## QB Dry block heating systems

for test tubes, microtubes and microplates ambient +5°C to 200°C

Dry block heating systems combining superb temperature control and uniformity with high quality design and great versatility. A premium product range at an affordable price.

- Accurate, reproducible, rapid and safe heating of your samples due to advanced temperature control combined with high quality, precision-engineered blocks providing excellent thermal contact
- Versatile range of interchangeable heating blocks to fit any sample tube or plate
   from our standard range of blocks, or custom-made blocks to suit your application
- Full range of models and options for basic through to more sophisticated applications



## **Applications:**

- General use incubating samples at set temperatures, heating block for boiling of solutions in tubes
- Life-science cell digestion, DNA/RNA extraction, post sequencing PCR clean-up dry down step, boiling in vitro DNA/RNA/protein samples, incubating invitro reactions/digestions, extraction of DNA for real-time PCR analysis, denaturing nucleic acid and protein samples
- Industrial digestion of environmental samples for chemical oxygen demand analysis, soil digests, maintaining temperatures
- Biopharm conductivity testing
- Clinical acylcarnitines derivatisation, MRSA and PBP2 latex testing, heating flush/media used in egg recovery, fertility to keep test tubes at correct temperature during egg collection

## showcase – mid range/general purpose example

Model QBD2\* stability and uniformity ±0.1°C, range ambient +5 to 130°C

A versatile general purpose system with two removable/interchangeable blocks and a comprehensive specification to suit most dry block heating applications in the laboratory.

- Stability and uniformity ±0.1°C
- Digital temperature control for optimum precision
- Heating range ambient +5°C to 130°C, with rapid heat-up time
- Range of convenient features including alarms, single and dual point calibration, programmed start/stop, 'offset' for known sample temperature variation and choice of external or internal probes
- External probe available for accurate temperature control in a tube

Microplate or microtube blocks for 0.2 ml tubes, strips and 96-well microplates used in molecular biology and biotechnology applications



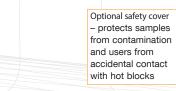
Wide range of interchangeable blocks (order blocks separately)extraction tool supplied as standard for easy and safe removal of blocks.



Custom blocks - for virtually any tube or vessel

High power heater for fast heat-up - from 25°C to 100°C in only 15 minutes

Over temperature cut-out protects your samples and your workplace



Grant



Convenient timer facility, with audible buzzer, for reaction timing and function timing, e.g. delayed heater switch-on/turn-off

Simple to use rotory dial plus two keys for fast, accurate set-up

Compact footprint and sloping fascia optimise benchspace and ensure clear visibility during set-up and

High quality, robust construction in streamlined coolwall aluminium and chemical-resistant plastic durable in demanding

environments

\* see summary table on pp. 8.3-8.4 for accessories and for other models in the range

| Dry block heating system   | s with inter                                | changeable                                    | e blocks – n                                | nodels  |   |   |  |
|--|---|---|---|---|---|---|--|
| Temperature range<br>ambient + 5 to 130°C  |   | Precision digital                             |   | High performance<br>digital                   | Economy analogue                            |   |  |
| ambient + 5 to 200°C<br>ambient + 5 to 100°C                                     | QBD1  | QBD2  | QBD4  | QBH2  | QBA1  | QBA2  |  |
|  | 1-block system                              | 2-block system                                | 4-block system                              | 2-block system                                | 1-block system                              | 2-block system                              |  |
| • = standard   | out One                                     |   | ORDA Grant                                  |   | :/ Gaz                                      | i com                                       |  |
|  | 2 kg<br>h: 100 mm<br>d: 230 mm<br>w: 200 mm | 2.5 kg<br>h: 100 mm<br>d: 280 mm<br>w: 200 mm | 4 kg<br>h: 100 mm<br>d: 380 mm<br>w: 200 mm | 2.5 kg<br>h: 100 mm<br>d: 280 mm<br>w: 200 mm | 2 kg<br>h: 100 mm<br>d: 230 mm<br>w: 200 mm | 3 kg<br>h: 100 mm<br>d: 280 mm<br>w: 200 mm |  |
| Temperature range °C   | ambient + 5 to 130                          |   |   | ambient + 5 to 200                            | ambient + 5 to 100                          |   |  |
| Temperature setting range °C   | 15 to 130                                   |   |   | 15 to 200                                     | 0 to 100                                    |   |  |
| Setting resolution °C  | 0.1   |   |   | 0.1   | 2   |   |  |
| Stability @ 37°C, °C   | ± 0.1                                       |   |   | ± 0.1   | ± 1.0                                       |   |  |
| Uniformity within the block @ 37°C, °C   | ± 0.1                                       |   |   | ± 0.1   | ± 1.0                                       |   |  |
| across similar blocks @ 37°C, °C   |   | ± 0.2   |   |   | ± 1.0                                       |   |  |
| Temperature display, LED   |   | •   |   |   | -   |   |  |
| Display resolution °C  | 0.1   |   |   | 0.1   | -   |   |  |
| Heat up time 25° to 100°C mins   |   | 15  |   |   | 25  |   |  |
| Three programmable temperature/<br>time segments plus end-of-program<br>segments |   | -   |   | •   |   | -   |  |
| Reaction timer, with audible buzzer  | 1 to 999 mins                               |   |   | 1 to 999 mins                                 | -   |   |  |
| Function timer for delay of heater start-up/switch-off                           | up to 72 hours                              |   |   | up to 72 hours                                | -   |   |  |
| Off-set adjustment   | •   |   |   | •   | -   |   |  |
| Two-point calibration of internal and external probes                            | •   |   | •   | -   |   |   |  |
| High/low temperature alarms, settable to within 0.5°C of set temperature         | •   |   |   | •   | -   |   |  |
| Fault indication display   | •   |   | •   | -   |   |   |  |
| Power W  | 150   | 300   | 600   | 300   | 150   | 300   |  |
| Supply voltage V   | 120 or 230                                  |   |   | 120 or 230                                    | 120 or 230                                  |   |  |
| Safety over temperature cut-out thermal fuse                                     |   |   |   | thermal fuse                                  | thermal fuse                                |   |  |

| ¥ = not availah  | ole = available  | QBD1                   | QBD2  | QBD4 | QBH2   | QBA1 | QBA2 |
|--|--|------------------------|-------|------|--------|------|------|
|  |  | ו טטט                  | QDDZ  | QDD4 | QDI 12 | QDAT | QDAZ |
| Interchangeable  |  |                        |       |      |        |      |      |
| No. of blocks  | 140 x 50 x 63 mm   | 1                      | 2     | 4    | 2      | 1    | 2    |
| QB-0<br>Plain block with   | nout holes   | •                      | •     | •    | •      | •    | •    |
| QB-10 24 x 10 r  |  | •                      | •     | •    | •      | •    | •    |
| 50 mm hole de  | '  |                        |       |      |        |      |      |
| QB-12 24 x 12 r<br>50mm hole dep   |  | •                      | •     | •    | •      | •    | •    |
| QB-13 12 x 13 mm ø holes,  |  | •                      | •     | •    | •      | •    | •    |
| 50 mm hole de  | •  |                        |       |      |        |      |      |
| QB-16 12 x 16 r<br>50 mm hole de   | The state of the s | •                      | •     | •    | •      | •    | •    |
|  | Falcon tubes tall 17mm ø   | •                      | •     | •    | •      | •    | •    |
| holes , 75mm h   | nole depth   |                        |       |      |        |      |      |
| QB-18 12 x 18 r<br>50 mm hole de   | **************************************   | •                      | •     | •    | •      | •    | •    |
|  | ptn<br>ım ø holes and universal  | •                      | •     | •    | •      | •    | •    |
| bottles, 50 mm   | hole depth   |                        |       | · ·  |        |      |      |
| QB-50 4 x 50 m<br>universals, 50 r   | l centrifuge tubes, glass  | •                      | •     | •    | •      | •    | •    |
| QB-H 56 x 0.2 n  | ·  | •                      | •     | •    | •      | •    | •    |
| 14 mm hole de  |  | <u> </u>               |       |      |        |      |      |
| QB-E0 24 x 0.5   | *  | •                      | •     | •    | •      | •    | •    |
| 30 mm hole de<br>QB-E1 24 x 1.5  | -  | •                      | •     | •    | •      | •    | •    |
| 35 mm hole de  | *  | •                      | •     | •    | •      |      |      |
| QB-E2 24 x 2.0   | *  | •                      | •     | •    | •      | •    | •    |
| 35 mm hole de  |  |                        |       |      |        |      |      |
| to ø 6.1mm   | nose tube 24 x ø 11.13mm   | •                      | •     | •    | •      | •    | •    |
| External Pt1000  | temperature probe  |                        |       |      |        |      |      |
| QBEP   | Standard probe. For in-sample  | •                      | •     | •    | •      | х    | Х    |
|  | or in-block temperature control;   |                        |       |      |        |      |      |
|  | encased in stainless steel<br>sheath, ø 3 mm x 30 mm long,   |                        |       |      |        |      |      |
|  | with 350 mm of cable   |                        |       |      |        |      |      |
| QBEP-WM  | Short-form probe.  | •                      | •     | •    | •      | X    | х    |
|  | For in-sample or in-block temperature control; encased   |                        |       |      |        |      |      |
|  | in stainless steel sheath,   |                        |       |      |        |      |      |
|  | ø 3 mm x 14 mm long, with 350  |                        |       |      |        |      |      |
| Microplato block   | mm of cable ss for molecular biology and biotom  | ach no locus annii cat | tions |      |        |      |      |
|  | ocks 140 x 100 x 75 mm supp  |                        |       |      |        |      |      |
| ODP-H  | 96 holes in microplate   | X                      | •     | X    | •      | x    | •    |
|  | configuration for 0.2 ml   |                        |       |      |        |      |      |
|  | microplates, strips or individual tubes  |                        |       |      |        |      |      |
|  |  |                        |       |      |        |      |      |
|  | Uniformity ± 0.3°C within tubes across the block; 6.2 mm   |                        |       |      |        |      |      |
|  | ø holes, 14 mm hole depth  |                        |       |      |        |      |      |
|  | Universal block for standard   | x                      | •     | x    | •      | Х    | •    |
|  | 96-well plates (u-well, v-well, flat bottom, high temperature)   |                        |       |      |        |      |      |
| Constant of the Constant of th |  |                        |       |      |        |      |      |
|  | Uniformity ± 0.5°C between<br>wells; supplied with hinged,   |                        |       |      |        |      |      |
|  | double layer lid to create an  |                        |       |      |        |      |      |
|  |  |                        |       |      |        |      |      |

<sup>\*</sup> Custom blocks available - please enquire © Grant Instruments (Cambridge) Ltd