

## Grant Block Heater QBD Digital



### Product Overview

For applications within the range ambient + 5 to 130°C.

Three models for interchangeable blocks: 1 block, 2 block, 4 block models; features include timers, user calibration, accessory external temperature probe; assorted accessory blocks for tube diameters from 0.2ml to 29mm.

Digital control for high accuracy setting and high performance temperature control.

### Product Features

Three models for 1, 2 or 4 interchangeable blocks, for applications up to 130°C.

Of robust construction, in streamlined coolwall aluminium and chemical-resistant plastic, with an exciting contemporary design.

The sloping fascia ensures clear visibility both for set-up and in operation, while the profile and the footprint are minimised.

**ambient + 5°C to 130°C operation**

**stability  $\pm 0.1^\circ\text{C}$ , uniformity  $\pm 0.1^\circ\text{C}$**

**easy interactive user interface** - a sensitive rotor plus two keys and digital display, for fast and accurate set-up

**reaction timer** with audible buzzer, from 1 minute to 72 hours

**function timer** for delay of heater start-up or switch-off by up to 72 hours

**off-set adjustment** for high accuracy of operating temperature

**two-point user recalibration** of internal and external probes

#### safety features

- overtemperature protection by thermal fuse
- variable high and low temperature alarms, settable to within 0.5°C of the set temperature
- fault indication display

**external Pt1000 temperature probe**, allows in-sample or in-block temperature control (available as an accessory)

**block extraction tool** included as standard, for easy and safe block removal

## Product Specifications

| Specification             |                 |      | QBD1                    | QBD2        | QBD4        | QBH2                    |
|---------------------------|-----------------|------|-------------------------|-------------|-------------|-------------------------|
| Temperature range         |                 | °C   | ambient + 5 to 130      |             |             | amb. +5 to 200          |
| Temperature setting range |                 | °C   | 15 to 130               |             |             | 15 to 200               |
| Stability                 | @37°C           | °C   | ±0.1                    |             |             | ±0.1                    |
| Uniformity                |                 |      |                         |             |             |                         |
| within the block          | @37°C           | °C   | ±0.1                    |             |             | ±0.1                    |
| across similar blocks     | @37°C           | °C   | ±0.2                    |             |             | ±0.2                    |
| Temperature display       |                 |      | LED                     |             |             | LED                     |
| Display resolution        |                 | °C   | 0.1                     |             |             | 0.1                     |
| Heat up time              | 25 to 100°C     | mins | 15                      |             |             | 20                      |
| Power                     |                 | W    | 150                     | 300         | 600         | 300                     |
| Supply voltage            |                 | V    | 115 or 230<br>(50-60Hz) |             |             | 115 or 230<br>(50-60Hz) |
| Overall dimensions        | w/d/h           | mm   | 200/230/100             | 200/280/100 | 200/380/100 | 200/280/100             |
| Safety                    | overtemperature |      | thermal fuse            |             |             | thermal fuse            |

## Product Accessories

### Interchangeable blocks

Block dimensions: 140 x 50 x 63 mm

The 63mm depth ensures precision temperature control for test tube applications.

The threaded hole accommodates either the extraction tool or a thermometer.

| Order ref. | Tube Ø/type                             | Holes per block | Hole depth mm |
|------------|---|-----------------|---------------|
| QB-0       | plain block                             | --              |               |
| QB-10      | 10mm                                    | 24              | 50            |
| QB-12      | 12mm                                    | 24              | 50            |
| QB-13      | 13mm                                    | 12              | 50            |
| QB-16      | 16mm                                    | 12              | 50            |
| QB-18      | 18mm                                    | 12              | 50            |
| QB-24      | 24mm and universal bottles              | 5               | 50            |
| QB-50      | 50ml centrifuge tubes, glass universals | 4               | 50            |
| QB-H       | 0.2ml micro tube                        | 56              | 14            |
| QB-E0      | 0.5ml micro tube                        | 24              | 30            |
| QB-E1      | 1.5ml micro tube                        | 24              | 35            |
| QB-E2      | 2.0ml micro tube                        | 24              | 35            |

### Polycarbonate safety covers

Tough clear polycarbonate covers maintain visibility while preventing anyone from accidentally touching a hot block. They also protect against splashing and are particularly recommended for use during high temperature operation.

| Cover | Model                |
|-------|----------------------|
| QBL1  | for QBA1, QBD1       |
| QBL2  | for QBA2, QBD2, QBH2 |
| QBL4  | for QBD4             |

### External temperature probe

QBEP: Pt1000 sensor encased in a stainless steel sheath, 3mm x 30mm, fitted with 350mm of cable.

|      |                            |
|------|----------------------------|
| QBEP | for QBD1, QBD2, QBD4, QBH2 |
|------|----------------------------|

### **Microlitre blocks for QBD2, QBH2, QBA2**

Alternative double-size blocks are available for models QBD2, QBH2 and QBA2, for:

- 0.2ml tubes, strips or microplates
- standard/high temperature 96 well microtitre plates: u-well, v-well, or flat bottom

These are particularly useful in the fields of molecular biology and biotechnology.

### **QDP-H block for 0.2ml microplates, strips or individual tubes**

With 96 holes in microplate configuration, the block accommodates one 96-well plate, 8 x 12- or 12 x 8-well strips or up to 96 individual capped tubes.

A snug fit is ensured in the precision drilled wells, for excellent uniformity:  $\pm 0.3^{\circ}\text{C}$  within tubes across the block.

### **QDP-FL universal block for standard 96-well plates**

Accommodates the most commonly used types of 96-well microtitre plate: u-well, v-well, flat bottom, high temperature. Also suitable for cell culture plates.

Undrilled aluminium block, black anodised for efficient heat transfer; supplied complete with hinged lid.

The double layer lid creates an insulated incubation chamber for good sample uniformity, whilst the outer surface stays cool for user comfort; uniformity:  $\pm 0.5^{\circ}\text{C}$  between wells.

| <b>Order ref.</b> | <b>Tube type</b> | <b>Holes / block</b> | <b>Hole <math>\varnothing</math> mm</b> | <b>Hole depth mm</b> | <b>Block dimensions mm</b> |
|-------------------|------------------|----------------------|---|----------------------|----------------------------|
| QDP-H             | 0.2ml            | 96                   | 6.2                                     | 14                   | 140/100/75                 |
| QDP-FL            | 96-well plates   | -                    | -                                       | -                    | 140/100/75                 |

An additional extraction tool is supplied with each of the QDP-H and QDP-FL blocks, for easy and safe block removal.