

CENTRIFUGA NEYA5

IVD

Operation and Maintenance Manual

Translations of the original instructions

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Manufacturer:

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1 Security Informations

1.1 Definitions of warning words and symbols

The safety information in this manual is very important to avoid personal injury, damage to the machine, accessories, malfunctions or incorrect results due to non-compliance. Please read this manual carefully in its entirety and make sure you familiarize yourself with the centrifuge before you start working with it.

This manual must be kept near the device in an easily accessible place, so that the operator can consult it if necessary.

Always enclose the instruction manual when transferring the device to a third party.

Safety instructions are indicated by warning terms or symbols.

1.2 Reporting deadlines:

ATTENTION for a medium-risk hazardous situation, which could lead to serious injury or death if not avoided.

ATTENTION for a hazardous situation with reduced risk which, if not avoided, may result in minor or moderate material damage, loss of data or injury.

WARNING for important product information.

NOTE for useful product information.

Warning symbols:



ATTENTION

This symbol indicates a potential risk and warns you to proceed with caution



ATTENTION

This symbol draws attention to a possible danger **from electric current**.



ATTENTION

This symbol **draws** attention to a possible **explosion hazard**



ATTENTION

This symbol draws attention to possible damage to health due to **infectious liquids and pathogenic germs**



ATTENTION

The instrument must be used according to the instructions in the reference manual. Read the instructions carefully.



WARNING

This symbol draws attention to possible damage to instruments or instrument parts.



NOTE

This symbol highlights further information and tips.



ATTENTION

This symbol emphasises a general prohibition.

1.3 Fundamental requirements for safe use



The proper functioning of the centrifuge and the safety of the operator are only guaranteed if all the following points are observed:

- The centrifuge may only be used for the purposes for which it was built and only in accordance with the specifications mentioned in this manual. Any other use may lead to damage, contamination and injury with serious consequences.
- The centrifuge must only operate under the environmental conditions described in this manual.
- Normal use of the centrifuge may require handling of biological and hazardous materials. Use aerosol-tight closure systems and wear personal protective equipment when centrifuging such substances. Users and maintenance personnel must have specific professional requirements for each substance they use; they must be trained to operate safely.
- Maintain a space of at least 30 cm around the centrifuge.
- The mains power plug must always be freely accessible. Pull out the power plug or disconnect the power supply in an emergency.
- The centrifuge must only be connected to properly earthed sockets using the power cable supplied.
- Check that the power supply and frequency match the values indicated on the instrument's identification label.
- The centrifuge may only be used with the rotor and accessories supplied. If these need to be replaced or purchased, please contact your local distributor.
- The load must always be balanced and symmetrically distributed in the rotor housings.
- The machine must not be dismantled and opened by the user for any reason. Execute this operation only if explicitly authorized by the manufacturer.

1.4 Unauthorised use



The centrifuge must not be operated if:

- It is visibly damaged (e.g. due to transport)
- It has been stored for a long period time under adverse conditions (exposure to direct light, heat sources or places saturated with gas or vapours) or in environments with different conditions from those mentioned in this manual.
- For structural reasons and because of the environmental conditions, this centrifuge is not suitable for use in a potentially explosive atmosphere or in an environment where explosive substances are handled.
- Do not handle explosive, highly reactive substances or substances that may contribute to a potentially explosive atmosphere with this centrifuge.

- The centrifuge should therefore only be used in a safe environment, such as the open environment of a properly ventilated laboratory or fume hood. The final risk assessment of the use of such substances is the responsibility of the user of the device.

1.5 Responsibility of the instrument owner



The person who owns and uses the centrifuge or authorises its use by others is the owner of the instrument and as such is responsible for the safety of all users of the instrument and third parties.

The owner of the machine must inform users to use it safely in their workplace and to manage potential hazards and provide the required protective equipment.

When using chemicals or solvents, follow the manufacturer's safety data sheets.

In the following cases, the warranty provided for the centrifuge may be impaired. Liability for personal injury and damage to property falls on the user if:

- The centrifuge is not used in accordance with the operating instructions.
- The centrifuge is used outside the field application described here.
- The centrifuge is used with accessories or consumables not recommended by the supplier.
- The centrifuge was serviced and repaired by a person not authorised by the supplier.
- The user makes unauthorised modifications to the device.

2 General Warnings

	Only authorised personnel may operate this centrifuge. The user must read and understand the instructions before using this machine. In the event of a malfunction, contact the supplier.
	This centrifuge must not be placed inside another unit or connected electrically or mechanically to another unit. Only the rotor and accessories supplied with this centrifuge and by this manufacturer may be used with this machine. for damage before each use. The rotor and accessories of this centrifuge must not be used on centrifuges of other brands and vice versa.
	Do not place flammable samples, chemicals with exothermic properties, explosive or highly reactive substances for centrifugation inside this centrifuge.
	No person other than those authorised by the manufacturer is permitted to make changes to the centrifuge after it has been shipped from the factory.
	In the event of any damage to the unit or if there are strange noises or anomalies, using this centrifuge and immediately report the fault to your supplier.
	In the event of liquid spills, disconnect the appliance from the power supply and thoroughly clean the appliance and accessories in accordance with the instructions on cleaning and disinfection indicated in the instructions use.
	Never attempt to override safety systems and/or work with the centrifuge lid open.
	Special care must be taken when double-tube tubes with a filter, when the porosity of the filter not similar in the tubes, this could create an imbalance in the high-speed rotor and subsequently cause damage to the machine.
	When opening and closing the centrifuge lid, do not grasp the part between the lid and the centrifuge, do not insert your fingers into the centrifuge closure and do not grasp the lid locking mechanism, this could cause physical damage.
	Ensure that the centrifuge lid can be opened fully and remains in the final full opening position. In the event of a malfunction, contact the supplier's technical service department.
	In the event of an emergency lid release, the rotor can continue to turn for a few more minutes. Check through the peephole in the cover that rotor has stopped before intervening on the 'Emergency opening'.

	When changing the rotor, the power supply must be disconnected. This operation must be carried out by qualified personnel.
	Test tubes must always be weighed with the cap on and complete with contents.
	Place test tubes symmetrically before starting centrifugation. Only use test tube holders suitable for the type of rotor used and test tubes suitable for the adapters used. Only use test tubes that have been approved by the manufacturer with the desired g-values (rcf). Do not use fragile or deformed test tubes.
	The centrifuge is designed to centrifuge substances with a maximum density of 1.2 g/ml, at maximum speed and maximum filling volume/load. Do not exceed the maximum rotor load.
	Never use chemicals or cleaning detergents that can be corrosive. This could cause damage to the centrifuge.
	The interior of the chamber must be cleaned and checked regularly for contamination. Use a dry cloth to clean the inside of the chamber.
	In case of a serious accident that has caused, could have caused, or could cause death or serious deterioration in the health of the user or any other person, please inform the manufacturer and at the same time the competent national authority immediately.

2.2 Biological safety



During operation, the centrifuge can generate particles suspended in the air. Since this NEYA 5 model is not a refrigerated centrifuge, it does not have a completely sealed chamber. This type of ventilated centrifuge helps to reduce the excess heat created by the friction of the rotor with the air in the inner chamber. To minimise the risk of aerosols coming into direct contact with people, always use tubes with the protective cap. Glass tubes, if used, should not be filled to the top, to avoid spillage of the liquid. Furthermore, as the lid on the top has a gasket, it must be ensured that this gasket is not damaged. This prevents direct exposure of the user with the sample. It is also advisable to open the centrifuge lid 3 minutes after stopping the centrifuge. This will give time for the particles to disperse into the air.

Bioseals (biological seal) is a part of biological safety systems, which cannot guarantee the safety of people and the environment when handling pathogenic microorganisms or infectious liquids. When working with pathogenic organisms or infectious liquids of a high-risk group, more than one aerosol-tight seal must be provided. If liquids are spilled into the rotor or rotor housing, the centrifuge must be thoroughly and thoroughly cleaned by trained personnel. In case of contact with infectious liquids and pathogenic germs, observe national regulations, your laboratory's biosafety level, safety data sheets and manufacturers' instructions for use. Wear personal protective equipment.

2.3 Safety and/or protection devices



- Safety lid interlock to prevent the lid from being opened during centrifugation.
- Unbalance detection and centrifugation stop with error display
- Armoured steel ring.
- Unlocking the emergency cover.

See descriptions later in this manual.

2.4 Intended use



Centrifuges are widely used in auxiliary laboratories, hospitals, industry, research institutes, medical and pharmaceutical laboratories. They are also suitable for determining the sedimentation of paints, cosmetics and foodstuffs. This centrifuge is designed exclusively to accelerate the separation between substances having different densities by using of the centrifugal force or, more precisely, centrifugal acceleration.

This device is intended for in vitro diagnostic use for the separation of liquid samples using the centrifugation function. The centrifuge must be manually set (speed/RCF, time, balance, etc.) by the operator. The required sample is a biological liquid matrix (e.g., serum, plasma, cells, nucleic acids, and body fluids) contained in tubes compatible with the rotor supplied with the device.



ATTENTION:

Only technical personnel qualified in the above-mentioned fields of application may use the product covered by this manual.

Any use not expressly described above and within this manual, such as for products other than those specified, in environmental conditions other than those specified, with accessories other than those specified, is prohibited.

3 CE marking data

The equipment is manufactured in accordance with Directive 2006/42/EC and the relevant Community Directives applicable at the time of its placing on the market (facsimile below).

 REMI Estd : 1960	DECLARATION OF CONFORMITY UE In accordance with Annex II A - Directive 2006/42/CE Annex IV - EMC Directive and Annex VI - Directive 2011/65/UE (RoHS)	
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Manufacturer's Name	: REMI ELEKTROTECHNIK LTD,
Manufacturer's Address	: Building "B", Survey No 65/1, Village – Valiv , Vasai (East), Dist. Palghar – 401208, India Tel +91 8448013183 Email: sales@remilabworld.com
Authorised Representative:	Giorgio Bormac S.r.l – Via della Meccanica, 25 41012 Carpi (MO)-ITALY
Product Description	: Bench Top Centrifuges

This declaration of conformity is issued under the sole responsibility of the manufacturer.

OBJECT OF THE DECLARATION

Product description	BENCH TOP CENTRIFUGES
Model:	Neya 5
Serial Number:	ZKGN 25738 to ZKGN 25762

Product options: This declaration covers all options of the above products

THE OBJECT OF THE DECLARATION DESCRIBED ABOVE IS IN CONFORMITY WITH THE RELEVANT UNION HARMONIZATION LEGISLATION:

2014/35/EU
2014/30/EU
2015/863
2006/42/EC

REFERENCES TO THE RELEVANT HARMONISED STANDARDS USED, INCLUDING THE DATE OF THE STANDARD, OR REFERENCES TO THE OTHER TECHNICAL SPECIFICATIONS, INCLUDING THE DATE OF THE SPECIFICATION, IN RELATION TO WHICH CONFORMITY IS DECLARED:

EN 61010-1:2010/A1:2019
IEC 61010-1:2010+AMD1:2016
IEC 61010-2-101:2018
IEC 61010-2-020:2016
IEC 61326-1:2020
IEC 61326-2-6: 2020

NAME AND ADDRESS OF THE PERSON AUTHORISED TO COMPILE THE TECHNICAL FILE
Giorgio Bormac S.r.l. - Via della Meccanica, 25 41012 Carpi (MO) - ITALY

Signed for and on behalf of: Mr. Bhavin Das, Head QA of REMI ELEKTROTECHNIK LTD

Place: Vasai, India

Date: 14.01.2025

SIGNATURE 

REMI ELEKTROTECHNIK LTD	Building "B", Survey No 65/1, Village – Valiv, Vasai (East), Dist Palghar – 401208, India	Pag. 1 di 1
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DECLARATION OF CONFORMITY

4 Warranty

Thank you for purchasing the NEYA 5 centrifuge. Under normal conditions use this instrument is guaranteed for a period of 24 months to be counted from the date of purchase. The guarantee is only valid if the purchased product remains original.

It does not apply to any product or parts of it that have been damaged due to incorrect installation, improper connections, misuse, accident or abnormal operating conditions.

No liability is accepted for damage caused by use not in accordance with instructions, lack of maintenance and any unauthorised modifications.

5 Unpacking the centrifuge



Open the external packaging of the centrifuge and remove all contents.

Lift the centrifuge from the pack holding it from the bottom and taking care do not handle it in the front part plastic but taking it in the metal part. Place the centrifuge on the table as described at paragraph "First use". Put inside the external box all the packaging parts and conserve the total packaging_ centrifuge.

Note: If the centrifuge is to be sent for service, the user is obliged to pack it in its original packaging to send it to the repair service and, failing this, to pack it adequately to cope with transport.

Any damage caused by inappropriate packaging will not be covered by warranty.



5.2 Package Contents

The centrifuge will be delivered complete with the following parts:

- n. 1 wrench for fixing the rotor
- n. 1 Allen key for manual lid release
- n. 1 small bottle with maintenance grease
- n. 1 supply cable
- n. 1 user manual

5.3 First Installation



5.2.1 Preliminary operations

The instrument must be installed under the following conditions:

1. Stable work surface with a flat, horizontal, dry and clean anti-resonant surface
2. Minimum space of at least 30 cm around the instrument in relation to other devices, to walls and well-ventilated location.
3. Ambient temperature between 20 °C and 30 °C and relative humidity not 80 %.
4. Grounded power socket
5. Power supply 220-240 V - 50 Hz with a current carrying capacity of at least 5 A
6. The location of the device is not exposed to direct sunlight
7. Do not place the centrifuge near sources of strong electromagnetic radiation.

5.3.1 Instrument parts



Figure 1 - Front view

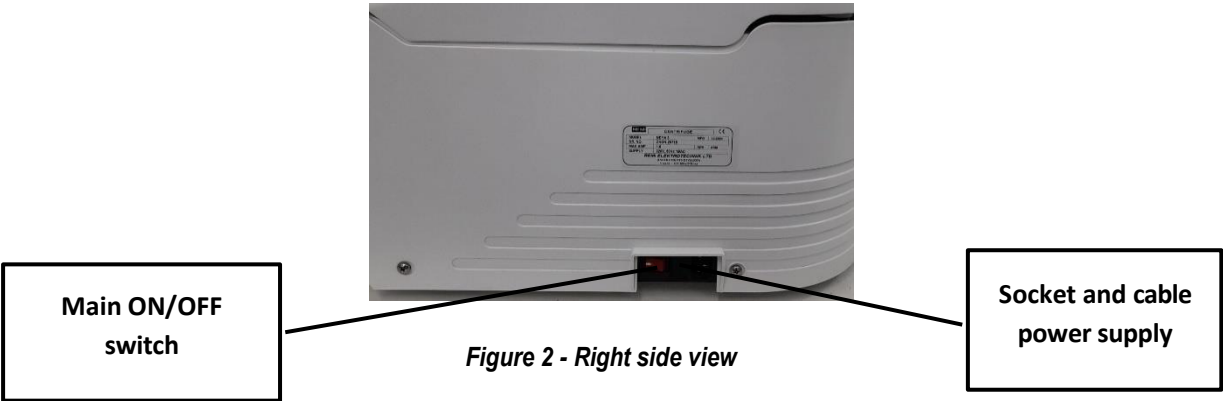


Figure 2 - Right side view



Figure 3 - Side view Left

6. Technical Specifications



Features	NEYA 5
<i>Maximum capacity</i>	<i>8x15 ml & 4x50 ml (Fixed & Swing out Angle)</i>
<i>Maximum Speed</i>	<i>4,700 rpm /3350xg (Fixed Angle) - 4,700 rpm/ 3560xg (Swing out)</i>
<i>Rotor type</i>	<i>Hybrid</i>
<i>RPM setting</i>	<i>Yes</i> <i>From 200 to 4700 rpm in 10 rpm steps</i>
<i>RCF setting</i>	<i>Yes</i> <i>10 to 3350g fixed angle 10 to</i> <i>3560g Swing out angle</i>
<i>RCF display</i>	<i>Yes</i>
<i>Timer</i>	<i>00:30÷ 99:50 (mm:ss) or continuous</i>
<i>Date and Time</i>	<i>Yes</i>
<i>Acceleration Ramps</i>	<i>3 (L, M, H)</i>
<i>Deceleration Ramps</i>	<i>4 (L, M, H, 0)</i>
<i>Spin function</i>	<i>Yes</i>
<i>Programmes</i>	<i>5 + 1</i>
<i>Noise</i>	<i>≤ 55 dB</i>
<i>External dimensions WxDxH / Weight</i>	<i>290x360x465 / 18.8 Kg</i>
<i>Chamber access height</i>	<i>358 mm</i>
<i>Power Supply / Consumption</i>	<i>220 ±10% V 50Hz / 375W</i>
<i>Part number</i>	<i>40100202</i>

7 Display and controls

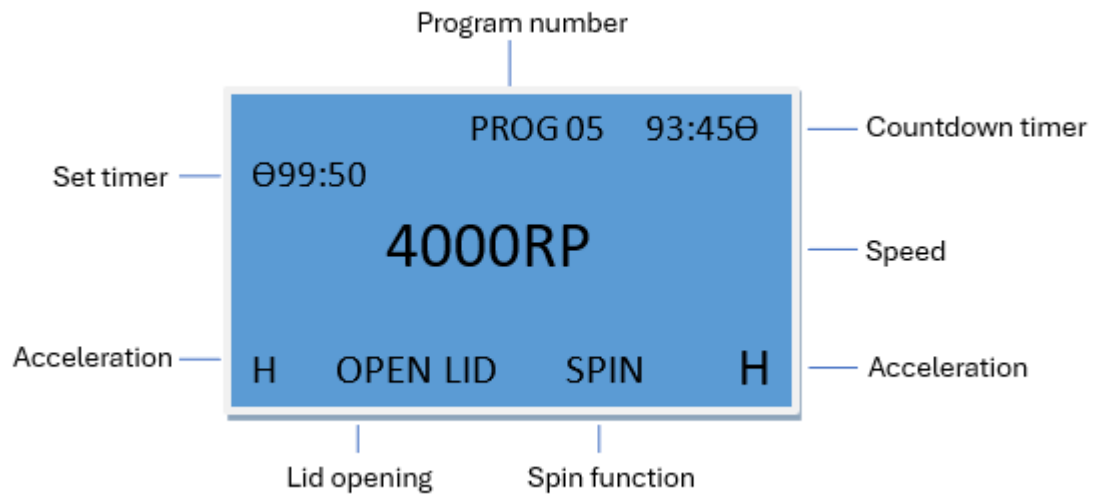


Figure 1 - Complete display



Figure 2 - Display in standby (NO PROGRAMM)



Figure 3 - Display in standby (PROGRAM)



Figure 4 - Duty cycle

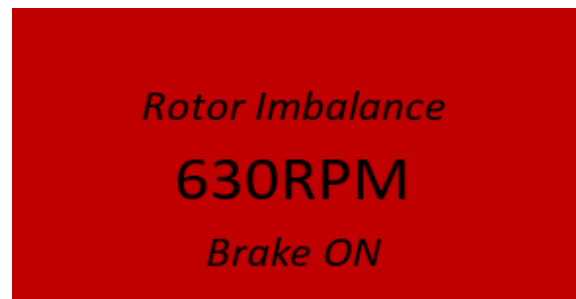


Figure 5 - Alarm signalling



Figure 6 - Front mask

	START / STOP	Allows a centrifugation cycle to be started and stopped.
	SETUP / ENTER	On the standby screen, it allows you to enter the SETUP menu. Select programme, confirm a selected menu or change.
	UP/DOWN	On the standby screen, it allows you to scroll through the SETUP menus.
	UP	Increases the value that is being changed
	DOWN	Decreases the value being changed
	MULTIFUNCTION F1	Pressing the button triggers the corresponding operation present on the screen.
	MULTIFUNCTION F2	Pressing the button triggers the corresponding operation present on the screen.
	ON / OFF	The ON/OFF button is used to switch the centrifuge on and off.

8 Operation

8.1 Switching on the centrifuge



Switch the centrifuge on via the ON/OFF button on the right side (front view). The display switches on and shows for a few seconds:

- centrifuge model
- software version
- date
- time

After a few seconds, the standby screen is automatically displayed (see Figure 2/Figure 3).

8.2 Lid opening



To open the lid, the centrifuge must be switched on and not be in an operating cycle.

Press the  button on the panel (front view), the lid opens and unlocks automatically, complete opening of the lid by lifting it with your hand.

ATTENTION:



The centrifuge has a safety opening system even in the event of a power failure.

For safety reasons, it is strongly recommended to open the machine in this condition only if strictly necessary. In this case, it is imperative to comply with the instructions on the safety label covering the emergency opening hole (see figure 5):

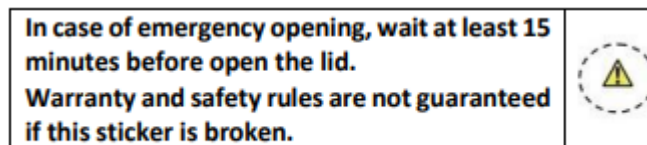


Figure 9 – Safety sticker

After have waiting at least 15 minutes from the moment of power supply absence, visually check that rotor is stopped through the observation window on the lid of centrifuge. Using the small Allen key supplied or alternatively a small screwdriver, pierce the safety sticker and leveraging down. At the same time pull the opening handle.

WARNING:



As specified on the safety label, the centrifuge warranty and safety regulations are not guaranteed if the label is not intact.

The above-mentioned label is of the non-removable and non-modifiable type so, in the event the operator must open the lid in the absence of power supply, please contact the technical service department to specify what has happened and restore the safety label.



8.3 Rotor installation

To mount the rotor correctly, the following procedure must be followed:



Place the rotor on the motor shaft, matching the flat side of motor shaft to the flat side of the rotor. Hold the rotor firmly with one hand and with the other screw the fastening nut clockwise. Using the spanner supplied, tighten the fixing nut until it is completely locked.

8.3.1 Installation of fixed angle supports

Insert the fixed angle supports into the rotor body as shown in the photo. Ensure that the supports are installed with the slot in the correct position. Ensure that the supports are firmly fixed and do not swing out in the rotor housings.



8.3.2 Installation of swing angle supports

Insert the swing out supports into the rotor body as shown in the photo. Ensure that the supports are installed with the slot in the correct position. Ensure that the supports swing out freely in the rotor housings.



8.4 Loading and balancing the rotor

8.4.1 Rotor load

ATTENTION:



The centrifuge is designed and built to centrifuge liquid samples or liquids containing small solid particles.

Centrifuging solids of any kind is strictly forbidden. Any damage caused by use in centrifugation of this type of material is not covered by warranty.

Centrifugation of explosive materials or materials with dangerous chemical reactions is also prohibited. Any eventual damage caused by the centrifugal use of this type of material is not covered by warranty.

It is strictly forbidden to centrifuge samples loaded directly into the metal bucket, adapters or carriers.

Samples must always be centrifuged inside a container (test tube). Any damage caused by the failure to comply with these conditions of use is not covered by warranty.

The material to be centrifuged should never exceed a density of 1.2 g/ml. The tubes must be made of high-quality material. They tend to heat up during centrifugation, so check their temperature limits before using them. Also check the speed limit to which they can be subjected, which is often lower than that of the rotor: e.g. glass tubes. If the tubes are fitted with stoppers, seal them well before centrifugation to prevent sample spillage.

8.4.2 Rotor balancing

Warning:



Before starting a spin cycle, it is essential to balance the rotor load correctly.

The load balancing should always be carried out respecting the rule of symmetry of loads, which should always be considered in terms of weight and not volume.

Generally, the rotors are used at full load, i.e. all housings are filled with test tubes. If the quantity of samples to be centrifuged does not reach the maximum possible number of housings, it would still be advisable to use them all by filling them with tubes containing water.

This will provide the necessary balance symmetry and more linear acceleration and deceleration phases.

Warning:

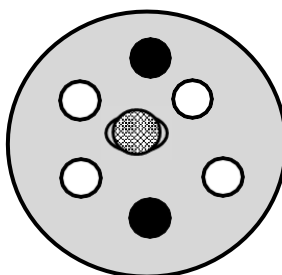
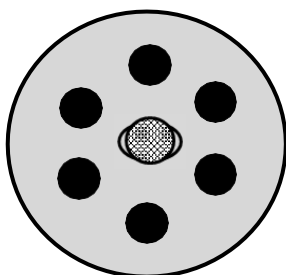
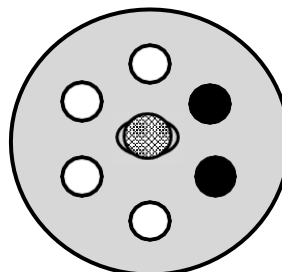
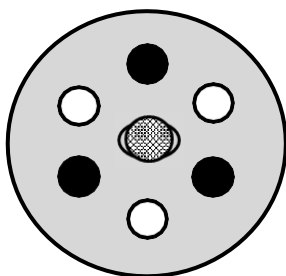


In any case, whether with all or partial filling of the housings, it is necessary to distribute the loads symmetrically around the rotor axis.

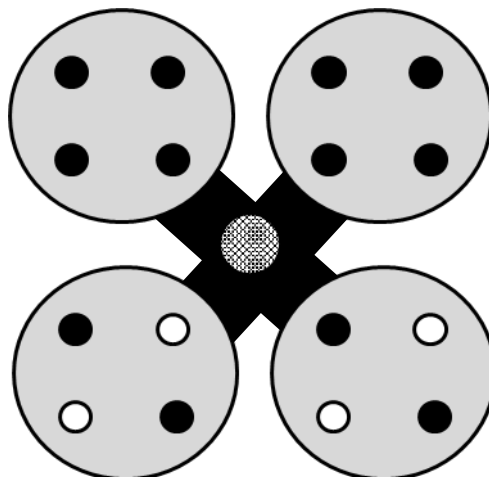
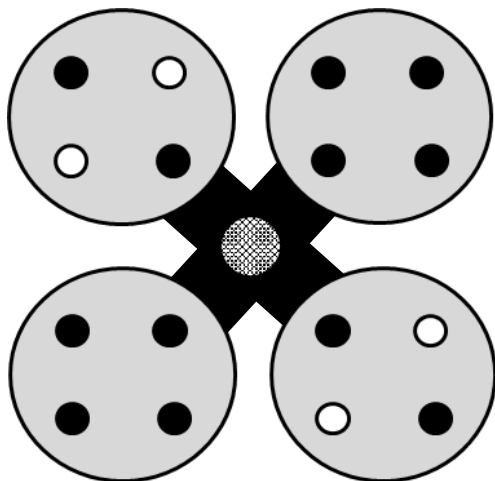
If the loads are not well balanced and the centrifuge goes out of balance the centrifuge will stop immediately by going into 'imbalance error', (see figure 5).

Here are some examples of correct and incorrect balancing of centrifuge rotors:

Fixed angle rotor with 6 tube housings



Swing out rotor with 4 tube inserts



Warning:

In the case of configurations with aluminium carriers, we strongly recommend the use of the same type and model for all four rotor housings.

Using alternating and different carriers would damage the rotor and centrifuge.



8.4.3 Lid Closure

Close the centrifuge lid by pushing it down.

8.5 “Motor Imbalance” message



The centrifuge is equipped with an automatic unbalanced load detection system.

If the machine is used with an incorrectly balanced load, it will automatically stop, signalling the anomaly to the operator with an intermittent acoustic signal and a "Motor Imbalance" message on a flashing red screen.

If this situation occurs, you must wait for the centrifuge to stop and open the lid. By opening the lid, the error message will disappear.

Once the lid is open, check the correct load balance as explained in § 8.4.

8.6 Centrifuge cycle setting (direct access programme)



Figure 7

With the lid closed and the centrifuge in standby mode, press the  button to set the parameters consecutively: Speed in rpm, Time, Acceleration, Deceleration. See figure 7.

Initially, the cursor blinks on the Speed parameter, press  or  to increase or decrease the value and press  again to confirm, the cursor moves to the Time parameter which starts blinking. Set Time, Acceleration and

Deceleration consecutively in the same way. After selecting the deceleration ramp, press  to confirm, the parameters are stored and the display switches to standby mode.

8.7 Programs setting



With the lid closed and the centrifuge in standby mode, press  or  to scroll and select the desired programme.



Figure 8

Press , the display switches to the SETUP menu and 'PROGRAM' starts flashing. See figure 9.

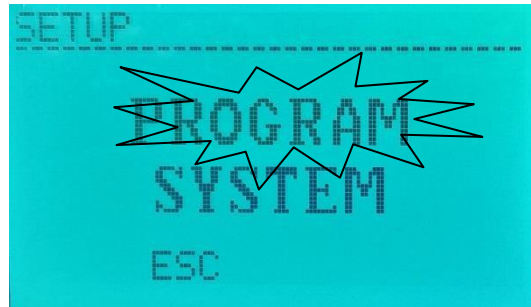


Figure 9

Press  to confirm the flashing selection, the display switches to the menu for selecting the programme to be changed. See figure 10.



Figure 10

Press the  button to confirm the desired programme, the display switches to the change 'SETUP PROG' of the selected programme parameters. See figure 11.



Figure 11

On the left side of the screen are the editable parameters and the selection (flashing) is already active. Using the  and  buttons move the selection to the parameter to be changed. By pressing the  button, the selection moves to the value of the parameter you have chosen to edit (right-hand side of the screen).

Increase or decrease the value using the keys  and . Press  again to confirm the value. The selection returns to the left-hand side of the display in the parameter column.

**Note:**

When the parameter flashing (selection) is speed, the words 'rcf' or 'rpm' appear at the multifunctional F2 button. By briefly pressing the F2 button, it is possible to toggle the speed parameter between rpm (revolutions per minute) and rcf (relative centrifugation force). See figure 12.

**Figure 12**

Once the desired parameter(s) have been changed, press the



ESC button to return to the standby display (see fig. 3).

Note:

If the last parameter down 'deceleration' is changed, the display briefly shows the parameters saved' and the display automatically returns to standby.

8.9 Start/stop a centrifugation cycle

**ATTENTION:**

Before carrying out a spin cycle, check that the rotor is securely locked as described in § 8.4 and having correctly balanced the loads as specified in § 8.4.

With the lid closed and the centrifuge in standby mode (see figure 2/ figure 3), press the button



, the centrifuge cycle starts with the parameters set for that programme or duty cycle and the display turns green as shown in figure 13.

**Figure 13****Note:**

The display simultaneously shows the set timer (left) and the actual timer (countdown) in the top right. As shown in Figure 13, the actual timer remains "--:--" until it is reached the set speed.

Once the set speed is reached, the countdown starts and the icon  flashes (see figure 13).

**Note:**

At each instant of the spin cycle, you can alternately display the speed in "rcf" and "rpm" by pressing the multifunctional button F2 (see figure 14).



Figure 14



At the end of the set time or by pressing the START/STOP button the spin cycle stops and the centrifuge starts decelerating.

When the rotor has come to a complete stop, if not excluded by the user in the SYSTEM menu, a short intermittent beep signals the operator that the spin cycle is complete and the lid opens automatically.

8.10 SPIN function

With the lid closed and the spin dryer in standby mode (see figure 2/ figure 3), press and hold down the multifunction button F2. The centrifuge starts the spin cycle with the parameters relative to the selected programme accelerating until the F2 button is held down and reaching the maximum speed set in the programme. Releasing the F2 button interrupts the SPIN cycle and the centrifuge decelerates until the rotor comes to a complete stop.

**Note:**

Since it is a SPIN cycle, the timer set in the programme is not considered and instead of the countdown in the top right-hand corner of the display, the actual time (countup) elapsed since the start of the SPIN cycle is shown (see Figure 16).



Figure 16 - SPIN cycle

9 SYSTEM menu



In the SYSTEM menu there are some basic settings for the centrifuge which the user can change as desired. With the lid closed and the centrifuge in standby mode (see figure 17), briefly press the SETUP/ENTER button, the display switches to the SETUP menu and "PROGRAM" starts flashing (see figure 17).

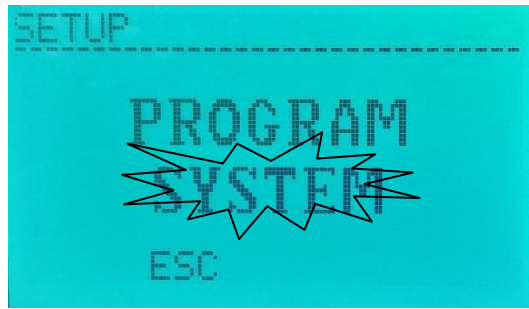


Figure 17

Press one of the buttons  or  to move the selection to 'SYSTEM' and press the button  to confirm. The display switches to the next menu in which there are two items:

- SYSTEM
- SERVICE

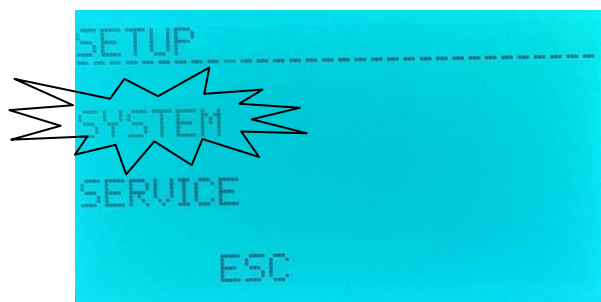


Figure 18

Press one of the buttons  or  to move the selection to 'SYSTEM' and press the button  to confirm. The display switches to the next menu in which the following items are present:

- END cycle beep
- Speed limit
- Time/Date
- Auto Lid Open
- Factory reset

9.1.1 END cycle beep

This function allows you to activate or deactivate the end-of-centrifugation sound alert.

Use  or  to select the above parameter, change to ON or OFF and confirm with .

9.1.2 Speed limit

This function allows you to set a speed limit that the spin dryer cannot exceed even if a higher speed has been set in the programme.

Use  and  to select the above parameter, increase or decrease the value and press  to confirm.

9.1.3 Time/Date adjustment



Use  and  to select, change and confirm time and date.

9.1.4 Factory reset

This function resets all previous parameters to factory settings.



Use  and  to select the above parameter to ON and confirm with .

10 Cleaning and Maintenance

ATTENTION:



All maintenance work must be carried out by qualified and authorised personnel, equipped with gloves and protective clothing.



It is forbidden to repair or clean moving parts.



In any case, if the equipment does not appear to be suitable for proper and safe operation, it would be necessary to put it out of service until the damaged parts have been repaired or replaced.

Before cleaning, disinfection or maintenance, switch off the centrifuge and disconnect it from the mains.

Proper maintenance and cleaning of the instrument ensures its good condition.

For the sake of personal, environmental and material protection, it is recommended to clean and if necessary, disinfect the centrifuge on a regular basis.

MAINTENANCE	RECOMMENDED INTERVAL
Chamber (Bowl)	Daily or when polluted
Rotor	Daily or when polluted
Accessories	Daily or when polluted
Cabinet/ Housing	Every month

The inner chamber of the instrument is made of plastic, so it can be cleaned with detergent if it is not aggressive.

It is recommended to regularly clean the interior and exterior surfaces with a normal, non-aggressive multi-purpose cleaner sprayed on a soft, dampened cloth so that it is not concentrated.

Before proceeding with any cleaning or decontamination, user must ensure that the adopted do not damage the instrument.

Clean the rotor and accessories outside the centrifuge chamber regularly and separately to ensure thorough cleaning. Clean the rotor and all accessories with a neutral detergent suitable for use with materials. In case of doubt, contact the detergent manufacturer.

If there are any sample leaks in the rotor or accessories, rinse with distilled water and neutral detergent and dry properly and immediately after cleaning with a dry cloth and place them on a plastic grid with the cavities facing down to allow complete drainage and drying. If necessary, put them in an oven at a temperature not exceeding 50 °C. Make sure that the grease on the rotor pins (pivot point of the swinging buckets) is removed. Use a soft brush

without metal bristles to remove stubborn residue. Grease the motor shaft and the rotor pins after cleaning.



Attention:

If the instrument is to be sent for, it must be properly cleaned and possible decontamination from pathogens of the same.



Note:

It is also advisable to put the centrifuge back in its original packaging to send it to the repair service and, failing that, to pack it adequately to cope with transport.

Any damage caused by incorrect shipment will not be covered by warranty.

11 Troubleshooting Guide



The following table lists the main problems and possible solutions.

Defect	Solution
Fuse blows immediately on 'ON' ignition	Replace the defective fuse and restart. If the fault persists, contact supplier's technical support.
Centrifuge causes mild electric shocks	Check the power socket and ensure that the grounding is present. Check the current flow rate of the line 230 V AC power supply that is sufficient and not less than 5 A.
The spin-dryer starts and stops immediately, indicating an error message on the display:	Switch the centrifuge off and on again after > 30 s. Dismantle and assemble the rotor. If the error persists, contact the supplier's technical service department.
- The centrifuge vibrates during start-up or operation. - The display shows the error 'Imbalance rotor'.	Place the centrifuge on a fixed, stable surface. Load the rotor in a balanced and symmetrical manner. If the fault persists, contact the technical service of the supplier.
Burning smell	Stop the centrifuge immediately. Contact the supplier's technical service immediately
Display showing anomalies	Contact the supplier's technical service
Engine does not start	
The display does not light up when switching on	
The lid does not open	Wait for the rotor to stop and use the emergency opening to open the cover. Contact the supplier's technical service.

Note:



If the problem is not listed in this table or in the manual, please technical support of GIORGIO BORMAC S.r.l.

13 Spare Parts

Contact the service department. Use only original spare parts

12 Disposal of electronic equipment



This equipment is subject to the regulations for electronic devices. Dispose of in accordance with local regulations.