

High Speed Air Thermocycler

RapidCycler[®] 2 Instrument



We have combined the ideal sample container with the ultimate heating and cooling medium - high velocity air.

Available Spring 2004

Capillary Tubes

The RapidCycler 2 uses 1.5 mm Roche LightCycler[®] Capillary tubes which are ideally suited for high-speed temperature cycling due to their thin walls and extremely high surface-area-to-volume ratio.



By combining glass capillary tubes and air as the cycling medium we have cut sample temperature lag to less than a second, therefore yielding high temperature ramp rates. Inside RapidCycler's cylindrical reaction chamber, tornado-like conditions ensure both temperature uniformity and rapid heat exchange within the sample. This allows the RapidCycler to spend less than one second at the high and low temperatures and still be certain that each sample has reached the target temperature.

The RapidCycler 2 in combination with our HR-1[™] instrument, creates the ideal bench top system for low cost gene scanning and mutation detection. Capillary Tubes can be transferred directly from the RapidCycler 2 to the HR-1.

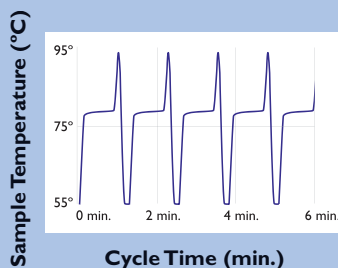


	The Standard in Air Thermocycling for over 10 years
	10° C per/sec. Peak Rate
	High Temperature DNA Amplification
	30 Cycles in under 10 Minutes
	48 Sample Capacity, Uses Glass Capillary Tubes
	User Friendly Interface
	Maximum Run 1,536 Samples per Day
	99 Cycle Programs

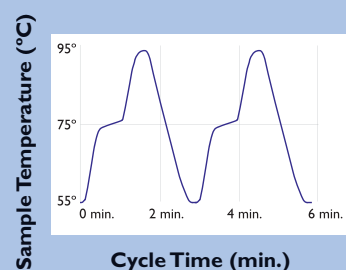
Why is the RapidCycler[®] 2 Instrument so Fast?

One major factor is that the RapidCycler uses air instead of a metal heat block to heat and cool its samples. Due to the low thermal mass air, it can be temperature cycled much more quickly than a metal block, yielding shorter cycle times. This allows the RapidCycler to spend less time ramping to its target temperatures and provide greater sample temperature uniformity. In addition to faster cycle times, air thermocycling reduces the amount of non-specific amplified product made.

RapidCycler Instrument



Heat Block Instrument



Cycle Time

Between 20-60 sec. for most applications. 30, three temperature cycles in 10-30 min.

Minimum Cycle Times

Less than 20 sec. per cycle (94°C/ 0 sec.: 65°C/ 0 sec.: 72°C/ 5 sec.)
*30 cycles completed in 9 min. 25 sec in a 10 µl reaction using microcapillary tubes.

Temperature Ramping

10°C/ sec. peak rate.

Programming

Single screen programming. All cycle parameters are displayed on a single 4 x 20 LCD screen. Sixteen button keypad with cursor keys for convenient user input.

Program capacity

Max. Cycles
Max. Hold Times
Linking

99 cycle programs, 99 hold programs, 99 link programs
99 per cycles program
99 hours, 59 min 59 sec
Up to ten cycle or hold programs can be linked together. Capable of storing up to 99 linked programs.

Maximum Throughput

1,536 samples per 8 hour day (15 min. runs of 48 samples each)

Sample Capacity Sample Handling

48 samples per run
1.5 mm Capillary tubes (5-20 µl). The Roche LightCycler[®] Capillary tubes are held at microtiter spacing for simultaneous sample pickup, cycling and delivery. An optional buffer system allows direct loading of sample onto gels without further manipulation.

Temperature Profile

Accuracy
Resolution
Variation

± 0.5 °C
1.0 °C
Between and within sample < 1.0 °C.

Dimensions

12 x 9 x 15 inch / 30 x 23 x 37 cm (h x w x d), 26.5 lbs. / 12 kg

Power Requirements

100 8.0A -120 6.0 A VAC, or 220-230 VAC, 4.0A

Warranty

1 year, parts and labor

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RCL2-PRT-0100 Rev 01

