



NÜVE SANAYİ MALZEMELERİ İMALAT VE TİCARET A.Ş

ST 30

SHAKING WATER BATH

USER'S MANUAL

CE

Dear Nüve User,

We would like to take this opportunity to thank you for preferring this Nüve product. Please read the operating instructions carefully and keep them handy for future reference.

Please detain the packing material until you see that the unit is in good condition and it is operating properly. If an external or internal damage is observed, contact the transportation company immediately and report the damage. According to ICC regulations, this responsibility belongs to the customer.

While you are operating the instrument please;

- obey all the warning labels,
- do not remove the warning labels,
- do not operate damaged instrument,
- do not operate the instrument with a damaged cable,
- do not move the instrument during operation.

In case of a problem contact your Nüve agent for an authorized service or maintenance.

The validity of the guarantee is subject to compliance with the instructions and precautions described in this manual.

Nüve reserves the right to improve or change the design of its products without any obligation to modify previously manufactured products.

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WARRANTY CERTIFICATE

1. Nüve warrants that the equipment delivered is free from defects in material and workmanship. This warranty is given for a period of two years. The warranty period begins from the delivery date.
2. Warranty does not apply to parts normally consumed during operation or general maintenance or any adjustments described in the operating instructions provided with the instrument.
3. Nüve does not accept any liability in case where the goods are not used in accordance with their proper intent.
4. The warranty may not be claimed for damages incurred during the shipment, for damages resulting from improper handling or use, abuse, fire, liquid spillage, tampering or unauthorized repairs by any persons, use of defective or incompatible accessories, exposure to abnormally corrosive conditions, use of the product in non-standard environmental conditions, including but not limited to failure to meet requirements of ambient temperature, lubrication, humidity or magnetic field influences, from the defects in maintenance, negligence, bad functioning of auxiliary equipment, in the case of force majeure or accident and incorrect power supply.
5. In the event of failure, Nüve shall be under no liability for any injury, or any loss or damage as the result of the failure other than the guarantee conditions.



BEFORE OPERATING THE INSTRUMENT THIS MANUAL SHOULD BE READ CAREFULLY.

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THE VALIDITY OF THE GUARANTEE IS SUBJECT TO THE OBSERVATION OF THE INSTRUCTIONS AND PRECAUTIONS DESCRIBED IN THIS MANUAL.

PLEASE REGISTER ONLINE TO VALIDATE WARRANTY:

To register your warranty online, please visit our web page www.nuve.com.tr and fill in **Warranty Registration Form**.

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SECTION 1

INTRODUCTION

1.1 USE AND FUNCTION

ST 30 shaking water bath is designed to be used in microbiology, biotechnology, research and industrial laboratories mainly tissue culture, bacterial incubation, enzyme reactions, fermentation and other general and special applications.

ST 30 maintains incubation and heating temperatures between 5 °C above the ambient temperature and 99.9 °C and keeps the temperature stable within the given tolerances. Besides heating, ST 30 has a shaking function. The shaking speed can be set between 20 rpm and 250 rpm.

ST 30 has a microprocessor control system. The heating is based on PID control system. There are digital display both for heating and shaking functions. Each function for temperature and shaking has timer which can be programmed up to 99.9 hours including hold position

The tank of ST 30 is made of stainless steel and all the materials in contact with liquid are made of stainless material. The tank is insulated with glass wool for operating homogenous temperature distribution.

The ST 30 water bath is manufactured according to following standards;

EN 61010-1, EN 61010-2-051, EN 50419, EN 61326.

This device is in compliance with WEEE Regulation.

SECTION 2

TECHNICAL SPECIFICATIONS

2.1 TECHNICAL SPECIFICATIONS TABLE

Technical Specifications	ST 30
Temperature range	Ambient temperature +5°C / 99.9°C
Temperature sensor	Fe – Const.
Temperature set and display sensitivity	0.1°C
Temperature variation (37 °C)	< ± 0.3 °C
Temperature fluctuation (37 ° C)	±0.1 °C
Shaking speed	20 - 250 rpm
Shaking speed adjustment sensitivity	1 rpm
Timer	1 minute – 99.9 hours + hold position
Power supply	230 V, 50 Hz.
Power consumption	1550 Watt
Tank volume	30 lt
Internal material	Stainless steel
External material	Epoxy-polyester powder coated stainless steel
Internal dimensions (WxDxH) mm	300 x 505 x 190
Overall dimensions (WxDxH) mm	303 x 626 x 406

2.2 OPTIONAL ACCESSORIES

K 04 197 plexiglass lid (Temperature resistance 60 °C)

K 52 004 stainless steel lid

TUBE RACK AND SHELVES

A 08 051 Tube rack 52xØ13 mm

A 08 050 Tube rack 30xØ16 mm

A 08 021 Tube rack 27xØ18 mm

A 08 049 Tube rack 12xØ30 mm

R 01 015 6x250 ml shelf

R 01 078 12x100 ml shelf

R 01 038 4x500 ml shelf

R 01 079 2x1000 ml shelf

R 01 036 6x100 ml shelf



SECTION 3

PRECAUTIONS AND LIMITATIONS OF USAGE

- Do not operate the instrument for purposes other than its main purpose.
- The instrument should only be used by authorized and trained staff after the instruction manual has been read carefully. Only authorized technical staff can handle the product in case of a failure.
- Only original spare parts and original accessories supplied by Nüve should be used.
- Correctly grounded power supply should be used.
Check the following carefully,
- Liquids are not heated in sealed containers;
- The samples which may liquefy and expand are not in a closed container.
- The set temperature is not higher than the boiling points of the samples;
- The sizes of the containers of the liquids which may expand during heating are so big that they do not overflow;
- The set temperature does not destroy the structure of the samples;
- The vapor and gases generated during the operation are not harmful to human health or flammable or explosive.
- Device does not start to operation after power cut automatically.

SECTION 4

SYMBOLS

	<p>Symbol in the operating instructions:</p> <p>Attention, general hazard area. This symbol refers to safety relevant warnings and indicates possibly dangerous situations. The non-adherence to these warnings can lead to material damage and injury to personal.</p>
	<p>Symbol in the operating instructions:</p> <p>This symbol refers to important circumstances.</p>

SECTION 5

INSTALLATION

5.1 ENVIRONMENTAL CONDITIONS

The water bath is designed to operate safely under the following conditions:

- Indoor use only
- Ambient temperature: 5°C to 40°C.
- Maximum relative humidity for temperature up to 22°C: 80%.
- Maximum altitude: 2000 m.
- Temperature for maximum performance: 15°C / 25°C.

5.2 HANDLING AND TRANSPORTATION

All handling and transportation must be carried out by using proper equipment and experienced staff. The instrument must be supported underneath and never be turned upside down.

5.3 UNPACKING

Open the packing cardboard box. Remove the nylon packing wrapped around the device. The items provided with the device are listed below, please check them.

- 1 ea. user's manual
- 1 ea. warranty certificate
- 1 ea. power cable

5.4 MAINS SUPPLY

The water bath requires 230 V, 50/60 Hz.

Please make sure that the supplied mains matches the required power ratings which are written on the name plate of the instrument located at the back of the steam sterilizer.



Always plug-in the instrument to correctly grounded sockets.



A supply fitted with a circuit breaker should be used for protection against indirect contact in case of an isolation fault.

5.5 POSITIONING

- Check that no damage occurred during transportation.
- Check that the positioning is suitable for the users.
- Support the water bath underneath and carry it to its place carefully.
- Do not change position of the device during operation.
- Make sure that the bench that the water bath is positioned is resistant to the weight of the instrument and vibration free.
- Check that the water bath is stable on its four pads.
- Check that the positioning of the water bath prevents interference with other equipment in the near surrounding.

5.6 GENERAL PRESENTATION



Figure 1

5.7 CONTROL PANEL

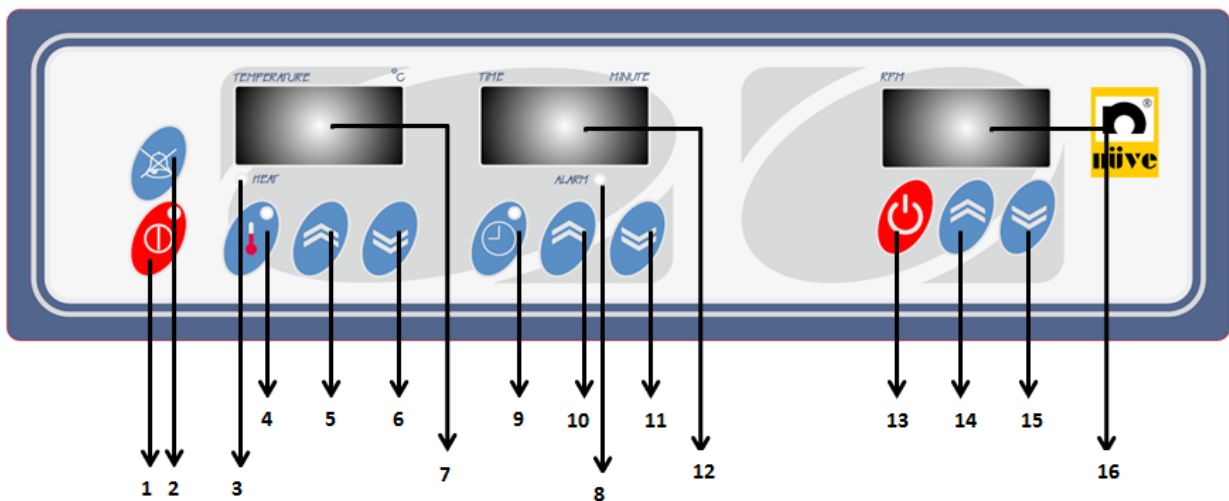


Figure 2

1	Heating process start/stop key	2	Alarm mute key
3	Heating led	4	Temperature set key
5	Temperature value increase key	6	Temperature value decrease key
7	Temperature display	8	Alarm led
9	Time set key	10	Time value increase key
11	Time value decrease key	12	Time display
13	Shaking process start / stop key	14	Shaking speed value increase key
15	Shaking speed value decrease key	16	Shaking speed display

1 – Heating Process Start/Stop Key

- The key is used to start the set heating program and stop the running program.

2 – Alarm Mute Key

- The alarm mute key may be used in order to mute the alarm when an error occurred during operation and to mute the alarm at the end of a run.

3 – Heat Led

- This LED flashes during the heating process.

4 – Temperature Set Key

- The key is pushed to set the temperature.

5 – Temperature Value Increase Key

- The key is pushed to increase the temperature value on the temperature display.

6 – Temperature Value Decrease Key

- The key is pushed to decrease the temperature value on the temperature display.

7 -Temperature Display

The temperature display shows

- Chamber temperature during program run and standby;
- Temperature adjustment values and alarm adjustment values during setting a program.

8 – Alarm Led

- It lights up when the program ends and if any failure occurs during the operation

9 – Time Set Key

- The key is pushed to set the time. (1 minute – 99.9 hours and Hold position).

10 – Time Value Increase Key

- The keys are pushed to increase the values on the time display.

11 – Time Value Decrease Key

- The keys are pushed to decrease the values on the time display.

12 – Time Display

- Run time is displayed while the device is running and time adjustment is displayed while setting the program on the time display

13 – Shaking Process Start/Stop Key

- The key is used to start the set program and stop the running program.

14 – Shaking Speed Value Increase Key

- The keys are used to increase the shaking speed value on the display while adjusting the shaking speed.

15 – Shaking Speed Value Decrease Key

- The keys are used to decrease the shaking speed value on the display while adjusting the shaking speed.

16 – Shaking Speed Display

Shaking speed unit is displayed as RPM. 'EoF' error message is displayed on this display.

5.8 PRIOR TO OPERATION

5.8.1 Filling Liquid

- Fill the tank with distilled water or liquid and put the samples up to the maximum line MAX (see Figure 3).



Do not run the device unless distilled water or liquid is filled up to max line.



The distilled water or liquid level above the max level may cause unexpected problems.



Make sure that the filled liquid is not flammable or explosive at the operation temperature.

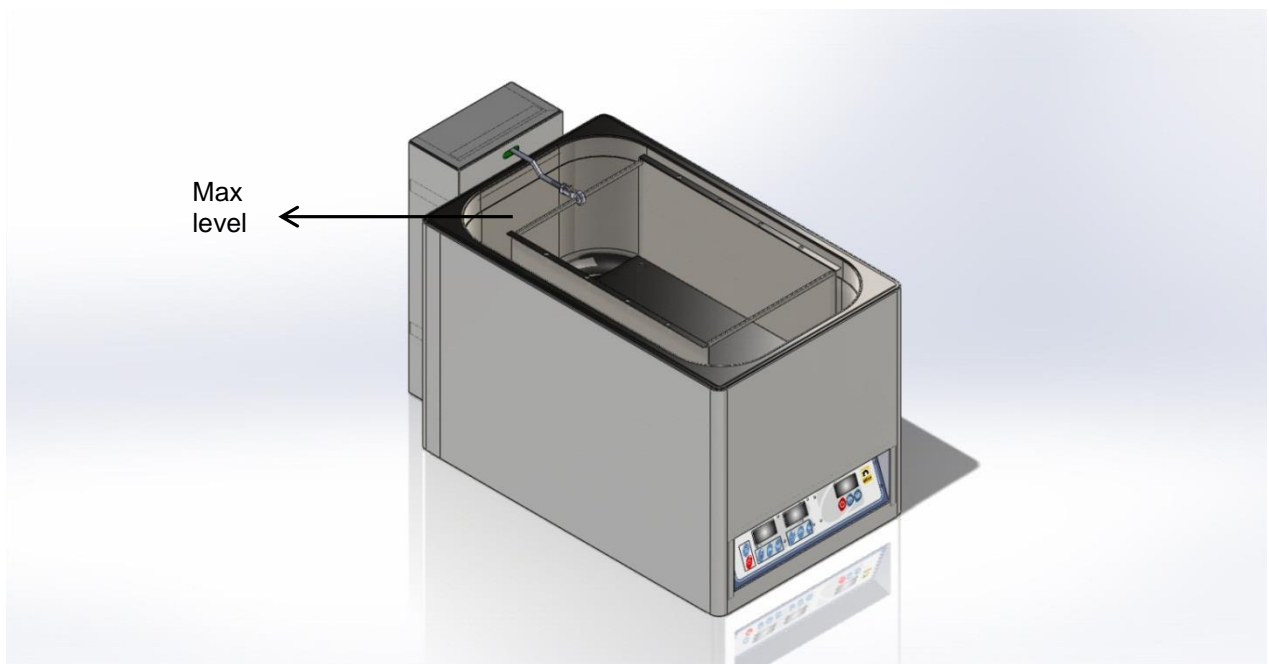


Figure 3







SECTION 6








OPERATING PRINCIPLES

6.1 OPERATING THE UNIT

- Switch on ST 30 shaking water bath by using the power switch and ensure that the power switch led is on.
- Observe that command and display panel is activated.
- Learn the functions of command and display panel (see. Section 6.2.1).
- Set the values and start the operation.

6.2 PROGRAMMING

	Push the temperature set key.
	Use the value increase and decrease keys in order to set the temperature for your run.
	Push the temperature set key again in order to save the set temperature to the memory.
	Push the time set key.
	't in' appears on the display. Use the value increase and decrease keys in order to set the run time (1 minute – 99.9 hours, Hold position).
	Push the time set key again in order to save the run time to the memory.

	<p>'dly' appears on the display. Use value increase and decrease keys in order to set the time for delaying the program start (1 minute – 99.9 hours)</p>
	<p>Push the time set key again in order to save the delay time to the memory.</p>
	<p>Push the heating process start/stop key in order to use only heating function for your run. (If both shaking and heating functions are used at the same run, please set the shaking speed, as well.)</p>
	<p>Push the shaking process start/stop key in order to adjust shaking speed.</p>
	<p>Use the value increase and decrease keys in order to set the shaking speed for your run.</p>
	<p>Push the shaking speed value increase and decrease key at the same time and wait. Then, "t.in" will appear on the shaking speed display. Adjust the value which you want to operate by using shaking speed value increase and decrease key. (1 minute – 99.9 hours, Hold position).</p>
	<p>Push to shaking process start/stop key in order to start the program.</p>



The set time starts to count after the device reaches the set temperature.

6.3 COMPLETION OF THE OPERATION

- Observe that the set program is completed.
- Push the **heating process stop** key in order to stop the heating. If the device functions with shaking, push the **shaking process stop** key to stop the shaking process.
- Take the samples out at the required temperature and time.
- When the device is unloaded, remove the undesirable effects which are caused by the samples.
- You may leave the device at stand-by position or switch it off.

SECTION 7

PERIODICAL MAINTENANCE AND CLEANING

7.1 PERIODICAL MAINTENANCE

The shaking water bath does not require any periodical maintenance.

7.2 CLEANING

- Prior to cleaning please unplug the device and clean the device at the room temperature.
- A piece of wet cloth may be used in order to remove the dust and dirt from the device.
- Mild detergent use is recommended to remove difficult dust and dirt.
- Please be aware of the undesirable effects of the chemicals and be careful while applying them.
- Protect the device against rust from outside. Please clean the rust as soon as possible when it is detected.

SECTION 8

DISPOSAL MANAGEMENT CONCEPT

The user is responsible for the proper disposal of each individual component. All parts which may comprise potentially infectious materials have to be disinfected by suitable validated procedures (i.e. autoclaving, chemical treatment) prior to disposal.

SECTION 9

TROUBLESHOOTING

If the device fails to operate, please check the followings:

- The power switch is on;
- The fuse is not blown;
- The plug is plugged-in properly;
- The plug is not defective;
- The installation of the plug is not defective;
- The mains supply is present.

9.1 ERROR CODES AND EXPLANATIONS

OFL:

- The chamber temperature is higher than 100.5 °C. Switch off the device and contact to the authorized service.

Err0:

- Motor thermal is off. Contact to the authorized service.

Err1:

- Communication failure between main PCB and display PCB. Contact to the authorized service.



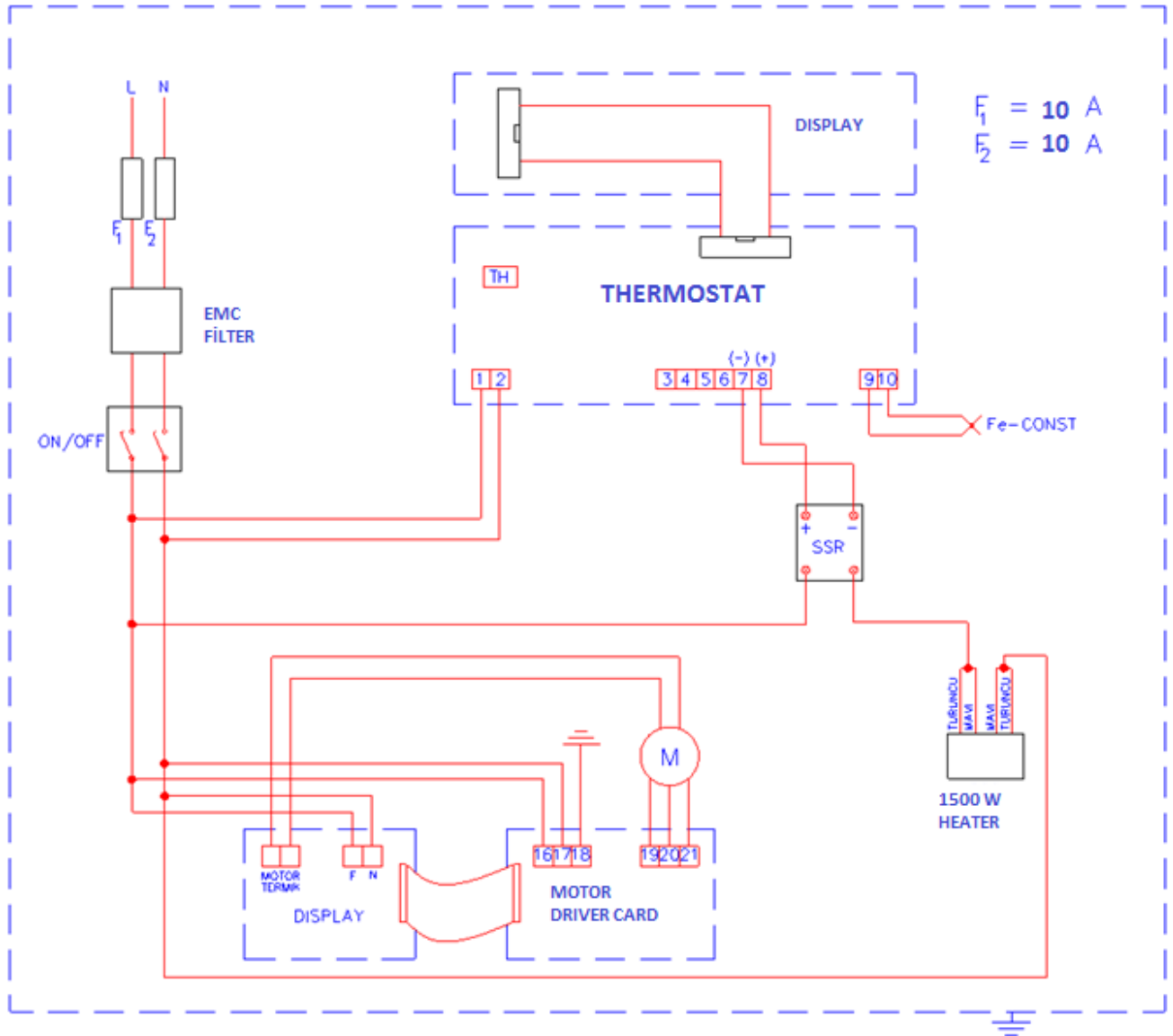
If an error occurs, please contact to an authorized NÜVE AGENT to seek technical help.

9.2 FUSE REPLACEMENT

The fuses shall be always be replaced by the authorized personnel.

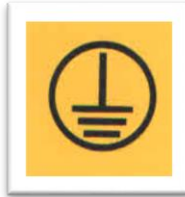
SECTION 10

ELECTRICAL CIRCUIT DIAGRAM



SECTION 11

WARNING LABEL



ST 30
FUSES (2 x 10A)

