



NÜVE SANAYİ MALZEMELERİ İMALAT VE TİCARET A.Ş.

BM 15-BM 30

STIRRED WATER BATHS

INSTRUCTION MANUAL

CE

Z14.K 25 098 Rev. No: 03 Rev. Tarihi: 01/2016

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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NÜVE
SANAYİ MALZEMELERİ
İMALAT VE TİCARET A.Ş.

Saracalar Mah. Saracalar Kümeevleri No: 4/2

Akyurt 06750 Ankara-TURKEY

Tel : (90.312) 399 28 30 (pbx)

Fax : (90.312) 399 21 97

Sales : sales@nuve.com.tr

Technical Service: service@nuve.com.tr

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. Any injury, loss or damage caused; due to a failure resulting from negligence of the instructions given in this manual; is beyond the scope of the warranty conditions.



BEFORE OPERATING THE INSTRUMENT THIS MANUAL SHOULD BE READ CAREFULLY.



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

INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF NÜVE. IT MAY NOT BE DUPLICATED OR DISTRIBUTED WITHOUT PERMISSION.

PLEASE REGISTER ONLINE TO VALIDATE YOUR WARRANTY:

To register your warranty online, please visit our webpage www.nuve.com.tr and fill in the “Warranty Registration Form”.

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1. INTRODUCTION

1.1. USE AND FUNCTION

BM 15 and BM 30 Water Baths are designed to be used in bacterial culturing, cell culture, coagulation tests, coliform determination, enzyme reactions and other general and special applications.

The BM Series provide temperatures between 5°C above the ambient temperature and 99.9 °C and keeps the temperature stable within the given tolerances.

BM Series have circulation function. The circulation pump and etched foil heaters which are placed at the outer sides of the tank provide absolutely homogenous temperature distribution in the tank. They offer excellent temperature control of liquid producing a uniform and stable heating environment for the applications.

The baths has a microprocessor control system. The heating is based on PID controlled system. There are two digital displays for heating function. One of them is temperature display the other is timer which can be programmed up to 99.9 hours and including HOLD position.

All components which are in contact with the liquid are made of high grade stainless steel to resist corrosion. The tank is insulated with glass wool for operating homogenous temperature distribution.

**The BM Series Water Baths are manufactured according to the following standards:
EN 61010-1, EN 61000-6-3, EN 50419.**

This device is in compliance with WEEE Regulation.

If mentioned warnings in this manual are not considered, NÚVE will not be responsible from their results.

2. TECHNICAL SPECIFICATIONS

2.1. TECHNICAL SPECIFICATIONS TABLE

TECHNICAL SPECIFICATIONS	BM 15	BM 30
Type	Circulated	
Temperature Range	Ambient temperature +5°C – 99.9°C	
Temperature Sensor	Fe-Const	
Control System	Programmable PID Microprocessor	
Displays	LED displays for temperature and time	
Temperature Set and Display Sensitivity	0,1°C	
Temperature Variation (at 37.5°C)	<±0,1°C*	
Temperature Fluctuation (at 37.5°C)	≤±0.01°C*	
Timer	99.9 hours + Hold Position	
Delayed Start Timer	1 minute to 99.9 hours	
Power Consumption	750 W	1550 W
Power Supply	230 V, 50-60 Hz.	
Useful Volume (Liters)	8	17
Tank Volume (Liters)	14	30
Useful Water Height (mm)	165	
Pump Capacity (liter/minute)	16	
Internal Material	Stainless Steel	
External Material	Epoxy-polyester powder coated stainless steel	
Internal Dimensions (WxDxH) mm	300x240x200	300x503x195
External Dimensions (WxDxH) mm	332x280x375	332x540x375
Packing Dimensions (WxDxH) mm	430x535x420	430x680x495
Net / Packed Weight (kg)	8 / 11	11 / 14

*At ambient 22°C and closed lid.

2.2. OPTIONAL ACCESSORIES

A 08 021 Tube rack 27xØ18 mm, wide 70 mm

A 08 049 Tube rack 12xØ30 mm, wide 70 mm

A 08 050 Tube rack 30xØ16 mm, wide 70 mm

A 08 051 Tube rack 52xØ13 mm, wide 70 mm

K 04 286 Plexiglass lid for BM 15 (resists up to 60°C)

K 52 020 Stainless steel lid for BM 15

K 04 289 Plexiglass lid for BM 30 (resists up to 60°C)

K 52 019 Stainless steel lid for BM 30

K 52 008 Lid with 4 holes for BM 15 (Hole dia 95 mm)

K 52 005 Lid with 4 holes for BM 30 (Hole dia 95 mm)











K 52 006 Lid with 6 holes for BM 30 (Hole dia 95 mm)

K 52 014	Lid with 8 holes for BM 30 (Hole dia 95 mm)
S 09 032	Blood Bag Basket for BM 30
R 01 045	Shelf for 6 x 100 ml flasks for BM 15
R 01 046	Shelf for 4 x 250 ml flasks for BM 15
R 01 047	Shelf for 2 x 500 ml flasks for BM 15
R 01 080	Shelf for 4 x 500 ml flasks for BM 15
R 01 048	Shelf for 1 x 1000 ml flasks for BM15
R 01 049	Shelf for 12 x 100 ml flasks for BM 30
R 01 032	Shelf for 6 x 250 ml flasks for BM 30
R 01 051	Shelf for 4 x 500 ml flasks for BM 30
R 01 033	Shelf for 2 x 1000 ml flasks for BM 30

3. PRECAUTIONS AND LIMITATIONS ON USE

- 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.
- Liquids should not be heated in sealed containers.
- The samples which may liquefy and expand should not be in a closed container.
- The set temperature should not be higher than the boiling points of the samples.
- The sizes of the containers of the liquids which may expand during heating should be so big that they do not overflow.
- The set temperature should not destroy the structure of the samples.
- Ensure that the vapor and gases generated during the operation are not harmful to human health or flammable or explosive.
- Never operate the pump without water.

4. SYMBOLS

	<p>Symbol in the operating instructions: Attention, general hazard area.</p> <p>This symbol refers to safety relevant warnings and indicates possibly dangerous situations.</p> <p>The non-adherence to these warnings can lead to material damage and injury to personal.</p>
	<p>Symbol in the operating instructions: This symbol refers to important circumstances.</p>
<p>Labels on the device:</p> <div style="display: flex; justify-content: space-around;"><div style="border: 1px solid black; padding: 5px; width: 20%;"><p>WARNING !.. DISCONNECT THE MAIN SUPPLY BEFORE REMOVING THE COVER. DİKKAT !.. BU KAPAĞI AÇMADAN FİŞİ MUTLAKA PRİZDEN ÇIKARINIZ.</p><p>Z14.E 02 015</p></div><div style="border: 1px solid black; padding: 5px; width: 20%;"><p>DO NOT OPERATE BEFORE READING THE INSTRUCTION MANUAL!..</p><p>KULLANMA KILAVUZUNU OKUMADAN ÇALIŞTIRMAYINIZ!..</p><p>Z14.E 02 016</p></div><div style="border: 1px solid black; padding: 5px; width: 20%;"><p>CAUTION! Always use earthed wall sockets.</p><p>DİKKAT! Cihazı mutlaka topraklı prize çalıştırınız.</p><p>Z14.E 02 022</p></div></div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"><div style="text-align: center;"><p>Eartherd Wall Socket</p></div><div style="text-align: center;"><p>F2x5A 250V ~</p><p>BM 15 Fuses(2 x 5A)</p></div><div style="text-align: center;"><p>F2x9A 250V ~</p><p>BM 30 Fuses(2 x 9A)</p></div><div style="text-align: center;"> </div></div>	

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 and warranty certificate
- 1 ea. power cable
- 1 ea. perforated grid

5.4. MAINS SUPPLY

The stirred 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.
- Check that the water bath is stable on its four feet.
- Check that the user will be able to follow up the operation even when he deals with something else.
- Check that the positioning of the water bath prevents interference with other equipment in the near surrounding.
- Check that the place of the water bath is clean.

5.6. GENERAL PRESENTATION



Figure 1

STIRRED
TANK

CONTROL PANEL



Figure 2

5.7. CONTROL PANEL

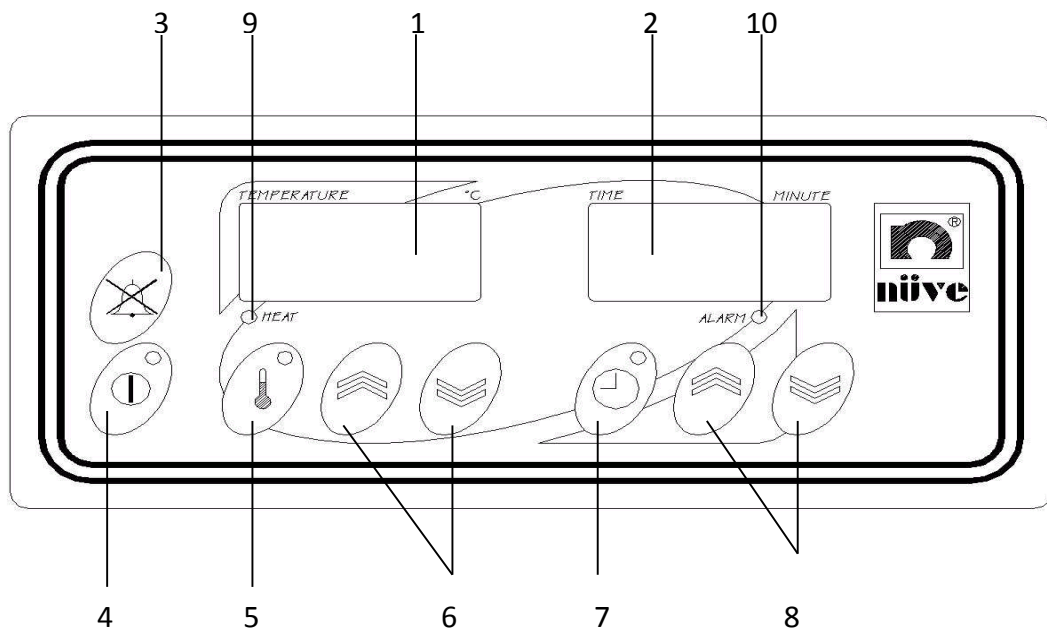


Figure 3

- 1- Heating Process Display:** This display shows the tank temperature during the operation and the set temperature value during programming. The error codes are also shown on this display.
- 2- Time Display:** This display shows the elapsed time during the operation and the set value during programming.
- 3- Alarm Mute Key:** This key is used to mute the alarm which sounds when the program ends and if any failure occurs during the operation.
- 4- Start / Stop Key:** This key is used to start the program or to stop the running program manually.
- 5- Temperature Set Key:** This key is used to set the temperature
- 6- Temperature Value Increase/Decrease Keys:** These keys are used to increase or decrease the values on the temperature display.
- 7- Time Set Key:** This key is pushed to set the time. (1 minute – 99.9 hours and Hold position).
- 8- Time Value Increase/Decrease Keys:** These keys are used to increase or decrease the values on the displays.
- 9- Heat Led:** This led flashes during heating process.
- 10- Alarm Led:** It turns on when the program ends and if any failure occurs during the operation.

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 4). Undesired problems may occur if you fill up to the level lower than the max level.



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.



When you start the device, circulation may not be observed, if there is residual air in the pump in order to remove the residual air, disconnect the device from mains and restart it.



Figure 4

6. OPERATING PRINCIPLES





6.1. OPERATING THE UNIT






- Switch on BM series stirred 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 5.7).
- Set the values and start the operation.



Please check of the liquid level in the tank during long operations and refill to the may line if necessary.

6.2. PROGRAMMING

	<p>Push the temperature set key.</p>
	<p>Set the temperature by pushing the value increase/decrease keys on the temperature adjustment side.</p>
	<p>Push the temperature set key again to save the temperature value.</p>
	<p>Push the time set key.</p>

	<p>See “t in” on the temperature display. Set the time value by pushing the value increase/decrease keys on the time adjustment side (1 minute to 99.9 hours or Hold)</p>
	<p>Push the time set key again.</p>
	<p>See “dly” on the temperature display. Set the delay time, after which the program starts, by pushing the value increase/decrease keys on the time adjustment side (1 minute to 99.9 hours or Hold)</p>
	<p>Push the time set key again to save the settings.</p>
	<p>Push the start/stop key to start the program.</p>



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

6.3. COMPLETION OF THE OPERATION

- Ensure that the program is over.
- If there is no adjusted program, you can terminate the heating process by pushing start/stop button.
- Take the samples out at the end of the operation. Take precautions while handling the samples after the operation as they can be hot.
- Remove the undesirable effects occurred during the operation after the tank has been completely emptied.
- You may leave the bath at stand-by or switch it off.

7. PERIODIC MAINTENANCE AND CLEANING

7.1. PERIODIC MAINTENANCE

- Regularly check the water level in the tank and add more if necessary.

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. Please clean the rust as soon as possible when it is detected.

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.

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

In case of below written failures, related error codes are shown on the display.

OFL: The chamber temperature is higher than 100.5°C and/or the temperature sensor endings are broken. Switch off the device and 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.

10. ELECTRICAL CIRCUIT DIAGRAM

