

Piko[®] Thermal Cyclers

Half the size - Twice the speed - Top performance



Piko[®] Thermal Cyclers



Finnzymes' Piko[®] Thermal Cyclers deliver high performance in a compact package. Although merely half the size of other instruments, the Piko Thermal Cycler meets the highest criteria in performance and is able to complete a PCR protocol in less than 15 minutes. This is achieved using novel technical advances that allow significant reduction in PCR run times and overall size of the instrument.

The Piko Thermal Cycler is an ideal solution for both conventional and fast PCR applications. Due to its small size and low power consumption, the Piko Thermal Cycler is also conveniently portable for field use. Overall, the system is widely adaptable and offers many benefits for today's molecular biology laboratories. Combining the instrument with Finnzymes' Phusion[®] DNA Polymerases and UTW[®] vessels provides additional speed and reliability for PCR – a solution we call High Performance PCR. Piko Thermal Cyclers are manufactured under ISO9001 compliance and are fully licensed for PCR.

Two formats: 24- and 96-well blocks

Piko Thermal Cyclers are available with two different block configurations: 24-well and 96-well. Advanced patent pending technology has enabled the manufacture of small but highly efficient PCR instruments. 24-well cyclers accept all standard low profile single tubes, 8-tube strips and 24-well Piko[®] PCR Plates. The 96-well instrument utilizes 96-well Piko PCR Plates, which are only ¼ the size of a conventional microplate. Despite the small size, all Piko PCR Plates maintain industry standard well spacing and sample capacity.

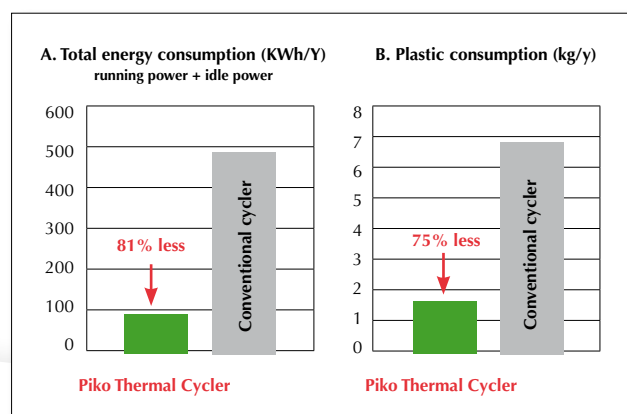
Advantages

- **Best-in-class thermal performance**
The instrument utilizes advanced technology enabling extremely short block settling times and high temperature uniformity across the block.
- **Time savings**
Fast ramp rates and quick settling times allow for PCR in as little as 10 minutes.
- **Reagent savings**
Repeatable yields from as little as 2 µl when using UTW vessels and Finnzymes' sealers.
- **Space savings**
The smallest footprint available.
- **Repeatable sealing**
The pressure of the heated lid is set automatically, which provides consistent sealing from run-to-run.
- **Energy saving**
Short protocols and low wattage requires only ¼ the power consumption of typical thermal cyclers.

Green PCR

Reduced consumption – Enhanced performance

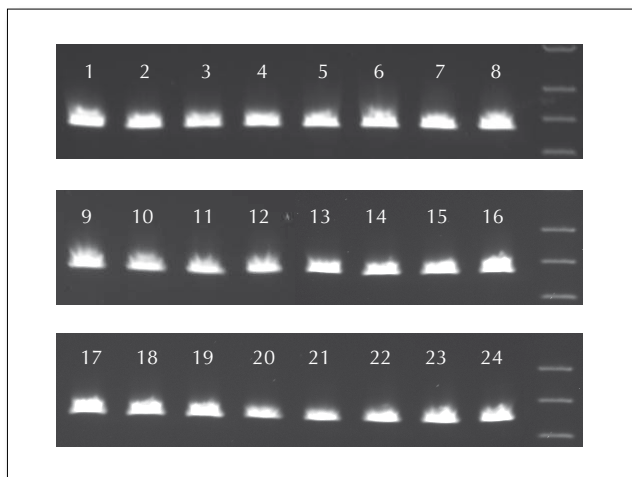
In addition to delivering first class performance, Piko Thermal Cyclers help to reduce the environmental impact of your PCR. The unique design of the heating block and small plate format allow significant savings both in energy and plastics consumption.



Significant savings in energy and plastics consumption. A) Total estimated annual energy consumption of the 96-well Piko Thermal Cycler vs. conventional 96-well cycler. B) Estimated annual plastics consumption using 96-well Piko PCR Plates vs. conventional 96-well microplates. Both calculations are based on 400 PCR runs per year.

High yields and uniform results in 10 minutes

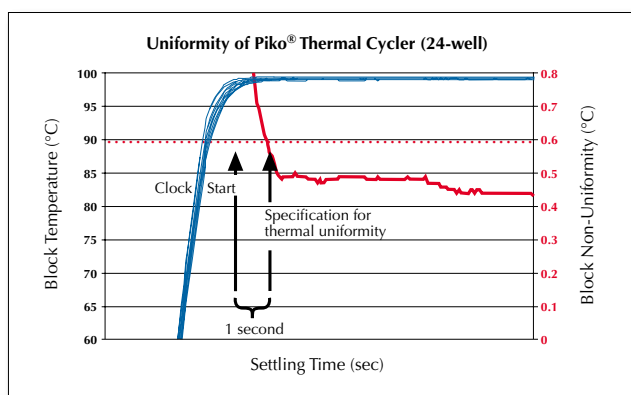
Fast ramp rates and short block temperature settling time enable very short cycling protocols.



A 400 bp amplicon from lambda DNA was amplified with an ultra-fast PCR protocol on a 24-well Piko Thermal Cycler using Finnzymes' UTW reaction vessels and Phusion Flash High-Fidelity PCR Master Mix. 5 µl aliquots of each 15 µl reaction were run on an agarose gel. The following PCR protocol was used: 25 cycles of [98°C for 0 sec, 72°C for 0 sec], 72°C for 10 sec. Total cycling time was about 10 min.

Incredibly short 1-second block settling time

The best-in-class thermal performance of Piko Thermal Cyclers is characterized by near-perfect uniformity and 1-second settling times (the time it takes for the temperature of all samples in the block to reach equilibrium). This means significant reduction of incubation times in most PCR protocols.



The temperature of each well of a 24-well Piko Thermal Cycler was individually measured during block temperature ramp to 98°C (blue lines). The steep downward slope of the non-uniformity trace (solid red line) indicates extremely fast settling time across the block. Measurements were performed with a 16-probe MTAS[®] temperature verification system from Cyclertest.

Accessories

UTW[®] reaction vessels and sealers

Finnzymes' UTW (ultra-thin wall) tubes and plates guarantee reliable results with routine and ultra-quick PCR protocols. Our patent pending injection molding technology allows the manufacture of consumables in which the vessel wall is less than half the thickness of conventional "thin-walled" tubes. Ultra-thin walls maximize heat transfer between the heat block and sample enabling the samples to reach the target temperature faster. This, in turn, allows shorter incubation times without compromising the consistency of results. Single tubes and 8-tube strips have attached flat caps and Piko PCR Plates can be tightly sealed with either 8-cap strips or various adhesive sealing films.



Piko[®] Plate Illuminator - Simplify sample loading

Finnzymes' Piko[®] Plate Illuminator is a state-of-the-art plate rack that provides a simple way to track the loading of reactants by illuminating the target well(s) from below with white LED lights. With 10 different pre-programmed loading patterns, this device can fulfill just about any protocol requirements. It accepts both 24-well and 96-well Piko PCR Plates and can be used with all standard single-channel, 8-channel or 16-channel pipettors.



Piko[®] Microcentrifuge

Finnzymes' Piko[®] Microcentrifuge is a compact centrifuge for spinning down samples. It is compatible with all 0.2 ml tubes, 8-tube strips and Piko PCR Plates. The Piko Microcentrifuge has two interchangeable rotors.



Technical specifications

| Piko® Thermal Cycler | |
|-----------------------------|--|
| Size | Width 16 cm, depth 17 cm, height 23 cm |
| Weight | 4 kg (with external power supply) |
| Power requirements | 100–240 V input power |
| Block configurations | 24-well and 96-well |
| Max ramp rate | 5°C heating and 4.5°C cooling |
| Thermal uniformity | +/- 0.3°C within 1s of clock start at 95°C |
| Thermal accuracy | +/- 0.2°C |
| Settling times: | Achieve Thermal Specifications within 1 s of start of clock |
| Thermal range | 0°C - 99.9°C |
| User interface | Semi-graphical programming |
| Number of programs | Over 1000 |
| Heated lid | Fully-automated and motorized function |
| Warranty | 2 years parts and labor |
| Piko® Plate Illuminator | |
| Size | Width 16 cm, depth 9 cm, height 3 cm |
| Weight | 0.1 kg |
| Vessel types | 24-well and 96-well Piko PCR Plates |
| Programs | 10 preset and user-selectable loading patterns |
| Power requirements | 100–240 V input power |
| Piko® Microcentrifuge | |
| Size | Width 14 cm, depth 15 cm, height 10 cm |
| Weight | 0.5 kg |
| Power requirements | 115–220 V input power |
| Rotor configurations | Rotor 1: 32 x 0.2 ml individual tubes or 4 x 8-strip 0.2 ml tubes Rotor 2: 24-well or 96-well Piko® PCR Plates (interchangeable, both included in the package) |
| Spin rate | ~ 3000 rpm |

Ordering information

| Product number | Description | Quantity |
|-------------------------------|--|-----------------------|
| Piko® Thermal Cyclers | | |
| TCP0024 | 24-well Piko® Thermal Cycler | 1 |
| TCP0096 | 96-well Piko® Thermal Cycler | 1 |
| Piko® Plate Illuminator | | |
| PIP2496 | Piko® Plate Illuminator | 1 |
| Piko® Microcentrifuges | | |
| MCP0010 | Piko® Microcentrifuge with 2 rotors (US 110V) | 1 |
| MCP0011 | Piko® Microcentrifuge with 2 rotors (UK, 230V) | 1 |
| MCP0012 | Piko® Microcentrifuge with 2 rotors (EU, 230V) | 1 |
| UTW® PCR tubes with flat caps | | |
| TUC0080 | UTW® 8-tube strip with attached flat optical caps, clear | 120 strips |
| TUC0010 | UTW® individual tube with attached flat optical cap, clear | 960 tubes |
| Piko® PCR Plates and Frames | | |
| SPL0240 | 24-well Piko® PCR Plate, clear | 200 plates |
| SPL0960 | 96-well Piko® PCR Plate, clear | 200 plates |
| SFR0241 | 24-well Piko® PCR Plate Frame, white. Holds 4 plates. | 50 frames |
| SFR0961 | 96-well Piko® PCR Plate Frame, white. Holds 4 plates. | 50 frames |
| SAF2410 | 24-well Piko® PCR Plate/Frame assembly. Clear plate, white frame. | 200 plates, 50 frames |
| SAF9610 | 96-well Piko® PCR Plate/Frame assembly. Clear plate, white frame. | 200 plates, 50 frames |
| Sealers and racks | | |
| HSF0021 | Heat sealing film, opaque, Piko size | 400 sheets |
| ASF0020 | Optical adhesive film, cryo-storage compatible, Piko size | 400 sheets |
| TCS1080 | Flat 8-cap strips, optical | 120 strips |
| PRK0963 | 96-well sample prep rack with lid | 5 racks and lids |
| PRK1963 | 96-well support rack for heat sealing and automated dispensing, blue aluminum | 1 rack |
| PRK1383 | 384-well support rack for heat sealing and automated dispensing, blue aluminum | 1 rack |

PCR vessels and frames are available in several colors. Complete list of products is available at www.finnzymes.com.

www.finnzymes.com

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The quality system of Finnzymes Oy is certified according to standard SFS-EN ISO9001:2008.

