

ВН, ВЈ, ВК

Технические характеристики

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231	Казань (843)206-01-48	Новокузнецк (3843)20-46-81	Смоленск (4812)29-41-54
Архангельск (8182)63-90-72	Калининград (4012)72-03-81	Новосибирск (383)227-86-73	Сочи (862)225-72-31
Астрахань (8512)99-46-04	Калуга (4842)92-23-67	Омск (3812)21-46-40	Ставрополь (8652)20-65-13
Барнаул (3852)73-04-60	Кемерово (3842)65-04-62	Орел (4862)44-53-42	Сургут (3462)77-98-35
Белгород (4722)40-23-64	Киров (8332)68-02-04	Оренбург (3532)37-68-04	Тверь (4822)63-31-35
Брянск (4832)59-03-52	Краснодар (861)203-40-90	Пенза (8412)22-31-16	Томск (3822)98-41-53
Владивосток (423)249-28-31	Красноярск (391)204-63-61	Пермь (342)205-81-47	Тула (4872)74-02-29
Волгоград (844)278-03-48	Курск (4712)77-13-04	Ростов-на-Дону (863)308-18-15	Тюмень (3452)66-21-18
Вологда (8172)26-41-59	Липецк (4742)52-20-81	Рязань (4912)46-61-64	Ульяновск (8422)24-23-59
Воронеж (473)204-51-73	Магнитогорск (3519)55-03-13	Самара (846)206-03-16	Уфа (347)229-48-12
Екатеринбург (343)384-55-89	Москва (495)268-04-70	Санкт-Петербург (812)309-46-40	Хабаровск (4212)92-98-04
Иваново (4932)77-34-06	Мурманск (8152)59-64-93	Саратов (845)249-38-78	Челябинск (351)202-03-61
Ижевск (3412)26-03-58	Набережные Челны (8552)20-53-41	Севастополь (8692)22-31-93	Череповец (8202)49-02-64
Иркутск (395)279-98-46	Нижний Новгород (831)429-08-12	Симферополь (3652)67-13-56	Ярославль (4852)69-52-93
Россия (495)268-04-70	Киргизия (996)312-96-26-47	Казахстан (7172)727-132	

Baskets, Baths

Baskets

Rectangular. For holding a wide variety of small glassware and plasticware.

L x W x H

Nylon coated wire

BG225-12	100mm cube
BG225-17	125mm cube
BG225-22	150mm cube
BG225-32	200mm cube

Stainless steel wire

BG234-10	100mm cube
BG234-15	125mm cube
BG234-20	150mm cube
BG234-30	200mm cube

Polypropylene tapered for stacking

BG235-10	143 x 120 x 109mm
BG235-20	162 x 162 x 155mm
BG235-30	225 x 225 x 230mm

Boiling Water Baths

With concentric rings to support a wide range of flasks.

Bath, Circular

Stainless steel, with integral 1kW heating element, connector with cable, constant level and set of concentric rings. For 220-240V a.c. single phase supplies.

Dia. x depth

BH105-14	203 x 127mm
-----------------	-------------

Baths, Rectangular

Stainless steel, with integral heating element, connector with cable, constant level and set of concentric rings. All baths are 90mm deep. Maximum hole diameter 76mm except BH120-12 which is 108mm. For 220-240V a.c. single phase supplies; rating 1kW.

Places L x W

BH120-08	6	321 x 216mm
BH120-12	6	425 x 321mm
BH120-16	12	425 x 321mm

BH125-15 Spare element, 1kW, for BH105 and 120 series

BH125-40 Energy regulator for BH105 and 120 series. For 220-240V single phase supplies

Power Controllers For use with electrically heated baths to control energy input – see *EE500 series* in the *Electrical* section.

Fluidised Baths, for high temperature applications – see *BK502/512 series*.

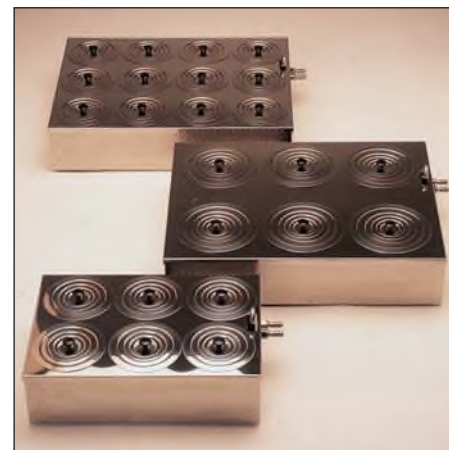
Block Thermostats, for dry heating of Eppendorf and test tubes – see *BK205/340 series*.



BG225



BH105



BH120 series



BG234



BG235

Baths

Unstirred Thermostatic Water Baths



A range of robust, general purpose, unstirred water baths for routine applications.

- ◆ Temperature range ambient +5°C to 99.9°C
- ◆ 6, 15 or 24 litre capacities
- ◆ Digital display and temperature selection with recessed controls
- ◆ Low level water sensor
- ◆ Stainless steel tanks with heating under base
- ◆ Integral drain for easy emptying
- ◆ Supplied with moulded, transparent, polycarbonate lid

Dimensions

Cap. litres	Internal L x W x D mm	Overall L x W x D mm	Weight kg
6	300 x 150 x 200	335 x 270 x 280	6.5
15	300 x 325 x 200	335 x 408 x 280	9.0
24	300 x 500 x 200	335 x 584 x 280	12.8

Water Baths, Unstirred

With stainless steel tanks and polycarbonate lids. Maximum temperature 99.9°C. Temperature stability $\pm 0.5^\circ\text{C}$. For 230V 50Hz single phase supplies.

- BH170-10** SWB6D, 6 litres
- BH170-20** SWB15D, 15 litres
- BH170-30** SWB24D, 24 litres

Spare Polycarbonate lids

- BH176-10** For 6 litre bath
- BH176-20** For 15 litre bath
- BH176-30** For 24 litre bath

Spheres

Polypropylene, 20mm diameter. Supplied in pack of 300. Packs required to provide a single layer.

- 6 and 15 litre baths – 1 pack
- 24 litre bath – 2 packs

- B1177-03** Spheres



BH170 in use



BH180 in use

Shaking Water Bath



- ◆ Temperature range ambient +5°C to 99.9°C
- ◆ Temperature stability $\pm 0.5^\circ\text{C}$ ◆ Hydraulic safety thermostat
- ◆ Press-set and read electronic thermostat with LED display
- ◆ Orbital or linear movement dictated by accessory trays
- ◆ Variable speed 20 to 200rpm with analogue dial setting
- ◆ Stroke: 16mm (orbital or linear) ◆ Controls recessed into exterior case

Shaking Water Bath

Capacity 24 litres, stainless steel tank. Maximum temperature 99.9°C. With digital electronic thermostat and safety thermostat. Variable shaker speed 20 to 200rpm. Internal 500 x 300 x 200mm (L x W x D). External 580 x 335 x 330mm (L x W x D). Weight 17kg. For 230V 50Hz single phase supplies, 1400W. Requires accessory tray (not included).

- BH180-20** Shaking bath SBS40

Accessories for BH180-20

Trays and Lid

Stainless steel, with network of cross-springs allowing different sizes and shapes of vessel to be shaken at the same time. Typically hold 8 x 250ml, 6 x 500ml or 4 x 1litre conical flasks. Tray type dictates shaking action.

- BH180-44** Orbital motion tray
- BH180-72** Linear motion tray
- BH168-20** Gabled lid, stainless steel

Test tube racks

Stainless steel. For attachment to BH180-44/72 trays which hold two racks only. For tubes number x o.d. as indicated.

	Ref.	For tubes
BH180-74	SBS40/5	143 x 1.5ml microtubes
BH180-77	SBS40/6	120 x 13mm
BH180-80	SBS40/7	72 x 16mm
BH180-83	SBS40/8	56 x 15ml centrifuge tubes
BH180-86	SBS40/9	30 x 26mm
BH180-89	SBS40/10	25 x 50ml centrifuge tubes



BH180 trays in use



BH180 racks in use

Baths

NE4 Series Stirred Thermostatic Water Baths

Clifton

◆ Choice of models:

-D: Stirred water baths featuring bridge-mounted thermoregulator with digital setting and display, 0-999 minute timer, with powerful heater and stirrer, stainless steel tank and sturdy, powder-coated, chemically-resistant outer cases.

-P: Generally as -D models but with pump for external circulation of temperature controlled liquids, providing a flow rate (using water) of 10 litres/minute in closed circuits.

◆ Operating range: ambient +5°C to +99°C* (-20°C achievable with accessory cooling)

◆ Sensitivity $\pm 0.1^\circ\text{C}$

◆ Uniformity $\pm 0.01^\circ\text{C}$

◆ Safety features include user-resettable low liquid level safety cut-out and audible overtemperature alarm

◆ Removable, perforated false base aids circulation and improves temperature uniformity

Dimensions

Model	Capacity litres	Working space W x D x H mm	Overall W x D x H mm
NE4-8D/-8P	8	129 x 298 x 150	271 x 332 x 170
NE4-14D/-14P	14	219 x 298 x 150	361 x 332 x 170
NE4-22D/-22P	22	395 x 298 x 150	537 x 332 x 170
NE4-28D/-28P	28	395 x 298 x 200	537 x 332 x 240

Stirred water baths, NE4-D series

Maximum temperature 99°C*. With user resettable safety cut-out device and bridge-mounted thermoregulator. For 230V 50Hz single phase supplies, 1250W.

	Ref.	Litres
BH206-12	NE4-8D	8
BH206-19	NE4-14D	14
BH206-24	NE4-22D	22
BH206-28	NE4-28D	28

Stirred water baths, NE4-P series

Maximum temperature 99°C*. With user resettable safety cut-out device and bridge-mounted thermoregulator. For 230V 50Hz single phase supplies, 1250W.

	Ref.	Litres
BH207-10	NE4-8P	8
BH207-15	NE4-14P	14
BH207-18	NE4-22P	22
BH207-26	NE4-28P	28

Thermoregulators

Thermostatic control units only, without tank or bridge mounting plate. Can be used on any tank with a maximum wall thickness of 30mm in conjunction with mounting bracket BH208-09.

BH208-04	NE4-D, digital
BH208-06	NE4-P, digital with pump
BH208-09	Mounting bracket for above thermoregulators

*At temperatures above 60°C a lid should be fitted or a layer of polypropylene spheres

Accessories

Stainless steel racks

	Holes
SM390-12	36 x 13mm
SM390-16	26 x 17mm
SM390-19	18 x 19mm
SM390-25	16 x 26mm

Max number of racks per bath

Bath Capacity	Racks
8 litres	1
14 litres	2
22/28 litres	5

Gabled lids, stainless steel

	For bath
BH208-77	8 litre
BH208-79	14 litre
BH208-82	22/28 litre

Flat lids, stainless steel

	For bath
BH208-86	8 litre
BH208-89	14 litre
BH208-93	22/28 litre

Raised shelves

	For bath
BH208-95	14 litre
BH208-96	22/28 litre

Thermometer Clip

Fits flush with the bath top without obstructing the lid. With spirit-filled, right angle thermometer, range 0 to 100°C x 2°C.

BH208-99 Thermometer clip

Polypropylene spheres - see BJ177-03



BH206-12



BH207-18 with SM390 and BH208-96 in use

Baths

Unstirred Thermostatic Water Baths

Grant
IN THE LABORATORY

Heater and temperature sensors for the JB and SUB Aqua Pro units are bonded to the underside of the tank, optimising working space and temperature uniformity. JB Nova and SUB Aqua Pro baths are supplied with clear polycarbonate, gabled lids to minimise evaporation and energy loss (except SAP34, which has a stainless steel lid) and a polycarbonate base tray to promote heat convection and optimise temperature uniformity. SBB Aqua Plus units are similar, but the heater is located inside the stainless steel tank and covered by a stainless steel, perforated shelf. JB Academy baths have no lid, nor drain tap and are intended for educational use.

JB Academy Baths, ambient +5°C to 95°C

With stainless steel tanks in outer cases of zinc-treated steel. A digital controller with simple keypad operation, wide-angled LED display and 0.5°C resolution enables rapid and easy setting and a front panel lock disables the panel to stop inadvertent temperature changes. Also incorporates a fixed thermal cut-out to guard against dry running or controller failure and a single point, user calibration function. Stability at 70°C (DIN 12876) $\pm 0.5^\circ\text{C}$.

JB Nova Baths, ambient +5°C to 95°C

Similar to JB Academy series but additionally supplied with clear polycarbonate lids and drain taps (12 to 26 litre capacity tanks only). Stability at 70°C (DIN 12876) $\pm 0.5^\circ\text{C}$.

SUB Aqua Pro Baths, ambient +5°C to 99°C

Stainless steel tanks in outer cases of painted zinc-treated steel (12 to 34 litre tanks are additionally fitted with drain taps). Digital PID temperature control with simple push-button setting and wide-angled LED display, indicating the status of heating, 3 programmable temperature presets, front panel lock-out to prevent accidental adjustment to settings and 0 to 999 minute countdown timer with audible alarm at end of timed period. With adjustable dial setting, overtemperature cut-out and separate, fixed, thermal cut-out. The user can also calibrate the bath at one or two points to optimise uniformity. Stability at 70°C (DIN 12876) $\pm 0.2^\circ\text{C}$.

SBB Aqua Plus Baths for Boiling, 100°C

As SUB Aqua Pro baths but with an analogue energy regulator in place of the thermostat. Boiling can be maintained without violent agitation or excessive steam. Two fixed overtemperature cut-outs are fitted for safety. A constant level device and non-drip polycarbonate lid are provided. These baths must be used with a lid or a layer of polypropylene spheres.

Specifications

Model	litres	Working space L x W x D mm	Rack series accepted	Lids accepted
SAP2	2	125 x 140 x 115	—	AQL2
SAP2S*	2	145 x 290 x 30	—	AQL5, LU6
JBA/JBN/SAP/SBB5	5	145 x 290 x 115	1 x J2	AQL5, LU6
JBA/JBN/SAP/SBB12	12	315 x 290 x 115	2 x J2	AQL12, LU14
JBA/JBN/SAP/SBB18	18	495 x 290 x 115	3 x J2	AQL26, LU28
JBA/JBN/SAP/SBB26	26	495 x 290 x 165	4 x J2	AQL26, LU28
SAP34	34	630 x 290 x 160	6 x J2	LU36
SAP Dual†	5 and 12	145 x 290 x 115 315 x 290 x 115	1 and 2 x J2	AQL5, AQL12, LU6 and LU14

*Low-form, shallow bath for use with microtubes and small vessels.

† Dual bath model for two-temperature procedures. With separate tanks and lids.

Water Baths, Grant, unstirred

As specified. For 230V 50Hz single phase supplies.

Digital control, ambient + 5°C to 95°C

JB Academy

BJ152-05 JBA5, 0.35kW, without lid or drain tap

BJ152-12 JBA12, 0.80kW, without lid or drain tap

BJ152-18 JBA18, 1.40kW, without lid or drain tap

JB Nova

BJ156-05 JBN5, 0.25kW, with lid, without drain tap

BJ156-12 JBN12, 0.80kW, with lid, without drain tap

BJ156-18 JBN18, 1.05kW, with lid and drain tap

BJ156-26 JBN26, 1.05kW, with lid and drain tap

Digital control, ambient + 5°C to 99°C

SUB Aqua Pro (SAP)

BJ158-02 SAP2, 0.25kW, with lid, without drain tap

BJ158-04 SAP2S, 0.35kW, with lid, without drain tap

BJ158-05 SAP5, 0.35kW, with lid, without drain tap

BJ158-12 SAP12, 0.80kW, with lid and drain tap

BJ158-18 SAP18, 1.05kW, with lid and drain tap

BJ158-26 SAP26, 1.05kW, with lid and drain tap

BJ158-34 SAP34, 1.30kW, with lid and drain tap

BJ158-40 SAP Dual, 1.15kW, with lid and drain tap

Analogue control, for Boiling

BJ162-05 SBB Aqua 5 Plus, 1.5kW

BJ162-12 SBB Aqua 12 Plus, 1.5kW

BJ162-18 SBB Aqua 18 Plus, 2.0kW

BJ162-26 SBB Aqua 26 Plus, 2.0kW



BJ156 series, BJ152 are similar



BJ158 series

Baths

Unstirred Thermostatic Water Baths

Grant
IN THE LABORATORY

Accessories

Lids, sloping

- BJ175-02** AQL2, polycarbonate
- BJ175-05** AQL5, polycarbonate
- BJ175-11** AQL12, polycarbonate
- BJ175-26** AQL26, polycarbonate

- BJ175-40** LU6, stainless steel
- BJ175-42** LU14, stainless steel
- BJ175-44** LU28, stainless steel
- BJ175-46** LU36, stainless steel

Lids, flat with ring sets

Giving apertures of 31, 43, 59, 78, or 105mm diameter.

	Ref.	Holes	For bath
BJ176-20	LF6	2	JB/SAP/SBB5/Dual
BJ176-22	LF14	4	JB/SAP/SBB12/Dual
BJ176-24	LF28	6	JB/SAP/SBB18/26

Spheres

Polypropylene, 20mm diameter. Supplied in pack of 300. Packs required to provide a single layer.

- 2 to 16 litre and dual tank baths – 1 pack
- 18 to 26 litre and Dual baths – 2 packs
- 34 litre baths – 3 packs

BJ177-03 Spheres

Raised Shelves

Stainless steel with perforated mesh shelf. Used to alter the effective depth of the bath. Each occupies half the area of the bath specified and so allows both deep and shallow vessels to be accommodated.

	Ref.	For bath
BJ177-25	RS14H	JB/SAP/SBB12/Dual
BJ177-28	RS18H	JB/SAP/SBB18
BJ177-30	RS28H	JB/SAP/SBB26
BJ177-35	RS36H	SAP34

Racks, Stainless Steel

Racks

J2 racks for the JB/SUB/SBB Aqua Plus baths, stand on the perforated shelf of the bath, or on the floor of the tanks.

	Ref.	Holes
BJ178-04	P1-13	12 x 13mm
BJ178-08	P1-16	10 x 16mm
BJ178-12	P1-19	9 x 19mm
BJ178-16	J2-10	84 x 10mm
BJ178-20	J2-13	55 x 13mm
BJ178-24	J2-16	36 x 16mm
BJ178-28	J2-19	32 x 19mm
BJ178-32	J2-25	18 x 25mm
BJ178-36	J2-30	12 x 30mm

For microcentrifuge tubes

- BJ178-80** J2-SE 105 x 0.5ml
- BJ178-82** J2-LE 65 x 1.5ml

Bains Marie – see *BH105/108 series*.

Fluidised baths, for high temperature applications – see *BK502/512 series*.



BJ177-03 in use



BJ177-30 in use



BJ178 in use



BJ175-46 with BJ158-34



BJ178 in use within BJ162-12

Baths

Optima Series

Grant
IN THE LABORATORY

A comprehensive, modular family of thermostatic controllers, bath tanks and accessories providing a wide range of specifications to meet the majority of laboratory requirements. Sophisticated electronics and the latest materials combine to ensure optimum performance, accuracy and stability.

- ◆ Choice of four thermostatic controller levels with digital programming
- ◆ Choice of plastic (P) or stainless steel (S) tanks
- ◆ Temperature scope of range -15 to +200°C depending on controller, bath and accessory cooling chosen (TX150 and TXF200 controllers can operate down to -50°C if required)
- ◆ Stirred circulation provides good temperature stability and uniformity
- ◆ Accessory Labwise™ control software allows remote programming, datalogging and real-time graphing of programmable models
- ◆ Digital and programmable controllers feature a novel, soft-touch navigator rotor and push-buttons for menu selection and operation

Safety feature include:

- ◆ Low liquid protection by float switch
- ◆ Visual alarm (and audible - digital and programmable controllers)
- ◆ Fixed (T100), or user-adjustable, overtemperature cut-out (TC120, TX150, TXF200 models only)

Thermostatic controllers have an injection moulded case, with heater, stirrer, pump (if provided) and Pt1000 temperature sensor projecting down into the liquid.

Lids are available as accessories. At temperatures below ambient or above +60°C to 100°C a lid should be fitted, or a layer of polypropylene spheres used. Above 100°C only a lid must be used.

Labwise™ control software, available as an accessory for TX150 and TXF200 controllers, can be used to set all parameters, including programmes, via the users' PC running Windows™ software and in English, French, German, Spanish or Italian languages. It also features real-time status windows, a graphical display of the controllers performance during a run, and allows data to be logged for future recall and analysis.



Baths

Optima Series Thermostatic Controllers

Grant
IN THE LABORATORY

Each controller is supplied without clamp. An accessory clamp (BJ180-95) allows the controller to be used with almost any type of vessel where it can be attached to the vessel wall. When the controller is to be used with Optima bath tanks the clamp is unnecessary as a bridge plate is provided.

Model		T100	TC120	TX150	TXF200
Temperature ranges [†]	without tank	°C 0 to 100*	-25 to 120*	-50 to 150*	-50 to 200*
	using S tanks	°C 0 to 100*	0 to 120*(5/12/18L) -15 to 120* (26/38L)	0 to 150* (5/12/18L) -15 to 150* (26/38L)	0 to 200* (5/12/18L) -15 to 200* (26/38L)
	using P tanks	°C ambient +15 to 99	— TC120-P5/TX150-P5/TXF200-P5, ambient +5 to 99 — rest of range		
Stability, S tanks (DIN 58966)	@ 70°C	±°C 0.05	0.05	0.01	0.01
Uniformity, S tanks	@ 70°C	±°C 0.1	0.1	0.05	0.05
Setting resolution		°C 0.1	0.1	0.1 (0.01 using Labwise)	0.1 (0.01 using Labwise)
Display		4 digit LED	4 digit LED	Full colour QVGA TFT	Full colour QVGA TFT
Display resolution		°C 0.1	0.1	0.01	0.01
No. of stored temperature values		3	3	3	3
Two point re-calibration		yes	yes	yes	yes
Offset adjustment		no	no	yes	yes
External probe socket		no	no	yes	yes
USB interface		no	no	yes	yes
Programmable		no	no	yes via PC	yes via PC/direct
No. of stored programmes		none	none	1 x 30 segment	10 x 100 segment
Relays		none	none	1	2
Heater power, 220-240V	kW	1.3	1.3	1.9	1.9
Pump (water)	max. pressure	mbar no pump	210	310	530
	max. flow	L/min no pump	16	18	23 adj. flow rate
Inlet/outlet	pipe bores	mm n/a	6/11	6/11	6/11
Overall dimensions, excluding clamp	mm	115 x 145 x 315 W x D x H — all models			
Height above tank rim	mm	200 — all models			
Depth below tank rim	mm	135 — all models			

[†]A lid or layer of polypropylene spheres must be used when operating between 60°C and 100°C, and is recommended for use below room temperature. Above 100°C, a lid must always be used.

*Minimum operating temperature without accessory cooling is ambient plus 5°C, except in the 5 litre tanks, in which it is ambient plus 15°C. Minimum and maximum temperatures achievable are dependent upon the tank insulation and the minimum operating temperature depends on the accessory immersion cooler selected.

continued on next page



BJ180-18



BJ180-28 in use on tank with lid



BJ180-28

Baths

Optima Series Thermostatic Controllers continued

Grant
IN THE LABORATORY

Digital model, T100

Operating range 0 to +100°C. With PID control, soft-touch rotary selector and push-button setting, LED display and simple user interface with fault indication and visual alarm. Supplied without clamp. For 230V 50/60Hz single phase supplies.

BJ180-18 T100

Digital model, TC120

Operating range -25 to +120°C. Generally as TC100 but with powerful external circulation pump, timer function for reaction timing from 0 to 9999 minutes, and variable high temperature alarm setting. Supplied with two pump connector plates with outlets for 6mm or 11mm tubing bores. Supplied without clamp. For 230V 50Hz single phase supplies.

BJ180-28 TC120



BJ180-18 in use on tank with lid



BJ180-37



BJ180-49



BJ180-49 in use on tank with lid

Programmable model, TX150

Operating range -50 to +150°C. Full colour QVGA TFT screen which displays actual and set temperatures, pump speed and memory icons for programming with choice of operating languages (English, French, German, Spanish and Italian). With 99 hours 59 minute timer function and heater control fault indicator, audible and visual alarms, USB interface allowing remote control via an external PC, accessory Labwise™ software, programmable relay for ancillary equipment switching during a procedure (external cooling or remote alarm for example), high/low temperature alarm setting and temperature limiting for selected liquid type. Also includes memory storage of 10 programmes each of up to 100 segments. A built-in, powerful external circulation pump is provided with two pump connection plates with outlets for 6mm or 11mm tubing bores, and a socket for an accessory external Pt1000 temperature probe. Supplied without clamp. For 230V 50Hz single phase supplies.

BJ180-37 TX150

Programmable model, TXF200

Operating range -50 to +200°C. Generally as TX150-series but with variable flow rate, external circulation pump, on-board programming facility via the control panel, including temperature ramping rate to target temperature, storage of 10 programmes, each of up to 100 segments, USB interface, and additional programmable relay for ancillary equipment switching during a procedure. Supplied without clamp. For 230V 50/60Hz single phase supplies.

BJ180-49 TXF200

Clamp

For use with BJ180-series to enable attachment of thermostatic controllers to alternative models/makes of bath (not required when used with Optima P- or ST-series tanks). The maximum vessel wall thickness is 35mm for rectangular and 30mm for circular (300mm diameter) tanks. Maximum vessel volume is 50 litres.

BJ180-95 Clamp

Baths

Optima Series Bath Tanks

Grant
IN THE LABORATORY

P series tanks

Cost effective, robust plastic tanks for applications in the range ambient +5°C to +99°C. Supplied with bridge mounting plate for Optima T-series controllers without clamps and carrying handles recessed into the ends of the case.

Ref.			P5	P12	P18
Tank capacity		litres	5	12	18
Top opening	L x W	mm	120 x 150	210 x 280	280 x 325
Liquid depth	min/max	mm	80/140	80/140	80/140
Inner tank dimensions	L x W x H	mm	240 x 160 x 150	325 x 280 x 150	510 x 290 x 150
Outer case dimensions	L x W x H	mm	330 x 240 x 180	415 x 350 x 870	600 x 365 x 180
Overall dimensions (including controller)	L x W x H	mm	390 x 200 x 360	415 x 350 x 360	600 x 350 x 360

- BJ182-05** Tank only, P5
- BJ182-10** Tank only, P12
- BJ182-15** Tank only, P18

ST series tanks

Stainless steel tanks with outer cases of glass-reinforced plastic which has excellent insulating properties and is resistant to acids and laboratory solvents. Operating temperature ranges are as indicated. Supplied with bridge mounting plate for Optima T-series controllers and configured to allow dual-positioning, either facing along the length or away from the width of the bath, for convenient access. Also include a recessed drain tap (except 5 litre size).

Ref.			ST5	ST12	ST18	ST26	ST38
Operating range	°C		0 to 200	0 to 200	0 to 200	-15* to 200	-15* to 200
Suitable immersion cooler			C1G	C1G	C1G	C1G, C2G	C1G, C2G
Tank capacity		litres	5	12	18	26	38
Top opening	L x W	mm	150 x 150	205 x 300	385 x 300	385 x 300	575 x 300
Liquid depth	min/max	mm	85/140	85/140	75/130	125/180	125/180
Inner tank dimensions	L x W x H	mm	300 x 150 x 150	325 x 300 x 150	505 x 300 x 150	505 x 300 x 200	690 x 300 x 200
Outer case dimensions	L x W x H	mm	330 x 180 x 180	360 x 330 x 180	540 x 330 x 230	540 x 330 x 230	730 x 333 x 230
Overall dimensions (including controller)	L x W x H	mm	330 x 180 x 395	360 x 330 x 395	540 x 330 x 395	540 x 330 x 405	730 x 333 x 405

*Using C2G immersion cooler, BJ240-52.

- BJ182-36** Tank only, 5 litres, ST5
- BJ182-41** Tank only, 12 litres, ST12
- BJ182-46** Tank only, 18 litres, ST18
- BJ182-51** Tank only, 26 litres, ST26
- BJ182-56** Tank only, 38 litres, ST38



Recessed drain tap



BJ182-10



BJ182-51

Baths

Optima Series Thermostatic Baths

Grant
IN THE LABORATORY

Complete units including plastic or stainless steel tank, bridge mounting plate and controller. Please refer to controller specifications for supply requirements. Accessory cooling as appropriate is required at low temperature. Accessory polypropylene spheres or a lid should be used at temperatures between +60 and +100°C. Above 100°C only a lid must be used.

	Ref.	Tank cap. litres	Tank material*	Temp. range °C
BJ185-48	T100-P5	5	P	ambient +5 to +99
BJ185-51	T100-P12	12	P	ambient +5 to +99
BJ185-53	T100-P18	18	P	ambient +5 to +99
BJ185-55	T100-ST5	5	S	0 to +100
BJ185-57	T100-ST12	12	S	0 to +100
BJ185-60	T100-ST18	18	S	0 to +100
BJ185-63	T100-ST26	26	S	0 to +100
BJ185-66	T100-ST38	38	S	0 to +100
BJ185-67	TC120-P5	5	P	ambient +5 to +99
BJ185-70	TC120-P12	12	P	ambient +5 to +99
BJ185-72	TC120-P18	18	P	ambient +5 to +99
BJ185-73	TC120-ST5	5	S	0 to +120
BJ185-76	TC120-ST12	12	S	0 to +120
BJ185-78	TC120-ST18	18	S	0 to +120
BJ185-80	TC120-ST26	26	S	-15 to +120
BJ185-82	TC120-ST38	38	S	-15 to +120

* P = plastic, S = stainless steel.

	Ref.	Tank cap. litres	Tank material*	Temp. range °C
BJ186-21	TX150-ST5	5	S	0 to +150
BJ186-26	TX150-ST12	12	S	0 to +150
BJ186-31	TX150-ST18	18	S	0 to +150
BJ186-36	TX150-ST26	26	S	-15 to +150
BJ186-41	TX150-ST38	38	S	-15 to +150
BJ186-61	TXF200-ST5	5	S	0 to +200
BJ186-68	TXF200-ST12	12	S	0 to +200
BJ186-71	TXF200-ST18	18	S	0 to +200
BJ186-76	TXF200-ST26	26	S	-15 to +200
BJ186-81	TXF200-ST38	38	S	-15 to +200

* P = plastic, S = stainless steel.



BJ185-53



BJ186-76 in use

Baths

Optima Series - Accessories

Grant
IN THE LABORATORY

Lids

Available in moulded plastic or stainless steel, either curved, flat, or gabled with hinge as indicated.

	Ref.	For baths	Material*	Type
BJ187-62	PL5	P5	S	Flat
BJ187-64	PL12	P12	P	Curved
BJ187-66	PL18	P18	P	Curved
BJ187-67	STL5	ST5	S	Flat
BJ187-71	STL12	ST12	S	Gabled
BJ187-73	STL26	ST18/ST26	S	Gabled
BJ187-77	STL38	ST38	S	Gabled

*S = stainless steel P = moulded plastic.

Spheres provide an alternative to a lid at temperatures between +60°C and +100°C. Packs required to provide a single layer.

5 litre tank: 1 pack 18 litre tank: 2 packs 38 litre tank: 3 packs

12 litre tank: 1 pack 26 litre tank: 2 packs

Polypropylene spheres - see BJ177-03.

Raised shelves

These reduce the effective liquid depth to allow shallow vessels to be placed in the baths. The effective liquid depth can be between 0 and 90mm only in 12 and 18 litre baths, and between 0 and 50mm or 85 and 135mm in 26 and 38 litre baths, achieved by inverting the shelf as required.

BJ226-14 RS14 for 12 litre baths

BJ226-22 RS22 for 18 litre baths

BJ226-28 RS28 for 26 litre baths

BJ226-38 RS38 for 38 litre baths

Draining Syphon

Enables bath to be emptied quickly.

BJ242-12 Ref. SY1

Remote Temperature Probes

Pt1000 external temperature probes for use with TX150 and TXF200 thermostat controllers in remote heating/cooling applications. With 3 metres of cable.

BJ242-20 TXPEP, fast response, nylon, 100mm x 4.5mm length x dia.

BJ242-25 TXSEP, robust, stainless steel, 125mm x 5mm length x dia.

Tube Racks

Stainless steel, with lifting handles, available for 10 to 13mm, 16 to 19mm or 24mm o.d. test tubes, 0.5ml or 1.5ml microcentrifuge tubes. QR racks can only be used with 5 litre baths. VR racks can be used with 12, 18, 22, 26 and 38 litre baths.

Maximum number of racks per bath:

5 litre: 1 x QR 18 litre: 4 x VR 38 litre: 6 x VR
12 litre: 2 x VR 26 litre: 4 x VR

Maximum number of tubes per rack

Tube dia. mm	VR	QR	Tube dia. mm	VR	QR
10 - 13	65	30	24	23	10
16 - 19	36	16	30	14	5

QR-series for 5 litre Baths only

	Ref.	Holes
BJ188-10	QR-13	30 x 10/13mm
BJ188-13	QR-19	16 x 16/19mm
BJ188-16	QR-24	10 x 24mm
BJ188-18	QR-30	5 x 30mm
BJ188-20	QR-SE	44 x 0.5ml microtubes
BJ188-23	QR-LE	35 x 1.5ml microtubes

VR-series for 12, 18, 26 and 38 litre baths only

	Ref.	Holes
BJ188-30	VR-13	65 x 10/13mm
BJ188-33	VR-19	36 x 16/19mm
BJ188-36	VR-24	23 x 24mm
BJ188-38	VR-30	14 x 30mm
BJ188-40	VR-SE	102 x 0.5ml microtubes
BJ188-43	VR-LE	75 x 1.5ml microtubes

Labwise software

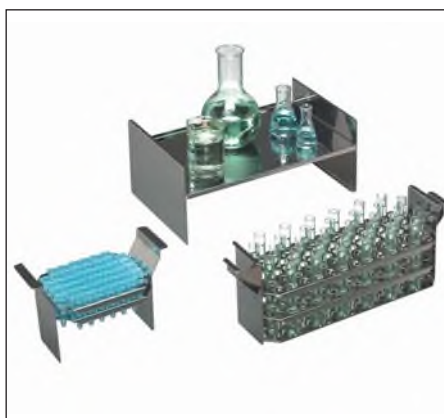
Allows remote set-up and programming of the TX150 and TXF200 thermostat controllers from the users' PC, real-time temperature/time profiles and graphical representation of process to be displayed, logging of profiles and programme storage to disk. Requires Windows™ software. Supplied with connection cable.

BJ189-75 Labwise software

continued on next page



BJ187-71



BJ188 and BJ226 in use



BJ189-75

Baths

Optima Series Bath Cooling Systems

Water-cooled and refrigerated systems are available. Both systems have a coil which can be placed under the heater/stirrer unit in 12, 18, 26 and 38-litre baths, so that the working space is not reduced.

Water Coil CW5

For use with mains tap water, suitable for all applications where the required temperature is 2°C or more above that of the tap water used.

BJ240-10 Ref. CW5

Refrigerated Coolers, C1G and C2G

- ◆ R134a CFC-free refrigerant

Catalogue No.		BJ240-32	BJ240-52
Model		C1G	C2G
Liquid temp. range*	°C	0 to +40	-20 to +40
Extraction rate	at 20°C	W 350	400
	at 0°C	W 110	320
	at -10°C	W —	170
Power consumption	W	300	500
Case L x W x H	mm	460 x 305 x 225	460 x 305 x 225
Coil diameter x length	mm	77 x 55	77 x 105
Flexible pipe length	mm	925	925

*Note: C1G and C2G will achieve the lowest specified temperatures provided they are used with a well insulated bath. Please refer to the tank specification table for information on the lowest operating temperature for Optima baths.

Refrigerated Cooler, C1G

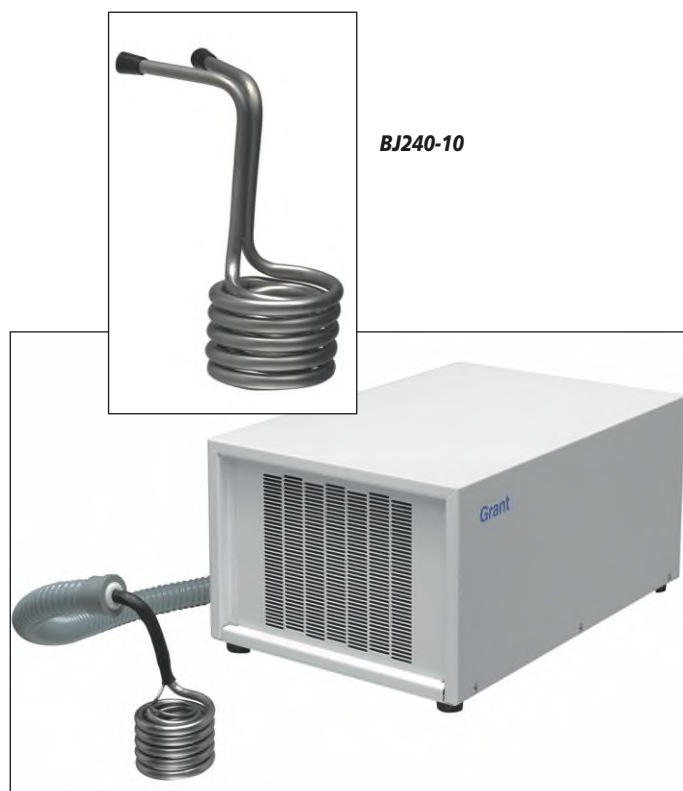
For use with all Optima baths over the range 0 to +40°C. For 220-240V 50Hz single phase supplies.

BJ240-32 Model C1G

Refrigerated Cooler, C2G

For use with all Optima baths over the range -20 to +40°C*. A bath lid must be used below 0°C in order to achieve optimum performance. For 220-240V 50Hz single phase supplies.

BJ240-52 Model C2G



BJ240-32, BJ240-52 is similar

Refrigeration Units

- ◆ Choice of model ranges:-
 - -20 to +100°C, -25 to +150°C, -30 to +200°C
 - Tank volumes: 5 or 6 litres
- ◆ Active cooling throughout the whole temperature range
- ◆ High power (up to 500W) cooling available if required
- ◆ Controller includes digital display of set/actual temperature, three temperature pre-sets, 1 minute to 99 hour 59 minute timer and high (and low – CL120-70/-85 only) temperature alarm settings
- ◆ “Eco” mode operation provides up to 80% energy saving compared to standard chillers with compressor on/off modes
- ◆ High pressure pumping up to 2 bar
- ◆ Adjustable overtemperature cut-out
- ◆ Models LT ecocool 150 and 200 additionally have USB interfaces for remote control via the user’s computer using accessory Labwise software and DIN sockets for connection to external temperature probes

Refrigeration units, LT ecocool

As described. Supplied with built-in controller and pump, stainless steel tank, lid and connectors and adapters for super seal, tubing ferrule, M16 or BSP connections. For 230V 50Hz single phase supplies.

CL120-45 LT ecocool 100

CL120-70 LT ecocool 150

CL120-80 LT ecocool 200

Full details of this range are given in the Circulators section.



CL120-45

Baths

LSB Aqua Pro Shaking Water Baths

Grant
IN THE LABORATORY

- ◆ Linear shaking action
- ◆ Magnetically coupled shaking trolley for use with separate trays
- ◆ Range: ambient + 5°C to 99°C
- ◆ Adjustable stroke speed, 20 to 200 strokes per minute (dependent on load) with 20mm stroke length
- ◆ Temperature stability (DIN 58966) and uniformity at 37°C to ±0.1°C
- ◆ Programmable temperature and shaking speed presets with precise PID electronic control, digital setting and display
- ◆ Choice of bath capacities: 12 or 18 litres (working capacities: 5 or 8 litres)
- ◆ Front panel lock-out to avoid inadvertent adjustment of controls
- ◆ Supplied with non-drip, polycarbonate, gabled lid and universal flask tray
- ◆ 1 to 999 minute countdown timer with audible alarm at end of timed period
- ◆ User resettable sample protection, fixed thermal and low liquid level cut-outs
- ◆ Drain tap provided for easy emptying of the tank
- ◆ Can be converted to an unstirred water bath using accessory base tray

Model litres	Working vol. mm	Shaking tray area	Overall L x W x D mm	Weight kg
LSB12	5	240 x 235	380 x 335 x 270	9.2
LSB18	8	420 x 235	570 x 335 x 270	11.2

Shaking Water Baths, Grant LSB Aqua Pro

As described. Supplied with non-drip, polycarbonate, gabled lid and universal flask tray. Maximum flask immersion 60mm. For 220-240V 50/60Hz single phase supplies. Power ratings as indicated.

- BJ380-12** LSB12, 0.8kW, with TU12 tray
BJ380-22 LSB18, 1.4kW, with TU18 tray

Spares and Accessories

Universal flask trays

Designed to accommodate a variety of vessels including conical flasks up to 1litre. An adjustable network of cross-springs secures the vessels firmly whilst allowing easy insertion and removal.

- BJ384-03** TU12 for BJ380-12
BJ384-08 TU18 for BJ380-22

Plain or test tube trays

Accommodate containers, bags, miscellaneous vessels or SR series test tube racks as indicated.

- BJ384-14** TS12, up to 3 x SR racks, for BJ380-12
BJ384-17 TS18, up to 5 x SR racks, for BJ380-22

Racks SR series

Stainless steel, for test tubes as indicated and BJ384-14/BJ384-17.

- BJ386-05** SR-10, 48 x 10mm **BJ386-21** SR-25, 12 x 25mm
BJ386-09 SR-13, 44 x 13mm **BJ386-25** SR-30, 10 x 30mm
BJ386-13 SR-16, 24 x 16mm **BJ386-32** SR-SE, 119 x 0.5ml microtubes
BJ386-17 SR-19, 21 x 19mm **BJ386-36** SR-LE, 48 x 1.5ml microtubes

Flask or Plate trays

With tapped apertures threaded to accommodate screw-in, SC/SH series flask clips or deep well microplates with wells of at least 2ml, as indicated..

- BJ387-35** TF12, for BJ380-12
BJ387-37 TF18, for BJ380-22

Clips SC/SH series

Stainless steel, for a single conical flask or deep well microplate with 2ml well size minimum as indicated and BJ387-35/BJ387-37.

	Ref.	Flask capacity, ml	TF12 capacity (max. number)	TF18 capacity (max. number)
BJ388-06	SC-25	25	20	35
BJ388-08	SC-50	50	16	28
BJ388-10	SC-100	100	16	28
BJ388-12	SC-250	250	9	15
BJ388-14	SC-500	500	6	8
BJ388-16	SC-1000	1000	4	6

Base trays

Stainless steel. Can be used to replace the shaking trolley and convert the tank to an unstirred bath. Provides a platform over the heater on which vessels and racks can be placed.

- BJ389-39** SBT12 for BJ380-12
BJ389-41 SBT26 for BJ380-22



BJ380-22

BJ380-12

OLS26 Aqua Pro Shaking Water Bath

Grant
IN THE LABORATORY

- ◆ Orbital or linear shaking action selectable
- ◆ Quiet running, magnetically coupled shaking trolley for use with separate trays
- ◆ 0 to 99°C operation using accessories
- ◆ Adjustable shaking speed, 20 to 200rpm (orbital), 20 to 200 strokes per minute (linear), depending on load, with variable stroke length (3 settings)
- ◆ Temperature stability (DIN 58966) and uniformity to $\pm 0.1^{\circ}\text{C}$
- ◆ Precise electronic control of temperature and shaking speed with digital setting and separate LED displays of speed and temperature
- ◆ 1 to 999 minute countdown timer with audible alarm at end of timed period
- ◆ 26 litre capacity stainless steel tank and drain tap for easy emptying
- ◆ Can be converted to an unstirred water bath using accessory tray
- ◆ Supplied with non-drip, polycarbonate, gabled lid and universal flask tray

Linear motion

A choice of three stroke length settings are available by simple adjustment within the tank.

Setting	Stroke length mm
A	18
B	28
C	36

Orbital motion

Adjustable from 20 to 200rpm with a 9mm fixed radius.

Shaking Water Bath, Grant OLS26

As described. Tank dimensions 505 x 300 x 200mm deep. Overall 555 x 325 x 300mm deep. Supplied with non-drip, polycarbonate, gabled lid and TU26 universal flask tray. Maximum flask immersion 70mm (30mm at fastest speed setting). Weight 13.8kg. For 220-240V 50/60Hz single phase supplies, 1.4kW.

BJ404-30 OLS26



BJ404-30 in use

Spares and Accessories

Universal flask tray, TU26

Versatile stainless steel tray, designed to accommodate a variety of vessels including 'sandwich boxes' for hybridisation and conical flasks up to 1litre. An adjustable network of cross-springs secures the vessels firmly whilst allowing easy insertion and removal.

BJ410-51 Universal flask tray, TU26

Plain or test tube tray, TS26

Accommodates containers, miscellaneous vessels, bags or up to 5 x SR series test tube racks.

BJ412-55 TS26

Racks SR series

Stainless steel, for test tubes as indicated and BJ412-55.

BJ386-05 SR-10, 48 x 10mm **BJ386-21** SR-25, 12 x 25mm
BJ386-09 SR-13, 44 x 13mm **BJ386-25** SR-30, 10 x 30mm
BJ386-13 SR-16, 24 x 16mm **BJ386-32** SR-SE, 119 x 0.5ml microtubes
BJ386-17 SR-19, 21 x 19mm **BJ386-36** SR-LE, 48 x 1.5ml microtubes

Flask or Plate tray, TF26

With tapped apertures threaded to accommodate screw-in, SC/SH series flask clips or deep well microplates with wells of at least 2ml, as indicated.

BJ412-60 TF26

Clips SC/SH series

Stainless steel, for a single conical flask or deep well microplate with 2ml well size minimum as indicated and BJ412-60.

	Ref.	Flask capacity, ml	TF12 capacity (max. number)	TF18 capacity (max. number)
BJ388-06	SC-25	25	20	35
BJ388-08	SC-50	50	16	28
BJ388-10	SC-100	100	16	28
BJ388-12	SC-250	250	9	15
BJ388-14	SC-500	500	6	8
BJ388-16	SC-1000	1000	4	6

Base tray, SBT26

Stainless steel. Can be used to replace the shaking trolley and convert the tank to an unstirred bath. Provides a platform over the heater on which vessels and racks can be placed.

BJ389-41 Base tray, SBT26

Sloping lid, LS200

Stainless steel. For use at temperatures above 60°C.

BJ418-10 Sloping lid, LS200

Water coil, CW26

For use with mains tap water or refrigerated circulator. Suitable where the required temperature is 2°C or more above that of the coolant used. Fits underneath the shaking trolley.

BJ422-27 Water coil, CW26

Immersion cooler, CC26

Refrigerated cooler, fixed cooling, with coil designed to fit under the shaking trolley of the OLS200. Overall dimensions (cooler only) 410 x 285 x 225mm L x W x H. For 220-240V 50Hz single phase supplies. We suggest that lid BJ418-10 is also purchased as this has an access hole for the cooling coil supply.

BJ422-35 Immersion cooler, CC26

Baths

Unstirred Thermostatic Water Baths



- ◆ High contrast, full colour TFT digital readout provides excellent clarity and easy viewing from distance across the laboratory, with set and actual temperatures simultaneously displayed
- ◆ Up to 5 programmable presets allow memory of frequently used time and temperature settings for re-use
- ◆ Digital control panel with angled keypad and display ensures comfortable access and navigation of the intuitive interface
- ◆ All baths feature a steeply gabled, transparent, hinging lid to accommodate media bottles and provide adequate clearance when opening/closing
- ◆ Primary and automatic safety thermostats with alarm
- ◆ Stainless steel tank within a coated steel housing with recessed carrying handles (10 litre models and larger feature a built-in drain tap)

Ref.		WBE02	WBE05	WBE10	WBE20	WBE28	
Operating range	°C	Ambient +5 to 99 – all models					
Tank capacity	litres	2	5	10	20	28	
Stability	±°C	0.1 – all models					
Display resolution	°C	0.1 – all models					
Timer		Up to 99 hours 59 minutes – all models					
Inner tank dimensions	L x W x H	mm	99 x 109 x 152	127 x 274 x 152	269 x 295 x 152	241 x 432 x 152	241 x 432 x 203
Accessory racks accepted			1	2	4	5	5
Overall dimensions	L x W x H	mm	305 x 229 x 267	305 x 368 x 267	432 x 393 x 305	445 x 572 x 305	445 x 572 x 356
Heater	kW	0.12	0.38	1.08	1.44	1.44	
Weight	kg	4.1	604	10	11.3	12.7	

Unstirred Thermostatic Water Baths, Polyscience

As described. For 240V 50Hz single phase supplies.

- BJ433-02** WBE02
- BJ433-05** WBE05
- BJ433-10** WBE10
- BJ433-20** WBE20
- BJ433-28** WBE28

Accessory test tube racks

For baths up to 5 litres capacity.

- BJ434-04** for 15 tubes 10-13mm diameter
- BJ434-06** for 15 tubes 14-18mm diameter

For baths 10 to 28 litres capacity.

- BJ434-08** for 15 tubes 10-13mm diameter
- BJ434-11** for 15 tubes 14-18mm diameter

Spheres

Polypropylene, 20mm diameter. Supplied in pack of 300. Packs required to provide a single layer. 2 to 10 litre baths require 1 pack, 20 and 28 litre baths require 3 packs.

- BJ177-03** Spheres



Baths

Open Tank Water Baths



A wide-ranging family of combined thermostatic controllers and bath tanks with high-performance features and modern components to ensure reliable operation with premium accuracy and stability.

- ◆ Choice of four thermostatic controller levels; MX, Standard Digital (SD), Advanced Digital (AD) and Advanced programmable (AP)
- ◆ Maximum temperature up to +200°C, dependent on the controller, bath tank and bath fluid chosen
- ◆ All controllers feature pumped, closed-circuit circulation with AD and AP units additionally offering open-circuit circulation with return suction and remote monitoring/control using accessory Pt100 temperature probes
- ◆ Safety features include high/low temperature limits with alarms and indicators, low liquid level safety cut-out and power outage reset
- ◆ Choice of polycarbonate or stainless steel tanks with recessed carrying handles and supplied with flat lids. All stainless steel tanks and polycarbonate tanks greater than 14 litres also have built-in drain taps

Thermostatic Controllers

Ref.		MX	SD	AD	AP
<i>Operating ranges[†],</i>					
	<i>polycarbonate tanks</i>	°C Ambient +10 to +85 – all models			
	<i>stainless steel tanks</i>	°C Ambient +10 to +135 (MX controller), +150 (rest of range)			
<i>Stability</i>	±°C	0.07	0.04	0.01	0.005
<i>Display (backlit), resolution</i>	°C	LCD, 0.1	LCD, 0.1	LCD, 0.01	Colour LCD, 0.01
<i>Pump max. pressure (water)</i>	mbar	120	200	250	250
<i>Max. pump flow rate</i>	l/min.	11.9	10.2	16.7	16.7
<i>Max. suction flow rate</i>	l/min.	—	—	12.2	12.2
<i>Pump speed</i>		single	two	variable	variable
<i>Temperature calibration points</i>		1	1	1	10
<i>Programming capability?</i>		—	—	—	Yes
<i>Timer?</i>		—	—	Yes	Yes
<i>Interfaces</i>		—	RS232	RS232/RS485, USB, ethernet - both models	
<i>Inlet/outlet tubing bores</i>	mm	13 - all models			
<i>Supply requirement</i>		240V 50Hz single phase - all models			

[†] Dependent on bath/controller/bath fluid combination and using a lid/cover for temperatures over +60°C

Continued on next page



Open Tank Water Baths, continued



Polycarbonate tank models

Catalogue no.,	MX controller AP controller	BJ440-30 BJ440-65	BJ440-40 BJ440-75	BJ440-60 BJ440-85
Tank capacity	litres	8	14	23
Working access	L x W x D, mm	105 x 156 x 203	314 x 156 x 203	210 x 305 x 203
Overall	L x W x H, mm	322 x 207 x 441	532 x 208 x 441	457 x 345 x 441
Weight,	kg	7.2	10.9	20.4

Open Tank Water Baths, Polyscience, polycarbonate tanks

As described. For 240V 50Hz single phase supplies.

- BJ440-30** MX08P100, 8 litres, ambient + 10 to +85°C
- BJ440-40** MX14P100, 14 litres, ambient + 10 to +85°C
- BJ440-60** MX23P100, 23 litres, ambient + 10 to +85°C

- BJ440-65** AP08P100, 8 litres, ambient + 10 to +85°C
- BJ440-75** AP14P100, 14 litres, ambient + 10 to +85°C
- BJ440-85** AP23P100, 23 litres, ambient + 10 to +85°C

Stainless steel tank models

Catalogue no.,	MX controller AD controller AP controller	BJ442-03 BJ442-33 BJ442-42	BJ442-06 BJ442-36 BJ442-46	BJ442-09 BJ442-39 BJ442-49	BJ442-12 BJ442-40 BJ442-52
Tank capacity	litres	6	10	20	28
Working access	L x W x D, mm	100 x 110 x 152	99 x 255 x 152	264 x 228 x 152	257 x 214 x 203
Overall	L x W x H, mm	340 x 206 x 406	353 x 342 x 406	531 x 342 x 406	531 x 342 x 457
Weight,	kg	9.1	17.7	24.5	29.9

Open Tank Water Baths, Polyscience, stainless steel tanks

As described. For 240V 50Hz single phase supplies.

- BJ442-03** MX06S135 6 litres, ambient + 10 to +135°C
- BJ442-06** MX10S135 10 litres, ambient + 10 to +135°C
- BJ442-09** MX20S135 20 litres, ambient + 10 to +135°C
- BJ442-12** MX28S135 28 litres, ambient + 10 to +135°C
- BJ442-33** AD06S150, 6 litres, ambient + 10 to +150°C
- BJ442-36** AD10S150, 10 litres, ambient + 10 to +150°C
- BJ442-39** AD20S150, 20 litres, ambient + 10 to +150°C
- BJ442-40** AD28S150, 28 litres, ambient + 10 to +150°C

- BJ442-42** AP06S150, 6 litres, ambient + 10 to +150°C
- BJ442-46** AP10S150, 10 litres, ambient + 10 to +150°C
- BJ442-49** AP20S150, 20 litres, ambient + 10 to +150°C
- BJ442-52** AP28S150, 28 litres, ambient + 10 to +150°C

Other tank/controller combinations are available - *details on request.*



Accessory Pt100 Temperature Probes

For use with AD/AP controllers only when monitoring/controlling the contents of remotely heated vessels in open-circuit operation. With cable lengths as indicated.

- BJ443-92** Pt100 probe, 0.6m cable
- BJ443-96** Pt100 probe, 2m cable
- BJ443-98** Pt100 probe, 8m cable

Open Tank Water Baths, continued



Polycarbonate tank models

Catalogue no.,	MX controller AP controller	BJ440-30 BJ440-65	BJ440-40 BJ440-75	BJ440-60 BJ440-85
Tank capacity	litres	8	14	23
Working access	L x W x D, mm	105 x 156 x 203	314 x 156 x 203	210 x 305 x 203
Overall	L x W x H, mm	322 x 207 x 441	532 x 208 x 441	457 x 345 x 441
Weight,	kg	7.2	10.9	20.4

Open Tank Water Baths, Polyscience, polycarbonate tanks

As described. For 240V 50Hz single phase supplies.

- BJ440-30** MX08P100, 8 litres, ambient + 10 to +85°C
- BJ440-40** MX14P100, 14 litres, ambient + 10 to +85°C
- BJ440-60** MX23P100, 23 litres, ambient + 10 to +85°C

- BJ440-65** AP08P100, 8 litres, ambient + 10 to +85°C
- BJ440-75** AP14P100, 14 litres, ambient + 10 to +85°C
- BJ440-85** AP23P100, 23 litres, ambient + 10 to +85°C

Stainless steel tank models

Catalogue no.,	MX controller AD controller AP controller	BJ442-03 BJ442-33 BJ442-42	BJ442-06 BJ442-36 BJ442-46	BJ442-09 BJ442-39 BJ442-49	BJ442-12 BJ442-40 BJ442-52
Tank capacity	litres	6	10	20	28
Working access	L x W x D, mm	100 x 110 x 152	99 x 255 x 152	264 x 228 x 152	257 x 214 x 203
Overall	L x W x H, mm	340 x 206 x 406	353 x 342 x 406	531 x 342 x 406	531 x 342 x 457
Weight,	kg	9.1	17.7	24.5	29.9

Open Tank Water Baths, Polyscience, stainless steel tanks

As described. For 240V 50Hz single phase supplies.

- BJ442-03** MX06S135 6 litres, ambient + 10 to +135°C
- BJ442-06** MX10S135 10 litres, ambient + 10 to +135°C
- BJ442-09** MX20S135 20 litres, ambient + 10 to +135°C
- BJ442-12** MX28S135 28 litres, ambient + 10 to +135°C
- BJ442-33** AD06S150, 6 litres, ambient + 10 to +150°C
- BJ442-36** AD10S150, 10 litres, ambient + 10 to +150°C
- BJ442-39** AD20S150, 20 litres, ambient + 10 to +150°C
- BJ442-40** AD28S150, 28 litres, ambient + 10 to +150°C

- BJ442-42** AP06S150, 6 litres, ambient + 10 to +150°C
- BJ442-46** AP10S150, 10 litres, ambient + 10 to +150°C
- BJ442-49** AP20S150, 20 litres, ambient + 10 to +150°C
- BJ442-52** AP28S150, 28 litres, ambient + 10 to +150°C

Other tank/controller combinations are available - *details on request.*



Accessory Pt100 Temperature Probes

For use with AD/AP controllers only when monitoring/controlling the contents of remotely heated vessels in open-circuit operation. With cable lengths as indicated.

- BJ443-92** Pt100 probe, 0.6m cable
- BJ443-96** Pt100 probe, 2m cable
- BJ443-98** Pt100 probe, 8m cable

Baths

Thermostatic Baths



A revised range of circulation baths comprising any combination of five basic tank sizes and four thermoregulator controllers.

- ◆ Digital control models
- ◆ Five basic tank sizes 8 to 48 litres
- ◆ TU20D digital model is programmable via a built-in bi-directional RS232 interface
- ◆ Built-in circulating pump with external connections (except TU-20HT)
- ◆ Wide temperature range -40 to $+250^{\circ}\text{C}$
- ◆ Control stability up to $\pm 0.005^{\circ}\text{C}$
- ◆ Adjustable overtemperature cut-out
- ◆ Highly insulated, liquid calibration bath (LCB) tanks available for maintaining precise temperatures at 200°C or above

Construction All models comprise an immersion heating element, temperature sensor, solid-state control circuit and circulating pump, built into a rugged, splash-proof case. All submerged parts are made either of stainless steel or high temperature self-extinguishing plastic. The tank interior is stainless steel.

Controllers Temperature control is by one of either of the various Tempette or Tempunit controllers described on the following pages.

Circulation A powerful pressure circulation pump with external connection is fitted as standard to each model except TU-20HT.

Safety Techne thermoregulators are designed and manufactured under BS-EN ISO 9001. They conform with all important international RF interference and electrical safety regulations, including the EMC and Low Voltage Directives, and carry the CE-mark.

Tanks

Nominal dimensions and weights.

Model		B-8	B-12	B-18	B-26	B-48
Tank capacity	litres	8	12	18	26	48
Overall dimensions						
— length/width	mm	265/325	354/325	530/325	530/325	594/365
— height (bath)	mm	172	172	172	222	298
Internal dimensions						
— working length/width \mp	mm	115/300	205/300	380/300	380/300	430/330
— depth max./min.	mm	130/100	130/100	130/100	180/150	255/224
Working capacity max./min.	litres	8.0/6.0	11.6/8.4	18.0/13.2	26.0/20.5	48.5/42.5
Weight, net	kg	3.6	4.2	5.4	6.6	11.6

\mp 8, 12, 18 and 26 litre tanks taper slightly towards the base. Dimensions given are those at the top of the bath.

Liquid Calibration Bath (LCB) Tanks

Nominal dimensions and weights.

Model		LCB-5	LCB-7	LCB-12
Tank capacity	litres	5	7	12
Bath opening	mm	140 x 140 — all models		
Overall dimensions, L x W x H	mm	351 x 260 x 183	351 x 260 x 233	351 x 260 x 358
Weight, net	kg	5	6	9

Thermoregulators

Specifications to DIN 58966.

Model		TE-10A	TE10D	TU-20D	TU-20HT
Operating temp. range*	$^{\circ}\text{C}$	-20 to $+95$	-40 to $+120$	-40 to $+200$	-40 to $+250$
Temperature selection		Analogue	Digital	Digital	Digital
Stability using water at 40°C	$^{\circ}\text{C}$	± 0.01	± 0.01	± 0.005	± 0.005
Method of control		Proportional	PID	PID	PID
Temperature sensor		Thermistor	PRT	PRT	PRT
Pump capacity, pressure, litres/min.		10	10	10	—
suction, litres/min.		—	—	—	—
	mbar	145	145	145	—
RS232 Interface		—	—	Standard	Standard
Cooling coil		Accessory	Accessory	Accessory	Accessory
Dimensions (W x D x H)	mm	237 x 124 x 260 — all models			
Weight, net	kg	3.7	3.9	4.0	4.2

* Cooling water or refrigeration as appropriate is required at low temperatures.

continued on next page



Baths

Portable Thermoregulators



"Clip on" temperature controllers with mounting clamp suitable for vessels with wall thickness up to 25mm. All models incorporate a splash-proof case, coiled immersion heater and pressure circulating pump (except TU-20HT). In addition they are fitted with an adjustable overtemperature cut-out and conform to international standards for radio frequency interference.

TE10D, TU20D and TU20-HT models have a low liquid level cut-out.

TU-20D and TU20-HT have a built-in RS232 interface which allows them to communicate with the users' personal computer if required using Therisoft PC control freeware.

All 230V units are supplied with both UK and European Schuko plugged mains supply leads.

Tempunit® is a registered trade marks of Techne Ltd.

Tempunit® Model TE-10D Digital

Versatile controller for accurate repeatability of temperature settings.

Range -40 to +120°C*
Stability (DIN 58966) ±0.01°C
Pump capacity 10 litres/minute
Overall L x W x H 237 x 124 x 260mm
For 230V 50/60Hz single phase supplies.

BJ765-25 TE-10D Digital

Tempunit® Model TU-20D Digital

High precision, digital controller with wide temperature range and fine temperature adjustment. Fitted with bi-directional RS232 interface for programming by a personal computer.

Range -40 to +200°C*
Stability (DIN 58966) ±0.005°C
Pump capacity 10 litres/minute
Overall L x W x H 237 x 124 x 260mm
For 230V 50/60Hz single phase supplies.

BJ770-25 TU-20D Digital

* Accessory cooling is required for operation near or below ambient temperature.

Tempunit® Model TU-20HT Digital

Ultra-wide ranging, high accuracy, digital controller with adjustable over-temperature cut-out and alarm, bi-directional RS232 interface and fitted cooling coil.

Range -40 to +250°C*†
Stability (DIN 58966) ±0.005°C
Overall L x W x H 237 x 124 x 260mm
For 230V 50/60Hz single phase supplies.

BJ775-30 TU-20HT

Notes:

* Accessory cooling is required for operation near or below ambient temperature.

†TU-20HT does not have an external circulation facility, and for use above 200°C, a Techne liquid calibration bath tank must be used.

Accessories

Cooling coil for all models. Requires a supply of cold water.

BJ778-06 Cooling coil

Dip coolers – see *BJ925 series*.

Polypropylene spheres to minimise evaporation – see *BJ177-03*.

Tanks with bridge mounting plates for use with controllers – see *BJ816/BJ819*.

Refrigerated Circulator Baths – see *CL160/CL162*.



BJ770-25, BJ765-25 and BJ775-30 are similar

Baths

Bath Tanks



Stainless steel tanks with stoved enamel steel outer cases incorporating carrying handles (except B-48). With bridge mounting plate for Techne controllers.

Model		B-8	B-12	B-18	B-26	B-48	
Tank capacity	litres	8	12	18	26	48	
Overall length	mm	265	354	530	530	594	
	width	mm	325	325	325	365	
	height	mm	172	172	172	222	296
Internal length	mm	115	205	380	380	430	
	width [†]	mm	300	300	300	330	
	depth max.	mm	130	130	130	180	255
	min.	mm	100	100	100	150	224
Weight, net	kg	3.6	4.2	5.4	6.6	11.6	

[†] 8, 12, 18 and 26 litre tanks taper slightly towards the base and have radiused internal corners. The 48 litre tank is of welded construction, with square corners. Dimensions given are those at the top of the bath.

- BJ816-08** Tank only Model B-8
- BJ816-12** Tank only Model B-12
- BJ816-18** Tank only Model B-18
- BJ816-26** Tank only Model B-26
- BJ816-48** Tank only Model B-48

Liquid Calibration Bath (LCB) Tanks

Heavily insulated tanks for low or high temperature operation with lid, drain tap and built-in cooling coil. (Please note: when fitted with a TU-20HT controller, these tanks cannot be used with Techne flow coolers). Operating range* -35 to +250°C.

*Cooling water or refrigeration as appropriate is required at low temperatures.

Model		LCB-5	LCB-7	LCB-12	
Tank capacity	litres	5	7	12	
Bath opening	mm	140 x 140 — all models			
Overall dimensions,	length x width	mm	351 x 260	351 x 260	
	height	mm	183	233	358
	Weight, net	kg	5	6	9

As described. Supplied with lid, built-in cooling coil and drain tap.

- BJ819-05** Tank only Model LCB-5
- BJ819-07** Tank only Model LCB-7
- BJ819-12** Tank only Model LCB-12

Cooling coil – see BJ778-06.

Polypropylene spheres – see BJ177-03.

Controllers – see BJ765/BJ775.



BJ816

Thermostatic Baths, complete*

*Now supplied as separate components - please select a tank and thermoregulator separately.

Accessories for Thermostatic Baths

A range of flat and gabled stainless steel lids are offered to suit all sizes of constant temperature baths. They provide complete coverage of the open bath surface for additional safety, reducing heat loss and evaporation, and containing steam or fumes.

Flat lids

- BJ853-08** for 8 litre baths
- BJ853-12** for 12 litre baths
- BJ853-18** for 18 and 26 litre baths
- BJ853-48** for 48 litre baths

Gabled lid

The gabled lid offers extra working headroom within the bath, and the angled top directs condensate to the side of the bath.

- BJ856-18** for 18 and 26 litre baths

Dip Coolers



For use with thermostatic baths and controllers to provide controlled temperatures near or below ambient.

Catalogue No.		BJ925-10	BJ925-40	
Model		RU-200	RU-500	
Minimum temperature	°C	-20	-35	
Cooling capacity at	20°C	W	145	240
	0°C	W	145	240
	-10°C	W	110	230
Coil L x D	mm	85 x 75	85 x 75	
Hose length	mm	1250	1250	
Overall	mm	235 x 420 x 300	370 x 430 x 325	
Weight, net	kg	17.7	31	

As detailed. With mains on/off switch, power indicator lamp and compressor on lamp. For 230V 50/60Hz single phase supplies.

- BJ925-10** RU-200
- BJ925-40** RU-500

Refrigerated Circulator Baths – see CL160.



BJ819-12 with BJ770-25



BJ925

Dip Coolers



For use with thermostatic baths and controllers to provide controlled temperatures near or below ambient.

Dip Coolers, Techne

Catalogue No.		BJ925-10	BJ925-40
Model		RU-200	RU-500
Minimum temperature	°C	-20	-35
Cooling capacity at	20°C	W	240
	0°C	W	240
	-10°C	W	230
Coil L x D	mm	85 x 75	85 x 75
Hose length	mm	1250	1250
Overall	mm	235 x 420 x 300	370 x 430 x 325
Weight, net	kg	17.7	31

As detailed. With mains on/off switch, power indicator lamp and compressor on lamp. For 230V 50/60Hz single phase supplies.

BJ925-10 RU-200

BJ925-40 RU-500

Refrigerated Circulator Baths – see CL160/CL162.



BJ925

Baths

Block Thermostats

Grant

IN THE LABORATORY

For controlled, dry heating of test tubes, microplates and Eppendorf tubes in aluminium blocks.

◆ Choice of models:

- QBD; range ambient +5°C to +130°C, with a novel interactive control interface using a dial rotor and two keys with a bright LED display, reaction timer from 1 to 4320 minutes, delayed start-up or switch-off function, offset adjustment to optimise accuracy, adjustable high temperature alarm, fault indication and alarm, socket for an accessory external Pt1000 temperature probe and thermal fuse overtemperature protection
- QBH; range ambient +5°C to +200°C, with all the features of the QBD series and two-point calibration of internal (or accessory external) temperature probes, front panel programming interface allowing set-up of up to three temperature/time segments plus an end-of-programme segment for control of audible alert and 'rest' temperature, and additional overtemperature protection by adjustable thermal cut-out

Model		QBD1	QBD2	QBD4	QBH2
Control		Digital	Digital	Digital	Digital
Range (resolution)	°C	Ambient +5 to 130 (0.1) — all models			Ambient +5 to 200 (0.1)
Stability (at 37°C)	±°C	0.1	0.1	0.1	0.1
Uniformity (at 37°C)	±°C				
	within block	0.1	0.1	0.1	0.1
	across similar blocks	0.2	0.2	0.2	0.2
Blocks accepted		1	2	4	2
Overall	L mm	230	280	380	280
	W mm	200	200	200	200
	H mm	100	100	100	100
Power	W	150	300	600	300
Supply		230V 50/60Hz single phase supply — all models			

As described. Supplied with block extraction tool. Requires, but do not include, interchangeable QB-series blocks.

- BK205-20** QBD1
- BK205-30** QBD2
- BK205-40** QBD4
- BK205-70** QBH2

Accessory covers

Clear polycarbonate. Protect the operator against accidentally touching blocks whilst hot.

- BK206-72** QBL1, for QBD1 only
- BK206-74** QBL2, for QBD2 and QBH2 only
- BK206-76** QBL4, for QBD4 only

External Pt1000 Probe UBEP

Allows in-block temperature of QBD/QBH series to be monitored and controlled directly.

- BK206-97** QBEP probe

Blocks, QB-series

Interchangeable. Machined aluminium, 140 x 50 x 62.5mm (L x W x H). Holes drilled as indicated.

	Ref.	No.	Dia. x depth, mm
BK217-03	QB-10	24	10 x 50
BK217-06	QB-12	24	12 x 50
BK217-07	QB-13	12	12 x 50
BK217-09	QB-16	12	16 x 50
BK217-12	QB-18	12	18 x 50
BK217-15	QB-24	5	24 x 50
BK217-16	QB-H	56 x 0.2ml centrifuge tubes	
BK217-18	QB-E0	24 x 0.5ml Eppendorf tubes	
BK217-21	QB-E1	24 x 1.5ml Eppendorf tubes	
BK217-23	QB-E2	24 x 2.0ml Eppendorf tubes	
BK217-24	QB-0	Solid for user to drill	
BK217-40	QB-50	4 x 50ml non-skirted centrifuge tubes	

Blocks for microtitration plates and PCR tubes - see MN663 on page 363.



BK205-40 in use with BK206-76, BK205-20 to BK205-40 are similar



BK217 in use

Baths

Block Thermostats

Grant

IN THE LABORATORY

Digital Block Thermostats, BT5D series, 400°C

- ◆ Precise digital setting and display with high clarity LED and recessed controls
- ◆ Integral fixed aluminium block
- ◆ 0 to 9999 minute timer or continuous operation
- ◆ Adjustable overtemperature cut-out with indicator

Maximum temperature 400°C, with stability $\pm 0.5^\circ\text{C}$. Digital setting and display to 1°C resolution. With 0 to 9999 minute timer, adjustable in 1 minute increments or for continuous operation, one fixed anodised aluminium block, drilled with holes as indicated. Overall 410 x 205 x 150mm. For 220-240V 50/60Hz single phase supplies, 750W.

	Model	No.	Dia. x depth mm
BK230-15	BT5D-16	38	16.5 x 60
BK232-15	BT5D-26	22	26.5 x 60

Digital Block Thermostat, BTD, 100°C

A low cost, analogue control, fixed block, dry heater for precision heating of microtubes, particularly in life sciences. With rapid heat up and digital control.

- ◆ Unique circular block which accommodates up to 49 samples in microtubes:
24 x 1.5/2ml 15 x 0.5ml 10 x 0.2ml
- ◆ Range: ambient $+5^\circ$ to $+100^\circ\text{C}$, stability $\pm 0.1^\circ\text{C}$
- ◆ Block uniformity: $\pm 0.2^\circ\text{C}$
- ◆ Heat up from $+25^\circ\text{C}$ to $+100^\circ\text{C}$ in 16 minutes, $+25^\circ$ to $+37^\circ\text{C}$ in 2 minutes
- ◆ Dual display of set and actual temperature
- ◆ Built-in timer from 1 minute to 96 hours with audible alarm at end of timed period
- ◆ Small footprint and compact design

As described. With circular fixed block. Overall 230 x 210 x 110mm (L x W x H). For 230V 50/60Hz single phase supplies, 200W.

BK245-20 BTD



BK230/BK232 in use



BK245-20 in use

Baths

Block Heaters



For uniform and stable heating of test tubes, Eppendorf tubes and cuvettes.

- ◆ Choice of
 - maximum temperature 130°C or 200°C
 - analogue dial or digital control with bright LED display
- ◆ Dual control model SBH130DC provides individual heating/control to two blocks

- ◆ 'Hot warning' light illuminates whenever block temperature exceeds 70°C even when unit is switched off (but remains connected to the mains supply socket)
- ◆ Heat to 100°C in less than twelve minutes

Model	SBH130	SBH130D	SBH130D/3	SBH130DC*	SBH200D	SBH200D/3
Range	°C ambient +8 to +130 — all models				°C ambient +8 to +200 — both models	
Stability (at 37°C)	±°C 0.1 — all models					
Uniformity	at 37°C ±°C 0.1 — all models					
	at 130°C ±°C 1.0 — all models					
Control	Analogue dial	Digital	Digital	Digital (x 2)*	Digital	Digital
Blocks accepted	2	2	3	2	2	3
Heater power	W 300	300	300	2 x 150*	300	450
Overall, W x D x H	mm 235 x 280 x 115	235 x 280 x 115	310 x 280 x 115	310 x 280 x 115	235 x 310 x 115	310 x 280 x 115
Weight	kg 2.1	2.3	3.2	2.9	2.3	3.2

*Dual control model with separate block heating.

Block Heaters, Stuart

As described. With 'power on' and 'hot warning' lamps and block extraction tool. For 230V 50Hz single phase supplies. Without blocks.

- BK280-40** SBH130
- BK280-45** SBH130D
- BK280-50** SBH130DC

- BK280-52** SBH130D/3
- BK280-55** SBH200D
- BK280-60** SBH200D/3



BK280-40 in use



BK280-45 in use

Accessories

Aluminium blocks

Supplied singly.

- BK282-04** for 20 x 10.5mm diameter tubes
- BK282-08** for 20 x 12.6mm diameter tubes
- BK282-12** for 12 x 16.5mm diameter tubes
- BK282-16** for 8 x 19.5mm diameter tubes
- BK282-19** for 6 x 25.5mm diameter tubes

- BK282-21** for 6 x 28mm diameter tubes
- BK282-25** solid for user to drill as required
- BK282-26** for 48 x 0.2ml centrifuge tubes
- BK282-27** for 30 x 0.5ml tubes
- BK282-28** for 20 x 1.5ml Eppendorf tubes

- BK282-30** for 20 x 2.0ml Eppendorf tubes
- BK282-35** for 15 x 10mm cuvettes. Separations can be removed to take larger cells
- BK282-40** for 1 x 96-well microplate
- BK282-42** for 1 x 384-well microplate

Safety covers

Perspex covers protect the operator from 'spitting tubes' and against accidentally touching the blocks whilst hot.

- BK282-85** SBH/2, for 2-block models except dual control
- BK282-95** SBH/3, for 3-block and dual control models

Thermometers - see TG150.



BK280-50 in use

Baths

Dri-Blocks



Economical, compact, constant temperature heaters with choice of analogue or digital setting, maximum temperatures 100°C or 200°C and blocks held, suitable for test tubes, cuvettes and other small containers in a variety of applications.

- ◆ Analogue or digital setting
- ◆ Temperature stability:
Analogue models: $\pm 0.2^\circ\text{C}$ at 40°C
Digital models: $\leq \pm 0.1^\circ\text{C}$ at 37°C
- ◆ Digital models have a countdown timer with audible and visual alarms at the end of the timed period, faster heating rate and venting panels to reduce housing temperature and allow safe handling
- ◆ Model DB200/3 has a user-adjustable, overtemperature cut-out which can be set below the default overtemperature point of 210°C . This allows sensitive samples to be protected. A secondary safety thermal fuse is also fitted to all models
- ◆ Wide variety of accessory blocks available

Without blocks. For 230V 50/60Hz single phase supplies. Heater power as indicated.

- BK340-30** DB-2A, 0.3kW
- BK340-36** DB100/2, 0.3kW
- BK340-40** DB-3, 0.45kW
- BK340-45** DB-3A, 0.45kW
- BK340-52** DB200/3, 0.45kW
- BK340-86** DB100/4, 0.6kW

Accessory Aluminium Blocks

For tubes as indicated. Dimension given is tube diameter. Overall 95 x 76 x 51mm except where stated.

- BK360-04** 30 x 6mm
- BK360-08** 20 x 10mm
- BK360-12** 20 x 12mm
- BK360-16** 20 x 13mm

- BK360-20** 12 x 15mm
- BK360-24** 12 x 16mm
- BK360-28** 8 x 19mm
- BK360-32** 6 x 24mm
- BK360-36** 6 x 25mm
- BK360-40** 6 x 26mm

- BK360-50** 10 x 9mm/20 x 7mm
- BK362-04** 2 x 10mm cuvettes
- BK364-04** 20 x 1.5ml Eppendorf
- BK364-06** 30 x 0.5ml Eppendorf

- BK366-04** Solid user to drill
- BK366-12** Solid plastic spacers, for BK340-series, pack of 2
- BK368-04** Solid but with thermometer hole

Catalogue No.	BK340-30	BK340-36	BK340-40	BK340-45	BK340-52	BK340-86	
Model	DB-2A	DB100/2	DB-3	DB-3A	DB200/3	DB100/4	
Temperature range	$^\circ\text{C}$ ambient +5 to 100 - all models				ambient +5 to 200 - both models	ambient +5 to 100	
Temperature stability	at 37°C	–	$\leq \pm 0.1$	–	$\leq \pm 0.1$	$\leq \pm 0.1$	
	at 40°C	± 0.2	–	± 0.2	± 0.2	–	
Temperature setting	Rotary Knob	Push button	Rotary Knob	Rotary Knob	Push button	Push button	
Temperature display	—	Orange LED	—	—	Orange LED	Orange LED	
Heating time to max., minutes	12	8	18	30	19	7	
Timer, 1 min. to 99h 59minutes	no	yes	no	no	yes	yes	
Blocks accepted	2	2	3	3	3	4	
Overall	Length	mm 202	202	279	279	279	356
	Width	mm 260	260	260	260	260	260
	Height	mm 105	105	105	105	105	105
Weight	kg 4	5	6	6	6	7	

Further model sizes are available - details on request.

Programmable block heaters – see *Molecular Biology* section



BK340-36 in use



BK340-30 in use



BK340-86 in use

Baths

Block Heater Cooler, BL^oCKICE



- ◆ Range 0 to 40°C x 0.1°C (°F display facility)
- ◆ Holds two standard Techne aluminium blocks
- ◆ Integral timer from 1 second to 9 days
- ◆ Overtemperature cut-out with alarm
- ◆ LED temperature/time display

As described. With Peltier cooling module, accuracy $\pm 1^{\circ}\text{C}$ with block variation (identical blocks) $\pm 0.2^{\circ}\text{C}$, digital temperature or time display and lid. Overall 240 x 190 x 225mm W x D x H. Weight 3kg. For 100-230V 50/60Hz single phase supplies. Without blocks.

BK370-05 BL^oCKICE

Accessory Aluminium Blocks

For tubes as indicated. Dimension given is tube diameter. Overall 95 x 76 x 51mm except where stated.

BK360-04 30 x 6mm
BK360-08 20 x 10mm
BK360-12 20 x 12mm
BK360-16 20 x 13mm

BK360-20 12 x 15mm
BK360-24 12 x 16mm
BK360-28 8 x 19mm
BK360-32 6 x 24mm
BK360-36 6 x 25mm

BK360-40 6 x 26mm
BK360-50 10 x 9mm/20 x 7mm
BK362-04 2 x 10mm cuvettes
BK364-04 20 x 1.5ml Eppendorf

BK364-06 30 x 0.5ml Eppendorf
BK366-04 Solid user to drill
BK366-12 Solid plastic spacers, for BK370- series, pack 2
BK368-04 Solid but with thermometer hole

Dry Bath Heater/Cooler, N^oICE



Allows small tubes up to 15ml to be incubated on the bench at sub-ambient temperatures without the inconvenience of ice baths such as melting and soaked labels.

- ◆ Range 0 to 40°C x 0.1°C (°F display facility)
- ◆ Heats/cools using removable aluminium tank filled with small diameter, ceramic-coated beads
- ◆ Overtemperature cut-out with alarm
- ◆ LED temperature/time display

As Described. With Peltier cooling module, accuracy $\pm 1^{\circ}\text{C}$, removable aluminium tank and beads, digital temperature display and lid. Overall 240 x 190 x 225mm W x D x H. Weight 4.5kg. For 100-230V 50/60Hz single phase supplies.

BK380-10 N^oICE
BK380-55 Spare tank for BK380-10
BK380-60 Bead charge for BK380-55



BK370-05 in use



BK380-10 in use

Baths, Batteries

Fluidised Baths



High temperature dry baths which are pollution free and safer replacements for traditional oil and salt baths.

Fluidised principle

A fluidised bath consists of a loosely packed mass of solid particles through which an upward flow of gas is passed. In this fluidised state the particles become mobile, and the bath as a whole displays many of the properties of a liquid. However, since the bath is composed of tiny inert aluminium oxide particles, freezing, boiling and evaporation are totally eliminated.

The dry, inert particles do not adhere to immersed objects, neither do they cause corrosion. The particles have a gentle motion that is non-abrasive.

The mobility of the bath ensures rapid heat transfer and excellent temperature uniformity.

These baths require fluidising particle media and a clean air supply at a pressure of 21KN/m² (3psi) and maximum flow of 57 litres/minute.

Catalogue No.	BK502-12	BK512-12
Model	SBS-4	SBL-2D
Range	°C 50 to 500	50 to 600
Stability	±°C 1	— both models
Internal* depth	mm 140	350
diameter	mm 178	228
Rating	kW 1.5	4

*To the top of the fluidised medium.

Fluidised Baths, Techne

As described. For 220-240V 50/60Hz single phase supplies. Without fluidising media or air supply.

BK502-12 SBS-4 500°C

BK512-12 SBL-2D 600°C

Alundum aluminium oxide fluidising particle media - details on request.



BK502-12, BK512-12 is similar

Batteries/Battery Hydrometer

Dimensions are Height x Diameter or H x W x D in mm.

Lithium Manganese

Coin-type. Supplied singly.

	Type	Capacity mAh	Volts	Dimensions
BL590-05	CR1220	35	3	2 x 12.5
BL590-10	CR1620	50	3	2 x 16
BL590-15	CR2016	60	3	1.6 x 20
BL590-20	CR2025	130	3	2.5 x 20
BL590-25	CR2032	180	3	3.2 x 20
BL590-30	CR2430	260	3	3 x 24.5

Dry-alkaline Manganese

All have cap and can contact, except BL610-04 which is a button cell.

	Type	Equivalent	Volts	Dimensions
BL610-04	LR44	—	1.4	5.4 x 11.6
BL610-08	MN2400 (size AAA)	HP6	1.5	45 x 11
BL610-15	MN1500 (size AA)	HP7	1.5	51 x 15
BL610-20	MN1400 (size C)	HP11	1.5	50 x 26
BL610-22	MN1300 (size D)	HP2	1.5	62 x 34
BL610-25	MN1604	PP3	9	49 x 27 x 18

Silver Oxide

Button cell type.

	Type	Capacity mAh	Volts	Dimensions
BL630-06	SR41	38	1.5	3.6 x 7.9
BL630-18	SR44	170	1.5	5.4 x 11.6

Battery Hydrometer

For lead-acid accumulators. Pipette type; range 1.100 to 1.300 with coloured zones indicating charged, partly charged, and uncharged conditions. With float, plastic jacket and rubber suction bulb and nozzle. Length 203mm.

BL710-08 Battery hydrometer



BL710-08

По вопросам продаж и поддержки обращайтесь:

Алматы (7273)495-231	Казань (843)206-01-48	Новокузнецк (3843)20-46-81	Смоленск (4812)29-41-54
Архангельск (8182)63-90-72	Калининград (4012)72-03-81	Новосибирск (383)227-86-73	Сочи (862)225-72-31
Астрахань (8512)99-46-04	Калуга (4842)92-23-67	Омск (3812)21-46-40	Ставрополь (8652)20-65-13
Барнаул (3852)73-04-60	Кемерово (3842)65-04-62	Орел (4862)44-53-42	Сургут (3462)77-98-35
Белгород (4722)40-23-64	Киров (8332)68-02-04	Оренбург (3532)37-68-04	Тверь (4822)63-31-35
Брянск (4832)59-03-52	Краснодар (861)203-40-90	Пенза (8412)22-31-16	Томск (3822)98-41-53
Владивосток (423)249-28-31	Красноярск (391)204-63-61	Пермь (342)205-81-47	Тула (4872)74-02-29
Волгоград (844)278-03-48	Курск (4712)77-13-04	Ростов-на-Дону (863)308-18-15	Тюмень (3452)66-21-18
Вологда (8172)26-41-59	Липецк (4742)52-20-81	Рязань (4912)46-61-64	Ульяновск (8422)24-23-59
Воронеж (473)204-51-73	Магнитогорск (3519)55-03-13	Самара (846)206-03-16	Уфа (347)229-48-12
Екатеринбург (343)384-55-89	Москва (495)268-04-70	Санкт-Петербург (812)309-46-40	Хабаровск (4212)92-98-04
Иваново (4932)77-34-06	Мурманск (8152)59-64-93	Саратов (845)249-38-78	Челябинск (351)202-03-61
Ижевск (3412)26-03-58	Набережные Челны (8552)20-53-41	Севастополь (8692)22-31-93	Череповец (8202)49-02-64
Иркутск (395)279-98-46	Нижний Новгород (831)429-08-12	Симферополь (3652)67-13-56	Ярославль (4852)69-52-93
Россия (495)268-04-70	Киргизия (996)312-96-26-47	Казахстан (7172)727-132	

аер@nt-rt.ru || <https://ajcope.nt-rt.ru/>