

77 *plus* **Thermocycler**



384 well

As versatile
as your requirements



96 well



combi



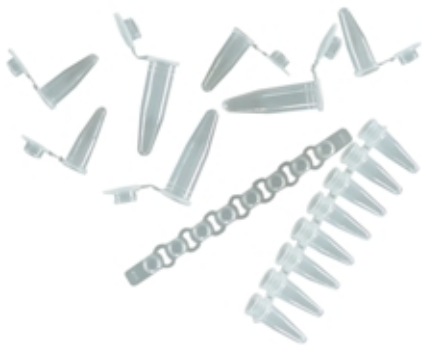
48 well



in situ



T1 Thermocycler



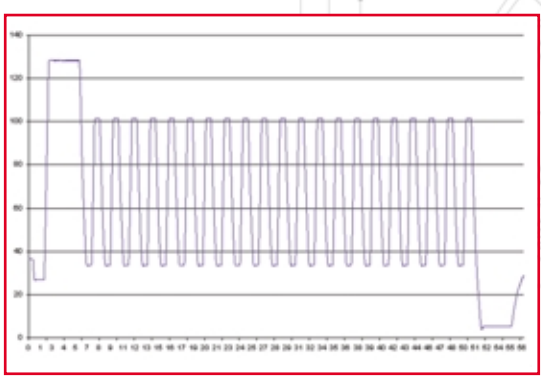
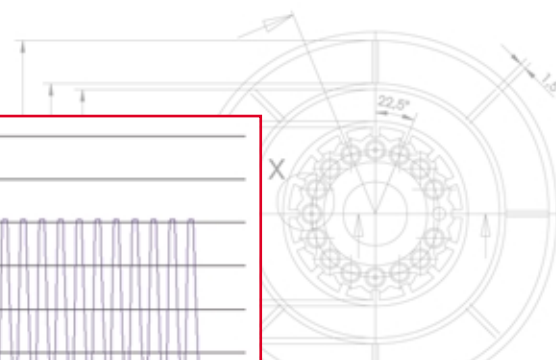
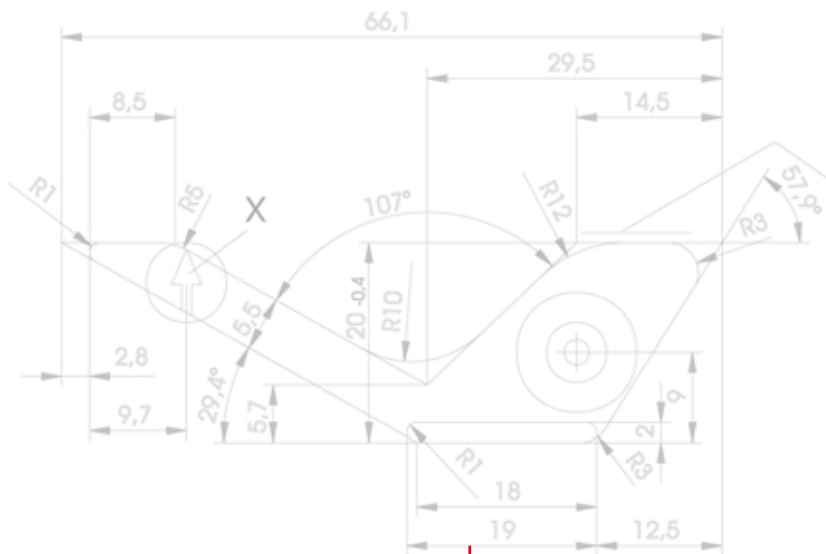
Over the past 10 years Peltier technology has become the preferred technology used in thermocycling. This is largely due to its superior heating and cooling efficiency. In 1989 Biometra launched its first Peltier-based thermocycler, thus becoming one of the first companies to offer this advanced technology. Combining proprietary know-how with precision manufacturing techniques has resulted in the quality product that is known worldwide under the label "Biometra".



The T1 Thermocycler has become the standard for thermocycling in many laboratories throughout the world. Due to its advanced block architecture it achieves the high performance that is a prerequisite for reproducible results. Since its introduction in 1999, the T1 product line has been continuously extended to meet the demands of researchers. There are 5 different block formats currently available, suitable for virtually all types of different plasticware. The newest addition is the T1plus Thermocycler, which features bi-directional communication with a computer and is used in high throughput laboratories for operating multiple instruments in parallel.



Flexibility and accuracy



Silver block

Biometra was the first manufacturer to use silver blocks for thermocycling. The high thermal conductivity of silver allows for the T1's fast heating and cooling rates. The use of silver also makes it possible to quickly achieve uniform temperature distribution in the block ensuring that all samples experience the same reaction conditions. The silver block is gold-plated to protect the surface against corrosion.



Smart lid technology

Like all Biometra thermocyclers, the T1 is equipped with a Smart-Lid that exerts controlled pressure on tubes and plates. This ensures good thermal

contact between the plasticware and the block and eliminates condensation. Both of which increase the accuracy and reproducibility of your experiments.



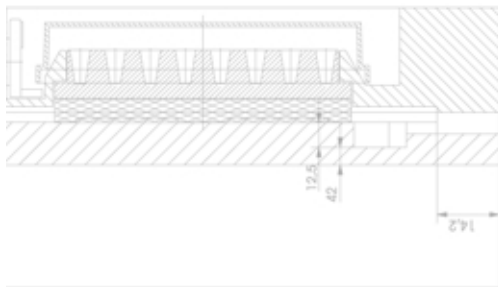
Flexibility

A broad range of different block formats is available. The 96 well block is the most popular version and can hold microplates, 0.2 ml strips or individual tubes. The 48 well module is used for 0.5 ml tubes. The 384 well module, for high-throughput applications, fits microplates and is coated with a special alloy to facilitate removal of the plates after cycling. The in situ module accommodates 4 microscopic slides. The T1 combi can be used with both 0.5 and 0.2ml tube. All block modules are freely interchangeable.

Combi block

If both 0.2 and 0.5ml tubes are used in the same laboratory the T1 Thermocycler combi is the instrument of choice. This block holds 96 x 0.2ml tubes and also accepts 96 well microplates. Alternatively it can be used with up to 77 x 0.5ml tubes.

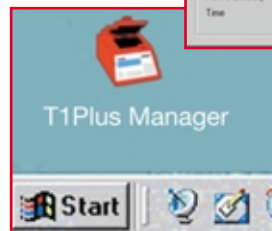
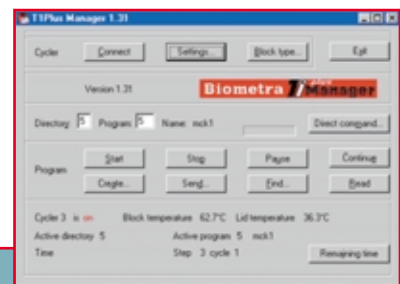
Network thermocycling



Networking

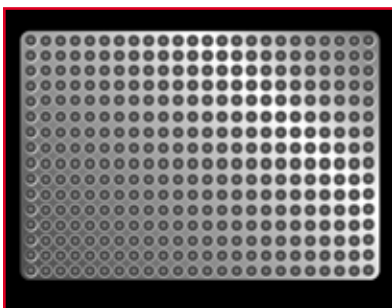
The T1plus Thermocycler is designed for bi-directional communication with a computer. The Windows-based T1plus Manager can control up to 16 T1plus Thermocyclers simultaneously. Temperature data can be recorded for documentation and can be exported to spreadsheet programs. The software is available at no charge upon request.

- Send temperature program to 16 cyclers in parallel
- Start up to 16 cyclers with one mouse click
- Record temperature data for performance validation

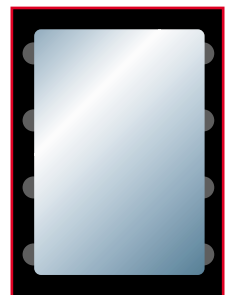
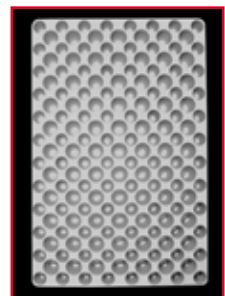
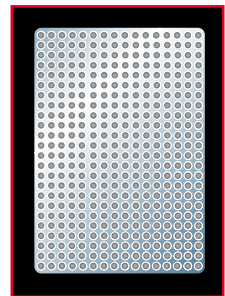
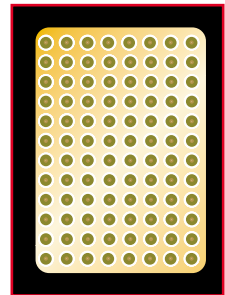
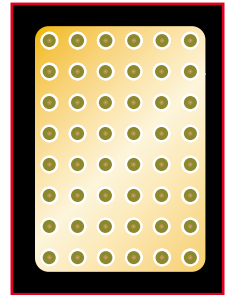
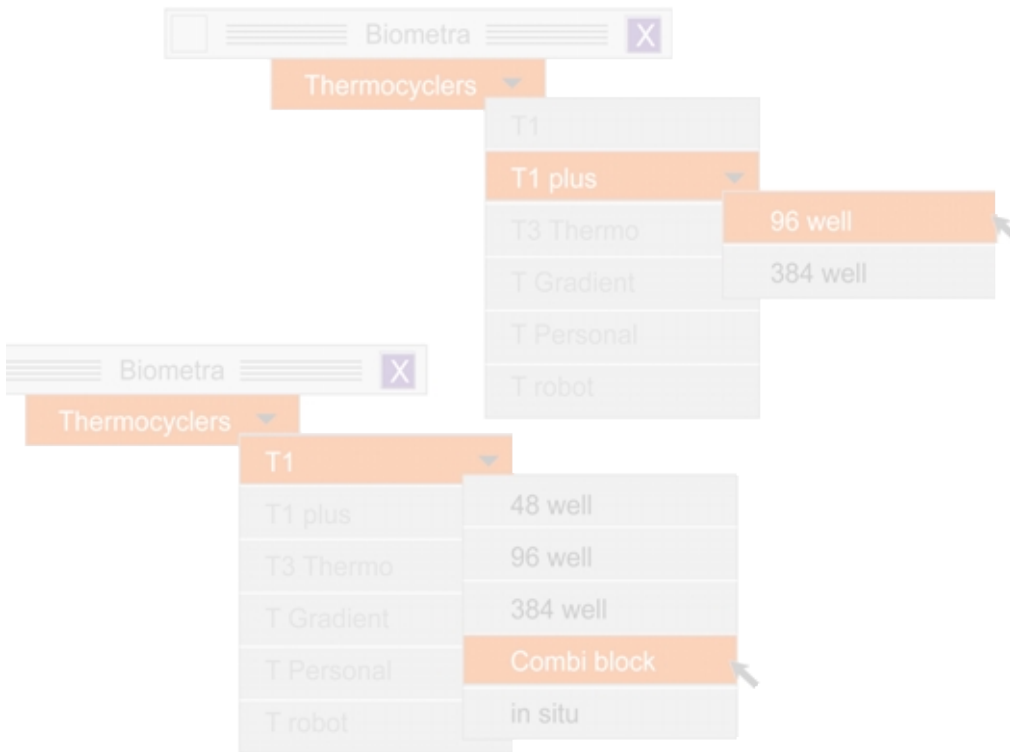


High sample throughput

The T1 Thermocycler 384 has become a very popular instrument for high throughput laboratories. Either in stand-alone operation or connected to a computer (T1plus) it is the ideal instrument to cycle 384 well plates. The high precision lid ensures reliable sealing of microplates. Removal of plates is facilitated by two manual levers and a special block coating. Like all Biometra thermocyclers, the temperature of the Smart-Lid is user adjustable. This is particularly important for 384 well plates because the distance between the lid and the reaction mix is small. Therefore, a lower lid temperature is preferred.

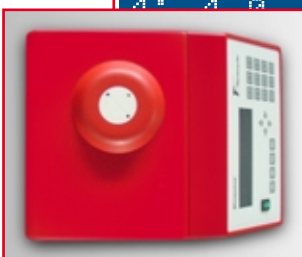


Take your choice



Temp [°C]	time	←	#	opt →
1: 95.0	0h 0m 30 s			
2: 58.0	0h 0m 30 s			
3: 72.0	0h 1m 30 s	1	29	
4: 4.0	Pause			

insert/delete **C** pgm ok **D** enter



Technical Specifications

Order Information

Thermocycler

	T1 Thermocycler 48 T1 Thermocycler 96 T1plus Thermocycler 96
Sample capacity	See order information
Block type	Gold plated silver block
Block exchangeable	Yes
Max. Heating	4 °C/sec
Max. Cooling	3 °C/sec
Temperature range	-3 – 99.9°C
Temperature uniformity	± 0.3°C within 15 s
Control accuracy	± 0.1°C
Display	Back-lit graphical LCD display
Program memory	Total capacity: 1500 steps 10 directories with 100 programs each maximum 99 steps per program. maximum 99 cycles per step
Software options	Adjustable ramping rates (0.01-5°C/s) Definition of temperature increments Definition of time increments Automatic and manual pause mode Automatic restart after power failure Online help Language selectable: English/German
Heated lid	
Height adjustable	Yes
Selection of temperature	Yes
Temperature range	30.0-99.0°C
Pressure control	Smart lid technology
Power consumption	Max. 310 Watt
Noise emission	Extremely low
Interfaces	Serial RS232, printer Centronics
Dimensions (WxLxH)	25 x 34 x 16.5 cm
Weight	8.8 kg

	T1 Thermocycler 384 T1plus Thermocycler 384 T1 Thermocycler Combi T1 Thermocycler in situ
Sample capacity	See order information
Block type	Aluminum
Block exchangeable	Yes
Max. Heating	1 °C/sec
Max. Cooling	1 °C/sec
Temperature range	-3 – 99.9°C
Temperature uniformity	± 0.5°C within 15 s
Control accuracy	± 0.1°C
Display	Back-lit graphical LCD display
Program memory	Total capacity: 1500 steps 10 directories with 100 programs each maximum 99 steps per program. maximum 99 cycles per step
Software options	Adjustable ramping rates (0.01-5°C/s) Definition of temperature increments Definition of time increments Automatic and manual pause mode Automatic restart after power failure Online help Language selectable: English/German
Heated lid	
Height adjustable	Yes
Selection of temperature	Yes
Temperature range	30.0-99.0°C
Pressure control	Smart lid technology
Power consumption	max. 310 Watt
Noise emission	Extremely low
Interfaces	Serial RS232, printer Centronics
Dimensions (WxLxH)	25 x 34 x 16.5 cm
Weight	8.8 kg

Order information

Thermocyclers	Order number
T1 48 for 48 tubes (0.5ml)	050-900
T1 96 for 96 tubes (0.2ml), 96 well microplates or strips	050-901
T1 384 for 384 well microplates	050-902
T1 Combi for 37 tubes (0.5ml) or 96 tubes (0.2ml), microplates or strips	050-904
T1 in situ for 4 microscopic slide	050-903
T1plus 96 for 96 tubes (0.2ml), 96 well microplates or strips (incl. serial cable)	050-921
T1plus 384 for 384 well microplates (incl. serial cable)	050-922
T1 and T1plus Thermocycler modules	
T1 48 module for 48 tubes (0.5ml)	050-910
T1 96 module for 96 tubes (0.2ml), 96 well microplates or strips	050-911
T1 combi module for 37 tubes (0.5ml) or 96 tubes (0.2ml), microplates or strips	050-914
T1 in situ Module for 4 microscopic slide	050-913
Update T1 to T1plus (EPROM serial cable)	050-930