Cycler-Technology

for life.

*lab*cycler

Hightech **Thermocycler**

www.sensoquest.com

SENSOQUEST
Biomedical Electronics

***lab**cycler*

The SensoQuest team has been developing and making thermocyclers since 1990. After all we thought it was time for a new generation, which we came out with in 2005.

The labcycler features a truly intuitive user inter-face with a coloured touchscreen, a nice design and solid construction. All that comes with a unique block changing system, giving full fl exi-bi-lity 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 in-dependent processes on one machine.

Sustainability and good value were prime con-si-derations. 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 perfor-mance 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 tempe-rature 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. Indefi nite co-oling at 4 °C is of course possible, the blocks even go down to -5 °C.

Although the user interface is quite self-explanato-ry, 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“.

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

Thermoblocks

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

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

The temperature measuring system is en-tire-ly in the block and continuously **self-calibrat-ing**, ensuring precise and identi-cal operation of a block in any machine.

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**

Thermoblock ***48***	*Thermoblock* ***96***	*Thermoblock* ***384***
	Material: **Electroformed gold plated silver** Thermal conductivity: 429 W/mK 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
0.5ml tubes	0.2ml 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

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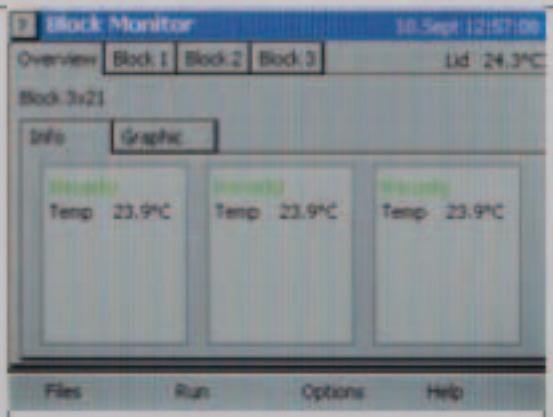
TFT Touchscreen

The labcycler has a **TFT display with a touchscreen** featuring alphanumeric and function keys. Familiar buttons and icons enable an intuitive use. The in-ter-face „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 sepa-rated 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**

Automatic Lid

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

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

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 and pressure programmable
Pressure:	Programmable from 30 to 120 Newton
Dimension:	Length = 444 mm Width = 251 mm 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 Virtual keys on the touch screen depending on the context
Languages:	English, German
Programs:	680 5-step-programs, or at least 3000 steps The last 16 program runs can be displayed any time.
Password Protection:	Individual for groups, persons, folders and programs

Blocks:	Thermoblock 48, 96, 384 and Triple Block
Temperature:	- 5.0 °C to 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 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 **3 different PCR processes at the same time in one device!**

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experts in life science products

Ordering information

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