



Operating Manual

SV5, 12, 26P Series

Stainless steel water baths

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1 Safety

The following symbols marked on the equipment mean:-



Caution: Read these operating instructions fully before use and pay particular attention to sections containing this symbol.



Caution: Surfaces can become hot during use.

Always observe the following safety precautions

- Use only as specified by the operating instructions, or the intrinsic protection may be impaired.
- After transport or storage in humid conditions, dry out the unit before connecting it to the supply voltage. During drying out the intrinsic protection may be impaired.
- Connect only to a power supply with a voltage corresponding to that on the serial number label.
- Connect only to a power supply which provides a safety earth (ground) terminal.
- Before moving, disconnect at the power supply socket. Do not remove the IEC connector (where applicable).
- Do not check the temperature by touch, use the temperature display or a thermometer.
- To reduce the risk of eye injury during high temperature operation, use safety goggles or spectacles.
- Do not touch surfaces which become hot during high temperature operation.
- Ensure that the operating temperature is less than the maximum operating temperature of your sample material.
- Set the adjustable overtemperature cut-out (where applicable) after setting or changing the set temperature, and reset it at monthly intervals to check that the cut-out is operating correctly.
- Ensure that the mains switch is easily accessible during use.
- Do not block or restrict ventilation slots.
- These baths are for use only with water.
- If liquid is spilt inside the unit, disconnect it from the power supply and have it checked by a competent person.
- It is the user's responsibility to carry out appropriate decontamination if hazardous material is spilt on or inside the equipment.
- Do not connect to a power supply or switch on before filling the tank.
- Take care when topping up or draining, as the liquid in the tank may be very hot or cold.
- If the **alarm** lamp is illuminated do not touch the liquid or tank surface, they may be very hot. Refill carefully, a hot tank can cause a spattering of very hot water droplets and scalding steam.
- Always use a lid or polypropylene spheres when operating above 60°C. Take care when raising and removing the lid, it may be hot. Steam and hot vapours can cause scalding.
- Drain before moving the bath. Before draining allow the liquid to cool to below 50°C.
- This bath is protected by two fuses, one live and one neutral.

2 Assembly

2.1 Unpacking

Remove packing materials carefully, and retain for future shipment or storage of the unit. Packs should contain:

Stainless Steel Bath

mains cable
operating instructions
lid
base tray(s)

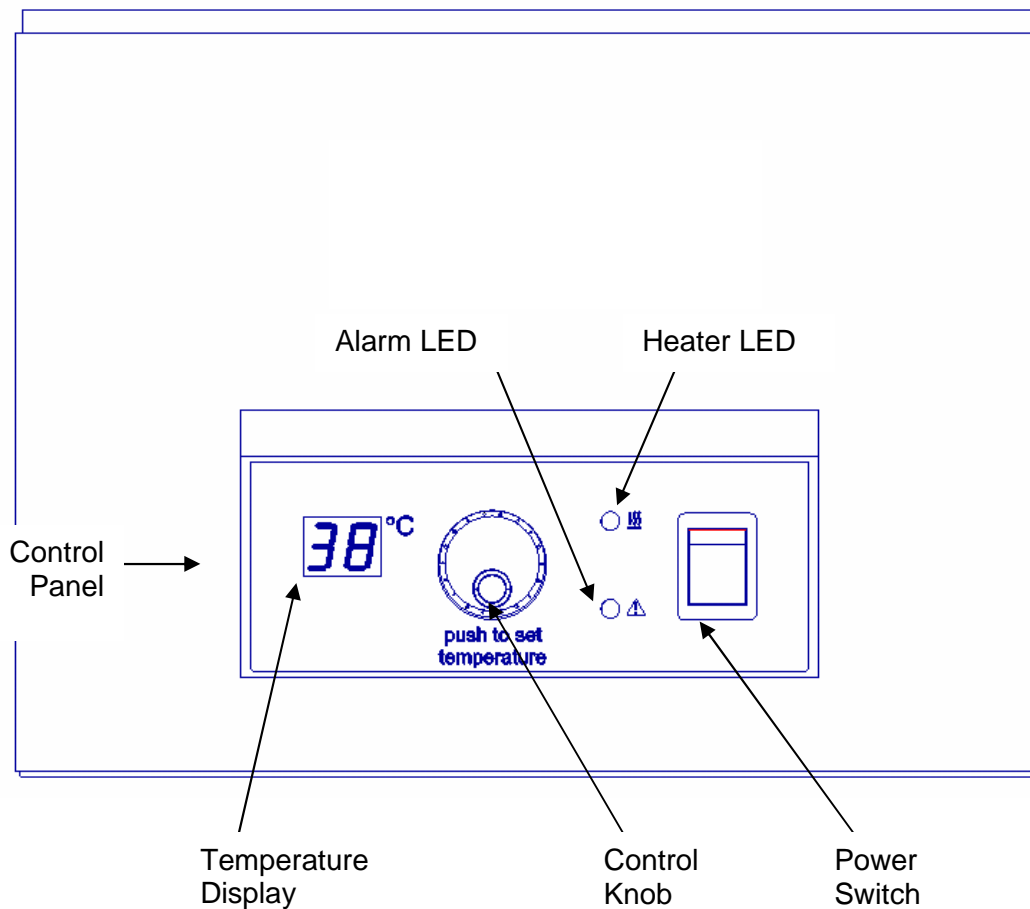
2.2 Installation Stainless Steel Bath

Fit the mains cable into the IEC power socket on the rear of the unit. Place the base tray(s) in the tank*. Fill the bath with water. The minimum depth is 50mm above the base of the tank and the maximum level is 30mm from top of the tank when bath is fully loaded.

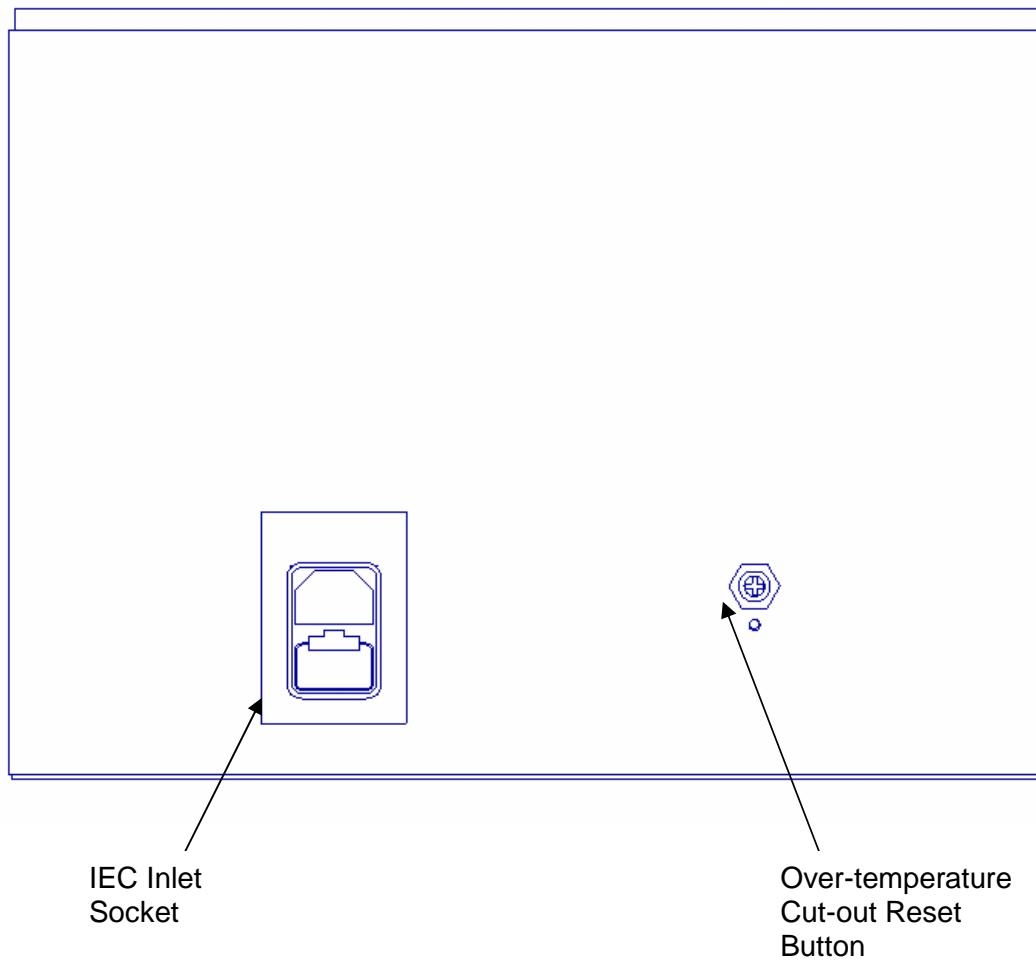
Always use the base tray(s); it protects the heater which is bonded to the underside of the tank.

3 Operation

Front Panel



Rear Panel



3.1 Controls and Indicator LED's

The temperature display normally shows the water temperature in °C

The control knob is used to set the required operating temperature

The heater LED indicates when the heater is on

The heater LED is on continuously when the water is heating up. As the required temperature is approached, it starts to flash. When the unit is controlling at set temperature, the heater LED flashes intermittently

The Alarm LED illuminates when the when the over-temperature cut-out has operated.

3.2 Setting the temperature

To set the temperature press the control knob on the control panel, the temperature display should now flash.

Rotate the control knob left and right to select the required set point.

Press the control knob again to confirm set point.

If the set point isn't confirmed within 5 seconds the unit will revert to the previous set point.

3.3 Overtemperature protection

A fixed overtemperature cut-out prevents the heater reaching a high temperature in the case of low liquid level.

The reset button for the cut-out is on the rear panel under the black cap, remove cap and press to reset after fault condition has been cleared.

4 Fault Diagnosis



<u>Symptom</u>	<u>Possible cause</u>	<u>Action required</u>
Unit does not operate	Unit not switched on	Switch on
	Unit not plugged into power supply	Plug in, switch on
	Power supply failure	Check that other electrical appliances on the same circuit are working
	Fuse blown in unit or in plug (UK units only)	Check and replace - see 7.2
Alarm lamp on	Overtemperature cut-out has operated	Reset cut-out. Check water level. If the cut-out operates again and cannot be reset, have the unit checked by a competent person
Temperature does not rise when expected	Set temperature is lower than liquid temperature	Check set temperature
	Set temperature is too close to ambient	Raise set temperature
	Overtemperature cut-out has operated	Reset cut-out
	Temperature control circuit fault	Have unit checked by competent person
Temperature continues to rise when not expected	Set temperature is higher than water temperature	Check setting
	Temperature control circuit fault	Have unit checked by competent person

Error messages for Controller

Display reading	Error
E1	Out of temperature range low or probe measurement failure.
E2	Out of temperature range high or probe measurement failure.
E4	Over temperature cut out operated.
E5	State machine failure switch off for 5 seconds then switch on if fault persists return for service.
E6	State machine failure switch off for 5 seconds then switch on if fault persists return for service.

6 Technical Specification

This equipment is for indoor use and will meet its performance figures within the ambient temperature range 10°C to 35°C, with maximum relative humidity of 80% non-condensing. Installation category II (transient voltages). Pollution degree 2 in accordance with IEC 664. For operation at altitudes of up to 2000 metres.

SV-P baths

Temperature range	(Ambient +5°C) to 99°C
Setting range	15°C to 99°C
Stability at 37°C (DIN 58966)	± 0.2°C
Temperature display resolution	1°C
Supply voltage range	220-240V: 50/60Hz
Power Rating	SV5P - 350W SV12P - 700W SV26P - 1400W

Overtemperature protection A resettable fixed temperature cut-out

	SV5P	SV12P	SV26P
Uniformity at 37°C	± 0.2°C	± 0.2°C	±0.2°C
Heat-up rate (ambient to max)	90 mins	80mins	80mins
Overall dimensions l/w/h (mm)	205/325/275	380/325/275	555/325/300

7 Maintenance and Service

All laboratory products are designed to comply with IEC1010-1 and can be flash tested. Some are fitted with radio frequency interference suppressors. Therefore it is recommended that only a d.c. test is performed.

No routine maintenance is required.

7.1 Cleaning

The cases can be cleaned with a damp cloth after disconnection. Do not use solvents. The immersed parts can be cleaned using proprietary heating element cleaners. CAUTION: these may be toxic - follow the cleaner manufacturer's instructions.

Before using any decontamination or cleaning method except that recommended, check with our Service Department, or in other countries with our distributor, that the proposed method will not damage the equipment

7.2 Replacement of Fuses

Empty the bath. Disconnect the unit from the power supply. Remove the IEC plug from the socket in the back of the bath. Press down the fuse drawer catch. Pull out the fuse drawer, check and replace with the correct fuses if necessary. The fuses should be 1.25 x 0.25 inch ceramic quick acting, rated:

220 - 240V:	SV5P – 5AF
	SV12P - 10AF
	SV26P - 10AF

Push back the drawer, and replace the IEC plug.

8 Guarantee

When used in laboratory conditions and according to these operating instructions, these baths are guaranteed for 12 months against faulty materials or workmanship.

9 Service

For service, return to our Service Department in the UK, or to our distributor.

Service Address: Grant Instruments (Cambridge) Ltd.
SHEPRETH
Cambridgeshire
SG8 6GB
England.

Tel: +44 (0) 1763 260 811
Fax: +44 (0) 1763 262 410
E-mail: labservice@grant.co.uk