

## Thermoshaker PHMP, PHMP-100 and PHMP-4 for microplates

Excellent temperature uniformity across the platform/microplate (patented bi-directional heating of microplates) combined with variable speed and variable temperature produces the ideal thermoshaker for microplate incubations.

Can be used with all types of standard depth microplates and offers three devices in one for maximum versatility and efficiency:

- A microplate thermoshaker
- A compact benchtop incubator without shaking
- A microplate shaker in cold or ambient temperatures

- **Temperature setting range: +25°C to 100°C**
- **Stability  $\pm 0.1^\circ\text{C}$ , uniformity  $\pm 0.2^\circ\text{C}$  due to the bi-directional heating system (platform and lid)**
- **Shaking speed: 250 to 1200 rpm**
- **Rapid heat-up**
- **Continuous or timed operation, with alarm buzzer and automatic switch-off facility**
- **Choice of three models with capacity for two or four microplates**
- **Patented dual heating of microplates**



Model shown PHMP thermoshaker for two microplates

The PHMP-4 has the same functionality as the PHMP but can accommodate four microplates



The powerful, reliable motor and sturdy construction combine to provide years of consistent operation

Low voltage cord easily fits through door gaskets, allowing use in incubators, refrigerators and workstations

The heated lid completely covers the heating platform to provide bi-directional heating (patented) and a controlled micro-environment. This produces excellent temperature stability and uniformity, whilst preventing condensation

Display of both set and actual temperature and shaking speed

Very easy to operate, with simple set-up of temperature, shaking speed and time via push buttons and the 2-line LCD status display

Soft start/stop protects samples






### Applications:

- Cytochemistry - for in situ reactions
- Biochemistry - for enzyme and protein analysis, incubation for biomarker and protein binding assays
- Immunochemistry - for immunofluorescent reaction, ELISA incubation
- Molecular biology (for microbial cell cultivation and DNA analysis)

## Thermoshakers » PHMP, PHMP-100 and PHMP-4 » Models and specifications

## Thermoshakers – models and specifications

	2-plate thermoshaker		4-plate thermoshaker
	PHMP	PHMP-100	PHMP-4
	 <p>h: 125mm d: 250mm w: 265mm weight: 6.1kg</p>	 <p>h: 125mm d: 260mm w: 270mm weight: 5.9kg</p>	 <p>h: 140mm d: 390mm w: 380mm weight: 8.8kg</p>
Temperature setting range	°C	+25 to 60	+25 to 100
Temperature control range	°C	ambient +5 to 60	ambient +5 to 100
Temperature uniformity @ 37°C	±°C	0.25	
Temperature stability	±°C	0.1	
Temperature display		2 line x 16 character LCD	
Average heat up speed	°C	12 minutes from 25 to 37 35 minutes from 25 to 60 60 minutes from 25 to 100 (PHMP-100 only)	
Capacity		2 microplates	4 microplates
Shaking speed	rpm	250 to 1200	
Speed setting resolution	rpm	increment 10	
Orbit diameter	mm	2	
Timer (with auto-off and audible alarm)		1 min to 96 hrs (1 min increment)	
Max. height of microplates	mm	18	
External power supply		Input AC 120-230V, 50/60Hz Output DC 12V	
Input voltage	V dc	12	
Power consumption	W	40 (3.3A)	50 (4.15A)



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