



**sartorius stedim**  
biotech

## Shakers and Homogenizers Product Overview



turning science **into solutions**



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# A profile of Sartorius

The Sartorius Group is an internationally leading laboratory and process technology provider covering the segments of biotechnology and mechatronics.

In 2006, the technology group earned sales revenues of 521.1 million euros.

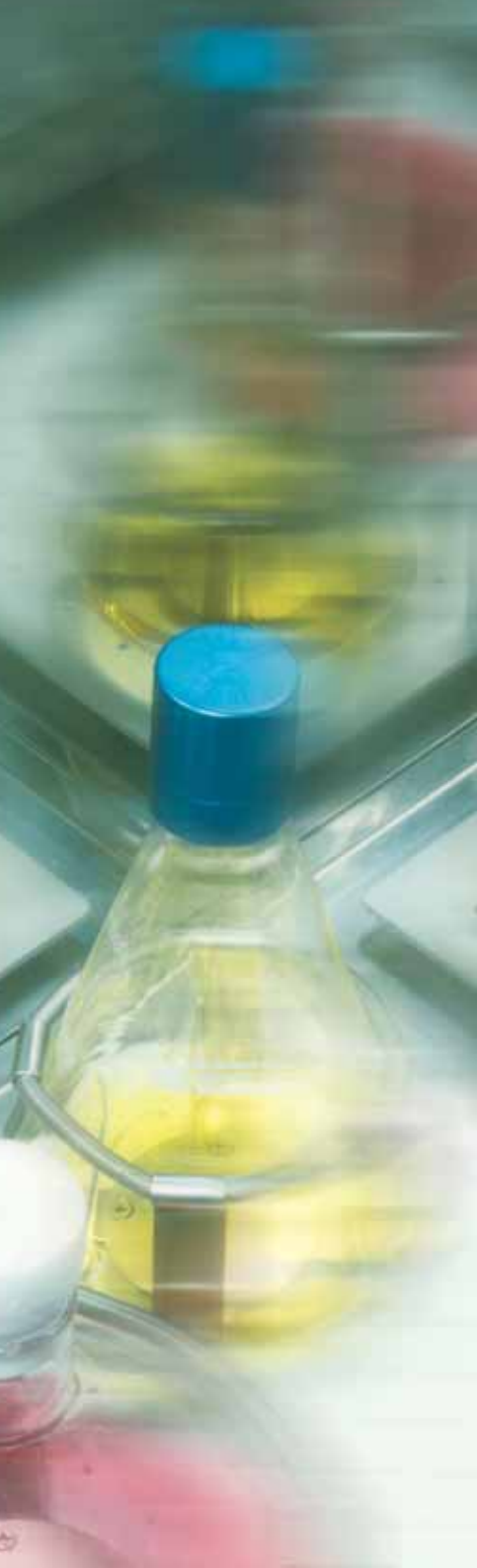
The Goettingen-based company founded in 1870 currently employs approximately 4,500 persons. Its biotechnology segment covers major areas of focus on fermentation, filtration, purification, fluid management and laboratory applications.

For the mechatronics segment in particular, the company manufactures equipment and systems featuring weighing, measurement and automation technology for laboratory and industrial applications, as well as hydrodynamic bearings.

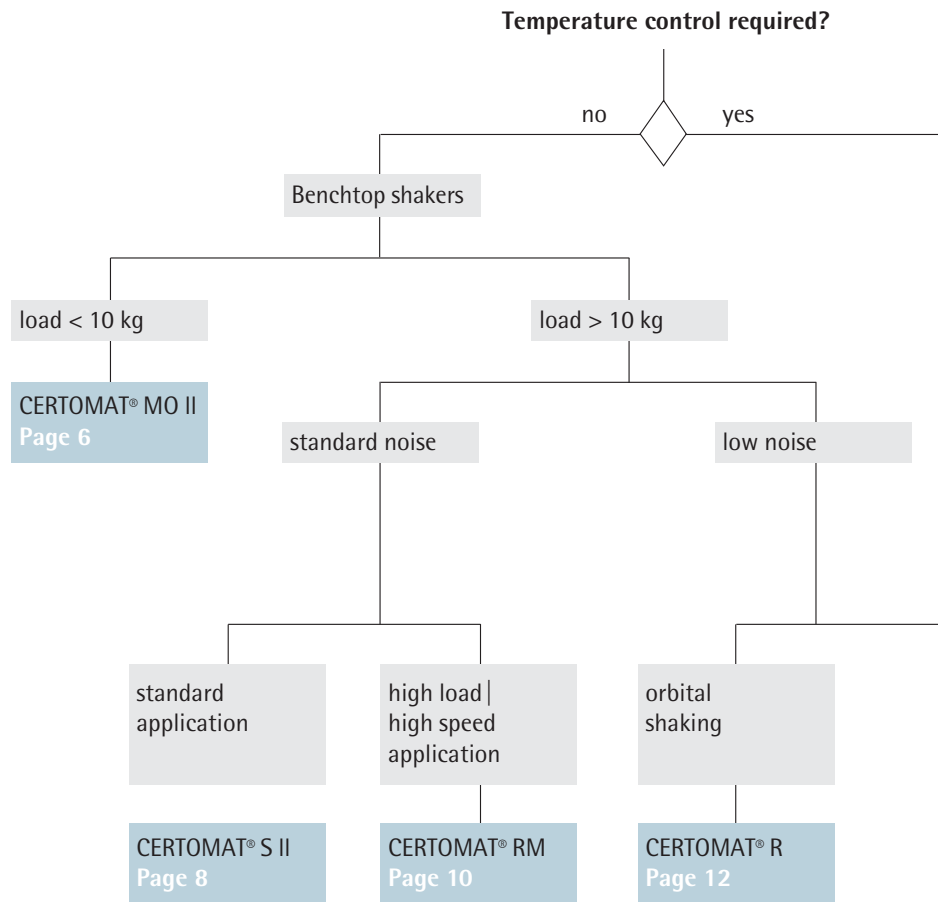
Key Sartorius customers are from the pharmaceutical, chemical and food and beverage industries and from numerous research and educational institutes of the public sector.

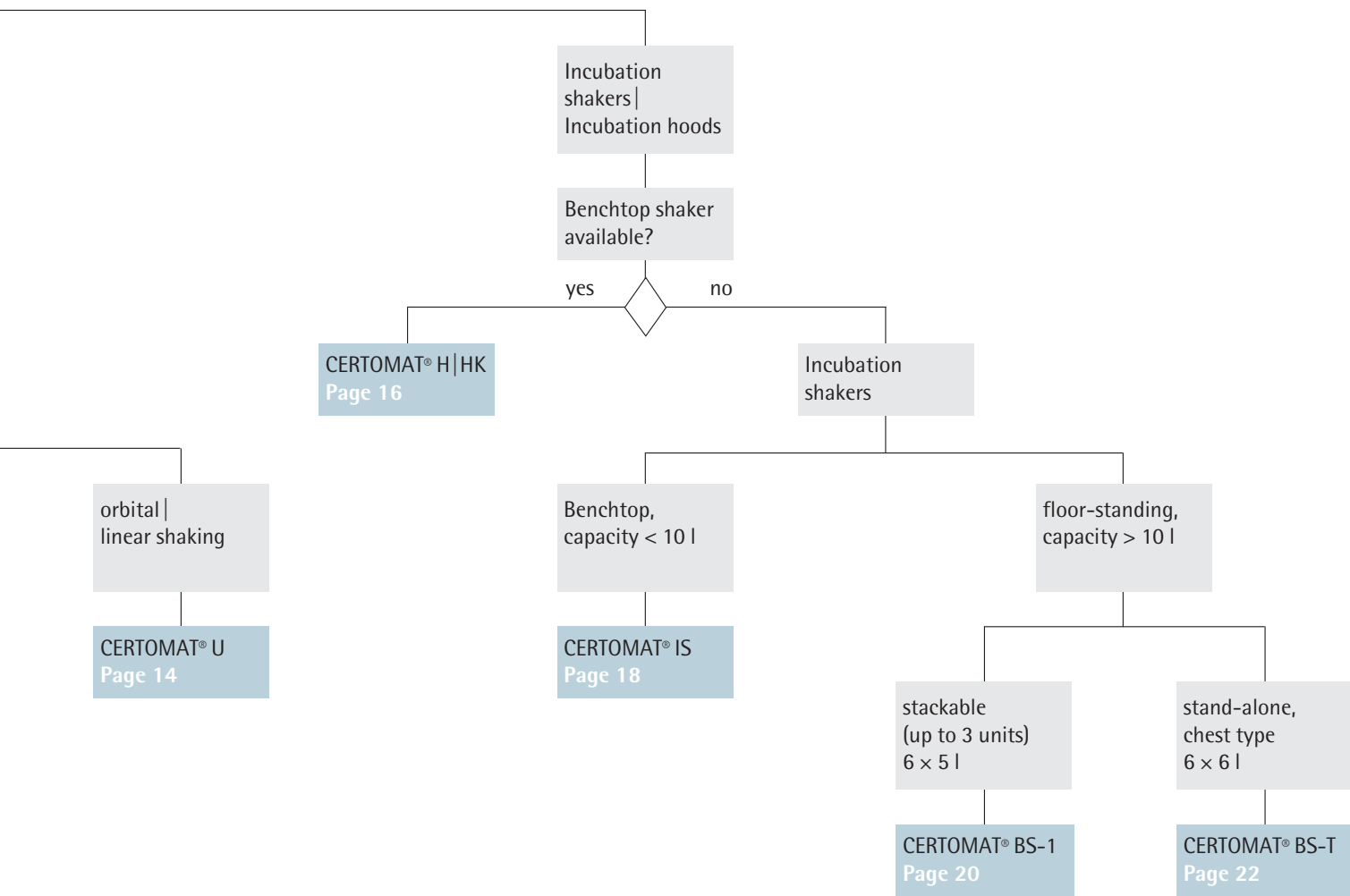
Sartorius has its own production facilities in Europe, Asia and America as well as sales subsidiaries and local commercial agencies in more than 110 countries.





## Selection chart shakers







## Certomat® MO II

### The economical benchtop shaker

## Benefits

- basic unit
- analogue control of speed and time
- economy price

The CERTOMAT® MO II is the basic model of this product line, featuring a small footprint and easy handling with two analog control dials for setting speed and time.

Like with all other units of the CERTOMAT® product line, the user has a choice of two shaking amplitudes. Voltage can be switched between 230 V and 115 V, 50 – 60 Hz.

For applications requiring temperature control, the CERTOMAT® MO II can be combined with the incubation hoods, CERTOMAT® H or HK. These features, together with the sturdy construction and the attractive price, make the CERTOMAT® MO II the ideal shaker for everyday work.

## Technical specifications

### Mechanical Data

Dimensions	W × H × D = 430 × 123 × 400 mm
Weight (without tray)	31 kg
Housing	Steel construction
Drive mechanism	Brushless motor, triple eccentric drive
Trays, type size	Type E EU (420 × 420 mm)
Tray fixation	By screws
Max. load	10 kg
Protection	IP21

### Electrical data

Connection	Class I cold socket, separate cable approx. 3 m
Protection class	I
Line voltage	230 V 50 Hz or 115 V 60 Hz, adjustable
Amperage	0.8 A at 230 V, 1.6 A at 115 V
Fuses	2 × T1.0 A at 230 V, 2 × T2.0 A at 115 V
Interference	class N according to EN 55014-2

### Operating data

Mode of shaking	Orbital, Ø 12.5 mm or 25 mm, according to version
Shaking speed	40 to 350 rpm
Accuracy	max. ± 5% of final value
Setting of speed	By potentiometer
Timing	0 to 120 minutes and continuous, mechanical timer
Ambient temperature	+10°C to +60°C
Humidity	Avoid extreme humidity

### Ordering information

CERTOMAT® MO II version with  
12.5 mm orbit

#### **BBI-8860858**

115/230 V/50–60 Hz  
CERTOMAT® MO II/12.5 mm

CERTOMAT® MO II version with  
25 mm orbit

#### **BBI-8860866**

115/230 V/50–60 Hz  
CERTOMAT® MO II/25 mm

All instruments are delivered without tray and other accessories.

For growing cells or mixing liquids, a tray is needed together with additional accessories to hold shaking flasks, separation funnels or tubes.



## Certomat® S II

### The universal benchtop shaker

The CERTOMAT® S II with its powerful drive and digital control of speed and time is the classical workhorse for everyday lab work.

Long service life and quiet running are guaranteed by the proven construction with a brushless motor, the strong Poly-V belt and the triple-excentric drive system. The shaking intensity can be modulated by selecting an amplitude of 25 mm or 50 mm.

The CERTOMAT® S II is equipped with visual speed alarm, a memory function for automatic re-start after power failure and an analogue out for external recording of speed.

## Benefits

- standard unit
- digital control of speed and time
- analogue data out

## Technical specifications

### Mechanical Data

Dimensions	W × H × D = 511 × 160 × 545 mm
Weight (without tray)	46 kg
Housing	Steel construction
Drive mechanism	Brushless motor, triple eccentric drive
Trays, type size	Type E EU (420 × 420 mm) Type F FU (800 × 420 mm)
Tray fixation	Simple snap mechanism
Max. load	20 kg, load compensation optimized for 10 kg load by counterweight
Protection	IP21

### Electrical data

Connection	Class I cold socket, separate cable approx. 3 m
Protection class	I
Line voltage	230 V 50 Hz or 115 V 60 Hz
Amperage	0.8 A at 230 V, 1.6 A at 115 V
Fuses	2 × T1 A at 230 V, 2 × T2 A at 115 V
Interference	According to DIN EN 55022 and DIN EN 61000

### Operating data

Mode of shaking	Orbital, Ø 25 mm or 50 mm, according to version
Shaking speed	40 to 400 rpm
Accuracy	max. ±1% of final value
Setting display	Alphanumeric key pad, LCD
Timing	0:01 to 98:59 hours; continuous action at 99:00 hours
Memory function	Restart after power failure
Alarms	visual
Ambient temperature	+10°C to +60°C
Humidity	Avoid extreme humidity

### Data output

Analogue	For speed, 9-pin SUB-D socket, 0 to 10 V or 0 to 20 mA resp. 4 to 20 mA (modification by technical service)
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### Ordering information

CERTOMAT® S II version with  
25 mm orbit

#### **BBI-886 2524**

230 V|50–60 Hz  
CERTOMAT® S II|25 mm

#### **BBI-886 2532**

115 V|50–60 Hz  
CERTOMAT® S II|25 mm

CERTOMAT® S II version with  
50 mm orbit

#### **BBI-886 2621**

230 V|50–60 Hz  
CERTOMAT® S II|50 mm

#### **BBI-886 2631**

115 V|50–60 Hz  
CERTOMAT® S II|50 mm

All instruments are delivered without tray and other accessories.

For growing cells or mixing liquids, a tray is needed together with additional accessories to hold shaking flasks, separation funnels or tubes.



## Certomat® RM

### The high-performance shaker

The CERTOMAT® RM shows all the features of the CERTOMAT® S II with one important technical detail in addition: adjustable mass compensation.

While all other shakers have to use a fixed weight to compensate imbalances caused by the movement of mass, the CERTOMAT® RM has a compensation weight that can be moved along an axis to the position optimally counteracting imbalance.

This patented feature makes it possible to run even high loads at maximum speed without increased vibration and running noise. Setting of the compensation weight is done from the outside of the housing with a simple tool.

## Benefits

- high load | high speed applications
- adjustable mass compensation

## Technical specifications

### Mechanical Data

Dimensions	W × H × D = 511 × 160 × 545 mm
Weight (without tray)	46 kg
Housing	Steel construction
Drive mechanism	Brushless motor, triple eccentric drive with adjustable mass compensation
Trays, type size	Type E EU (420 × 420 mm) Type F FU (800 × 420 mm)
Tray fixation	Simple snap mechanism
Max. load	>20 kg, mass compensation adjustable according to load
Protection	IP21

### Ordering information

CERTOMAT® RM version with  
25 mm orbit

#### **BBI-886 2320**

230 V|50 Hz  
CERTOMAT® RM|25 mm

#### **BBI-886 2338**

115 V|60 Hz  
CERTOMAT® RM|25 mm

CERTOMAT® RM version with  
50 mm orbit

#### **BBI-886 2427**

230 V|50 Hz  
CERTOMAT® RM|50 mm

#### **BBI-886 2435**

115 V|60 Hz  
CERTOMAT® RM|50 mm

All instruments are delivered without tray  
and other accessories.

For growing cells or mixing liquids, a tray is  
needed together with additional accessories to  
hold shaking flasks, separation funnels or tubes.

### Electrical data

Connection	Class I cold socket, separate cable approx. 3 m
Protection class	I
Line voltage	230 V 50 Hz or 115 V 60 Hz
Amperage	0.8 A at 230 V, 1.6 A at 115 V
Fuses	2 × T1 A at 230 V, 2 × T2 A at 115 V
Interference	According to DIN EN 55022 and DIN EN 61000

### Operating data

Mode of shaking	Orbital, Ø 25 mm or 50 mm, according to version
Shaking speed	40 to 400 U/min
Accuracy	max. ±1% of final value
Setting display	Alphanumeric key pad, LCD
Timing	0:01 to 98:59 hours; continuous action at 99:00 hours
Memory function	Restart after power failure
Alarms	visual
Ambient temperature	+10°C to +60°C
Humidity	Avoid extreme humidity

### Data output

Analogue	For speed, 9-pin SUB-D socket, 0 to 10 V or 0 to 20 mA resp. 4 to 20 mA (modification by technical service)
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## Certomat® R

### The silent long-distance runner

Due to its strong magnetic drive, the CERTOMAT® R is a benchtop shaker with two outstanding features: extremely low running noise and long service life without maintenance.

The CERTOMAT® R is equipped with an acoustic alarm and a memory function for automatic re-start after power failure.

## Benefits

- magnetic drive
- lowest running noise
- extremely durable

## Technical specifications

### Mechanical Data

Dimensions	W × H × D = 480 × 100 × 520 mm
Weight (without tray)	40 kg
Housing	Steel construction
Drive mechanism	Magnetic, triple eccentric drive
Trays, type size	Type E EU (420 × 420 mm) Type F FU (800 × 420 mm)
Tray fixation	Fixing lever
Max. load	20 kg
Protection	IP21

### Electrical data

Connection	Class I cold socket, separate cable approx. 3 m
Protection class	I
Line voltage	230 V 50 Hz or 115 V 60 Hz
Amperage	0.7 A at 230 V, 1.2 A at 115 V
Fuses	2 × T2 A at 230 V, 2 × T2.5 A at 115 V
Interference	According to DIN EN 55022 and DIN EN 61000

### Operating data

Mode of shaking	Orbital, Ø 25 mm
Shaking speed	40 to 350 rpm
Accuracy	max. ±5% of final value
Setting display	± Keys, LED
Memory function	Restart after power failure
Alarms	acoustic
Ambient temperature	+10°C to +60°C
Humidity	Avoid extreme humidity

### Ordering information

CERTOMAT® R  
**BBI-886 3024**  
230 V|50–60 Hz

CERTOMAT® R  
**BBI-886 0130**  
115 V|50–60 Hz

All instruments are delivered without tray and other accessories.

For growing cells or mixing liquids, a tray is needed together with additional accessories to hold shaking flasks, separation funnels or tubes.



# Certomat® U

## The convertible benchtop shaker

The CERTOMAT® U is identical to the CERTOMAT® R in all features – but its movement can be converted from orbital to longitudinal shaking.

While orbital shaking is preferred for cultivating all kinds of cells, linear shaking can be used for destaining of electrophoresis gels, for extraction purposes and others.

This makes the CERTOMAT® U an extremely flexible tool for lab work.

## Benefits

- switches from orbital to linear shaking
- magnetic drive
- low noise|long service life

## Ordering information

CERTOMAT® U  
**BBI-886 3121**  
230 V|50–60 Hz

CERTOMAT® U  
**BBI-886 0238**  
115 V|50–60 Hz

All instruments are delivered without tray and other accessories.

For growing cells or mixing liquids, a tray is needed together with additional accessories to hold shaking flasks, separation funnels or tubes.

## Technical specifications

### Mechanical Data

Dimensions	W × H × D = 480 × 130 × 520 mm
Weight (without tray)	52 kg
Housing	Steel construction
Drive mechanism	Magnetic, triple eccentric drive
Trays, type size	Type E EU (420 × 420 mm) Type F FU (800 × 420 mm)
Tray fixation	Fixing lever
Max. load	20 kg
Protection	IP21

### Electrical data

Connection	Class I cold socket, separate cable approx. 3 m
Protection class	I
Line voltage	230 V 50 Hz or 115 V 60 Hz
Amperage	0.7 A at 230 V, 1.2 A at 115 V
Fuses	2 × T2 A at 230 V, 2 × T2.5 A at 115 V
Interference	According to DIN EN 55022 and DIN EN 61000

### Operating data

Mode of shaking	Orbital, Ø 25 mm, or linear, convertible
Shaking speed	40 to 350 rpm orbital, 40 – 200 rpm longitudinal
Accuracy	max. ±5% of final value
Setting display	± Keys, LED
Memory function	Restart after power failure
Alarms	acoustic
Ambient temperature	+10°C to +60°C
Humidity	Avoid extreme humidity



## Certomat® H|HK Incubation hoods for benchtop shakers

The incubation hoods provide a temperature-controlled environment for cultivation of cells on benchtop shakers.

While the CERTOMAT® H is used for conditions above ambient temperature, the CERTOMAT® HK can be attached to an external cooling system in order to reach incubation temperatures down to +10°C. Temperature distribution is controlled by a strong airflow.

CERTOMAT® H and HK incubation hoods are compatible with all CERTOMAT® benchtop shakers using trays of the E/EU series.

### Benefits

- incubation hoods for all benchtop shakers
- for temperatures above or below ambient
- memory function

## Technical specifications

### Mechanical Data

Dimensions	W × H × D = 668 × 426 × 662 mm (CERTOMAT® H) W × H × D = 668 × 517 × 662 mm (CERTOMAT® HK)
Incubation chamber	W × H × D = 520 × 420 × 600 mm
Weight	Approx. 20 kg
Housing	Plexiglass
Protection	IP21

### Electrical data

Connection	Class I cold socket, separate cable approx. 3 m
Protection class	I
Line voltage	230 V 50 Hz or 115 V 60 Hz, adjustable
Heating capacity	500 W
Power supply	2.5 A at 230 V or 5 A at 115 V
Fuses	3.15 A at 230 V, 6.3 V at 115 V
Interference	Class N according to EN 55014-2

### Ordering information

CERTOMAT® H  
Incubation Hood with heater:  
**BBI-886 3202**  
115|230 V|50-60 Hz

CERTOMAT® HK  
Incubation Hood with heater and  
heat exchanger:  
**BBI-886 3245**  
115|230 V|50-60 Hz

All units are delivered without further accessories.

### Operating data

Incubation temperature	RT +8°C to +60°C (CERTOMAT® H) +10°C to +60°C (CERTOMAT® HK), with external cooling
Accuracy	37°C +/- 2°C, 60°C +/- 5°C
Setting/display	LED
Memory function	Restart after power failure
Alarms	visual
Air circulation	> 80 m <sup>3</sup> /h
Ambient temperature	+10°C to +35°C
Humidity	Avoid extreme humidity



## Certomat® IS

### The benchtop incubation shaker

## Benefits

- benchtop unit with small footprint
- optional integrated cooling
- fully programmable

The CERTOMAT® IS is a benchtop incubation shaker with compact design and an integrated heating plus optional cooling system. Depending on the application, the user has a choice of two different shaking orbits. Incubation parameters can be set by the user and stored in five programs of four steps and one pre-step each.

Safety features include visual and acoustic alarms, a memory function for automatic re-start after power failure, and recording of the time and duration of interruptions. An integrated spill tray prevents any liquid media from broken flasks from entering the mechanical system.

Due to its small footprint, the CERTOMAT® IS fits well even into crowded laboratories

## Ordering information

CERTOMAT® IS version with circulation/heating (UH)

230 V/50 Hz      **BBI-8864829**  
CERTOMAT® IS/25 mm

230 V/50 Hz      **BBI-8864926**  
CERTOMAT® IS/50 mm

115 V/60 Hz      **BBI-8864837**  
CERTOMAT® IS/25 mm

115 V/60 Hz      **BBI-8864934**  
CERTOMAT® IS/50 mm

CERTOMAT® IS version with circulation/heating/cooling (UHK)

230 V/50 Hz      **BBI-8864845**  
CERTOMAT® IS/25 mm

230 V/50 Hz      **BBI-8864942**  
CERTOMAT® IS/50 mm

115 V/60 Hz      **BBI-8864853**  
CERTOMAT® IS/25 mm

115 V/60 Hz      **BBI-8864953**  
CERTOMAT® IS/50 mm

All instruments are delivered without tray and other accessories.

For growing cells or mixing liquids, a tray is needed together with additional accessories to hold shaking flasks, separation funnels or tubes.

## Technical specifications

### Mechanical Data

Dimensions	W × H × D = 540 × 560 × 685 mm
Incubation chamber	W × H × D = 505 × 370 × 510 mm
Weight (without tray)	65 kg
Housing	Steel construction, with plexiglass lid
Drive mechanism	Brushless motor, triple eccentric drive
Trays, type/size	Typ E/EU (420 × 420 mm)
Tray fixation	Simple snap mechanism
Max. load	15 kg
Protection	IP21

### Electrical data

Connection	Class I cold socket, separate cable approx. 3 m
Protection class	I
Line voltage	230 V 50 Hz or 115 V 60 Hz
Heating capacity	650 W
Cooling capacity	300 W
Fuses	2 × T6.3A for 230 V, 2 × T10A for 115 V
Interference	According to DIN EN 55022 and DIN EN 6100

### Operating data

Mode of shaking	orbital, Ø 25 mm or 50 mm, according to version
Shaking speed	40 to 400 rpm
accuracy	max. ± 1% of final value
Incubation temperature	RT +8°C to +60°C (UH)   RT -10°C to +60°C (UHK)
setting/display	Alphanumeric key pad, LCD
Programming	Up to 5 programs with 4 steps and 1 pre-step, with cycling
Programmable parameters	Speed, time, temperature
Timing	0:01 to 98:59 hours; continuous action at 99:00 hours
Memory function	Restart after power failure
Alarms	Acoustic and visual
Air circulation	Approx. 180 m <sup>3</sup> /h
Ambient temperature	+10°C to +35°C (UH)   +10°C to +30°C (UHK)
Humidity	Avoid extreme humidity

### Data output

Analogue	for speed and temperature, 9-pin SUB-D socket, 0 to 10 V or 0 to 20 mA resp. 4 to 20 mA (modification by technical service)
Digital	for speed and temperature, printout via RS 232 interface, initiated by pressing "START" button during action, and for service functions
Collective alarm	Potential-free contact (closer), max. 230 VAC (0,5 A Ohm load) via SUB-D socket "Analog Out" Pin 4/9



## Certomat® BS-1

### The stackable incubation shaker

## Benefits

- stacks three units high with full speed
- fully programmable
- capacity 6 + 5 L flasks

Three CERTOMAT® BS-1 incubation shaking cabinets can be stacked up and run independently each on its own program. Due to the adjustable mass compensation system there is no need to reduce shaking speed of the upper units – all units can be run with full load at top speed.

Temperature, shaking speed and illumination can be defined and stored in five programs with four steps and one pre-step each. Safety features include visual and acoustic alarms, a memory function for automatic re-start after power failure, and recording of the time and duration of interruptions. An integrated spill tray prevents any liquid media from broken flasks from entering the mechanical system.

The CERTOMAT® BS-1 is available with a choice of two shaking amplitudes and with or without integrated cooling. Further optional accessories are an illumination unit, a support frame and an additional incubation grid that can be mounted in the upper part of the cabinet. The interior of the incubation cabinet is completely made of polished stainless steel. IQ/OQ documents for use of the CERTOMAT® BS-1 in validated processes are available.

## Ordering information

CERTOMAT® BS-1 version with circulation/heating (UH)

230 V/50 Hz      **BBI-8865027**  
CERTOMAT® BS-1/25 mm

230 V/50 Hz      **BBI-8865124**  
CERTOMAT® BS-1/50 mm

115 V/60 Hz      **BBI-8865035**  
CERTOMAT® BS-1/25 mm

115 V/60 Hz      **BBI-8865132**  
CERTOMAT® BS-1/50 mm

CERTOMAT® BS-1 version with circulation/heating/cooling (UHK)

230 V/50 Hz      **BBI-8865221**  
CERTOMAT® BS-1/25 mm

230 V/50 Hz      **BBI-8865329**  
CERTOMAT® BS-1/50 mm

115 V/60 Hz      **BBI-8865230**  
CERTOMAT® BS-1/25 mm

115 V/60 Hz      **BBI-8865337**  
CERTOMAT® BS-1/50 mm

All instruments are delivered without tray and other accessories.

For growing cells or mixing liquids, a tray is needed together with additional accessories to hold shaking flasks, separation funnels or tubes.

## Technical specifications

### Mechanical Data

Dimensions	W × H × D = 1150 × 720 × 770 mm
Incubation chamber	W × H × D = 890 × 495 × 650 mm
Weight (without tray)	198 kg
Housing	Steel construction, stainless steel interior
Drive mechanism	Brushless motor, triple eccentric drive with adjustable mass compensation
Trays, type/size	Type E/EU (420 × 420), Type F/FU (800 × 420 mm)
Tray fixation	Simple snap mechanism
Max. load	20 kg, mass compensation according to load
Stacking	Up to 3 units, without speed reduction
Protection	IP21

### Electrical specifications

Connection	Class I cold socket, separate cable approx. 3 m
Protection class	I
Line voltage	230 V   50 Hz or 115 V   60 Hz
Heating capacity	650 W
Cooling capacity	500 W
Illumination	90 W (5 × 18 W), max. 2.500 Lux
Fuses	2 × T6.3 A for 230 V, 2 × T10 A for 115 V
Interference	According to DIN EN 55022 and DIN EN 61000

### Operating specifications

Mode of shaking	orbital, Ø 25 mm oder 50 mm, according to version
Shaking speed	40 to 400 rpm
Accuracy	max. ±1% of final value
Incubation temperature	RT +8°C to +70°C (UH)   RT -10°C to +70°C (UHK)
Setting/display	Alphanumeric key pad, LCD
Programming	Up to 5 programs with 4 steps and 1 pre-step, with cycling
Programmable parameters	Speed, time, temperature, illumination
Timing	0:01 to 98:59 hours; continuous action at 99:00 hours
Memory function	Restart after power failure
Alarms	Acoustic and visual
Air circulation	Approx. 180 m3/h
Ambient temperature	+10°C to +35°C (UH)   +10°C to +30°C (UHK)
Humidity	Avoid extreme humidity

### Data output

Analogue	For speed and temperature, 9-pin SUB-D socket, 0 to 10 V or 0 to 20 mA resp. 4 to 20 mA (modification by technical service)
Digital	For speed and temperature, printout via RS232 interface, initiated by pressing "START" button during action, and for service functions
Collective alarm	Potential-free contact (closer), max. 230 VAC (0,5 A Ohm load) via SUB-D socket "Analog Out" Pin 4/9



## Certomat® BS-T

### The top-loading incubation shaker

The CERTOMAT® BS-T is a top-loading, floor-standing incubation cabinet.

Many of its features, such as programming, alarm management, integrated cooling and optional illumination are the same as for the CERTOMAT® BS-1. The interior of the incubation cabinet is completely made of polished stainless steel.

With a maximum capacity of six 6 Liter flasks, the CERTOMAT® BS-T is used also for small scale production of biopharmaceutical target substances.

## Benefits

- top-loading unit
- fully programmable
- capacity 6 + 6 L flasks

## Ordering information

CERTOMAT® BS-T version with circulation/heating (UH)

230 V|50 Hz      **BBI-886 5426**  
CERTOMAT® BS-T|25 mm

230 V|50 Hz      **BBI-886 5523**  
CERTOMAT® BS-T|50 mm

115 V|60 Hz      **BBI-886 5434**  
CERTOMAT® BS-T|25 mm

115 V|60 Hz      **BBI-886 5531**  
CERTOMAT® BS-T|50 mm

CERTOMAT® BS-T version with circulation/heating/cooling (UHK)

230 V|50 Hz      **BBI-886 5620**  
CERTOMAT® BS-T|25 mm

230 V|50 Hz      **BBI-886 5728**  
CERTOMAT® BS-T|50 mm

115 V|60 Hz      **BBI-886 5639**  
CERTOMAT® BS-T|25 mm

115 V|60 Hz      **BBI-886 5736**  
CERTOMAT® BS-T|50 mm

All instruments are delivered without tray and other accessories.

For growing cells or mixing liquids, a tray is needed together with additional accessories to hold shaking flasks, separation funnels or tubes.

## Technical specifications

### Mechanical Data

Dimensions	W × H × D = 1150 × 760 × 750 mm
Incubation chamber	W × H × D = 890 × 535 × 595 mm
Weight (without tray)	171 kg
Housing	Steel construction, stainless steel interior
Drive mechanism	Brushless motor, triple eccentric drive
Trays, type size	Type E EU (420 × 420 mm), Type F FU (800 × 420 mm)
Tray fixation	Simple snap mechanism
Max. load	20 kg
Protection	IP21

### Electrical specifications

Connection	Class I cold socket, separate cable approx. 3 m
Protection class	I
Line voltage	230 V 50 Hz or 115 V 60 Hz
Heating capacity	650 W
Cooling capacity	500 W
Illumination	90 W (5 × 18 W), max. 2.500 Lux
Fuses	2 × T6.3A for 230 V, 2 × T10A for 115 V
Interference	According to DIN EN 55022 and DIN EN 61000

### Operating specifications

Mode of shaking	Orbital, Ø 25 mm or 50 mm, according to version
Shaking speed	40 to 400 rpm
Accuracy	max. ±1% of final value
Incubation temperature	RT +8°C to +70°C (UH)   RT -10°C to +70°C (UHK)
Setting display	Alphanumeric key pad, LCD, Programming Up to 5 programs with 4 steps and 1 pre-step, with cycling
Programmable parameters	Speed, time, temperature, illumination
Timing	0:01 to 98:59 hours; continuous action at 99:00 hours
Memory function	Restart after power failure
Alarms	Acoustic and visual
Air circulation	Approx. 180 m <sup>3</sup> /h
Ambient temperature	+10°C to +35°C UH   +10°C to +30°C UHK
Humidity	Avoid extreme humidity

### Data output

Analogue	For speed, 9-pin SUB-D socket, 0 to 10 V or 0 to 20 mA resp. 4 to 20 mA (modification by technical service)
Digital	for speed and temperature, printout via RS 232 interface, initiated by pressing „START“ button during action, and for service functions
Collective alarm	Potential-free contact (closer), max. 230 VAC (0,5 A Ohm load) via SUB-D socket „Analog Out“ Pin 4/9

# Accessories

	Page	CERTOMAT® MO II	CERTOMAT® S II	CERTOMAT® RM	CERTOMAT® R	CERTOMAT® U	CERTOMAT® H HK	CERTOMAT® IS	CERTOMAT® BS-1	CERTOMAT® BS-T
01  Universal tray type EU	25	■	■	■	■	■	■	■		
02  Universal tray type FU	25		■	■	■	■			■	■
03  Type E tray with steel clamps	25	■	■	■	■	■	■	■		
04  Type F tray with steel clamps	25		■	■	■	■			■	■
05  Universal Mounting system: Basic element type B-2 for EU tray	25	■	■	■	■	■	■	■		
06  Universal Mounting system: Basic element type B-3 for FU tray	25		■	■	■	■			■	■
07  Universal clamping rod type U for basic elements B-2 and B-3	25	■	■	■	■	■	■	■	■	■
08  Stainless steel clamps for Erlenmeyer and Fernbach flasks	26	■	■	■	■	■	■	■	■	■
09  Plastic clamps for Erlenmeyer flasks	26	■	■	■	■	■	■	■	■	■
10  Hinged racks for test tubes	26	■	■	■	■	■	■	■	■	■
11  Hinged racks for centrifuge tubes	26	■	■	■	■	■	■	■	■	■
12  Stainless steel holders for mikrotiter plates	27	■	■	■	■	■	■	■	■	■
13  Sticky tape for universal trays	27	■	■	■	■	■	■	■	■	■
14  Anti-skid layer for universal trays	27	■	■	■	■	■	■	■	■	■
15  Shaking flasks, DURAN, Erlenmeyer type, with 3 baffles, straight rim	27	■	■	■	■	■	■	■	■	■
16  Shaking flasks, DURAN, Erlenmeyer type, with 3 baffles, straight rim, conn. GL 14	27	■	■	■	■	■	■	■	■	■
17  Caps for Erlenmeyer flasks, straight rim	28	■	■	■	■	■	■	■	■	■
18  Shaking flasks, DURAN, Erlenmeyer type, with 3 baffles, narrow neck for plugs	28	■	■	■	■	■	■	■	■	■
19  Illumination unit for CERTOMAT® BS-1	28								■	
20  Illumination unit for CERTOMAT® BS-T	28									■
21  Grid for Petri dishes, stainless steel, adjustable height, for CERTOMAT® BS-1	28								■	
22  Darkening plates, stainless steel, for CERTOMAT® BS-1	28								■	
23  Support frame, welded steel construction, for CERTOMAT® BS-1/BS-T	28								■	■
24  Installation kit for reference thermometer Pt100	28								■	■

02|

**Reference****Description**

BBI-885 3002  
BBI-885 3037

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**Universal tray to be completed with clamps,  
racks or mounting system**

Type EU (420×420 mm)  
Type FU (800×420 mm)

03|



BBI-885 3533  
BBI-885 3568  
BBI-885 3584  
BBI-885 3606

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**Tray type E (420×420 mm) equipped with stainless steel clamps  
for Erlenmeyer flasks**

39 clamps for flasks 100 ml  
20 clamps for flasks 250 ml  
14 clamps for flasks 500 ml  
9 clamps for flasks 1,000 ml

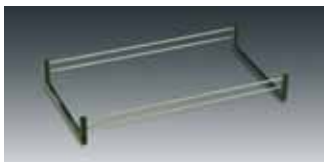
BBI-885 3738  
BBI-885 3762  
BBI-885 3789  
BBI-885 3800

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**Tray type F (800×420 mm) equipped with stainless steel clamps  
for Erlenmeyer flasks**

74 clamps for flasks 100 ml  
40 clamps for flasks 250 ml  
26 clamps for flasks 500 ml  
15 clamps for flasks 1,000 ml

06|



BBI-885 4238  
BBI-885 4246  
BBI-885 4254

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**Universal mounting system**

Basic element type B-2 for tray EU  
Basic element B-3 for tray FU  
Clamping rod, type U for mounting systems B-2 and B-3

07|



08|


**Reference**
**Description**
**Stainless steel clamps for Erlenmeyer and Fernbach flasks**

(maximum number of clamps for tray type EU/type FU)

BBI-885 4505	for flasks 25 ml (max. 49/98)
BBI-885 4513	for flasks 50 ml (max. 48/96)
BBI-885 4521	for flasks 100 ml (max. 24/48)
BBI-885 4556	for flasks 250 ml (max. 17/39)
BBI-885 4572	for flasks 500 ml (max. 12/26)
BBI-885 4599	for flasks 1,000 ml (max. 8/17)
BBI-885 4610	for flasks 2,000 ml (max. 4/9)
BBI-885 4629	for flasks 3,000 ml (max. 4/8)
BBI-885 4637	for flasks 5,000 ml (max. 2/6)

BBI-885 4564	for Fernbach flasks 450 ml (max. 8/15)
BBI-885 4600	for Fernbach flasks 1,800 ml (max. 1/6)
BBI-885 4640	for Fernbach flasks 2,800 ml (max. 1/6)

09|


**Plastic clamps reinforced with glass fibre**

(maximum number of clamps for tray type EU/type FU)

BBI-885 4700	for flasks 100 ml (max. 24/48)
BBI-885 4711	for flasks 250 ml (max. 18/39)
BBI-885 4722	for flasks 500 ml (max. 12/26)
BBI-885 4733	for flasks 1,000 ml (max. 8/17)

10|


**Hinged racks for test tubes**

(4 racks max. on tray EU, 8 racks max. on tray FU)

BBI-885 3134	for 64 tubes Ø 14 mm
BBI-885 3142	for 42 tubes Ø 16 mm
BBI-885 3150	for 36 tubes Ø 18 mm
BBI-885 3169	for 33 tubes Ø 20 mm
BBI-885 3185	for 20 tubes Ø 25 mm
BBI-885 3177	for 16 tubes Ø 30 mm

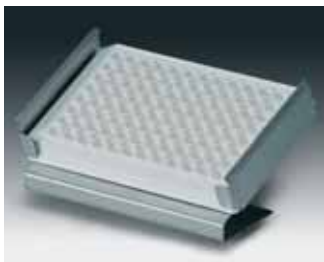
11|


**Hinged racks for centrifugation tubes**

(4 racks max. on tray EU, 8 racks max. on tray FU)

BBI-885 3088	for 42 tubes Ø 16 mm
BBI-885 3096	for 36 tubes Ø 18 mm
BBI-885 3193	for 33 tubes Ø 20 mm
BBI-885 3240	for 16 tubes Ø 30 mm

12|

**Reference****Description**

BBI-885 0321

 **Holders for microtiter plates, stainless steel**

for 1 standard 96-well plate or deepwell plate  
 standard plates: max. 12 holders on EU tray, 21 holders on FU tray  
 deepwell plates: max. 9 holders on EU tray, 18 holders on FU tray

13|



BBI-886 4497

**Sticky tape for universal trays**

Standard, width 30 mm, roll of 50 m

BBI-886 0419

Premium, width 30 mm, roll of 10 m, for repeated use

BBI-886 4470

**Anti-skid layer**

380×450 mm, for individual cut

15|



BBI-886 1005

**Shaking flasks DURAN, Erlenmeyer type,  
3 baffles at 120°, straight rim**

BBI-886 1013

Erlenmeyer flasks 300 ml, pack of 10

BBI-886 1021

Erlenmeyer flasks 500 ml, pack of 10

BBI-886 1022

Erlenmeyer flasks 1,000 ml, pack of 10

Erlenmeyer flasks 2,000 ml, pack of 10

16|


**Reference**
**Description**


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	<b>Shaking flasks, DURAN, Erlenmeyer type, 3 baffles at 120°, straight rim, connector GL 14</b>
BBI-886 1064	Erlenmeyer flasks 300 ml, pack of 10
BBI-886 1072	Erlenmeyer flasks 500 ml, pack of 10
BBI-886 1080	Erlenmeyer flasks 1,000 ml, pack of 10

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**Caps for Erlenmeyer flasks, straight rim**

BBI-886 1099	Cap Aluminium, pack of 10
BBI-886 1102	Cap Stainless steel, pack of 10

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18|




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	<b>Shaking flasks, DURAN, Erlenmeyer type, 3 baffles at 120°, narrow neck for plug</b>
BBI-886 0998	Erlenmeyer flasks 500 ml, pack of 10

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19|  
20|


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BBI-886 1455	<b>Illumination unit for CERTOMAT® BS-1, 5×18 W,</b> individually activated, programmable, only in combination with cooling
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BBI-886 1463	<b>Illumination unit for CERTOMAT® BS-T, 5×18 W,</b> individually activated, programmable, only in combination with cooling
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BBI-886 1447	<b>Grid for Petri dishes,</b> stainless steel, adjustable height, for use in CERTOMAT® BS-1
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BBI-886 4489	<b>Support frame (for two CERTOMAT® BS-1),</b> welded sectional frame construction, height-adjustable feet
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BBI-885 4416	<b>Installation set for reference thermometer (Pt100),</b> for CERTOMAT® BS-1
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## Selection chart homogenizers

	Bacteria	Yeast	Mammalian cells	Tissues, plant cells	Bones, cartilage	Minerals, pigments	Page
Mikro-Dismembrator	+	+	+	+	+	+	32
LABSONIC®	+	+	+	-	-	-	36
Potter S	-	-	+	+	-	-	44
Hand Homogenizers	-	-	+	+	-	-	48



RPM 1000

7	8	9	0	↑	
4	5	6	.	↓	
1	2	3	C	Enter	
					Start Stop

# Mikro-Dismembrator S

## The high-performance laboratory ball mill



## Benefits

- ball mill for solid or frozen samples
- highest efficiency by top speed
- electronic control of speed and time

The Mikro-Dismembrator S is the most efficient instrument for homogenization of solid or frozen samples. Due to the high shaking frequency of 3000 min<sup>-1</sup>, solid samples such as bone or deep-frozen tissue, e.g. from biopsies, are disintegrated to fine powder rapidly, often within less than a minute.

This effectively prevents decomposition of target molecules such as DNA, RNA or proteins by endogenous enzymes. Reproducibility of the process is guaranteed by digital control of shaking speed and time.

The sister instrument, Mikro-Dismembrator U, has a maximum shaking frequency of 2000 min<sup>-1</sup> and is used for less stringent applications. Both units are compatible with a large range of accessories such as shaking flasks, grinding balls or glass beads.

## Technical specifications

### Mechanical Data

Dimensions	W × H × D = 297 × 259 × 205 mm
Weight	19 kg
Housing	Steel construction
Protection	IP21

### Electrical data

Connection	Class I cold socket, separate cable approx. 3 m
Protection class	I
Line voltage	230 V 50 Hz, 115 V 60 Hz, adjustable
Power	Approx. 100 W (S) or 75 W (U)
Fuses	2 × T1.0A at 230 V, 2 × T1.6A at 115 V
Interference	Class N according to EN 55014-2

### Operating data

Shaking amplitude	16 mm (constant)
Shaking frequency	100 to 2.600 1/min (permanent)
Mikro-Dismembrator S	100 to 3.000 1/min (intermittent)
Shaking frequency	100 to 2.000 1/min
Mikro-Dismembrator U	
Accuracy	max. ±3% of final value
Setting / display	Alphanumeric key pad, LCD
Timing	0:01 to 98:59 min, continuous action at 99:00 min
Ambient temperature	+10°C to +35°C
Humidity	Avoid extreme humidity

### Ordering information

#### **BBI-8531609**

Mikro-Dismembrator S  
115 V/230 V/50–60 Hz, convertible

#### **BBI-8531722**

Mikro-Dismembrator U  
230 V/50–60 Hz

#### **BBI-8531730**

Mikro-Dismembrator U  
115 V/60 Hz

#### Accessories

All units are delivered without shaking flasks and other accessories.

Shaking flasks and grinding balls or glass beads are required for the grinding process.

# Accessories



## Reference

## Description

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	<b>Shaking flasks made of stainless steel 1.4301</b>
BBI-853 1803	Shaking flask, stainless steel 1.4301, volume approx. 3 ml, with PTFE gasket and cap
BBI-8531811	Shaking flask, stainless steel 1.4301, volume approx. 5 ml, with PTFE gasket and cap
BBI-853 1820	Shaking flask, stainless steel 1.4301, volume approx. 7 ml, with PTFE gasket and cap

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	<b>Shaking flasks made of PTFE</b>
BBI-853 1838	Shaking flask, PTFE, volume approx. 3 ml, with cap
BBI-853 1846	Shaking flask, PTFE, volume approx. 5 ml, with cap
BBI-853 1854	Shaking flask, PTFE, volume approx. 7 ml, with cap
BBI-853 1862	Shaking flask, PTFE, volume approx. 20 ml, with cap

Holder 8531897 is required for using this shaking flask!

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	<b>Shaking flasks made of PTFE</b>
BBI-853 1943	Shaking flask, PTFE, volume approx. 3 ml, with screw cap
BBI-853 1935	Shaking flask, PTFE, volume approx. 5 ml, with screw cap
BBI-853 1927	Shaking flask, PTFE, volume approx. 7 ml, with screw cap
BBI-853 1951	Shaking flask, PTFE, volume approx. 20 ml, with screw cap

Holder 8531897 is required for using this shaking flask!

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	<b>Containers for disposable tubes, holder</b>
BBI-853 1889	Container for 3 disposable test tubes 2.2 ml $\varnothing$ 10.8 x 37 mm, for instance Sarstedt no. 72.608
	Holder 8531897 is required for using this shaking flask!
BBI-853 1960	Container for 4 cryotubes
	Holder 8531897 is required for using this shaking flask!
BBI-853 1897	Holder for shaking flask 20 ml (8531951) and for the containers for disposable tubes (8531889, 8531960 and 8532001)
BBI-853 2001	Container for 4 cryotubes (Nalge 5011-0012)
	Holder BBI-8531897 is required for using this shaking flask!
BBI-853 2010	Adapters for cryotubes BBI-8532001
	pack of 8 (as spare parts)

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	<b>Special accessories</b>
BBI-853 1900	Tray for microwell plates, capacity of 2 microwell plates with 96 borings, for using the Mikro-Dismembrator as a small shaker
BBI-853 1986	Adapter set for using Mikro-Dismembrator U/S flasks with the Mikro-Dismembrator II, for shaking flasks 3 ml, 5 ml, 7 ml

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05|



Reference	Description
	<b>Grinding balls</b>
BBI-854 7505	Made of Brazilian agate Grinding ball made of Brazilian agate, Ø 10 mm, weight 1.4 g, package with 10 pieces
BBI-854 7602	Made of PTFE, with steel core Grinding ball made of PTFE with steel core, Ø 12 mm, weight 2 g, package of 2 pieces
BBI-854 6606	Made of chromium steel Grinding ball made of chromium steel, specific weight 7.85 g/ml, Ø 3 mm, package of 100 pieces
BBI-854 6703	Grinding ball made of chromium steel, specific weight 7.85 g/ml, Ø 5 mm, package of 100 pieces
BBI-854 6916	Grinding ball made of chromium steel, specific weight 7.85 g/ml, Ø 9 mm, package of 10 pieces
BBI-854 6800	Grinding ball made of chromium steel, specific weight 7.85 g/ml, Ø 10 mm, package of 10 pieces
BBI-854 7009	Made of Tungsten carbide Grinding ball made of Tungsten carbide, specific weight 14.5 g/ml, Ø 1mm, 1 piece
BBI-854 7106	Grinding ball made of Tungsten carbide, specific weight 14.5 g/ml, Ø 3 mm, 1 piece
BBI-854 7203	Grinding ball made of Tungsten carbide, specific weight 14.5 g/ml, Ø 5 mm, 1 piece
BBI-854 7408	Grinding ball made of Tungsten carbide, specific weight 14.5 g/ml, Ø 7 mm, 1 piece
BBI-854 7300	Grinding ball made of Tungsten carbide, specific weight 14.5 g/ml, Ø 10 mm, 1 piece
	<b>Glass beads</b>
BBI-854 1400	Glass beads Ø 0.10–0.11 mm, bottle, approx. 570 ml
BBI-854 1507	Glass beads Ø 0.17–0.18 mm, bottle, approx. 570 ml
BBI-854 1604	Glass beads Ø 0.25–0.30 mm, bottle, approx. 570 ml
BBI-854 1701	Glass beads Ø 0.40–0.60 mm, bottle, approx. 570 ml
BBI-854 1809	Glass beads Ø ca. 1 mm, bottle, approx. 570 ml



## LABSONIC® M

### The ultrasonic homogenizer for every application

Ultrasonic homogenizers are widely used for disruption of bacteria, yeast and cultured animal cells. The LABSONIC® M homogenizer is a compact, handheld laboratory instrument that combines all functions in one unit and thus helps saving bench space.

Sonication amplitude can be set between 20 and 100% of the maximum output of 100 W, active time interval between 0,2 and 1,0 sec. This helps to prevent sample denaturation by heating or foaming.

Service life of the titanium sonotrodes is increased by automatic length determination and frequency adjustment. Maximum sample volume is 750 ml in batch mode or up to several liters<sup>2</sup> using a flow cell.

## Benefits

- universal ultrasonic homogenizer
- selectable amplitude and active cycle
- self-optimization of energy output

### Ordering information

**BBI-8535027**  
LABSONIC® M  
230 V|50 Hz

**BBI-8535035**  
LABSONIC® M  
115 V|60 Hz,

### Technical specifications

Dimensions	W × H × D = 130 × 180 × 50 mm
Weight	0.75 kg
Line voltage	230 V 50 Hz or 115 V 60 Hz
Output	100 W (90 W in aqueous media)
Output settings	20% to 100%, continuous
Duty cycle (pulsed operation)	10% to 100%, continuous
Timer	Optional, by external timer
Working frequency	30 kHz according to US Standard
Accuracy	±1 kHz
Max. energy density	125 to 600 W/cm <sup>2</sup> depending on sonotrode
Max. amplitude	125 to 220 μm depending on to sonotrode
Operational stability	Permanent operation, also in air
Fuses	T2A primary (internal)
Protection class protection	I, grounded device IP 40
Interference	According to EN 55011 EN 50082-2
PC-connection	Optional, socket integrated
Ambient temperature	+5°C to +40°C
Humidity	Avoid extreme humidity

All units are delivered without probes and further accessories.

# Accessories

01 |



Reference	Description	For sample volume (ml)
<b>Probes made of Titanium, normal length</b>		
BBI-853 5612	Probe Ø 0.5 mm, approx. 80 mm long	0.01–0.5
BBI-853 5620	Probe Ø 1 mm, approx. 80 mm long	0.1–5
BBI-853 5639	Probe Ø 2 mm, approx. 80 mm long	2–50
BBI-853 5647	Probe Ø 3 mm, approx. 80 mm long	5–200
BBI-853 5655	Probe Ø 7 mm, approx. 80 mm long	20–500
BBI-853 5671	Probe Ø 10 mm, approx. 80 mm long	30–750
<b>Probes made of Titanium, double length</b>		
BBI-853 5680	Probe Ø 3 mm, approx. 160 mm long	5–200
BBI-853 5698	Probe Ø 7 mm, approx. 160 mm long	20–500
BBI-853 5710	Probe Ø 10 mm, approx. 160 mm long	30–750

02|

**Reference****Description**

Reference	Description
<b>Accessories for sonication in a flow cell</b>	
BBI-853 5663	Probe $\varnothing$ 7 mm, for flow cell 853 5728, approx. 80 mm long
BBI-853 5701	Probe $\varnothing$ 7 mm, long form, for flow cell 853 5736, approx. 160 mm long
BBI-853 5728	Flow cell incl. cooling connection, stainless steel 1.4301, autoclavable, incl. quick-fit connector. For operation a probe 853 5663 is required!
BBI-853 5736	Flow cell incl. cooling connection, glass, autoclavable, for sonicating liquids in a closed system. The norm adapter 853 5744 is needed.
BBI-853 5744	Norm adapter for glass flow cell 853 5736

03|



Timer, for connection to LABSONIC® M

Reference	Description
<b>Further accessories</b>	
BBI-853 5280	Clamp STH-16 (included with LABSONIC® M)
BBI-853 5272	Stand ST-16, $\varnothing$ 16 mm, plate stainless steel 1.4301, rod made of aluminium
BBI-853 5779	Timer, for connection to LABSONIC® M
BBI-853 5787	PC-control, incl. recording of input power, slot-in board for PC, connecting cable and software for Windows 95/98
BBI-853 5795	PC-control, incl. recording of input power and temperature, slot-in board for PC, connecting cable and software for Windows 95/98
BBI-853 5817	Sound dampening chamber SB2 for LABSONIC® M



## LABSONIC® P

### The high-performance ultrasonic homogenizer

The LABSONIC® P homogenizer is designed for higher output up to 400 W and correspondingly for treatment of larger samples. Several liters<sup>2</sup> can be sonicated in batch mode, whereas 10 to 50 L/h can be processed in continuous mode using a flow cell.

Sonication amplitude can be set between 20 and 100% of the maximum output of 400 W, active time interval between 0.2 and 1.0 sec. This helps to prevent sample denaturation by heating or foaming. Service life of the titanium sonotrodes is increased by automatic length determination and frequency adjustment.

The LABSONIC® P is preferably used together with a sound dampening box to protect the user from excess noise.

## Benefits

- sonication of larger samples
- selectable amplitude and active cycle
- self-optimization of energy output

### Technical specifications

Dimensions	W × H × D= 135 × 280 × 95 mm
Weight	8.8 kg
Line voltage	230 V 50 Hz or 115 V 60 Hz
Output	400 W (300 W in aqueous media)
Output settings	20% to 100%, continuous
Duty cycle (pulsed operation)	10% to 100%, continuous
Timer	Optional, by external timer
Working frequency	24 kHz according to US Standard
Accuracy	±1 kHz
Max. energy density	12 to 600 W/cm <sup>2</sup> depending on sonotrode
Max. amplitude	12 to 260 μm depending on sonotrode
Operational stability	Permanent operation, also in air
Fuses	T2A primary (internal)
Protection class protection	I, grounded device IP 40
Interference	According to EN 55011 EN 50082-2
PC-connection	Optional, socket integrated
Ambient temperature	+5°C to +40°C
Humidity	Avoid extreme humidity

### Ordering information

#### **BBI-8535108**

LABSONIC® P  
230 V|50 Hz

#### **BBI-8535116**

LABSONIC® P  
115 V|60 Hz

All units are delivered without probes and further accessories.

# Accessories

01|



Reference

Description

For sample  
volume (ml)

Reference	Description	For sample volume (ml)
<b>Probes made of Titanium, normal length</b>		
BBI-853 5124	Probe Ø 3 mm, approx. 100 mm long	5–200
BBI-853 5132	Probe Ø 7 mm, approx. 100 mm long	20–500
BBI-853 5140	Probe Ø 14 mm, approx. 100 mm long	100–2000
BBI-853 5159	Probe Ø 22 mm, approx. 100 mm long	100–2000
BBI-853 5167	Probe Ø 40 mm, approx. 100 mm long	200–4000

02|



Reference	Description	For sample volume (ml)
<b>Accessories for sonication in a flow cell</b>		
BBI-853 5175	Probe Ø 22 mm, for flow cells 853 5213, approx. 100 mm long	10–50 l/h
BBI-853 5183	Probe Ø 22 mm, long form, for flow cells 853 5221, approx. 200 mm long!	10–50 l/h
BBI-853 5213	Flow cell including cooling connection, stainless steel 1.4301, autoclavable, with quick connector For operation a probe 853 5175 is required!	
BBI-853 5221	Flow cell including cooling connection, glass, autoclavable, for sonicating liquids in a closed system Norm adapter 853 5230 is required	
BBI-853 5230	Norm adapter for glass flow cell 853 5221	

03|

**Reference****Description**

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Reference	Description
	<b>Further accessories</b>
BBI-853 5272	Stand ST-16, Ø 16 mm, rod made of aluminium, plate stainless steel 1.4301
BBI-853 5779	Timer, for connection to LABSONIC® P
BBI-853 5248	PC-control for LABSONIC® P, including recording of input power, slot-in card for PC, connecting cable and software for Windows 95/98
BBI-853 5256	PC-control for LABSONIC® P, including recording of input power and temperature, slot-in card for PC, connecting cable and software for Windows 95/98
BBI-853 5809	Sound dampening chamber SB1 for LABSONIC® P



## Potter S Homogenizer

### For gentle cell and tissue disruption

The Potter S homogenizer has been in use in laboratories world-wide for decades and is still going strong. Cell and tissue disruption by shearing forces between the pestle and the wall of the glass cylinder is relatively gentle and even allows the isolation of intact nuclei.

An integrated cooling vessel provides temperature control and at the same time safe fixation of the homogenizer cylinder. Borosilicate glass cylinders are available with ground-in glass pestles or PTFE pestles, maximum sample volume is 60 ml.

## Benefits

- disrupts cells and tissues by shearing
- gentle action
- known world-wide for generations

## Ordering information

Potter S, including cooling vessel  
and one set of clamping rings

### **BBI-8533024**

230 V|50–60 Hz

### **BBI-8533032**

115 V|50–60 Hz

#### Accessories:

For homogenization complete vessels made of borosilicate glass or homogenizer cylinders and the appropriate PTFE plungers are needed. Complete vessels consist of a glass cylinder and a glass plunger ground to match the cylinder.

For this reason, these components are labelled with an individual number so that they can be properly matched by the user.

All cylinders have a volume scale.

Cylinders and vessels from 2 to 15 ml have a gap of approx. 0.045–0.065 mm, the larger ones have a larger gap of approx. 0.095–0.115 mm.

## Technical specifications

### Mechanical Data

Dimensions	W × H × D = 300 × 850 × 300 mm
Weight	Approx. 12.5 kg
Housing	Steel construction
Base plate	PVC
Drive	DC motor, brushless

### Electrical data

Connection	Class I cold socket, separate cable approx. 3 m
Protection class	I
Line voltage	230 V 50 Hz or 115 V 60 Hz
Amperage	0.3 A at 230 V 50 Hz or 0.6 A at 115 V 60 Hz
Fuses	M 0.63 A at 230 V, M 1.3 A at 115 V
Interference	Class B according to EN 55014

### Operating data

Speed	150 to 1500 rpm
Accuracy	max. ±3% of final value
Setting display	Potentiometer, LED
Maximum amplitude	170 mm
Ambient temperature	+10°C to +60°C
Humidity	Avoid extreme humidity

# Accessories

01|



Reference	Description
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**Vessels made of borosilicate glass, with latticed notches, complete, cylinder with ground-in glass plunger**

BBI-854 0756	Homogenizer vessel 2 ml, with latticed notches
BBI-854 0705	Homogenizer vessel 5 ml, with latticed notches
BBI-854 0802	Homogenizer vessel 15 ml, with latticed notches
BBI-854 0900	Homogenizer vessel 30 ml, with latticed notches
BBI-854 1000	Homogenizer vessel 60 ml, with latticed notches

02|



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**Vessels made of borosilicate glass, without latticed notches, complete, cylinder with ground-in glass plunger**

BBI-854 1957	Homogenizer vessel 2 ml, without latticed notches
BBI-854 1906	Homogenizer vessel 5 ml, without latticed notches
BBI-854 2007	Homogenizer vessel 15 ml, without latticed notches
BBI-854 2104	Homogenizer vessel 30 ml, without latticed notches
BBI-854 2201	Homogenizer vessel 60 ml, without latticed notches

03|



## Reference

## Description

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### Cylinders made of borosilicate glass, for plungers made of PTFE

BBI-854 2252	Homogenizer cylinder 2 ml, for plungers made of PTFE
BBI-854 2309	Homogenizer cylinder 5 ml, for plungers made of PTFE
BBI-854 2406	Homogenizer cylinder 15 ml, for plungers made of PTFE
BBI-854 2503	Homogenizer cylinder 30 ml, for plungers made of PTFE
BBI-854 2600	Homogenizer cylinder 60 ml, for plungers made of PTFE

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### Plungers made of PTFE, including shaft made of stainless steel

BBI-854 2651	Plunger made of PTFE 2 ml, for cylinder 854 2252
BBI-854 2708	Plunger made of PTFE 5 ml, for cylinder 854 2309
BBI-854 2805	Plunger made of PTFE 15 ml, for cylinder 854 2406
BBI-854 2902	Plunger made of PTFE 30 ml, for cylinder 854 2503
BBI-854 3003	Plunger made of PTFE 60 ml, for cylinder 854 2600

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### Special accessories for POTTER S

BBI-853 2206	Storage rack for 10 homogenizer cylinders and plungers or complete vessels
BBI-853 3130	Clamping ring for vessels or cylinders 2 ml
BBI-853 3148	Clamping ring for vessels or cylinders 5 ml
BBI-853 3156	Clamping ring for vessels or cylinders 15 ml
BBI-853 3164	Clamping ring for vessels or cylinders 30 ml
BBI-853 3172	Clamping ring for vessels or cylinders 60 ml
BBI-853 3180	Exchange cooling vessel, glass



## Hand Homogenizers

### For rapid sample preparation

Hand homogenizers of the classical DOUNCE type are widely used for manual sample preparation such as disruption of cells or tissue or for resuspension of sedimented materials. Ground-in glass plungers with loose or tight fit are available together with glass cylinders between 1 ml and 60 ml capacity.

## Benefits

- Dounce type glass homogenizers
- rapid sample preparation
- Choice of gap size

Reference	Description
	<b>Hand Homogenizer "DOUNCE"</b> Clearance for version L: 0.05 to 0.07 mm Clearance for version S: 0.01 to 0.03 mm
8530742	<b>Cylinder</b> made of borosilicate glass 1 ml
8530734	<b>Cylinder</b> made of borosilicate glass 2 ml
8530700	<b>Cylinder</b> made of borosilicate glass 5 ml
8530718	<b>Cylinder</b> made of borosilicate glass 15 ml
8530726	<b>Cylinder</b> made of borosilicate glass 30 ml
8530750	<b>Cylinder</b> made of borosilicate glass 60 ml
8530785	<b>Plunger (S)</b> tight fit for 1 ml
8530793	<b>Plunger (S)</b> tight fit for 2 ml
8530807	<b>Plunger (S)</b> tight fit for 5 ml
8530815	<b>Plunger (S)</b> tight fit for 15 ml
8530823	<b>Plunger (S)</b> tight fit for 30 ml
8530831	<b>Plunger (S)</b> tight fit for 60 ml

Reference	Description
8530882	<b>Plunger (L)</b> easy fit for 1 ml
8530890	<b>Plunger (L)</b> easy fit for 2 ml
8530904	<b>Plunger (L)</b> easy fit for 5 ml
8530912	<b>Plunger (L)</b> easy fit for 15 ml
8530920	<b>Plunger (L)</b> easy fit for 30 ml
8530939	<b>Plunger (L)</b> easy fit for 60 ml
8530408	<b>Hand Homogenizer "Eppendorf"</b> volume approx. 20 ml made of borosilicate glass

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