CERTOMAT® BS-1

Programmable incubation shaking cabinet

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The CERTOMAT® BS-1 offers large space on a small footprint for all labs in microbiology, molecular biology, biochemistry as well as plant physiology and others.

The innovative programming of temperature, shaking speed and light is done via membrane key pad in real time. Up to 5 programms with 5 steps each can be stored password protected.

All actual values are shown on a 4 line 20 character alphanumeric LCD display.

Safety even in case of power failure: time and length are recorded and shown as alert on the display. The memory function stores the last set points and re-installs them after power failure.

Continuous recording for documentation of all parameters by analog output is possible.

Two shaking amplitudes of 25 mm and 50 mm are convertible.

The patented adjustable mass compensation enables high speed with high load and stands for a quiet run.

The interior is made of polished stainless steel (1.4301) and thus can easily be kept in hygienic clean conditions.

A standard stainless steel spill tray collects spilled liquid. The clip-in tray fixation is done in one motion and needs no further action.

The built-in optional cooling unit enables incubation temperatures below ambient. An optional illumination unit allows the cultivation of phototrophic organisms.

The innovative programming allows individual run of temperature, shaking speed and light. Start of the incubation program after a period of delay with cooling can be realized.

Additional shaking capacity is created by stacking the units. Without any additional equipment, up to three units can be stacked and run individually.

Benefits

Stackable up to three units

Individual programming of all parameters

Reproducible process safety

Reliable drive with adjustable mass compensation

Power failure is indicated with length and time

Continuous recording for documentation is standard

Adjustable mass compensation for high speed at maximum load

Stainless steel spill tray for more safety

Fast and easy tray fixation

Built-in cooling unit optional

Orbit 25 mm and 50 mm, can be converted later

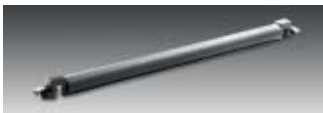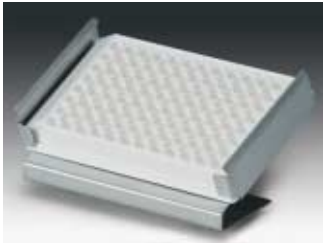Illumination unit optional

Accepts 5 liter flasks

Accessories

Reference	Description
886 1455	Illumination unit for CERTOMAT® BS-1, 5×18 W, individually activated, programmable, only in combination with cooling
886 4489	Support frame (for CERTOMAT® BS-T or two CERTOMAT® BS-1), welded sectional frame construction, height-adjustable feet
886 1471	Grid for Petri dishes, stainless steel, adjustable height, for use in CERTOMAT® BS-1
885 4416	Installation set for reference thermometer (Pt100), for CERTOMAT® BS-1 and CERTOMAT® BS-T

Tray type F (800×420 mm) equipped with stainless steel clamps

Reference	Description
885 3738	74 clamps inox for flasks 100 ml
885 3762	40 clamps inox for flasks 250 ml
885 3789	26 clamps inox for flasks 500 ml
885 3800	15 clamps inox for flasks 1,000 ml

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

Reference	Description
885 3037	Type FU (800×420 mm)

Stainless steel clamps, capacity for tray type FU

Reference	Description
885 4505	for Erlenmeyer flasks 25 ml (max. 98)
885 4513	for Erlenmeyer flasks 50 ml (max. 96)
885 4521	for Erlenmeyer flasks 100 ml (max. 48)
885 4556	for Erlenmeyer flasks 250 ml (max. 39)
885 4572	for Erlenmeyer flasks 500 ml (max. 26)
885 4599	for Erlenmeyer flasks 1,000 ml (max. 17)
885 4610	for Erlenmeyer flasks 2,000 ml (max. 9)
885 4629	for Erlenmeyer flasks 3,000 ml (max. 8)
885 4637	for Erlenmeyer flasks 5,000 ml (max. 6)
885 4564	for Fernbach flasks of 450 ml (max. 15)
885 4600	for Fernbach flasks of 1,800 ml (max. 6)
885 4640	for Fernbach flasks of 2,800 ml (max. 6)

Plastic clamps reinforced with glass fibre

Reference	Description
885 4700	for Erlenmeyer flasks 100 ml (max. 48)
885 4711	for Erlenmeyer flasks 250 ml (max. 39)
885 4722	for Erlenmeyer flasks 500 ml (max. 26)
885 4733	for Erlenmeyer flasks 1,000 ml (max. 17)

Hinged racks for test tubes
(8 racks max.)

Reference	Description
885 3134	for 64 tubes ∅ 14 mm
885 3142	for 42 tubes ∅ 16 mm
885 3150	for 36 tubes ∅ 18 mm
885 3169	for 33 tubes ∅ 20 mm
885 3185	for 18 tubes ∅ 25 mm
885 3177	for 16 tubes ∅ 30 mm

Hinged racks for centrifugation tubes
(8 racks max.)

Reference	Description
885 3088	for 42 tubes ∅ 16 mm
885 3096	for 36 tubes ∅ 18 mm
885 3193	for 33 tubes ∅ 20 mm
885 3240	for 16 tubes ∅ 30 mm

Reference	Description
	Holders for microtiter plates, stainless steel
885 0321	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
	Sticky tape for universal trays
886 4497	Standard, roll of 50 m, 30×1 mm
886 0416	Premium, roll of 10 m, 30×1 mm, repeated use
886 4470	Anti-skid layer, 380×450 mm, for individual cut
	Universal mounting system
885 4246	Basic element B–3 for tray FU
885 4254	Clamping rod, type U for mounting systems B–2 and B–3
	Mounting system for separation funnels (for use with type FU, in combination with type B–3 basic element)
885 4262	Type S–1 for 5 separatory funnels 50 and 100 ml
885 4270	Type S–2 for 3 separatory funnels 250, 500 and 1,000 ml
	Shaking flasks, DURAN, Erlenmeyer type, 3 baffles at 120°, straight rim
886 1005	Erlenmeyer flasks 300 ml, pack of 10
886 1013	Erlenmeyer flasks 500 ml, pack of 10
886 1021	Erlenmeyer flasks 1,000 ml, pack of 10
886 1022	Erlenmeyer flasks 2,000 ml, pack of 10
	Shaking flasks, DURAN, Erlenmeyer type, 3 baffles at 120°, straight rim, connector GL 14
886 1064	Erlenmeyer flasks 300 ml, pack of 10
886 1072	Erlenmeyer flasks 500 ml, pack of 10
886 1080	Erlenmeyer flasks 1,000 ml, pack of 10
	Caps for Erlenmeyer flasks, straight rim
886 1099	Cap Aluminium, pack of 10
886 1102	Cap Stainless steel, pack of 10
	Shaking flasks, DURAN, Erlenmeyer type, 3 baffles at 120°, narrow neck for plug
886 0998	Erlenmeyer flasks 500 ml, pack of 10

Technical Data

Ordering information

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

230 V/50 Hz	886 5027	CERTOMAT® BS-1/25 mm
230 V/50 Hz	886 5124	CERTOMAT® BS-1/50 mm
115 V/60 Hz	886 5035	CERTOMAT® BS-1/25 mm
115 V/60 Hz	886 5132	CERTOMAT® BS-1/50 mm

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

230 V/50 Hz	886 5221	CERTOMAT® BS-1/25 mm
230 V/50 Hz	886 5329	CERTOMAT® BS-1/50 mm
115 V/60 Hz	886 5230	CERTOMAT® BS-1/25 mm
115 V/60 Hz	886 5337	CERTOMAT® BS-1/50 mm

Technical data

Mechanical	Shaking speed:	40 to 400 rpm
	Accuracy:	±1% of max. value
	Mode:	orbital
	Amplitude:	25 mm or 50 mm
	Motor:	brushless motor
	Drive:	triple eccentric bearing, variable mass compensation
	Control:	via microprocessor
	Stackable:	up to three units without speed reduction
Temperature	Temperature range:	ambient +8 °C to +70 °C
	Version with cooling:	ambient –10 °C to +70 °C
	Air circulation:	ca. 180 m^3/h
Trays	Recommended trays:	Type F/FU (420×800 mm)
	Maximal load:	All trays with accessories out of Sartorius-program
	Tray fixation:	Spring-clip snap mechanism
Programming	Parameters:	Speed, temperature, illumination (option)
	Timing:	date, hour, minute
	Programs:	up to 5 programs, with cycling
	Indication:	LCD, alphanumeric, 4 lines, 20 characters
Safety	Memory:	Restart after power failure
	Alarms:	acoustic and shown on LCD
	Safety class:	IP 21
Environmental conditions	Admissible temperature:	from +10 °C to +45 °C
		up to +32 °C with cooling mode
	Relative humidity:	from 10% to 90%, not condensing
Documentation	Analog out:	for speed and temperature 0–10 V, optional 0/4–20 mA
	Digital out:	RS232
Electric	Power supply:	230 V/50 Hz
	Heating capacity:	650 W
	Cooling capacity:	500 W
Dimensions	External (W × H × D):	1150×720×770 mm
	Internal (W × H × D):	890×495×650 mm
	Weight (without tray):	195 kg

All models are delivered without tray and other accessories.

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

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