



# **GENECHECKER<sup>®</sup>**

## **Model UF-100**

### **Ultra-Fast**

### **Thermal Cycler**

**DNA amplification,  
it's done in 20 minutes.**

**The best tool to make your PCR diagnostic application  
faster and easier**

**GENECHECKER** adopted special polymer chip (**Rapi:chip™**) which enables even faster thermal treatment of samples in it than the case of using PCR tubes for conventional PCR instruments. 8 °C/sec ramping rate can be achieved, for both heating and cooling, through the thermal cycling mechanism of **GENECHECKER**.

**State-of-the-art hardware technology achieved  
great performance and cost effectiveness.**

The patented technical know-how of Genesystem, applied to the model UF-100 thermal cycler, is optimized for design and production of PCR device, and publicly awarded Grand Prize at KINPEX, the most prestigious competition for high-end inventions.

Patented chip based design and ultra-fast ramping provides extremely rapid output.  
– “40 cycles in 20 minutes”

Innovative PCR device at an affordable price

Intuitive control with LED indicated jog-dial and LCD display

Innovative and compact design for laboratory and POCT applications

Increased sample capacity (16 samples) provides better efficiency.

# Ins and Outs of **GENECHECKER**<sup>®</sup>



Ins and Outs of  
GENECHECKER™

## SPECIFICATION

<b>Operating Mechanism</b>	Precise Control of Peltier Element
<b>Temperature Accuracy</b>	± 0.5°C
<b>Temperature Uniformity</b>	± 0.5°C (Well to Well)
<b>Temperature Stability</b>	± 0.5°C
<b>Ramping Rate</b>	8.0°C / second
<b>Range of Temperature Setting</b>	35 ~ 65°C (1.0°C Increment) for RT Step 20 ~ 99°C (1.0°C Increment) for PCR
<b>Sample Format</b>	Polymer Based 3-Dimensional Microfluidic Chip
<b>Number of Samples per Run</b>	10 or 16 (depending on the PCR chip to be used.)
<b>Reaction Volume</b>	10µl
<b>Typical PCR Duration</b>	Less than 20 Minutes for 40 Cycles (without RT Step)
<b>Display</b>	Text LCD (4 Line)
<b>Integrated Memory</b>	Saves up to 12 PCR Protocols
<b>Power (Wattage)</b>	AC 110-230V (50-60Hz) Input / DC 12V Output (70 W)
<b>Dimension / Weight</b>	200(w) x 200(d) x 125(h) mm / 3.2kg

## ORDERING INFORMATION

<b>Cat. No.</b>	<b>Description / Pack Size</b>
001100	Model UF-100 <b>GENECHECKER</b> Ultra-Fast Thermal Cycler / 1 SET

### ① LCD Display

4-lined text LCD offers clear identification while protocol setting and status monitoring.

### ② MENU button

Main menu screen is displayed when this button is pressed from initial screen. Displayed screen moves to previous step when this button is pressed.

### ③ Jog-Dial

Rotating jog-dial in clockwise direction moves cursor on the display down (right) or increases set values. Rotating jog-dial in counter-clockwise direction moves cursor on the display up (left) and decreases set values. Pressing jog-dial selects the menu where cursor is located.

### ④ LED Indicator

LED indicator is illuminated in two different colors – blue and red. Blue LED indicates that the instrument is idle and ready for use. Red LED indicates that the instrument is in use, i.e. PCR cycle is being performed. LED is turned off when prompted PCR cycles are finished.

### ⑤ RUN/STOP button

Selected PCR protocol is executed when this button is pressed. Currently performed PCR cycle is immediately stopped when this button is pressed while the instrument is running.

### ⑥ Chip Presser

Automatically presses upper surface of chip when the drawer is closed.

### ⑦ Heating Plate

This is the point where the chip is loaded for PCR cycles. Flat surface is heated and cooled during thermal cycling.

### ⑧ Air Ventilation Holes

Holes which air flows into the instrument through.

### ⑨ Chip Drawer

This is the module transporting the chip into the instrument. Mechanically stable structure and robust design offers soft movement and maintenance-free features of this frequently used part.

### ⑩ PUSH bar

Chip drawer is gently opened and upper sealing cap on the heating plate is automatically lifted when this bar is softly pressed.

### ⑪ Groove for Easy Handling

This part is to enhance portability of instrument.



**Genesystem Co., Ltd.**

506, Daejeon Bioventure Town, 1662, Yuseong-daero, Yuseong-gu, Daejeon, 34054, Korea  
phone : +82 42 863 8551 fax : +82 42 863 8553 email : sales@genesystem.co.kr web : www.genesystem.co.kr





# GENECHEQUER<sup>®</sup>

## Model UF-150 Ultra-Fast Real-time PCR System

### Fast and easy qPCR platform that benefits your application

**New sample format and state-of-the-art hardware technology makes the difference.**

**GENECHEQUER** adopted special polymer chip (**Rapi:chip™**) which enables even faster thermal treatment of samples in it than the case of using PCR tubes for conventional PCR instruments. 8°C/sec ramping rate can be achieved, for both heating and cooling, through the thermal cycling mechanism of **GENECHEQUER**.

**Innovative detection mechanism ensures reliable results of analysis.**

Integrated camera module of **GENECHEQUER** fully monitors and records the fluorescence signal of samples during reaction process and the recorded signals are processed and displayed within **GeneRecorder** software for analysis. **GENECHEQUER** provides precise result of reaction with unique data processing method, compared to the conventional instruments in the market, which collects the fluorescence signal with optical scanning method. **GENECHEQUER** software adopted key analysis parameters which are similar to conventional instruments in the market and any users can easily make use of this intuitive analysis tool. **GENECHEQUER** comes with **GeneRecorder** software and its license. Every units are individually calibrated before shipping and no user's calibration is needed to run the instrument.

Patented chip based sample format and ultra-fast ramping provides extremely rapid output. – "40 cycles in 20 minutes"

Real-time analysis through dedicated software, GeneRecorder

Small footprint (20cm x 20cm x 12.5cm) for laboratory and POCT use

DC power driven – battery operation possible using optional power kit

Intuitive control with LED indicated jog-dial and LCD display

One-step reverse transcriptase PCR available for RNA applications

**This could be your point-of-care molecular diagnostics platform.**

**GENEHECKER** Model UF-150 platform can be applied to point-of-care molecular diagnostics using its ultra-fast reaction capability and easy-to-use interface for analysis. Aside from standard platform, Genesystem offers OEM manufacturing service in order to customize the design and performance tailored to the requirements of its clients in molecular diagnostics industry.



Analysis process becomes more than 'simple' with **GeneRecorder**.

**SPECIFICATION**

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<b>Temperature Stability</b>	± 0.5°C
<b>Ramping Rate</b>	8.0°C / second
<b>Range of Temperature Setting</b>	35 ~ 65°C (1.0°C Increment) for RT Step 20 ~ 99°C (1.0°C Increment) for PCR
<b>Sample Format</b>	Polymer Based 3-Dimensional Microfluidic Chip
<b>Number of Samples per Run</b>	10
<b>Reaction Volume</b>	10µl
<b>Typical PCR Duration</b>	Less than 20 Minutes for 40 Cycles (without RT Step)
<b>Method of Detection</b>	Analysis of Digitized Fluorescence Signal
<b>Display</b>	Text LCD (4 Line)
<b>Integrated Memory</b>	Saves up to 12 PCR Protocols
<b>Type of Excitation</b>	High Brightness LED
<b>Excitation Wavelength</b>	465nm ± 10nm
<b>Number of Detection Channel</b>	1 (FAM, SYBR Green)
<b>Method of Fluorescence Measurement</b>	Integrated Camera Module (CMOS)
<b>PC Connection</b>	USB 2.0 A to B (PC to Device) Only available through GeneRecorder)
<b>Power (Wattage)</b>	AC 110-230V (50-60Hz) Input / DC 12V Output (70 W)
<b>Dimension / Weight</b>	200(w) x 200(d) x 125(h) mm / 3.2kg

- 1** Real-time amplification curves are displayed in this section.
- 2** As a tool of post-reaction analysis, melt cycle is performed and the change of fluorescence signal during melt cycle is displayed in this section once melt cycle is finished.
- 3** Based on the result of melt cycle, melt peak is displayed for easy identification and comparison of Tm values.
- 4** This section shows the reaction data such as Ct and Tm. In case of quantitation, copy numbers are also displayed.

**ORDERING INFORMATION**

<b>Cat. No.</b>	<b>Description / Pack Size</b>
001151	Model UF-150 <b>GENEHECKER</b> Ultra-Fast Real-time PCR System / 1 SET
003001	Car Power Kit / 1 SET
003002	Battery Power Kit / 1 SET



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506, Daejeon Bioventure Town, 1662, Yuseong-daero, Yuseong-gu, Daejeon, 34054, Korea  
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