

Quality

Selection

Value



# VWR Analogue Dry Block Heaters

- Multi-purpose use
- Heats from ambient to 150 °C
- Holds interchangeable VWR modular heating blocks
- Analogue controls

These multi-purpose units are ideal for incubation and activation of cultures, enzyme reactions, immunoassays, melting/boiling points and a wide variety of other laboratory procedures.

**Two separate temperature adjustment knobs**, providing low temperature and high temperature control. Low range knob adjusts from ambient to 100 °C and high range knob adjusts from 75 °C to 150 °C.

**High wattage**, constant-temperature dry block heaters are economical, versatile and compact. Each of the five models accepts separate interchangeable modular heating blocks, which accommodate various sample enclosures such as micro-tubes, centrifuge tubes, vials, microplates, and PCR strips or tubes. Each block has a thermometer well for measuring block temperature. Anodized aluminum modular heating blocks provide superior temperature stability and heat transfer. Modular blocks are sold separately. Will accept blocks from older VWR units.

**Temperature stability** is defined as the fluctuations in temperature once the unit has reached set point and cycles the heater on and off to maintain that set-point. This is measured in one single thermometer-well in the block.

**Uniformity** is defined as the difference in temperature from one end of the block to the other or from one block to another block of the same type.

**CAUTION!** To avoid possible electrical hazard, do not fill well or block opening with water or other fluids. Unit is designed as a dry bath/incubator.



460-3252



460-3249

## Specifications



| Size    | Temperature Range                        | Stability @ 37 °C | Uniformity w/in the Block @ 37 °C | Uniformity Across Similar Blocks @ 37 °C | Stability @ 60 °C | Uniformity w/in the Block @ 60 °C | Uniformity Across Similar Blocks @ 60 °C | Heat-Up Time to 100 °C |
|---------|--|-------------------|-----------------------------------|--|-------------------|-----------------------------------|--|------------------------|
| 1 block | Low Range:<br>ambient +5 °C<br>to 100 °C | ±1.5 °C           | ±0.4 °C                           | N/A                                      | ±3.0 °C           | ±0.6 °C                           | N/A                                      | 45 min.                |
| 2 block |  | ±2.0 °C           |                                   | ±0.5 °C                                  | ±4.0 °C           |                                   | ±0.8 °C                                  | 50 min.                |
| 3 block |  | ±2.0 °C           |                                   | ±0.6 °C                                  | ±4.0 °C           |                                   | ±1.0 °C                                  | 60 min.                |
| 4 block | High Range:<br>75 °C to 150 °C           | ±2.5 °C           |                                   | ±0.7 °C                                  | ±5.0 °C           |                                   | ±1.2 °C                                  | 70 min.                |
| 6 block |  | ±2.5 °C           |                                   | ±0.9 °C                                  | ±5.0 °C           |                                   | ±1.4 °C                                  | 75 min.                |

\* Performance data was calculated using an external RTD temperature probe inserted into the thermowell.

**Ordering Information:** Units include a 234 cm detachable, 3-wire cord and plug.

## Analogue Dry Block Heaters

| Block Capacity | Dimensions (L x W x H) | Electrical (50/60 Hz)       | Ship Weight | Cat. No. w/Euro plug | Cat. No. w/UK plug | Cat. No. w/Swiss plug |
|----------------|------------------------|-----------------------------|-------------|----------------------|--------------------|-----------------------|
| 1              | 31.5 x 20.3 x 8.9 cm   | 230V   0.5 amps   110 watts | 2.6 kg      | 460-3249             | 460-3250           | 460-3251              |
| 2              | 39.1 x 20.3 x 8.9 cm   | 230V   0.9 amps   210 watts | 2.9 kg      | 460-3252             | 460-3253           | 460-3254              |
| 3              | 46.7 x 20.3 x 8.9 cm   | 230V   0.9 amps   210 watts | 3.6 kg      | 460-3255             | 460-3256           | 460-3257              |
| 4              | 42.9 x 20.3 x 8.9 cm   | 230V   1.3 amps   310 watts | 3.9 kg      | 460-3258             | 460-3259           | 460-3260              |
| 6              | 53.1 x 20.3 x 8.9 cm   | 230V   1.7 amps   410 watts | 4.5 kg      | 460-3261             | 460-3262           | 460-3263              |

# VWR Digital Dry Block Heaters

- Exceptional temperature uniformity and stability
- Optional external temperature probe
- Heats from ambient to 120 °C
- LED display

Designed for applications that require repeatable results and superior temperature stability. These multi-purpose units are ideal for incubation and activation of cultures, enzyme reactions, immunoassays, melting/boiling points, and a wide variety of other laboratory procedures.

**Micro-processor PID control**, with optional external probe, offers a temperature stability and uniformity of  $\pm 0.2$  °C.

**Easy-to-use controls** with independent LED displays show actual and set-point temperatures. Controls allow users to adjust temperature set-point in  $\pm 0.1$  °C increments.

**Timer** will display elapsed time or when programmed to user defined limit, will count down to zero and shut off unit.

**Audible alarm** will sound when time reaches zero.

**Optional external temperature probe kit** monitors actual block or sample temperature. LED display on front panel will show actual probe temperature and adjust heater output to maintain user defined set-point. All dry block heaters include a built-in support rod holder for mounting the probe kit. Kit includes stainless steel RTD probe, 45.7 cm vertical support rod, thermometer/probe extension clamp and hook connector.

Each of the five models accepts separate interchangeable modular heating blocks, accommodating various tube sizes from 0.2 ml micro to 50 ml. Each block has a thermometer well for measuring block temperature. Efficient heater features close tube-and-block contact with a low density design for exceptional temperature uniformity.

**Calibration mode** allows operator to adjust temperature display to match an external thermometer. When measuring your Dry Block Heater it is recommended that you use either a glass thermometer inserted into the thermowell or an electronic surface temperature probe. Modular blocks are sold separately. Will accept blocks from older VWR units.

**Temperature stability** is defined as the fluctuations in temperature once the unit has reached set point and cycles the heater on and off to maintain that set-point. This is measured in one single thermometer-well in the block

**Uniformity** is defined as the difference in temperature from one end of the block to the other or from one block to another block of the same type.

**CAUTION!** To avoid possible electrical hazard, do not fill well or block opening with water or other fluids. Unit is designed as a dry bath/incubator.



## Specifications



| Size    | Temperature Range          | Stability @ 37 °C | Uniformity w/in the Block @ 37 °C | Uniformity Across Similar Blocks @ 37 °C | Stability @ 60 °C | Uniformity w/in the Block @ 60 °C | Uniformity Across Similar Blocks @ 60 °C | Heat-Up Time to 100 °C |
|---------|----------------------------|-------------------|-----------------------------------|--|-------------------|-----------------------------------|--|------------------------|
| 1 block | ambient<br>+5 °C to 120 °C | $\pm 0.2$ °C      | $\pm 0.2$ °C                      | N/A                                      | $\pm 0.4$ °C      | $\pm 0.4$ °C                      | N/A                                      | 45 min.                |
| 2 block |                            |                   |                                   | $\pm 0.3$ °C                             |                   |                                   | $\pm 0.5$ °C                             | 50 min.                |
| 3 block |                            |                   |                                   | $\pm 0.4$ °C                             |                   |                                   | $\pm 0.7$ °C                             | 55 min.                |
| 4 block |                            |                   |                                   | $\pm 0.5$ °C                             |                   |                                   | $\pm 0.8$ °C                             | 60 min.                |
| 6 block |                            |                   |                                   | $\pm 0.6$ °C                             |                   |                                   | $\pm 1.0$ °C                             | 65 min.                |

\* Performance data was calculated using an external RTD temperature probe inserted into the thermowell.

**Ordering Information:** Units include a 234 cm detachable, 3-wire cord and plug.

## Digital Dry Block Heaters

| Block Capacity   | Dimensions (L x W x H) | Electrical (50/60 Hz)       | Ship Weight | Cat. No. w/Euro plug | Cat. No. w/UK plug | Cat. No. w/Swiss plug |
|--|------------------------|-----------------------------|-------------|----------------------|--------------------|-----------------------|
| 1  | 31.5 x 20.3 x 8.9 cm   | 230V   0.5 amps   110 watts | 2.6 kg      | 460-3264             | 460-3265           | 460-3266              |
| 2  | 39.1 x 20.3 x 8.9 cm   | 230V   0.9 amps   210 watts | 2.9 kg      | 460-3267             | 460-3268           | 460-3269              |
| 3  | 46.7 x 20.3 x 8.9 cm   | 230V   0.9 amps   210 watts | 3.6 kg      | 460-3270             | 460-3271           | 460-3272              |
| 4  | 42.9 x 20.3 x 8.9 cm   | 230V   1.3 amps   310 watts | 3.9 kg      | 460-3273             | 460-3274           | 460-3275              |
| 6  | 53.1 x 20.3 x 8.9 cm   | 230V   1.7 amps   410 watts | 4.5 kg      | 460-3276             | 460-3277           | 460-3278              |
| Optional External Temperature Probe Kit Including Rod and Attachment |                        |                             |             | 460-3288             | 460-3288           | 460-3288              |

# VWR Modular Heating Blocks and Accessories

Constructed from a solid anodized aluminum block, the close contact of tubes to block walls allows for maximum heat retention. Each block has a thermometer well for measuring block temperature. **CAUTION!** To avoid possible electrical hazard, do not fill well or block with water or other liquids. Units are designed as a dry bath/incubator.

**Single block dimensions (L x W x H):** 9.5 x 7.6 x 5.1 cm, **Double block dimensions (L x W x H):** 15.2 x 9.5 x 5.7 cm (only fits 2/4/6 block heaters)

## Microcentrifuge Tubes

Single block.

| Brand/Sample Type        | Well Dia. | No. of Wells | Well Depth | Cat. No. |
|--------------------------|-----------|--------------|------------|----------|
| VWR 0.5 ml tube          | 7.9 mm    | 30           | 27.6 mm    | 460-3211 |
| VWR 1.5 ml tube          | 11.1 mm   | 20           | 39.1 mm    | 460-3235 |
| Eppendorf™ 1.5 ml tube   | 11.5 mm   | 20           | 36.9 mm    | 460-3212 |
| VWR/Eppendorf™ 2 ml tube | 11.5 mm   | 20           | 38.1 mm    | 460-3245 |
| Corning™ 2 ml tube       | 10.9 mm   | 20           | 38.1 mm    | 460-3246 |



## Titre Plate

Double block, only fits 2/4/6 block heaters. Ideal for 96-well or 384-well titre plates. Recessed well for better stability, flat surface good for flat and round bottom plates.

| Sample Type | Well Depth | Cat. No. |
|-------------|------------|----------|
| Titre plate | 13.5 mm    | 460-3238 |



## Conical-Bottom Centrifuge Tubes

Single block.

| Sample Type | Well Dia. | No. of Wells | Well Depth | Cat. No. |
|-------------|-----------|--------------|------------|----------|
| 15 ml tube  | 17.1 mm   | 12           | 44.5 mm    | 460-3221 |
| 50 ml tube  | 29.0 mm   | 5            | 47.6 mm    | 460-3223 |



## Standard Round Bottom Test Tubes

Single block.

| Sample Type   | Well Dia. | No. of Wells | Well Depth | Cat. No. |
|---------------|-----------|--------------|------------|----------|
| 6 mm tube     | 8.3 mm    | 30           | 48.4 mm    | 460-3213 |
| 10 mm tube    | 10.7 mm   | 24           | 48.4 mm    | 460-3214 |
| 12/13 mm tube | 13.9 mm   | 20           | 48.4 mm    | 460-3216 |
| 12/13 mm tube | 13.9 mm   | 16           | 48.4 mm    | 460-3215 |
| 15/16 mm tube | 17.5 mm   | 12           | 48.4 mm    | 460-3217 |
| 17/18 mm tube | 19.1 mm   | 12           | 48.4 mm    | 460-3243 |
| 20 mm tube    | 21.0 mm   | 8            | 48.4 mm    | 460-3218 |
| 25 mm tube    | 26.2 mm   | 6            | 48.4 mm    | 460-3219 |
| 35 mm tube    | 35.0 mm   | 4            | 47.6 mm    | 460-3222 |



Single block. These blocks have been designed for variable sized samples.

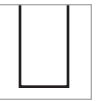
| Sample Type                 | Well Dia. | No. of Wells | Well Depth | Cat. No. |
|-----------------------------|-----------|--------------|------------|----------|
| Test tube combination       | 8.3 mm    | 6            | 48.4 mm    | 460-3220 |
| 6 mm, 12/13 mm, 25 mm       | 13.9 mm   | 5            | 48.4 mm    |          |
|                             | 26.2 mm   | 3            | 48.4 mm    |          |
| Centrifuge tube combination | 11.1 mm   | 4            | 39.1 mm    | 460-3247 |
| 1.5 ml, 15 ml, 50 ml        | 17.1 mm   | 3            | 44.5 mm    |          |
|                             | 29.0 mm   | 2            | 47.6 mm    |          |
| Micro-tube combination      | 7.9 mm    | 6            | 27.6 mm    | 460-3248 |
| 0.5 ml, 1.5 ml, 2 ml        | 11.1 mm   | 10           | 39.1 mm    |          |
|                             | 11.5 mm   | 5            | 38.1 mm    |          |



## Vials

Single block. Designed for sample/serum and scintillation vials.

| Sample Type | Well Dia. | No. of Wells | Well Depth | Cat. No. |
|-------------|-----------|--------------|------------|----------|
| 12 mm vial  | 12.7 mm   | 20           | 30 mm      | 460-3279 |
| 15 mm vial  | 15.8 mm   | 20           | 35 mm      | 460-3280 |
| 16 mm vial  | 16.4 mm   | 15           | 45 mm      | 460-3287 |
| 17 mm vial  | 17.8 mm   | 12           | 45 mm      | 460-3281 |
| 19 mm vial  | 19.7 mm   | 12           | 45 mm      | 460-3282 |
| 21 mm vial  | 21.7 mm   | 9            | 45 mm      | 460-3283 |
| 23 mm vial  | 23.8 mm   | 8            | 45 mm      | 460-3284 |
| 25 mm vial  | 25.8 mm   | 8            | 45 mm      | 460-3285 |
| 28 mm vial  | 28.8 mm   | 6            | 45 mm      | 460-3286 |



## PCR - Plates, Tubes, Strips

Single and double block. Tapered tube wells for 0.2 ml tubes. Spaced for easy access and removal.

| Sample Type        | Block Size | Well Dia. | No. of Wells | Well Depth | Cat. No. |
|--------------------|------------|-----------|--------------|------------|----------|
| 96-well PCR plate  | double     | 6.4 mm    | 96           | 15.5 mm    | 460-3226 |
| 10 x 8 tube strips | single     | 6.4 mm    | 80           | 15.5 mm    | 460-3224 |
| Individual tubes   | single     | 6.4 mm    | 64           | 20.2 mm    | 460-3225 |



## Cuvette

Single block. Two parallel slots fit 6 cuvettes in each slot, side-by-side for excellent stability and heat transfer.

| Sample Type      | No. of Wells   | Well Depth | Cat. No. |
|------------------|----------------|------------|----------|
| 12.5 mm cuvettes | 2 x 6 cuvettes | 25.4 mm    | 460-3237 |



## Solid Blocks

Single or double block. For use as a low-temperature hotplate or for custom drilling to make your own custom block.

| Block Size | Dimension (L x W x H) | Cat. No. |
|------------|-----------------------|----------|
| Single     | 9.5 x 7.6 x 5.1 cm    | 460-3236 |
| Double     | 15.2 x 9.5 x 5.7 cm   | 460-3239 |



## Stainless Steel Sand Baths

Ideal for irregular vessels. Stainless steel construction for superior corrosion resistance. Designed to hold sand, stainless steel shot (or pearls) or non-volatile liquids.

| Block Size     | Dimension (L x W x H) | Cat. No. |
|----------------|-----------------------|----------|
| 1 block heater | 9.5 x 7.6 x 6.4 cm    | 460-3227 |
| 2 block heater | 9.5 x 14.9 x 6.4 cm   | 460-3228 |
| 3 block heater | 9.5 x 22.4 x 6.4 cm   | 460-3229 |
| 4 block heater | 14.7 x 19.1 x 6.4 cm  | 460-3230 |
| 6 block heater | 14.7 x 28.7 x 6.4 cm  | 460-3231 |

| Accessory                                  | Cat. No. |
|--|----------|
| Sand, 0.454 kg                             | 460-3232 |
| Stainless steel shot (or pearls), 0.454 kg | 460-3233 |



Plexiglass cover reduces air flow for additional temperature stability in low-temperature applications. Two sides are open.

| Block Size    | Dimension (L x W x H) | Max. Tube Height | Cat. No. |
|---------------|-----------------------|------------------|----------|
| 2 block cover | 16.5 x 16.5 x 4.1 cm  | 89 mm            | 460-3240 |
| 2 block cover | 16.5 x 16.5 x 11 cm   | 206 mm           | 460-3289 |
| 4 block cover | 21.6 x 21.6 x 4.1 cm  | 89 mm            | 460-3241 |
| 6 block cover | 31.8 x 21.6 x 4.1 cm  | 89 mm            | 460-3242 |



## Other Equipment and Accessories



### VWR Analogue Vortex Mixer

- Continuous or touch modes
- Variable speed control from 100 to 3200 rpm

Variable speed with an analogue control allows for gentle shaking or high speed mixing for vigorous vortexing of samples.

| Description                           | Cat. No. |
|---------------------------------------|----------|
| Analogue Vortex Mixer with Euro plug  | 444-2790 |
| Analogue Vortex Mixer with UK plug    | 444-2791 |
| Analogue Vortex Mixer with Swiss plug | 444-7046 |

### VWR 700 Series Advanced Hotplate/Stirrers

- LED display
- On-board memory recalls last set temperature
- Stir protection
- Overshoot protection
- Space saving design
- Hot top indicator
- Accurate and repeatable results



| Description      | Speed Range    | Top Plate Size | Cat. No. |
|------------------|----------------|----------------|----------|
| 710-HPS Ceramic  | 60 to 1600 rpm | 10.2 x 10.2 cm | 444-2811 |
| 715-HPS Aluminum | 60 to 1600 rpm | 10.2 x 10.2 cm | 444-2813 |
| 720-HPS Ceramic  | 60 to 1600 rpm | 17.8 x 17.8 cm | 444-2815 |
| 725-HPS Aluminum | 60 to 1600 rpm | 17.8 x 17.8 cm | 444-2817 |
| 730-HPS Ceramic  | 60 to 1600 rpm | 25.4 x 25.4 cm | 444-2819 |
| 735-HPS Aluminum | 60 to 1200 rpm | 25.4 x 25.4 cm | 444-2821 |

### VWR DS-500 Orbital Shaker

- LED display for speed and time
- Microprocessor controlled
- Continuous or timed modes
- 16 kg weight capacity
- Built-in safety overload
- 19 mm orbit



| Description           | Speed Range   | Cat. No. |
|-----------------------|---------------|----------|
| DS-500 Orbital Shaker | 25 to 500 rpm | 444-7018 |

## Your European Distribution Partner

### Austria

VWR International GmbH  
Graumannsgasse 7  
1150 Wien  
Tel.: 01 97 002 0  
Fax: 01 97 002 600  
E-mail: info@at.vwr.com

### Italy

VWR International s.r.l.  
Via Stephenson 94  
20157 Milano (MI)  
Tel.: 02 332 03 11  
Fax: 800 152 999  
E-mail: info@it.vwr.com

### Belgium

VWR International bvba/sprl  
Haasrode Researchpark Zone 3  
Geldenaaksebaan 464  
3001 Leuven  
Tel.: 016 385 011  
Fax: 016 385 385  
E-mail:  
customerservice@be.vwr.com

### The Netherlands

VWR International B.V.  
Postbus 8198  
1005 AD Amsterdam  
Tel.: 020 4808 400  
Fax: 020 4808 480  
E-mail: info@nl.vwr.com

### Denmark

VWR International ApS  
Valhøjs Alle 174-176  
2610 Rødovre  
Tel.: 43 86 87 88  
Fax: 43 86 87 90  
E-mail: info@dk.vwr.com

### Norway

VWR International AS  
Kakkelovnskroken 1  
P.B. 45, Kalbakken  
0901 Oslo  
Tel.: 02290  
Fax: 0 22 90 00 40  
E-mail: info@no.vwr.com

### Finland

VWR International Oy  
Pihatörmä 1 C 1  
FI - 02240 Espoo  
Tel.: +358 9 80 45 51  
Fax: +358 9 80 45 52 00  
E-mail: info@fi.vwr.com

### Portugal

VWR International- Material de  
Laboratorio, Lda. Portugal  
Rua Alfredo da Silva 3-C  
1300-040 Lisboa  
Tel: 21 3600 770  
Fax: 21 3600 798/9  
E-mail: info@pt.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 EUR TTC/min)  
Fax: 0 825 02 30 35  
(0,15 EUR TTC/min)  
E-mail: info@fr.vwr.com

### Spain

VWR International Eurolab S.L.  
Apartado 48  
08100 Mollet del Vallés -  
Barcelona  
Tel.: 902 222 897  
Fax: 902 430 657  
E-mail: info@es.vwr.com

### Germany

VWR International GmbH  
Hilpertstrasse 20a  
D - 64295 Darmstadt  
Tel.: 0180 570 20 00  
Fax: 0180 570 22 22  
E-mail: info@de.vwr.com

### Sweden

VWR International AB  
Fagerstagatan 18a  
163 94 Stockholm  
Tel.: 08 621 34 00  
Fax: 08 621 34 66  
E-mail: info@se.vwr.com

### Ireland

AGB Scientific Ltd  
A VWR International Company  
Orion Business Campus  
Northwest Business Park  
Ballycoolin, Dublin 15  
Tel.: 01 88 22 222  
Fax: 01 88 22 333  
e-mail info@agb.ie

### Switzerland

VWR International AG  
Lerzenstrasse 16/18  
8953 Dietikon  
Tel.: 044 745 13 13  
Fax: 044 745 13 10  
E-mail: info@ch.vwr.com

### 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  
E-mail: uksales@uk.vwr.com

### Northern Ireland

AGB Scientific Apparatus Ltd  
A VWR International Company  
A10 Harbour Court, 7 Heron Rd  
Sydenham Business Park  
Belfast BT3 9HB  
Tel.: 028 9058 5800  
Fax: 028 9080 7812  
Email: info@agbscientific.co.uk