



Thermo-shaker for microtubes and PCR plates PCMT Plus

PCMT Plus thermo-shaker is designed for intensive mixing of samples in microtest tubes or PCR plates in a temperature controlled environment. The model has the function of cooling samples down to +4°C. **Bluetooth®** connectivity to PC allows for data management, data logging, parameter control and profiling in the dedicated software. Features of thermo-shakers 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;
- Stability of maintaining the set temperature in a wide range throughout the block surface of thermo-shakers;
- With the help of the temperature calibration function, the user can calibrate the unit approximately $\pm 6\%$ of the selected temperature to compensate differences in the thermal behaviour of tubes from different manufacturers;
- LCD display indicates pre-set and current values of temperature, speed and time of operation;
- Quiet motor operation, compact size, prolonged service life;
- Sensor error handling and diagnostics;
- Bluetooth® connectivity, control and profiling from computer.

Functions of heating and mixing can be performed either simultaneously or independently, that allows using the unit as three independent devices:

1. Thermostat;
2. Shaker;
3. Thermo-shaker.

We offer five heating and cooling blocks for each model, including a block with a plastic lid for PCR-plates. Within one model of thermo-shaker, the blocks are mutually interchangeable and can be easily installed.

The devices are applicable in:

- genetic analyses – in extraction of DNA, RNA and further sample preparation;
 - biochemistry – for studying of enzymatic reactions and processes;
 - cellular biology – extraction of metabolites from cellular material.
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Specifications

The unit is designed for operation in cold rooms, incubators (excluding CO₂ incubators) and closed laboratory rooms at ambient temperature from +4°C to +40°C in a non-condensing atmosphere and maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.

Grant is committed to a continuous programme of improvement and reserves the right to alter design and specifications of the equipment without additional notice.

7.1. Temperature parameters

Setting range	+4°C to +100°C
Control range	15°C below RT ¹ to +100°C
Setting resolution	0.1°C
Stability ² , at +37°C	±0.1°C
Maintaining accuracy ² , at +37°C	±0.5°C
Uniformity over the platform ² ,	
at +4°C	±0.6°C
at +37°C	±0.1°C
at +100°C	±0.3°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
from +25°C to +4°C	1.8°C/min
Calibration option	yes
Calibration coefficient range	0.936...1.063 (± 0.063)

7.2. General parameters

Speed range	250-1400 rpm
Speed setting resolution	10 rpm
Maximal speed deviation	
for 250 rpm	2%
for 1400 rpm	0.7%
Orbit	2 mm
Digital time setting	1 min - 96 h
Time setting and countdown resolution	1 min
Maximal continuous operation time ³	168 h
Display	16x2 symbols, LCD
Dimensions	220x240x130 mm
Input voltage and current / power consumption	12 V, 4.9 A / 60 W
External power supply	in AC 100-240 V, 50/60 Hz, out DC 12 V
Weight, accurate within ± 10%	3.7 kg

¹ Room temperature

² Data for 75% filled tubes or microplates

³ Recommended interval between prolonged operation sessions not less than 1 hour

8. Ordering information

8.1. Models and versions available:

Model	Version
PCMT Plus	V.1GW

8.2. To inquire about or order the optional accessories or replacement parts, contact Grant or your local Grant representative.

8.2.1. Optional accessories:

Model	Description	Weight ¹ , kg
HC18	For 20x0.5 ml + 12x1.5ml tubes	0.7
HC32	For 20x0.2 ml + 12x1.5ml tubes	0.7
HC24	For 24x2.0 ml microtubes	0.6
HC24N	For 24x1.5 ml microtubes	0.7
HC96	For 96-well microplate for PCR, w/o skirt, with half skirt, low and high profile	0.7

8.2.2. Replacement parts

Replacement part	Description
Rubber belt	122x6x0.6 mm
Bluetooth adapter	For USB port

¹ Accurate within $\pm 10\%$.



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Pricing on any accessories shown can be found by keying the part number into the search box on our website.

The specifications listed in this brochure are subject to change by the manufacturer and therefore cannot be guaranteed to be correct. If there are aspects of the specification that must be guaranteed, please provide these to our sales team so that details can be confirmed.

www.wolflabs.co.uk

Tel : 01759 301142

Fax : 01759 301143

sales@wolflabs.co.uk

Please contact us if this literature doesn't answer all your questions.