products facilitates the absorption of water and other liquids in meat and non-meat products.

## **Safety**

All machines fulfil the current accident prevention regulations and are CE marked.

## **Advanced Quality**

Think innovatively, work efficiently, produce quality. Seydelmann has implemented a quality management system covering the whole production and organisation. Certified by the much sought-after ISO 9001 the highest demands in the future can be reliably met.

## **Hygienic Design**

All Seydelmann machines are built according to highest hygienic and security standards. They are safe and easy to clean. All surfaces are rounded, polished with high precision and designed with a slope, so that water and detergents can drain easily. The construction makes the machines extremely robust and long-lived.

## **Sustainability**

Responsible behavior is a regular and permanent feature of Maschinenfabrik Seydelmann KG's corporate identity. Our production processes are constantly being evaluated to meet the most modern sustainability demands. When developing our machines, from the start, we take their entire life cycle into account including the recyclability of the single machine components. Accordingly, we equip our machines with energy-efficient drives and use harmless fats and oils authorized for consumption. That way, together with our

customers, we never lose sight of the well-being of the environment.

## **Made in Germany**

The headquarters and the factory of Maschinenfabrik Seydelmann KG are located in Stuttgart and Aalen. Design and planning as well as the whole manufacturing process take place in Aalen.

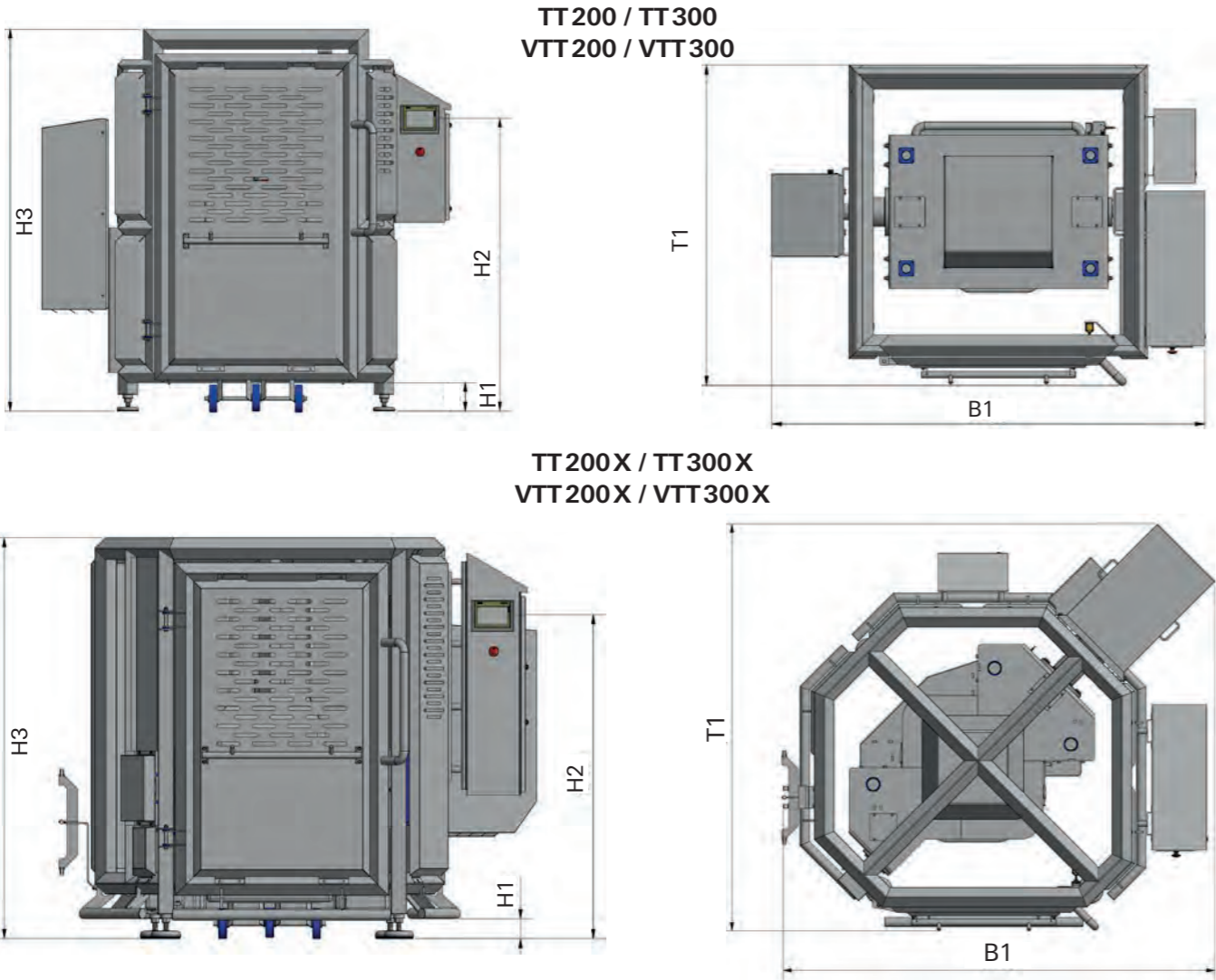
## **Service**

- Global service
- Qualified service technicians
- Extensive spare parts supply warranted for many years
- Emergency service 7 days/week
- Loan machine service

## **Tradition and Know-How**

Since the founding of the company in 1843 Maschinenfabrik Seydelmann KG has led the field in the development of machines for the food industry. In doing so the company uses the most up to date and innovative technologies. The company with the longest experience in manufacturing food processing machinery is currently led by the sixth generation of the same family, by which it was founded over 175 years ago. The large number of long-serving and highly qualified employees ensure the company's wide ranging know-how.

Technical data



TYPE	Capacity (max.) kg	Dimensions in mm					Power of motors kW	Connected load	Drive type	Vacuum values %
		B1	T1	H1	H2	H3				
TT 200 / VTT 200	220	2300	1700	160	1600	2100	5,5	400 V / 32 A	Direct drive	max. 70
TT 300 / VTT 300	320	2400	1950	160	1600	2100	7,5	400 V / 32 A	Direct drive	max. 70
TT 200 X / VTT 200 X	220	2500	2300	120	1650	2100	5,5	400 V / 32 A	Direct drive	max. 80
TT 300 X / VTT 300 X	320	2600	2400	120	1650	2100	7,5	400 V / 32 A	Direct drive	max. 80

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# TROLLEY TUMBLER

GENTLE MIXING, TUMBLING AND REFINING



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