

PST-60HL, Plate Shaker-Thermostat

Premium Product Class

DESCRIPTION

Plate Thermo-Shakers are designed for shaking and thermostating 2 standard 96-well microplates.

A multisystem principle, used in design of the Thermo–Shaker, allows operating it as 3 independent devices:

- Incubator;
- Microplate shaker;
- Thermo-Shaker.

A distinctive feature of Biosan Plate Thermo–Shakers is thepatented by the company Two–Side Microplates Heating, which allows to achieve full correspondence of the set and actual temperature in the microplate wells.

Thermo-shaker provides heating up to 60°C, which is sufficient for carrying out ELISA tests.

Plate Shaker-Thermostat provides:

- Soft or intensive sample shaking
- Rotation speed regulation, stabilization and indication
- Even rotation amplitude throughout the Thermo-Shaker platform
- Required operation time setting and indication
- Automatic stopping of the platform movement after expiration of the set time
- Setting and indication of the required temperature on the platform
- Automatic fault diagnostics (temperature sensor, platform heating, lid heating etc.)

Application fields:

- Cytochemistry for in situ reactions
- Immunochemistry for immunofermentative reactions
- Biochemistry for enzyme and protein analysis
- Molecular biology for micro array analysis

Temperature Calibration Function

With the help of the temperature calibration function the user can calibrate the unit approx. ±6% of the selected temperature to compensate differences in the thermal behaviour of plates from different manufacturers.



CAT. NUMBER

BS-010119-AAI	230VAC 50/60Hz Euro plug
BS-010119-AAQ	230VAC 50/60Hz UK plug
BS-010119-AA4	230VAC 50/60Hz AU plug
BS-010119-AAJ	100VAC 50/60Hz US plug, 120VAC 60Hz US plug
BS-010119-BK	IQ OQ document
BS-010119-CK	PQ document

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Temperature setting range	+25°C +60°C
Temperature control range	+5°C above ambient +60°C
Temperature setting resolution	0.1°C
Temperature stability	±0.1°C
Temperature uniformity at +37°C	±0.25°C
Temperature calibration coefficient range	0.9361.063 (± 0.063)
Heating	Patented two-side microplate heating
Speed control range	250–1200 rpm (increment 10 rpm)
Digital time setting	1 min–96 hrs / non–stop (increment 1 min)
Timer sound signal	+
Orbit	2 mm
Display	LCD, 16 x 2 signs
Maximum continuous operation time	168 h
Max. height of microtest plate	18 mm
Number of microtest plates	2
Platform dimensions (w x d)	250 x 150 mm
Overall dimensions (W×D×H)	270 x 260 x 125 mm
Weight	6.1 kg
Input current/power consumption	12 V DC, 3.3 A / 40 W
External power supply	Input AC 100–240 V; 50/60 Hz; Output DC 12 V

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PST-60HL-4, Plate Shaker-Thermostat

DESCRIPTION

Plate Thermo-Shakers are designed for shaking and thermostating 4 standard 96-well microplates.

A multisystem principle, used in design of the Thermo–Shaker, allows operating it as 3 independent devices:

- Incubator;
- Microplate shaker;
- Thermo-Shaker.

A distinctive feature of Biosan Plate Thermo–Shakers is thepatented by the company Two–Side Microplates Heating, which allows to achieve full correspondence of the set and actual temperature in the microplate wells.

Thermo-shaker provides heating up to 60°C, which is sufficient for carrying out ELISA tests.

Plate Shaker-Thermostat provides:

- Soft or intensive sample shaking
- Rotation speed regulation, stabilization and indication
- Even rotation amplitude throughout the Thermo-Shaker platform
- Required operation time setting and indication
- Automatic stopping of the platform movement after expiration of the set time
- Setting and indication of the required temperature on the platform
- Automatic fault diagnostics (temperature sensor, platform heating, lid heating etc.)
- Spring clamps

Application fields:

- Cytochemistry for in situ reactions
- Immunochemistry for immunofermentative reactions
- Biochemistry for enzyme and protein analysis
- Molecular biology for micro array analysis

Temperature Calibration Function

With the help of the temperature calibration function the user can calibrate the unit approx. ±6% of the selected temperature to compensate differences in the thermal behaviour of plates from different manufacturers.





CAT. NUMBER

BS-010128-AAI	230VAC 50/60Hz Euro plug
BS-010128-AAQ	230VAC 50/60Hz UK plug
BS-010128-AA4	230VAC 50/60Hz AU plug
BS-010128-AAJ	100VAC 50/60Hz US plug, 120VAC 60Hz US plug
BS-010128-AK	IQ OQ document
BS-010128-BK	PQ document

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Temperature setting range	+25°C +60°C
Temperature control range	+5°C above ambient +60°C
Temperature setting resolution	0.1°C
Temperature stability	±0.1°C
Temperature uniformity at +37°C	±0.25°C
Temperature calibration coefficient range	0.9361.063 (± 0.063)
Heating	Patented two-side microplate heating
Speed control range	250–1200 rpm (increment 10 rpm)
Digital time setting	1 min–96 hrs / non–stop (increment 1 min)
Timer sound signal	+
Orbit	2 mm
Display	LCD, 16 x 2 signs
Maximum continuous operation time	168 h
Max. height of microtest plate	18 mm
Number of microtest plates	4
Platform dimensions (w x d)	290 x 210 mm
Overall dimensions (W×D×H)	380 x 390 x 140 mm
Weight	8.8 kg
Input current/power consumption	12 V DC, 4.15 A / 50 W
External power supply	Input AC 100–240 V; 50/60 Hz; Output DC 12 V

PST-60HL-4, Plate Shaker-Thermostat

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PST-100HL, Plate Shaker-Thermostat

Premium Product Class

DESCRIPTION

Plate Thermo-Shakers are designed for shaking and thermostating 2 standard 96-well microplates.

A multisystem principle, used in design of the Thermo–Shaker, allows operating it as 3 independent devices:

- Incubator;
- Microplate shaker;
- Thermo-Shaker.

A distinctive feature of Biosan Plate Thermo–Shakers is thepatented by the company Two–Side Microplates Heating, which allows to achieve full correspondence of the set and actual temperature in the microplate wells.

Thermo-shaker **PST-100HL** with the ability to stabilize the temperature up to 100 ° C is specially designed for the hybridization reactions.

Plate Shaker-Thermostat provides:

- Soft or intensive sample shaking
- Rotation speed regulation, stabilization and indication
- Even rotation amplitude throughout the Thermo-Shaker platform
- Required operation time setting and indication
- Automatic stopping of the platform movement after expiration of the set time
- Setting and indication of the required temperature on the platform

Application fields:

- Cytochemistry for in situ reactions
- Immunochemistry for immunofermentative reactions
- Biochemistry for enzyme and protein analysis
- Molecular biology for micro array analysis



CAT. NUMBER

BS-010142-AAI	230VAC 50/60Hz Euro plug
BS-010142-AAQ	230VAC 50/60Hz UK plug
BS-010142-AA4	230VAC 50/60Hz AU plug
BS-010142-AAJ	100VAC 50/60Hz US plug, 120VAC 60Hz US plug
BS-010142-AK	IQ OQ document
BS-010142-BK	PQ document

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Temperature setting range	+25°C +100°C
Temperature control range	+5°C above ambient +100°C
Temperature setting resolution	0.1°C
Temperature stability	±0.1°C
Temperature uniformity at +37°C	±0.2°C
Heating	Patented two-side microplate heating
Speed control range	250–1200 rpm (increment 10 rpm)
Digital time setting	1 min–96 hrs / non–stop (increment 1 min)
Timer sound signal	+
Orbit	2 mm
Display	LCD, 16 x 2 signs
Maximum continuous operation time	168 h
Max. height of microtest plate	18 mm
Number of microtest plates	2
Platform dimensions (w x d)	250 x 150 mm
Overall dimensions (W×D×H)	270 x 260 x 125 mm
Weight	5.9 kg
Input current/power consumption	12 V, 5 A / 60 W
External power supply	Input AC 100–240 V; 50/60 Hz; Output DC 12 V

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TS-100, Thermo-Shaker for microtubes and PCR plates



DESCRIPTION

Thermo–Shaker TS-100 provides intensive mixing and temperature control of samples in microtest tubes or PCR plate. Functions of heating (up to +100°C) and mixing can be performed both simultaneously and independently, i.e. the unit implements three devices in one:

- 1. Shaker;
- 2. Dry-block Thermostat;
- 3. Thermo-Shaker.

TS-100 is used for DNA analysis sample preparation, for extraction of proteins, polysaccharides, lipids and other cellular components. Features of **TS-100** meet the increased requirements of the user, including:

- Quickly reaches the set mixing speed and maintains same amplitude of rotation around the block;
- Stable maintenance of the temperature of a wide range over the entire surface of the block;
- LCD display shows the set and actual temperature, speed and time;
- Quiet engine operation, compact size, long service life.

Heating source is a printed heating board (12 V). Mixing is provided by movement of orbital type.

The instrument is applicable in:

- Genetic analysis in extraction of DNA, RNA and further sample preparation;
- Biochemical study of enzymatic reactions and processes;
- Extraction of metabolites from cellular material.

Temperature Calibration Function

With the help of the temperature calibration function the user can calibrate the unit approx. $\pm 6\%$ of the selected temperature to compensate differences in the thermal behaviour of tubes from different manufacturers.



Without thermoblock	Without thermoblock
BS-010120-AAI	230VAC 50/60Hz Euro plug
BS-010120-AAQ	230VAC 50/60Hz UK plug
BS-010120-AA4	230VAC 50/60Hz AU plug
BS-010120-AAJ	100VAC 50/60Hz US plug, 120VAC 60Hz US plug
BS-010120-HK	IQ OQ document
BS-010120-IK	PQ document

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Temperature setting range	+25°C +100°C
Temperature control range	+5°C above ambient +100°C
Temperature setting resolution	0.1°C
Temperature stability	±0.1°C
Temperature accuracy at +37°C	±0.5°C
Average heating speed from +25°C to +100°C	4°C/min
Temperature uniformity over the block at +37°C	±0.1°C
Temperature uniformity over the block at +100°C	±0.2°C
Temperature calibration coefficient range	0.9361.063 (± 0.063)
Speed control range	250-1400 rpm
Digital time setting	1 min-96 hrs / non-stop (increment 1 min)
Timer sound signal	+
Orbit	2 mm
Display	LCD, 16 x 2 signs
Microprocessor controlled temperature, mixing speed and operation time	+
Maximum continuous operation time	168 h
Overall dimensions (W×D×H)	220x240x90 mm
Weight	3.7 kg
Input current/power consumption	12 V, 3.5 A / 42 W
External power supply	Input AC 100–240 V; 50/60 Hz; Output DC 12 V

ACCESSORIES



SC-18 BS-010120-AK block

 $20 \times 0.5 \text{ ml} + 12 \times 1.5 \text{ ml}$ microtubes



SC-18/02 BS-010120-CK block

 20×0.2 ml microtubes + 12×1.5 ml microtubes



SC-24N BS-010120-GK block

24 x 1.5 ml microtubes



SC-24 BS-010120-EK block

24 × 2 ml microtubes



SC-96A BS-010120-FK block

96-well unskirted or semiskirted microplate (0.2 ml) for PCR or 12 × 8 - 0.2ml strips or 96 tubes of 0.2 ml.



TS-100C Smart, Thermo-Shaker with cooling for microtubes and PCR plates





Thermo–Shaker TS-100C Smart provides intensive mixing and temperature control of samples in microtest tubes or PCR plate. This model of Thermo–Shaker differs from TS-100 with a possibility of cooling samples down to +4°C and with control up to 7 units from PC via Bluetooth[®] technology. Features of TS-100C Smart meet the highest expectations of users according to many parameters:

- 1. Fast reaching of specified mixing speed and maintenance of equal amplitude of rotation throughout the Thermo–Shaker block;
- 2. Stability of maintaining the preset temperature in a wide range throughout the Thermo–Shaker's block surface:
- 3. LCD display indicates preset and current values of temperature, speed and time of operation;
- 4. Quiet motor operation, compact size, prolonged service life.

Functions of heating and mixing can be performed both simultaneously and independently.

There are five heating and cooling blocks available, including a block with a plastic lid for the PCR-plates. All blocks are mutually interchangeable and can be easily installed on Thermo—Shaker.

The instrument is applicable in:

- Genetic analysis in extraction of DNA, RNA and further sample preparation;
- Biochemical study of enzymatic reactions and processes;
- Extraction of metabolites from cellular material.

Temperature Calibration Function

With the help of the temperature calibration function the user can calibrate the unit approx. ±6% of the selected temperature to compensate differences in the thermal behaviour of tubes from different manufacturers.

TS-100C Smart software features

- Rotation speed
- Temperature
- Time
- Sound signal
- · Creating Profiling programs using controlled parameters
- Visualization of temperature vs time and speed vs time graphs
- Data export to Excel and CSV formats
- Error messages/Fault diagnostics



	Software included, without thermoblock
BS-010171-A01	230VAC 50/60Hz Euro plug
BS-010171-A02	230VAC 50/60Hz UK plug
BS-010171-A03	230VAC 50/60Hz AU plug
BS-010171-A04	100-240VAC 50/60Hz US plug

Temperature setting range	+4°C +100°C
Temperature control range	15°C below ambient +100°C
Temperature setting resolution	0.1°C
Temperature stability	±0.1°C
Temperature accuracy at +37°C	±0.5°C
Average heating speed from +25°C to +100°C	5°C/min
Average cooling speed from +100°C to +25°C	5°C/min
Average cooling speed from +25°C to +4°C	1.8°C/min
Temperature uniformity over the block at +4°C	±0.6°C
Temperature uniformity over the block at +37°C	±0.1°C
Temperature uniformity over the block at +100°C	±0.3°C
Temperature calibration coefficient range	0.9361.063 (± 0.063)
Speed control range	250-1400 rpm
Digital time setting	1 min–96 hrs / non–stop (increment 1 min)
Timer sound signal	+
Orbit	2 mm
Display	LCD, 16 x 2 signs
Microprocessor controlled temperature, mixing speed and operation time	+
Maximum continuous operation time	168 h
PC system requirements	Intel/AMD Processor, 1 GB RAM, Windows Vista/7/8/8.1/10/11, USB, Bluetooth
Overall dimensions (W×D×H)	220x240x90 mm
Weight	3.7 kg
Input current/power consumption	12 V, 4.9 A / 60 W
External power supply	Input AC 100–240 V; 50/60 Hz; Output DC 12 V

ACCESSORIES



SC-18C BS-010143-AK block

 $20 \times 0.5 \text{ ml} + 12 \times 1.5 \text{ ml}$ microtubes



SC-18/02C BS-010143-CK block

 20×0.2 ml microtubes + 12×1.5 ml microtubes



SC-24NC BS-010143-GK block

24 x 1.5 ml microtubes



SC-24C BS-010143-EK block

24 × 2 ml microtubes



SC-96AC BS-010143-FK block

96-well unskirted or semiskirted microplate (0.2 ml) for PCR or 12×8 - 0.2ml strips or 96 tubes of 0.2 ml.



TS-100C, Thermo-Shaker with cooling for microtubes and PCR plates



DESCRIPTION

Thermo–Shaker **TS-100C** provides intensive mixing and temperature control of samples in microtest tubes or PCR plate. This model of Thermo–Shaker differs from TS-100 with a possibility of cooling samples down to +4°C. Features of **TS-100C** meet the highest expectations of users according to many parameters:

- Fast reaching of specified mixing speed and maintenance of equal amplitude of rotation throughout the Thermo–Shaker block;
- 2. Stability of maintaining the preset temperature in a wide range throughout the Thermo–Shaker's block surface:
- 3. LCD display indicates preset and current values of temperature, speed and time of operation;
- 4. Quiet motor operation, compact size, prolonged service life.

Functions of heating and mixing can be performed both simultaneously and independently.

There are five heating and cooling blocks available, including a block with a plastic lid for the PCR-plates. All blocks are mutually interchangeable and can be easily installed on Thermo—Shaker.

The instrument is applicable in:

- Genetic analysis in extraction of DNA, RNA and further sample preparation;
- Biochemical study of enzymatic reactions and processes;
- Extraction of metabolites from cellular material.

Temperature Calibration Function

With the help of the temperature calibration function the user can calibrate the unit approx. ±6% of the selected temperature to compensate differences in the thermal behaviour of tubes from different manufacturers.



Without thermoblock	Without thermoblock
BS-010143-AAI	230VAC 50/60Hz Euro plug
BS-010143-AAQ	230VAC 50/60Hz UK plug
BS-010143-AA4	230VAC 50/60Hz AU plug
BS-010143-AAJ	100VAC 50/60Hz US plug, 120VAC 60Hz US plug
BS-010143-HK	IQ OQ document
BS-010143-IK	PQ document

Temperature setting range	+4°C +100°C
Temperature control range	15°C below ambient +100°C
Temperature setting resolution	0.1°C
Temperature stability	±0.1°C
Temperature accuracy at +37°C	±0.5°C
Average heating speed from +25°C to +100°C	5°C/min
Average cooling speed from +100°C to +25°C	5°C/min
Average cooling speed from +25°C to +4°C	1.8°C/min
Temperature uniformity over the block at +4°C	±0.6°C
Temperature uniformity over the block at +37°C	±0.1°C
Temperature uniformity over the block at +100°C	±0.3°C
Temperature calibration coefficient range	0.9361.063 (± 0.063)
Speed control range	250-1400 rpm
Digital time setting	1 min—96 hrs / non—stop (increment 1 min)
Timer sound signal	+
Orbit	2 mm
Display	LCD, 16 x 2 signs
Microprocessor controlled temperature, mixing speed and operation time	+
Maximum continuous operation time	168 h
Overall dimensions (W×D×H)	220x240x90 mm
Weight	3.7 kg
Input current/power consumption	12 V, 4.9 A / 60 W
External power supply	Input AC 100–240 V; 50/60 Hz; Output DC 12 V

ACCESSORIES



SC-18C BS-010143-AK block

 $20 \times 0.5 \text{ ml} + 12 \times 1.5 \text{ ml}$ microtubes



SC-18/02C BS-010143-CK block

 20×0.2 ml microtubes + 12×1.5 ml microtubes



SC-24NC BS-010143-GK block

24 x 1.5 ml microtubes



SC-24C BS-010143-EK block

24 × 2 ml microtubes



SC-96AC BS-010143-FK block

96-well unskirted or semiskirted microplate (0.2 ml) for PCR or 12×8 - 0.2ml strips or 96 tubes of 0.2 ml. Phone:+37167426137



TS-DW, Thermo—Shaker for deep well plates



DESCRIPTION

TS-DW Thermo—Shaker is designed for shaking and incubating deep well plates.

A multisystem principle, used in the design of the Thermo-Shaker, allows operating it as 3 independent devices: Incubator, Plate shaker and Thermo–Shaker.

TS-DW provides excellent temperature uniformity across the plate due to patented two-sided heating of the block and the lid, contour heating of the block and close proximity of heating elements to plate walls.

There is a number of interchangeable blocks to suit different plates such as Eppendorf® 96/1000 μ l, Sarstedt® Megablock 96/2200 μ l, Porvair® 96/2000 μ l, Axygen® 96/2200 μ l. Also we can manufacture a customized block on request.

Deep Well Plate Thermo-Shaker provides:

- Soft or intensive sample shaking
- Rotation speed regulation, stabilization and indication
- Even rotation amplitude throughout the Thermo-Shaker platform
- Exceptional temperature uniformity across the plate
- Required operation time setting and indication
- Automatic stopping of the platform movement after expiration of the set time
- Setting and indication of the required temperature on the platform
- A variety of changeable blocks that can accommodate most popular deepwell plates
- Automatic fault diagnostics (temperature sensor, platform heating, lid heating etc.)

Application fields:

- Cytochemistry for in situ reactions
- Immunochemistry for immunofermentative reactions
- Biochemistry for enzyme and protein analysis
- Molecular biology for nucleic acid extraction

Separate blocks to accommodate different deepwell plates will be released. For example:

Deep Well Plates NUNC® 96/2000 µl Deep Well Eppendorf® 96/0.5 ml

The block for deepwell plate is mountable, thus a custom plate module can be manufactured on request

Temperature Calibration Function

With the help of the temperature calibration function the user can calibrate the unit approx. ±6% of the selected temperature to compensate differences in the thermal behaviour of plates from different manufacturers.



Without thermoblock	Without thermoblock
BS-010159-A02	230VAC 50/60Hz Euro plug
BS-010159-A03	230VAC 50/60Hz UK plug
BS-010159-A05	230VAC 50/60Hz AU plug
BS-010159-A04	100VAC 50/60Hz US plug, 120VAC 60Hz US plug
BS-010159-GK	IQ OQ document
BS-010159-HK	PQ document

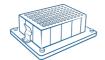
+25°C +100°C ambient +100°C 0.1°C ±0.1°C* ±0.5°C*
0.1°C ±0.1°C*
±0.1°C*
±0.5°C*
6 min*
-
361.063 (± 0.063)
250-1400 rpm
(1 min increment)
+
2 mm
LCD, 16 x 2 signs
40 x 260 x 160 mm
5.1 kg
3.1 118
12 V, 4.8 A / 58 W

ACCESSORIES



B-2E BS-010159-AK block

Block for one deep-well plate Eppendorf® 96/1000 μl -Cat.No. 0030505204, 0030506200. 0030502205



B-05E BS-010159-QK block

Block for one deep-well plate Eppendorf® 96/500 µl -Cat.No. 0030501101



B-2A BS-010159-FK block

Block for one deep-well plate Axygen® 96/2200 µl - Cat.No. P-2ML-SQ-C



B-06A BS-010159-KK block

B-06A block for one deep-well plate Axygen® 96/600 µl -Cat.No. P-DW-500C



B-2S BS-010159-CK block

Block for one deep-well plate Sarstedt® Megablock 96/2200 µl - Cat.No. 82.1972.002



B-08AB BS-010159-MK block

Block for one Abgene™ Storage Plate 96/800 µl - Cat.No. AB0765. AB0859



B-12AB BS-010159-SK block

Block for one deep-well plate Abgene™ 96/1200 µl - Cat.No. AB0564. AB0787



B-2P BS-010159-EK block

Block for one deep-well plate Porvair® 96/2000 µl - Cat.No. 219009



B-1R BS-010159-UK block

Block for one deep-well plate Riplate® $96/1000 \mu l$ - Cat.No. 43001-0101



B-2R BS-010159-TK block

Block for one deep-well plate Riplate \$ 96/2000 μ l - Cat.No. 43001-0103



B-05PO BS-010159-OK block

Block for one deep-well plate PlateOne® 96/500 µl - Cat.No. \$1896-5000



B-2PO BS-010159-NK block

Block for one deep-well plate PlateOne® 96/2000 µl -Cat.No. S1896-2000



B-2N BS-010159-DK block

Block for one deep-well plate Nunc® 96/2000 µl - Cat.No. 278743, 278752



B-2SL BS-010159-IK block

Block for one deep-well plate Starlab® 96/1200 μl - Cat.No. E2896-0120



B-2M BS-010159-RK block

Block for one deep-well plate KingFisher™ Deepwell 96 Plate - Cat.No. 95040450



B-2SD BS-010159-PK block

Block for one deep-well plate Slicprep[™] 96 - Cat.No. AB0932



B-2KF BS-010159-LK block

Block for one deep-well plate PowerMag® Glass Bead Plate 96 - Cat.No. 27600-4-KF-BP



B-2BBI BS-010159-JK block

Block for one deep-well plate cluster SSI Bio - Cat.No. 703B00, 713B00



B-2V BS-010159-BK block

B-2V block for one deep-well plate Vector-Best® 96/1000 µl