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Shakers and Homogenizers Product Overview



turning science into solutions



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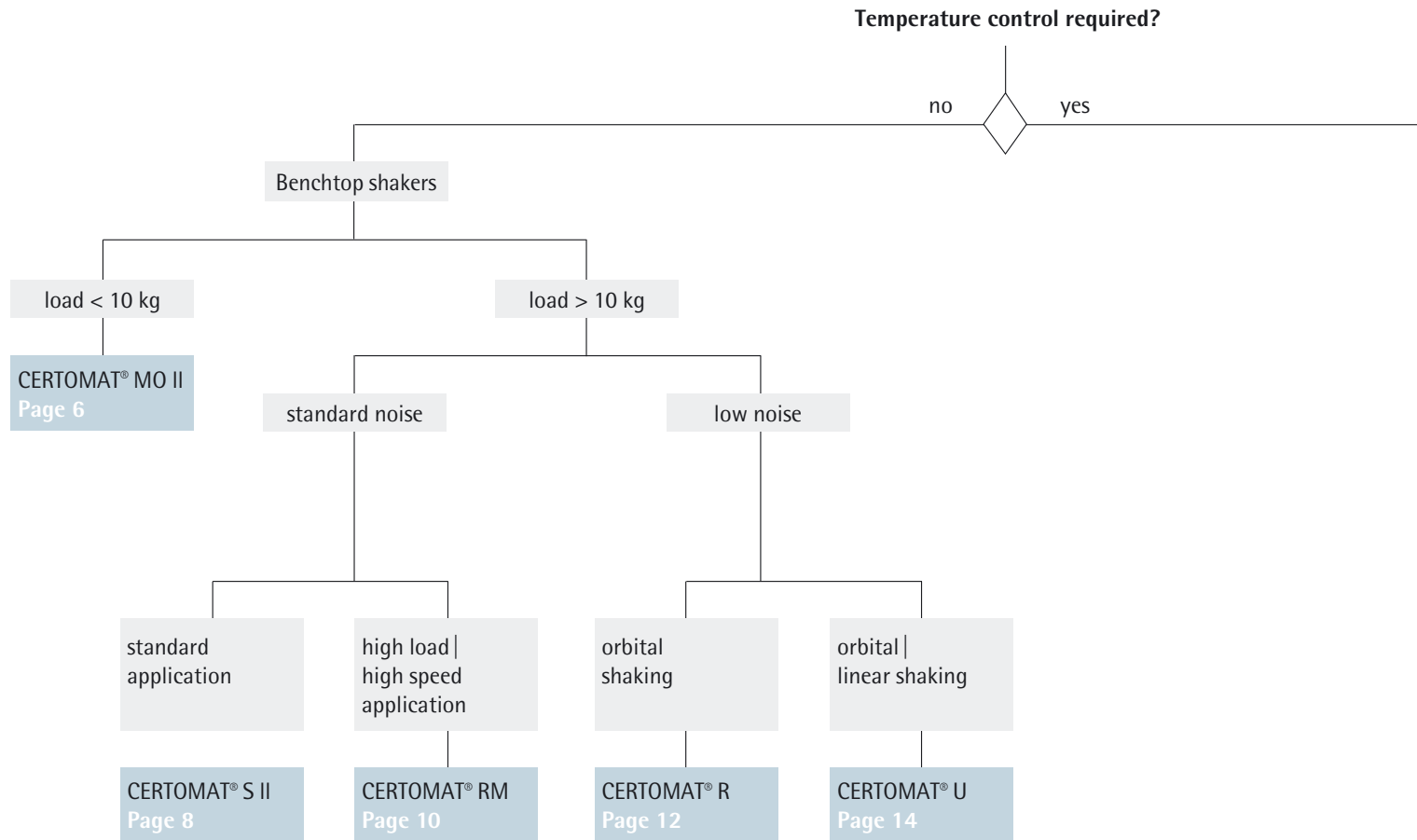
A profile of Sartorius Stedim Biotech

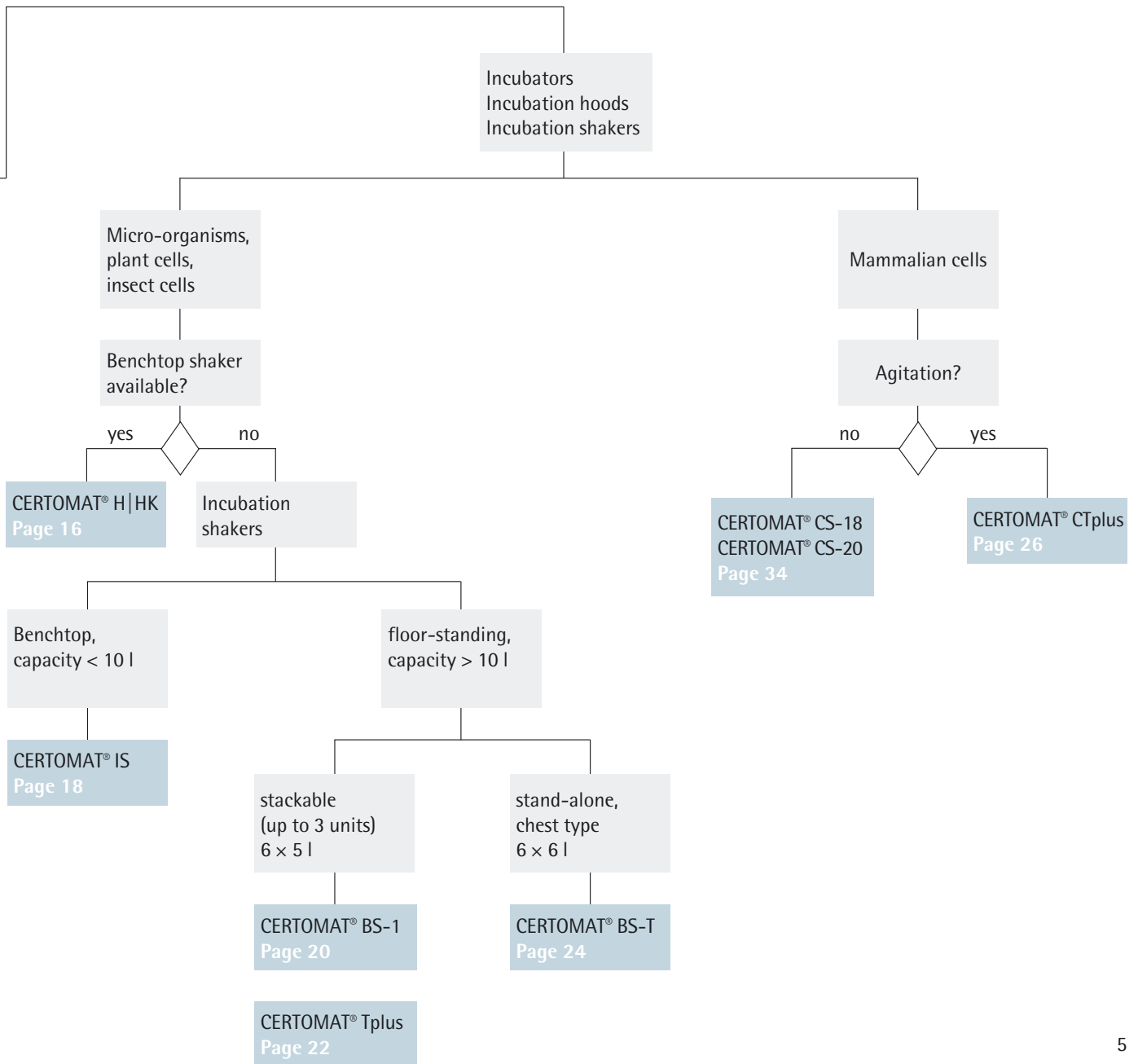
Sartorius Stedim Biotech is a leading provider of cutting-edge equipment and services for the development, quality assurance and production processes of the biopharmaceutical industry. Its integrated solutions covering fermentation, filtration, purification, fluid management and lab technologies are supporting the biopharmaceutical industry around the world to develop and produce drugs safely, timely and economically. Sartorius Stedim Biotech focuses on single-use technologies and value-added services to meet the rapidly changing technology requirements of the industry it serves. Strongly rooted in the scientific community and closely allied with customers and technology partners, the company is dedicated to its philosophy of "turning science into solutions".

Headquartered in Aubagne, France, Sartorius Stedim Biotech is listed on the Euronext Paris. With its own manufacturing and R&D sites in Europe, North America and Asia and a global network of sales companies, Sartorius Stedim Biotech enjoys a worldwide presence. Its key manufacturing and R&D site is in Germany.



Selection chart shakers and incubators







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, enamel-coated
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-eccentric 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, enamel-coated
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 (patented)

Technical specifications

Mechanical Data

Dimensions	W × H × D = 511 × 160 × 545 mm
Weight (without tray)	46 kg
Housing	Steel construction, enamel-coated
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

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.

Technical specifications

Mechanical Data

Dimensions	W × H × D = 480 × 100 × 520 mm
Weight (without tray)	40 kg
Housing	Steel construction, enamel-coated
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



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

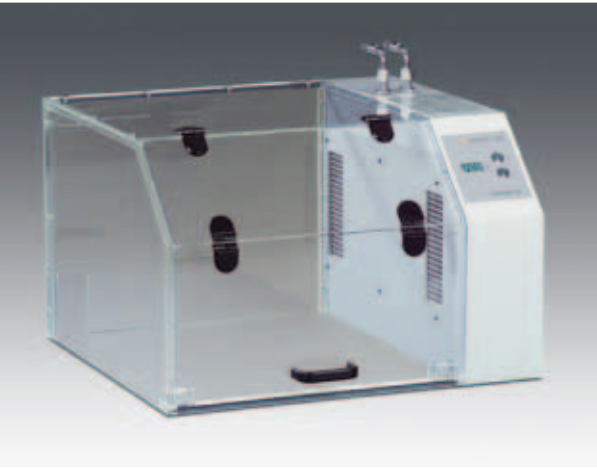
Dimensions	W × H × D = 480 × 130 × 520 mm
Weight (without tray)	52 kg
Housing	Steel construction, enamel-coated
Drive mechanism	Magnetic, triple eccentric drive
Trays, type size	Type E EU (420 × 420 mm) Type F FU (800 × 420 mm)
Tray fixation	Fixing lever
Max. load	20 kg
Protection	IP21

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 m³/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, enamel-coated, 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 ³ /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, various support frames 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	Enamel-coated 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 m ³ /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® Tplus

Stackable incubation shaker with interface for SCADA software

Benefits

- Touchscreen for easy operation
- interface for connection to SCADA software MFCS

Based on the construction of the CERTOMAT® BS-1 the model CERTOMAT® Tplus provides a sophisticated controller for extensive data communication with process control software, such as our MFCS/win process control software.

Three CERTOMAT® Tplus incubation shakers 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 twenty 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® Tplus is available with a choice of two shaking amplitudes and with integrated cooling. Further optional accessories are an illumination unit, various support frames 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® Tplus in validated processes are available.

Ordering information

CERTOMAT® Tplus version with
circulation | heating | cooling (UHK)

230 V | 50 Hz **BBI-8865906**
CERTOMAT® Tplus/25 mm

230 V | 50 Hz **BBI-8865922**
CERTOMAT® Tplus/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 = 1265 × 730 × 775 mm
Incubation chamber	W × H × D = 890 × 495 × 650 mm
Weight (without tray)	205 kg
Housing	Enamel-coated 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 -10°C to +70°C (UHK)
Setting display	7" VGA Display 16:9 with touchscreen
Programming	Up to 20 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 ³ /h
Ambient temperature	+10°C to +30°C
Humidity	Avoid extreme humidity

Data output

Analogue	For speed and temperature, 9-pin SUB-D socket, 0 to 10 V
Digital	Connection to SCADA software, e.g. MFCS/win or MFCS/DA, via ethernet. Allows remote control of the instrument
Collective alarm	Potential-free contact (closer or opener), max. 230 VAC (0,5 A Ohm load) via SUB-D socket "Analog Out" Pin 7/8/15 (see manual)



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	Enamel-coated 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 ³ /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



CERTOMAT® CTplus Incubation shaker designed for mammalian cells

Benefits

- optimized for mammalian cell culture
- controls CO₂ and humidity
- touchscreen controller
- stacks three units high with full speed
- up to 20 user-defined programs
- capacity 6 + 5 L flasks

The CERTOMAT® CTplus fulfils all requirements for the cultivation of mammalian cells. CO₂ concentration, temperature and humidity are kept constant due to advanced insulation and sealing. The encapsulation of the drive protects it against corrosion otherwise caused by the formation of carbonic acid from CO₂ and moisture. By avoiding heat dissipation to the chamber, this also warrants a very even temperature distribution across the whole tray. Heating system and chamber design have been optimized to reduce condensation. Smooth stainless steel surfaces made from Titanium-enriched steel ensure hygienic surfaces, which are easy to clean.

The CERTOMAT® CTplus uses a DCU-controller, wellknown from our BIOSTAT® fermenters, to control all operating parameters. Its touchscreen user interface makes entering setpoints and monitoring the unit's status very easy. If desired, the CERTOMAT® CTplus can be combined with our propiretary SCADA software MFCS/win.

Of course, the units can be stacked three units high without additional accessories. They also contain our patented variable mass compensation for reduced vibration.

Ordering information

CERTOMAT® CTplus version with circulation | heating (UH)

CERTOMAT® CTplus
Configure your CERTOMAT® CTplus with the configurator!

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 = 1265 × 730 × 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
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)
Setting display	Alphanumeric key pad, LCD
Programming	Up to 20 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 ³ /h
Ambient temperature	+10°C to +35°C (UH)
Humidity	Avoid extreme humidity

Data output

Analogue	For speed and temperature, 9-pin SUB-D socket, 0 to 10 V
Digital	Digital Input output (Ethernet) for all operating parameters. In combination with MFCS/win (option) allows full remote control of the instrument including recording of all operating parameters in real time.
Collective alarm	Potential-free contact (closer or opener), max. 230 VAC (0,5 A Ohm load) via SUB-D socket

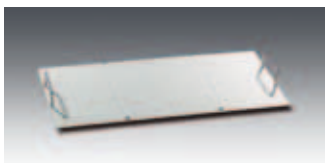
Accessories

	Page	CERTOMAT® MO II	CERTOMAT® S II	CERTOMAT® RM	CERTOMAT® R	CERTOMAT® U	CERTOMAT® H HK	CERTOMAT® IS	CERTOMAT® BS-1	CERTOMAT® BS-T	CERTOMAT® Tplus	CERTOMAT® CTplus
01 Universal tray type EU	30	■	■	■	■	■	■	■				
02 Universal tray type FU	30		■	■	■	■			■	■	■	■
03 Type E tray with steel clamps	30	■	■	■	■	■	■	■				
04 Type F tray with steel clamps	30		■	■	■	■			■	■	■	■
05 Universal Mounting system: Basic element type B-2 for EU tray	30	■	■	■	■	■	■	■				
06 Universal Mounting system: Basic element type B-3 for FU tray	30		■	■	■	■			■	■	■	■
07 Universal clamping rod type U for basic elements B-2 and B-3	30	■	■	■	■	■	■	■	■	■	■	■
08 Stainless steel clamps for Erlenmeyer and Fernbach flasks	31	■	■	■	■	■	■	■	■	■	■	■
09 Plastic clamps for Erlenmeyer flasks	31	■	■	■	■	■	■	■	■	■	■	■
10 Hinged racks for test tubes	31	■	■	■	■	■	■	■	■	■	■	■
11 Hinged racks for centrifuge tubes	31	■	■	■	■	■	■	■	■	■	■	■
12 Stainless steel holders for microtiter plates	32	■	■	■	■	■	■	■	■	■	■	■
13 Sticky tape for universal trays	32	■	■	■	■	■	■	■	■	■	■	■
14 Anti-skid layer for universal trays	32	■	■	■	■	■	■	■	■	■	■	■
15 Shaking flasks, DURAN, Erlenmeyer type, with 3 baffles, straight rim	32	■	■	■	■	■	■	■	■	■	■	■
16 Shaking flasks, DURAN, Erlenmeyer type, with 3 baffles, straight rim, conn. GL 14	32	■	■	■	■	■	■	■	■	■	■	■
17 Caps for Erlenmeyer flasks, straight rim	33	■	■	■	■	■	■	■	■	■	■	■
18 Shaking flasks, DURAN, Erlenmeyer type, with 3 baffles, narrow neck for plugs	33	■	■	■	■	■	■	■	■	■	■	■

	Page	CERTOMAT® MO II	CERTOMAT® S II	CERTOMAT® RM	CERTOMAT® R	CERTOMAT® U	CERTOMAT® H HK	CERTOMAT® IS	CERTOMAT® BS-1	CERTOMAT® BS-T	CERTOMAT® Tplus	CERTOMAT® CTplus
19 Illumination unit for CERTOMAT® BS-1	33								■			
20 Illumination unit for CERTOMAT® BS-T	33									■		
21 Grid for Petri dishes, stainless steel, adjustable height, for CERTOMAT® BS-1	33								■			
22 Darkening plates, stainless steel, for CERTOMAT® BS-1	33								■			
23 Support frame, welded steel construction, for CERTOMAT® BS-1/BS-T	33								■	■		
24 Installation kit for reference thermometer Pt100 for CERTOMAT® BS-1 BS-T	33								■	■		
25 Support frames for CERTOMAT® Tplus CTplus	33										■	■
26 Connection kit for second Pt1000 temperature sensor for CERTOMAT® CTplus	33								■	■		■

For details about our Sensolux® tray, please ask for our special information literature.

02|

**Reference****Description**

BBI-885 3002
BBI-885 3037

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

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

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

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

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|



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|



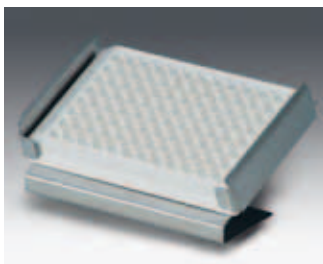
Reference	Description
	Hinged racks for test tubes (4 racks max. on tray EU, 8 racks max. on tray FU)
BBI-885 3134	for 64 tubes \varnothing 14 mm
BBI-885 3142	for 42 tubes \varnothing 16 mm
BBI-885 3150	for 36 tubes \varnothing 18 mm
BBI-885 3169	for 33 tubes \varnothing 20 mm
BBI-885 3185	for 18 tubes \varnothing 25 mm
BBI-885 3177	for 16 tubes \varnothing 30 mm

11|



Reference	Description
	Hinged racks for centrifugation tubes (4 racks max. on tray EU, 8 racks max. on tray FU)
BBI-885 3088	for 42 tubes \varnothing 16 mm, such as cell culture tubes 15 ml
BBI-885 3096	for 36 tubes \varnothing 18 mm
BBI-885 3193	for 33 tubes \varnothing 20 mm
BBI-885 3240	for 16 tubes \varnothing 30 mm, such as cell culture tubes 50 ml

12|

**Reference****Description**

BBI-885 0321

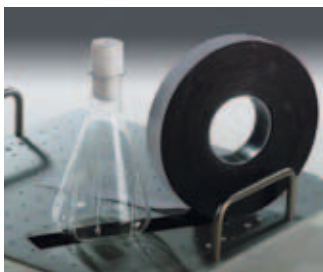
Holders for microtiter plates, stainless steel

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

BBI-8850038

Holder for 7 microtiter plates, plates to be placed in horizontal position, max. 6 holders on EU tray, 12 holders on FU tray

13|



BBI-886 4497

Sticky tape for universal trays

Standard, width 30 mm, roll of 50 m

BBI-886 0416

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

Anti-skid layer

BBI-886 4470

380×450 mm, for individual cut

15|



BBI-886 1005

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

Erlenmeyer flasks 300 ml, pack of 10

BBI-886 1013

Erlenmeyer flasks 500 ml, pack of 10

BBI-886 1021

Erlenmeyer flasks 1,000 ml, pack of 10

BBI-886 1022

Erlenmeyer flasks 2,000 ml, pack of 10

16|



BBI-886 1064

**Shaking flasks, DURAN, Erlenmeyer type,
3 baffles at 120°, straight rim, connector GL 14**

Erlenmeyer flasks 300 ml, pack of 10

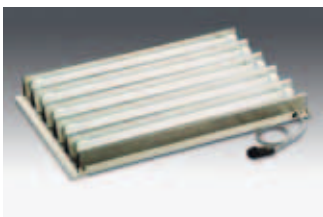
BBI-886 1072

Erlenmeyer flasks 500 ml, pack of 10

BBI-886 1080

Erlenmeyer flasks 1,000 ml, pack of 10

18|

19|
20|

Reference	Description
BBI-886 1099	Caps for Erlenmeyer flasks, straight rim Cap Aluminium, pack of 10
BBI-886 1102	Cap Stainless steel, pack of 10
BBI-886 0998	Shaking flasks, DURAN, Erlenmeyer type, 3 baffles at 120°, narrow neck for plug Erlenmeyer flasks 500 ml, pack of 10
BBI-886 1455	Illumination unit for CERTOMAT® BS-1, 5 × 18 W, individually activated, programmable, only in combination with cooling
BBI-886 1463	Illumination unit for CERTOMAT® BS-T, 5 × 18 W, individually activated, programmable, only in combination with cooling
BBI-886 1447	Grid for Petri dishes, stainless steel, adjustable height, for use in CERTOMAT® BS-1
BBI-886 4489	Support frame (for two CERTOMAT® BS-1), welded sectional frame construction, height-adjustable feet, height approx. 220 mm
BBI-885 4416	Installation set for reference thermometer (Pt100), for CERTOMAT® BS-1
BBI-8864403	Support frames (for CERTOMAT® Tplus or CTplus) Support frame, welded sectional frame construction, 220 mm high, for up to 2 units CERTOMAT® Tplus or CTplus
BBI-8864446	Support frame, welded sectional frame construction, 780 mm high, with 2 shelves, for one unit CERTOMAT® Tplus or CTplus
BBI-8850062	Connection kit for second Pt1000 temperature sensor for temperature recording in the incubation chamber, recommended for IQOQ

CERTOMAT® CS-18 and CS-20 CO₂ incubators for mammalian cells



Benefits

- stainless steel-copper alloy and UV prevent contamination
- air-jacketed
- auto-calibration for CO₂
- stacks two units high

The incubation chamber and all the shelves are made of polished stainless steel-copper alloy. In addition, a UV-lamp decontaminates the air inside whenever the door has been opened. Due to the special design the irradiation does not affect the cultures on the shelves. Thus these CO₂ incubators have been designed for reducing the risk of microbial contamination.

CO₂ concentrations of up to 20 % can be set. An auto-calibration routine makes sure that readings are precise. The temperature can be set between 5°C above ambient and +50°C.

The incubation chamber is heated directly with an air jacket. An inner glass door and an outer door made of galvanized steel with stove enamel coating effectively seal the chamber against the environment.

Ordering information

CERTOMAT® CS-18,
chamber volume 170 L, version with
circulation | heating (UH)

230 V | 50 Hz **BBI-8863385**

CERTOMAT® CS-20,
chamber volume 215 L, version with
circulation | heating | cooling (UHK)

230 V | 50 Hz **BBI-8863393**

NOTE:

Available in Europe only!

Technical specifications

Mechanical Data

Dimensions	W × H × D = CS-18: 620 × 900 × 710 mm; CS-20: 770 × 900 × 708 mm
Incubation chamber	W × H × D = CS-18: 490 × 665 × 523 mm; CS-20: 620 × 665 × 523 mm
Weight	CS-18: 93 kg, CS-20: 106 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
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

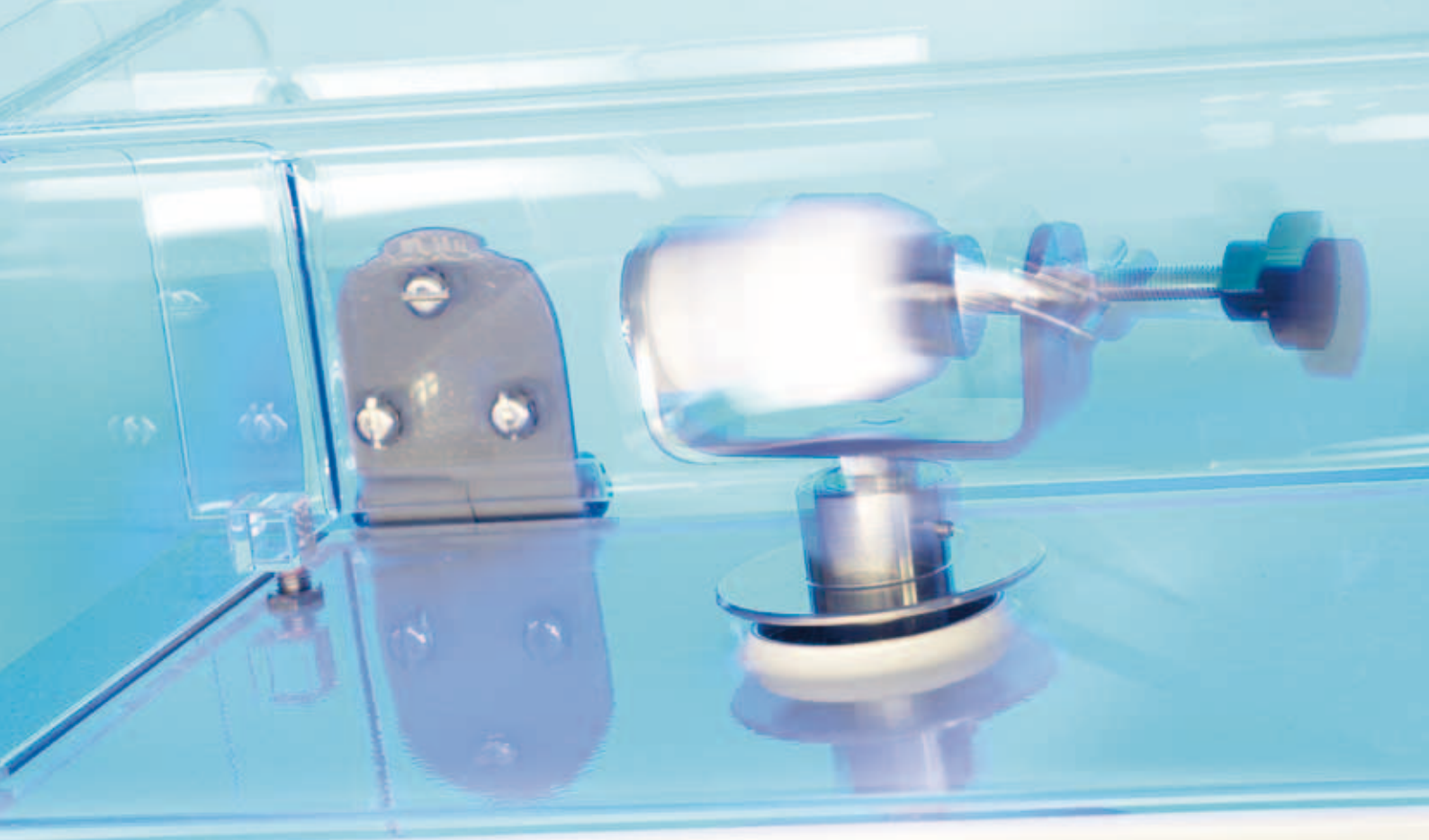
Mode of heating	direct heating with air jacket
Incubation temperature	5°C above ambient to +50°C
Controller accuracy	0.1°C
Temperature distribution	+/- 0.25°C
Trays	CS-18: 4 shelves included, CS-20: 5 shelves included
CO ₂ range	up to 20%
Humidification	water reservoir, with level sensor and bottom heater
Humidity level	95 % +/- 5 %
Memory function	Restart after power failure
Alarms	Acoustic and visual

Accessories

Reference	Description
BBI-8850801	HEPA filter for all CERTOMAT® CS units
BBI-8850828	Extra inner doors for CERTOMAT® CS-18 (6 separate inner doors)
BBI-8850836	Extra inner doors for CERTOMAT® CS-20 (6 separate inner doors)
BBI-8850844	lock for CERTOMAT® CS-18
BBI-8850852	lock for CERTOMAT® CS-20
BBI-8850860	rollerbase for CERTOMAT® CS-18
BBI-8850879	rollerbase for CERTOMAT® CS-20
BBI-8850887	Stacking device for stacking CERTOMAT® CS-18 on CERTOMAT® CS-20
BBI-8850895	UV install kit for CERTOMAT® CS-18
BBI-8850909	UV lamp kit for CERTOMAT® CS-18 and CS-20
BBI-8850917	switching over kit for CO ₂ cylinders (for CERTOMAT® CS-18 and CS-20)
BBI-8850925	extra shelf for CERTOMAT® CS-18
BBI-8850933	extra shelf for CERTOMAT® CS-20
BBI-8850941	1/2 tray for CERTOMAT® CS-18, set of 2
BBI-8850950	stacking plate

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 its high shaking frequency of up to 3000 min^{-1} , 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^{-1} 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, enamel-coated
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 Mikro-Dismembrator S	100 to 2.600 1/min (permanent) 100 to 3.000 1/min (intermittent)
Shaking frequency Mikro-Dismembrator U	100 to 2.000 1/min
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

01|



Reference

Description

-
- Shaking flasks made of stainless steel 1.4301**
- 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
-

02|



- Shaking flasks made of PTFE**
- 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!
-

- Shaking flasks made of PTFE**
- 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!
-

03|



- Containers for disposable tubes, holder**
- 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)
-

04|



- Special accessories**
- 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

05|



Reference	Description
	Grinding balls
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
	Glass beads
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⁽¹⁾ using a flow cell.

⁽¹⁾ depending on the application

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 ² 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) ⁽¹⁾
Probes made of Titanium, normal length		
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
Probes made of Titanium, double length		
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

⁽¹⁾ depending on the application

02|

**Reference****Description**

Reference	Description
Accessories for sonication in a flow cell	
BBI-853 5663	Probe Ø 7 mm, for flow cell 853 5728, approx. 80 mm long
BBI-853 5701	Probe Ø 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
Further accessories	
BBI-853 5280	Clamp STH-16 (included with LABSONIC® M)
BBI-853 5272	Stand ST-16, Ø 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⁽¹⁾ can be sonicated in batch mode, whereas 10 to 50 L/h can be processed in continuous mode using a flow cell.

Sonation 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.

⁽¹⁾ depending on the application

Benefits

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

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.

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 ² 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

Accessories

01|



Reference	Description	For sample volume (ml) ⁽¹⁾
Probes made of Titanium, normal length		
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) ⁽¹⁾
Accessories for sonication in a flow cell		
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	

⁽¹⁾ depending on the application

03|



Reference

Description

BBI-853 5272

Further accessories

Stand ST-16, \varnothing 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, enamel-coated
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|



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

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

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

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

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