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 heated 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 routines and sensitive analytical procedures including sample incubation, calibration and quality control testing. All models from the **TC120** upwards are suitable for unnecessary both open and closed-loop circulators (i.e. remote vessel open or closed).

For more powerful heating requirements, i.e. above 200 °C, contact marketing@biosan.lv for advice.

Heating Circulators Specifications on page 74 and all available accessories on page 76

Model selection (see next page):

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.

Optima™ Series, Heating Circulators Specifications

T100

TC120

TX150

TXF200

SPECIFICATIONS

Grant Optima™ Heating Circulators Specifications		General purpose Digital		Digital High Performance	
		T100	**TC120**	**TX150**	**TXF200**
Stability (DIN 12876) @ 70°C	°C	±0.05	±0.05	±0.01	±0.01
Uniformity (DIN 12876) @ 70°C	°C	±0.1	±0.1	±0.05	±0.05
Setting resolution	°C	0.1	0.1	0.1 (0.01 with Labwise™)	
Display		4 digit LED		full colour QVGA TFT	
Timer function		—	1 to 6,000 min	1 min to 99 h 59 min	
No. preset temperatures		3	3	3	3
Re-calibration points		2	2	5	5
Offset adjustment		—	—	+	+
Socket for external probe (TXPEP, TXSEP)		—	—	+	+
Communication interface		—	—	USB & RS232	USB & RS232
Programmable		—	—	remote via PC/laptop 1 program/ 30 segments	direct via user interface or remote via PC/laptop 10 programs / 100 segments
Relays		—	—	1	1
Safety	overtemperature	fixed	adjustable cut-out		
Safety	fluid level — float switch	+	+	+	+
Alarms (can be configured to switch a relay)		—	high, without relay	high and low	high and low
Heater power 230 V	kW	1.3	1.3	1.9	1.9
Electrical power 230 V	kW	1.4 (50–60 Hz)	1.4 (50 Hz)	2.0 (50 Hz)	2.0 (50–60 Hz)
Height above tank rim	mm	200	200	200	200
Depth below tank rim	mm	135	135	135	135
Grant Optima™ thermostat pumps (integral)					
Maximum pressure	water, mbar	—	210	310	530
Maximum flow	water, l/min	—	16	18	23 (adjusted flow rate)
Pipe bore	inlet/outlet, mm	—	6/11	6/11	6/11
Dimensions (H×D×W)	mm	315 × 145 × 115			

ORDERING INFORMATION:

Cat. number:	T100 EURO	TC120 EURO	TX150 EURO	TXF200 EURO

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Optima™ Series, Water Bath Combinations and Accessories

Capacity (l)	Outer tank dimensions 1. Dimensions (H×D×W) Weight (kg) 2. Working area (D×W) 3. Min/max fluid depths 4. Inner tank dimensions (H×D×W)	T100 Temperature setting range	TC120 Temperature setting range	TX150 Temperature setting range	TXF200 Temperature setting range
ST5 – 5 l Stainless steel	1. 215 × 335 × 187 mm, 2.9 kg 2. 150 × 260 mm 3. 85/140 mm 4. 150 × 300 ×150 mm	**T100–ST5** amb.+15 to 100 °C	**TC120–ST5** 0 to 120 °C	**TX150–ST5** 0 to 150 °C	**TXF200–ST5** 0 to 200 °C
ST12 – 12 l Stainless steel	1. 215 × 332 × 360 mm, 4.5 kg 2. 205 × 300 mm 3. 85/140 mm 4. 150 × 325 × 300 mm	**T100–ST12** 0 to 100 °C	**TC120–ST12** 0 to 120 °C	**TX150–ST12** 0 to 150 °C	**TXF200–ST12** 0 to 200 °C
ST18 – 18 l Stainless steel	1. 215 × 545 × 340 mm, 7.3 kg 2. 385 × 300 mm 3. 75/130 mm 4. 150 × 505 ×300 mm	**T100–ST18** 0 to 100 °C	**TC120–ST18** 0 to 120 °C	**TX150–ST18** 0 to 150 °C	**TXF200–ST18** 0 to 200 °C
ST26 – 26 l Stainless steel	1. 270 × 535 × 340 mm, 7.7 kg 2. 385 × 300 mm 3. 125/180 mm 4. 200 × 505 × 300 mm	**T100–ST26** 0 to 100 °C	**TC120–ST26** –15 to 120 °C	**TX150–ST26** –15 to 150 °C	**TXF200–ST26** –15 to 200 °C
ST38 – 38 l Stainless steel	1. 260 × 733 × 338 mm, 11.9 kg 2. 575 × 300 mm 3. 125/180 mm 4. 200 × 690 × 300 mm	**T100–S38** 0 to 100 °C	**TC120–S38** –15 to 120 °C	**TX150–S38** –15 to 150 °C	**TXF200–S38** –15 to 200 °C
P5 – 5 l Plastic	1. 180 × 323 × 220 mm, 2.2 kg 2. 120 × 150 mm 3. 85/140 mm 4. 155 × 240 × 160 mm	**T100–P5** amb.+15 to 99 °C	**TC120–P5** amb.+15 to 99 °C	**TX150–P5** amb.+15 to 99 °C	**TXF200–P5** amb.+15 to 99 °C
P12 – 12 l Plastic	1. 180 × 412 × 340 mm, 3.4 kg 2. 210 × 280 mm 3. 85/140 mm 4. 155 × 325 × 280 mm	**T100-P12** amb.+5 to 99 °C	**TC120–P12** amb.+5 to 99 °C	**TX150–P12** amb.+5 to 99 °C	**TXF200–P12** amb.+5 to 99 °C
P18 – 18 l Plastic	1. 180 × 589 × 340 mm, 5.1 kg 2. 375 × 280 mm 3. 85/140 mm 4. 155 × 510 × 290 mm	**T100–P18** amb.+5 to 99°C	**TC120–P18** amb.+5 to 99°C	**TX150–P18** amb.+5 to 99°C	**TXF200–P18** amb.+5 to 99°C
OPTIONS AND ACCESSORIES					
Labwise™ PC software (optional)					
Allows two-way communication for status display, programming and data capture		—	—	+	+
External probes (optional)					
TXPEP flexible plastic probe, 3 m cable TXSEP stainless steel probe, 3 m cable		— —	— —	+ +	+ +
Remote switching device (optional)					
For switching appliances on and off (up to max. 8 Amps)		—	—	1	2
Vertical turbine pumps (optional)					
Low noise, compact design. Supplied with pipe connections and special lid for fitting to tank, pipe bore 12.7 mm					
VTP 1 **VTP 2**	max. pressure 1,000 mbar max. flow 9 l/min max. pressure 1,650 mbar max. flow 12 l/min	+ +	Required only where application demands a higher pressure than that delivered by the internal pump to maintain flow		

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Catalogue number matches the name of the product

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Optima™ Series, Water Bath Accessories

ACCESSORIES

	Lids to help reduce evaporation/heat loss and avoid sample contamination	**Polypropylene spheres** (no. of packs required, 300 spheres in one pack)	**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 	**STL5** flat stainless steel 	1 × PS20 	1 × QR 	—		—	
ST12 – 12 L stainless steel 	**STL12** gabled, hinged (removable) stainless steel 	1 × PS20 	2 × VR 	RS14 		—	
ST18 – 18 L stainless steel 	**STL26** gabled, hinged (removable) stainless steel 	2 × PS20 	4 × VR 	RS22 		—	
ST26 – 26 L stainless steel 	**STL26** gabled, hinged (removable) stainless steel 	2 x PS20 	4 × VR 	RS28 			
ST38 – 38 L stainless steel 	**STL38** gabled, hinged (removable) stainless steel 	3 × PS20 	6 × VR 	RS28 or RS38 			
P5 – 5 L plastic 	**PL5** flat, stainless steel 	1 × PS20 	1 × QR 	—	—	—	—
P12 – 12 L plastic	**PL12** curved plastic	1 × PS20	2 × VR	RS14	—	—	—
P18 – 18 L plastic	**PL18** curved plastic	2 × PS20	4 × VR	RS22	—		—

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