



HIGH QUALITY
MADE IN GERMANY



SWAT THERMOMETER

Pt1000 Sous Vide Accurate Thermometer

Operating Manual

English

Deutsch

Français

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1. SAFETY

1.1 General note

This user manual describes the installation, handling and maintenance of the SWAT sous vide thermometer. It serves as a source of information and reference. Knowledge and observance of all instructions, including safety instructions, mentioned in the user manual is a prerequisite for the safe and correct use of the SWAT. In addition, you must comply with the general safety provisions specific to your country, in particular with regard to food safety.

1.2 Intended use of the SWAT

The SWAT was designed to take the temperature of liquids and foods. You can connect two types of Pt1000 probes to the SWAT: one dedicated to sous vide cooking, the other for an oven. The choice of the probe should be guided by the use you want to make of it.

PROBE TYPE	INTENDED USE	PROPERTIES
Ø 1,5 mm needle probe with silicone cable	Sous Vide cooking in a water bath	Suitable for use in water. Not suitable for temperatures above 200°C (392°F). Cable MUST NOT be pinched.
Ø 3 mm probe for oven	Cooking in an oven	Can be used up to 400°C (752°F) This probe is not waterproof beyond the metal tube. The shielded cable MUST NOT be immersed in water. The cable MUST NOT be pinched in the oven's door.

Sous Vide Consulting will assume no liability or warranty in case of usage for other purpose than the intended one, ignoring this manual, operating by unqualified staff as well as unauthorized modifications to the device.

1.3 Qualified staff

All instructions in this operating manual should be understood and followed by the SWAT user.

In case of doubt, in order to avoid any misinterpretation of the temperature reading, the user of the SWAT should imperatively seek additional information in this manual. The SWAT user is solely responsible for any damage resulting from misinterpretation of the temperature reading resulting from lack of knowledge or information.

1.4 Safety signs and symbol



DANGER

CAUTION!

This symbol warns of imminent danger, death, serious injuries and significant damage to property at non-observance.



ATTENTION

ATTENTION!

This symbol warns of possible dangers or dangerous situations which can provoke damage to the device or environment at non-observance.



INFORMATION

This symbol point out processes which can indirectly influence operation, possibly cause incorrect measurement or provoke unforeseen reactions at non-observance.

1.5 Reasonable foreseeable misuse of the SWAT



DANGER

**The SWAT must not be used at potentially explosive areas!
Do not use these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury or material damage.**

Failure to comply with these instructions could result in death or serious injury and material damage.



DANGER

The SWAT must not be used at a patient for diagnostic or other medical purpose.

1.6 Safety guidelines

The SWAT has been designed and tested in accordance with the safety regulations for electronic devices.

However, its trouble-free operation and reliability cannot be guaranteed unless the standard safety measures and special safety advises given in this manual will be adhered to when using the SWAT.



DANGER

The SWAT must not be used at potentially explosive areas! The usage of this device at potentially explosive areas increases danger of deflagration, explosion or fire due to sparking.



ATTENTION

If there is a risk whatsoever involved in running it, the SWAT has to be switched off immediately and to be marked accordingly to avoid re-starting.

Operator safety may be a risk if:

- there is visible damage to the device
- the device is not working as specified
- the device has been stored under unsuitable conditions for a longer time.

In case of doubt, please return device to manufacturer for repair or maintenance.



ATTENTION

Due to the pointed probe design there is a risk of stitch injury for devices with insertion probe.



Trouble-free operation and reliability of the device can only be guaranteed if the device is not subjected to any other climatic conditions than those stated under Chapter 11. If the device is transported from, a cold to a warm environment condensation may cause in a failure of the function. In such a case, make sure the device temperature has adjusted to the ambient temperature before trying a new start-up.



According to the regulation (EG) 1935/2004 the following parts of the equipment are laid-out for the permanent contact with food: The stainless steel tube from the temperature probe of the measuring tip till approx. 1 cm before.

Probe handle, connector cable and the device housing are not construed for the permanent contact with food.

2. PRODUCT DESCRIPTION

2.1 Scope of delivery

The scope of supply includes:

- The SWAT thermometer without 2 batteries type AA,
- Needle probe temperature sensor Pt1000, Ø 1,5 mm, 80 cm silicone cable, for sous vide cooking,
- Operating Manual,
- Non waterproof Pt1000 temperature probe for oven Ø 3 mm (Option)
- Magnetic and suction mount to fix the SWAT on a flat surface (Option)
- Protective case for the above items (Option)

2.2 Operating and maintenance

If the battery has been used up and needs to be replaced, the empty frame of the battery symbol starts blinking. The SWAT will, however, continue operating correctly for a certain time.

The battery has been completely used up, if **"BAT"** is shown in the main display.

Battery replacement: (see Chapter 8).



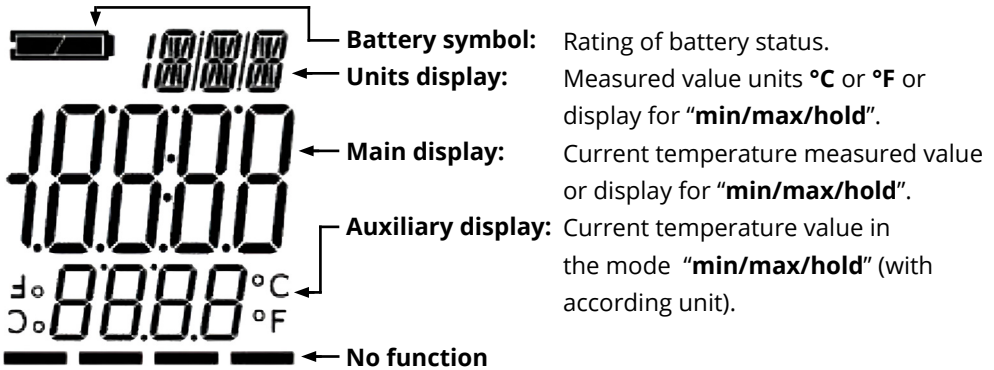
Treat the SWAT and probes carefully. Use only in accordance with above specification. (do not throw, hit against etc.). Protect plug and socket from soiling.



The battery has to be removed, when storing device above 50°C. We recommend taking out the batteries if device is not used for a longer period of time.

3. OPERATION OF THE SWAT

3.1 Display elements



3.2 Pushbuttons



Key on/off, backlight

press shortly: - switch on SWAT
- switch on/off backlight

press long: - switch off SWAT

In the menu, press long:
- discard changes
- switch off SWAT



Function key

press shortly: - hold and freeze measured value
"HLd"

press long: - invoke menu "ConF"

In the menu:

press shortly: - select next parameter

press long: - save settings
- exit menu "Stor"



Function key

press shortly: - freezes the temperature of the main screen based on a "min." or "max." measurement. The auxiliary display shows the real time temperature.



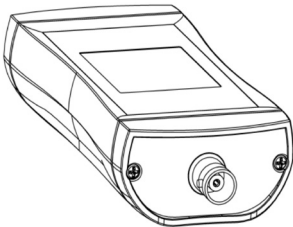
press long: - reset "CLr", the auxiliary display disappears and the main display indicates the real time temperature.



Turn display 180° ("Overhead-display") :

- press both keys until display is turned (orientation will be saved)

3.3 Connections



BNC - socket:

connection for Pt1000 temperature probe

Usage of the BNS plug:

Lock/unlock with turnable ring at cable socket.



ATTENTION!

The BNC socket isn't waterproof !

4. START OPERATION

Make sure that batteries conforming to those specified for SWAT (type AA) have been inserted (see Chapter 8).

Turn on the SWAT by pressing the on / off button.

SWAT performs a display test.

5. BASICS OF MEASUREMENTS - POSSIBLE ERRORS

5.1 Immersion depth

For measurements in liquids the probe should be immersed sufficiently deep (depending on probe diameter, at least 20 mm with \varnothing 3 mm and 10 mm with \varnothing 1.5 mm) and subsequently stirred.

5.2 Response time

Before reading the value measured by the SWAT, it is necessary to wait about 4 seconds for the temperature to stabilize.

6. TEMPERATURE PROBE

The SWAT can be equipped with 2 different interchangeable probes.

6.1 Extra-thin insertion probe (\varnothing 1,5 mm)



This is a Class A Pt1000 waterproof, thin, precise and very fast response time probe. The probe is suitable for prolonged contact with food.

This probe is made for "sous vide cooking" and can exceptionally be used in an oven at 200°C (392°F) for 2 hours max.

6.2 Thick insertion probe for oven (Ø 3 mm)



This probe and its cable are suitable for prolonged use in an oven up to 400°C (752°F).

The metal tube of the probe is suitable for prolonged contact with food.



ATTENTION!

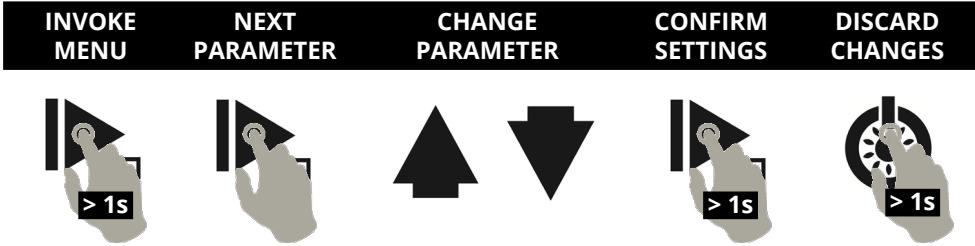
The presence of water or humidity on the cable of the dedicated OVEN PROBE can cause temperature measurement errors. This problem can be corrected by rinsing the cable with deionized water and after drying.



ATTENTION!

The cable of the probes (waterproof or oven probe) must not be pinched in the oven door. This will permanently damage the cable.

7. CONFIGURATION



Long press the **“ConF”** parameter button until the first parameter **“AL.”** is displayed on the auxiliary display.

Then, shortly press the settings button to select the next setting.

The parameter can be changed by pressing the **“up/down”** button.

After scrolling through the last parameter **“Init”** or by long pressing the parameter button, the parameters are saved **“Stor”**.

Exiting the parameters menu is then automatic.

When you are in the settings menu, it is possible, at any time, to cancel the modified settings by turning off the SWAT. When you turn on the SWAT, the settings of the previous configuration will be maintained.



When the value “YES” is selected for the parameter “INiT” and confirmed by pressing the “Parameter button”, then the SWAT will be reset and with the factory output parameters. If the “Parameters button” is not validated after 2 minutes, then the reset is canceled (the screen displays “END”).

7.1 Alarm

AL	oFF	No alarm function.
	on	Alarm via text display, buzzer and backlight flash.
	bEEP	Alarm via text display and buzzer.
	LiE	Alarm via text display and backlight flash.

AL. Lo 0.0°C **Temperature alarm Min.**
for The alarm is triggered as soon as the temperature
example drops below the selected minimum limit.



For sous vide cooking, it is useful to have an alarm to measure the target temperature at the heart of the foodstuff. The “AL. LO” alarm is therefore irrelevant (unless you want to measure the cooling phase of the pouch). We recommend that you set this value to 0.0 ° C (temperature lower than the product when taken out of the refrigerator). So you will not be disturbed by this alarm.

AL. Hi 54°C **Max temperature alarm.**
for The alarm is triggered as soon as the temperature is
example above the selected maximum limit. **This parameter is important in sous vide cooking. It allows you to trigger the alarm when the target core temperature of the foodstuff is reached or exceeded.**

7.2 Auto-power-off function

PoFF oFF The SWAT auto power off feature is disabled. **The SWAT remains on until the user manually turns off the SWAT.**

15, 30, 60, Automatically turn off device, when no key is pressed
120, 240 during the selected value (in minutes).

7.3 Backlight

LitE oFF Backlight disabled.

15, 30, 60, Automatically turn off backlight, when no key is pressed
120, 240 during the selected value (in seconds).

on The backlight will be activated and maintained for the entire period that the SWAT remains switched on.

7.4 Temperature unit

Unit °C Display temperature in °C.
 °F Display temperature in °F.

7.5 Restore factory settings

INiT no Keep current configuration.
 yES Load factory settings (display : **"INiT DONE"**).



After confirming the last parameter, "STOR" is displayed on the screen to confirm that the parameters have been saved.

8. REPLACING BATTERIES



DANGER

The use of damaged or unsuitable batteries could lead to further heating, whereby the batteries can burst or in the worst case explode.

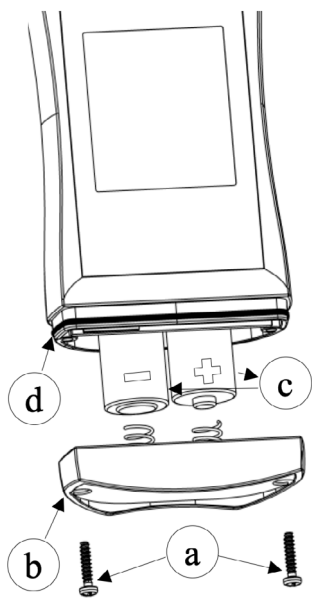


ATTENTION

ATTENTION!

Before changing batteries, please read the following instruction and follow it step by step. Not following the instruction may cause harm to the SWAT or the protection against ingress of water and dust may be lost! Avoid unnecessary opening of the SWAT!

Required tools : Phillips PH1 screwdriver



1) Unscrew the two screws (a) and remove the cover (b).

2) Exchange the two batteries (type: AA) (c) carefully. Ensure correct polarity. The correct position of the batteries is drafted on the circuit board. The batteries must slide in without force.

3) Check: O-ring seal (d) undamaged, clean and in the intended cavity. To make the assembly easier and prevent damage, a dry O-ring can be greased with suitable grease.

4) Put on the cover (b) straight. The device is starting automatically.

5) Note: the O-ring (d) has to be in the cavity, when pushing on the cover (b).

6) Tighten the screws (a).

9. FAULT AND SYSTEM MESSAGES

	DESCRIPTION	WHAT TO DO?
The display does not appear or with confusing characters. The buttons no longer respond.	Low or empty battery	Replace the batteries (see Chapter 8).
	System error	To reset the SWAT: open the SWAT case, remove the batteries (check that they are in good condition). Wait 1 minute then reinsert the batteries into the SWAT. Reposition and screw the SWAT cover back on (see Chapter 8).
	The SWAT is defective	Return the SWAT to the manufacturer.
ERR.1	The temperature measured is higher than the maximum temperature measurable by SWAT. Defective probe	Return the probe and thermometer to the manufacturer
ERR.2	The measured temperature is lower than the maximum temperature measurable by the SWAT Defective probe	Return the probe and thermometer to the manufacturer
SYS ERR	System error	Switch the SWAT off and on again. If necessary, reset the SWAT: open the SWAT case, remove the batteries (check that they are in good condition). Wait 1 minute then reinsert the batteries into the SWAT. Reposition and screw the SWAT cover back on. If the problem is not resolved: return the SWAT to the manufacturer (see Chapter 10).
BAT	Batteries are empty	See Chapter 8: Battery replacement
---- SWAT can't display a temperature value	The probe isn't compatible with the SWAT The temperature measuring range is exceeded Defective probe	Check if the probe is compatible with the SWAT Return the probe and thermometer to the manufacturer (see Chapter 10).

10. RESHIPMENT AND DISPOSAL

10.1 Reshipment



DANGER

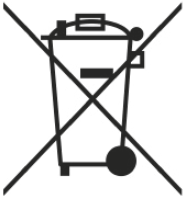
If the SWAT is returned to the manufacturer, it must be free of any residue present during temperature measurements and other hazardous substances.

For hygienic reasons, it is recommended to position the thermometer case as far as possible from the food for which you are taking the temperature.



Use suitable transport packaging for reshipment. Make sure that the SWAT and its probe are sufficiently protected in bubble wrap. Add to the package the reshipment form previously requested from the manufacturer as well as the RMA number (Return Merchandise Authorization).

10.2 Disposal



Dispose of used batteries at a collection point provided for this purpose.

The symbol on the device or on the accompanying documentation indicates that this product may under no circumstances be treated as household waste. It must therefore be handed over to a waste collection center responsible for recycling electrical and electronic equipment.

For further details on the treatment, recovery and recycling of this device, please contact the relevant office in your municipality or your local waste collection center.

11. TECHNICAL SPECIFICATIONS

11.1 Device

Measuring range temperatur	-200.0 ... +450.0 °C (-328.0 ... +842.0 °F). Note: the probe for sous vide cooking (with silicone cable) must not be used at temperatures above 200°C (392°F).
Temperature accuracy of the SWAT	-20...+100 °C: ± 0,1 °C else : ± 0, 2 %.
Measuring cycle	Approx. 2 measuring per second.
Housing	Unbreakable ABS case.
Protection class	SWAT not waterproof if not connected to the probe. If SWAT connected to the probe : Waterproof IP67 and IP65.
Dimensions LxBxH (mm)	108 x 54 x 28 mm without the probe. 130 g incl. battery and without sensor probe.
Working conditions	20 °C to 50 °C. R.F 0 à 95 % (if connected to the probe).
Directives and standards	Le SWAT comply with the following European directives: 2014/30/EU EMV directives 2011/65/EU RoHS Applied harmonized standards: EN 61326-1:2013 - emissions level: class B - emissions immunity according to table 2 - additional error < 0.5 % FS EN 50581: 2012

11.2 Probe

	PROBE FOR SOUS VIDE	PROBE FOR OVEN
Sensor element	Pt1000 Class A	Pt1000 Class B
Measuring range	-70 ... +200°C (probe tip)	-70 ... +450°C (probe tip)
Sensor tube	1.4404 (V4A)	1.4404 (V4A)
Connection	BNC connector with EPDM spout up to +75°C	BNC connector with EPDM spout up to +75°C
Protection Class	Waterproof IP67 Water jet protected IP65	Not waterproof
Accuracy Max. deviation Scope	± 0.1°C -50 to +200°C	± 0.2°C -50 to +400 °C

12. RELATED PRODUCTS



Extra Probe

Waterproof 6 or 10 cm

Standard 60 or 100 mm needle Ø 1.5mm diameter probe. Pt1000 Class A.



Extra probe

For oven

Non waterproof 100 mm needle Ø 3 mm diameter probe. Pt1000 Class B.



Custom made probe

Waterproof

Get the probe that fits perfectly your needs. Needle Ø 1.5mm diameter probe. Pt1000 Class A.



Casing

For the SWAT

Shockproof and waterproof case. Ideal accessory to protect your SWAT and probes. High quality suitcase.



Foam tape

For sous vide cooking

To be glued on the cooking pouch. Then insert the needle probe through the foam to measure the core temperature of the foodstuff.



Pouches

Sstandard pouches to preserve food, cooking and shrink cooking pouches.

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Operating MANUAL

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