T100, Stirred Thermostatic Baths and Heating Circulators

DESCRIPTION

A cost-effective range of multi-purpose systems combining. Grant's legendary quality and reliability. Precise temperature control for a wide range of laboratory applications.

- Accurate and safe temperature control — for samples and users;
- Intuitive programming and thoughtful design features —makes working with Grant stirred baths and circulators easy;
- Robust, durable construction — for longevity, reliability and long-term low cost of ownership.

APPLICATIONS:

Grant stirred baths and circulators provide a source of precision heating and cooling for many routine and sensitive analytical procedures including sample incubation, calibration and quality control testing.

T100-ST5

T100-ST12

SPECIFICATIONS

Cooling*/heating range	
T100-P5	amb. +15 ... 99°C
T100-P12	+5 ... 99°C
T100-ST5	+15 ... 100°C
T100-ST12	0 ... 100°C
Stability @ 70°C	±0.05°C
Uniformity @ 70°C	±0.1°C
Setting resolution	±0.1°C
Tank volume	5 or 12 litres
Display	4 digit LED
No. of pre-set temperatures	3
Recalibration points	2
Safety overtemperature	fixed
Heater power (230 V)	1.3 kW
Height above tank rim	200 mm
Depth below tank rim	135 mm

* Operation below ambient temperature requires accessory cooling C1G (A)

(A) Accessory cooler, C1G

ORDERING INFORMATION

	Cat. number
T100-P5 (plastic, 5 litres)	T100-P5 EURO
T100-ST5 (stainless steel, 5 litres)	T100-ST5 EURO
T100-P12 (plastic, 12 litres)	T100-P12 EURO
T100-ST12 (stainless steel, 12 litres)	T100-ST12 EURO

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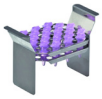
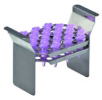
Accessories for T100 with 5/12 Litres Steel/Plastic Tanks

ACCESSORIES

	Lids to help reduce evaporation/ heat loss and avoid sample contamination	**Rack systems** to optimise use of available bath capacity (no. of racks accommodated)	**Raised shelves** to allow shallow vessels to be accommodated	**Accessory cooling systems** to allow systems to operate at or below room temperature by means of cooling coil dipped into the bath; designed for minimal impact on working area		
				Refrigerated immersion coolers Consist of a cooling coil connected to a refrigeration unit by a flexible pipe. Extract heat continuously, with the bath control unit controlling temperature		**Heat exchange coil** Designed to be attached to a supply of cooling tap water or a refrigerated circulator
				C1G (0 to 40°C)	C2G (–15 to 40°C)	CW5 (2°C above coolant temperature)
ST5 – 5 L stainless steel 3 kg H: 200 mm L: 330 mm W: 180 mm 	**STL5** flat stainless steel 	1 × QR 	—		—	
ST12 – 12 L stainless steel 4.5 kg H: 200 mm L: 360 mm W: 330 mm 	**STL12** gabled, hinged (removable) stainless steel 	2 × VR 	RS14 		—	
P5 – 5 L plastic 3.5 kg H: 180 mm L: 415 mm W: 350 mm 	**PL5** flat, stainless steel 	1 × QR 	—	—	—	—
P12 – 12 L plastic 5 kg H: 180 mm L: 600 mm W: 365 mm 	**PL12** curved plastic 	2 × VR 	RS14 	—	—	—

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

J2 Racks	Tube size ø	Capacity
QR-13	10–13 mm	30
QR-19	16–19 mm	16
QR-24	24 mm	10
QR-30	30 mm	5
QR-SE	0.5 ml	44
QR-LE	1.5 ml	35

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ecocool, Energy efficient refrigerated/heating circulating baths

DESCRIPTION

A new range of innovative, eco-friendly, refrigerated heating circulating baths offering significant running cost savings whilst delivering powerful cooling.

Consisting of two models, all products in the ecocool range are**supplied assembled as ready to use kits, complete with accessory hosing, clips and connectors as standard**.

- Choice of two models, temperature range -30°C to 150°C (model dependent)
- Industry leading 4 year warranty with Grant renowned service and support, no registration required
- Active cooling through the whole temperature range
- True energy saving of up to 80% against standard compressor units
- Built in Britain to the highest specifications
- Thermostat and chiller work in harmony, neither will operate alone, eliminating any danger of overheating or freezing
- Single front switch for user convenience
- Modern, sleek, attractive design

APPLICATIONS:

- PHARMACEUTICAL - Mini pilot plant reactors
- EDUCATION - Rotary evaporator cooling, replacement of running tap water cooling, immersing small samples, photometry, chromatography systems
- INDUSTRIAL - QC testing, sample preparation, general cooling, reaction chemistry, temperature control, semiconductor manufacturing, rheometry
- FOOD - Refractometry
- LIFE-SCIENCE - Electrophoresis cooling
- HIGH TEMPERATURE COOLING - Active up to 150°C

FEATURES:

- Bright, full colour display QVGA TFT on 150R model
- 5 languages on 150R model (EN, FR, DE, IT, ES)
- Chiller icon showing variable power use
- Eco icon for energy efficient mode
- 3 programmable temperature pre-sets
- Single front switch for user convenience
- No-spill valved front drain
- Magnetic closure condenser cover, easily removed for cleaning
- USB communication interface
- External temperature probes available
- Relay control in 150R Grant ecocool models
- Thermostat and chiller work in harmony with data link
- One power cable for user convenience
- Unit can be assembled at 90° for alternative placement
- No side vents, locate to suit user, not the unit

CAT. NUMBER

ECOCOOL 100R	230VAC 50/60Hz Euro plug
ECOCOOL 150R	230VAC 50/60Hz Euro plug

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JB Academy, Basic unstirred water baths

DESCRIPTION

An ideal choice for schools and colleges requiring a basic simple-to-use quality water bath. Base tray included as standard. A great value range consisting of three models – 5L, 12L and 18L.

- Ambient +5°C to 95°C
- Unique Set and Forget® technology – fast heat-up, reliable temperature control
- Stability ±0.5°C
- Simple, intuitive controls – quick and easy to set temperature
- Practical front panel lock – disables front panel controls preventing unintentional temperature changes

Applications

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

SPECIFICATIONS

Tank capacity	5 / 12 / 18 L
Temperature range	ambient +5 to 95°C
Temp. display and setting resolution	0.5°C
Temp stability (DIN 12876) @ 70°C	±0.5°C
Nominal operating voltage	120 or 230 V

CAT. NUMBER

JBA5	230VAC 50/60Hz Euro plug
JBA12	230VAC 50/60Hz Euro plug
JBA18	230VAC 50/60Hz Euro plug

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JB Nova, General purpose unstirred water baths

DESCRIPTION

General purpose water baths with stable temperature control, simple interface and fast heat-up. A choice of four models with a base tray and lid included as standard.

- Temperature range ambient +5°C to 95°C operation
- Stability: ±0.5°C
- 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
- Drain tap on 12L, 18L and 26L baths

Applications

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

SPECIFICATIONS

Tank capacity	5 / 12 / 18 / 26 L
Temperature range	ambient +5 to 95°C
Temp. display and setting resolution	0.5°C
Temp stability (DIN 12876) @ 70°C	±0.5°C
User defined calibration points	1
Nominal operating voltage	120 or 230 V

CAT. NUMBER

JBN5	230VAC 50/60Hz Euro plug
JBN5 US	120VAC 50/60Hz US plug
JBN12	230VAC 50/60Hz Euro plug
JBN12 US	120VAC 50/60Hz US plug
JBN18	230VAC 50/60Hz Euro plug
JBN18 US	120VAC 50/60Hz US plug
JBN26	230VAC 50/60Hz Euro plug
JBN26 US	120VAC 50/60Hz US plug

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LSB Aqua Pro range, Linear shaking bath

DESCRIPTION

The Grant **LSB** linear shaking bath combines Grant's high precision temperature control with a robust, high quality, patented linear shaking mechanism that works smoothly and consistently even in demanding applications.

High quality, robust design with unique magnetically coupled shaking mechanism for maximum reliability, consistency and quiet operation.

Linear only shaking excellent usuablilty for all routine applications.

Extensive range of accessories to provide the right solution for your application. Varied vessels types can be securely held using high quality, springs, clamps or racks

SPECIFICATIONS

Minimum working volume	5 of 12 litres (LSB12) 8 of 18 litres (LSB18)
Minimum working depth	60 mm
Temperature range	ambient +5 to 99°C
Uniformity (DIN 12876-3) @ 70°C	±0.1°C
Stability (DIN 12876-3) @ 70°C	±0.1°C
Temperature setting / display	digital / 3-digit LED
Linear — Shaking speed control range	20 to 200* rpm *depending on load
Linear — Stroke length	20 mm
Timer	1 to 999 mins
Drain tap	yes
Safety	over-temperature protection / low liquid cut-out
Shaking tray area	240 x 235 mm (LSB12) 420 x 235 mm (LSB18)
Overall dimensions (W×D×H)	360 x 385 x 425 mm (LSB12) 335 x 565 x 425 mm (LSB18)
Overall consumption	0.8 kW (LSB12) 1.4 kW (LSB18)
Nominal operating voltage	120 or 230 V

CAT. NUMBER

LSB12 EURO + TU12	230VAC 50/60Hz Euro plug
LSB18 EURO + TU18	230VAC 50/60Hz Euro plug

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OLS26, Combined orbital/linear shaking bath

DESCRIPTION

The Grant **OLS26** orbital/linear shaking bath combines Grant's high precision temperature control with a robust, high quality, patented orbital and linear shaking mechanism that works smoothly and consistently even in demanding applications.

High quality, robust design with unique magnetically coupled shaking mechanism for maximum reliability, consistency and quiet operation.

Flexible choice of combined orbital / linear shaking or linear only shaking for all routine and demanding techniques

Extensive range of accessories to provide the right solution for your application. Varied vessels types can be securely held using high quality, springs, clamps or racks

- Precision digital temperature control
- 0°C to 99°C operating range
- Stability ±0.1°C
- Easy changeover from linear to orbital shaking
- Adjustable shaking speed and stroke length
- Polycarbonate lid included as standard
- Drain tap for convenient emptying
- 3 year warranty
- TU26 included, other trays sold seperately

Applications

- General use – defrosting, cooling/warming liquids, temperature control of samples
- Life-science – microbiological assays, tissue studies, cell cultivation fermentation, 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

CAT. NUMBER

OLS26 EURO	230VAC 50/60Hz Euro plug

SPECIFICATIONS

Minimum working volume	9 of 26 litres
Minimum working depth	70 mm
Temperature range	ambient +5 to 99°C. 0 to 99°C with accessory cooling
* Cooling accessory required for operation below ambient	+
Temperature stability	±0,1°C
Uniformity	±0,1°C
Temperature setting/display	digital/LED
Display resolution	0.1°C; 1 rpm
Shaking speed control range	->
Orbital	20–200 rpm (depending on load)
Orbital — Orbit radius	9 mm
Linear	20–200 rpm (depending on load)
Linear—Stroke length	18, 28, 36 mm
Timer	1 to 999 mins
Drain tap	yes
Safety	over temperature protection / low liquid level cut-out
Shaking tray area	380 × 235 mm
Overall dimensions (W×D×H)	335 x 590 x 475 mm
Weight	13.8 kg
Overall power consumption	1.4 kW
Voltage	230 VAC

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Optima™ R series, Refrigerated thermostatic Baths and Circulators

DESCRIPTION

The Grant R refrigerated bath and circulator range provides outstanding performance for routine and sophisticated applications requiring accurate temperature control in the range of -30 to 100°C. A choice of 4 heating circulators combined with a powerful R refrigeration unit offers a cost-effective and efficient solution for low temperature applications.

The Grant R4R, which can be combined with any of our T100, TC120, TX150 or TXF200 heating circulators, offer a number of features:

- Stability of up to ±0.1°C
- Up to 3 years warranty
- No spill valved front drain
- 3 preset programs
- Large 20 litre tank and accessible bath for immersion of samples
- Environmentally friendly refrigerant
- Robust construction
- 900W of cooling power
- Quiet
- Built in Britain
- Range of accessory hosing, connectors, software, additional pump and temperature probes available

Note: The refrigeration unit can be switched off independently of the heating circulator to allow heating only applications. All the refrigeration base units can be used up to a maximum temperature of 100°C.

Alternatively, Grant RC series of recirculating chillers (closed circulators) can be used. These are generally needed for more powerful cooling requirements, e.g. the removal of mechanical or electrical heat produced in apparatus or machinery. Please contact marketing@biosan.lv for advice.

Choosing a refrigerated bath and circulator from:

- The T100 + R4R series with digital control, 0° to 100°C
- The TC120 + R4R series with digital control and integral pump, –25° to 100°C
- The TX150 + R4R series with digital control, integral pump and enhanced programming features, –30° to 100°C
- The TXF200 + R4R series with digital control, enhanced integral pump and sophisticated programming features, –30° to 100°C

We recommend the following liquids for use with refrigerated thermostatic baths and circulators:

- –50 to 50°C: Silicone oil — low viscosity (Bayer silicone M3)
- –30 to 30°C: 50% water 50% antifreeze (inhibited ethylene glycol)
- 0 to 30°C: 80% water 20% antifreeze (inhibited ethylene glycol)
- 5 to 99.9°C: Water

CAT. NUMBER

R4R	230VAC 50/60Hz Euro plug
R4RL	120VAC 60Hz US plug
T100	230VAC 50/60Hz Euro plug
T100 US	120VAC 60Hz US plug
TC120	230VAC 50/60Hz Euro plug
TC120 US	120VAC 60Hz US plug
TX150	230VAC 50/60Hz Euro plug
TX150 US	120VAC 60Hz US plug
TXF200	230VAC 50/60Hz Euro plug
TXF200 US	120VAC 60Hz US plug

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Optima™ series, Stirred Thermostatic Baths and Heating Circulators

DESCRIPTION

A cost-effective range of multi-purpose systems combining Grant's legendary quality and reliability. Precise temperature control for a wide range of laboratory applications.

- Accurate and safe temperature control - for samples and users
- Intuitive programming and thoughtful design features - makes working with Grant stirred baths and circulators easy
- Robust, durable construction - for longevity, reliability and long-term low cost of ownership
- A complete range - 32 models to cover basic through to sophisticated needs, each model represents excellent value for money

Applications:
Grant stirred baths and circulators provide a source of precision heating and cooling for many routine and sensitive analytical procedures including sample incubation, calibration and quality control testing. All models from the **TC120** upwards are suitable for use as both open and closed loop circulators (i.e. remote vessel open or closed). For more powerful heating requirements, i.e. above 200°C, contact Grant for advice.

Model selection:
Any of the four Grant Optima™ digital thermostats can be combined with any of eight Grant tanks (five stainless steel and three plastic) to provide a choice of 32 models.

CAT. NUMBER

T100	230VAC 50/60Hz Euro plug
T100 US	120VAC 60Hz US plug
TC120	230VAC 50/60Hz Euro plug
TC120 US	120VAC 60Hz US plug
TX150	230VAC 50/60Hz Euro plug
TX150 US	120VAC 60Hz US plug
TXF200	230VAC 50/60Hz Euro plug
TXF200 US	120VAC 60Hz US plug

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SBB series, Boiling baths

DESCRIPTION

Grant SBB series boiling baths are reliable, high quality unstirred boiling baths for direct immersion of samples. They provide continuous, steady 100°C operation without violent boiling, spitting or producing excessive steam.

- Choice of four (4) models with stainless steel tanks (5, 12, 18 and 26 litres) and analogue control;
- Robust and reliable design to withstand everyday wear and tear;
- Constant level device helps maintain required liquid level;
- Adjustable energy regulator provides steady boiling;
- Wide range of optional accessories to suit different applications.

CAT. NUMBER

SBB AQUA 5 PLUS	230VAC 50/60Hz Euro plug
SBBAQP5US	120VAC 60Hz US plug
SBB AQUA 12 PLUS	230VAC 50/60Hz Euro plug
SBBAQP12US	120VAC 60Hz US plug
SBB AQUA 18 PLUS	230VAC 50/60Hz Euro plug
SBBAQP18US	120VAC 60Hz US plug
SBB AQUA 26 PLUS	230VAC 50/60Hz Euro plug
SBBAQP26US	120VAC 60Hz US plug

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SUB Aqua Pro, Digital Unstirred Water Bath

DESCRIPTION

Built to the highest standard and specifications, and incorporating 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.

- Temperature range ambient +5°C to 99°C operation
- Stability: ±0.2°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

Applications

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

SPECIFICATIONS

Temperature range	ambient +5 to 99°C
Temp. display and setting resolution	0.1°C
Temp stability (DIN 12876) @ 70°C	±0.2°C
Temperature setting/energy regulation	digital
User adjustable over temp. alarm	+
Fixed thermal cut-out	+
Dry start/boil dry protection	+
Programmable temp. presets	3
Countdown timer with audible alarm	1 to 999 mins
Nominal operating voltage	120 or 230 V

CAT. NUMBER

SAP2	230VAC 50/60Hz Euro plug
SAP2 US	120VAC 60Hz US plug
SAP2S	230VAC 50/60Hz Euro plug
SAP2S US	120VAC 60Hz US plug
SAP5	230VAC 50/60Hz Euro plug
SAP5 US	120VAC 60Hz US plug
SAP12	230VAC 50/60Hz Euro plug
SAP12 US	120VAC 60Hz US plug
SAP18	230VAC 50/60Hz Euro plug
SAP18 US	120VAC 60Hz US plug
SAP26	230VAC 50/60Hz Euro plug
SAP26 US	120VAC 60Hz US plug
SAP34	230VAC 50/60Hz Euro plug
SAP34 US	120VAC 60Hz US plug
SAPD	230VAC 50/60Hz Euro plug
SAPD US	120VAC 60Hz US plug

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WB-4MS, Stirred water bath

Basic Plus
Product Class

DESCRIPTION

Water bath-thermostat **WB-4MS** is designed for chemical, pharmaceutical, medical and biological laboratory research.

WB-4MS provides increased temperature stabilization (up to 0.1°C) due to built-in magnetic stirrer (regulated speed 250–1,000 rpm).

Easy set up, high temperature maintenance accuracy, compact size and attractive modern design make this water bath widely used.

Simultaneously up to 2 tube racks can be installed.

SPECIFICATIONS

Tank capacity	4 litres
Temperature setting range	+25°C ... +100°C
Temperature control range	5°C above ambient ... +100°C
Temperature setting resolution	0.1°C
Temperature stability	±0.1°C
Temperature uniformity at +37°C	±0.1°C
Stirring speed control range	250–1,000 rpm
Digital time setting	1 min–96 hrs / non–stop (increment 1 min)
Timer sound signal	+
Display	LCD, 2 x 16 signs
Digital setting of temperature, time and mixing speed	+
Plastic lid with stainless steel interior included	+
Quiet operation	+
Working volume	235x135x110 mm
Overall dimensions (W×D×H)	340×270×250 mm
Weight	3.4 kg
Power consumption	230 V, 50 Hz/ 600 W (2.6 A) 120 V, 60 Hz/ 670 W (5.6 A) 100 V, 50/60 Hz/ 600 W (6.0 A)
Nominal operating voltage	230 V, 50/60 Hz or 120 V, 50/60 Hz

CAT. NUMBER

With base BP-1 and lid	With base BP-1 and lid
BS-010406-AAA	230VAC 50/60Hz Euro plug
BS-010406-AAB	230VAC 50/60Hz UK plug
BS-010406-AA3	230VAC 50/60Hz AU plug
BS-010406-AA7	100VAC 50/60Hz US plug
BS-010406-AAC	120VAC 60Hz US plug
BS-010406-DK	IQ OQ document
BS-010406-EK	PQ document

ACCESSORIES

TR-5/30
BS-010406-KK
rack

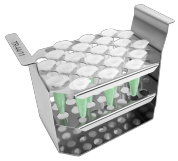
Test tube rack for ø30mm tubes, capacity 5 tubes. WxDxH: 155x90x112mm

TR-16/19
BS-010406-FK
rack

Test tube rack for ø16 to ø19mm tubes, capacity 16 tubes. WxDxH: 155x90x112mm

TR-30/13
BS-010406-IK
rack

Test tube rack for ø10 to ø13mm tubes, capacity 30 tubes. WxDxH: 155x90x112mm



TR-44/11
BS-010406-JK
rack

Test tube rack for 2 / 1.5ml microtest tubes, capacity 44 tubes. WxDxH: 155x90x112mm