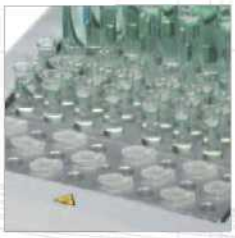
Grant
SCIENTIFIC

Scientific Equipment

Reference Catalogue

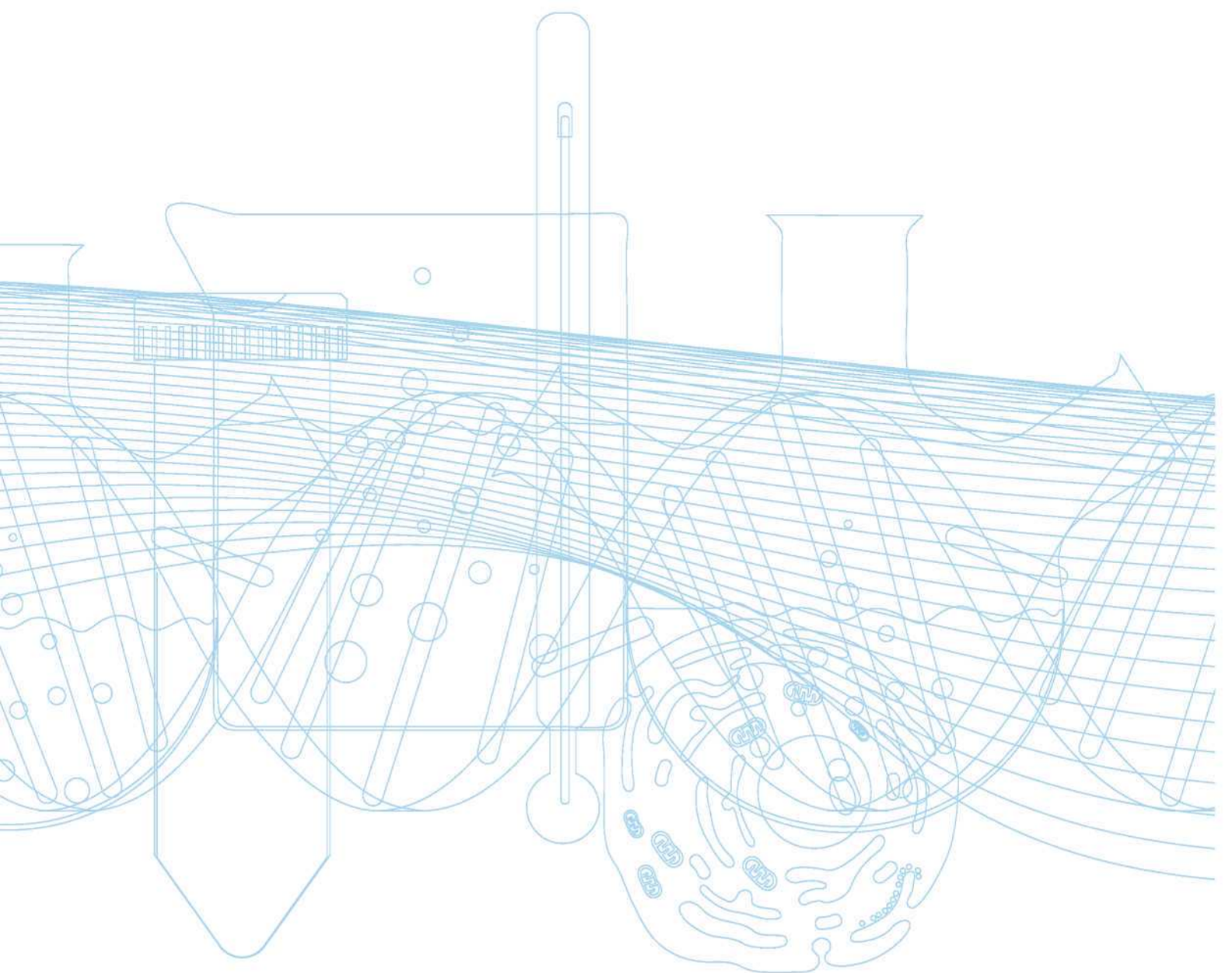
Precision temperature control, sample preparation and life sciences products for the world's laboratories




QUALITY DESIGN « » CONSISTENT PERFORMANCE « » SOUND INVESTMENT

1 Dry block heating systems



Dry block heating systems

QB and BT series

Market-leading 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
- **Choice of models with interchangeable blocks or with fixed microtube blocks**
- **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 to cater for basic through to more sophisticated applications**

Grant's market-leading dry block heating systems with interchangeable precision blocks

Applications

Grant dry block heating systems provide a source of precision temperature control for general, routine applications and sensitive analytical procedures including enzyme digestions, enzyme activity studies and nucleic acid hybridisations.

For combined dry block heating **and** cooling systems, see p. 2.1.

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° to 130°C, with rapid heat-up time
- Range of convenient features including alarms, two-point and one-point calibration, programmed start/stop, 'offset' for known sample temperature variation and choice of external or internal probe
- External probe for accurate temperature control in a tube

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

Wide range of interchangeable blocks - extraction tool supplied as standard for easy and safe removal of blocks

Custom blocks - for any tube or vessel

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

Overtemperature cut-out protects your samples and your workplace

Optional safety cover - protects samples from contamination and users from accidental contact with hot blocks

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

Simple-to-use rotor plus two keys provide access to the interactive interface for fast, accurate set-up

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

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

*: see summary table on pp. 1.4-1.5 for accessories and for other models in the range

showcase - dry block heater for microtubes

Model BTD* stability and uniformity ± 0.1 °C, range ambient + 5 to 100°C

A compact and flexible fixed block system for rapid and precise heating of microtubes up to 100°C.

- Stability and uniformity ± 0.1 °C
- Digital temperature control for optimum precision
- Heating range ambient + 5° to 100°C, with rapid heat-up time
- Capacity for up to 49 microtubes in a combination of four common sizes
- Integral timer

Heating block holds combinations of four microtube sizes simultaneously - up to a total of 49 tubes:
- 24 x 1.5/2.0 ml
- 15x0.5 ml
- 10x0.2 ml

Powerful heater for rapid heat-up times
- 25° to 100°C in just 16 minutes
- 25° to 37°C in just *2%* minutes

2-line display for simple and precise setting of temperature/time showing actual and preset values

Convenient integral timer for time-sensitive incubations

Sturdy, durable, easy-to-clean plastic outer case; compact design with small footprint

* see p. 1.6 for a detailed specification and other models in the range

Dry block heating systems with interchangeable blocks – models

Temperature range
- ambient + 5 to 130°C
- ambient + 5 to 200°C
- **ambient + 5 to 100°C**

● = standard

	Precision digital			High performance digital	Economy analogue	
	QBD1	QBD2	QBD4	QBH2	QBA1	QBA2
	1-block system	2-block system	4-block system	2-block system	1-block system	2-block system
	 h: 100 mm d: 230 mm w: 200 mm	 h: 100 mm d: 280 mm w: 200 mm	 h: 100 mm d: 380 mm w: 200 mm	 h: 100 mm d: 280 mm w: 200 mm	 h: 100 mm d: 230 mm w: 200 mm	 h: 100 mm d: 280 mm w: 200 mm

Specification

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			±0.2	±1.0
Temperature display, LED		•			#	-
Display resolution	°C	0.1			0.1	–
Heat up time 25°to100°C	mins	15			15	25
Three programmable temperature/time segments plus end-of-program segments		-			#	-
Reaction timer, with audible buzzer		1 min to 72 hours			1 min to 72 hours	–
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	115 or 230 (50-60 Hz)			115 or 230 (50-60 Hz)	115 or 230 (50-60 Hz)
Safety overtemperature cut-out		thermal fuse			thermal fuse; adjustable	thermal fuse
Extraction tool for easy and safe block removal		•			•	•

Options and accessories

x = not available • = available

		QBD1	QBD2	QBD4	QBH2	QBA1	QBA2
Interchangeable> blocks							
No. of blocks	140x50x63 mm	1	2	4	2	1	2
QB-0 Plain block without holes		•	•	•	•	•	•
QB-10 24 x 10 mm Ø holes, 50 mm hole depth		•	•	•	•	•	•
QB-12 24 x 12 mm Ø holes, 50mm hole depth		•	•	•	•	•	•
QB-13 12x13 mm Ø holes, 50 mm hole depth		•	•	•	•	•	•
QB-16 12x16 mm Ø holes, 50 mm hole depth		•	•	•	•	•	•
QB-18 12x18 mm Ø holes, 50 mm hole depth		•	•	•	•	•	•
QB-24 5 x 24 mm Ø holes and universal bottles, 50 mm hole depth		•	•	•	•	•	•
QB-50 4 x 50 ml centrifuge tubes, glass universals, 50 mm hole depth		•	•	•	•	•	•
QB-H 56 x 0.2 ml microtube, 14 mm hole depth		•	•	•	•	•	•
QB-E0 24 x 0.5 ml microtube, 30 mm hole depth		•	•	•	•	•	•
QB-E1 24 x 1.5 ml microtube, 35 mm hole depth		•	•	•	•	•	•
QB-E2 24 x 2.0 ml microtube, 35 mm hole depth		•	•	•	•	•	•
External Pt1000 temperature probe							
QBEP	Standard probe. For in-sample or in-block temperature control; encased in stainless steel sheath, Ø 3 mm x 30 mm long, with 350 mm of cable	•	•	•	•	x	x
QBEP-WM	Short-form probe. For in-sample or in-block temperature control; encased in stainless steel sheath, 0 3 mm x 14 mm long, with 350 mm of cable	•	•	•	•	x	x
Microlitre blocks for molecular biology and biotechnology applications Double-size blocks 140 x 100 x 75 mm supplied with additional extraction tool (see Section 11.4 for more information)							
QDP-H 	96 holes in microplate configuration for 0.2 ml microplates, strips or individual tubes Uniformity ± 0.3°C within tubes across the block; 6.2 mm 0 holes, 14 mm hole depth	x	•	x	•	x	•
QDP-FL 	Universal block for standard 96-well plates (u-well, v-well, flat bottom, high temperature) Uniformity ± 0.5°C between wells; supplied with hinged, double layer lid to create an insulated incubation chamber	x	•	x	•	x	•
Safety covers (not required with QDP-FL microlitre blocks)							
	Made from tough clear polycarbonate for maximum visibility whilst preventing accidental touching of a hot block or contamination of samples from splashes	QBL1	QBL2	QBL4	QBL2	QBL1	QBL2

Dry block heating systems with fixed microtube blocks - models and specifications

Temperature range

ambient + 5 to 100°C

x = not available
● = standard

			Digital control	Analogue control
			BTD	BTA
			 h: 110 mm d: 230 mm w: 210 mm	 h: 105 mm d: 245 mm w: 175 mm
Stability	@ 37°C, °C		± 0.1	± 0.2
Uniformity	°C		± 0.2	
Block dimensions	mm		Ø 130 x 45	
Temperature range	°C		ambient + 5 to 100	
Temperature setting range	°C		25 to 100	20 to 100
Setting resolution	°C		0.1	0.5
Temperature display	2 line x 16 character LCD		●	x
Heat up time	25° to 100°C	mins	16	
	25° to 37°C	mins	2.5	
Timer			1 min to 96 hours	x
Power	W		200	
Supply voltage	V		115 or 230 (50-60 Hz)	
Safety	overtemperature cut-out		thermal fuse	