## Technical data
at a glance

| Device | Labcycler Basic & Labcycler Gradient |
|---|---|
| **Line voltage** | 85 V to 265 V without switching, 50 to 60 Hz |
| **Power Consumption** | Maximum 350 W, standby 25 W |
| **Loudness** | Idle 38 dBA, typical run 44 dBA, maximum run 48 dBA |
| **Interfaces** | RS232 |
| **Heated lid** | Electrically moving, temperature up to 105 °C and pressure programmable |
| **Pressure** | Programmable from 30 to 120 Newton |
| **Dimension** | Length = 444 mm<br>Width = 251 mm<br>Height: lid closed = 201 mm, lid open = 347 mm |
| **Weight** | 11.5 kg |
| **Display** | TFT illuminated colour display ¼ VGA, 5.7" diagonal, 320 x 240 = 76800 pixel touchscreen |
| **Keyboard** | Numeric silicone keys<br>Virtual keys on the touch screen depending on the context |
| **Languages** | English, German |
| **Programs** | 680 5-step-programs, or at least 3000 steps<br>The last 16 program runs can be displayed any time. |
| **Password Protection** | Individual for groups, persons, folders and programs, up to 64 users |

| Blocks: | Thermoblock 48, 96, 384 and Triple Block |
|---|---|
| **Temperature** | Minus 5.0 °C to plus 99.9 °C |
| **Uniformity** | ± 0.25 °C at 55 °C, ± 0.40 °C at 95 °C |
| **Control accuracy** | ± 0.01 °C |
| **Ramp rate** | 0.001 °C/s to 5.0 °C/s |
| **De(In)crements** | Temperature ± 9.99 °C<br>Time ± 99.99 seconds |
| **Format** | **Thermoblock 48** (48-wells, 0.5 ml single tubes) **Thermoblock 96** (96-wells, 0.2 ml single tubes, stripes & microtiterplates) and **Thermoblock 384** (384-wells, microtiterplates), electroformed gold plated silver, gradient capable (40 °C, ± 20 °C between the narrow sides of the block) heating rate: 4.2 °C/s, cooling rate: 3.6 °C/s |
| **Format** | **Triple Block**, 3 x 21 wells, anodised aluminium, 3 passive lids, separately controllable, 0.2 ml single tubes, not gradient capable, heating rate: 2.5 °C/s, cooling rate: 2.2 °C/s<br>**3 different PCR processes at the same time in one device!** |

## Ordering information

| Product | Order number |
|---|---|
| **Labcycler Gradient**<br>Without block | 011-101 |
| **Labcycler Basic**<br>Without block | 011-103 |
| **Inter System Copy Cable** | 011-702 |
| **Gradient Upgrade**<br>(Only for Labcycler Basic) | 011-801 |
| **Thermoblock 384**<br>For microtiterplates 384-well | 012-101 |
| **Thermoblock 48**<br>For reaction tubes of 0.5 ml | 012-102 |
| **Thermoblock 96**<br>For reaction tubes of 0.2 ml and microtiterplates 96-well | 012-103 |
| **Triple Block**<br>Without Passive Lid | 012-104 |
| **Passive Lid**<br>3 lids are necessary for Triple Block application | 012-201 |
| **Sealing Pad** for Thermoblock 384 | 012-701 |

## Global Distributor Network

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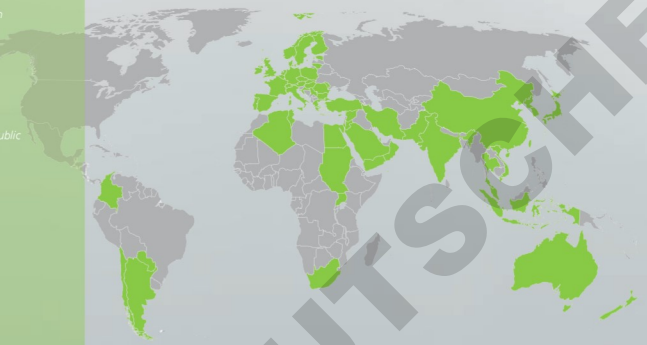


**SensoQuest GmbH**
Hannah-Vogt-Straße 1 · 37085 Göttingen · Germany
Tel. Sales: +49 551 2503244 · +49 176 66646603
Tel. Technique: +49 551 389195-23 · Fax: -24
E-Mail: info@sensoquest.de · www.sensoquest.com


SENSOQUEST
Biomedical Electronics

**SensoQuest** develops and produces thermocyclers which are sold by international distributors since 2005. The team of physicists, engineers, and biologists is very successful with 20 years of experience in the biomedical market. The company currently has the smallest and most versatile Triple Block system worldwide, as well as the only 384-well silver block.

Your local distributor

## Cycler-Technology
for life.

*Labcycler*


Hightech **Thermocycler**
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SENSOQUEST
Biomedical Electronics

## *Lab*cycler

The SensoQuest team has been developing and making thermocyclers since 1990. SensoQuest launched a new generation of thermocyclers in 2005. Since this time more and more customers are working world wide with the Labcycler.

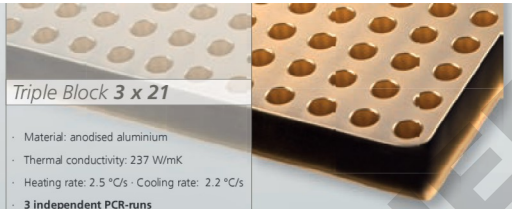
The Labcycler features are a truly intuitive user interface with a coloured touchscreen, a nice design and solid construction. All that comes with a unique block changing system, giving full flexibility for present and future applications. A choice of three **gold plated silver blocks** was designed for high speed, yet low energy consumption and good temperature uniformity. These are complemented by the Triple Block, which lets you run three independent processes on one machine.

Sustainability and good value were prime considerations. The peltier elements were tested to **600,000 cycles without any failures**, giving at least 20 years of lifetime even under the harshest conditions. The silver blocks are electroformed for lowest heat capacity and best heat conductance. This allows high speed with a maximum power of only 350 Watts. The average during a typical run is less than 150 Watts. The result is good performance with **low energy consumption**, low carbon dioxide footprint, less heat in the lab and, last but not least, less noise from the cooling fans.

Precision is further enhanced by a **6-zone temperature regulation** that corrects for any differences between the 6 peltier elements. Each block has its own processor with a continuously self-calibrating temperature measuring circuitry. Indefinite cooling at 4 °C is of course possible, the blocks even go down to minus 5 °C.

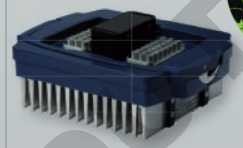
Although the user interface is quite self-explanatory, a context sensitive online help function further assists you, making the manual a rarely used item.
Programs can be copied between two Labcyclers via a cable, making it easy to keep several of them „in line". The password administration allows saving programs and folders up to 64 users.

Of course, there is an **automatic restart** after a failure of the power line. The program will continue with the last denaturation step to prevent false annealing.



### *Triple Block **3 x 21***

- Material: anodised aluminium
- Thermal conductivity: 237 W/mK
- Heating rate: 2.5 °C/s · Cooling rate: 2.2 °C/s
- **3 independent PCR-runs**
- 3 x 21 wells for 0.2 ml caps
- Minimum volume of reaction: 10 µl
- Protection against condensation by 3 Passive Lids
- **Separate and parallel monitoring of all blocks**

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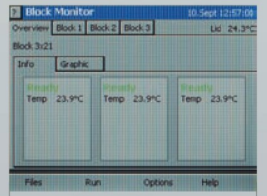
### *TFT Touchscreen*

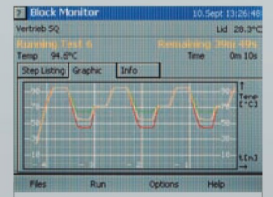
The Labcycler has a **TFT display with a touchscreen** featuring alphanumeric and function keys. Familiar buttons and icons enable an intuitive use. The interface „speaks" English and German.

**Graphic monitoring** allows tracking of the PCR process for single and Triple Blocks. The Triple Block system is displayed with the TFT touchscreen separated in three parts.

- TFT 1/4 VGA illuminated colour display
- 320* 240 Pixel, 5.7"diagonal
- Languages: English and German
- Context-sensitive help function
- Alpha-keyboard on touchscreen
- Graphic monitoring of PCR process




*Start Window Triple Block **3 x 21***




*Gradient-PCR Thermoblock **96***

### *Thermoblocks*

With the unique **quick block changing system**, a block change takes one hand and ten seconds.

All thermoblocks have their own processor with **6 separately controlled peltier elements** for extraordinary temperature uniformity at high heating and cooling rates.

The temperature measuring system is entirely in the block and continuously **self-calibrating**, ensuring precise and identical operation of a block in any machine.

| *Thermoblock **48*** | *Thermoblock **96*** | *Thermoblock **384*** |
|---|---|---|
| Material: **Electroformed gold plated silver**<br>Thermal conductivity: 429 W/mK<br>Heating rate 4.2 °C/s · Cooling rate 3.6 °C/s | | |
| 48 well block | 96 well block | 384 well block |
| 8 zone gradient | 12 zone gradient | 24 zone gradient |
| 0.5 ml tubes | 0.2 ml tubes | - |
| Gradient capable: 40 °C, ± 20 °C from the left to the right | | |
| - | 96 Well microtiterplates | 384 Well microtiterplates |
| Minimum reaction volumina | | |
| 20 µl | 10 µl | 3 µl |

### *Automatic Lid*

The heated lid is controlled by an electric motor. Pressure and temperature are fully programmable. Maximum temperature is 105 °C.

It quickly reaches its uniform temperature through high power.

During a programmed or manual pause the lid comes up to give access to the probes for **hotstart-procedures**. The temperature and force of the lid can be preselected for each program.

- Power 200 W
- Heating rate ≥ 1 °C/s
- Lid can be deactivated
- Preheating can be deactivated
- Pressure 30 N to 120 N
- Hotstart-procedures possible
- Up to 105° C