

## 10 Technical data

### 10.1 Power supply

Power connection	100 V – 130 V $\pm 10$ %, 50 Hz – 60 Hz 220 V – 240 V $\pm 10$ %, 50 Hz – 60 Hz
Power consumption	Maximum 200 W
Overvoltage category	II
Degree of pollution	2
Protection class	I

### 10.2 Weight/dimensions

Width	20.6 cm (8.1 in)
Depth	30.4 cm (12.0 in)
Height	13.6 cm (5.4 in)
Weight	6.3 kg (13.9 lb)

### 10.3 Ambient conditions

Environment	For indoor use only
Ambient temperature	5 °C – 40 °C
Relative humidity	10 % – 90 %, non-condensing
Atmospheric pressure	79.5 kPa – 106 kPa

## 10.4 Application parameters

### 10.4.1 Temperature control

Temperature control range	1 °C – 110 °C, can be set in increments of 1 °C Minimum: 15 °C ( $\pm 2$ °C) below the ambient temperature Maximum: 110 °C	
Temperature accuracy	Set temperature 20 °C – 45 °C	Set temperature < 20 °C or > 45 °C
SmartBlock 1.5 mL	$\pm 0.5$ °C	$\pm 1.0$ °C
Temperature homogeneity	In the range of 20 °C – 45 °C	
SmartBlock 1.5 mL	max. $\pm 0.5$ °C for all positions of the thermoblock	
Heating rate*		
SmartBlock 1.5 mL	6.0 °C/min The change of temperature in filled tubes is slower.	

**Technical data**

Eppendorf ThermoMixer® C

English (EN)

Cooling rate*	if the set temperature is above the ambient temperature	if the set temperature is between ambient temperature and 15 °C below ambient temperature
SmartBlock 1.5 mL	2.5 °C/min	0.5 °C/min – 0.8 °C/min

\*The heating rate and cooling rate can be restricted.

The heating and cooling rates listed only apply if the SmartBlock is being operated with no ThermoTop or SmartExtender.



The heating and cooling rates refer exclusively to the thermoblock and can change with the filling volume in the tubes.

**10.4.2 Mixing**

Thermoblock	Tubes / plates	Mixing frequency	Accessories
		can be set in increments of 50 rpm	
SmartBlock 0.5 mL	Micro test tubes volume 0.5 mL	300 rpm – 2 000 rpm	ThermoTop or Lid**
SmartBlock 1.5 mL	Micro test tubes volume 1.5 mL	300 rpm – 2 000 rpm	ThermoTop or Lid**
SmartBlock 2.0 mL	Micro test tubes volume 2.0 mL	300 rpm – 2 000 rpm	ThermoTop or Lid**
SmartBlock 5.0 mL	Micro test tubes volume 5.0 mL	300 rpm – 1 000 rpm	–
SmartBlock 12 mm	Tubes with a diameter of 11 mm to 11.9 mm	300 rpm – 2 000 rpm	–
SmartBlock cryo thaw	Cryogenic tubes	300 rpm – 2 000 rpm	–
SmartBlock 15 mL	Conical tubes volume 15 mL	300 rpm – 1 000 rpm	–
SmartBlock 50 mL	Conical tubes volume 50 mL	300 rpm – 1 000 rpm	–
SmartBlock plates	Microplates with various bottom contours	300 rpm – 3 000 rpm	ThermoTop or Lid**
	Deepwell plates with various bottom contours up to 80 °C	300 rpm – 2 000 rpm	ThermoTop or Lid**

Thermoblock	Tubes / plates	Mixing frequency	Accessories
	Deepwell plates with various bottom contours from 80 °C	300 rpm – 1 000 rpm	ThermoTop or Lid**
SmartBlock <i>PCR 96</i>	96-well PCR plates 0.2 mL PCR tubes	300 rpm – 2 000 rpm	ThermoTop or Lid**
SmartBlock <i>PCR 384</i>	384-well PCR plates	300 rpm – 3 000 rpm	ThermoTop or Lid**
SmartBlock <i>DWP 500</i> ***	Eppendorf Deepwell Plates 96/500 µL	300 rpm – 1 600 rpm	ThermoTop or Lid**
SmartBlock <i>DWP 1000</i> ***	Eppendorf Deepwell Plates 96/1000 µL	300 rpm – 1 600 rpm	ThermoTop or Lid**

\* The height sensor of the SmartBlock *plates* automatically differentiates between deepwell plates and microplates.

\*\* If you are using the Lid, select a mixing frequency of max. 2 000 rpm.

\*\*\* SmartBlock *DWP 500* and SmartBlock *DWP 1000* can only be used with Eppendorf Deepwell Plates (optimal fit and temperature transfer).

### 10.4.3 Time setting

Cycle times of 5 s to 99:30 h or unlimited.

Cycle time range	Step size
5 s – 1 min	5 s
1 min – 20 min	15 s
20 min – 1:00 h	1 min
1:00 h – 10:00 h	5 min
1:00 h – 99:30 h	30 min

### 10.4.4 Thawing

Parameter	Range	Step size
Run time	3 min – 5 min	15 s
Mixing frequency	300 rpm – 800 rpm	50 rpm

### 10.5 Interface

USB interface	For connection to VisioNize and for software updates with the Eppendorf ThermoMixer Autoupdate.
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