

# Cole-Parmer® PCR-300

Endpoint PCR Range



Cole-Parmer® PCR-300

[coleparmer.com](http://coleparmer.com)

Cole-Parmer®



Introducing the Cole-Parmer® PCR-300 Alpha Cyclers. Precise, cost-effective and now with a new look

## The Cole-Parmer PCR-300 Series

The Cole-Parmer PCR-300 Alpha Cyclers are developed to deliver not only the best quality data you can expect from a thermal cycler but also to innovate and exceed the high standards expected by the community. With options of either one, two or four independently controllable blocks, the PCR-300 is a platform which scales to the throughput of the laboratory. With programs easily transferable between any PCR-300 instrument and user specific defaults stored on the user's USB login device (any USB drive can be programmed as a login device) there are no issues with transferring work between systems or collaborating/sharing across multiple sites.



PCR-300-S Single Block



PCR-300-D Dual Block

## Cole-Parmer PCR-300 Key Features

- Android driven HD touchscreen
- Automated protocol optimisation with Program Wizard
- Remote run and system monitoring via the Application
- Authorise any USB drive to be the user's login key
- Lock, protect and create favourite programs for ease of access and security
- 96 or 384 well blocks available with block types having gradient functionality
- Manually adjustable heated lids
- Save space with 2 or 4 block units

PCR-300-Q Quad Block



## Advanced Feature Set

PCR-300 Alpha Cyclers use an Android operating system and is controlled by either a 7" (PCR-300-S) or 10" (PCR-300-D and PCR-300-Q) HD touchscreen interface.

Program Wizard to automate optimisation.

USB login for easy access to any system.  
Potential to detect an error state before it effects results.



## Software

All PCR-300 Alpha Cyclers are driven by the same software allowing for simple use and transition between instruments for both users and protocols. The intuitive Android interface makes the system easy to use with minimal to no training. The home screen below highlights the clear and simple to follow nature of the PCR-300 software.



Program Interface Home Screen

## Program Wizard

All PCR-300 systems contain a novel Program Wizard, which allows users to automatically optimise their PCR protocol in 2 simple steps.

- Enter the forward and reverse primer sequences
- Defining the amplicon length and template source.

The built-in and validated algorithm then automatically generates a bespoke and specific protocol suitable for the target amplification.

Program Wizard also allows for high-specificity touch-down PCR and will accommodate for GC/AT imbalances in the target sequence to produce optimal Tms and hold times.



Live Progress view



Program Wizard

## Program Storage

Set the PCR-300 Alpha Cyclers to display Favourite, Most Frequent or Most Recently used programs on the home screen for easy and fast access. No need at all to access the system's memory or hunt through files, just select, confirm and run.



Program Manager

## USB Logins

Users can make any USB device their own login key. This means users don't need to remember passwords for each system, they simply insert the USB key to login which:

- Sets all defaults to the user's specific settings
- Allows access to logged in user programs
- Protects programs from being accessed by any other user
- Allows users to use multiple systems in different locations like their own unit. Simply remove the USB and the user is logged out and their programs are not displayed on the system



USB Login

## Gradient Technology

All PCR-300 block formats, 96 or 384 well, run gradients across the 12 or 16 columns respectively, allowing for sharper temperature optimisation, and by extension more specific PCR product amplification. Each block contains 8 individual heat sources (Peltier elements), which are controlled and monitored through the system for improved accuracy of both the temperature gradient and the fixed hold temperatures. The PCR-300 has a built-in gradient converter feature that allows for quick gradient temperature optimisation. With one-click the temperature can be adjusted to match the column that gave the best results, without the need for re-writing the protocol.

## Active Sample Cooling

The Active Sample Cooling (ASC) feature on the PCR-300 reduces the frequency of non-specific amplification. ASC can all but stop the formation of early primer-dimers. Even a small number of these short-fragment primer-dimers that form in the early stages of a PCR can be preferentially amplified over the longer target sequences, wasting valuable components that are needed to generate the target and reducing the final yield.

ASC works by simply chilling the block to 4 degrees and holding it there until the heated lid gets to the required temperature. Unlike other systems, the PCR-300 does not allow the heated lid initiate unwanted reactions that pollute the reaction mixture with primer-dimers complexes that form early in the PCR, amplify through the remaining cycles, and produce the unwanted yet characteristic fuzzy bands at the bottom of the gel.

# Cole-Parmer QPCR-500 Real Time qPCR System

The QPCR-500 qPCR system is a high specification, economically priced real time thermal cycler that accommodates a unique 48-well polypropylene PCR plate utilising the same geometry as standard 384-well plates, but only  $\frac{1}{8}$  of the size. This enables users to dramatically reduce the qPCR reagent volumes compared to traditional 96-well instruments, saving users precious sample, whilst still producing a strong fluorescence signal. Minimising the plate size also significantly improves thermal uniformity.

A minimum volume of 5 $\mu$ l is validated, resulting in a more efficient use of expensive and 'hard to acquire' template DNA samples.

The QPCR-500 system offers the qPCR capabilities of larger instruments in a compact, accurate footprint. Innovative features include a precise thermal system for unrivalled temperature control, an advanced optical system for highly sensitive fluorescence detection, a 48-well plate for flexible sample throughput and intuitive, icon-driven software for error-free instrument operation.

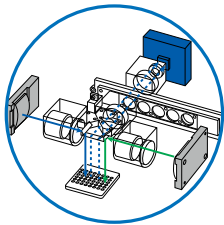


Cole-Parmer QPCR-500

\*QPCR-500 ordering information at the back.

# Cole-Parmer QPCR-500 Key Features

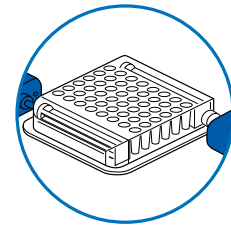
- MIQE compliant
- HRM functionality is provided as standard and can discriminate class IV SNP 99.9% of the time
- The QPCR-500 can utilise four colours for easy multiplexing
- Industry leading  $\pm 0.1^\circ\text{C}$  temperature uniformity (recorded at  $95^\circ\text{C}$  no settle time)
- High uniformity provides high quality data
- Fast cycling enables several experiments per day, all at an economical price
- Fastest block-based real-time PCR system with the ability to run 40 cycles in 20 minutes (or less when optimised)
- Open platform that can utilise any chemistry, dye or PCR reagent
- Calibrated for SYBR<sup>®</sup>, FAM<sup>™</sup>, HEX<sup>™</sup>, VIC<sup>™</sup>, ROX<sup>™</sup> and Cy<sup>®</sup>5 fluorescent dyes
- Easy to use software, streamlined for novices and experts
- No need to run triplicates, to compensate for poor thermal uniformity of block



Sensitive optical system delivers precise detection for a range of fluorophores



Convenient 48-well format meets the throughput needs of most researchers



Unique thermal system provides unmatched temperature control for accurate results

## Results from multiple instruments can be combined together



# Product Details



## Technical Specification

Item	PCR-300-S	PCR-300-D	PCR-300-Q
<b>Block options</b>	Single block 96 or 384 well format	Dual Block 96 or 384 well format	Quad block 96 or 384 well format
<b>Maximum heating rate</b>	3.4°C per second	3.4°C per second	3.4°C per second
<b>Block temperature range</b>	10°C to 100°C (4°C final hold)	10°C to 100°C (4°C final hold)	10°C to 100°C (4°C final hold)
<b>Block uniformity at 55°C</b>	± 0.3°C	± 0.3°C	± 0.3°C
<b>Temperature accuracy at 55°C</b>	± 0.25°C	± 0.25°C	± 0.25°C
<b>Gradient</b>	Yes (on all formats)	Yes (on all formats)	Yes (on all formats)
<b>Maximum gradient</b>	29°C	29°C	29°C
<b>Minimum gradient</b>	1°C	1°C	1°C
<b>Maximum number of programs stored</b>	1000	1000	1000
<b>Maximum fan noise</b>	50 dB	50 dB single block running 52–58 dB two blocks running	50 dB single block running 55–58 dB four blocks running
<b>Peltier element type</b>	8	8	8
<b>Adjustable heated lid temperature</b>	35°C to 115°C or off	35°C to 115°C or off	35°C to 115°C or off
<b>Heated lid pressure</b>	Adjustable	Adjustable	Adjustable
<b>Software platform</b>	Android	Android	Android
<b>Program interface</b>	7" HD	10" HD	10" HD
<b>Data transfer</b>	USB port	USB port	USB port
<b>Auto re-start on power failure</b>	Yes	Yes	Yes
<b>Dimensions (L x W x H) in mm</b>	430 x 260 x 200	470 x 535 x 335	700 x 535 x 335
<b>Weight</b>	11.8 kg	30 kg	47 kg
<b>Voltage</b>	100-230, 50-60 Hz	100-230, 50-60 Hz	100-230, 50-60 Hz
<b>Power</b>	450 W	900 W	1600 W
<b>Electricity (standard 30 cycle program)</b>	0.3 kWh	0.3 kWh	0.3 kWh

## Ordering

Description	Ordering Number	Series Number	Model Number	Legacy Sku.
PCR-300 with a single 96 well block	93945-02	PCR-300	PCR-300-S96	AC196
PCR-300 with a single 384 well block	93945-00	PCR-300	PCR-300-S384	AC1384
PCR-300 with two 96 well blocks	93945-22	PCR-300	PCR-300-D96	AC296
PCR-300 with two 384 well blocks	93945-28	PCR-300	PCR-300-D384	AC2384
PCR-300 with one 96 and one 384 well blocks	93945-20	PCR-300	PCR-300-D196	AC2196
PCR-300 with four 96 well blocks	93945-12	PCR-300	PCR-300-Q96	AC496
PCR-300 with four 384 well blocks	93945-08	PCR-300	PCR-300-Q384	AC4384
PCR-300 with one 96 and three 384 well blocks	93945-04	PCR-300	PCR-300-Q196	AC4196
PCR-300 with two 96 and two 384 well blocks	93945-06	PCR-300	PCR-300-Q296	AC4296
PCR-300 with three 96 and one 384 well blocks	93945-10	PCR-300	PCR-300-Q396	AC4396
*QPCR-500 Real-Time qPCR System, 48 well	93947-00	QPCR-500	QPCR-500	ECORT48

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