



Grant Product Portfolio

Powerful and precise temperature
control solutions since 1951

www.grantinstruments.com

About Grant Instruments

Grant is a global design and manufacture company with a passion for developing innovative scientific solutions, together with life science laboratory equipment for the scientific, healthcare and industrial markets. We are inspired by innovation, quality, reliability and creating products that help our customers. We have been around since 1951, which is a testament to Grant being an established and recognised global leader.

We are renowned worldwide and are represented in over 70 countries. We bring innovation and reliability direct to laboratories, with over 10,000 scientific products supplied annually, on a global scale.

For decades, we have developed products and custom solutions that help our customers in pioneering research and development, together with everyday analysis. We are constantly evolving, bringing new products and custom solutions to market, to meet the needs of our customers. We have built up a strong track record in quality, reliability, customer-led service and support, so that our customers' needs are met to the highest of standards.

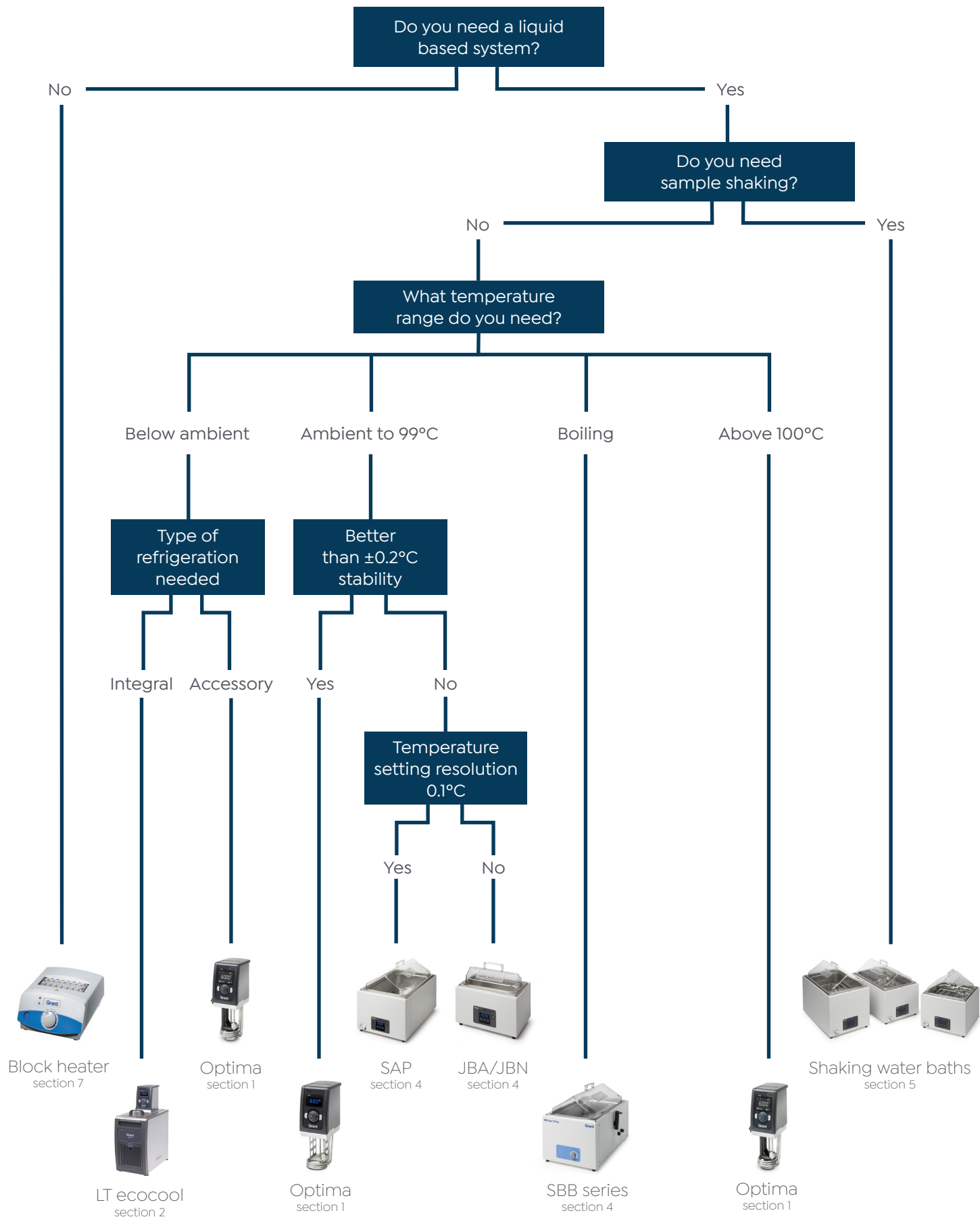
Grant's continued success is driven by our dedicated team, pioneering inventions and deep-rooted customer-led principles.



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Product selector





Heated Circulators and Stirrers

Optima™ range

Heated circulating baths

Optima™

Heated circulating and stirred baths

Our series of high-precision temperature control systems offer accurate and safe temperature control. The product portfolio is designed for any application, giving precise temperature control, reliability, quality and safety. We offer a wide range of affordable solutions from entry-level through to advanced products, with accessories to match specific needs.

Accurate and safe temperature control – for safe operation and regulated speed control

Intuitive operation and user-friendly features – simple menu navigation and programming function for precise temperature control

Robust and durable – made of high-quality materials and designed for a long service life

Entry-level to advanced-level – 32 models across the series to meet application challenges and budgets

TX150-ST26

TXF200-ST38

TX150-ST18

T100-ST5

TC120-ST12



Precision temperature control products for every application

Our four Grant Optima™ heated circulators can be combined with any of our eight tanks, offering 32 models in total to choose from. If you cannot find the right Optima™ unit in our standard product range, we have a specialist Custom Solutions team that are on hand to help with your individual needs.

Optima™ heated circulators and stirred baths

T100, TC120, TX150 and TXF200

Our comparison illustrates the features and benefits of all four Optima™ products. Choose from our two standard products, the T100 and TC120 or two of our more advanced models, the TX150 and TXF200. Combine any of heated circulators with a stainless steel or plastic tank or use independently with a T-Clamp for added value.



T100	TC120	TX150	TXF200
General purpose digital		Advanced digital	
Ambient +5 to 100°C	Ambient +5 to 120°C	Ambient +5 to 150°C	Ambient +5 to 200°C
Features	Benefits	Features	Benefits
Stability ±0.05°C.	Superior temperature stability and temperature control for demanding applications.	Stability ±0.01°C.	Superior temperature stability and temperature control for demanding applications.
Clear, bright 4 digit LED display.	View control and process data with clear and easy to read display.	Large, bright LED full colour display.	View control and process data with clear and easy to read display.
Simple, intuitive user interface, with dial and two function buttons.	Easy and quick to set temperature and access menus. Minimal product training required.	Icon driven home screen via a dial and two function buttons.	Intuitive, quick and easy, language independent.
Integral pump for external circulation (TC120 only).	Circulation of temperature control fluids to external apparatus/equipment.	High performance integral pump for external circulation. TXF200 has variable speed.	Conveniently circulate temperature control fluids to external apparatus/equipment.
Model available with or without T-Clamp.	Conveniently converts vessels into a stirred bath, offering excellent versatility.	Model available with or without T-Clamp.	Converts vessels into a stirred bath, offering excellent versatility.
Low-fluid detection (float switch).	Unit will cut-out when fluid level is too low for operation. Peace of mind that the unit will safely operate unattended.	Low-fluid detection (float switch).	Unit will cut-out when fluid level is too low for operation. Peace of mind that the unit will safely operate unattended.
User adjustable over temperature dial (TC120 only).	Independent safety feature and sample protection.	5 point user calibration.	Calibrate the TX150/TXF200 at any 5 temperatures against a precision reference thermometer. Provides optimum accuracy at temperatures important to the user.
Fixed over temperature (T100 only).	Independent safety feature.	User adjustable over temperature dial.	Independent safety feature and sample protection.
Visual alarm.	Alerts you when your attention is required.	Displays with a choice of five languages (EN, DE, FR, ES & IT).	-
2 point user calibration.	Provides optimum accuracy at temperatures important to the user.	USB/RS232 interface.	Allows connection to PC or laptop for programming or data logging.
Countdown timer (TC120 only).	Offers convenient reaction timing.	Programming/temperature profiling (TX150, 1 program with 30 segments, TXF200 10 programs with 100 segments).	Easy and quick to configure temperature profiles to suit basic and advanced applications. Programming direct on TXF200.

Applications

- Clinical, microbiology and pathology labs – media tempering, thawing & incubating samples
- University research – temperature control of spectrophotometers, refractometers and jacketed vessels
- Industrial labs – temperature probe calibration, water analysis, QC testing product, petrochemical testing, material testing, milk sample testing, viscometry, cosmetics testing

Package example A – entry level

Model T100-P12* temperature range – +5° – 99°C**

Entry-level model with digital thermostatic control unit and plastic tank suited for standard applications that need to achieve accurate temperature control.

Visual alarm – alerts you when your attention is required.

Simple-to-use rotary dial and two function keys for quick temperature setting and menu navigation.

Optional removable flat lid to minimise evaporation of fluid and avoid contamination of samples.

Choices of 120V and 230V models.



* See summary table on page 18 – 19 for accessories and for other models using T100 control units and or plastic tanks.

Product highlights

- Stirrer and heated circulator
- Optima™ digital thermostat (T100) for accurate temperature control
- Temperature range ambient +5°C to 99°C
- Stability: $\pm 0.05^{\circ}\text{C}$
- Three programmable temperature pre-sets
- Low fluid protection and fixed over temperature cut-out
- 12L plastic tank with optional lid



Operating set point plus 3 adjustable preset temperatures for convenience.

Wide range of optional accessories for different applications, including test tube racks and raised shelves.*

Robust plastic construction, double-walled for rigidity, easy to clean.

User calibration facility for optimum accuracy at the required operating temperature.

Applications

- Clinical, microbiology and pathology labs – media tempering, thawing & incubating samples
- Teaching labs, higher education/universities – practical demonstration/experimentation, sample preparation

Package example B - mid-level

Model TC120-ST12* temperature range - 0° - 120°C**

Versatile mid-level model with digital thermostatic control unit, stainless-steel tank and diverse specifications for a broad range of applications that need precision temperature control.

Clear four digit display - easy to read from a distance for instant reassurance.

Dual position bridge-plate - ensures visibility and accessibility of the thermostat and optimises bench space.

Fluid level protection and adjustable over temperature cut-out to protect the samples and the user.

User calibration facility for optimum accuracy at the required operating temperature.

Drain tap - allows easy emptying.



* See summary table on page 18-19 for accessories and for other models using TC120 heated circulator.

** Operation below ambient temperature requires optional accessory cooling.

Product highlights

- Circulator and stirrer
- Optima™ digital thermostat (TC120) for precision temperature control
- Cooling/heating range 0°C to 120°C**
- Stability: $\pm 0.05^{\circ}\text{C}$
- Uniformity: $\pm 0.1^{\circ}\text{C}$
- Three programmable temperature pre-sets
- 12L stainless steel tank with optional lid*



Optional insulated gabled and removable hinged lid - designed to improve energy efficiency and prevent evaporation.*

Countdown timer with audible alarm alerts you when your attention is required.

Simple-to-use rotary dial and two function keys for quick temperature setting and menu navigation.

Powerful integral pump for external fluid circulation - variable speed, 22L/min, 530mbar.

Robust construction corrosion resistant materials, stainless steel tank - durable in demanding environments.

Raised feet for carrying and repositioning, and retort stand access.

Applications

- Clinical, microbiology and pathology labs - media tempering, thawing and incubating samples
- University research - temperature control of spectrophotometers, refractometers and jacketed vessels
- Industrial labs - temperature probe calibration, water analysis, QC testing product, petrochemical testing, material testing, milk sample testing

Package example C – advanced specification

Model TXF200-ST12* temperature range – up to 200°C**

Advanced-level with high performance digital thermostat and stainless-steel tank for sophisticated applications needing complex programming and or ultra-precise temperature control.

Full colour screen – clearly displaying actual and set temperatures, pump speed and clear status icons.

Socket for optional external probe – allows remote temperature control.

Memory capacity for 10 programmes containing 100 segments.

Five point user calibration facility for optimum accuracy.

Drain tap – allows easy emptying.



* See summary table on page 18-19 for accessories and for other models utilising the Grant high performance digital control units.

** Operation below ambient temperature requires optional accessory cooling.

Product highlights

- Circulator and stirrer
- Optima™ high performance digital thermostat (TXF200) for ultra-precise temperature control
- Stability: $\pm 0.01^{\circ}\text{C}$
- Uniformity: $\pm 0.05^{\circ}\text{C}$
- Easy to program via interface or remotely via PC/Laptop using Labwise® software
- Key functions easily accessed via home screen icons
- 12L stainless steel tank with hinged lid



Countdown timer with audible alarm – alerts you when your attention is required.

The programming interface includes set target temperature – a choice of time to target temperature ramp speed. An additional programmable relay for on/off control of ancillary equipment.

High and low temperature alarm settings – visual, audible and programmable.

Powerful integral pump for external fluid circulation – variable speed, 22L/min, 530mbar.

Accessory cooling systems allow operation at or below ambient temperature. See page 19 for details.



Raised feet – for carrying/repositioning and retort stand access.

Applications

- Industrial labs – thermostat calibration, haze analysis (brewing), temperature probe calibration and material testing
- University research – temperature control of external equipment such as spectrophotometers and refractometers. Circulation of temperature control fluid to jacketed vessels

Package example D - with accessory cooler

Model TX150-ST12* with C1G temperature range - 0°C up to 40°C**

Refrigerated immersion coolers consist of a cooling coil connected to a refrigeration unit by a flexible pipe. Designed to extract heat continuously, the digital thermostat controls the temperature.

Powerful integral pump - allows circulation of temperature controlled to external equipment (16L/min, 210 mbar)

Simple-to-use rotary dial and two function keys for quick temperature setting and menu navigation.

Drain tap - allows easy emptying.

Raised feet for carrying and repositioning, and retort stand access.



* See summary table on page 18-19 for accessories and for other models utilising the Grant high performance digital control units.

** Operation below ambient temperature requires optional accessory cooling.

Product highlights

- Circulator and stirrer
- Optima™ high performance digital thermostat (TX150) for ultra-precise temperature control
- Cooling/heating range 0° to 40°C**
- Stability: $\pm 0.01^{\circ}\text{C}$
- Uniformity: $\pm 0.05^{\circ}\text{C}$
- C1G immersion cooler
- 12L stainless steel tank with hinged lid



Adjustable plate on tank bridgeplate allows for secure fixing of the cooling coil.

Convenient bridgeplate ensures no working space is lost.

3 adjustable temperature presets for convenience.

Applications

- University research - temperature control of external equipment such as electrophoresis tanks or jacket vessels
- Industrial labs - temperature probe calibration

Heating circulating and stirred baths

Models, options and accessories

Any of the four Grant Optima™ digital thermostats can be combined with any of the Grant stainless steel and plastic tanks. The comparison shows the temperature range of each combination. For more details of Grant Optima™ heated circulators, see page 18. Custom tanks are available on request.

			 		 	
			General purpose digital		Advanced digital	
			T100	TC120	TX150	TXF200
Capacity (L)		Outer tank dimensions • Dimensions (h x d x w) Weight (kg) • Working area (d x w) • Min/max fluid depths • Inner tank dimensions (h x d x w)				
ST5 - 5L stainless steel		• 215 x 335 x 187mm, 2.9kg • 150 x 260mm • 85/140mm • 150 x 300 x 150mm	T100-ST5 amb. +15°C to 100°C	TC120-ST5 0°C to 120°C	TX150-ST5 0°C to 150°C	TXF200-ST5 0°C to 200°C
ST12 - 12L stainless steel with drain tap		• 215 x 332 x 360mm, 4.5kg • 205 x 300mm • 85/140mm • 150 x 325 x 300mm	T100-ST12 0°C to 100°C	TC120-ST12 0°C to 120°C	TX150-ST12 0°C to 150°C	TXF200-ST12 0°C to 200°C
ST18 - 18L stainless steel with drain tap		• 215 x 545 x 340mm, 7.3kg • 385 x 300mm • 75/130**mm • 150 x 505 x 300mm	T100-ST18 0°C to 100°C	TC120-ST18 0°C to 120°C	TX150-ST18 0°C to 150°C	TXF200-ST18 0°C to 200°C
ST26 - 26L stainless steel with drain tap		• 270 x 535 x 340mm, 7.7kg • 385 x 300mm • 125/180**mm • 200 x 505 x 300mm	T100-ST26 0°C to 100°C	TC120-ST26 -15°C to 120°C	TX150-ST26 -15°C to 150°C	TXF200-ST26 -15°C to 200°C
ST38 - 38L stainless steel with drain tap		• 260 x 733 x 338mm, 11.9kg • 575 x 300mm • 125/180**mm • 200 x 690 x 300mm	T100-ST38 0°C to 100°C	TC120-ST38 -15°C to 120°C	TX150-ST38 -15°C to 150°C	TXF200-ST38 -15°C to 200°C
P5 - 5L plastic		• 180 x 323 x 220mm, 2.2kg • 120 x 150mm • 85/140mm • 155 x 240 x 160mm	T100-P5 amb. +15°C to 99°C	TC120-P5 amb. +15°C to 99°C	TX150-P5 amb. +15°C to 99°C	TXF200-P5 amb. +15°C to 99°C
P12 - 12L plastic		• 180 x 412 x 340mm, 3.4kg • 210 x 280mm • 85/140mm • 155 x 325 x 280mm	T100-P12 amb. +5°C to 99°C	TC120-P12 amb. +5°C to 99°C	TX150-P12 amb. +5°C to 99°C	TXF200-P12 amb. +5°C to 99°C
P18 - 18L plastic		• 180 x 589 x 340mm, 5.1kg • 375 x 280mm • 85/140mm • 155 x 510 x 290mm	T100-P18 amb. +5°C to 99°C	TC120-P18 amb. +5°C to 99°C	TX150-P18 amb. +5°C to 99°C	TXF200-P18 amb. +5°C to 99°C

Note: Operation at or below ambient temperatures requires optional accessory cooling (19) or a refrigeration unit (section 2.1)

* When pump is fitted, available working area is reduced.

** Maximum depth can be increased by 10mm by removing the circulation tray in 18, 26 and 38 litre baths, with slight loss of performance.

VR Racks	Tube size	Capacity	VR Racks	Tube size	Capacity	QR Racks	Tube size	Capacity	QR Racks	Tube size	Capacity
VR-13	10-13mm	65	VR-30	30mm	14	QR-13	10-13mm	30	QR-30	30mm	5
VR-19	16-19mm	36	VR-SE	0.5ml	102	QR-19	16-19mm	16	QR-SE	0.5ml	44
VR-24	24mm	23	VR-LE	1.5ml	75	QR-24	24mm	10	QR-LE	1.5ml	44

Fluids

When using our baths, we recommend that the following fluids for used.

-50°C to 50°C:	Silicone oil – low viscosity (Bayer silicone M3)
-30°C to 30°C:	50% water, 50% antifreeze (inhabited ethylene glycol)
0°C to 30°C:	80% water, 20% antifreeze (inhabited ethylene glycol)
5°C to 99.9°C:	Water – do not use to boil water
70°C to 150°C:	Silicone fluid (viscosity ~20cs, flash point ≥ 230°C, fire point ≥ 280°C)
70°C to 200°C:	Silicone fluid (viscosity 50cs, flash point ≥ 285°C, fire point ≥ 340°C)

Lids*	Lids*	Polypropylene	Rack systems †	Raised shelves	Optional accessory cooling systems**		
Reduces evaporation/ heat at loss and prevent sample contamination.	For continuous use with water above 90°C. Stainless steel.	300 spheres in one pack – no. of packs required.	Optimises use of available bath capacity – no. of racks accommodated.	To allow shallow vessels to be accommodated	Refrigerated immersion coolers		Heat exchange coil
					Consists of a cooling coil connected to a refrigeration unit by a flexible pipe. Extract heat continuously, with the heated circulator controlling the temperature.		Designed to attach to a cold-water source or a refrigerated circulator.
					C1G (0°C to 40°C***)	C2G (-15°C to 40°C***)	CW5 (2°C above coolant temperature)
STL5	-	1 x PS20	1 x QR	-		-	
STL12	STL12	1 x PS20	2 x VR	RS14		-	
STL26	STL26	2 x PS20	4 x VR	RS22		-	
STL26	STL26	2 x PS20	4 x VR	RS28			
STL38	STL38	3 x PS20	6 x VR	RS28 or RS38			
PL5	-	1 x PS20	1 x QR	-	-	-	-
PL12	-	1 x PS20	2 x VR	RS14	-	-	-
PL18	-	1 x PS20	4 x VR	RS22	-	-	-

* Between operating temperatures 60°C and 100°C and below room temperature a lid or layers of polypropylene spheres should be used.

** The cooling coil can be continuously immersed in fluids up to 100°C with the cooler switched off and may be used to cool fluid down from 100°C, but it is not designed for continuous operation above 40°C.

*** Minimum operating temperature without accessory cooling is ambient +5°C (amb. +15°C for P5 and ST5 tanks).

† Rack capacity (number of test tubes per rack).

Heated circulating baths

Options and accessories

					
		General purpose digital		Advanced digital	
Labwise™ PC software (optional)		T100	TC120	TX150	TXF200
Allows two-way communication for status display, programming and data capture (see page 36 for more information) USB/RS232 cables provided.		–	–	•	•
External probes (optional) for monitoring and controlling temperature of remote loads					
TXPEP flexible plastic probe, 3m cable (3.5mm Jack plug)		–	–	•	•
TXSEP stainless steel probe, 3m cable (3.5mm Jack plug)		–	–	•	•
Vertical turbine pumps (optional)					
Low noise, compact design. Supplied with pipe connections and special lid for fitting to tank, pipe bore 12.7mm.				Required only where application demands a higher pressure than that delivered by the internal pump to maintain flow.	
VTP 1					
Max. pressure	1000				
Max. flow	9 L/min				
	230V				
	50Hz				
VTP 2					
Max. pressure	1650				
Max. flow	12 L/min				
	230V				
	50Hz				

High pressure pumps

Optional

			
		VTP1	VTP2
Maximum pressure	water mbar	1000	1650
Maximum flow	water L/min	9	12
Pipe bore	inlet/outlet mm	12.7	12.7
Electrical connection		10 amp IEC	10 amp IEC
Power consumption	W	30	40
Power output to fluid * 20°C	W	15*	22*
Safety		Thermal fuse	Thermal fuse

* The VTP optional pumps will transfer additional heat to the baths, so the minimum temperature achievable with or without accessory cooling will be increased.

Note: When ordering a VTP pump, please specify which Grant tank it is to be used with.

Accessory cooling systems

Optional

				
		Immersion coolers		Heat exchange coil
		C1G	C2G	CW5
Cooling Power	@ 29°C W	350	400	-
	@ 0°C W	110	320	-
	@ -10°C W	-	170	-
Overall consumption	VA	300	500	-
Dimensions (d x w x h)	mm	485 x 305 x 320		130 x 100 x 150
Weight	kg	16.6	19.6	0.1
Flexible pipe	l mm	925		-
Coil	ø/l mm	50/100		-
Pipe bore inlet/outlet	mm	-	-	7
Electrical supply	V	120 (60Hz) or 230 (50Hz)		-

Pump connectors

Optional

P-M6		Replacement plastic pump inlet/outlet connector. Fits tubing 9mm inner dia. Temperature range -50 to 200°C
P-M11		Replacement plastic pump inlet/outlet connector. Fits tubing 15mm inner dia. Temperature range -50 to 200°C
M-SR4		Metal pump inlet/outlet connector, dual seal super rapid 4mm. Fits semi rigid tubing 4mm outer dia. Temperature range -20 to 100°C
M-SR6		Metal pump inlet/outlet connector, dual seal super rapid 6mm. Fits semi rigid tubing 6mm outer dia. Temperature range -20 to 100°C
M-SR8		Metal pump inlet/outlet connector, dual seal super rapid 8mm. Fits semi rigid tubing 8mm outer dia. Temperature range -20 to 100°C
M-HB7		Metal pump inlet/outlet connector, hose barb 7mm. Fits flexible tubing 7mm outer dia. Temperature range -40 to 120°C
M-HB9		Metal pump inlet/outlet connector, hose barb 9mm. Fits flexible tubing 9mm outer dia. Temperature range -40 to 120°C
M-HB12		Metal pump inlet/outlet connector, hose barb 12mm. Fits flexible tubing 12mm outer dia. Temperature range -40 to 120°C
M-UC		Metal pump inlet/outlet plate, 1/4" BSP/G1/4 female. Temperature range -50 to 200°C

Clamp

Optional

	T-Clamp	
Grant heated circulators are ideal for use with Grant stainless steel and plastic tanks. With the addition of a clamp (T-Clamp) they can also be attached to virtually any vertical sided tank with a maximum wall thickness of 35mm for rectangular tanks, 30mm for circular tanks (300mm diameter), and a capacity of up to 50 litres. Minimum and maximum temperatures achievable are dependent on the tank insulation and minimum operating temperature depends on the accessory cooling device.		

Bridgeplates

Optional

	 Bridge plates for use with stainless steel tanks	
Bridge plate fits G Optima™* heating circulator models to ST5 tank		G-BTS
Bridge plate fits G Optima™* heating circulator models to ST12, 18, 26 & 38 tanks		G-BTL
Bridge plate replacement fits T Optima™ heating circulator models to ST5 tank		T-BTS
Bridge plate replacement fits T Optima™ heating circulator models to ST12, 18, 26 & 38 tanks		T-BTL
Bridge plate fits T Optima™ heating circulator models to S5 tank		T-BSS
Bridge plate fits T Optima™ heating circulator models to S12, 18, 26 & 38 tanks		T-BSL
Bridge plate fits T Optima™ heating circulator models to Y6 & W6 tanks		T-BYWS
Bridge plate fits T Optima™ heating circulator models to Y14, 28 & 38 tanks also W14, 28 & 38 tanks		T-BYWL
	Bridge plates for use with plastic tanks	
Bridge plate fits G Optima™* heating circulator models to P5 tank		G-BPS
Bridge plate fits G Optima™* heating circulator models to P12 & 18		G-BPL
Bridge plate replacement fits T Optima™ heating circulator models to P5 tank		T-BPS
Bridge plate replacement fits T Optima™ heating circulator models to P12 & 18 tanks		T-BPL

* G Optima™ is the previous edition of the Optima™.

Optima™ heated circulators

Technical specifications



Grant Optima™ Heated circulators and Immersion thermostat

		T100	TC120	TX150	TXF200
Dimensions	h x d x w mm	333 x 172 x 120	333 x 172 x 141	342 x 172 x 141	
Stability (DIN) 12876)	@70°C ±°C	0.05		0.01	
Uniformity (Din 12876)	@70°C ±°C	0.1		0.05	
Setting resolution	°C	0.1		0.1 (0.01 with Labwise*)	
Display		4 digit LED		Full colour QVGA TFT	
Timer function		-	1 minutes to 99 hours 59 minutes		
No. of temperature presets		3			
Re-calibration points		2		5	
Socket for external probe (TXPEP, TXSEP)		-		•	
Communications interface		-		USB, RS232	
Programmable		-		Remote via PC/ laptop 1 program=/ 30 segments	Direct via user interface or remote via PC/ laptop 10 programs/ 100 segments
Relays		-		1	
Safety	over temperature	Fixed	Adjustable cut-out		
	fluid level - float	•			
Language options		-		EN, FR, DE, IT, ES	EN, FR, DE, IT, ES
Alarms (can be configured to switch a relay)		-	High (no relay)	High and low	
Heater power	230V W	1290		1840	
	120V W	1440		1445	
Electrical power	230V W	1400 (50-60Hz)		2000 (50-60Hz)	
	120V W	1500 (50-60Hz)			
Height above tank rim	mm	200			
Depth below tank rim	mm	135		145	
Maximum pressure	water mbar	-	210	310	530
Maximum flow	water L/min	-	16	18	22 (adjustable flow rate)
Pump connector	6mm bore*	-	Fits 9mm inner diameter tubing		
Pump connector	11mm bore*	-	Fits 15mm inner diameter tubing		
Weight	kg	2.1	2.3	2.6	

* 6 and 11mm bore pump connectors supplied as standard. For more options see page 1.6.

• = standard

Contact us today

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Refrigerated and Heated Circulators and Chillers

LT ecocool

Energy efficient refrigerated heated circulating baths

Optima range

Refrigerated heating circulating bath combinations

RC series

Recirculating chillers

Refrigerated and heating circulators and chillers

Cost-effective and efficient multi-purpose systems for cooling applications. The circulating product portfolio offers a diverse choice to meet a range of needs and budgets. We offer entry-level products for standard use to advanced-level products for more demanding requirements or opt for a product solution that is customised to your individual needs.

Energy efficient models - delivers powerful cooling and significant running cost savings

Powerful precision cooling - for use in open-loop or closed-loop format

User-friendly and intuitive design - handy features, effortless maintenance and compact design

Robust, durable construction - for longevity, reliability and long-term low cost of ownership

A comprehensive range - multiple combinations or custom solutions to meet your specific needs

Added protection - industry leading warranty options up to four years



LT ecocool range



Grant R4

Operating Temperature

The LT ecocool refrigeration range offers accurate temperature control from -25°C to 150°C and is available in two models.

The R4 refrigeration unit can be combined with any of Grant's Optima™ heated circulators to offer a temperature range of up to -30°C to 100°C as standard. Custom units can be designed for wider temperature ranges.

Six points to consider when choosing your system

Do you need to immerse samples within a tank?

Consider the working area required. The table on page 27 shows the dimensions of the top opening and the min/max fluid depths.

Cooling power required at a given temperature

For example, if your operating temperature is 0°C and you need 500W cooling power, you need the R4 refrigeration unit with any of the controllers. Alternatively to calculate the power required use the following formula:

$$W = V \times T \times K / 60 \times t \text{ (mins)}$$

Cool-down time required to reach that temperature

Calculate the cool-down time required according to the following formula and refer to the cool down curved for individual performance.

$$W \text{ (mins)} = V \times T \times K / 60 \times t \text{ (mins)}$$

W = average cooling power	Water	K = 4180
V = total system fluid volume L	50/50 water/glycol	K = 3800
T = temperature difference °C	Alcohol	K = 2100
K = fluid heat capacity (J/L°C)	Silicone oil	K = 1800

Do you need to control the temperature of or remove the heat from an external device?

1. Consider the pump requirement. Fluid flow rate is critical in order to maintain adequate exchange of heat within the external system. Flow rate is dependent on the restrictions within the system. Factors which cause a pressure drop are height, length, pipe bore and the number and angle of bends within the system. To maintain sufficient flow in a highly restricted system, a high pressure pump is required. The integral pumps in the Optima™ and LT ecocool series thermostats are satisfactory for most laboratory applications; for more powerful pump requirements select either of the Grant accessory vertical turbine pumps (VTP).

2. Consider whether you need to control the temperature within the external apparatus. For external temperature control choose the TX150, TXF200 or LT ecocool 150 controllers and an external temperature probe.

Do you require temperature ramping?

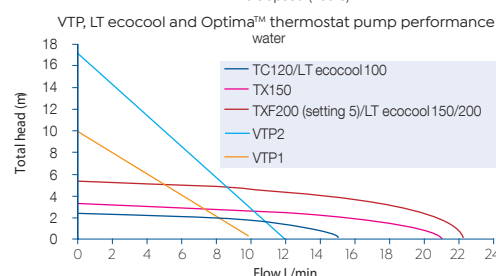
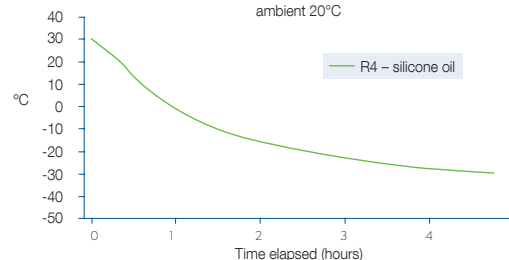
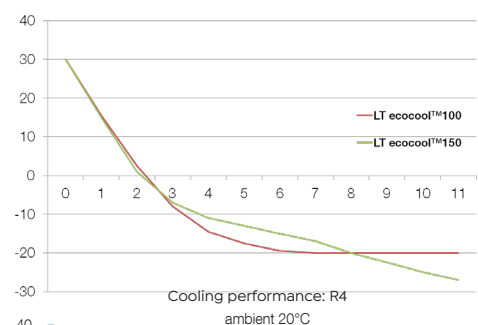
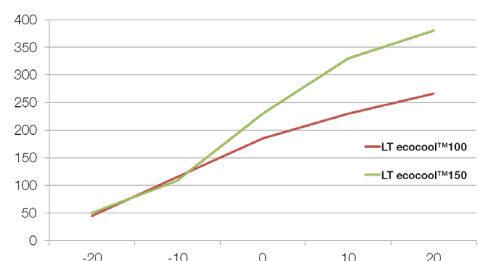
If yes, choose the TX150, TXF200 or LT ecocool controller and Labwise® accessory software. For refrigeration on/off choose refrigeration units LT ecocool 150 or R4.

What other features do you require?

Compare the wide range of features offered by the four Optima™ series or LT ecocool 150 controllers and select the controller that meets your needs.

Need more help?

If you need help choosing the correct system, please contact: salesdesk@grantinstruments.com or call +44 (0) 1763 260 811.



LT ecocool

Energy saving refrigerated and heated circulating baths

The range of innovative, eco-friendly, refrigerated heated circulating baths reduce operating costings and help to protect the environment by achieving energy savings of up to 80%*. A choice of two models, both supplied assembled as ready-to-use kits, complete with accessory tubing*, clips and connectors as standard.

Choice of two models, temperature range -25 to 150°C* (vary on model choice)

Industry leading 4 year warranty with online registration

Active cooling throughout the full temperature range

Energy savings of up to 80% *compared to standard compressor units

Eco mode for optimising the cooling control needed, enabling rapid cool down when required.

Intuitive user interface

Modern, sleek attractive design.

No-spill valved front drain.

No side vents - located to suit the user, not the unit.



Thermostat and chiller work in harmony - neither will operate alone, eliminating any danger of overheating or freezing.

Full colour five language QVGA TFT display on the LT ecocool 150.

Single front switch for user convenience.

True energy saving against competitor units that only switch the compressor on or off.



* Temperature range of tubing supplied: -40°C to 100°C (can be length as required). Supplied tubing 2 x 1.5m ID 9mm ø

Applications

- Pharmaceutical - mini pilot plant reactors
- Education - immersing small samples, photometry, chromatography systems
- Industrial - QC testing, sample preparation, general cooling, reaction chemistry, temperature control, semi-conductor manufacturing, rheometry
- Food - refractometry
- Life-science - electrophoresis cooling

LT ecocool refrigeration range

Technical specifications



		LT ecocool 100	LT ecocool 150
Dimensions	h x d x w mm	640 x 430 x 245	
Capacity	L	7	7
Temperature range	°C	-20 to 100	-25 to 150
Stability	±°C	0.05	0.02
Flow rate (max)	L/min	17	14-22 (adjustable)
Pump pressure (max)	mbar	250	530
Working area	d x w mm	118 x 154	
Min/max fluid level	mm	85/145	130/145
Calibration points		2	5
Cooling power (mean)	@20°C W	227	415
	@0°C W	190	227
	@-10°C W	115	117
	@-20°C W	41	71
Programmes		-	1 x 30 segments Labwise® required
Communication interface		-	USB
Temperature probe socket		-	6 pin mini DIN
Display		4 digit LED	Full colour QVGA TFT
Languages		-	EN, FR, DE, IT, ES
Timer		1 minute to 99 hours 59 minutes	
Temperature presets		3	
Alarms		High	High and low
Electrical supply (max) A	220-240V	12 (50 or 60 Hz versions available)	12 (50/60Hz)
	110-120V	18.5 (50/60Hz)	18.5 (50/60Hz)
Safety		Adjustable over temperature cut-out	
Ready to use kits		Assembled and supplied with standard tubing, insulation, clips and connectors	
Weight	kg	29	

Fluids

We recommend the following fluids for use in Grant baths:

- 50°C to 50°C: Silicone oil - low viscosity Bayer silicone M3
- 30°C to 70°C: 50% water, 50% antifreeze - inhibited ethylene glycol
- 0°C to 30°C: 80% water, 20% antifreeze - inhibited ethylene glycol
- 5°C to 99.9°C: Water - do not use to boil water
- 70°C to 150°C: Silicone fluid (viscosity ~20cs, flash point ≥230°C, fire point ≥280°C)

Always read the manual and warnings when choosing a fluid.

Optima™

Refrigerated baths and circulator range

High-performance refrigeration unit easily combined with any of our four Optima™ heated circulators. Offers flexibility and delivers outstanding temperature performance for routine and more sophisticated applications requiring accurate temperature control in the range of -30°C to 100°C. Also available as a kit, Grant offer the LTC4 (TX150-R4) with the heated circulator, refrigeration unit and insulated tubing* offering a complete ready-to-use system.

Choice of two base refrigeration units and four heated circulators, temperature range -30°C to 100°C** (vary on model choice)

Stability: Up to $\pm 0.01^\circ\text{C}$

No spill drain valve located on the front of the unit

Safe - water freeze protection thermostat and 27 bar high pressure switch

Three pre-set programs

3 years warranty, 4 years with the LTC4

Custom units are available



User calibration facility for optimum accuracy at the required operating temperature.

Low fluid protection and over-temperature cut-out.

Easy accessible power switch.

5°C thermostat on/off switch - stops tank freezing when operating with water.

Removable grille - easy access to drain valve and condenser for routine maintenance.

3 year warranty

Built in Britain

Clear 4 digit display - easy to read from a distance for instant reassurance.

Adjustable over-temperature protection.

Convenient carrying handles front and rear for repositioning the unit.

Powerful efficient cooling, ozone-friendly refrigerant.

* Temperature range of tubing supplied: -40°C to 100°C (can be cut to length as required).

** Lower temperatures are available. Contact +44 (0) 1763 260 811 or email salesdesk@grantinstruments.com to find out more.

Grant R series base refrigeration units

Technical specifications



		R4	LTC4
Dimensions	h x d x w mm	550 x 515 x 393	755 x 515 x 393
Capacity	L	20	20
Temperature range (T100)	°C	0-100	-
Temperature range (TC120)	°C	-20 to 100	-
Temperature range (TX150)	°C	-30 to 100	-30 to 100
Temperature range (TXF200)	°C	-30 to 100	-
Refrigerant		R134a	R134a
Working area	d x w mm	230 x 305	230 x 305
Min/Max fluid level	mm	85/140	85/140
Cooling power (typical)	@20°C W	900	900
	@0°C W	500	500
	@-10°C W	300	300
	@-20°C W	180	180
	@-30°C W	40	40
	@-40°C W	-	-
	@-47°C W	-	-
Electrical power (max) W	120V	780 (50-60Hz)	2280 (50-60Hz)
	230V	850 (50Hz)	2850 (50Hz)
Relay control*		•	•
Weight	kg	40.6	42.9

* relay to enable switching off the refrigeration system in a program

Applications

- University research/teaching - temperature control of external equipment including: spectrophotometers & refractometers. Circulation of temperature control fluid to jacketed vessels, cooling crystallisation vessels
- Industrial laboratories - temperature probe calibration, product testing, product QC, temperature control of external equipment.

Grant Optima™ heated circulators

Technical specification



					
		Grant Optima Heated circulators and Immersion thermostat			
		T100	TC120	TX150	TXF200
Dimensions	h x d x w mm	333 x 172 x 120	333 x 172 x 141	342 x 172 x 141	
Stability (DIN 12876)	water @10°C ±°C	0.1			
Setting resolution	°C	0.1		0.1 (0.01 with Labwise®)	
Programs		-		1 x 30 segments Labwise® required	10 x 100 segments
Safety	over temperature	Fixed	Adjustable cut-out		
Alarms (can be configured to switch a relay)		-	High (no relay)	High and low	
Language capability		-		EN, FR, DE, IT, ES	
Height above tank rim	mm	200			
Depth below tank rim	mm	135			
Display		4 digit LED		Full colour QVGA TFT	
Timer		-	1 minute to 99 hours, 59 minutes		
Calibration points		2		5	
Communication interface		-		USB, RS232, remote temperature probe	
Heater power	W 120V/230V	1440/1290		1445/1840	
Electrical power (50/60Hz)	W 120V/230V	1500/1400		1500/2000	
Weight	kg	2.1	2.3	2.6	2.6

For more information on the Grant Optima heated circulators, please see page 1.8.

Options and accessories

Labwise® PC software

Allows two-way communication for status display, programming and data capture (see page 3.1 for more information) USB/RS232 cables provided.

Compatible with TX150, TXF200 and LT ecocool 150 models.

External probes for monitoring and controlling temperature of remote loads

TXPEP flexible plastic probe, 3m cable (Din plug)

Compatible with TX150 and TXF200 models.
Compatible with LT ecocool 150 models

TXSEP stainless steel probe, 3m cable (Din Plug)

Compatible with TX150 and TXF200 models.
Compatible with LT ecocool 150 models

Vertical turbine pumps*

Low noise, compact design. Supplied with pipe connections and special lid for fitting to tank, pipe bore 12.7mm.

VTP 1
Max pressure 1000 mbar
Max. flow 9 L/min

230V
50Hz

VTP 2
Max pressure 1650 mbar
Max. flow 12 L/min

230V
50Hz

Required only where application demands a higher pressure than that delivered by the internal pump to maintain flow.

Note: The optional VTP pumps will transfer additional heat to the baths and reduce the net cooling power of the refrigeration unit. The above figures must be taken into consideration when choosing the refrigeration unit. When order a VTP pump, please specify which refrigeration base unit it is to be used with.

Note: Other sizes of heat exchange coil can be made to your specification, contact Grant for further information.

Heat exchange coil

CW5 Other sizes of heat exchange coil can be made to your specification, contact us for further information.

Temperature range: 2°C above the temperature of the coolant
Coil Øxl: 77 x 55mm
Pipe bore inlet/outlet: 7mm

Hose kits

HOSE100 General purpose tubing and insulation kit: -40°C to 100°C

HOSE200 High temperature tubing and insulation kit: -50°C to 200°C

Tube kit 2 x 2m, assembled with Optima pump outlet plate and simple tube clips, no tools required.

High pressure pumps

Optional

		VTP pumps		Heat Exchange Coil
		VTP-ILT	VTP2-LT	CW5
Maximum pressure	water mbar	1000	1650	-
Maximum flow	water L/min	9	12	-
Pipe bore	inlet/outlet mm	12.7		7
Electrical connection		10 amp IEC		-
Power consumption	W	30	40	-
Power output to fluid	W	15	22	-
Safety		Thermal fuse		-
Temperature range	°C	-		2°C above coolant temperature
Coil ØxL	mm	-		77 x 55

Grant refrigeration units

Optional

							
	LT ecocool 100	LT ecocool 150	T100-R4	TC120-R4	TX150-R4	TXF-200-R4	LTC4
Labwise® Software (see section 3 for further information)	-	•	-	-	•	•	•
CW5 Heat exchange coil	•	•	•	•	•	•	•
IQOQ Documentation	IQOQ LT ecocool 100	IQOQ LT ecocool 150	IQOQ T100 + IQOQ R4	IQOQ TC120 + IQOQ R4	IQOQ TX150 + IQOQ R4	IQOQ TXF200 + IQOQ R4	IQOQ LTC4
PQ Documentation	PQ LT ecocool 100	PQ LT ecocool 150	PQ T100 + PQ R4	PQ TC120 + PQ R4	PQ TX150 + PQ R4	PQ TXF200 + PQ R4	PQ LTC4
Extended warranty 1 year EWC1	•	•	•	•	•	•	•
Extended warranty 2 years EWC2	-	-	•	•	•	•	-

Temperature probes - 3m cable

TXPEP Plastic probe	-		•	•	•
TXSEP Stainless steel probe	-		•	•	•
PEP Plastic probe	-	•	-		
SEP Stainless steel probe	-	•	-		

Pumps - optional

VTP1-LT Maximum pressure 1000 mbar Maximum flow 9 L/min	•	-
VTP2-LT Maximum pressure 1650 mbar Maximum flow 12 L/min	•	-
VTP1-PLR4 Maximum pressure 1000 mbar Maximum flow 9 L/min	-	•
VTP2-PLR4 Maximum pressure 1650 mbar Maximum flow 12 L/min	-	•

Pumps

P-M6		Replacement plastic pump inlet/outlet connector. Fits tubing 9mm inner dia. Temperature range -50°C to 200°C.
P-M11		Replacement plastic pump inlet/outlet connector. Fits tubing 15mm inner dia. Temperature range -50°C to 200°C.
M-SR4		Metal pump inlet/outlet connector, dual seal super rapid 4mm. Fits semi rigid tubing 4mm outer dia. Temperature range -20°C to 100°C.
M-SR6		Metal pump inlet/outlet connector, dual seal super rapid 6mm. Fits semi rigid tubing 4mm outer dia. Temperature range -20°C to 100°C.
M-SR8		Metal pump inlet/outlet connector, dual seal super rapid 8mm. Fits semi rigid tubing 4mm outer dia. Temperature range -20°C to 100°C.
M-HB7		Metal pump inlet/outlet connector, tube barb 7mm. Fits flexible tubing 7mm inner dia. Temperature range -50°C to 200°C.
M-HB9		Metal pump inlet/outlet connector, tube barb 9mm. Fits flexible tubing 9mm inner dia. Temperature range -40°C to 120°C.
M-HB12		Metal pump inlet/outlet connector, tube barb 12mm. Fits flexible tubing 12mm inner dia. Temperature range -40°C to 120°C.
M-UC		Metal pump inlet/outlet plate, 1/4" BSP/G1/4 female. Temperature range -50°C to 200°C.
HOSE100		General purpose tubing and insulation kit, includes 2 x 2m general purpose insulated tubing -40 to 100°C, assembled with LT ecocool/Optima™ pump outlet plate and simple tube clips, no tools required. Can be cut to length. 10mm ID, 14mm OD.
HOSE200		General purpose tubing and insulation kit, includes 2 x 2m general purpose insulated tubing -50 to 200°C, assembled with LT ecocool/Optima™ pump outlet plate and simple tube clips, no tools required. Can be cut to length. 8mm ID, 11mm OD.

RC Series

Recirculating chillers

A choice of two robust recirculating chillers delivering a constant flow of temperature-controlled fluid to provide powerful, regulated cooling at -10°C for many types of industrial machinery and scientific apparatus. Suitable for circulation through closed systems.

Temperature range -10°C to 60°C

Stability: $\pm 0.25^{\circ}\text{C}$ or $\pm 0.5^{\circ}\text{C}$ (model dependent)

Choice of models with different cooling power - from 1300 to 3000W

Efficient, reliable and cost-effective alternative to cooling with mains water

Customised units with bespoke specifications also available

Lockable wheels allow RC units to be moved easily and ensure that they stay once put in position.

Digital controller for accurate and reproducible temperature setting. User-selectable high and low temperature alarms.

Robust construction using corrosion resistant materials - long term durability and reliability in demanding applications.



Useful TUNE facility enables automatic optimisation of the chillers closed-loop temperature control parameters to meet specific user requirements.

Inbuilt safety features protects the user, equipment and application from over temperature, under temperature and flow failure.



Applications

- Electronics - cooling system for etch baths, glass coating for top-up display in aircrafts
- Industry - print head cooling for textile industry, calibration system probe
- Academia - physics and astronomy lab equipment cooling, sea water cooling for producing ikatite minerals
- Research - seed research, cooling of scientific X-ray analytical units, SEM cooling

Grant RC recirculating chillers

Technical specifications

				
			RC1400G	RC3000G
Dimensions	h x d x w	mm	655 x 936 x 483	
Capacity	L		2.5	1.1
Temperature range	°C		-10 to 60	
Stability	±°C		0.25**	0.5***
Flow rate (max)	L/min		15	
Pump pressure (max)	mbar		1.6	
Cooling power (typical)	@20°C	W	1300	3000
	@0°C	W	600	1500
	@-10°C	W	150	575
Heater power		W	1500	–*
Overall consumption	220/240V	W	3000	2000
Display			LED	
Display resolution	°C		1.0	
Electrical supply	V		230 (50Hz)	
Safety:				
temperature	switchable under temperature thermostat		•	
temperature	fixed over temperature cut-out		•	–
level	flow-fail device		•	
Refrigerant			R134a	
EMC emissions	Class		A	B
Weight	kg		53	88

* RC3000G has no heater so can only control against a heat load

** With 10 litres of water in the system

*** With 25 litres of water in the system

Options and accessories

RC BYP	Bypass to overcome flow restrictions (flow <1 L/min), e.g. in narrow tubes or small cells.
RC PR	Pressure gauge to assist with setting up cooling systems and monitoring performance.
PRES	Priming reservoir to simplify priming in a closed loop system which has no filling port available on the RC inlet.
External probe	For remote sensing temperature control. On request only. Specify when ordering.
RC HF9	Rear connecting fittings (pair) 9mm internal diameter tube sizes respectively.
RC HF12	Rear connecting fittings (pair) 12mm internal diameter tube sizes respectively.
RC HF17	Rear connecting fittings (pair) 17mm internal diameter tube sizes respectively.

Contact us today

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Labwise® Software

Labwise®

Software package for the LT ecocool 150 refrigerated circulator

Labwise®

Control and analysis software for the laboratory

Labwise® is a powerful automated software package for programming. Controlling and recording key parameters of high-performance baths and circulators in the Grant Optima™ range via a PC. This enables laboratory experiments and processes to be easy and efficient.

Full control of set-up, multi-segment programming and data logging for heating and cooling

Real-time status windows with graphic display including zooming and scaling

Operates in combination with Grant LT ecocool 150

Easy control of relays and programming multiple segments

Increases setting resolution of the TX150 and TXF200 to 0.01°C

Labwise® set-up features

- Set temperature
- Set high and low alarms - alarms can be configured to switch a relay
- Set reaction time
- Set delayed start and stop time
- Control of output relays for refrigeration on/off control and operating ancillary equipment
- Control of pump speed for TXF200

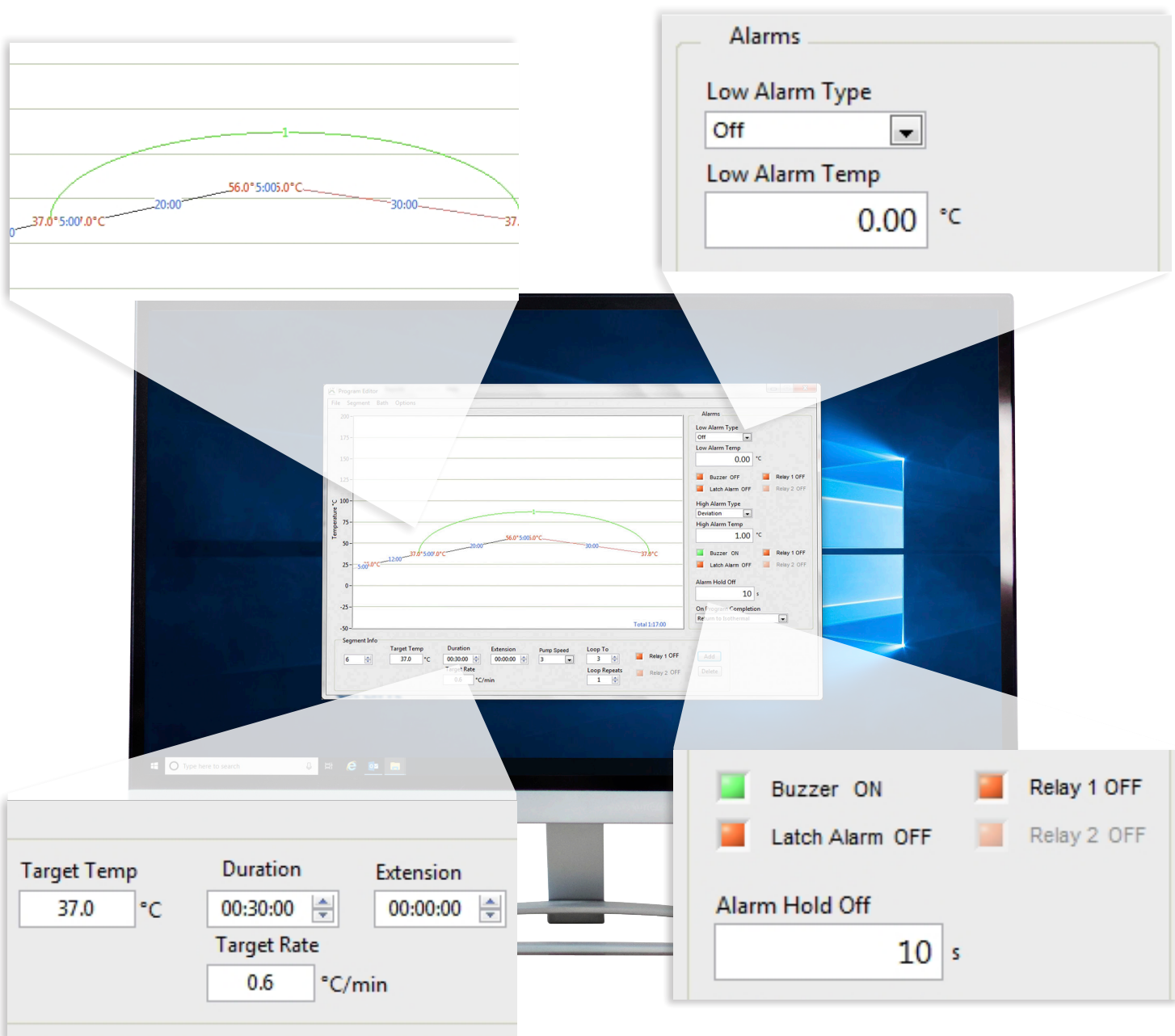
Labwise® programming features

- Set cool or heat time to target
- Program values may be set graphically or numerically
- Up to 100 segments per program (TXF200)
- Set number of loops, 1 to 254 or infinite looping between selected way points
- Programmed control of output relays for each segment, for operating ancillary equipment
- Control of pump speed for TXF200

Labwise® display and logging features

- Display of temperature/time profile on screen in real time
- Real time zoom and scaling of graphical display
- Logging of temperature profiles to PC for storage and subsequent analysis
- Store programs to PC





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Find your perfect solution today

Visit our website - www.grantinstruments.com



Unstimulated Water Baths

SAP

Advanced-level
unstimulated water bath range

JBN

Mid-level unstimulated water bath range

JBA

Entry-level unstimulated water bath range

SBB Aqua Plus

Boiling bath range

Unstirred Water Baths

The reliability, quality and consistent performance of Grant products have made Grant a leading manufacturer of water baths for decades.

Digital design – digital controls on all thermostatic baths from entry-level through to advanced-level

Proven performance – advanced technology delivers accurate temperature control

Set and Forget™ technology – fast heat up, accurate temperature control



JBN range



JBA range



SAP range



SBB Aqua Plus boiling bath range

Comparison of features and specifications

				
		JBA	JBN	SAP
		JB Academy	JB Nova	SUB Aqua Pro
Tank size	L	5, 12, 18	5, 12, 18, 26	2, 2L shallow, 5, 5L & 12 (dual), 12, 18 ,26 & 34
Temperature range	°C	Ambient +5 to 95	Ambient +5 to 95	Ambient +5 to 99
Temperature display and setting resolution	°C	0.5		0.1
Stability (DIN 12876)	@70°C ±°C	0.5		0.2
Temperature setting		Digital		
Front panel lock		•		
Fixed thermal cut-out		•		
Dry start/boil dry protection		•		
User calibration		1pt		2pt
Element free tank		•		
Drain tap (12L and above)		-	•	
Lid as standard		-	•	
User adjustable over temperature alarm		-		•
Programmable temperature presets		-		3
Countdown timer with audible alarm		-		1 to 999 minutes
Supply voltage	V	120 or 230		
Compatible with heat transfer beads		-	•	• (5L+)

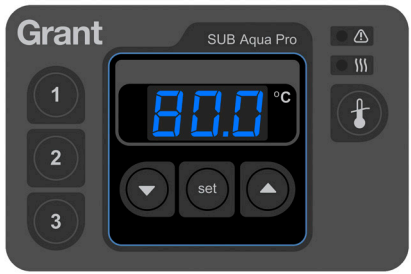
JBA Keypad



JBN Keypad



SAP Keypad



Fluids

We recommend the following liquids for use in Grant baths:

5°C to 99°C: Water

The SAP and JBN ranges (greater than 2L) are compatible with heat transfer beads

Sub Aqua Pro

Advanced-level digital unstirred water bath range

Built to the highest standard and specifications, combining the latest technology the SUB Aqua Pro advanced water bath range supports even the most demanding applications requiring accurate temperature control. A choice of eight models with a base tray and lid included as standard.

SAP12 model shown.

Stainless steel tank - high grade steel, with durable polished finish.

User calibration - dual for optimum accuracy at your working temperature.

Fixed thermal cut-out - independent safety feature.

Heater mat and sensor bonded to underside of tank - optimised uniformity and work space. Tank easy to clean.

Drain tap - allows convenient emptying on 12L, 18L, 26L, 34L and dual baths (5L and 12L).



Product highlights

- Temperature range ambient +5°C to 99°C operation
- Stability: $\pm 0.2^{\circ}\text{C}$
- Unique Set and Forget™ technology - fast heat-up, accurate temperature control
- Simple, intuitive controls - quick and easy to set temperature
- Suitable for use with heat transfer beads (excluding SAP2 & SAP2S)
- Adjustable over temperature alarm - protect samples from over heating
- Practical front panel lock - disables front panel controls preventing unintentional changes
- 3 year warranty



Non-drip lid - improves performance, limits evaporation and conserves energy. Included as standard.

Advanced dry run and run dry protection - prevents costly service repairs in case bath is accidentally switched on or run without water. Simply fill and restart.

Base tray - promotes heat convection and optimal temperature uniformity. Also allows any container to be placed directly in the bath. Included as standard.

Three programmable temperature presets - allows commonly used temperatures to be quickly selected.

Countdown timer (1-999 mins) with audible buzzer - for accurate reaction timing.

Applications

- Sample preparation, sample incubation, sample warming, sample thawing, media preparation, QC materials and practical science demonstration
- Markets: Pharma/biotech, education, industry, healthcare

Sub Aqua Pro

Technical specifications

										
		SAP2	SAP2S	SAP5	SAP12	SAP18	SAP26	SAP34	SAPD 5 and 12L Dual bath	
Capacity	L	2	2 (shallow)	5	12	18	26	34	5 & 12	
Dimensions	mm	h: 305 d: 200 w: 186	h: 260 d: 215 w: 335	h: 310 d: 215 w: 335	h: 380 d: 390 w: 335	h: 420 d: 590 w: 335	h: 430 d: 590 w: 335	h: 400 d: 775 w: 335	h: 400 d: 380 w: 545	
Weight	kg	2.5	3	3.9	6.2	9.2	9.4	13.8	9.9	
Temperature range	°C	Ambient +5 to 99								
Stability (DIN 12876)	@70°C ±°C	0.2								
Setting resolution	°C	0.1								
Working area	mm	d: 117 w: 131	d: 139 w: 289	d: 131 w: 281	d: 306 w: 281	d: 485 w: 281	d: 481 w: 278	d: 635 w: 281	d: 131 w: 281	d: 281 w: 306
Min/max liquid depth	mm	50/125	32/40	50/125	50/125	50/125	70/175	70/166	50/125	
Countdown timer with audible alarm		1 to 999 minutes								
Temperature setting/energy regulation		Digital								
User adjustable over temperature alarm		•								
Fixed thermal cut-out		•								
Dry start/run dry protection		•								
Drain tap		-			•					
Programmable temperature pre-sets		3								
Heater power	230V W	250	350	350	800	1400	1400	1800	1150	
	120V W	250	350	350	800	1050	1050	1300	1150	
Supply voltage	V	120 or 230								
Regulatory approval		CE and CSA approved								

Can't find what you're looking for?

If you cannot find what you are looking for in our standard product portfolio, our custom solutions experts are available to develop the right solution for your requirements. Contact the team today, who will be happy to help. Call +44 (0) 1763 260 811 or email salesdesk@grantinstruments.com. More information can also be found here: www.grantinstruments.com.

Sub Aqua Pro

Options and accessories

								
	SAP2	SAP2S	SAP5	SAP12	SAP18	SAP26	SAP34	SAPD
	2L	2L	5L	12L	18L	26L	34L	5L and 12L
	Replacement transparent polycarbonate lids – Directs condensation away from immersed vessels, avoids contamination, reduces evaporation and saves energy.*							
	AQL2	AQL5	AQL5	AQL12	AQL26	AQL26	–	AQL5 and AQL12
	Stainless steel sloping lids*							
	–	LU6	LU6	LU14	LU28	LU28	LU36	LU6 and LU14
	Flat lids – with ring sets of variable hole diameter to accommodate tall vessels whilst reducing evaporation* Ring set reductions are 105, 78, 59, 43 and 31mm.							
	–	–	LF6	LF14	LF28	LF28	LF36	LF6 and LF14
	Polypropylene spheres (packs per bath) – useful alternative to a lid, minimises evaporation and heat loss whilst allowing easy access to vessels in the bath; particularly useful for tall vessels. *							
	x1 PS20	x1 PS20	x1 PS20	x1 PS20	x2 PS20	x2 PS20	x3 PS20	x2 PS20
	Raised shelves – reversible, allows two shelf depths. h = shelf height above tank base (mm)							
	–	–	–	RS14H (h 40 or 78) Shelf covers half area of SAP12	RS18H (h 40 or 78) Shelf covers half area of SAP18	RS28H (h 45 or 135) Shelf covers half area of SAP26	RS36H (h 45 or 135) Shelf covers half area of SAP34	RS14H (h 40 or 78) Shelf covers half area of SAPD
	Racks (no. per bath) – choice of 8 variants to accommodate different tube diameters and microtubes (see below).							
	–	–	1 x J2	2 x J2	4 x J2	4 x J2	6 x J2	1 + 2 x J2
	Replacement base trays – required if flat-bottomed flasks are to be placed directly on the base of the bath and to promote thermal convection in the bath.							
	AQBT2	AQBT5	AQBT5	AQBT12	AQBT26	AQBT26	SBT36	AQBT5 and AQBT12
	Drain stopper – Recommended when using heat transfer beads, to prevent beads entering drain hole.							
	–	–	–	UWB-DS (pack of 5)	UWB-DS (pack of 5)	UWB-DS (pack of 5)	UWB-DS (pack of 5)	UWB-DS (pack of 5)

Unstirred water bath racks

	J2-10	J2-13	J2-16	J2-19	J2-25	J2-30	J2-SE	J2-LE
Tube size (diameter)	10mm	13mm	16mm	19mm	25mm	30mm	0.5ml	1.5ml
Capacity	84	55	36	32	18	12	105	65

JB Nova

Mid-level digital water bath range

Our mid-level range of water baths offer stable temperature control, simple interface and fast heat-up and features our unique Set and Forget™ technology. A choice of four models with a base tray and lid included as standard.

Temperature range ambient +5°C to 95°C operation

Unique Set and Forget™ technology - fast heat-up, reliable temperature control

Simple, intuitive controls - quick and easy to set temperature

Practical front panel lock - disables front panel controls preventing unintentional changes

Suitable for use with heat transfer beads

3 year warranty

Simple and intuitive controls for quick temperature settings immediate temperature resetting using ▲ and ▼ buttons.

Stainless steel - high grade steel, with durable polished finish.

User calibration - single point for optimum accuracy at your working temperature.

Base tray, included as standard - promotes heat convection and optimal temperature uniformity, also allows any container to be placed directly in the bath.



Non-drip lid - improves performance, limits evaporation and conserves energy. Included as standard.

Advanced dry run and run dry protection - prevents costly service repairs in case bath is accidentally run without water. Simply fill and restart.

Fixed thermal cut-out - Independent safety feature.

Heater mat and sensor bonded to underside of tank - optimised uniformity and work space. Tank easy to clean.

Applications

- Practical science demonstration, sample warming, sample preparation, QC materials, sample thawing, sample incubation, media preparation
- Markets: Education and industry

JB Nova

Technical specifications

					
		JBN5	JBN12	JBN18	JBN26
Capacity	L	5	12	18	26
Dimensions	h x d x w mm	310 x 215 x 335	380 x 390 x 335	420 x 590 x 335	420 x 590 x 335
Weight	kg	3.9	6.2	9	9.3
Temperature range	°C	Ambient +5 to 95			
Stability (DIN 12876)	@70°C ±°C	0.5			
Setting resolution	°C	0.5			
Working area	d x w mm	131 x 281	306 x 281	485 x 281	481 x 278
Min/max liquid depth	mm	50/125			70/175
Temperature setting energy regulation		Digital			
Fixed thermal cut-out		•			
Dry start/run dry protection		•			
Drain tap		-	•		
Heater power	230V W	350	800	1400	1400
	120V W	350	800	1050	1050
Supply voltage	V	120 or 230			
Regulatory approval		CE and CSA approved			

Options and accessories

	Replacement transparent polycarbonate lids - Directs condensation away from immersed vessels, avoids contamination, reduces evaporation and saves energy.*			
	AQL5	AQL12	AQL26	AQL26
	Stainless steel sloping lids*			
	LU6	LU14	LU28	LU28
	Flat lids - with ring sets of variable hole diameter to accommodate tall vessels whilst reducing evaporation* Ring set reductions are 105, 78, 59, 43 and 31mm.			
	LF6 (2 ring sets)	LF14 (4 ring sets)	LF28 (6 ring sets)	LF28 (6 ring sets)
	Polypropylene spheres (packs per bath) - useful alternative to a lid, minimises evaporation and heat loss whilst allowing easy access to vessels in the bath; useful for tall vessels.*			
	x1 PS20	x1 PS20	x2 PS20	x2 PS20
	Raised shelves - reversible, allows two shelf depths. h = shelf height above tank base (mm)			
	-	RS14H (h 40 or 78) Shelf covers half area of JBN12	RS18H (h 40 or 78) Shelf covers half area of JBN18	RS28H (h 45 or 135) Shelf covers half area of JBN26
	Racks (no. per bath) - choice of 8 variants for different tube diameters and microtubes.			
	1 x J2	2 x J2	4 x J2	4 x J2
	Replacement base trays - required if flat-bottomed flasks are to be placed directly on the base of the bath and to promote thermal convection in the bath.			
	AQBT5	AQBT12	AQBT26	AQBT26
	Drain stopper - Recommended when using heat transfer beads, to prevent beads entering drain hole.			
	-	UWB-DS (pack of 5)	UWB-DS (pack of 5)	UWB-DS (pack of 5)

JB Academy

Entry-level digital water bath range

Ideal for schools and colleges looking for a robust, long-lasting, simple and easy to use water bath. Base tray included as standard*. This is cost-saving range comes in three models - 5L, 12L and 18L.

Temperature range ambient +5°C to 95°C operation

Unique Set and Forget™ technology - fast heat-up, reliable temperature control

Simple, intuitive controls - quick and easy to set temperature

Practical front panel lock - disables front panel controls preventing unintentional changes

3 year warranty



* Lid sold separately

Applications

- Practical science demonstration, sample warming, media preparation
- Markets: Education, schools, colleges and industry

JB Academy

Technical specifications

				
		JBA5	JBA12	JBA18
Capacity	L	5	12	18
Dimensions	h x d x w mm	310 x 215 x 335	380 x 390 x 335	420 x 590 x 335
Weight	kg	3.9	6.2	9
Temperature range	°C	Ambient +5 to 95		
Stability (DIN 12876)	@70°C ±°C	0.5		
Setting resolution	°C	0.5		
Working area	d x w mm	131 x 281	306 x 281	485 x 281
Min/max liquid depth	mm	50/125		
Temperature setting/ energy regulation		Digital		
Fixed thermal cut-out		•		
Dry start/run dry protection		•		
Heater power	230V W	350	800	1400
	120V W	350	800	1050
Supply voltage	V	120 or 230		
Regulatory approval		CE and CSA approved		

Options and accessories

	Optional transparent polycarbonate lids - Directs condensation away from immersed vessels, avoids contamination, reduces evaporation and saves energy.*			
	AQL5	AQL12	AQL26	AQL26
	Stainless steel sloping lids*			
	LU6	LU14	LU28	LU28
	Flat lids - with ring sets of variable hole diameter to accommodate tall vessels whilst reducing evaporation* Ring set reductions are 105, 78, 59, 43 and 31mm.			
	LF6 (2 ring sets)	LF14 (4 ring sets)	LF28 (6 ring sets)	LF28 (6 ring sets)
	Polypropylene spheres (packs per bath) - useful alternative to a lid, minimises evaporation and heat loss whilst allowing easy access to vessels in the bath; useful for tall vessels.*			
	x1 PS20	x1 PS20	x2 PS20	x2 PS20
	Raised shelves - reversible, allows two shelf depths. h = shelf height above tank base (mm)			
	-	RS14H (h 40 or 78) Shelf covers half area of JBN12	RS18H (h 40 or 78) Shelf covers half area of JBN18	RS28H (h 45 or 135) Shelf covers half area of JBN26
	Racks (no. per bath) - choice of 8 variants for different tube diameters and microtubes.			
	1 x J2	2 x J2	4 x J2	4 x J2
	Replacement base trays - required if flat-bottomed flasks are to be placed directly on the base of the bath and to promote thermal convection in the bath.			
	AQBT5	AQBT12	AQBT26	AQBT26
	Drain stopper - Recommended when using heat transfer beads, to prevent beads entering drain hole.			
	-	UWB-DS (pack of 5)	UWB-DS (pack of 5)	UWB-DS (pack of 5)

SBB Aqua Plus

Boiling bath range

The SBB Aqua Plus boiling baths are robust, reliable and designed for continuous 100°C operation. Analogue control on a simple dial for straightforward energy regulation. The range consists of four models to suit a range of applications and any budget.

Adjustable energy regulator provides steady boiling

Constant level device maintains liquid level

Robust and reliable design to withstand everyday wear and tear

Simple, intuitive controls for quick and easy energy regulation

Non-drip polycarbonate lid included as standard

3 year warranty

Grant non-drip polycarbonate lid, included as standard – improves performance, limits evaporation and conserves energy.

Adjustable energy regulator – provides steady boiling.

Two over temperature cut-outs – independent safety protection for users and the workplace if bath is accidentally run without water.



Large available working area in relation to footprint.

Constant level device ensures the bath doesn't boil dry, protecting the unit and samples.

Stainless steel – high grade steel, with durable polished finish.

Supplied with perforated tray to ensure uniform heat distribution.

Applications

- Clinical, microbiology and pathology labs – media preparation
- University research/teaching – tissue culture preparation, warming tissue culture media
- Industrial laboratories – equipment sanitisation, sample preparation for immuno assays
- Science education in schools/universities – practical science demonstration and experimentation

SBB Aqua Plus

Technical specifications

					
		SBB Aqua 5 Plus	SBB Aqua 12 Plus	SBB Aqua 18 Plus	SBB Aqua 26 Plus
Capacity	L	5	12	18	26
Dimensions	h x d x w mm	375 x 250 x 390	440 x 385 x 390	445 x 600 x 390	445 x 600 x 390
Weight	kg	5.5	7.8	10.2	11
Temperature range	°C	100 only			
Working area	d x w mm	145 x 290	315 x 290	495 x 290	495 x 290
Min/max liquid depth	mm	50/125			70/175
Temperature setting/ energy regulation		Analogue			
Safety		Two fixed thermal cut-outs			
Heater power	230V W	1500		2000	
	120V W	1300	1350		
Supply voltage	V	120 x 230			

Options and accessories

	Replacement transparent polycarbonate lids - Directs condensation away from immersed vessels, avoids contamination, reduces evaporation and saves energy.*			
	AQL5	AQL12	AQL18	AQL26
	Stainless steel sloping lids*			
	LU6	LU14	LU28	LU28
	Flat lids - with ring sets of variable hole diameter to accommodate tall vessels whilst reducing evaporation* Ring set reductions are 105, 78, 59, 43 and 31mm.			
	LF6 (2 ring sets)	LF14 (4 ring sets)	LF28 (6 ring sets)	LF28 (6 ring sets)
	Polypropylene spheres (packs per bath) - useful alternative to a lid, minimises evaporation and heat loss whilst allowing easy access to vessels in the bath; useful for tall vessels.*			
	x1 PS20	x1 PS20	x2 PS20	x2 PS20
	Raised shelves - reversible, allows two shelf depths. h = shelf height above tank base (mm)			
	-	RS14H (h 40 or 78) Shelf covers half area of JBN12	RS18H (h 40 or 78) Shelf covers half area of JBN18	RS28H (h 45 or 135) Shelf covers half area of JBN26
	Racks (no. per bath) - choice of 8 variants for different tube diameters and microtubes.			
	1 x J2	2 x J2	4 x J2	4 x J2
	Replacement base trays - required if flat-bottomed flasks are to be placed directly on the base of the bath and to promote thermal convection in the bath.			
	SBT6	SBT14	SBT28	SBT28

* Lid or spheres recommended for use above 60°C

Contact us today

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Shaking Water Baths

OLS26 combined Orbital & Linear shaking water bath

Offering ultimate flexibility and usability for all applications

LSB12 & LSB18 Linear shaking water baths

Superior usability for routine applications

Shaking Water Baths

World-renowned shaking water baths from Grant. Precision temperature control combined with a robust, high quality, orbital and linear shaking mechanism that works smoothly and consistently for even the most demanding applications. Universal tray included as standard.

Soft start, quiet operation – for smooth shaking over a wide speed range

Flexible choice of linear and orbital shaking baths – for all routine and demanding techniques

Extensive range of accessories – provides the right solution for your application with a choice of vessel types



OLS26
Combined orbital and
linear shaking water bath



LSB18 and LSB12
Excellent usability for
all routine applications

Liquids

We recommend the following liquids for use in Grant baths:

5°C to 99°C: Water – do not use to boil



Find your perfect solution today

Visit our website - www.grantinstruments.com

OLS26

Combined orbital/linear shaking water bath

Ultimate flexibility and usability with the combined orbital and linear shaking mechanism of the OLS26 allows optimisation of aeration and shear forces mixing, for reproducible results.

Precision digital temperature control

Temperature range 0°C to 99°C operation*

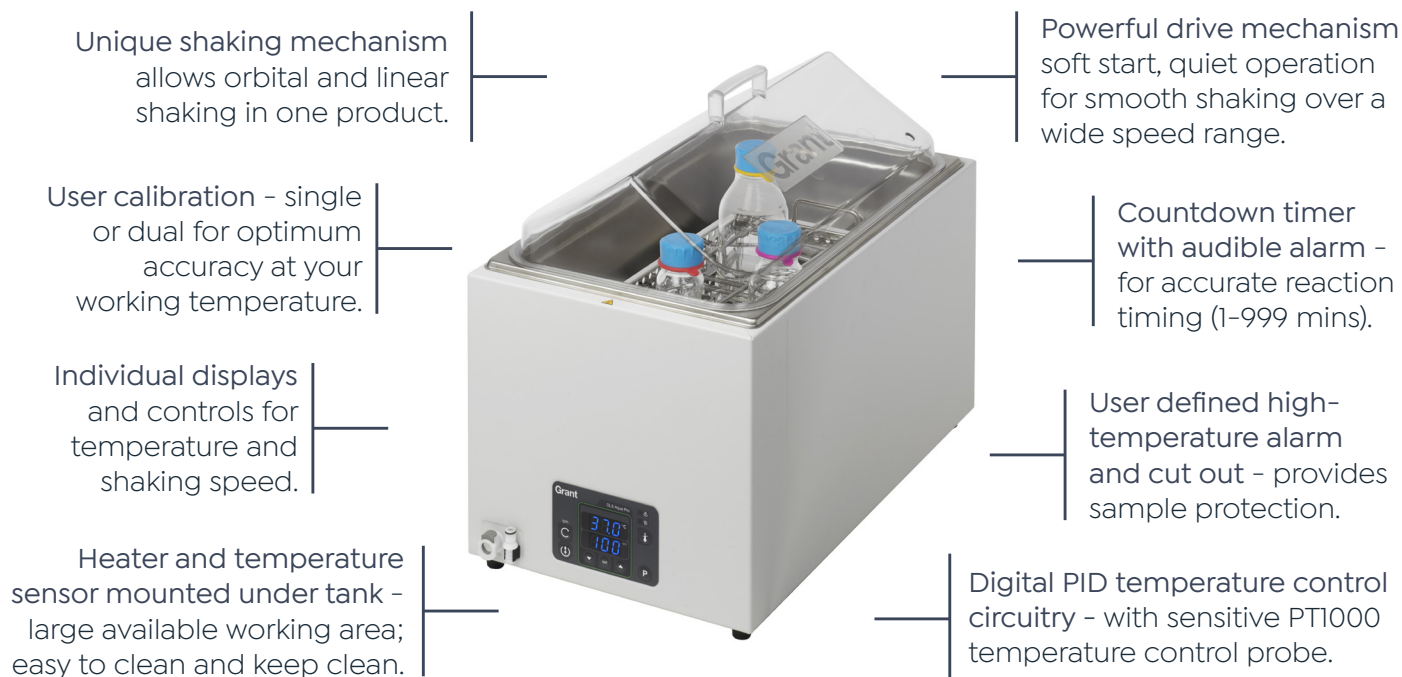
Easy changeover from linear to orbital shaking

Adjustable shaking speed and stroke length

Universal tray and polycarbonate lid included as standard

Drain tap for convenient emptying

3 year warranty



* Accessory cooling required for operation below ambient

Applications

- General use - defrosting, cooling/warming liquids, temperature control of samples
- Life-science - microbiological assays, bacterial culture, biochemical assays, enzyme assay
- Industrial - materials testing, corrosion testing
- Biopharm - solubility testing of medical coatings, dissolution, cooling crystallisation
- Food & beverage - extractions, food digestion

OLS26

Technical specification

		OLS26
Dimensions	h x d x w mm	475 x 590 x 335
Capacity	L	26
Temperature range	°C	Ambient +5 to 99 0 to 99 with accessory cooling CC26
Stability (DIN 12876-3)	@70°C ±°C	0.1
Uniformity (DIN 12876-3)	@70°C ±°C	0.1
Working area	d x w mm	380 x 235
Min/max liquid depth	mm	70/134
Orbital and linear shaking speed	rpm	20 to 200 (depending on load)
Orbital shaking radius	mm	9
Shaking speed display resolution	rpm	1
Linear shaking stroke length	mm	18, 28 and 36
Display		2 x LED (individual displays and controls for temperature and shaking speed)
Timer		1 to 999 minutes
Drain tap		•
Sample protection		Over temperature protection/low liquid level cut-out
Heater power	230V W	1400
	120V W	1050
Supply voltage	V	120 or 230
Weight	kg	13.1

Easy to use keypad with clear, wide-angle LED display.

Quick changeover between linear and orbital shaking.



OLS Keypad

User defined high temperature alarm and cut-out - provides sample protection.

Two adjustable presets for temperature and shaking speed.

LSB Aqua Pro

Linear shaking water bath

A linear shaking bath with temperature stability and intuitive digital controls, for ultimate flexibility and usability. Available ready-to-use in two sizes to suit a variety of applications including sample preparation, mixing and thawing.

Robust magnetically coupled shaking mechanism - safe, reliable, durable, space saving.

User settable over temperature alarm - provides sample protection. Alerts user and cuts off heating at user defined temperature.

User calibration - single or dual for optimum accuracy at your working temperature.

Front panel lock - disables front panel controls preventing settings from accidentally being changed.

Two programmable temperature and shaking presets - allows commonly used temperatures and shaking speeds to be quickly selected.

Heater and temperature sensor mounted under tank - large available working area; easy to clean and keep clean.



Product highlights

- Temperature range ambient +5°C to 99°C operation
- Stability: $\pm 0.1^{\circ}\text{C}$
- Choice of two models - 12 and 18 litres
- Extensive choice of accessory shaking trays - tray sold separately
- Universal tray and polycarbonate lid included as standard
- Drain tap for convenient emptying
- 3 year warranty



Grant non-drip polycarbonate lid included as standard – improves performance, limits evaporation and conserves energy.

Clear, wide-angle viewing LED display.

Unique shaking mechanism soft start, quiet operation for smooth shaking over a wide speed range.

Countdown timer with audible alarm – for accurate reaction timing (1-999 mins).

Stainless steel tank – high grade steel, with durable polished finish.

Digital PID temperature control circuitry – with sensitive PT1000 temperature control probe.

Applications

- Healthcare research – thawing/mixing samples
- Pharmaceutical – heating and mixing samples
- Science education in schools/universities – practical science demonstration and experimentation
- Industrial – QC testing, sample preparation

LSB

Technical specification

			
		LSB12	LSB18
Dimensions	h x d x w mm	425 x 385 x 360	425 x 565 x 335
Capacity	L	12	18
Temperature range	°C	Ambient +5 to 99	
Stability (DIN 12876-3)	@70°C ±°C	0.1	
Uniformity (DIN 12876-3)	@70°C ±°C	0.1	
Working area	d x w mm	240 x 235	420 x 235
Min/max liquid depth	mm	60/93	
Linear shaking speed	rpm	20 to 200 (depending on load)	
Shaking speed display resolution	rpm	1	
Linear shaking stroke length	mm	20	
Display		LED	
Timer		1 to 999 minutes	
Drain tap		•	
Safety		Over temperature protection/low liquid level cut-out	
Heater power	230V W	800	1400
	120V W	800	1050
Supply voltage	V	120 or 230	
Weight	kg	8.9	11.2

Easy to use keypad with clear, wide-angle LED display.

Front panel lock to prevent unwanted setting changes.



LSB Keypad

User defined high temperature alarm and cut-out - provides sample protection.

Two adjustable presets for temperature and shaking speed.

Technical specification

				
		OLS26	LSB12	LSB18
Universal tray – included as standard				
	Universal tray – with adjustable springs. Highly versatile for a variety of vessel types.	TU26	TU12	TU18
Flask/plate tray				
	Flask/plate tray – with threaded holes to accept flask clamps or holder for deep well plates ($\geq 2\text{ml}$).	TF26	TF12	TF18
Test tube tray				
	Test tube tray – compatible with SR racks or can be used alone to accommodate bags and vessels. See rack options on page 62.	TS26 (holds up to 5 SR racks)	TS12 (holds up to 3 SR racks)	TS18 (holds up to 5 SR racks)
Base tray				
	Base tray – stainless steel perforated tray allows bath to be used as an unstirred bath.	SBT26	SBT12	SBT26
Stainless steel sloping lid (optional)				
	With access hole for cooling coil	LS200	LU14	LU28
Replacement polycarbonate lid				
	Replacement polycarbonate lid	AQL26 (unsuitable for use with cooling coil)	AQL12	AQL26
Immersion cooler				
	Cooling coil – source of constant cooling to enable bath to be operated at or below ambient, down to 0°C .	CC26	–	–
Heat exchange coil				
	Heat exchange coil – can be attached to a cold water supply or refrigerated circulator. Can be used down to 2°C above the temp of the coolant	CW26	–	–

Flasks and plate holder

Part number	Description	OLS26 capacity	LSB12 capacity	LSB18 capacity
SC-25	For 25ml flask	28	20	35
SC-50	For 50ml flask	24	16	28
SC-100	For 100ml flask	15	16	28
SC-250	For 250ml flask	8	9	15
SC-500	For 500ml flask	6	6	8
SC-1000	For 1000ml flask	3	4	6

Test tube racks

Part number	Tube Diameter (mm)	Rack Capacity
SR-10	10	48
SR-13	13	44
SR-16	16	24
SR-19	19	21
SR-25	25	12
SR-30	30	10

Microtube racks

Part number	Microtube size (ml)	Rack capacity
SR-SE	0.5	119
SR-LE	1.5	48

Note: For further information on all dimensions of the trays please visit: www.grantinstruments.com/scientific/water-baths/shaking-water-baths

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Ultrasonic Baths

XUB range of digital ultrasonic baths

Advanced-level range with a choice of five baths

XUBA range of analogue ultrasonic baths

Entry-level range with analogue controls

Ultrasonic baths

The XUB and XUBA series of reliable, high-performance ultrasonic baths offer fast, safe and cost-effective ultrasonic bath technology. Ideal for use in cleaning applications, preparation for sterilisation and degassing liquids.

Powerful technology - superior performance giving a more accurate and precise ultrasonic process

Gentle effective cleaning - consistent results for rapid and complete removal of contaminants

Suitable for sophisticated applications - in the scientific sector such as degassing, and fluid dissolution

Clean finish, high-quality and robust design - for long-term reliability and durability

A choice of five digital and two analogue models - XUBA's available in 230V versions only



The XUB and XUBA range of baths are ideal for cleaning a wide range of laboratory instruments as well as in other healthcare, research and industrial applications. The ultrasonic activity generated in the baths allows rapid and effective cleaning and processing of a wide range of instruments and components - a safer alternative to manual operations.

XUBA

Entry-level analogue ultrasonic baths

Compact analogue-controlled range of ultrasonic baths providing a high standard of reliable and effective ultrasonic technology. The choice of two baths come in a great value-for-money package, with M2 cleaning solution, stainless steel basket and ABS plastic lid included as standard (available in 230V versions only).

Excellent entry level ultrasonic baths

Temperature range ambient +5°C to 70°C on the XUBA3

Fast, effective, efficient and safe cleaning and processing of instruments, components and solutions

Supplied with stainless steel basket and ABS plastic lid as standard

Robust design offers outstanding durability and reliability

Control panel easy to operate even when wearing gloves

Timer control from 0-15 minutes

Stainless steel basket and ABS plastic lid forms a drip collection unit to collect excess liquid when basket is removed from the tank.

Ergonomic lid reduces noise volume and minimises potential of aerosol escape.

One bottle of M2 SOL ultrasonic cleaning solution included as standard

Stainless steel basket designed specifically to generate maximum ultrasonic activity.

Heating function (XUBA3 only) to deliver reduced processing times.



Simple dial analogue controls for accurate setting of cycle time and temperature (temperature control on XUBA3 only, XUBA1 unheated).

Applications

- General use – glass, component cleaning, sonication of cytometer nozzles, dispersion and solubilisation
- Healthcare research
- Laboratories – degassing fluids, mixing fluids and compounds, cell disruption, fluid dissolution
- Industrial – light manufacturing
- Biopharm – dissolution of samples

XUB

Digital ultrasonic baths

The XUB range of digitally controlled benchtop ultrasonic baths offer consistent and reliable performance in a variety of environments. Incorporating Frequency LEAP technology to ensure uniform levels of ultrasonic activity throughout the fluid, these baths offer high performance giving an accurate and precise ultrasonic process.

Lid and basket forms a drip collection unit, minimising flow of contaminated liquid once cycle is finished.

Stainless steel basket designed specifically to generate maximum ultrasonic activity, prevent items resting on the tank and prevent operators coming into contact with chemical solutions.

Modern, sleek design with stainless steel basket, ABS plastic lid, M2 SOL ultrasonic cleaning solution, SD card and drain tap included as standard.

SD port allows easy validation between XUB series and PC.

Improved software memory logs cleaning parameters allowing easy cycle repeatability.

Easy traceability of cycle number, time, temperature and sonics validation.



Product highlights

- Temperature range ambient +5°C to 70°C
- Frequency LEAP technology provides more homogeneous ultrasonic activity throughout the tank, reducing dead spots and standing waves
- Accurate process control of time, temperature, ultrasonic activity, degas and power
- Degassing function to remove small bubbles from liquid, reducing the overall time needed for ultrasonic operation
- A choice of five sizes
- Adjustable power that can be reduced from 100 to 50% in 5% increments



Ergonomic lid included as standard – reduces noise volume and minimises potential of aerosol escape.

Can be cooled with C1G or LT ecocool and CW5.

Drain valve for convenient emptying. Located at the rear of the unit.

Intelligent software remembers last cycle cleaning setting.

Accurate fluid level sensors to ensure bath is not underfilled prior to or during the cycle.

Easy to use single touch LCD control panel with user-settable parameters to suit the individual requirements.

Applications

- General use – glass, component cleaning, sonication of cytometer nozzles, dispersion and solubilisation
- Healthcare Research
- Laboratories – degassing fluids, mixing fluids and compounds, cell disruption, fluid dissolution
- Industrial – light manufacturing
- HPLC – degassing of solvents pre analysis
- Biopharm – dissolution of samples

Ultrasonic water baths

Technical specifications

								
		XUB5	XUB10	XUB12	XUB18	XUB25	XUBA1	XUBA3
		Digital					Analogue	
Dimensions	h x d x w mm	266 x 235 x 345	266 x 220 x 545	365 x 330 x 342	365 x 385 x 375	365 x 385 x 546	200 x 185 x 198	195 x 166 x 275
Working capacity	L	4.5	9.5	12.5	17.5	25	1.5	2.5
Max capacity	L	5	10.5	14	18.5	28	1.75	2.75
Temperature range	°C	Ambient +5 to 70					N/A	Ambient +5 to 70
Ultrasonic power	W	100	200	200	300	400	35	35
	per litre/W	22.2	21	16	17	16	23.3	14
Operating frequency	KHz	32-38					44	
Frequency LEAP		•					-	
Digital LCD controls		•					-	
SD port with SD card		•					-	
Timer		0-99 minutes					0-15 minutes	
Drain outlet BSP valve		3/8"					N/A	
Heater power	230V W	150	250	300	450	650	N/A	150
	120V W	125	240	365	480	600	N/A	
Supply voltage	V	120 or 230					230 only	
Weight	kg	6.4	9.3	10.5	12.6	15.1	2.3	3.3

Options and accessories

		XUB5	XUB10	XUB12	XUB18	XUB25	XUBA1	XUBA3
Replacement ABS lid								
	Reduce operating noise and potential escape of aerosols*	XAL5	XAL10	XAL12	XAL18	XAL25	XAL1	XAL3
Replacement baskets								
	Supports items to be processed and works with the lid as a drip collection unit.*	XAB5	XAB10	XAB12	XAB18	XAB25	XAB1	XAB3
	Internal basket dimensions including handle (w x d x h) mm	265 x 120 x 140	467 x 100 x 115	263 x 203 x 193	295 x 267 x 160	463 x 263 x 159	115 x 95 x 87	208 x 115 x 98
Ultrasonic solution								
	General purpose detergent for use with ultrasonic baths.	M2 SOL						

Contact us today

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Dry Block Heaters

Dry block heaters – QB series
1, 2 or 4 block digital block heaters
for microtubes and microplates

BT5D high temperature dry
block heater

BTD dry block heater
For microtubes

Dry block heating and cooling
system

PCH-1, PCH-2 & PCH-3 dry block heating
and cooling systems for microtubes

CH3-150 Combitherm dry block
heating and cooling system
For a range of tube sizes

QB Dry Block Heaters

The dry block heating systems combines digital temperature control for precision, and uniformity. Designed for flexibility and efficiency the block heaters come with a choice of standard and custom blocks. The versatile dry block heater series are ideal for general sample heating, research or chemistry applications.

Accurate, reproducible, rapid and safe heating of your samples – advanced temperature control combined with high quality, precision-engineered blocks provide superior 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 standard through to more sophisticated applications



QBD1



QBD2



QBD4



QBH2

Applications

- Life-science/cancer research – DNA extraction incubations, DNA denaturation, PCR, ELISA and Western blotting, molecular biology
- General – heating samples



Find your perfect solution today

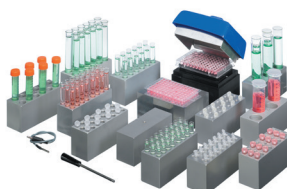
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QBD2

QB Dry Block Heaters

A versatile, general purpose system with up to four interchangeable blocks for maximum flexibility. Combines superior temperature control and uniformity for precision. High quality design that offers excellent reliability, accuracy and durability.

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



Double size blocks for 0.2ml microplates, strips or individual tubes.



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.

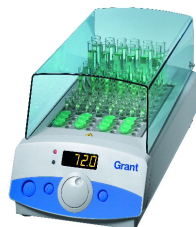
Simple to use dial plus two keys for fast, accurate set-up.

Compact footprint and sloping fascia optimises benchspace and ensures a clear visibility of digital display.



Product highlights

- Temperature range ambient +5°C to 130°C, with rapid heat-up time
- Stability: $\pm 0.1^{\circ}\text{C}$
- Uniformity: $\pm 0.1^{\circ}\text{C}$
- Digital temperature control for optimal precision
- External probe available for accurate in-sample or in-block temperature control
- Includes block removal tool
- Custom blocks available on request



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

Over-temperature cut-out protects your samples and your workplace.

Custom blocks – for virtually any tube or vessel.

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

High power heater for fast heat-up. From 25°C to 100°C in only 20 minutes.

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

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 PCT 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

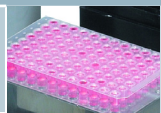
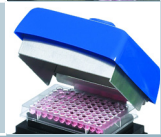
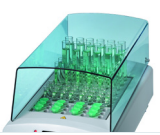
QB Dry Block Heating Systems

Technical specifications

					
		QBD1	QBD2	QBD4	QBH2
		Precision digital dry block heater			High performance digital
Dimensions	h x d x w mm	120 x 240 x 200	120 x 285 x 200	120 x 390 x 200	120 x 295 x 200
Temperature range	°C	Ambient +5 to 130			Ambient +5 to 200
Stability	@37°C ±°C	0.1			
Uniformity within the block	@37°C ±°C	0.1			
across similar blocks	@37°C ±°C	0.2			
Temperature display, LED		•			
Display resolution	°C	0.1			
Heat up time 25°C to 100°C		20 minutes			15 minutes
Three programmable temperature/ time segments plus end-of-program segments		-			•
Reaction timer, with audible buzzer		1 to 999 minutes			
Function timer for delay of heater start-up/switch-off		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		•			
Extraction tool for easy and safe block removal		•			
Safety	over temperature cut-out	Thermal fuse			
Heater power	230V W	150	300	600	300
	120V W	100	200	400	200
Supply voltage	V	120 or 230			
Weight	kg	2.2	2.7	3.6	3

QB Dry Block Heating Systems

Options and accessories

			QBD1	QBD2	QBD4	QBH2
Interchangeable blocks						
Number of blocks	140 x 50 x 63 mm		1	2	4	2
QB-0		Plain block without holes		•		
QB-10		For 24 x 10mm test tubes, 50mm hole depth		•		
QB-12		For 24 x 12mm test tubes, 50mm hole depth		•		
QB-13		For 12 x 13mm test tubes, 50mm hole depth		•		
QB-16		For 12 x 16mm test tubes, 50mm hole depth		•		
QB-17H		For 10 x Falcon tubes tall 17mm 10 test tubes, 75mm hole depth, designed for 15ml falcon tubes		•		
QB-18		For 12 x 18mm test tubes, 50mm hole depth		•		
QB-24		For 5 x 24mm test tubes and universal bottles, 50mm hole depth		•		
QB-50		For 4 x 50ml centrifuge test tubes, glass universals, 50mm hole depth 29mm, designed for 50ml falcon tubes		•		
QB-H		For 56 x 0.2ml microtube, 14mm hole depth, 6.5mm		•		
QB-E0		For 24 x 0.5ml microtube, 30mm hole depth, 8mm		•		
QB-E1		For 24 x 1.5ml microtube, 35mm hole depth, 10.8mm		•		
QB-E2		For 24 x 2.0ml microtube, 35mm hole depth, 11mm		•		
QB-E5		For 12 x 5.0ml microtube, 53.5mm hole depth, 16.7mm		•		
QB-DN		For Dolphin nose tube 24 x 11.13mm to 16.1mm		•		
External Pt1000 temperature probe						
QBEP		Standard probe. For in-sample or in-block temperature control; encased in stainless steel sheath, 3mm x 30mm long, with 350mm of cable.		•		
QBEP-WM		Short-form probe. For in-sample or in-block temperature control; encased in stainless steel sheath, 3mm x 14mm long, with 350mm of cable.		•		
Microplate blocks for molecular biology and biotechnology applications (Double-size blocks 140 x 100 x 75mm supplied with additional extraction tool)						
QDP-H		96 holes in microplate configuration for 0.2ml microplates, strips or individual tubes. Uniformity ± 0.3°C within tubes across the block; 6.2mm 10 holes, 14mm hole depth.	-	•	-	•
QDP-FL		Universal block for standard 96-well plates (u-well, v-well, flat bottom, high temperature). Uniformity ± 0.50°C between wells; supplied with hinged, double layer lid to create an insulated incubation chamber.	-	•	-	•
Safety covers (not required with QDP-FL Microtiter blocks)						
	Made from tough clear acrylic for maximum visibility whilst preventing accidental touching of a hot block or contamination of samples from splashes. Clearance height 85cm.		QBL1	QBL2	QBL4	QBL2

BT5D

High Temperature Dry Block Heater

Compact digital dry block heating system for high temperature applications. Features LED temperature display, easy-to-use interactive user interface for fast and accurate set up. Provides temperature control without the need for fluids and reduces the risk of contamination.

Temperature range ambient +10°C to 400°C, with rapid heat-up time

Stability: $\pm 0.5^{\circ}\text{C}$

Uniformity: $\pm 1\%$

Timed or continuous operation

Choice of two models with different block capacities



Adjustable over temperature cut-out protects users, valuable samples and the workplace.

Digital controller for accurate and reproducible time and temperature setting.

Raised feet to protect the work surface from extremely high temperatures.



Robust construction for long term durability and reliability.

Choice of two models

- BT5D-16
For 38 x $\varnothing 16\text{mm}$
- BT5D-26
For 22 x $\varnothing 26\text{mm}$

Customised blocks available, please enquire for further information.

Applications

- Veterinary laboratories - digestion of tissue samples for lead analyses
- Chemical laboratories - organic synthesis
- Technology and research - materials (explosives) testing
- Any application requiring heating in a dry block up to 400°C

BT5D High Temperature Dry Block Heater

Technical specifications



		BT5D
		Digital control
Dimensions	h x d x w mm	145 x 420 x 205
Capacity	BT5D-16	38 x ø16 x 60mm (depth) tube
	BT5D-26	22 x ø26 x 60mm (depth) tube
Temperature range	°C	Ambient +10 to 400
Stability	±°C	0.5 (up to 300°C)
Uniformity		1%
Display		LED
Display resolution	°C	1
Alarms		High and low
Heat up time	ambient +10 to 400°C	1 hour 40 minutes
Timer		1 to 9999 minutes
Safety	over temperature protection	Adjustable cut-out
Electrical power	230V W	750
	120V W	750
Supply voltage	V	120 or 230 (50/60Hz)
Weight	kg	7.5

Custom blocks are available on request

If you cannot find what you are looking for in our standard product portfolio, our custom solutions experts are available to develop the right solution for your requirements. Contact the team today, who will be happy to help. Call +44 (0) 1763 260 811 or email salesdesk@grantinstruments.com. More information can also be found here: www.grantinstruments.com.

BTD

Fixed block system

A compact and flexible fixed block system for rapid and precise heating of microtubes up to 100°C. Features digital control, two line display for simple and accurate setting of temperature and time, combined with the display of current status when in operation.

Temperature range ambient +5°C to 100°C, with rapid heat-up time

Stability: $\pm 0.1^{\circ}\text{C}$

Uniformity: $\pm 0.1^{\circ}\text{C}$

Digital temperature control for optimum precision

Capacity for up to 49 microtubes in a combination of four common sizes

Integral timer



The image shows a white and blue Grant BTD Dry Block Thermostat. It has a circular top with a black heating block containing 49 microtube slots. The front panel features a digital display showing '00:30 STOP' and '15.0°C', and several control buttons. The brand name 'Grant' is visible on the front.

Powerful heater,
for rapid heat-up times

- 25°C to 37°C in just 4 minutes
- 25°C to 100°C in just 15 minutes

Convenient integral timer for time-sensitive incubations.

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

Heating block holds combinations of four microtube sizes simultaneously – up to a total of 49 tubes

- 24 x 1.5/2.0ml
- 15 x 0.5ml
- 10 x 0.2ml

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

Applications

- Life-science/cancer research – DNA extraction incubations, DNA denaturation, PCR, ELISA and Western blotting, molecular biology
- General – heating samples

BTD Dry Block Heating Systems

Technical specifications



		BTD
		Digital control - dry block heater
Dimensions	h x d x w mm	115 x 230 x 210
Temperature range	°C	Ambient +5 to 100
Temperature setting range	°C	25 to 100
Stability	±°C	0.1
Uniformity	@37°C ±°C	0.1
Temperature display		2 line x 16 character LCD
Setting resolution	°C	0.1
Heat up time	25°C to 100°C	4 minutes
	25°C to 100°C	15 minutes
Capacity	ml	10x 0.2, 15x 0.5, 24x 1.5/2.0
Timer		1 minute to 96 hours (increments of 1 minute)
Safety	over temperature cut-out	Thermal fuse
Power consumption	230V W	200 (0.87A)
	120V W	200 (1.7A)
Nominal operating voltage	V	120 or 230 (50/60Hz)
Weight	kg	2.8

PCH

Dry block for heating and cooling

Compact, flexible, easy-to-use systems for rapid heating and cooling of microtubes. The PCH series offers effective tools for DNA/RNA sample preparation and offers a choice of three fixed blocks for different sized microtubes.

Cooling and heating temperature range from -10°C to 100°C , with rapid cool down and heat-up times

Stability: $\pm 0.1^{\circ}\text{C}$

Choice of three models: capacity for up to 32 microtubes in a combination of two sizes (PCH-1) or up to 20 microtubes of one size (PCH-2 and PCH-3)

Convenient integral reaction timer with audible alarm



Ingenious block construction, combined with powerful Peltier cooler, produces rapid heating and cooling.

2-line LCD display clearly indicates both set and actual value for temperature and time.

DNA denaturation techniques further supported with an audible alarm for denaturation 'time-up'; samples can then be quickly cooled.



PCH-1 block holds a combination of two microtube sizes simultaneously – up to a total of 32 tubes: 12 x 1.5ml plus 20 x 0.5ml.

PCH-2 up to a total of 20 x 1.5ml microtubes.

PCH-3 up to a total of 20 x 2ml microtubes.

Dry temperature control system maintains clean and aerosol-free environment.

Simple push button combinations for easy set-up.

Rapid DNA denaturation at 95°C quickly achieved.

Applications

- Life-science – storing restriction enzymes, nick translations, ligation reactions, restriction digests, protein solubilisation for PAGE, warm incubation of microcentrifuge tubes for hybridisation, enzyme reactions and deactivations.

PCH series

Technical specifications

				
		PCH-1	PCH-2	PCH-3
Dimensions	h x d x w mm	165 x 260 x 240		
Temperature range	°C	-10 to 100		
Temperature control range	°C	Ambient -30 to 100		
Stability	±°C	0.1		
Setting resolution	±°C	0.1		
Block Dimensions	h x d x w mm	100 x 110		
Heat up time	25°C to 37°C °C/min	3		
	25°C to 100°C °C/min	16		
Cool down time	100°C to -10°C °C/min	28		
	25°C to -10°C °C/min	21		
Capacity	microtubes ml	12 x 1.5 plus 20 x 0.5	20 x 1.5	20 x 2.0
Display		2 line x 16 character LCD		
Timer		1 minute to 96 hours/non-stop		
External power supply		Input AC 100-240V, 50/60Hz Output DC 12V		
Power consumption	230V W	60 (0.3A)		
	120V W	60 (0.3A)		
Input voltage	V dc	12		
Weight	kg	3.2		



Choice of two models; capacity for up to 32 microtubes in a combination of two sizes: 12 x 1.5 ml plus 20 x 0.5 ml (PCH-1) or up to 20 microtubes of one size: 20 x 1.5 ml tubes (PCH-2), up to a total of 20 x 2 ml microtubes (PCH-3).

A 2-line LCD display clearly indicates both set and actual values for temperature and time. Works in combination with simple push buttons for easy set-up.

CH3-150

Combitherm-2 dry block heating and cooling system

Durable compact dry block heating and cooling system with independently regulated heating and cooling blocks in the same unit for added flexibility. The blocks are available in a choice of seven interchangeable blocks are available or custom blocks to suit more specific tube sizes.



Protective lid - reduces risk of contamination.

2-line LCD display clearly indicates both set and actual value for temperature and time.

Easy change of parameters during unit performance saves time during applications.

Independent controls with 16 user adjustable programs including temperature and time.



Product highlights

- Stability: $\pm 0.1^{\circ}\text{C}$
- Digital timer with sound alarm: 1 min to 99 h 59 min
- User adjustable programs temperature and time: 16 (heating) and 16 (cooling)
- Digital temperature control for optimum precision
- Independently regulated heating and cooling blocks in the same unit
- Temperature calibration function
- Custom blocks available on request



Choice of 7 interchangeable blocks (order blocks separately)
– extraction tool supplied as standard. Custom blocks available on request.

Temperature calibration function for precise temperature control.

Simple programming for independent use of heating and cooling block.

Applications

- Life-science – storing restriction enzymes, nick translation, ligation reactions, restriction digests, protein solubilisation for PAGE, warm incubation of microcentrifuge tubes for hybridisation, enzyme reactions and deactivations
- Incubating samples at set temperatures, heating block for boiling of solutions in tubes
- Life-science-cell digestion, DNA/RNA extraction, post sequencing PCT 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

CH3-150

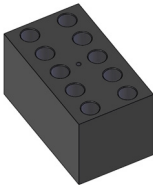
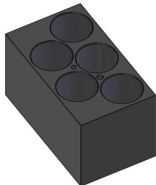
Technical specifications



		CH3-150
		Combitherm-2 dry block heating/cooling system
Dimensions	h x d x w mm	220 x 285 x 295
Heating block temperature range	°C	+25 to +150
Heating block temperature control range	°C	Ambient +5 to +150
Heating block setting resolution	°C	1
Heating block stability	°C	±0.1
Cooling block temperature range	°C	-3 to +20
Cooling block temperature control range	°C	Ambient -23 to ambient -5
Cooling block setting resolution	°C	0.1
Cooling block stability	°C	±0.1
Digital timer with sound alarm		1 min-99 hrs 59 min (increment 1 min)
User adjustable programs (temperature and time)		16 (heating) + 16 (cooling)
Display		LCD
Nominal operating voltage	V	230 only (50/60Hz)
Weight	kg	5.6

CH3-150

Options and accessories

B2-50		Interchangeable block for 2 x Ø 48mm tubes depth 58mm
B10-13		Interchangeable block for 10 x Ø 13mm tubes, flat bottom, depth 30mm
B10-16		Interchangeable block for 10 x Ø 16mm tubes depth 56mm
B5-29		Interchangeable block for 5 x Ø 29mm tubes, flat bottom, depth 40mm
B6-25		Interchangeable block for 6 x Ø 25mm tubes depth 40mm
B18-12		Interchangeable block for 18 x Ø 12mm tubes, round bottom, depth 58mm
B23-1.5		Interchangeable block for 23 x 1.5ml micro tubes, depth 35mm

Contact us today

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Rockers and Rotators

PMR-30 and PMR-100

2D platform rockers

PS-3D and PS-M3D

3D platform rocker-rotator

Multi-function 3D rocker-rotator

PTR-25

Variable speed rotator

PTR-35 and PTR-60

Variable speed multi-function vertical rotators

Rockers and Rotators

A comprehensive range of efficient and sturdy rocking and rotating equipment for a wide range of mixing applications in life-science, cell culture, chemistry, analytical and research laboratories. Suitable for use in cold rooms and incubators.

2D platform rockers – provides precise see-saw action

3D platform rocker-rotator – designed to provide precise speeds and tilt angles

Multi-function rotators – 3D and 360° vertical rotation designed for light loads and tubes



PMR-100



PMR-30



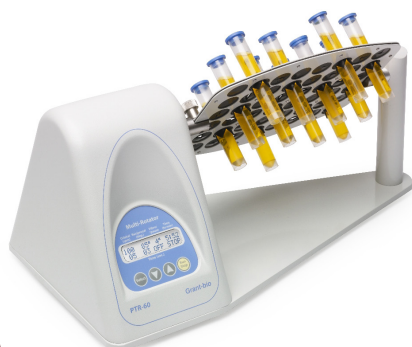
PTR-35



PTR-25



PS-M3D



PTR-60



PS-3D

PMR-30

Platform 2D rocker - fixed tilt

Compact fixed-angle platform rocker in the Grant-bio range, providing a smooth see-saw rocking motion for gentle sample agitation in tubes, culture flasks, dishes and boxes. Suitable for use in cold rooms and incubators.

Fixed 7° tilt angle

Loads up to 1kg

Variable speed: 5 to 30 oscillations per minute

Continuous or timed operation, with automatic switch-off

Direct drive mechanism

Optional dimpled mat available - prevents different sized tubes from rolling around the platform



Applications

- Life-sciences - ideal for minigel destaining after electrophoresis, conducting reactions of Northern, Southern and Western blots, immunoblots, hybridisation washes, cell culture, visualisation of blots, immunostaining, protein electrophoresis.

PMR-100

Platform rocker - adjustable tilt

Large capacity, adjustable angle and speed platform rocker, providing soft or intensive see-saw rocking for optimal mixing of samples. Suitable for use in cold rooms or incubators with ambient operating temperature range +4°C to 40°C.

Tilt angle range: adjustable up to 10°

Loads up to 5kg

Variable speed: 1 to 99 oscillations per minute

Continuous or timed operation, with automatic switch-off



Applications

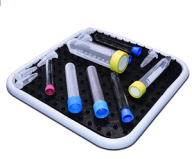
- Life-sciences - soft or intensive mixing of solutions or nutrient media in vessels or plastic bags placed on the platform. Northern, Southern and Western blots, incubation in immunoassays, agglutination tests. Ideal for gel destaining after electrophoresis and homogenisation of extraction media. Destaining/staining of hybridisation strips.

Grant-bio compact rockers

Technical specifications

		 	
		PMR-30	PMR-100
		Fixed tilt platform rocker	Adjustable tilt platform rocker
Dimensions	h x d x w mm	120 x 205 x 220	250 x 480 x 400
Operating temperature	°C	4 to 40	
Maximum load	kg	1	5
Speed	oscil/min	5 to 30	1 to 99
Fixed tilt angle	from 51-99 oscil/min	7° (fixed, 5-30 oscil/min)	10°
Tilt angle range	from 1-50 oscil/min	-	0-10° (1° increment), 10 ° increment at 51-99 oscil/min
Display		4 digit LED	LCD, 16 x 2 character
Maximum continuous operation time		168 hours	
Timer with automatic switch-off		1 minute to 24 hours	1 minute to 99 hours 59 minutes
Platform dimensions (working area)	mm	215 x 215	480 x 380
External power supply		Input AC 100-240V, 50/60Hz Output DC 12V	
Power consumption	W	3.8 (0.32A)	13 (1.1A)
Input voltage	V dc	12	
Weight	kg	2.1	12

Accessories

		PMR-30	PMR-100
	PDM -Dimpled mat	•	—

PS-3D

Fixed tilt 3D platform rocker

Variable speed, fixed angle 3D rocker in the Grant-bio range providing smooth orbital motion for mixing in commonly used vessels – culture flasks, dishes, boxes and tubes. Suitable for use in cold rooms and incubators.

The **gentle movement** is ideal for staining gels without destroying the gel edges or for keeping fragile tissue intact during incubations.

Smooth, reliable and extremely quiet motor – low power consumption.

Reliable and quiet motor produces regulated and reproducible rocking through the speed range.



Product highlights

- Ambient operating temperature range +4 °C to 40°C
- Fixed 7° tilt angle
- Loads up to 1kg
- Variable speed: 5 to 60rpm
- Optional dimpled mat available – prevents different size tubes from rolling around the platform



Compact, sturdy construction with low profile and small footprint – fits easily into the smallest workspace.

Simple speed adjustment from 5 to 60rpm.

215 x 215mm platform accommodates most commonly used vessels.

Power cord easily fits through incubator ports – allowing use in incubators, fume hoods and workstations. Safe, with low power consumption.

Applications

- Education/research – mixing blood samples, minigel staining and destaining, washes, blotting, hybridisation.

PS-M3D

Multi-function 3D rocker-rotator

Variable speed, fixed-angle, multi-function 3D rocker-rotator providing rotation, reciprocation and vibration -to fully optimise mixing different sized particles in flasks, dishes, petri dishes and boxes.

Reciprocal 3D rotation: 1 to 360° turning angle

Loads up to 1kg

3D rotation, reciprocation and vibration functions all in one product

3D rotation speed: 1 to 100rpm

Vibration: 1 - 5° turning angle, programmable in a burst of 1 to 5 seconds

Fully programmable sequence of all functions

Optional dimpled mat available - prevents different size tubes from rolling around the platform



Ambient operating temperature range of 4 - 40°C.

Very easy to operate, with simple set-up of multi-segment programs via push buttons and the 2-line LCD status display.

All actions - rotation, reciprocation and vibration -can be set for continuous or timed operation, or linked together in different combinations to ensure optimum mixing conditions for your application.

Compact with a low profile and small footprint, extremely quiet in operation - fits neatly in small workspaces.

Smooth, non-slip mat supplied as standard - prevents vessels from slipping.

Reliable stepper motor and sturdy construction will deliver years of consistent performance.

Low voltage cord easily fits through incubator door gaskets - allowing use in incubators, refrigerators and workstations. Safe, with low energy consumption.

Applications

- Education/ healthcare/research labs - suitable for mixing applications in many different fields, with specific applications including: immuno precipitations and other affinity matrix applications, treatment of adherent tissue culture in small volumes, e.g. for trypsinisation, gel staining and destaining, antibody staining, washes, hybridisations, Southern blots, Western blots, in situ.

PS-3D and PS-M3D

Technical specifications

		 	
		PS-3D	PS-M3D
		Fixed tilt 3D platform	Multi-function 3D
Dimensions	h x d x w mm	140 x 235 x 235	140 x 235 x 235
Operating temperature	°C	4 to 40	
Maximum load	kg	1	
Speed	oscil/min	5 to 60	1 to 100
Tilt angle		7°	
Turning angle (reciprocation mode)		-	0 to 360° (increment 30°)
Rocking angle (vibration mode)		-	0 to 5° (increment 1°)
Orbit diameter	mm	-	22
Display		-	2 x 16 character LCD
Maximum continuous operation time		168 hours	24 hours
Timer for rotation and reciprocation mode	sec	-	0 to 250
Timer for vibration mode	sec	-	0 to 5
Platform dimensions (working area)	mm	215 x 215	
Number of cycle repetitions		-	0 to 125
External power supply		Input AC 100-240V, 50/60Hz Output DC 12V	
Power consumption	W	3.1 (0.26A)	4.6 (0.38A)
Input voltage	V dc	12	
Weight	kg	1.2	1.8

Accessories

		PS-3D	PS-M3D
	PDM -Dimpled mat	•	

PTR-25

360° vertical mini rotator

Compact, economical solution with simple to use controls, providing thorough mixing of samples in tubes up to 50ml. Suitable for use in cold rooms and incubators, operating at ambient temperature range +4°C to 40°C.

360° vertical rotation

Vertical rotation speed range: 5 to 30rpm

Timer with audible alarm and automatic switch-off

Simple to use controls

Supplied with platform for tubes up to 15ml diameter as standard

Very easy to operate with simple controls and easy to view LCD screen.

Digital timer with audible alarm, alerts when attention is required.

Compact with a low profile and small footprint - fits neatly into any workspace.



Reliable and extremely quiet motor produces regulated rotation throughout the speed range.

Platform accommodating 22 tubes (up to 15ml diameter) is included as standard. See additional accessories on page 99.

Low voltage cord easily fits through incubator door gaskets - allowing use in incubators, refrigerators and workstations.

Applications

- Life-science - hybridisation reactions, cell growth, soft extraction, homogenisation of biological components in solution, binding reactions, washing of magnetic particles, preventing blood coagulation.
- Any application requiring simple end over and rotation of tubes.

PTR-35 and PTR-60

360° vertical multi-function rotators

Compact and efficient variable-speed, variable-angle vertical rotators. Providing vertical rotation, reciprocation and vibration functionality for thorough mixing of microtubes and reproducible sample preparation. All mixing functions can be linked or used separately.

360° vertical rotation, reciprocation and vibration functions all in one compact product

Choice of two models with different tube capacities

Fully programmable sequence of functions, including pause

Optional additional platforms to accommodate microplates and tubes up to 50ml

Easy to operate with simple set-up of multi-segment programs via push buttons and the 2-line LCD status display.

Compact with a low profile and small footprint – fits neatly into any workspace.

Low voltage cord easily fits through incubator door gaskets – allowing use in incubators, refrigerators and workstations. Safe and economical operation.

Supplied with platform accommodating up to 26 tubes (up to 15ml). Maximum rotating speed of up to 100rpm.

Reliable and extremely quiet motor produces regulated rotation throughout the speed range.

All actions – rotation, reciprocation and vibration – can be set for continuous or timed operation, or linked together in different combinations to ensure optimum mixing conditions for your application.



PTR-60 has the same functionality as the PTR-35 and is supplied with a platform accommodating up to 48 tubes (up to 15ml).

Applications

- Life-science laboratories – for hybridisation reactions, cell growth, soft extraction and homogenisation of biological components in solutions, as well as for reactions of binding and washing of magnetic particles, cell suspensions, incubations, extraction procedures, gel washing and mixing capillary blood samples.

PTR Rotators

Technical specifications

				
		PTR-25	PTR-35	PTR-60
		360° vertical rotators		360° vertical multi-function rotators
Dimensions	h x d x w mm	155 x 190 x 325	155 x 195 x 365	230 x 230 x 430
Operating temperature range	°C	+4 to 40		
Maximum load	kg	0.5		0.8
Speed	oscil/min	5 to 30	1 to 100 (increment 1rpm)	
Tilt angle (reciprocation mode)		-		1 to 90°
Turning angle (reciprocation mode)		-		0 to 5°
Display		LED	2 x 16 character LCD	
Timer, with automatic switch-off		1 minute to 24 hours		
Timer setting range	sec	-	0 to 250	
Timer (vibration mode)	sec	-	0 to 5	
Pause	sec	-	0 to 5	
External power supply		Input AC 100-240V, 50/60Hz Output DC 12V		Input AC 100-240V, 50/60Hz Output DC 24V
Power consumption	W	1.3 (0.11A)	8 (0.66A)	18 (0.75A)
Input voltage	V dc	12		24
Weight	kg	1.4	1.7	3.8

PTR Rotators

Technical specifications

			PTR-25	PTR-35	PTR-60
PRS-22 replacement platform		For 22 tubes up to ø 16mm tube volumes 1.5-15ml	•	–	–
PRSC-18		Heavy duty tube adaptor for 18 tubes ø 15-20 16mm, tube volume 15ml,	•	–	–
PPRS4-12		Holds 4 tubes ø 20-30mm, tube volume up to 50ml and 12 tubes ø 10-16mm, tube volume 1.5-15ml	•	–	–
PRSC-10		Heavy duty adaptor for 10 tubes ø 25-30mm, tube volumes 50ml	–	•	–
PRSC-22		Heavy duty adaptor for 22 tubes ø16 mm tube, volumes 15ml	–	•	–
PRS-10		For 10 tubes up to ø 20-30mm tube volumes up to 50ml	–	•	–
PRS-26 replacement platform		Tube adaptor for 26 tubes up to ø 10-16mm, tube volumes 1.5-15ml	–	•	–
PRS-5-12		Combined platform for 5 tubes ø 20-30mm' tube volumes 50ml and 12 tubes ø 10-16mm, tube volumes 1.5-15ml	–	•	–
PRS-IDP		Platform for microplates, deep well plates and racks for tall tubes 0.5-1ml	–	•	–
M-8/50		Roller platform for 8 tubes ø 25 -30mm, tube volume 50ml (hybridization reactions)		•	
PRS-14		Platform for 14 tubes ø 20-30mm, tube volumes up to 50ml	–	–	•
PRS-48 replacement platform		For 48 tubes ø 10-16mm, tube volumes 1.5-15ml	–	–	•
PRS-8-22		Platform for 8 tubes ø 20-30mm, tube volumes up to 50ml and 22 tubes ø 10-16mm, tube volumes 1.5-15ml	–	–	•

Contact us today

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Shakers, Mixers and Stirrers

Orbital platform shakers

PSU-10i orbital platform shaker
PSU-20i multi-function orbital-
platform shaker

Microplate shaker

PMS-1000i two or four microplate shaker
MPS-1 high speed shaker/vortex

Vortex mixers

MSV-3500 multi speed vortex
V-32 multi tube vortex mixer
PV-1 personal vortex mixer

Magnetic stirrer

MMS-3000 mini magnetic stirrer
MSH-300i digital magnetic stirrer hotplate

Shakers, mixers and stirrers

A range of compact, versatile, reliable and efficient equipment for a variety of routine shaking, mixing and stirring applications in chemistry, life-science, analytical or research laboratories. Ideal for use in cold rooms and incubators.

Orbital shakers - single and multi-platform options for optimal mixing

High speed shaker/vortex - combined use for plates and microtubes

Vortex mixers - for reliable high-speed mixing

Magnetic stirrers - for routine and more sophisticated lab procedures



PSU-10i



PSU-20i



PV-1



MSH-300i



MMS-3000



V-32



PMS-1000i



MSV-3500



MPS-1

PSU-10i

Orbital platform shaker

Microprocessor controlled shaking platform providing smooth and quiet orbital motion. Ideal for mixing in bottles, flasks, beakers and tubes.

Loads up to 3kg

Variable speed: 5 to 450 oscillations per minute

Continuous or timed operation, with automatic switch-off

Reliable direct drive system

Automatic load balancing system

Five interchangeable platforms for vessels up to 250ml including an 88 place spring loaded platform for tubes up to 30mm diameter

Simple to set up and easy to operate

Soft start feature ensures a smooth ramp-up - avoids potential damage to vessel content.

Exceptionally quiet motor - consistent and even shaking.

2-line LCD display clearly indicates both set and actual shaking speed, plus set and elapsed time. Works in combination with simple push buttons for easy set up.



Choice of 5 interchangeable platforms to suit different types of vessels - maximum flexibility. Please order platform separately.

Low voltage power supply for safe cold room operation and low energy consumption.

Integral electronic timer with audible alarm and automatic switch-off. Accurate repeatability of time sensitive incubations.

Applications

- Biotechnology and microbiology - micro-organism cultivation and extraction of biologically active substances
- Immunology and biochemistry - agglutination and precipitation assay
- Biochemistry - washing off electrophoresis gel
- Molecular and cell biology - cultivation of biological liquids

PSU-20i

Multi-functional orbital multi-platform shaker

Powerful and efficient microprocessor controlled, multi-functional orbital shaker. Designed to provide multiple features required to mix your samples; rotation, reciprocation and vibration. This multi-use shaker optimises mixing in flasks, beakers, Petri dishes or other laboratory vessels.

Powerful, reliable and exceptionally quiet motor - combines an 8kg loading capacity with consistent even motion and quiet operation.

Universal detachable platform accommodates vessels of different shapes and sizes for maximum flexibility. Please order separately. See page 107 for full list of accessory platforms. No tools are needed to change the platform.

Very easy to operate, with simple set up of multi-segment programs via push buttons.



Product highlights

- Orbital motion (20 to 250rpm), reciprocation (20 to 250rpm) and vibration functions all in one product
- Loads up to 8kg
- Fully programmable sequence that can use one, two or all the functions
- Six interchangeable platforms for vessels up to 1000ml including a multi-level platform to hold multiple microplates, Petri dishes and culture bags
- Reciprocal rotation: 0 to 360° turning angle, in 30 degree steps
- Vibration: 0 to 5° turning angle, 1 degree steps



All mixing functions - orbital motion, reciprocation and vibration - can be set continuous or timed operation, or be linked together in different combinations to establish optimum mixing and ensure accurately repeatable conditions for your application.

Direct drive system and brushless motor.

2-line LCD status display of actual and set parameters.

Low voltage cord easily fits through door gaskets, allowing use in incubators, refrigerators and workstations. Safe and low energy consumption.

Applications

- Biomedical and biopharmaceutical laboratories - cultivation of cells, extracting, dissolving slow reacting samples, extraction of mineral oil from soil, tissues culture for analytical diagnostics, de-aeration of tested biodegradable materials and samples, rotating closed containers for dialysis, bacterial growth.

Grant-bio compact rockers

Technical specifications

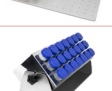


		PSU-10i	PSU-20i
		Platform shaker	Multi-platform shaker
Dimensions	h x d x w mm	90 x 205 x 220	130 x 410 x 410
Operating temperature	°C	4 to 40	
Maximum load	kg	3	8
Orbit ø	mm	10	20
Speed (load dependent)	rpm	50 to 450	20 to 250
Angle (reciprocal mode)		-	0 to 360°
Angle (vibration mode)		-	0 to 5°
Display		2-line 16 character LCD	
Timer, with automatic switch-off		1 minute to 96 hours	
Motion timer (orbital/reciprocal modes)	sec	-	0 to 250
Motion timer (vibration mode)	sec	-	0 to 5
External power supply		Input AC 100-240V, 50/60Hz Output DC 12V	
Power consumption	W	9.6 (0.8A)	40 (3.2A)
Input voltage	V dc	12	
Weight	kg	3.4	11.7

Platforms sold separately - see page 107.

Shakers

Options and accessories

			PSU-10i	PSU-20i
PI6-88		Platform with spring holders for up to 88 tubes, Ø up to 30mm. Dimensions*: 275 x 205 x 75 mm.	•	–
PI2-100		Platform with clamps for 12 x 100/150ml flasks/beakers. Dimensions*: 250 x 190 mm.	•	–
BIO-PP-4		Flat platform with non-slip rubber mat. Dimensions*: 230 x 230 mm.	•	–
P6-250		Platform with clamps for 6 x 250–300ml flasks/ beakers. Dimensions*: 250 x 190 mm.	•	–
PUP-12		Universal platform, with adjustable bars. Dimensions*: 270 x 195 x 40 mm Extra holding bars – HB-200	•	–
PUP-330		Adjustable bars and two fixing levels. Dimensions*: 300 x 400 x 80 mm Extra holding bars – HB-330.	–	•
PP-20- (2/3/4 level)		Flat platform with non-slip rubber mat. Dimensions*: 365 x 465 mm. Height between levels: 140mm.	–	•
P30-100		Platform with clamps for 30 x 100–150ml flasks. Dimensions*: 360 x 400 mm	–	•
PI6-250		Platform with clamps for 16 x 250–300ml flasks. Dimensions*: 360 x 400 mm	–	•
P9-500		Platform with clamps for 9 x 500ml flasks. Dimensions*: 360 x 400 mm	–	•
P6-1000		Platform with clamps for 6 x 1000ml flasks. Dimensions*: 360 x 400 mm	–	•
UP-168		Universal platform for flask clamps. (see below) Dimensions*: 360 x 400 mm	–	•
TR-21-50		Adjustable tilt test tube rack for 21x 50ml tubes	–	•
TR-44-15		Adjustable tilt test tube rack for 44x 15ml tubes	–	•

* Working area dimensions

Flask clamps

For use with the USP-168 platform, on PSU-20i, ES-20/60 and ES-20/80.			Dimensions	PSU-10i	PSU-20i
FC-100		For 100ml flask	Ø 65 mm	–	•
FC-250		For 250ml flask	Ø 85 mm	–	•
FC-500		For 500ml flask	Ø 105 mm	–	•
FC-1000		For 1000ml flask	Ø 130 mm	–	•
FC-2000		For 2000ml flask	Ø 165 mm	–	•

PMS-1000i

Microplate shaker

Compact and efficient variable speed, horizontal shaker for reliable, regulated shaking of two or four microplates.

Ambient temperature range +4°C to 40°C

Variable shaking speed: 150 to 1200rpm

Direct drive and brushless motor

Set and display the speed in rpm

Continuous or timed operation with automatic switch-off

Holds two or four microplates

Platform for two microtitre plates supplied as standard. Platform for four plates (MPP4) available as an option.

Easy to use integral electronic timer ensures accurate countdown and repeatability.

Low voltage cord easily fits through door gaskets, allowing use in incubators, refrigerators and workstations. Safe economical running.



Quick and easy to use screw fittings - keep the plates securely in position and allow fitting of any standard-depth well plates.

Easy to read LED display clearly indicates time remaining on timed operation and displays actual speed (rpm).

Digital setting to adjust the speed to suit the application - gentle shaking to ensure that the well contents remain in-situ, or more vigorous agitation for effective aeration across the surface area of each well.

Applications

- Life-science - immunoassay, shaking ELISA plates, staining cells for flow cytometry, shaking by paramagnetic beads for RNA extraction from serum and milk, 96 well plate preparation prior to LC-MS/MS, plate shaking for library preparation, shaking plates in cold rooms
- Food & Beverage - histamine in cheese, vitamins in milk testing

PMS-1000i

Technical specifications

		
		PMS-1000i
		Microplate shaker
Dimensions	h x d x w mm	90 x 205 x 220
Operating temperature range	°C	4 to 40
Orbit ø	mm	2
Speed (load dependent)	rpm	150 to 1200
Display		4 digit LED
Timer, with automatic switch-off		1 minute to 24 hours
External power supply		Input AC 100-240V, 50/60Hz Output DC 12V
Power consumption	W	3.4 (0.28A)
Input voltage	V dc	12
Weight	kg	2

PMS-1000i

Options and accessories

MMP4		Platform for four SBS plates Dimensions 266 x 170 mm
------	---	---

MPS-1

High speed shaker and vortex mixer

An economical space-saving solution for all high-speed shaking and vortex mixing of plates and tubes from 0.2ml through to 50ml. Efficient mixing of difficult samples, - compact pellets, small or viscous samples.

Ambient temperature range +4°C to 40°C

Versatile for single tube vortex to shaking of microplates, PCR plates, microtubes and deep well plates

Mixing of 0.2ml to 50ml tubes at high speed

Safe in humid environments due to low voltage 12V power supply

Quiet operation <65dBA

Adjustable rpm or four pre-sets



Applications

- Education, research, QC, QA, R&D, Biopharm and healthcare
- Life science applications, molecular biology, cell biology, cell lysis, DNA isolation and purification, sample preparation for PCR, pellet re-suspension, mixing viscous liquids, multiple microtube mixing

MPS-1

Technical specifications



		MPS-1
		High-speed shaker/vortex mixer
Dimensions	h x d x w mm	150 x 215 x 225
Ambient Temperature range	°C	+4 to 40
Mixing speed control range	rpm	300 - 3200
Speed control increment	rpm	100
Mixing pre-sets:	rpm	
Vortex		3200
Hard		2600
Medium		1800
Soft		1000
Custom		Adjustable
Pulse mode		Saw tooth profile of ramp speed cycles
Mixing orbit	mm	3
Acceleration time		5 seconds
Timer, with audible alarm		1 to 60 minutes (15 sec increment) or non stop
Types of vessels accommodated (may require accessory insert)		Microplate U, V or flat bottom PCR plate 96 or 384 well fully/semi/unskirted Deepwell plate 250µl to 2000µl Microtubes 0.2, 0.5, 1.5, 2.0ml 0.2ml strips Tubes 2 to 50ml
External power supply		Input AC 100-240V, 50/60Hz Output DC 12V
Power consumption	W	10 (0.8A)
Input voltage	V dc	12
Weight	kg	5.1

MPS-1

Options and accessories

MPS-1K kit		Contains: MPS-1 with 4 additional inserts (see below)
P-2-24		Microtube insert for 24 x 1.5/2.0ml tubes
P-05-32		Microtube insert 32 x 0.5ml tubes
P-02-05		Microtube insert for 24 x 0.5ml PLUS 48 x 0.2ml tubes or 8 x 0.2ml strips
P-02-96		Microtube insert for 96 x 0.2ml tubes or 12 x 0.2ml strips or 96 well semi/unskirted PCR plates

MSV-3500

Multi-speed vortex

Digital multi speed vortex mixer designed for soft or intensive mixing of reagents in different size and type plastic tubes 0.2 to 50 ml.

Adjustable speed control: 300 to 3500rpm

Set and actual values of time and speed displayed

Acceleration time to max speed: 3 seconds

Four interchangeable platforms available for a variety of tube sizes

Reliable and extremely quiet motor produces reproducible agitation throughout the speed range.

Easy to change platforms – simply unscrew.

Rubber suction pads hold tight to the work surface and prevent the unit from 'walking' – they also prevent its transmission to the workbench.



Four interchangeable platforms available:

SV-4/30 for 4 x 50ml tubes

SV-10/10 for 10 x 10ml tubes

SV-16/8 with 16/8/8 sockets for 1.5/0.5/0.2ml microtubes

SV-8/15 for 8 x 15ml tubes

Low voltage cord easily fits through incubator door gaskets. Safe and economical running.

2 line LCD display of each set and actual values.

Applications

- Designed for operation in life science laboratories working in the fields of biochemistry, cell and molecular biology
- Intensive stirring of bacterial and yeast cells, extraction of metabolites and enzymes from cells and cell cultures, and various DNA operations such as deproteinisation of DNA/protein complexes and purification of low molecular weight DNA/RNA fragments in PCR diagnostics.

V-32

Multi-platform vortex mixer

Versatile multi vortex mixer for efficient mixing in tubes up to 1.5ml, with the facility to mix individual tubes up to 15ml.

Adjustable speed control: 500 to 3000rpm

'Continuous' or 'touch' operation

Supplied with single tube platform head and universal platform for 0.5, 1.5 and 2ml tubes



The 32-socket universal platform PV-32 and single tube platform PL-1 included as standard:

- PV-32 for three tubes sizes (16 x 1.5ml, 8 x 0.5ml, 8 x 0.2ml)
- PL-1 for mixing individual tubes up to 15ml
- Optional 6 x 10ml platform available separately.

Compact rugged design with powerful motor delivering consistent performance and quiet operation - fits neatly and unobtrusively into the workspace.

Easy operation - select 'continuous' or 'touch' operation and dial to control speed from 500rpm to 3000rpm.

Rubber suction pads hold tight to the work surface and prevent the unit from 'walking' they also absorb vibration and prevent transmission to the workbench.

Low voltage cord easily fits through door gaskets, allowing use in incubators, refrigerators and workstations.

Applications

- Life-sciences - deproteinisation of DNA/protein complexes, mixing of immunostained human cells, purification of low-molecular DNA/RNA fragments in PCR-diagnostic
- Industrial - de-airing adhesive
- General - mixing and dispersion of particle suspensions
- Biopharm - solubilising powders

PV-1

Personal vortex mixer

Compact personal vortex mixer with a low profile and small footprint for gentle mixing through to vigorous re-suspension of cell or chemical pellets in up to 50ml tubes.

Adjustable speed control: 750 to 3000rpm

'Continuous' or 'touch' operation

For tubes up to 28.5mm diameter – 50ml



Applications

- Gentle mixing through to vigorous resuspension of cells and biological and chemical liquid components.

Vortex mixers

Technical specifications

				
		PV-1	V-32	MSV-3500
		Personal vortex mixer	Multi vortex mixer	Multi speed vortex mixer
Dimensions	h x d x w mm	80 x 150 x 90	100 x 180 x 120	145 x 170 x 180
Ambient temperature range	°C	+ 4 to 40		
Orbit ø	mm	4	2	4
Speed (max speed depends on load)	rpm	500 to 3000	500 to 3000	300 to 3500
Timer		-	-	0–60 min / non-stop (increment 1 min)
Capacity	ml tube	0.2 up to 50	16 x 1.5, 8 x 0.5 and 8 x 0.2	0.2 up to 50
Maximum tube diameter	mm	28.5*	15	30
External power supply		Input AC 100–240V, 50/60Hz Output DC 12V		
Power consumption	W	3.8 (0.32A)	12 (1A)	
Input voltage	V dc	12		
Weight	kg	0.8	1.5	2.6

Vortex mixers

Options and accessories

			PV-1*	V-32	MSV-3500
PV6-10		6-socket platform for 10ml tubes (maximum tube ø 15mm)	-	•	-
PV-32		Replacement platform (16 x 1.5ml, 8 x 0.5ml and 8 x 0.2ml)	-	•	-
PV-48		Platform for 6-8 x 0.2ml strips or 48 tubes of 0.2ml	-	•	-
MSV-3500 4P		MSV-3500 with 4 additional accessory platforms shown below:	-	-	•
SV-4/30		Platform for 4 x 50ml (ø 30mm) tubes	-	-	•
SV-10/10		Platform for 10 x 10 ml (ø 12mm) tubes	-	-	•
SV-16/8		Platform with 16/8/8 sockets for 1.5/0.5/0.2 ml microtest tubes, ø 11/8/6 mm	-	-	•
SV-8/15		Platform for 8 x 15 ml (ø 16mm) tubes	-	-	•

* The PV-1 takes conical tubes up to 50ml.

MMS-3000

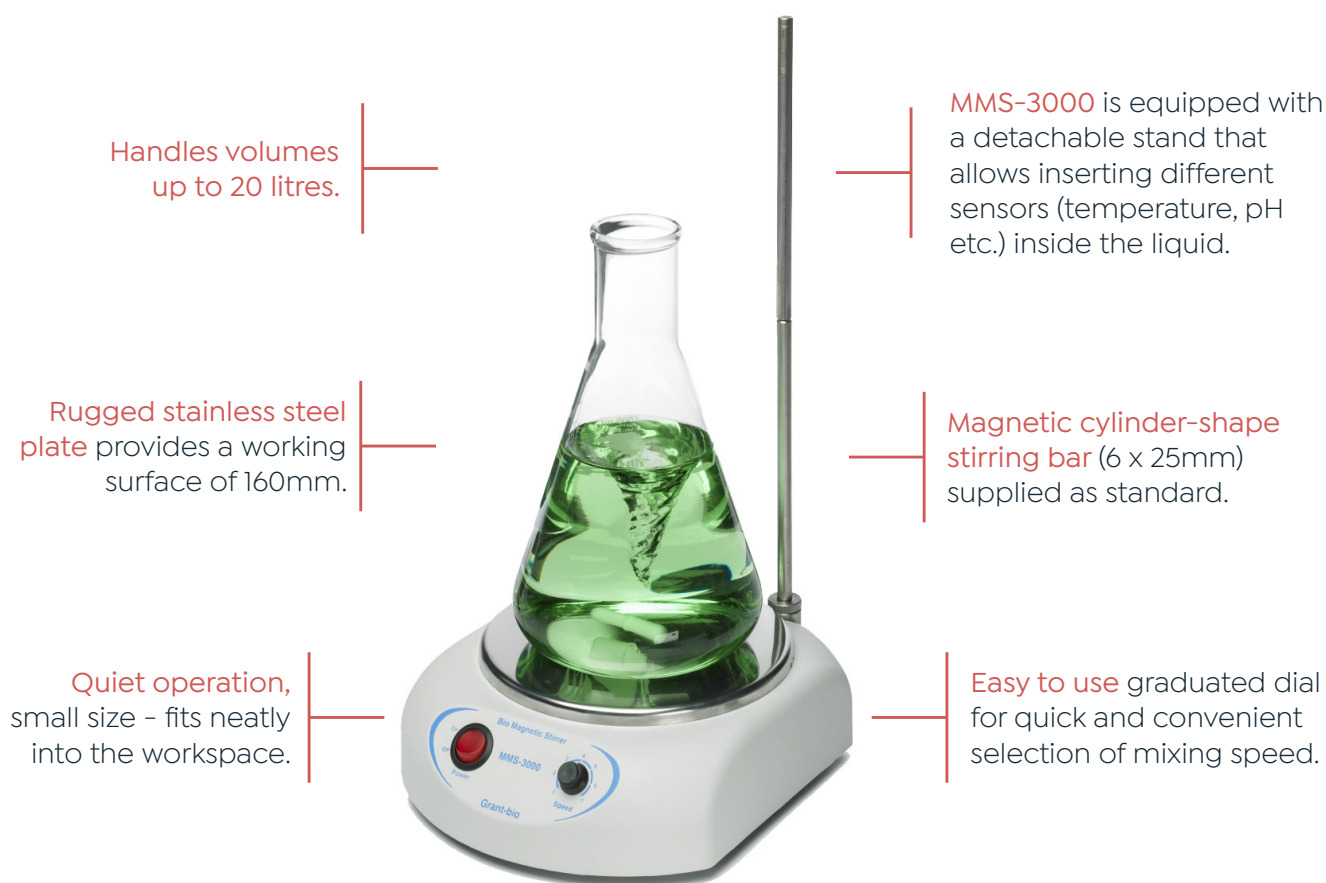
Mini magnetic stirrer

Compact manual mini magnetic stirrer for routine laboratory procedures. Features quiet operation, detachable stand and stirring bar to easily insert different sensors.

Adjustable speed control: 0 to 3000rpm

Maximum stirring volume: 20 litres

Supplied with detachable stand and stirring bar



Applications

- PH metering, extraction and dialysing with small quantities of substances
- Any requirement for stirring solutions up to 20 litres

MSH-300i

Digital magnetic hotplate stirrer

Digital magnetic stirrer with heating. The MSH-300i features the intelli-stirrer, designed for laboratories with more demanding requirements. The stirrer offers digital setting and control of temperature and rotation speed. A powerful magnet allows mixing solutions with glycerine viscosity level. Maximum volume of stirred liquid is 20 litres.

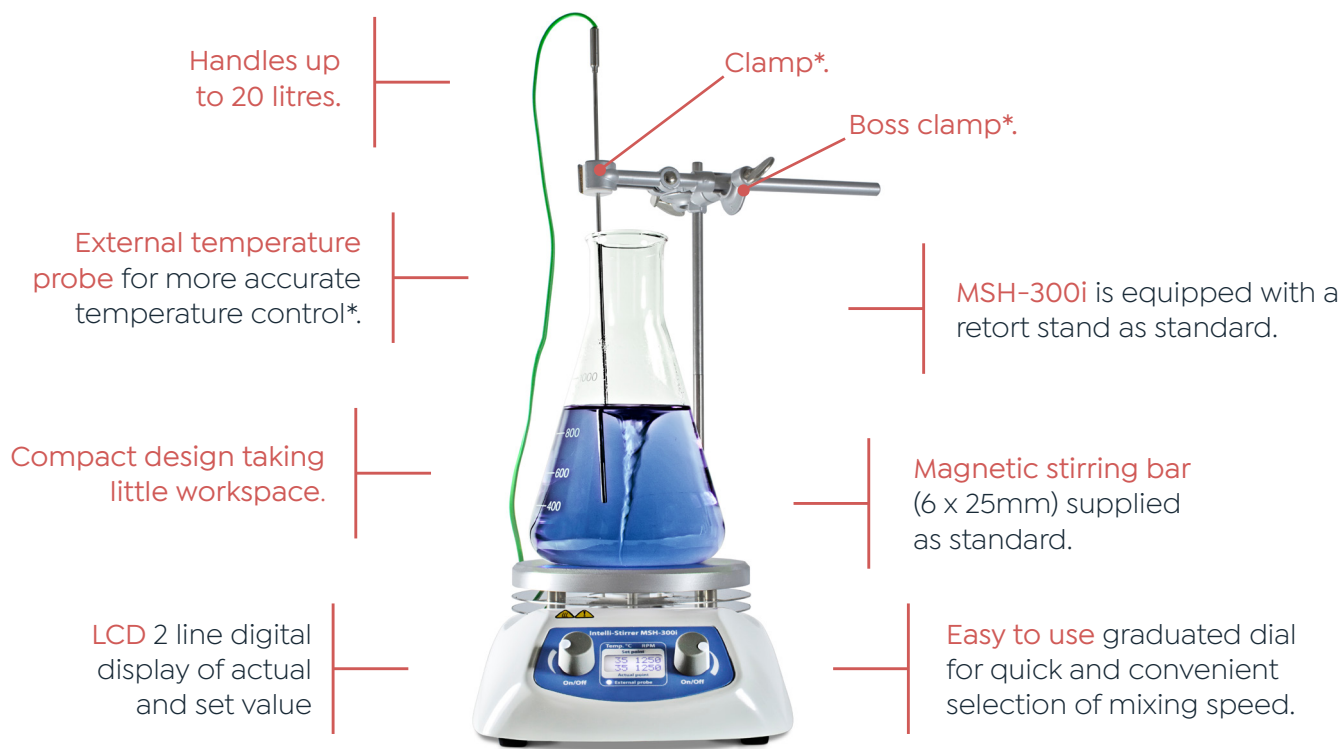
Adjustable speed control: 0 to 3000rpm

Maximum stirring volume: 20 litres

Supplied with detachable stand and stirring bar

Maximum stirring volume: 20 litres

Stirrer bar and retort stand included as standard



* Optional, please order separately

Applications

- Healthcare – thawing/heating/stirring samples
- Pharmaceutical – Heating and stirring samples
- Science education in schools/universities – practical science demonstration and experimentation
- Industrial – QC testing, sample preparation

Magnetic stirrers

Technical specifications

			
		MMS-3000	MSH-300i
		Mini magnetic stirrer	Digital magnetic hotplate stirrer
Dimensions	h x d x w mm	75 x 230 x 185	100 x 270 x 190
Ambient temperature range	°C	+4 to 40	+30 to 330
Uniformity (on the plate)	±°C	-	3
Speed	rpm	0 to 3000	100 to 1250 (10 rpm increment)
Capacity (stirring volume)	L	20	
Liquid stirring viscosity	mPa	up to 1170	
Working plate heating time to 330°C		-	11 minutes
Working plate size	mm	ø 160	
Retort stand height	mm	320	
Plate material		stainless steel	aluminium alloy
Max. length of magnetic stirring element	mm	70	20-70
Heating power	W	-	550
External power supply		Input AC 100-240V, 50/60Hz output DC 12V	N/A
Power consumption	W	3 (0.3A)	550 (2.4A) or 550 (4.6A)
Input voltage	V	DC 12	AC 230V, 50Hz or 120V, 60Hz
Weight	kg	1.5	3.2

Magnetic stirrers

Options and accessories

		MMS-3000	MSH-300i
DPMD	Boss clamp	-	•
MSH-EP	External temperature probe	-	•
SKM2	Clamp	-	•

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Thermoshakers

Thermoshaker with cooling
PCMT for microplates and microtubes

Thermoshaker
PHMT for microplates and microtubes

Thermoshaker for microplates
PHMP and PHMP-4 for two or four
PHMP-100 microplates

**Thermoshaker for deep
well plates**
TS-DW for one deep well plate

Thermoshakers

A range of compact, efficient and highly versatile thermoshakers, with excellent temperature uniformity. Ideal for applications requiring heating/cooling and shaking in microplates and microtubes. Suitable for use in cold rooms and incubators (operating temperature range +4°C to 40°C).

By combining the mixing operation with heating/cooling, reaction process times and operator workload are reduced, efficiency and throughput are increased.

Thermoshaker with cooling – for microtubes and PCR plates – PCMT

Thermoshaker – for microtubes and PCR plates – PHMT

Thermoshaker – for microplates – PHMP

Thermoshaker – for deep well plates – TS-DW



PCMT



TS-DW



PHMT



PHMP



PHMP-100



PHMP-4



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PCMT

Thermoshaker with cooling

Variable speed and temperature, heating and cooling thermoshaker with a choice of blocks for microtubes and PCR plates.

A multi-use 3 in 1 device with simultaneous or independent heating/cooling and mixing functions.

- Microtube and PCR plate thermoshaker
- Compact benchtop incubator
- Microtube and PCR plate shaker

Ambient temperature setting range +4°C to 100°C

Temperature control range ambient -15°C to 100°C

Stability: $\pm 0.01^\circ\text{C}$

Shaking speed: 250 to 1400rpm

Fast start with three seconds to maximum shaking speed



Fast heat-up and cooling times. Quick to reach specified mixing speed.

Even mixing across the thermoshaker block.

Digital timer with sound alarm - 1 minute to 96 hours.

Excellent temperature uniformity across the block.

Temperature calibration function to compensate for differences in the thermal behaviour of different tubes and samples.

Choice of 5 interchangeable blocks. Block is required, please specify when ordering.

Quiet motor operation, compact size and reliable.

Simultaneous or independent heating/cooling and mixing.

Low voltage cord fits easily through door gaskets. Safe and economical running.

Clear 16 x 2 character LCD display indicates the set and actual time of operation, mixing speed and temperature.

Applications

- Life-science - genetic analyses, extraction of DNA, RNA and further sample preparation, biochemical studies of enzymatic reactions and processes, extraction of metabolites from cellular material, incubation, agitation, digestion of samples/standards for peptide mapping

PCMT

Technical specifications

				
			PCMT	
			Microplate and microtube thermoshaker	
Dimensions	h x d x w	mm	130 x 240 x 220	
Temperature setting range		°C	+4 to 100	
Temperature control range		°C	15 below ambient to +100	
Uniformity over block		@4°C ±°C	0.6	
		@37°C ±°C	0.1	
		@100°C ±°C	0.3	
Heating speed (average)		°C	5°C/min from +25 to +100 (~15 minutes)	
Cooling speed using HC18 block (average cooling)	100°C to 25°C*		5°C/min (~15 minutes)	
	25°C to 4°C*		1.8°C/min (~12 minutes)	
Shaking speed		rpm	250 to 1400	
Display (temperature)			2-line x 16-character LCD	
Capacity	microtubes		See accessories below	
Capacity	PCR plates		1	
Orbit diameter		mm	2	
Timer (with auto-off and audible alarm)			1 minute to 96 hours (1-minute increment)	
Maximum noise		dba	53.8	
Heating/cooling power		W	60	
External power supply			Input AC 100-240V, 50/60Hz Output DC 12V	
Power consumption		W	60 (4.9A)	
Input voltage		V dc	12	
Weight		kg	3.7	

PCMT

Options and accessories

HC18		Interchangeable block for: 20 x 0.5ml microtubes plus 12 x 1.5ml microtubes
HC24N		Interchangeable block for: 24 x 1.5ml microtubes
HC24		Interchangeable block for: 24 x 2.0ml microtubes
HC32		Interchangeable block for: 20 x 0.2ml microtubes plus 12 x 1.5ml microtubes
HC96		Interchangeable block for: 96-well microplates (0.2ml)

PHMT

Thermoshaker for microtubes and PCR plates

Variable speed and temperature thermoshaker combining three devices in one for maximum versatility and efficiency.

- Microtube and microplate thermoshaker
- Compact benchtop incubator
- Microtube and microplate shaker in cold or ambient temperatures

Temperature setting range +25°C to 100°C

Temperature control range +5°C above ambient to 100°C

Shaking speed: 250 to 1400rpm

Capacity for up to 24 or up to 32 mixed sized microtubes or PCR 96-well plate

Fast start with three seconds to maximum shaking speed

Mixing and incubation phases are combined reducing reactions process times



Compact and sturdy with a low profile and small footprint – fits neatly into the workspace.

Fast heat-up and cooling times. Quick to reach specified mixing speed.

Timer 1 minute to 96 hours.

Easy programming via simple push buttons and display.

Temperature calibration function to compensate for differences in the thermal behaviour of different tubes and samples.

The powerful motor operates extremely smoothly, quietly and consistently. With a 'soft' start function for delicate samples.

Choice of 5 models available. Unit supplied with block, please specify when ordering.

Low voltage cord fits easily through door gaskets. Safe and economical running.

2-line LCD display clearly indicates both set and actual values for temperature, shaking speed times.

Applications

- Life-science – genetic analyses, extraction of DNA, RNA and further sample preparation, biochemical studies of enzymatic reactions and processes, extraction of metabolites from cellular material, incubation, agitation, digestion of samples/standards for peptide mapping

PHMT

Technical specifications

							
			PHMT-PSC18	PHMT-PSC24N	PHMT-PSC24	PHMT-PSC32	PHMT-PSC96
			For microtubes			For microplates	
Dimensions	h x d x w	mm	130 x 240 x 220				
Temperature range		°C	+ 25 to 100				
Temperature control range		°C	+ 5 ambient to 100				
Uniformity over block	@+37°C	±°C	0.1				
	@+60°C	±°C	0.2				
	@+100°C	±°C	0.2				
Shaking speed		rpm	250 to 1400 (increments 10 rpm)				
Heat up speed to 100°C			4°C per minute				
Display (temperature)			2-line x 16-character LCD				
Capacity	microtubes		20 x 0.5ml & 12 x 1.5ml	24 x 1.5ml	24 x 2.0ml	20 x 0.2ml & 12 x 1.5ml	-
Capacity	PCR plates		-				96 well PCR plate
Orbit diameter		mm	2				
Timer			1 minute to 96 hours (1-minute increment)				
Maximum noise		dba	54.7				
Heating power		W	42				
External power supply			Input AC 100-240V, 50/60Hz Output DC 12V				
Power consumption		W	42 (3.5A)				
Input voltage		V dc	12				
Weight		kg	3.2				
Weight (with block)		kg	4				

PCMT

Options and accessories

PSC18		Additional/spare block: 20 x 0.5ml microtubes plus 12 x 1.5ml microtubes
PSC24N		Additional/spare block: 24 x 1.5ml microtubes
PSC24		Additional/spare block: 24 x 2.0ml microtubes
PSC32		Additional/spare block: 20 x 0.2ml microtubes plus 12 x 1.5ml microtubes
PSC96		Additional/spare block: 96-well PCR plate.

TS-DW

Deep well plate thermoshaker

A thermoshaker designed for shaking and heating of deep well plates. Operates as three independent devices.

- Incubator
- Plate shaker
- Thermoshaker

Temperature setting range +25°C to 100°C

Temperature control range ambient +5°C to 100°C

Shaking speed: 250 to 1400rpm

Profiled platform to fit perfectly with your block, allowing maximum heat transfer

Space saving

Mixing and incubation are combined to reduce reaction process times

Choice of 4 interchangeable profiled blocks for specific deep well plates*.

Very small footprint saving bench space.

2-line LCD display clearly indicates both set and actual values.



Heated lid supplied as standard. Provides reduced condensation, meaning excellent temperature stability of $\pm 0.1^{\circ}\text{C}$.

Programmable with digital timer.

* Note: Must be ordered separately. Custom platform may be available with a sample.

Applications

- Life-science applications, molecular biology, cell biology lab, cell lysis, DNA isolation and purification, sample preparation for PCR, pellet re-suspension, or any other method where you have many samples that need mixing in deep well plates.

TS-DW

Technical specifications



TS-DW		
Deep well plate thermoshaker		
Dimensions	h x d x w mm	130 x 260 x 240
Temperature range	°C	+25 to 100
Temperature control range	°C	Ambient +5 to 100
Uniformity @ 37°C	±°C	0.1
Temperature accuracy	@ 37°C ±°C	0.5
Platform heat-up speed from 25°C to 37°C		6 minutes (For B-2E block)
Mixing speed control range	rpm	250 to 1400
Heated lid		Yes
Capacity		1 deep well plate, Eppendorf®, Sarstedt®, Axygen®, Starlab®, Custom*
Orbit diameter	mm	2
Timer (with sound alarm)		1 minute to 96 hours
External power supply		Input AC 100-240V, 50/60Hz Output DC 12V
Power consumption	W	58 (4.8A)
Input voltage	V dc	12
Weight	kg	5.1

* Note: Must be ordered separately. Custom platform may be available with a sample.

TS-DW

Options and accessories

B-2A	Block for one deep well plate Axygen® 96/2200 µl
B-2E	Block for one deep-well plate Eppendorf® 96/1000 µl
B-2S	Block for one deep well plate Sarstedt® Megablock 96/2200 µl
B-2SL	Block for one deep well plate Starlab® 96/1200 µl

PHMP series

Thermoshaker for microplates

Excellent temperature uniformity across the platform/microplate. Combined with variable speed and variable temperature produces the ideal thermoshaker for multi-use, 1-4 microplate incubations.

Can be used with all types of standard depth microplates and offers three devices in one for maximum versatility and efficiency.

- Microplate thermoshaker
- Compact benchtop incubator without shaking
- Microplate shaker in cold or ambient temperatures

The **heated lid** completely covers the heating platform to provide bi-directional heating and a controlled micro-environment. This produces great temperature stability and uniformity, whilst preventing condensation.

Display of both **set and actual** temperature and shaking speed.

Very easy to operate, with both simple set-up of temperature, shaking speed and time via push buttons and the 2-line LCD status display.



Product highlights

- Temperature setting range +25°C to 100°C
- Stability: $\pm 0.1^{\circ}\text{C}$
- Bi-directional heating system (platform and lid)
- Shaking speed: 250 to 1200rpm
- Rapid heat-up speed
- Continuous or timed operation, with alarm buzzer and automatic switch-off facility
- Choice of three models with capacity for two or four microplates
- Temperature calibration function



Soft start/stop protects samples.

The PHMP-4 has the same functionality as the PHMP but can accommodate four microplates.

The powerful, reliable motor and sturdy construction combine to provide years of consistent operation.

Low voltage cord easily fits through door gaskets, allowing use in incubators, refrigerators and workstations.

Applications

- Cytochemistry – for in situ reactions
- Biochemistry – for enzyme and protein analysis, incubation for biomarker and proteinbinding assays
- Immunochemistry – for immunofermentative reaction, ELISA incubation
- Molecular biology (for microbial cell cultivation and DNA analysis)

PHMP series

Technical specifications



		PHMP	PHMP-100	PHMP-4
		2-plate thermoshaker	2-plate thermoshaker	4-plate thermoshaker
Dimensions	h x d x w mm	125 x 260 x 270		140 x 390 x 380
Temperature setting range	°C	+25 to 60	+25 to 100	+25 to 60
Temperature control range	°C	Ambient +5 to 60	Ambient +5 to 100	Ambient +5 to 60
Stability	±°C	0.1		
Uniformity	@+37°C ±°C	0.25	0.2	0.25
Display		2-line x 16-character LCD		
Shaking speed	rpm	250 to 1200		
Speed setting resolution	rpm	Increment 10		
Average heat up speed	°C	12 minutes from 25 to 37 35 minutes from 37 to 60 60 minutes from 25 to 100 (PHMP-100 ONLY)		
Maximum height of microplates	mm	18		
Capacity		2 microplates		4 microplates
Orbit diameter	mm	2		
Timer (with auto-off and audible alarm)		1 minute to 96 hours / non-stop (1-minute increment)		
External power supply		Input AC 100-240V, 50/60Hz Output DC 12V		
Power consumption	W	40 (3.3A)	60 (5A)	50 (4.15A)
Input voltage	V dc	12		
Weight	kg	6.1	5.9	8.8

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Personal Bioreactors

Personal bioreactors

RTS-1 personal bioreactor

RTS-1C personal bioreactor with cooling

RTS-1 and RTS-1C

Personal bioreactors

Compact and efficient personal bioreactors providing innovative “Reverse-Spin®” technology, to give unique non-invasive type agitation and to register cell growth kinetics in real time.

Multi-use with four instruments in one unit - measuring, mixing, thermostating, data logging and analysis

Temperature setting range: +25 to 70°C (RTS-1) +4 to +70 °C (RTS-1C)

Speed control range: 50 – 2000rpm (increment 10rpm)

Temperature control allows use as an incubator

Compact device with low profile and small footprint

Connect up to 12 units simultaneously

Ability to monitor the process of cultivation



Real-time cell growth logging.

3D graphical representation of OD or growth rate over time over unit.

Programmable cycling/ profiling of cultivation parameters such as temperature, RPM, “Reverse-spin” frequency.

Active cooling and temperature profiling via software (RTS-1C only).

Innovative mixing due to reverse spinning of the samples around its own axis.

Compact, sturdy construction with a low profile and a small footprint - fits neatly into the workplace.

Easy-to-read LCD screen displaying temperature, RPM and time.

2 year warranty

Made in Europe

Applications

- Bacterial cultivation with real time growth kinetics, strain screening, temperature stress and fluctuation experiments media screening and optimization, synthetic and systems biology, inhibition and toxicity tests, strain quality control

Personal Bioreactors

Technical specifications

		 	
		RTS-1	RTS-1C
		Personal bioreactor	Personal bioreactor with cooling
Dimensions	h x d x w mm	200 x 212 x 130	200 x 212 x 130
Theoretical measurement range in OD ⁸⁵⁰ , at 10ml working volume*:	Rod shaped bacteria (e.g. <i>E.coli</i>)	0-25 (0-45.6 OD600 equivalent**)	
	Yeast (e.g. <i>P.pastoris</i>)	0-50 (0-75 OD600 equivalent)	
E.coli BL21 factory calibration measurement range, in OD850:	at 10-20 ml volume	0 - 10 OD (0 - 19 OD600 equivalent)	
	at 20-30 ml volume	0 - 8 OD (0 - 15.2 OD600 equivalent)	
Measurement wavelength (λ)	mm	850 ± 15	
Factory calibration measurement precision		±0.3 OD 850	
Mass transfer coefficient kLa	(h ⁻¹)	Up to 350 ± 26 h ⁻¹ at 5ml	
Light source		LED (NIR Light diode)	
Real time measurement	(minutes)	1-60	
Temperature setting range	°C	+25 to 70 (increment 0.1°C)	+4 to +70 (increment 0.1°C)
Bottom control range point	°C	Ambient +5	Ambient -15
Top control range point	°C	70	
Temperature stability	°C	±0.1	
Sample temperature accuracy:	20 °C - 45°C	± 1	
	< 20°C	± 2	
	> 45°C	± 3	
Sample temperature heating/cooling rate	°C/min	0.7	
Sample volume	ml	5 - 30	
Speed control range	rpm	50 - 2000 (increment 10 rpm)	
Speed control precision	rpm	±15	
Reverse Spin Time	(seconds)	1- 60 (increment 1s)	
Display		LCD	
Minimum PC requirements		Intel/AMD Processor, 1 GB RAM, Windows XP***/Vista/7/8/8.1/10, 2.0 USB port	
Optimal PC requirements		Intel/AMD Processor, 3 GB RAM, Windows 7/8/8.1/10, 2.0 USB port	
Power consumption	W	40 (3.3A)	60 (5A)
Input voltage	V dc	12	
External power supply	V	100 - 240 (50/60Hz); output DC 12V	
Weight	kg	1.7	2.2

* Highest k_{La} (h⁻¹) is achieved at 5 ml working volume which is optimal for aerobic cultivation.

** OD⁸⁵⁰ to OD⁶⁰⁰ vary between strains and phases of growth.

*** Not guaranteed because OS not supported by producer.

Personal Bioreactors

Options and accessories

		RTS-1	RTS-1C
50TUB20	20x 50 ml tubes with membrane filter TubeSpin® Bioreactor 50, TPP®	•	•
50TUB180	180x 50 ml tubes with membrane filter TubeSpin® Bioreactor 50, TPP®	•	•
USB10	USB 2.0 Hub 10 × ports	•	•

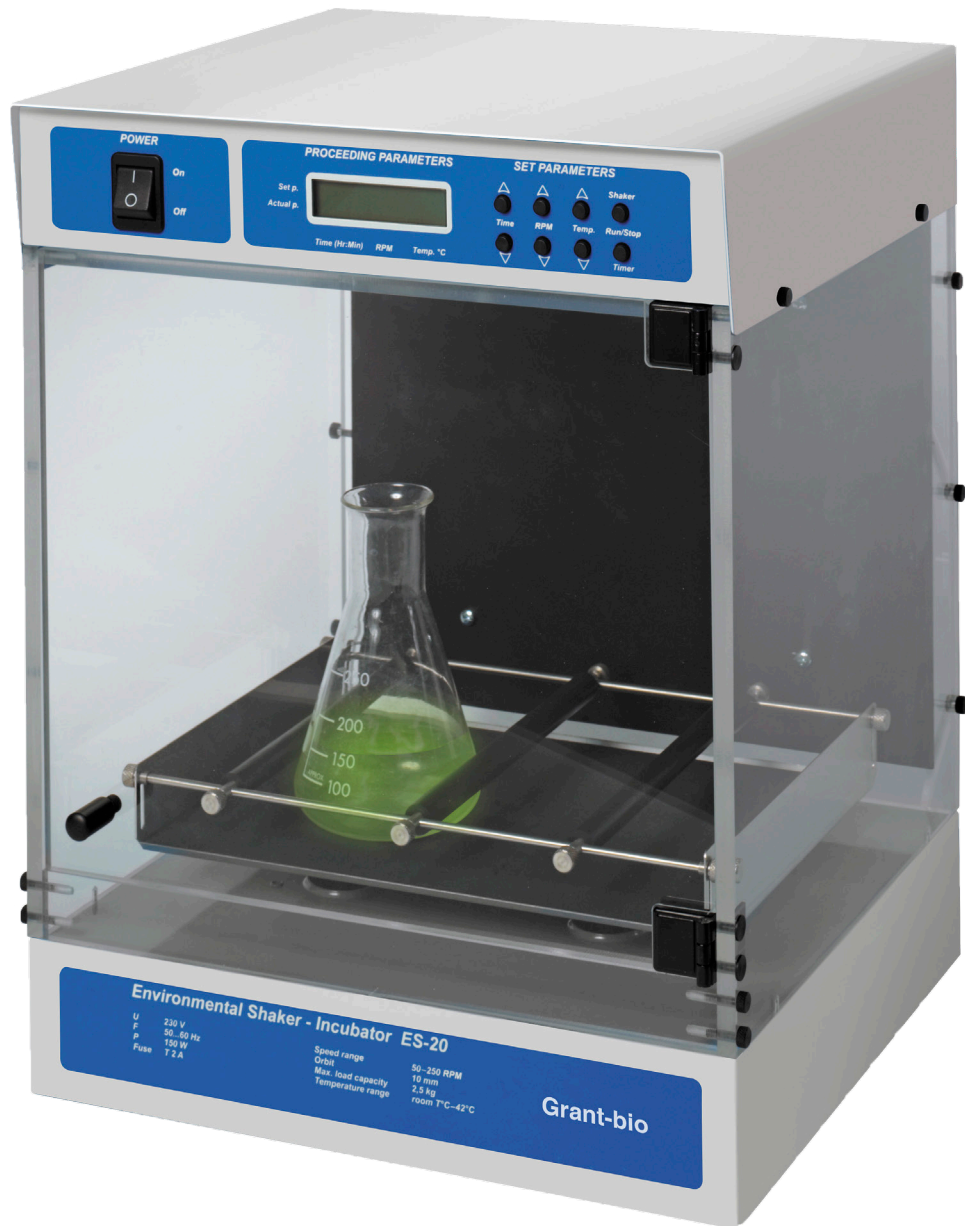


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Orbital Shaker-Incubators

Compact shaker-incubator

ES-20 with 10mm orbit

Temperature control range: ambient +5°C to 42°C

Shaker-incubator

ES-80 with 20mm orbit

Temperature control range: ambient +5°C to 80°C

ES-20

Compact shaker-incubator

Versatile and programmable bench-top orbital shaker-incubator for mixing and incubating biological cultures and samples in a variety of flasks and vessels.

Temperature setting range: +25°C to 42°C (16 min heat up time)

Variable speed: 50 – 250rpm

Digital control of time, temperature and shaking speed for accuracy and repeatability

Interchangeable platforms for shaking/incubating different vessels*

Load up to 2.5kg



Temperature control by microprocessor plus forced heated air circulator ensures a constant and even temperature within the chamber.

Designed for easy assembly/disassembly – easy to move from one location to another comes flat packed – no special tools required.

Equipped with direct drive shaking system for reliable, long-term operation.

Simple to programme time, temperature and shaking speed using clear 2-line, 16 character LCD.

Robust, compact construction with clear 7mm thick Plexiglass panels.

Option of five easily interchangeable platforms for a wide range of applications*.

* Platforms sold separately

Applications

- Life-sciences – suitable for growing cell cultures in flasks, extracting tissue samples at physiological temperatures, sample preparation processes, mixing of biological liquids as well as the incubation and cultivation of biological liquids, growing e-coli, bioluminescence preparation.

ES-80

Compact shaker-incubator

Stable and reliable with programmable time, temperature and shaking speed. The ES-80 orbital shaker-incubator is ideal for vigorous or even mixing and incubation of samples in a variety of flasks and vessels.

Temperature setting range: +25°C to 80°C

Variable speed: 50 – 250rpm

Digital control of time, temperature and shaking speed for accuracy and repeatability

Interchangeable platforms for shaking/incubating different vessels*

Load up to 8kg

Temperature control by microprocessor plus forced heated air circulator ensures a constant and even temperature within the chamber.

'Soft start' and stop protects samples.

Robust, compact construction with clear 7mm thick Plexiglass panels.

Equipped with direct drive shaking system for reliable, long-term operation.

2
year
warranty



Simple to programme time, temperature and shaking speed using clear 2-line, 16 character LCD.

Option of six easily interchangeable platforms for a wide range of applications*.

State of the art motor, thermal insulation materials and temperature PID-controls with clear 7mm thick Plexiglass panels.



* Platforms sold separately

Applications

- Life-sciences – cultivation of micro-organisms, cells and eukaryotic cells including animal, plant and insect cells, long-term cell growth projects, more vigorous shaking possible allowing other sample preparation processes including tissue sample extraction at physiological temperatures and up to 80°C, solubility studies, cell culture, staining/destaining, extraction procedures, gel washing, plasmid purification, bacterial suspension, hybridisation, protein expression in bacteria.

Shaker-Incubators

Options and accessories

			ES-20	ES-80
P12-100		Platform with clamps for 12 x 100-150 ml flasks/beakers Dimensions: 250 x 190 mm	•	-
PP4		Flat platform with non-slip rubber mat for Petri dishes and culture flasks Dimensions: 220 x 220 mm	•	-
P6-250		Platform with clamps for 6 x 250-300 ml flasks/beakers Dimensions: 250 x 190 mm	•	-
PUP-12		Universal platform, with adjustable bars. Dimensions: 270 x 195 mm HB-200 extra holding bars	•	-
PI6-88		Platform with spring holders for up to 88 tubes, 30mm diameter	•	-
PP-400		Flat platform with non-slip rubber mat (360 x 400mm)	-	•
P30-100		Platform with clamps for 30 x 100-150ml flasks	-	•
PI6-250		Platform with clamps for 16 x 250-300ml flasks	-	•
P9-500		Platform with clamps for 9 x 500ml flasks	-	•
P6-1000		Platform with clamps for 6 x 1000ml flasks	-	•
UP-168		Universal platform for different flasks Dimensions: 360 x 400mm	-	•
		Tight fit clamp for: 1 HSC-50 50 ml - Ø50 mm, 2 HSC-100 100 ml - Ø65 mm, 3 HSC-250 250 ml - Ø85 mm, 4 HSC-500 500 ml - Ø105 mm, 5 HSC-1000 1000 ml - Ø130 mm	-	•
TR-21/50		Adjustable tilt test tube rack for 21x 50ml tubes	-	•
TR-44/15		Adjustable tilt test tube rack for 44x 15ml tubes	-	•

Shaker-Incubators

Flask clamps

			ES-20	ES-80
FC-100		For 100ml flask	•	•
FC-250		For 250ml flask	•	•
FC-500		For 500ml flask	•	•
FC-1000		For 1000ml flask	•	•
FC-2000		For 2000ml flask	•	•

Shaker-Incubators

Technical specifications



		ES-20	ES-80
		Compact Shaker-Incubator	Shaker-Incubator
Dimensions	h x d x w mm	435 x 340 x 340	510 x 525 x 590
Weight	kg	13.2	41.1
Temperature range	°C	+25 to 42	+25 to 80
Temperature control range	°C	0.1	
Stability	±°C	0.5	
Temperature accuracy at 37°C	±°C	0.5	
Mixing speed control range	rpm	50-250 rpm	
Load capacity	kg	2.5	8
Display		2-line, 16 character LCD	
Orbit diameter	mm	10	20
Internal working dimensions (with installed platform) (d x w x h)	mm	260 x 305 x 250	450 x 390 x 300
Timer		1 minute to 96 hours / non-stop	
Power consumption	230V W	170 (1.6A)	450 (2A)
	120V W	160(0.7A)	-
Nominal operating voltage	V	120 or 230 (50/60Hz)	230 (50-60Hz)
Data Transfer		-	
Stacking		-	

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Centrifuges and Combined Vortex Mixers

Benchtop centrifuges

LMC-3000 low speed centrifuge
LMC-4200R refrigerated benchtop centrifuge

Combined centrifuge/vortex

PCV-2400 fixed speed micro centrifuge/
vortex mixer
PCV-6000 variable speed micro centrifuge/
vortex mixer

High speed microcentrifuge

Microspin 12 high speed centrifuge

All-in-one PCR plate centrifuge/vortex

CVP-2 all-in-one PCR plate
centrifuge/vortex

Centrifuges and combined vortex mixers/centrifuges

A range of compact, modern benchtop centrifuges for a variety of biomedical, biochemical and life-science applications requiring centrifuging or a combination of centrifuging and vortex mixing or shaking for microtubes and microplates.

General purpose benchtop centrifuge

Combined centrifuges/vortex mixers

High speed microcentrifuge

All-in-one PCR plate centrifuge/vortex



PCV-2400



LMC-3000



LMC-4200R



PCV-6000



CVP-2



Microspin 12



LMC-3000

General purpose benchtop centrifuge

Low speed benchtop centrifuge for use with microplates and centrifuge tubes up to 50 ml.

Spin speed: up to 3000rpm for tubes, up to 2000rpm for microplates

Timed operation (1 to 90 minutes), with automatic switch-off

Choice of interchangeable rotors for up to 12 centrifuge tubes or two microplates

'Soft-start' and 'run-down' of the rotor

Set rotor speed in RPM or RCF*

Multiple acceleration and deceleration mode

Low level noise level

Sturdy metal housing and lid, automatic imbalance** switch-off and lid lock when centrifuge is running, providing safe operation in your workplace.

Easy set-up of speed and time via 2-line LCD display and simple push buttons showing actual and set speed and time.



The power and extremely quiet motor has a 'soft start' and 'run-down' function to avoid jolting samples.

Compact design with small footprint - fits neatly into the workspace.

Convenient interchangeable rotor for 6 or 12 tubes of varying sizes or 2 microplates (standard and deep well). Please specify when ordering, sold separately.

* Relative Centrifugal Force.

** Auto 'IMBALANCE' stop and warning diagnostics.

Applications

- Life-sciences - ELISA plate centrifugation, PCR plate centrifugation, analytical applications including biomedical, bio-organic and immunoenzyme analysis
- Environmental - centrifuging of sewage sludge

LMC-4200R

Benchtop centrifuge with refrigeration

Refrigerated benchtop centrifuge with a temperature setting range of -10°C to +25°C and interchangeable rotors for accommodating 10 to 15 ml, or 50 ml centrifuge tubes, 2-9ml vacutainers® or microplates.

Sturdy metal housing and lid, automatic imbalance** switch-off and lid lock when centrifuge is running, providing safe operation in your workplace.

Effective acceleration (run-up up to 15 sec) and deceleration (rundown up to 30 sec).

Efficient chamber refrigeration rate in under 10 minutes.

Easy set-up of speed and time via 2-line LCD display and simple push buttons showing actual and set speed and time.



Product highlights

- Spin speed: up to 4200 rpm for tubes, up to 2000 rpm for microtitre plates
- Temperature setting range -10°C to 25°C
- Timed operation (1 to 90 minutes), with automatic switch-off
- 'Soft-start' and 'run-down' functions
- Choice of interchangeable rotors for up to 12 centrifuge tubes or 2 microplates
- Auto 'IMBALANCE' stop and warning diagnostics
- Low noise level



Convenient interchangeable rotors for 6 or 12 tubes or 2 microplates (standard and deep well). Specify when ordering, sold separately.

The powerful and quiet motor (not more than 65dBA) has a 'soft' start-up and run-down function to avoid jolting of samples.

Compact design with small footprint – fits neatly into the workspace.

Applications

- Life-science – universal applications for all centrifugation requiring a controlled temperature of biomaterial. Temperature control of the 'cold-shelf' is the standard needed for enzymologists and cell biologists ensuring the conditions necessary for reproducibility of the sample preparation stage

Low speed benchtop centrifuges

Technical specifications



		LMC-3000	LMC-4200R
		Benchtop centrifuge	Refrigerated benchtop centrifuge
Dimensions	h x d x w mm	235 x 420 x 495	335 x 580 x 635
Temperature range	°C	+4 to 40* (suitable for use in cold rooms)	-10 to 25
Max RCF (bottom of tube)	g-force	1700	3370
Speed regulation range for centrifuge tubes	rpm	100 to 3000	100 to 4200
	g	1610	3160
Speed regulation range for microtitre plates	rpm	100 to 2000	
	g	560	
Digital time setting		1 - 90 minutes (1 minute increment)	
Speed increment	rpm	100	
Display		2 line x 16 character LCD	
Maximum noise	dBA	59.4	63.7
Power consumption	230V W	120 (1A)	990 (4.3A)
	120V W	110 (0.5A)	
Nominal operating voltage	V	120 or 230 (50-60Hz)	230 (50-60Hz)
Weight	kg	11.8	56

* In a non-condensing atmosphere and maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50% relative humidity at 40°C.+

Low speed benchtop centrifuges

Options and accessories

			LMC-3000	LMC-4200R
R-6		Swing-out rotor for 6 x 50ml conical bottom centrifuge tubes, Dimensions: ø29 x 115mm	•	•
R-12-10		Swing-out rotor for 12 x 10 to 15ml round bottom centrifuge tube holders Dimensions: ø16 x 105mm	•	•
R-12-15		Angled swing-out rotor for 12 x 15ml tubes, conical bottom centrifuge tubes. Dimensions: ø17 x 120mm	•	•
R-2		Swing-out rotor for 2 microplates Dimensions: 128 x 85.6mm (w x l) Suitable for deepwell plates maximum dimensions: 128 x 85.6 x 45mm (w x d x h)	•	•
AP-96		2 adaptors for 96-well semi and non-skirted PCR plates. Made of Ertacetal C. Fully autoclavable	•	•
R-24GC		Swing-out rotor for gel cards for blood group serology testing, 24 card capacity. Dimensions of a gel card: 53 x 74mm	•	•
R-6P		Swing-out rotor for conical bottom centrifuge tube. Plastic buckets (POM Kocetal)	-	•
R-24-10		Swing-out rotor for round bottom centrifuge tube	-	•
AP-384		2 adapters for 384-well plates - made of Ertacetal® C. Autoclavable	-	•
RR-U		Rack for rotors	-	•

Adapter sets for R-12-10 (pack of 12)

BN-13-75		For vacutainers 2-5ml (ø13 x 75mm)	•	•
BN-13-100		For vacutainers 4-8ml (ø13 x 100mm)	•	•
BN-16-100		For vacutainers 8-9ml (ø16 x 100mm)	•	•

Microspin 12

High-speed microcentrifuge

Compact high-speed microcentrifuge with a built-in rotor for 12 x 1.5/2ml microtubes. Ideal for biomedical laboratories.

Ambient temperature range +4°C to +25°C (suitable to use in cold rooms)

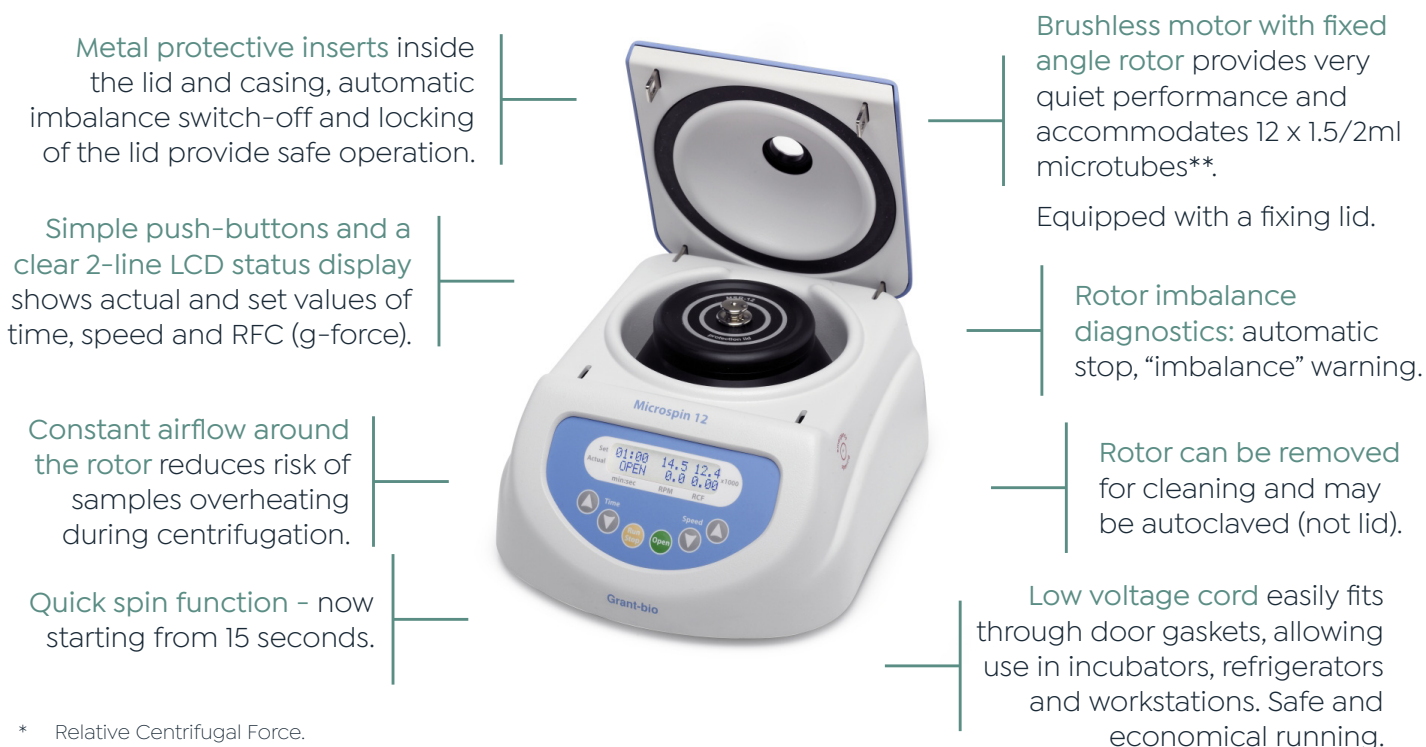
Centrifugation speed: 100–14,500rpm, RCF* 12,400 x g

Fixed angular aluminium rotor accommodates 12 x 1.5/2ml microtubes*

Accommodates 12 x 1.5/2ml microtubes, supplied with adapters for 0.2ml and 0.5ml tubes

Timed operation (1 to 30 minutes), with automatic switch-off

Space saving



* Relative Centrifugal Force.

** Supplied with a adapters for 0.2ml and 0.5ml tubes.

*** Additional tube adaptors for 0.5ml or 0.2ml microtubes also included as standard.

Applications

- Life-science - multiple applications including extracting of DNA/RNA samples, sedimentation biological components, biochemical and chemical analyses of microsamples.

Microspin 12

Technical specifications



Microspin 12

Mini centrifuge, high speed

Dimensions	h x d x w mm	125 x 240 x 200
Max RCF (bottom of tube)	g-force	12,400
Speed (centrifuge tubes)	rpm	100-14,500
Operation time		15 seconds – 30 minutes
Acceleration time		maximum 20 seconds
Slowdown time		maximum 10 seconds
Capacity		12 x 1.5ml/2ml microtubes
		Adaptors for 12 x 0.5ml microtubes
		Adaptors for 12 x 0.2ml microtubes
Display		2-line x 16 character LCD
Maximum noise	dBA	61.2
External power supply		Input AC 120–230V, 50/60Hz Output DC 12V
Power consumption		60 W (2.5A)
Input voltage	V dc	24
Weight	kg	3.5

CVP-2

All-in-one PCR plate centrifuge/vortex

All-in-one PCR plate centrifuge/vortex mixer that allows for the simultaneous sample preparation of multiple samples at one time. Versatile through being able to hold non, semi and fully skirted PCR plates with no additional accessories required.

The CVP-2 offers three devices in one.

- Centrifuge with vortex mixing
- PCR plate centrifuge
- PCR plate mixer

Centrifugation speed: 300 to 1500rpm

Independent vortex and centrifuge timers with up to 999 cycles

Centrifuge and vortex mixer combined for significant time saving

Adjustable rpm or four programmable presets

Consistently prepare up to 192 samples simultaneously*

Adapter for use with 384-well PCR plates (available separately)



* Can have an adapter for 384 well plates. = AP-384.

Applications

- Life-science - multiple applications including extracting of DNA/RNA samples, sedimentation biological components, biochemical and chemical analyses of microsamples.

CVP-2

Technical specifications



		CVP-2
		All in one PCR centrifuge/vortex
Dimensions	h x d x w mm	190 x 350 x 285
Centrifuge mixing speed control range	rpm	300 to 1500
Vortex mixing speed control range	rpm	300 to 1200
Speed control increment	rpm	100
G-force/RCF		245
Centrifuge timer with sound alarm		0 to 30 minutes
Vortex timer with sound alarm		0 to 60 seconds
Centrifuge/vortex cycles		1 to 999
Capacity		2 non-, semi or fully skirted microplates
External power supply		Input AC 120-230V, 50/60Hz Output DC 24V
Power consumption		18 W (0.75A)
Input voltage	V dc	24
Weight	kg	6.15

PCR plate types

in relation to available adapters

	No adapter	AP-96 adapter	AP-384 adapter
96-well skirted PCR plate	•		
Piko PCR plates, in frame, 4pcs/frame	•		
96-well semi-skirted PCR plate		•	
96-well non-skirted PCR plate		•	
384-well PCR plate (Eppendorf)			•

Warning! PCR plate height inside an adapter should not be higher than 17mm.

PCV-2400

Combined centrifuge/vortex mixer

Cost-effective, fixed speed, combined micro centrifuge/vortex mixer for combined or independent centrifuge and mixing applications of microtubes and 0.2ml microtube strips in low volume applications.

A safety interlock stops the rotor when the lid is opened to ensure you and your workplace remain safe.

Very simple to operate - use the left-hand button to select continuous or short spin.



Product highlights

- Ambient temperature range +4°C to +40°C (can be used in cold rooms)
- Vortex and spin simultaneously
- Centrifugation speed: fixed at 2800rpm (50Hz) and 3500rpm (60Hz)
- Choice of interchangeable rotors for different microtube sizes/combinations and for 0.2ml strips
- Continuous operation or short spin



The **vortex cup** emerges through an opening in the closed lid, enabling individual tubes to be mixed even while a full load of tubes is spinning.

The **combi-spin** is supplied as standard with two interchangeable rotors for 12 x 1.5ml and 12 x 0.5ml + 12 x 0.2 ml

Optional accessory rotors – for 16 and 18 microtubes and for two 8 well 0.2ml strips – allow for quick and easy changes of application.

Applications

- Life-sciences – genetic engineering research (for PCR-diagnostics experiments). Units can be used in microbiological, biochemical, clinical laboratories and industrial biotechnological laboratories

PCV-6000

Combined centrifuge/vortex mixer

Highly versatile and efficient variable-speed combined centrifuge/vortex mixer. Programmed centrifugation and mix operations or independent centrifuging and vortex-mixing of multiple microtubes and 0.2ml strips.

Spin-mix-spin technology can save considerable time by automatically performing a cycling program of sample mixing and spinning 12 tubes at once, when compared with removing the tubes for vortexing after every spin.

Ambient temperature range +4°C to +40°C

Centrifugation speed 6000rpm, 2350 g

Choice of interchangeable rotors for different microtube sizes/combinations and for 0.2ml strips

Vortex mixing modes - soft, medium and hard

A safety interlock stops the rotor when the lid is opened to ensure you and your workplace remain safe.

Low voltage cord easily fits through door gaskets, allowing use in incubators, refrigerators and workstations.

Multi-spin enables consecutive spin and mix phases of multiple tubes - tubes are loaded into the rotor for spinning and remain in position for vortex mixing, saving time and labour. In addition, lower reagent volumes can be used, providing a further saving.



The multi-spin is supplied as standard with two interchangeable rotors for 12 x 1.5ml and 12 x 0.5ml + 12 x 0.2 ml

Optional accessory rotors - for 16 and 18 microtubes and for two 8 well 0.2ml strips - allow for quick and easy changes of application.

Compact design and extremely quiet in operation - fits neatly and unobtrusively into the workspace.

Simple push-buttons and a clear 2-line LCD status display enable accurate and repeatable setting of spin and mix levels and times. Spin and mix phases can be linked in sequences which can be repeated up to 999 times.

Applications

- Life-sciences - genetic engineering research (for PCR-diagnostics experiments). Units can be used in microbiological, biochemical, clinical laboratories and industrial biotechnological laboratories.

PCV series

Technical specifications



		PCV-2400	PCV-6000
		Combined centrifuge/vortex mixer	
Dimensions	h x d x w mm	125 x 235 x 190	125 x 235 x 190
Operating temperature	°C	+4°C to +40°C	+4°C to +40°C
Max RCF (bottom of tube)	g-force	500 @ 50Hz 700 @ 60Hz	2350
Speed control range maximum (centrifuge tubes)	rpm	2800 at 50Hz/3500 at 60Hz	6000
Vortex mixing intensity		-	Soft, medium and hard
Spin timer, with automatic switch -off		-	1 second to 30 minutes
Mix timer, with automatic switch-off		-	1 to 20 seconds (1 second increment)
Spin-mix-spin cycle regulation		-	1 to 999 cycles
Number of tubes vortexing		1 individual	Up to 12 simultaneously
Time for completing the spin-mix-spin	12 microtubes	5-6 minutes	1 minute
	100 microtubes	60 minutes	10 minutes
Capacity	12 x 1.5ml microtubes		
	12 x 0.5ml plus 12 x 0.2ml microtubes		
Display		-	2 line x 16 character LCD
Maximum noise	dBA	50	71
External power supply		-	Input AC 120-230V, 50/60Hz Output DC 24V
Power consumption	230V W	30	24
	120V W	30	24
Weight	kg	2.1	2.5

PCV series

Options and accessories

			PCV-2400	PCV-6000
PR2-05		Interchangeable centrifuge rotor for 8 x 1.5/2.0ml plus 8 x 0.5ml microtubes (optional)	•	•
PR2-05-02		Interchangeable centrifuge rotor for 6 x 1.5/2.0ml plus 6 x 0.2ml microtubes (optional)	•	•
PSR-16		Interchangeable centrifuge rotor for 2 x 8-well 0.2ml microtube strips (optional)	•	•
R-15		Replacement rotor for 12 x 1.5ml microtubes (included)	•	•
R-05-02		Replacement rotor for 12 x 0.5ml and 12 x 0.2ml microtubes (included)	•	•

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Densitometers

Densitometers

DEN-1 for 0.3 – 15.0 McFarland units

DEN-1B for 0.00 – <15.00 McFarland units, powered by battery or mains

Densitometers

Compact and efficient benchtop densitometers for measuring turbidity of cell suspensions in a variety of life-science applications.

The densitometers are designed and factory calibrated to measure turbidity in the range of 0.3 to 15.0 McFarland units (DEN-1) 0.00 to <15.00 McFarland units (DEN-1B) with a small standard deviation. The densitometers can deliver a wider measurement range (up to 15.00 McFarland units) with a greater standard deviation.

Measurement range: 0.3 to 15.0 McFarland units (DEN-1), 0.00 to <15.00 McFarland units (DEN-1B)

Precision: $\pm 3\%$

Measurement time: 1 second

Standard deviation at 3.00 McFarland units: ± 0.1 McF

User calibration option

Designed for tubes with an outer diameter of 18mm. 16mm tubes can also be accommodated by using the optional tube adaptor D16 (included).

Extremely compact design with small footprint and low profile - fits easily into the smallest workspace.

DEN-1 and DEN-1B units are calibrated for operation in range 0.3-15.0 McF and 0->15.00 McF, but it is possible to measure turbidity from 0McF to 15McF. (note: the standard deviation of the values increases).



Factory calibrated - retains calibration without power supply. Can be user calibrated with commercial standards or cell suspensions prepared in the laboratory.

Bright LED display readings conveniently shown in McFarland units, are clearly visible.

Powered by 3 x AA batteries (DEN-1B only) or via external 12v power supply.

2 year warranty

Made in Europe

Applications

- Life-science - typical applications include determining concentration of cells (bacterial and yeast cells) in the fermentation process, detecting the susceptibility of micro-organisms to antibiotics, identifying micro-organisms with various test systems, and measuring optical density at fixed wavelength.

Densitometers

Technical specifications

		 	
		DEN-1	DEN-1B
		Densitometers	
Dimensions	h x d x w mm	75 x 115 x 165	
Operating temperature	°C	+4 to 40	
Light source		LED	
Wavelength	nm	565 ±15	
Range	(McFarland units)	0.3 to 15.0	0.00 to 15.00
Precision		±3%	
Measurement time	sec	1	
Tube diameter	external diameter mm	18	
	with D16 adaptor mm	16	
Sample volume	ml	>2	
Display/display resolution		LED/0.1 McF	LCD/0.01 McF
Independent power supply		-	3 x AA batteries (included with unit)
External power supply		Input AC 120-230V, 50/60Hz Output DC 12V	
Power consumption	230V W	1 (0.08A)	0.1 (0.007A)
	120V W		
Weight	kg	0.7	

PCV series

Options and accessories

		DEN-1	DEN-1B
DEN MCF STDs	Set of liquid McFarland standards in 16mm ø glass tubes. 0.5/1.0/2.0/3.0/4.0 can be decanted into an alternative tube (shelf-life no longer valid). Requires D16 adaptor, supplied with DEN-1/DEN-1B		•
D16	 Spare tube adaptor for tubes with 16mm outer diameter – included as standard		•

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Aspirators

Aspirators

FTA-1 aspirator with 1L trap flask

FTA-2i advanced aspirator with 2L trap flask and level sensor

FTA-1

Aspirator with trap flask

Designed with a 1L trap flask for routine aspiration of the supernatant alcohol/buffer from the walls of microtubes during DNA/RNA purification and other macromolecule reprecipitation techniques. An ideal personal tool for independent operation away from an in-line lab vacuum supply.

All in one system with integrated pump

Fitted with hydrophobic microbiological filter

Vacuum pressure: -500 mbar

Small, compact and easy to use

Perfect for small volume aspiration

Hydrophobic microbiological suction filter eliminates risk of contamination from the trap flask. Efficiency up to 99.9% - holds particles bigger than 0.027 micron.

Built in micro-compressor creates negative pressure in the trap flask for removal of liquid from microtubes.

Polyethylene tube connects the collecting tip to the trap flask.

Slim power cord allows the unit to be used inside workstations and incubators, Safe and economical running.



2 year warranty

Made in Europe

1L trap flask for collection of aspirate from microtubes or microplates.

Tube holder accommodates two tubes to store tip or optional 8 channel adaptor.

Uses standard 'yellow' 200ml pipette tips.

MA-8 8 channel adaptor kit - includes a tube adaptor, 8 channel aspiration tip and holder, autoclavable.

Applications

- Aspiration/removal of alcohol/buffer from microtube walls during DNA/RNA purification and other macromolecule reprecipitation techniques
- For routine operations of cell washing from culture medium and resuspension in buffer.

FTA-1

Technical specifications

		
		FTA-1
		Aspirator with trap flask
Dimensions	h x d x w mm	340 x 210 x 160
Trap flask volume	°L	1
Vacuum	mbar	-500
Flow rate (aqueous solution)	ml/min	72 with aspiration tip 666 without aspiration tip
External power supply		Input AC 120-230V, 50/60Hz Output DC 12V
Power consumption	W	3.6 (0.3A)
Input voltage	V dc	12
Weight	kg	1.7

FTA-1 series

Options and accessories

MA-8		8 channel adaptor kit, includes tube adaptor, 8 channel aspiration tip, 8 channel tip holder
MA-8T		8-channel aspiration tip
FA-1		Replacement filter
FTA-B		Replacement blue cap for 1L bottle aspiration trap flask
FTA-T	Tubing set including all tubing with fittings except filter and aspiration tip	

FTA-2i

Advanced aspirator with trap flask

All-in-one aspirator system with a 2L trap flask designed for aspiration or removal of alcohol, buffer and liquid from reaction vessels during DNA/RNA purification or other macromolecule reprecipitation techniques.



Hydrophobic microbiological suction filter eliminates risk of contamination from the trap flask. Efficiency up to 99.9% - holds particles bigger than 0.027 micron.

Built in micro-compressor creates negative pressure in the trap flask for removal of liquid from microtubes.

Polyethylene tube connects the collecting tip to the trap flask.

Liquid level sensor with automatic switch off and sounding alarm indication.



Product highlights

- All in one system with integrated pump
- Trap flask volume 2L
- Fitted with hydrophobic microbiological filter
- Adjustable vacuum pressure: -200 to -800 mbar
- Liquid level sensor detects excess liquid and prevents overflow



2L autoclavable polypropylene trap flask for collection of aspirate from reaction vessels or microplates.

Tube holder organiser conveniently located on the right hand side, accommodating two 1.5-2 ml tube slots.

HAS-1 hand operator set - includes 2x8 channel adaptors, 3x1 channel adaptors, handheld vacuum controller and stand (see page 166).

Vacuum regulation control knob allows user to smoothly select a preferable aspiration speed.

Applications

- Aspiration/removal of alcohol/buffer from microtube walls during DNA/RNA purification and other macromolecule reprecipitation techniques
- For routine operations of cell washing from culture medium and resuspension in buffer.

FTA-2i

Technical specifications

		
		FTA-1
		Aspirator with trap flask
Dimensions	h x d x w mm	390 x 290 x 185
Trap flask volume	L	2
Vacuum	mbar	-200 to -800 (adjustable)
Flow rate (aqueous solution)	ml/min	72 with aspiration tip 666 without aspiration tip
Aspiration speed	l/min	Up to 10 (air)
Filter pore diameter		0.027 micron
Liquid level sensor type		Invasive
Overflow protection		Motor stops, light and sound signal
External power supply		Input AC 120-230V, 50/60Hz Output DC 12V
Power consumption	W	10.8 (1A)
Input voltage	V dc	12
Weight	kg	1.85

FTA-2i

Options and accessories

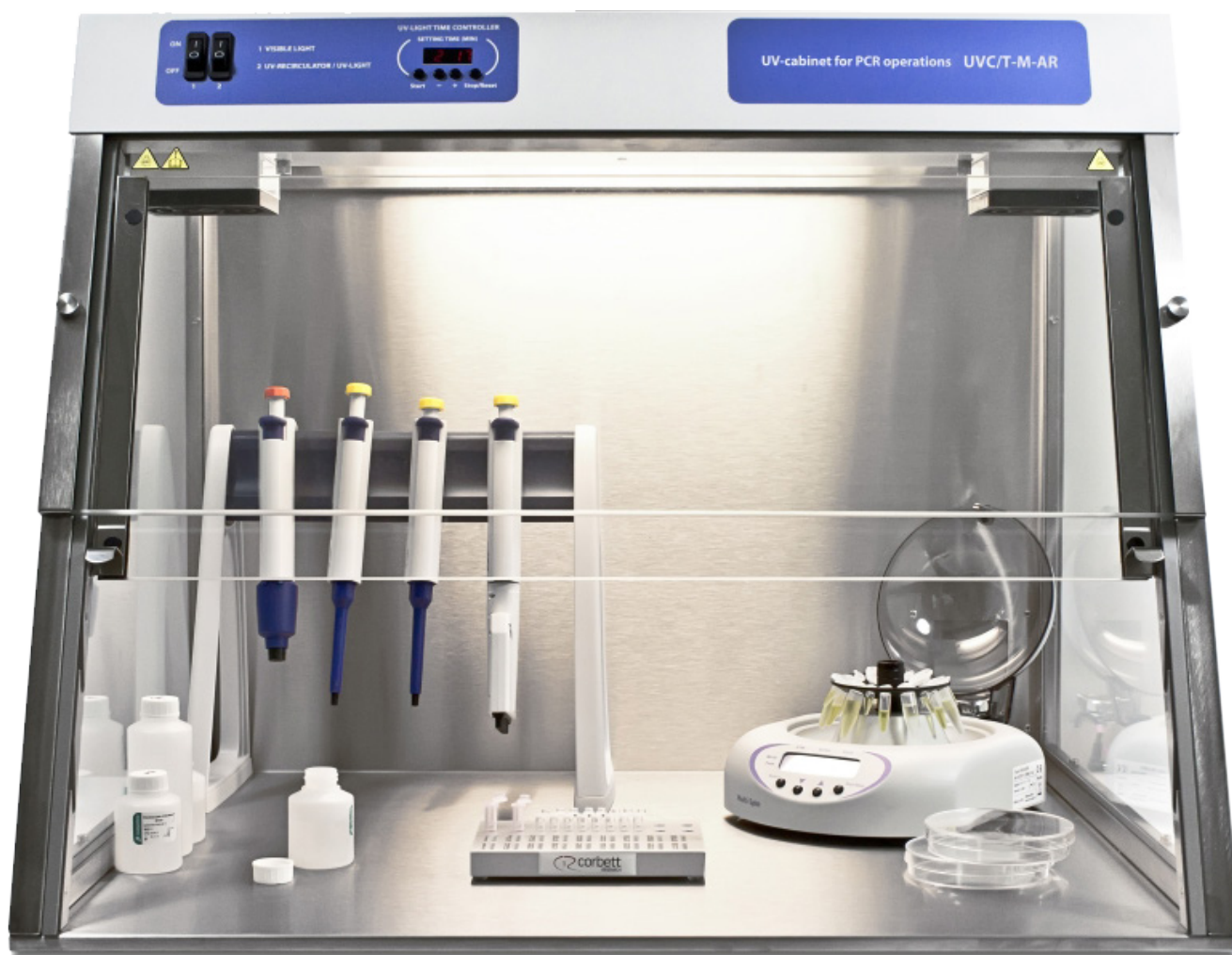
HAS-1		Hand operator set, includes handheld vacuum controller, 1-channel adapter (with ejector) for 200 µL tips, 1-channel adapter with 125 mm stainless steel pin, 1-channel adapter with 40 mm stainless steel pin, 8-channel adapter (with ejector) for 200 µL tips, 8-channel adapter with 35 mm stainless steel pin- and SH-6 stand.
MA-8		8 channel adaptor kit, includes tube adaptor, 8 channel aspiration tip, 8 channel tip holder

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PCR UV Cabinets

Single benchtop general purpose PCR UV cabinets

UVC/T-M-AR general purpose PCR UV cabinet

UVT-B-AR economy general purpose PCR UV cabinet

PCR UV cabinet workstation

UVT-S-AR PCR UV workstation

PCR UV Cabinets

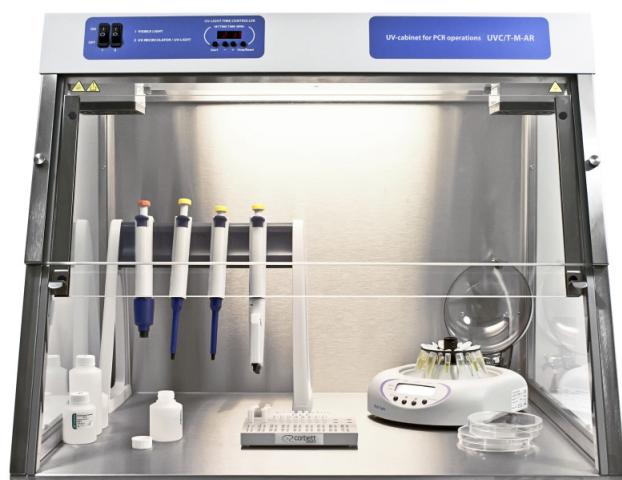
DNA/RNA

Advanced range of benchtop UV cabinets. Provides aseptic conditions for a range of biomedical and biochemical procedures. The innovative dual UV system, with built-in UV-air recirculator delivers constant decontamination of air volume inside the cabinet at the same time as working on traditional surface UV decontamination when the door is closed.

UVC/T-M-AR – stainless steel general purpose PCR UV cabinet

UVT-B-AR – economy PCR UV cabinet

UVT-S-AR double PCR workstation – stainless steel



UVC/T-M-AR



UVT-B-AR



UVT-S-AR

UVT-S-AR

Double PCR workstation

Large capacity stainless steel UV cabinet with additional space for equipment and accessories to allow for more comfortable and convenient working in PCR applications. Dual UV lamp protection.

Robust construction with large, 1.2m x 0.52m working area

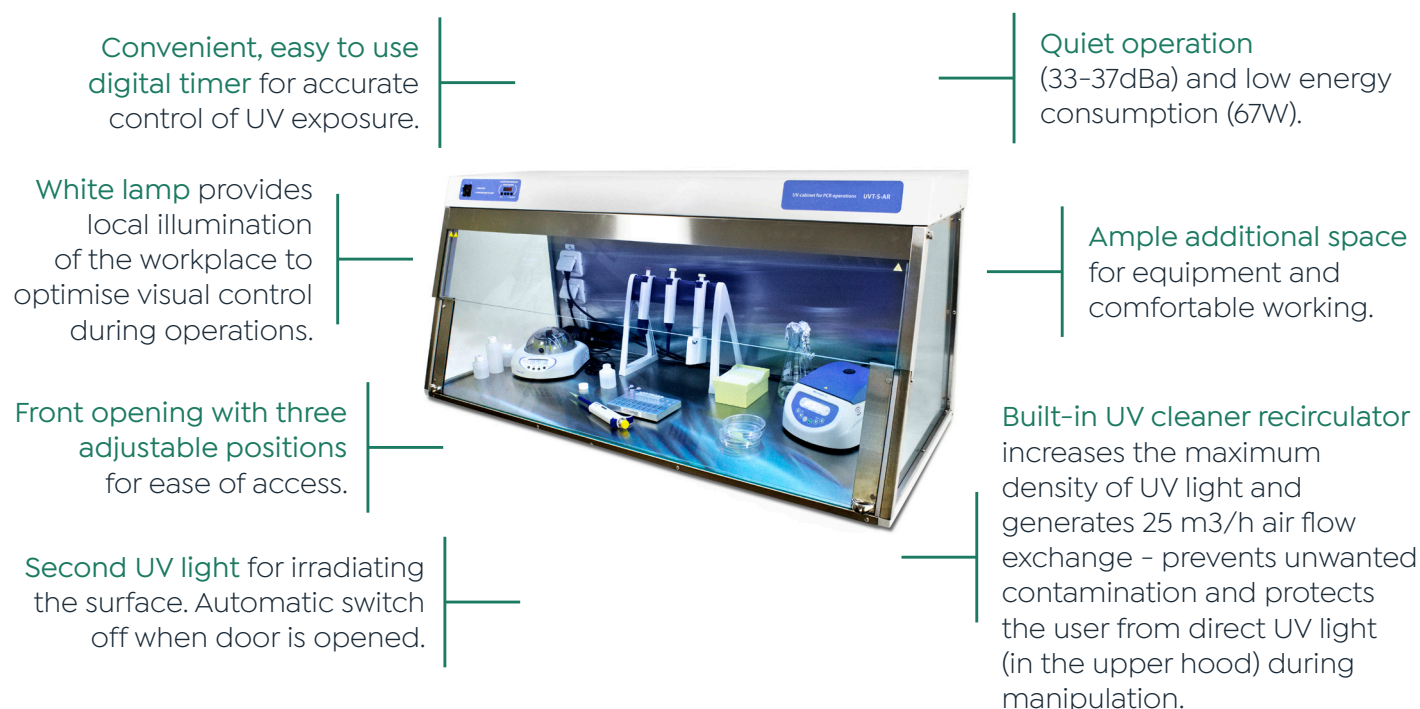
UV surface irradiation – dual 30W 254nm UV lamp

High intensity UV air cleaner – 25 m³/hour cleaner recirculator continuous air flow with 1cm UV irradiation distance

UV protection – UV protective film on glass panels

UV exposure control – 24 hour digital timer

3 built-in power sockets



Applications

- Life-science – germicidal and virucidal, inhibition of DNA and RNA contamination, applications requiring no residual decontaminants such as disinfectants, operations with DNA/RNA amplicons, microbial research

UVC/T-M-AR

Stainless-steel general purpose PCR UV cabinet

Robust general-purpose stainless-steel UV cabinet designed for clean operations with DNA samples, with dual UV lamp protection.

Convenient, easy to use digital timer for accurate control of UV exposure.

White lamp provides local illumination of the workplace to optimise visual control during operations.

Second UV light for irradiating the surface. Automatic switch off when door is opened.

Stainless steel work surfaces, glass sides for visibility and light.



Product highlights

- UV surface irradiation – via single 25W 254nm open UV lamp
- High intensity UV air cleaner – 25 m³/hour cleaner recirculator continuous air flow with 1cm UV irradiation distance
- UV protection – UV-protective film on glass panels
- UV exposure control – 24-hour digital timer



Built-in UV bacterial cleaner recirculator increases the maximum density of UV light (in the upper hood) and generates 25m³/h air flow exchange - prevents unwanted contamination and protects the user from direct UV light during manipulation.

Front opening with three adjustable positions for ease of access.

Quiet operation (33-37dBa) and low energy consumption (67W).

Applications

- Life-science - germicidal and viricidal, inhibition of DNA and RNA contamination, applications requiring no residual decontaminants such as disinfectants, operations with DNA/RNA amplicons, microbial research

UVT-B-AR

Economy PCR UV cabinet

Economy bench-top model for protection against contamination during a variety of DNA/RNA procedures, with dual UV lamp protection.

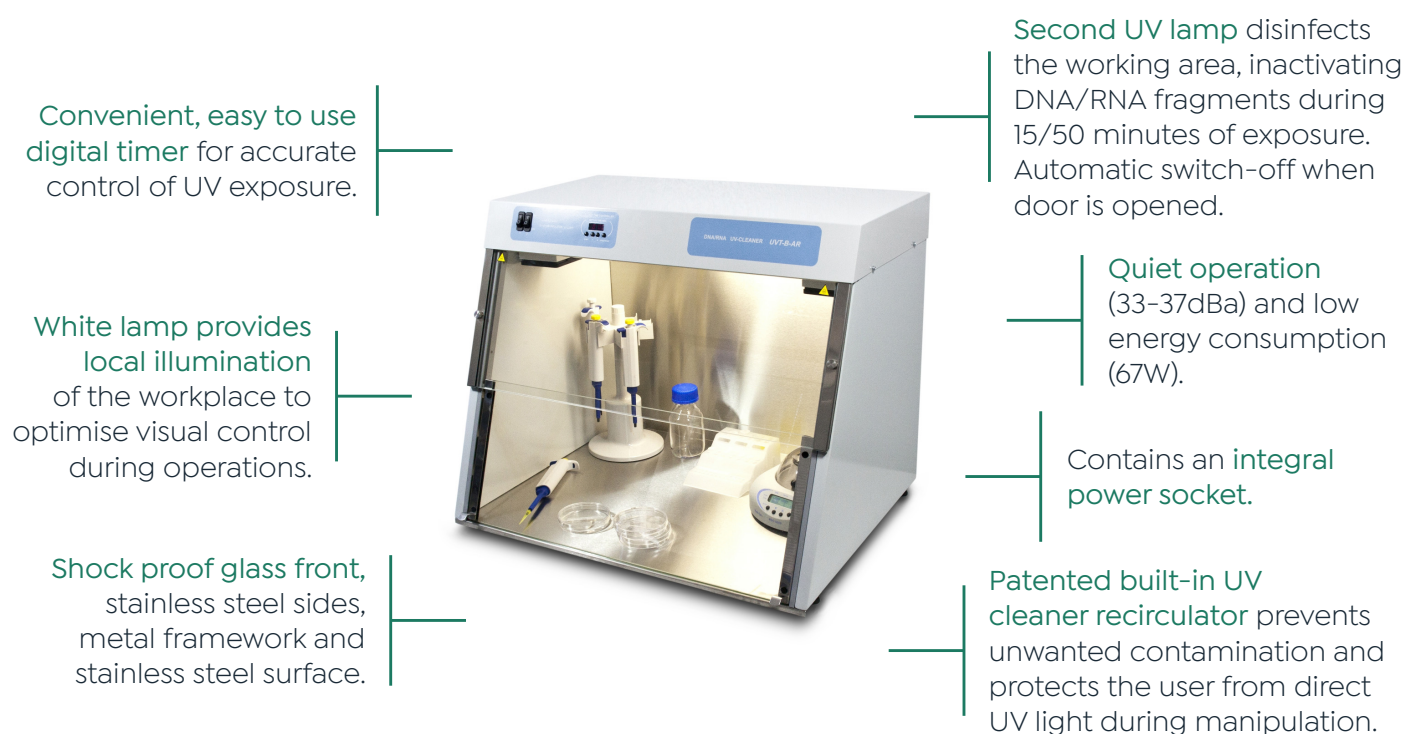
UV surface irradiation - via single 25W 254nm open UV lamp

High intensity UV air cleaner - 25 m³/hour cleaner recirculator continuous air flow.*

UV exposure control - 24-hour digital timer

Built-in power socket

UV protection - UV protective film on glass panels

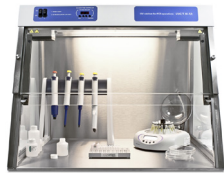


Applications

- Life-science - germicidal and virucidal, inhibition of DNA and RNA contamination, applications requiring no residual decontaminants such as disinfectants, operations with DNA/RNA amplicons, microbial research.

PCR UV Cabinets

Technical specifications

						
		UVC/T-M-AR		UVT-B-AR		UVT-S-AR
		General purpose		General purpose economy		PCR workstation
		UVC/T-M-AR	UVC/T-M-AR SKT	UVT-B-AR	UVT-B-AR INL	UVT-S-AR
Dimensions	h x d x w mm	555 x 515 x 690		555 x 585 x 690		585 x 585 x 1245
Construction		Stainless steel frame and working area				
Panels		Glass with UV-protective film				
Front opening with three adjustable positions		•				
Open UV lamp, 25W bactericidal, 254nm, ozone free		1			–	
Open UV lamp, 30W bactericidal, ozone free		–			2	
Bactericidal air recirculator, 25m3/h air flow exchange		•				
UV recirculator, 25W (efficiency >99% per 1 cycle)		1			–	
UV recirculator, 30W (efficiency >99% per 1 cycle)		–			1	
White lamp for workplace illumination	15W	1			–	
	30W	–			1	
Radiation type		Ultraviolet (253.7m), ozone free				
Optical transmission		95%				
Digital timer 0 to 24 hours		•				
Internal power outlets		–	1	–	3	
Internal working area mm		650 x 475			1200 x 520	
Flow rate m3/h		7				
Power consumption	230V W	67 (0.3A)			530 (4.5A)	
	120V W	–			315 (1.4A)	
Nominal operating voltage V		120 or 230 (50–60Hz)			120 (60Hz) or 230 (50Hz)	
Weight kg		31	31		58	

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UV Cleaner-Recirculator

UV cleaner-recirculators

UVR-M UV cleaner-recirculator general purpose, one lamp

UVR-Mi UV cleaner-recirculator advanced, two lamps

UVR-M

UV cleaner-recirculator

Easy to use UV cleaner-recirculator ideal for air disinfection in research laboratories and clinics. UV air flow cleaner-recirculator consists of one germicidal UV lamp, a fan unit equipped with dust filters and a control unit confined in a flow through chamber.

Full user protection from direct UV radiation

Simple to operate

Convenient fixation on walls or mount on a movable tripod (optional)



Applications

- Kindergartens, research laboratories, veterinary clinics, schools and offices.

UVR-Mi

UV cleaner-recirculator

Powerful and efficient UV cleaner-recirculator with two UV lamps providing air disinfection in research laboratories and clinics. UV air flow cleaner-recirculator consists of two germicidal UV lamps, a fan unit equipped with dust filters and a control unit confined in a flow through chamber.

Full user protection from direct UV radiation

Two operation modes - short time (under timer control) and continuous operation

Simple to operate

Convenient fixation on walls or mount on a movable tripod (optional)



Two UV lamps for more powerful UV air disinfection.

Easy to read LCD screen for better control over the device performance.

UV lamp lifetime counter indicates number of working hours left in the lamp.

Convenient fixation on walls. Optional mounting on a movable tripod for easy transportation.

Quiet operation (33-37dBa) and low energy consumption (150W).

Extremely quiet in operation - fits unobtrusively in the workplace.

Integral digital timer - 1 min to 24 hours or non stop operation.

Automatic ON/OFF switch - no need to turn the device on and off.

Lamp fault detection indicates UV lamp failure.

2 year warranty

Made in Europe

Applications

- Kindergartens, research laboratories, veterinary clinics, schools and offices.

UV cleaner-recirculators

Technical specifications

			
		UVR-M	UVR-Mi
		UV cleaner-recirculators	
Dimensions	w x d x h mm	110 x 135 x 660	110 x 135 x 660
UV radiation source		1 lamp	2 lamps
25W Bactericidal, TUV25WG13 UV-C			
UV air flow productivity	m3/hour	14	
UV radiation level		18 mW / cm2 / sec	36 mW / cm2 / s
Full user protection from direct UV light		•	•
Display		-	LCD
Timer		-	1 min-24 hrs / non-stop
Wall bracket		•	
UV lamp operation indicator		•	
UV lamp lifetime counter		-	•
Automatic ON/OFF switch		-	•
Lamp fault detection		-	•
Power consumption	230V	125VA (540mA)	110W (0.5A)
	120V	160 VA (1.3A)	110W (0.5A)
Nominal operating voltage		230V (50 Hz) or 120V (60 Hz)	230 V (50 Hz)
Weight	kg	3.4	3.4

UV cleaner-recirculators

Options and accessories

		UVR-M	UVR-Mi
UVR-S		Moveable tripod	•

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Temperature Gradient Plate

GRD1

Temperature gradient plate for seed germination efficacy testing

GRD1 LH

Temperature gradient plate with integral light hood for seed germination efficacy testing. Custom light hoods available on request.

GRD-1

Temperature gradient plate

Highly efficient bi-directional temperature gradient system for investigating responses to temperature shifts of seeds, small plants, insects, micro-organisms or any small component or material. Heating one edge of a square aluminium plate and cooling the other results in a temperature gradient across the entire plate.

Temperature range: +5 to 30°C (cold edges)

Temperature range: ambient +5 to 45°C (hot edges)

Removable perspex grid divides working area into 196 mini-incubators

Multi-channel Squirrel data logger (included as standard) for recording time and temperature

Over temperature protection is provided on each edge by fixed temperature cut-outs

Removable perspex grid effectively divides the working area into 196 miniature incubators, each with a different temperature regime - allows many samples to be tested without the need for separate controlled environment chambers.

An adjustable timer controls the length of the two phases within the 24 hour cycle which automatically switches the gradient direction as programmed.



Robust, fully integrated system. Fitted with wheels for easy manoeuvrability.

Bespoke light hoods including full spectrum LED's are available on request.

Multi-channel Squirrel data logger for recording time and temperature from five probes positioned underneath the plate - one in each corner and one in the centre - for post-cycle analyses on a PC.



Developed from a design originating from Dr A. J. Murdoch and Professor E.H. Roberts of Reading University, Department of Agriculture.

The gradient plate can be customised to suit your application, please email salesdesk@grantinstruments.com or call +44 (0) 1763 264 741 for further information.

GRD-1

Applications

Overcoming seed dormancy

Dormant seeds often require moist storage (stratification) to help break their dormancy. The GRD1 can help to quantify temperature effects in seeds during warm stratification as carried out by Kebreab & Murdoch, (1999a).

Seed germination at constant temperatures

The GRD1 allows germination tests to be carried out over a very wide range of temperatures for both dormant and non-dormant seeds. Interaction with other factors such as water stress and chemicals can also be studied and modelled as was done by Kebreab & Murdoch (2000).

Seed germination at alternating temperatures

The GRD1 will operate with the temperature gradient for part of the day in one direction and then at right angles to that direction for the rest of the day. Therefore, the GRD1 can provide 196 different thermal environments. The effects of constant and alternating temperatures at two thermoperiods were quantified in several species by Kebreab & Murdoch (1999b).

With many plants, particularly small-seeded species, the GRD1 provides an extremely powerful tool (Murdoch et al., 1989). Optimum temperatures are easily identified, and sufficient data is available to understand and model the responses to temperature. Interactions with dormancy-relieving factors may also be investigated.

Germination rates

The GRD1 has been invaluable in such studies as the evaluation of thermal time required for germination. Examples include Ellis & Barrett (1994) and Kebreab & Murdoch (1999C).

Other applications

Apart from the size constraints (the GRD1 is suitable for samples up to 30mm in diameter); uses are only limited by imagination. For example, parasitism of insects by nematodes has been tested by Ratnasinghe and Hague (1998). Our GRD1 and GRD1 LH are in use worldwide as critical tools in various fields, namely:

Seed Preservation	Kew Gardens and other establishments worldwide (particularly Australia and China) within the Millennium Seed Project Partnership.
Biofuel Research	Ceres, California USA.
Food Crop Research	Scottish Crop Research, International Rice Research Institute (IRRI), Philippines.
Plant Pest Diagnostics	California Department of Food & Agriculture (CFDA).

GRD-1

Technical specifications



GRD1	
Temperature gradient plate	
Dimensions	h x d x w mm
Weight	kg
Temperature range	cold edges °C
	hot edges °C
Stability	±°C
Setting resolution	°C
Display	
Display resolution	°C
Time/temperature recording via Squirrel data logger	
Working area	mm
Electrical power	230V 50Hz W
EMC (emissions)	
Weight	kg

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Inspissator

TBT-T100IN

Inspissator for the production of tuberculosis culture medium

Inspissator

Production of tuberculosis culture medium

Convenient and effective system designed to produce large batches of uniform tuberculosis culture medium four to six times per day. Vessels containing culture medium are incubated on a shallow tray that is in contact with water held at a constant temperature of 85°C within a tank, to allow the temperature of the vessels to remain constant. Inspissation takes 50 minutes at 85°C.



Constant level device
maintains required liquid
level for optimal operation.

Water temperature under the tray is
controlled by a digital heated circulator
for accuracy and reproducibility of set
temperature. All moving parts are
incorporated in the control unit which
is easily removed for cleaning.

Clear 4 digit display - easy
to read from a distance
for instant re-assurance.



Product highlights

- Temperature range: ambient +5°C to 100°C
- Standard temperature: 85°C
- Robust durable design, with digital temperature control
- Capacity for up to 156 test tubes (16mm diameter x 150mm long) or 162 universal containers



An insect resistant blanket and quilt are placed over the containers to provide thermal insulation and exclude draughts.

Robust and durable construction
- the tray, tank and outer case are made of polished stainless steel.

A fixed over temperature cut-out protects users, valuable samples and the workplace.

Developed in conjunction with Professor Mitchison of the Royal Postgraduate Medical School of London University and used in a number of tuberculosis laboratories which are assisted by the World Health Organisation (WHO).

According to the WHO statistics, TB kills more young people and adults than any other infectious disease in the world. It causes more deaths than AIDS and Malaria combined. Although the use of penicillin and antibiotics have caused the decline of this disease in some countries, hot spots of this illness still exist in eastern Europe, south east Asia and sub-Saharan Africa. Numbers that were appearing to decrease began to rise again in the 1980's with the emergence of AIDS. Scientists now say that the number of people with TB around the world has reached a ten-year high. The very cost-effective Grant Inspissator means that it is used extensively in these areas and assists in the diagnosis of this serious disease.

Inspissator

Technical specifications



		TBT-T100IN
		Inspissator
Dimensions	h x d x w mm	380 x 600 x 1040
Weight	kg	43
Temperature range	°C	Ambient +5 to 100
Standard temperature	°C	85
Uniformity	±°C	0.7 (tray)
Display		LED
Display resolution	°C	0.1
Heat up time 20 to 85°C	hrs	3 hrs
Working area/tank opening	mm	820 x 594
Tank capacity (nominal)	L	45
Safety (over temperature protection)		Fixed cut-out
Electrical power	230V 50Hz W	1400
	120V 60Hz W	1500
Heater power	230V W	1290
	120V W	1440
Voltage	V	120 or 230
Weight	kg	43

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Cyropreservation

CRF-1

Liquid nitrogen and cryogen free controlled rate freezer for cryopreservation

CRF-1

Controlled Rate Freezer

The CRF-1 liquid nitrogen and cryogen free controlled rate freezer brings accuracy, precision and reproducibility to biological cryopreservation. This unit is ideal for research into the cryopreservation of a wide range of material including embryos, stem cells, mammalian cells, spermatozoa, antibodies, tissue sections and rodent organs.

The CRF-1 has been developed to minimise and reduce the risk of contamination and designed for use in cleanrooms and barrier facilities. The CRF-1 fits neatly on a bench-top. Its performance of cell viability after freezing is equal if not more advanced to comparable liquid nitrogen freezers. As alcohol is not used, there is also a greatly reduced fire risk. The CRF-1 will cool down to -100°C with straws.

The cooling rate of the CRF-1 is precisely controlled, ensuring accuracy and reproducibility throughout the freezing profile, especially for the important nucleation/seeding phase. This provides optimal recovery of cells on thawing. Operation is simple and can be carried out with or without a PC; data can be logged via PC software and cooling profiles are directly displayed on PC screen. Different cooling profiles are available from a drop-down menu and customised profiles can be written.



CRF-1

Controlled Rate Freezer

Main applications

The CRF-1 is highly versatile and can be used for the cryopreservation research of a wide range of samples in cryovials, straws, bags, microplates and Matrix-96-well block plates in the following areas:

- Transgenic embryos research
- Stem cell research
- Clinical and research samples, e.g. lymphocytes and tissue cell lines in conventional cryovials
- Various mammalian cells including cardiomyocytes, adipose, liver and muscle
- Cord blood derived stem cells
- Adherent cells and stem cells in microplates
- Cell suspensions in numbered/barcoded arrays
- Robotic integration – the CRF-1 has also successfully been integrated into robotic systems
- Suitable for applications in veterinarian IVF

Key benefits and features

- Accurate and reproducible control of cooling rates and sample temperatures
- Easy to use and samples can be nucleated/seeded in-situ
- Linear and non-linear cooling profiles
- Low running costs: estimated at 1% of liquid nitrogen-controlled rate freezing
- Temperature remains at -100°C at the end of cycle for straw applications until freezer is switched off
- Un-interruptible Power Supply (UPS): complete cycle run if power fails (supplied as an optional accessory)
- CE marked (laboratory use)
- Servicing and calibration available
- 3 year warranty



CRF-1

Technical specifications



CRF-1	
Controlled rate freezer	
Dimensions	w x d x h mm
Weight	Kg
Max plate temperature	°C
Min plate temperature	°C
Temperature accuracy	±°C
Temperature stability	±°C
Temperature uniformity	±°C
Max cooling rate	
Max temperature stabilisation time	

264 x 367 x 445

9.8

30

-80 or -100 (dependent on model)

0.5

0.1

1.0

10°C /min

5 minutes

CRF-1

Optional accessories and services

CRF-1 API	API package which unlocks the CRF-1 for use with users own application
CAL CRF-1	Calibration certificate
CRF-1 MAINT 1	1 year maintenance agreement includes clean and test report (excludes repair and replacement of faulty parts)
IQOQ CRF-1	IQOQ Booklet for CRF-1
PQ CRF-1	PQ Booklet for CRF-1
CRF-1 CRYOPEN	Cryopen nucleating tool
CRF-1 CARTRIDGE	Replacement cartridge for Cryopen
CRF-1 UPS	Un-interruptible Power Supply for the CRF-1 for a 3 hour cycle in the event of an electrical power failure. 220-240v operation.

CRF-1

Controlled Rate Freezer

Product range

The range includes various models which provide optimum performance for a specific common vessel or can accommodate two different types vessels although only one type can be used at a time. The options include:

CRF-1 H00		Plate for 16 x 0.5ml CBS high security straws
CRF-1 H01		Plate for 18 x 0.3ml IMV straws
CRF-1 H02		Plate for 55 x 1.8ml cryovials (0.5ml max fill)
CRF-1 H03		Flat plate for various items/vessels
CRF-1 H05		Plate for 1 x SBS microplate
CRF-1 H06		Plate for 55 x 1.8ml cryovials (1.0ml max fill)
CRF-1 H07		Plate for 10 x 0.5ml CBS high security straws & 12 x 1.8ml cryovials (0.5ml max fill)
CRF-1 H08		Plate for 12 x 0.3ml IMV straws & 12 x 1.8ml cryovials (0.5ml max fill)

Custom heads are available on request. We recommend sample tubes are sent in for exact measurements and tolerances.

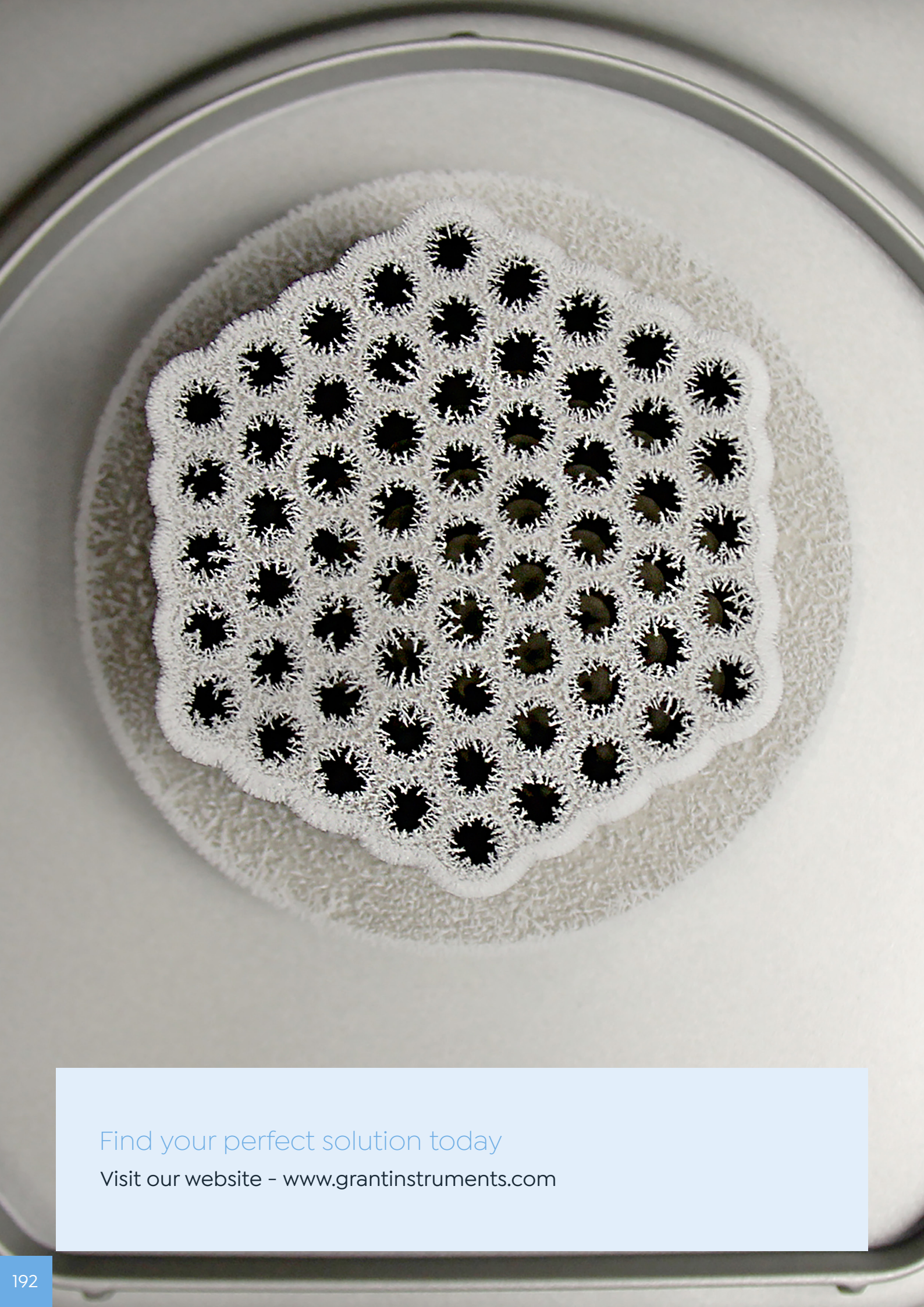
Note: The CRF-1 is not a medical device unit.

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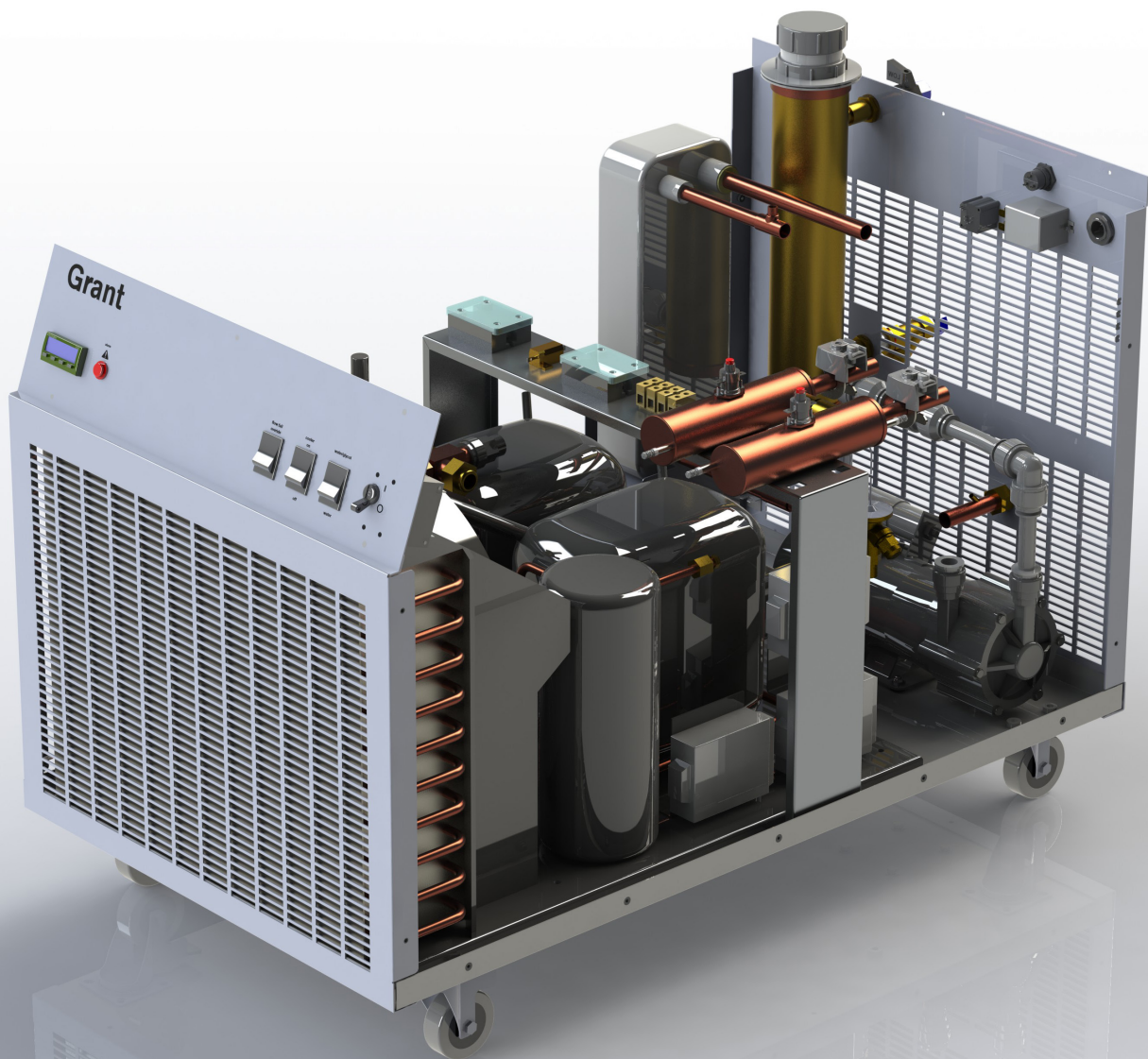
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Custom, OEM and Private Label

We create custom solutions to meet your specific needs. Working across many applications from temperature calibration to research, we have completed over 6,000 projects worldwide to date. We have both the capability and resource in-house, making us your partner of choice for private label and OEM projects.

Custom, OEM and private label projects

Grant Instruments has been developing and supplying controlled heating, cooling and sample preparation equipment for over 60 years. Our products are used worldwide in scientific education, research and industry. Grant is renowned for its high quality products and innovative design which is why we are the partner of choice for companies looking to embark on Private Label or OEM projects.

What we can offer you?

We have partnered with companies large and small, to deliver a range of solutions where there is a need for a robust, accurate and reliable temperature control or life science product. Along with several off-the-shelf products, we offer custom solutions based around our capabilities to a wide range of markets from scientific, healthcare to industrial. Our aim is to design and build solutions that work for you and that meet your specific needs, with an end-to-end partnership approach.

Our experience

Since 1951, Grant have built up a global reputation for designing and building innovative products and solutions across scientific, healthcare and industrial markets. We have successfully supplied and designed a range of custom products to defence, aerospace, petrochemical, electronics, semiconductor, industrial, horticultural and life-science markets, supporting customers such as The Max Planck Institute, NHS, Johnson Matthey, Rolls Royce, Leica, Thales Optics, Xennia, Xaar, Inca and Universal Sensors.

Our core capabilities

- Precision thermal control, heating and cooling
- Data acquisition, analysis and communication
- Equipment design, concept to completion project management support
- Professional and dedicated procurement and manufacturing team of experts
- Standards testing, subject to customer needs
- Service contracts and calibration options



Project management

We are proud to have our own in-house engineers that have extensive experience of incorporating concepts into products that address your specific needs. Our deep-rooted understanding on a wide range of applications from accurate temperature control, sample handling and preparation, material testing and quality control, medical analysis and diagnostics, to chemical and pharmaceutical evaluation. Every custom solutions project will be assigned our dedicated Technical Sales Manager - Custom and PL to support from design through to production and delivery.

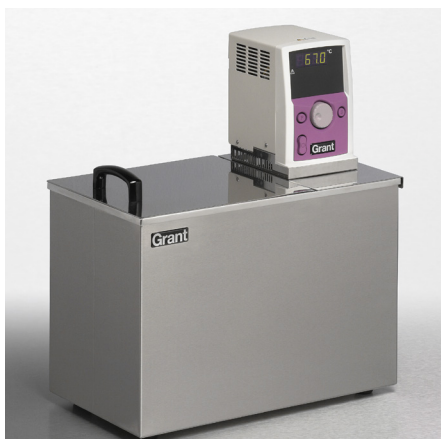
Research, design and development

By listening to your needs, we design and deliver solutions to meet your requirements. Research, design and development are all managed in-house by our experienced teams in the UK, for added peace of mind. From concept to completion you will be kept up to date and informed. Full project timing plans including specific project gateways, design sign offs and milestones can be tailored to suit your specific needs.

Our in-house service

We work to ISO 9001:2015 and ISO 14001:2004 quality standards, utilising our core technical competencies to design and manufacture specialist products. We offer the complete solution, blending a full design service through to manufacture and delivery. Our expertise in custom equipment ensures your project is delivered on time and to the exact specifications.

Unable to find the solution you are looking for from our standard product portfolio? Our team of experienced and highly qualified professionals love a challenge and are on hand and happy to help you with your requirements. Contact us on: +44 (0)1763 260 811 or email salesdesk@grantinstruments.com or visit www.grantinstruments.com.



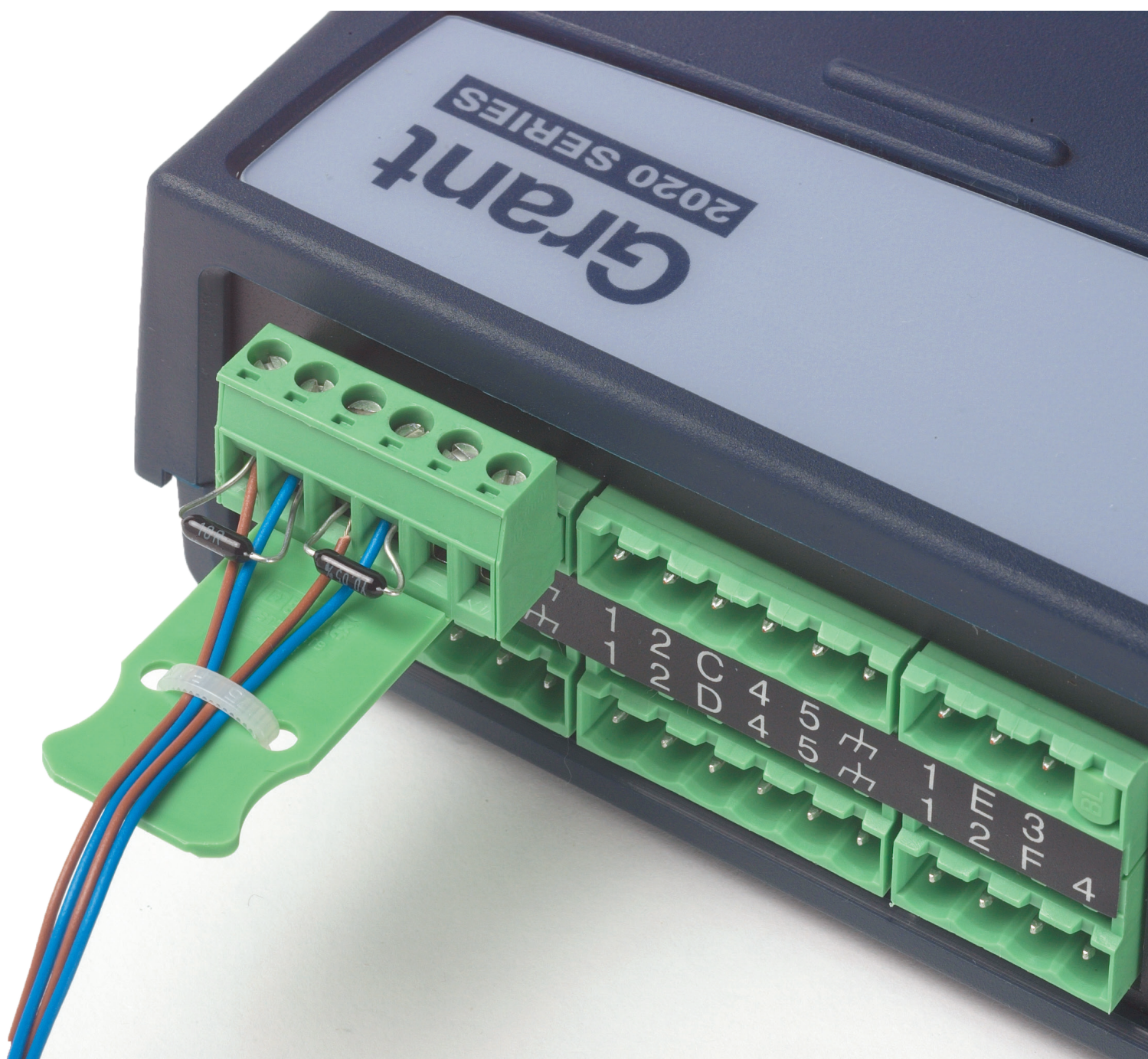


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Grant Data Loggers

Grant Squirrel range of data loggers

Universal data loggers

Grant YoYo range of data loggers

Small robust data loggers

DataTaker® range of data loggers

Specialised rugged loggers

Grant data loggers

Grant have led the way in the development and manufacture of data loggers and data acquisition since the introduction of personal computing in the 1970's. We deliver high quality, easy to use data logging equipment with the flexibility and performance demanded in many cutting-edge technology applications. We work across applications such as research, quality assurance and production monitoring in industry, life and environmental sciences and laboratory use.

We offer three different ranges of data loggers for a variety of industries and applications. Choose from the market leading Squirrel range of universal data loggers, the small robust range of YoYo loggers and the dataTaker® range of specialised loggers. From simple data logging tasks measuring one or two parameters to complex industry specific multichannel data acquisition, we offer data logging solutions to meet your specific requirements.

Grant Squirrel range of data loggers

The Grant Squirrel range of data loggers accept universal data inputs and can be used with almost any type of sensor signal. The loggers offer excellent reliability, combined with ease, making the loggers suitable for many applications. Portability is a key feature of the battery powered data loggers, the loggers can also be powered via a mains adapter for added flexibility. Versatile in application with low power requirements, the Grant Squirrel data loggers set the standard for portable data loggers, together with simplicity of operation and high accuracy measurement.

The complete Squirrel range offers loggers with input for 4 to 32 analogue sensors, with USB connectivity as standard and options including Wi-Fi and Ethernet for networking. Powerful, intuitive, versatile SquirrelView configuration and analysis software is supplied with our Squirrel data loggers enabling easy and reliable data logging.

Our portable Squirrel data loggers are ideal in many applications such as, field studies in polar regions or in the tropics to monitoring conditions deep underground in mining processes to collecting data whilst in orbiting the earth in spacecraft.



Grant YoYo range of data loggers

The small, robust and highly accurate YoYo loggers are ideal for every application, measuring multiple types of physical parameters. These neat loggers give high accuracy readings in a small, robust casing. The range include models with integrated measurement sensors, fixed external sensors and or fully programmable input for interchangeable sensors.

Grant's YoYo loggers are used to measure parameters such as humidity, light, voltage, current, pressure and temperature. The small size means the loggers can be placed almost anywhere indoors or outdoors and left unattended over many months, years in some cases, collecting accurate and reliable data.

Our rugged YoYo loggers are ideal for a wide range of applications in environmental monitoring, agriculture, laboratories, R&D and facilities monitoring.

dataTaker® range of data loggers

DataTaker is one of the world's leading brands of general purpose and specialised data loggers and data recording equipment. We supply to a wide range of customers across many industries including environmental, industrial, construction, manufacturing, process management, scientific, laboratory and education.

DataTaker loggers are designed to be compatible with almost all types of sensors, with a strong focus on communications to make your data easily accessible.

If you would like to more information email salesdesk@grantinstruments.com or call +44 (0) 1763 264 741.

Other data acquisition products

Grant joined forces with Eltek in 1985 to strengthen our product portfolio offering, Eltek specialise in the design and manufacture of wireless data logging systems based on the Squirrel data logger.

Typical applications for Eltek wireless data loggers include monitoring in buildings, hospitals, cold stores, warehouses, museums and galleries. Visit www.eltekdataloggers.co.uk for more information.





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Grant services

Product range

Our dedicated team provides a comprehensive worldwide technical service, supporting you with your product repairs, calibration and service needs. We now offer service contracts, available on request. More information on our services department or how you can book in your product can be found here: www.grantinstruments.com. If you would like to learn more about the service contracts, our team are more than happy to help, email: salesdesk@grantinstruments.com or call us on: +44 (0)1763 260 811.

Technical support

Our expert technical support team will answer any technical questions you may have on scientific products and applications, data acquisition products and product accessories. Call us on: +44 (0)1763 260 811 or send an email to support@grantinstruments.com.

Quality management

Quality underpins all that we do. Our primary focus is to be renowned globally as a trusted and recognised brand that strives to meet customers' needs and expectations and to maintain our established reputation. We are committed to providing the highest standards in design, manufacture, quality and customer service and in recognition of this, Grant holds a BS EN ISO 9001:2015 certificate for compliance. More information can be found here: www.grantinstruments.com.

Sustainability

We are fully committed to reducing environmental impact and always researching new technologies that can provide a more efficient portfolio of products, offering you our range of energy efficient and environmentally friendly laboratory equipment for a sustainable future. We have the ISO 14001:2015 certificate in place and are compliant with many governing organisations to ensure we are a sustainable and responsible business. We also fully comply with Waste Electrical & Electronic Equipment (WEE) regulations, to show our commitment to responsible recycling. More details on how we play our part can be found here: support@grantinstruments.com.

Warranty

Grant sells its products with the intent that they are free of defects in manufacture and workmanship. We offer a market leading four year warranty on refrigeration products and further warranties that cover a three year, two year and one year period depending on the product purchased. The warranty is effective from the date of original purchase to the end date it is valid to. For peace of mind, we also offer extended warranty. If you wish to return or have an issue with any of our products within the warranty period, please contact us on: +44 (0)1763 260 811 or email support@grantinstruments.com. You can also activate your warranty online www.grantinstruments.com.

IQ/OQ/PQ and calibration services

IQ/OQ/PQ documentation assure that instrumentation is installed and running according to manufacturer specifications. All documentation is supplied to help you prepare for your quality and regulatory audits. We provide temperature calibration when you order, annual checks or a return-to-base service. For more information and prices contact sales on: +44 (0)1763 264741 or email salesdesk@grantinstruments.com or visit www.grantinstruments.com.

Application support

Are you having trouble with a protocol or require guidance on how one of our products would best fit your application? We are happy to help you. Call +44 (0)1763 264741 or email salesdesk@grantinstruments.com.

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About Grant

Founded in 1951 in the UK, Grant is a renowned leader in the design, manufacture and supply of innovative scientific temperature control products and data acquisition technologies to the scientific, healthcare and industrial markets worldwide.



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