

PERFECT CYCLING  
VWR® THERMOCYCLERS



## THE VWR THERMOCYCLER FAMILY

**Latest technology in 32 (Ristretto), 2x 48 (Doppio), 96 and 384 (UNO) formats**

The latest generation of the VWR thermocycler family, packed with pioneering cyler engineering and now available in a wide range of block formats.

### New thermocycler technology

#### Outstanding performance

A newly engineered thermo plate with impressive thermal characteristics, powerful Peltier elements with Long Life Technology, a revolutionary heat sink and cooling fans with magnetic bearings enabling controlled rapid temperature change of up to 5 °C/s.

#### Reliable reproducible results

Novel Peltier elements control the temperature row by row enabling outstanding block homogeneity of  $\pm 0,2$  °C and the choice of absolute linear gradients and independent lane control.

#### German quality manufacturing

Engineered and manufactured in Germany according to ISO 9001, calibrated and maintained according to NIST standards and backed with more than 20 years of cyler expertise and experience.

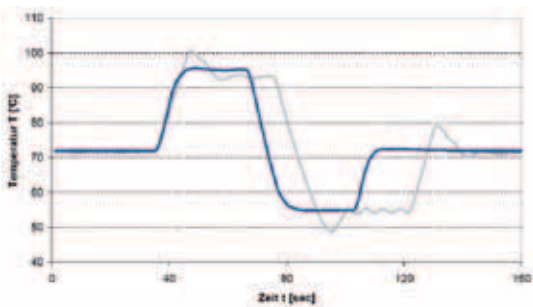
#### All so very simple

With a sharp, clear TFT display and intuitive 'touch screen' commands, just switch on the UNO, Doppio and Ristretto and you'll be ready to run.

#### A new suite of laboratory control

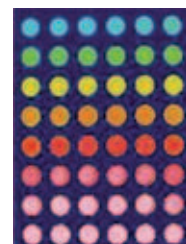
Up to 4x USB, 1x Ethernet (MS Windows®, Linux), remote control and monitoring of instruments via PC software, MP3 signal tones, user calls via email and master/slave control.





## Fast ramping up to 5 °C/s without overshoots

Through the combination of the newly developed thermo plate, high performance Peltier elements and sophisticated control circuitry.



## Up to date data management

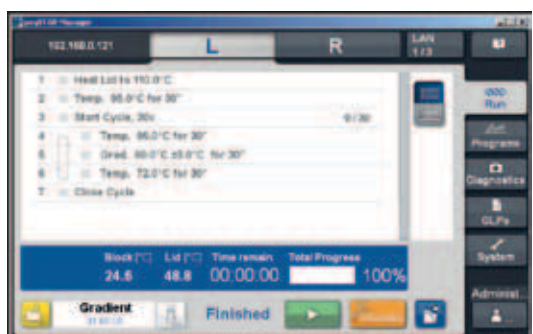
Huge 500 000 program memory, 4x USB ports for simple and quick data transfer. Network integration for central program administration for total cycler control.

## Simple to use VWR 'PCR Cycler Master Software'

For remote control and monitoring of instruments plus creating PCR protocols on a PC.

## FlexGradient Technology

With the temperature of the 8 rows each individually controlled, select between a perfectly linear temperature gradient – ideal for PCR optimisation, or independent lane control – ideal for the use of different primer pairs in the same run.



## New system tools

All at a touch of a button: Graphical or tabular programming, 'Global Program Ramp', 'Gradient Control', 'Tube Control', 'Emulation' mode, Online help, 'Quickstart' function and 'Power Fail Denaturation' for auto-restart after power failure.



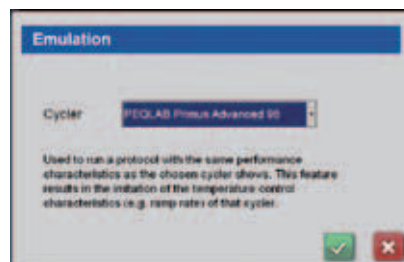
## High specification remote control

Packed with state-of-the-art technology, control your UNO, Doppio and Ristretto thermocycler with VWR 'PCR Cycler Master Software', receive notifications via email or just make use of the system's MP3 player.



## Emulation mode (UNO and Doppio)

The simplest way to transfer and optimise protocols from your old cycler, just pick a system from the drop down menu for immediate protocol emulation.



## Technical specifications

### System characteristics

- 8 (Ristretto), 2x 8 (Doppio) or 16 (UNO) powerful Peltier elements with Long Life Technology
- 8, 2x 8 or 16 control circuits with PT1000 thermal probes
- Max. heating and cooling rate: 5 °C/s (3 °C/s for Ristretto)
- Block uniformity (at 72 °C): ±0,2 °C
- Temperature range thermo block: 4 to 105 °C
- Regulating accuracy thermo block: ±0,1 °C
- Adjustable ramping: 0,1 to 3,0 °C/s (single steps or 'Global Program Ramp' for the whole protocol)
- Increment/decrement time: 0:01 to 9:59 minutes
- Increment/decrement temperature: 0,1 to 9,9 °C
- Temperature range heated lid: 40 to 120 °C
- Programmable lid locking (UNO and Doppio only)
- 4x USB (1x USB Ristretto), 1x Ethernet port (MS Windows®, Linux)
- Various blocks (32-well, 2x 48-well, 96-well and 384-well) available, see 'Ordering information' for further details
- Standard lid with automatic height adjustment, High Pressure Lid (HPL) with programmable pressure from 100 to 250 N for the UNO 384





### Gradient feature (optional)

- Maximum gradient over 8 or 16 rows: 30 °C (±15 °C)
- Temperature range gradient: 35 to 105 °C
- Gradient accuracy: ±0,1 °C
- Gradient upgradability on the spot
- FlexGradient Technology: Ideal, linear gradient or independent lane control
- Gradient Control: Synchronised plateau times or ramp rates

### User-interface/functions

- Touch-sensitive TFT display (800x480 px, 16:9, 65536 colours) control via USB mouse possible
- Internal memory for 500 000 typical PCR protocols in unlimited, self-created directories/subfolders
- Unlimited number of programs via network PC or using USB memory sticks
- PC software for convenient remote control/monitoring of runs and creation of PCR programs in the office
- Master/slave control of instruments
- Password protected user-accounts with flexible access rights
- Auto-restart after power failure
- Create and run programs using graphical or tabular view
- GLP reports for the continuous recording of all runs
- MP3 signal tones
- User-call via email
- Emulation mode for easier transfer of PCR protocols



### Our service pledge

- Personal and professional support through our application hotline and local field representatives
- Product demonstrations, installation and on-the-spot instruction
- Rapid delivery times

### Ordering information



Model	Description	Cat. No.
UNO <sup>96</sup>	With 96-well universal block and standard lid for 96x 0,2 ml tubes, 96-well PCR plates or 48x 0,5 ml tubes with flat caps	732-2548
UNO <sup>96</sup> Gradient	With 96-well universal gradient block and standard lid for 96x 0,2 ml tubes, 96-well PCR plates or 48x 0,5 ml tubes with flat caps	732-2549
UNO <sup>384</sup> HPL	With 384-well block and High Pressure Lid for 384-well PCR plates	732-2550
Doppio	With 2x 48-well universal blocks and standard lids for 48x 0,2 ml tubes or 24x 0,5 ml tubes with flat caps per block	732-2551
Doppio Gradient	With 2x 48-well universal gradient blocks and standard lids for 48x 0,2 ml tubes or 24x 0,5 ml tubes with flat caps per block	732-2552
Ristretto	With 32-well universal block and standard lid for 32x 0,2 ml tubes or 16x 0,5 ml tubes with flat caps	732-2553
Gradient upgrade	For UNO For Doppio	732-2554 732-2555



## VWR products for PCR

Reagents, consumables and instruments  
From extraction to results analysis

Contact your local VWR sales office  
for details or visit [vwr.com](http://vwr.com)

### Austria

VWR International GmbH  
Graumannsgasse 7  
1150 Vienna  
Tel.: +43 1 97 002 0  
Fax: +43 1 97 002 600  
Email: [info@at.vwr.com](mailto:info@at.vwr.com)

### Belgium

VWR International bvba  
Researchpark Haasrode 2020  
Geldenaaksebaan 464  
3001 Leuven  
Tel.: 016 385 011  
Fax: 016 385 385  
Email: [customerservice@be.vwr.com](mailto:customerservice@be.vwr.com)

### Czech Republic

VWR International s. r. o.  
Veetee Business Park  
Pražská 442  
CZ - 281 67 Stříbrná Skalice  
Tel.: +420 321 570 321  
Fax: +420 321 570 320  
Email: [info@cz.vwr.com](mailto:info@cz.vwr.com)

### Denmark

VWR - Bie & Berntsen  
Transformervej 8  
2860 Søborg  
Tel.: 43 86 87 88  
Fax: 43 86 87 90  
Email: [info@dk.vwr.com](mailto:info@dk.vwr.com)

### Finland

VWR International Oy  
Valimotie 9  
00380 Helsinki  
Tel.: 09 80 45 51  
Fax: 09 80 45 52 00  
Email: [info@fi.vwr.com](mailto:info@fi.vwr.com)

### France

VWR International S.A.S.  
Le Périgares – Bâtiment B  
201, rue Carnot  
94126 Fontenay-sous-Bois cedex  
Tel.: 0 825 02 30 30 (0,15 € TTC/min)  
Fax: 0 825 02 30 35 (0,15 € TTC/min)  
Email: [info@fr.vwr.com](mailto:info@fr.vwr.com)

### Germany

VWR International GmbH  
Hilpertstraße 20a  
D - 64295 Darmstadt  
Freecall: 0800 702 00 07  
Fax: 0180 570 22 22\*  
Email: [info@de.vwr.com](mailto:info@de.vwr.com)  
\*0,14 €/Min. aus d. dt. Festnetz

### Hungary

VWR International Kft.  
Simon László u. 4.  
4034 Debrecen  
Tel.: (52) 521-130  
Fax: (52) 470-069  
Email: [info@hu.vwr.com](mailto:info@hu.vwr.com)

### Ireland / Northern Ireland

VWR International Ltd /  
VWR International (Northern Ireland) Ltd  
Orion Business Campus  
Northwest Business Park  
Ballycoolin  
Dublin 15  
Tel.: 01 88 22 222  
Fax: 01 88 22 333  
Email: [sales@ie.vwr.com](mailto:sales@ie.vwr.com)

### Italy

VWR International PBI S.r.l.  
Via San Giusto 85  
20153 Milano (MI)  
Tel.: 02-3320311/02-487791  
Fax: 800 152999/02-40090010  
Email: [info@it.vwr.com](mailto:info@it.vwr.com)

### The Netherlands

VWR International B.V.  
Postbus 8198  
1005 AD Amsterdam  
Tel.: 020 4808 400  
Fax: 020 4808 480  
Email: [info@nl.vwr.com](mailto:info@nl.vwr.com)

### Norway

VWR International AS  
Haavard Martinsens vei 30  
0978 Oslo  
Tel.: 02290  
Fax: 815 00 940  
Email: [info@no.vwr.com](mailto:info@no.vwr.com)

### Poland

VWR International Sp. z o.o.  
Limbowa 5  
80-175 Gdansk  
Tel.: 058 32 38 200 do 204  
Fax: 058 32 38 205  
Email: [info@pl.vwr.com](mailto:info@pl.vwr.com)

### Portugal

VWR International -  
Material de Laboratório, Lda  
Edifício Neopark  
Av. Tomás Ribeiro, 43- 3 D  
2790-221 Carnaxide  
Tel.: 21 3600 770  
Fax: 21 3600 798/9  
Email: [info@pt.vwr.com](mailto:info@pt.vwr.com)

### Spain

VWR International Eurolab S.L.  
C/ Tecnologia 5-17  
A-7 Llinars Park  
08450 - Llinars del Vallès  
Barcelona  
Tel.: 902 222 897  
Fax: 902 430 657  
Email: [info@es.vwr.com](mailto:info@es.vwr.com)

### Sweden

VWR International AB  
Fagerstagatan 18a  
163 94 Stockholm  
Tel.: 08 621 34 00  
Fax: 08 621 34 66  
Email: [kundservice@se.vwr.com](mailto:kundservice@se.vwr.com)

### Switzerland

VWR International GmbH  
Lerzenstrasse 16/18  
8953 Dietikon  
Tel.: 044 745 13 13  
Fax: 044 745 13 10  
Email: [info@ch.vwr.com](mailto:info@ch.vwr.com)

### Turkey

VWR International Laboratuvar  
Teknolojileri Ltd.Şti.  
Orta Mah. Cemal Gürsel Caddesi  
Ördekcioglu İşmerkezi No.32/1  
34896 Pendik - Istanbul  
Tel.: +90216 598 2900  
Fax: +90216 598 2907  
Email: [info@pro-lab.com.tr](mailto:info@pro-lab.com.tr)

### UK

VWR International Ltd  
Customer Service Centre  
Hunter Boulevard - Magna Park  
Lutterworth  
Leicestershire  
LE17 4XN  
Tel.: 0800 22 33 44  
Fax: 01455 55 85 86  
Email: [uksales@uk.vwr.com](mailto:uksales@uk.vwr.com)

### Australia

VWR International, Pty Ltd.  
Level 1, Unit 1a/60 Enterprise Place  
Tingalpa, Queensland, 4173  
Tel.: 1300 727 696  
Fax: 1300 135 123

### China

VWR International China Co., Ltd  
Rm.219, 2100 Dongming Road  
Pudong New District  
Shanghai 200123  
Tel.: +86-21-5898 6888  
Fax: +86-21-5855 8801  
Email: [info\\_china@vwr.com](mailto:info_china@vwr.com)

### India

VWR Lab Products Private Limited  
No.139. BDA Industrial Suburb,  
6th Main, Tumkur Road, Peenya Post,  
Bangalore, India – 560058  
Tel.: +91-80-28078400  
Fax: +91-80-28078410  
Email: [vwr\\_india@vwr.com](mailto:vwr_india@vwr.com)

### New Zealand

Global Science - A VWR Company  
241 Bush Road  
Albany 0632, Auckland  
Tel.: 0800 734 100  
Fax: 0800 999 002  
Email: [sales@globalscience.co.nz](mailto:sales@globalscience.co.nz)

### Singapore

VWR Singapore Pte Ltd  
18 Gul Drive  
Singapore 629468  
Tel.: +65 6505 0760  
Fax: +65 6264 3780  
Email: [sales@sg.vwr.com](mailto:sales@sg.vwr.com)

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