

# REAL-TIME THERMAL CYCLER



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Real-time PCR has revolutionized the way clinical microbiology laboratories diagnose human pathogens. It delivers reliability, sensitivity, and accuracy, which is optimized to enable the broadest range of real time PCR applications. Features like compact size, individually programmed wells, heated lids to prevent condensation, higher throughput and software integration makes it an unique choice.

Used in Quantitative gene expression analysis, SNP analysis, drug target validation, genotyping, RNA Analysis, Rare Mutation Detection, Clinical Microbiology.

Also known as Real-Time PCR Thermal Cyclers, Thermocycler, Quantitative PCR, Laboratory Real Time PCR, Laboratory Thermocycler, Laboratory Quantitative PCR, Laboratory Real-time Thermal Cycler.

## PR11 SERIES REAL-TIME THERMAL CYCLER

- Petlier technology: Solid-state, thermoelectric heating and cooling unit for improved control and durability
- Bottom detection system provides greater accuracy and sensitivity of measurements
- High-powered photomultiplier provides sensitive detection
- Long life LED excitation light source does not need maintenance or preheating
- Hot-lid feature allows oil-free operation
- Advanced PID control ensures the accuracy of temperature control



### FEATURES

Absolute Quantification, Relative Quantification, SNP Analysis

Data Automatic Analysis; Melting Curve Genotyping

Gradient; HRM; Multi-channel Crosstalks Correction

Background Correction; Automatic Gain; Customized Parameters

PR112 PR113 PR114 PR115

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### SPECIFICATIONS

| Model             | PR112         | PR113                                         | PR114                                                                         | PR115 |
|-------------------|---------------|-----------------------------------------------|-------------------------------------------------------------------------------|-------|
| Sample Capacity   | 48x0.2 ml     | 48x0.2 ml (Single tube or Strips 8 PCR tubes) | 96-Well PCR plate, 12x8-strip, 96x0.2 ml (Bottom Transparent)                 |       |
| Temperature Range | 4°C~99°C      | 4~105°C (Minimum setting scale: 0.1°C)        | 4~105°C (Minimum Increment: 0.1°C) SOAK Low Temperature Conservation Function |       |
| Dynamics Range    | 1~1010 Copies | -                                             | 1~1010 Copies                                                                 |       |

|                                      |                         |                                                                                                   |                                                                                                                                  |                                                                                                                          |
|--------------------------------------|-------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
| Max Heating Rate                     | ≥4.0°C / sec            | -                                                                                                 | -                                                                                                                                | -                                                                                                                        |
| Max Cooling Rate                     | ≥4.0°C / sec            | -                                                                                                 | -                                                                                                                                | -                                                                                                                        |
| Sample Volume Range                  | 10-100μL                | -                                                                                                 | 5-100 μL                                                                                                                         |                                                                                                                          |
| Uniformity                           | ≤±0.3°C                 |                                                                                                   |                                                                                                                                  |                                                                                                                          |
| Accuracy                             | ≤±0.1°C                 | ≤±0.1°C(55°C typical value)                                                                       | ≤±0.1°C                                                                                                                          |                                                                                                                          |
| Gradient Temp Range                  | 1°C~24°C                | -                                                                                                 | 1~36°C                                                                                                                           |                                                                                                                          |
| Hot Lid Temperature                  | 80°C~110°C              | 70°C~110°C                                                                                        | 30°C~110°C                                                                                                                       |                                                                                                                          |
| PC Operation system                  | Windows 2000 / XP       | Microsoft: WindowsXP / VISTA / Windows7 / Window8                                                 | Microsoft: Windows 2000 / XP / vista / Windows 7 / Windows 8(Compatible with 64-bit operating system) Software: Excel2003 / 2007 | Microsoft: Windows 7 / Windows 8.1 Software: Excel2000 /2002 / 2003 / 2007 / 2012                                        |
| Dimension (W×D×H)                    | 450x520x320 mm          | 384x353x348 mm                                                                                    | -                                                                                                                                | 386x410x352 mm                                                                                                           |
| Power                                | 650 W                   | 600 W                                                                                             |                                                                                                                                  |                                                                                                                          |
| Weight                               | 25 kg                   | 13 kg                                                                                             | 28 kg                                                                                                                            | -                                                                                                                        |
| Power Supply                         | AC 110~220 V 50 / 60 Hz | 100-240 V, 50-60 Hz                                                                               |                                                                                                                                  | -                                                                                                                        |
| Detected Fluorescence                | -                       | F1: FAM, SYBR Green I; F2: VIC, HEX, TET, JOE, Cy3, TAMRA; F3:ROX, TEXAS-RAD, F4: CY5, Quasar-670 | -                                                                                                                                | F1: FAM, SYBR Green I; F2: VIC, HEX, TET, JOE, Cy3, TAMRA; F3:ROX, TEXAS-RAD, F4: CY5, Quasar-670; F5: CY5.5, Quasar-705 |
| Operation Mode                       | -                       | Continuous                                                                                        |                                                                                                                                  | -                                                                                                                        |
| Heating/Cooling adjustable rate      | -                       | 4.0°C / s(max)                                                                                    | 4.0°C / s                                                                                                                        | 4.0°C / s(max)                                                                                                           |
| Temperature Fluctuation              | -                       | ≤±0.1°C                                                                                           |                                                                                                                                  |                                                                                                                          |
| Height of hot Lid                    | -                       | Automatic Adjustable (Default 105°C)                                                              |                                                                                                                                  |                                                                                                                          |
| Socket                               | -                       | USB Adapter, RS232 Adapter, Bluetooth Adapter                                                     | USB Adapter, RS232C Adapter(optional), Bluetooth Adapter(optional)                                                               | USB Adapter, RS232 Adapter, Bluetooth Adapter                                                                            |
| Excitation Wavelength                | -                       | -                                                                                                 | 300-800 nm                                                                                                                       |                                                                                                                          |
| Emission Wavelength                  | -                       | -                                                                                                 | 500-800 nm                                                                                                                       |                                                                                                                          |
| Fluorescence Detection Repeatability | -                       | -                                                                                                 | 0.05                                                                                                                             |                                                                                                                          |
| Scan Mode                            | -                       | -                                                                                                 | Entire plate or Designated Line                                                                                                  |                                                                                                                          |

|                   |   |   |                                                                        |       |
|-------------------|---|---|------------------------------------------------------------------------|-------|
| Scan Period       | - | - | 5.5 s (F1 / F2 96 Plate Scan)                                          | 5.5 s |
| Temp Control Mode | - | - | Block, tube Simulation Mode (Automatic Control Based on Sample Volume) |       |
| Memory Capacity   | - | - | Memory: 2G Hard Disk: 32GB                                             |       |
| Max.No.of Cycle   | - | - | -                                                                      | 99    |
| Max Segments      | - | - | -                                                                      | 20    |

## DETECTED FLUORESCENCE

| A20                                             | A40                                                                                          | A60                                                                                               | A80                                                                                                                                            |
|-------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| F1: FAM, SYBR Green I<br>F2: VIC, HEX, TET, JOE | F1: FAM, SYBR Green I<br>F2: VIC, HEX, TET, JOE<br>F3: Cy3, NED, TAMRA<br>F4: ROX, TEXAS-RED | F1: FAM, SYBR Green I<br>F2: VIC, HEX, TET, JOE, Cy3, NED, TAMRA<br>F3: ROX, TEXAS-RED<br>F4: Cy5 | F1: FAM, SYBR Green I<br>F2: VIC, HEX, TET, JOE<br>F3: Cy3, NED, TAMRA<br>F4: ROX, TEXAS-RED<br>F5: Cy5<br>F6: Cy5.5<br>F7, F8: For Customized |

## OPTIONAL ACCESSORIES

| Accessory Code | Name    | Description                            | Excitation Wavelength(450-590 nm)                                | Emission Wavelength                                              | Detected Fluorescence                                                     | For Models |
|----------------|---------|----------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|---------------------------------------------------------------------------|------------|
| PX1016         | Block A | 48x0.2 ml (4 channels, auto hot-lid)   | Standard Channels:<br>F1:470 nm, F2:523 nm, F3:543 nm, F4:571 nm | Standard Channels:<br>F1:525 nm, F2:564 nm, F3:584 nm, F4:612 nm | F1: FAM, SYBR Green I F2: HEX, VIC F3: TAMRA, JOE, Cy3 F4: TEXAS-RED, ROX | PR112      |
| PX1017         | Block B | 48x0.2 ml (2 channels, manual hot-lid) | F1:470 nm, F2:564 nm                                             | F1: 525 nm, F2: 564 nm                                           | F1: FAM, SYBR Green I F2: HEX, VIC                                        | PR112      |
| PX1018         | Block A | 48x0.2 ml, 4 channels                  |                                                                  |                                                                  |                                                                           | PR113      |
| PX1019         | Block B | 48x0.2 ml, 2 channels                  |                                                                  |                                                                  |                                                                           | PR113      |
| PX1012         | Block A | 96x0.2 ml, 8 channels, bluetooth       |                                                                  |                                                                  |                                                                           | PR114      |
| PX1013         | Block B | 96x0.2 ml, 6 channels, bluetooth       |                                                                  |                                                                  |                                                                           | PR114      |
| PX1014         | Block C | 96x0.2 ml, 4 channels                  |                                                                  |                                                                  |                                                                           | PR114      |
| PX1015         | Block D | 96x0.2 ml, 2 channels                  |                                                                  |                                                                  |                                                                           | PR114      |
| PX1020         | Block A | 96x0.2 ml, 5 channels                  |                                                                  |                                                                  |                                                                           | PR115      |

|        |         |                       |  |  |  |       |
|--------|---------|-----------------------|--|--|--|-------|
| PX1021 | Block B | 96x0.2 ml, 4 channels |  |  |  | PR115 |
| PX1022 | Block C | 96x0.2 ml, 2 channels |  |  |  | PR115 |



PR112



PR113



PR114



PR115

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