

# Biometra TRIO PCR Thermal Cycler



## Technical Data Biometra TRIO

### General

- Stand-alone control by 7" color touchscreen or remote control by cycler network
- Whisper Quiet with max. 45 dB
- Small footprint and minimal clearance zone
- Three different sample blocks for various sample volumina, with three independly working blocks each
- HPSL technology for ideal constant contact pressure independent of the used consumable
- Suitable for low-profile and high-profile plastic with or without skirt, as well for semi-skirt

### Thermal block

	3 x 48	3 x 30	3 x Combi
Sample block	Aluminum, special alloy	Aluminum, special alloy	Aluminum, special alloy
Block capacity	3 x 48 x 0.2 ml tubes, 3 x 6 x 8-Well strips, 3 x 48-well micro plate	3 x 30 x 0.5 ml tubes	3 x 48 x 0.2 ml tubes, 3 x 6 x 8-Well strips, 3 x 48-well micro plate, 3 x 18 <sup>3</sup> x 0.5 ml tubes
Proposed sample volume	5 - 70 µl	20 - 200 µl	5 - 70 µl (0.2 ml) 20 - 140 µl (0.5 ml)
Max. heating <sup>1</sup>	5.0 °C/s	4.0 °C/s	3.0 °C/s
Average heating <sup>1</sup>	4.5 °C/s	3.6 °C/s	2.7 °C/s
Max. cooling <sup>1</sup>	4.2 °C/s	3.6 °C/s	2.7 °C/s
Average cooling <sup>1</sup>	3.8 °C/s	3.2 °C/s	2.4 °C/s
Temperature uniformity <sup>2</sup>	95 °C ± 0.60 °C 70 °C ± 0.30 °C 55 °C ± 0.20 °C	95 °C ± 0.60 °C 70 °C ± 0.30 °C 55 °C ± 0.20 °C	95 °C ± 0.60 °C 70 °C ± 0.30 °C 55 °C ± 0.20 °C
Temperature optimization	Temperature Optimization Step (TOS)	Temperature Optimization Step (TOS)	Temperature Optimization Step (TOS)

<sup>1</sup> measured at cavity wall of the block

<sup>2</sup> after 15 sec

<sup>3</sup> The capacity is increased to 35 x 0.5 ml tubes for tubes with small caps.

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Block exchange	No
Number of blocks	3
Tempering method	Peltier elements
Standby temperature	Yes, down to 4 °C
Temperature control mode	Block control
Adjustable temperature range	3 °C to 99 °C
Temperature control accuracy	± 0.1 °C

## Heated lid

Heated lid	High-Precision Smart Lid (HPSL)
Lid temperature	30 °C to 110 °C
Contact pressure	Approx. 8 kg, manual with integrated slip clutch for constant contact pressure independent from the used consumables

## Control

Control	Stand-alone or remote control via tablet PC
Control and analysis software	Remote Control App
Operating system	App for iOS or Android
Minimum requirements remote device	iOS 8.0 or Android 4.4 or newer (API 19)
Minimum requirements cycler	Software version V1.43 - V1.44
Language	English, German, Chinese
Display	7" Color touchscreen
Export function	Yes
Power fail function	Yes
Quick start function	User-specific quick start
Time inc	1 to 240 s/cycle
Temperature inc/dec	±0.1 to 20 °C/cycle

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Memory capacity	350 programs à 6 steps in up to 90 user directories
Features	<ul style="list-style-type: none"><li>▪ Extended Self Test</li><li>▪ Graphical or spreadsheet programming</li><li>▪ Multip-step programming</li><li>▪ Incubation mode</li><li>▪ Protocol templates</li><li>▪ Program preview</li></ul>

## Dimensions

Weight netto	Approx. 17.3 kg
Dimensions (W x D x H)	300 mm x 410 mm x 250 mm
Required clearance zone	10 cm behind rear side of the device. When operating several units side by side, an additional 10 cm between the units.

## Additional technical data

Interface	<ul style="list-style-type: none"><li>▪ USB-A (front side): connection of an USB flash drive</li><li>▪ Ethernet (back side): connection to a network</li></ul>
Fuses	2x T 10A H 250 V
Power supply	100 V, 115 V oder 230 V ± 10 %, 50 – 60 Hz
Power consumption	Max. 1,000 W
Noise emission	Max. 45 dBA
Operation conditions	15 °C to 35 °C, max. 70 % humidity, max. 2.000 m NN, overvoltage category II, pollution degree 2, IP20
Warranty	2 years warranty o the device system

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