

CENTRIFUGES NEYA

User manual



NEYA 8



NEYA 10



NEYA 16



NEYA 10R



NEYA 16R

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1 Warranty

Thank you for purchasing a centrifuge NEYA. In normal use conditions, the instrument is guaranteed for a period of 24 months from the date of purchase.

The warranty is valid only if the product is original. It does not apply to any product or parts of it that have been damaged due to incorrect installation, improper connections, improper use, accident or abnormal conditions of operation. The manufacturer declines all responsibility for damage caused by failure to follow instructions, lack of maintenance and any unauthorized modification

2 Unpacking of the centrifuge

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

Lift the centrifuge from the pack holding it from the bottom and taking care not to handle it in the front part plastic but taking it in the metal part.

Place the centrifuge on the table as described at paragraph 4.1.

Put inside the external box all the packaging parts and conserve the total packaging.

IMPORTANT:

In case of shipment of the centrifuge to technical assistance, the user is required to pack it in its original box to send it in for repairs. In case it is not present, pack it properly in order avoid damages during transportation.

All eventual damages caused by improper packaging will be not covered by warranty.

3 Content of package

The centrifuge is shipped complete of the below parts:

1. n. 1 wrench for fixing the rotor
2. n. 1 allen key for manual opening of the lid
3. n. 1 small bottle with maintenance grease
4. n. 1 power supply cord
5. n. 1 user manual

4 First use

4.1 Getting started

The instrument has to be installed in the below conditions:

1. Dry, clean and stable work table with a flat horizontal surface
2. Respect minimum spaces around instrument 30 cm
3. Room temperature between 20 °C and 30 °C and relative humidity maximum of 80%
4. Power supply socket with earth connection
5. Power feed between 220-240 V - 50 Hz with minimum current intensity capacity of 5 A

4.2 Parts of the instrument

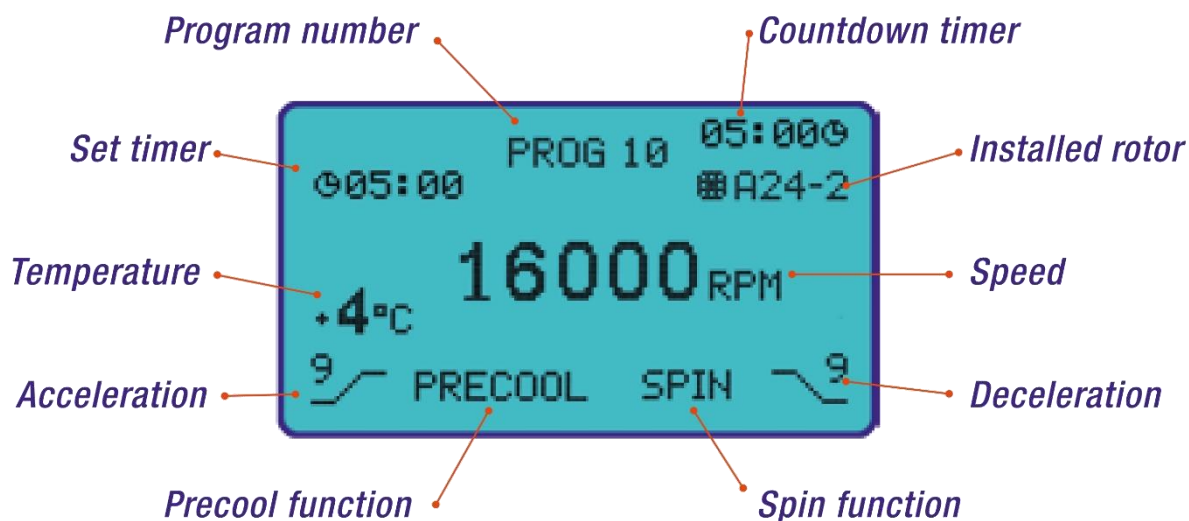


Picture 1



Picture 2 – Side view

5 Display e commands



Picture 3 – Complete display



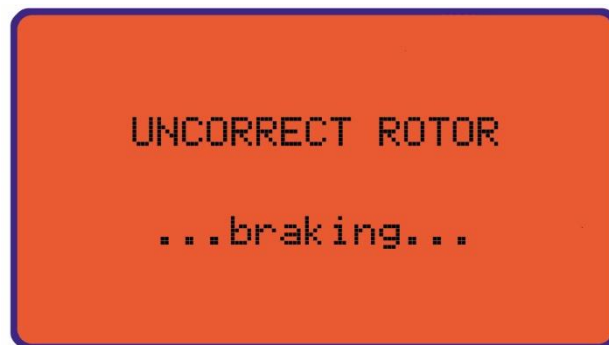
Picture 4 – Standby display



Picture 5 – Working cycle

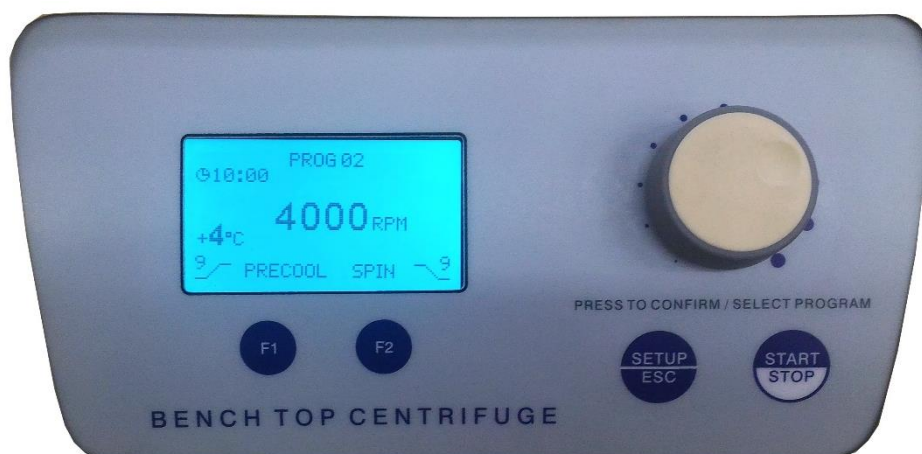


Picture 6 – Protected program



Picture 7 – Alarm signaling

NOTE: some parameters of the above screens are different depending on the model centrifuge.



Picture 8 – Frontal panel

		RIGHT/LEFT	Permits to scroll inside menus.
		RIGHT	Increases the value you are editing.
		LEFT	Decreases the value you are editing.
		ENTER	Chooses the program, confirms the selected menu or a modification.
	START / STOP		Permits to start and stop a centrifugation cycle or to stop a precool cycle.
	SETUP / ESC		In standby screen it permits to enter in SETUP menu, in all the rest of screens permits to return to the previous one (ESCAPE).
	MULTIFUNCTION F1		Pressing key the corresponding operation present on display is activated.
	MULTIFUNCTION F2		Pressing key the corresponding operation present on display is activated.
	ON / OFF		The ON/OFF button permits to switch on and switch of the centrifuge.

6 Operation

6.1 Switching on the centrifuge

Turn on the centrifuge by the button ON / OFF on the left side (front view).

The display switches on and shows for few seconds:

- centrifuge model
- software version
- date
- time

After a few seconds the standby screen is automatically displayed (see Picture 4).

6.2 Opening the lid

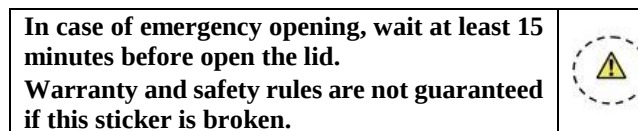
To open the lid, the centrifuge has to be switched on and there must not be a work cycle in progress.

Move the opening lever of the lid on the left side (front view), the lid opens and rises up through the action of the gas spring. If necessary conclude manually the opening of the lid.

IMPORTANT:

The centrifuge has a safety opening system usable in case of power supply absence.

For safety reasons it's strongly recommended to open the machine in this conditions only if absolutely necessary. In that case, you must respect the instructions written on safety sticker that cover the emergency opening hole (see Picture 9):



Picture 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. Contemporary pull the opening handle.

NOTE: as specified on safety sticker, the warranty and safety rules are not guaranteed if this sticker is broken.

The above sticker is not removable and not modifiable, so in case that operator needs to open the lid in case of power supply absence, please contact the technical assistance service for specifying the incident and restore the label of safety.

6.3 Installation of the rotor

To properly install the rotor it is necessary follow below instructions:

1



Turn the motor shaft until the flat part is aligned to arrow ▼ present on the seal (see side picture).

2



Turn the rotor in order that arrow ▲ printed on it is aligned with the arrow ▼ present on the seal (see side picture).

3



Insert the rotor on motor shaft making that the flat part of the shaft matches with the one of the rotor.

4



Hold the motor with one hand and with the other one screw the lock nut clockwise.
Using the wrench supplied, tighten the lock nut until it is well locked (see side picture).

5



Check that rotor is properly fixed trying to move it with both hands.

6.4 Load and balancing of the rotor

6.4.1 Automatic rotor detection

The centrifuge is equipped of an automatic rotor detection system.

This feature is very important for the safety of operator and of the machine, which prevents that:

- the centrifuge works beyond the speed limit of the rotor
- the centrifuge works without rotor installed

IMPORTANT:

Even if it's not necessary set the rotor during programming and the automatic recognition avoids to exceed the maximum permitted speed, it is still essential that the operator knows well the limits of the rotor and accessories with which equips the machine.

These limits are always specified on the accessories.

6.4.2 Load of the rotor

The samples to be centrifuged should never exceed the density of 1.2 g/ml when they are at the maximum speed.

The tubes must be realized in very good quality material. They tends to heat up during centrifugation, so before use them check their temperature limits.

Moreover check their speed limit that often is lower than the one of rotor: for example for glass tubes.

In case of the tubes have caps, seal properly them before centrifugation, in order to avoid eventual losses of sample.

IMPORTANT:

Centrifugation of explosive materials or having dangerous chemical reactions is strictly prohibited. Any damage caused by the use during centrifugation of this type of materials is not covered by warranty.

It is strictly forbidden to centrifuge samples loaded directly into the metal bucket or carrier.

Samples must always be centrifuged within a container (tube or bottle with flat bottom).

Any damage caused by failure to comply with these conditions of use is not covered by warranty.

6.4.3 Balancing of the rotor

Before to start a centrifugation cycle is essential to properly balance the rotor loads.

IMPORTANT:

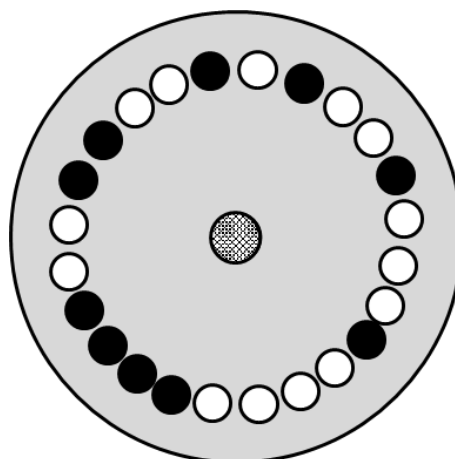
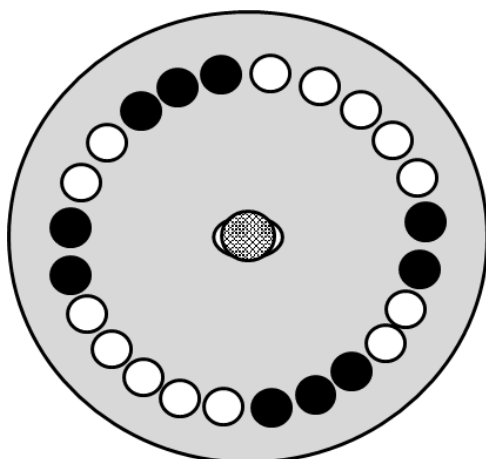
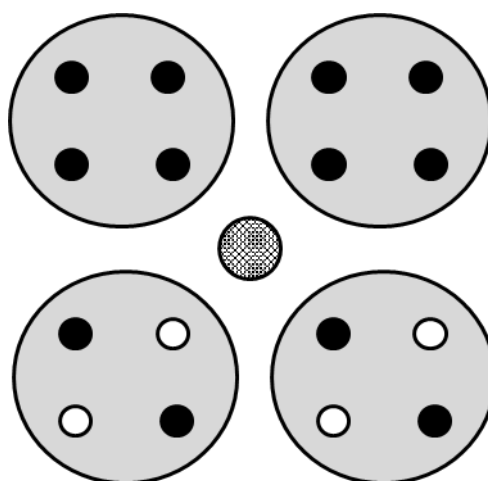
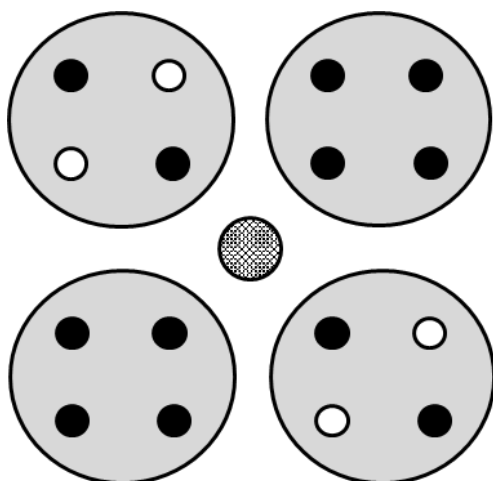
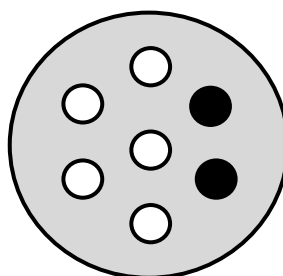
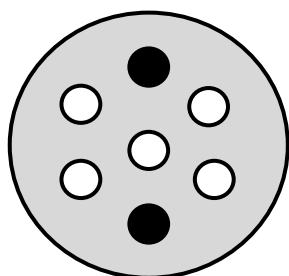
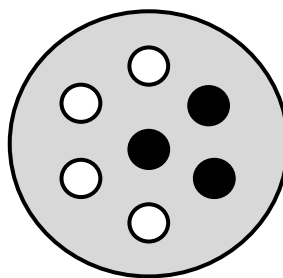
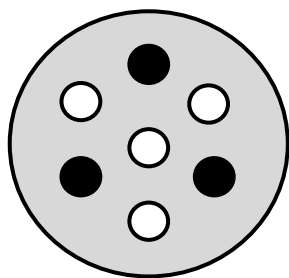
The load balancing should always be performed in accordance with the rule of the loads symmetry, which must always be considered in terms of weight and not by volume

Load balancing should not be done exclusively by filling the tubes with the same volume, but it is always necessary to weigh them.

Rotors are generally used completely full: all the places are filled with tubes. If the samples are not sufficient to fill all the places, it's recommended to use all them filling the empty ones by tubes with water. This permits the correct symmetric balancing necessary for acceleration and deceleration phases more linear. In any case, both with complete filling or with partially filling, it is absolutely necessary to distribute the loads symmetrically around the axis of the rotor.

In the event in which loads are not well balanced and the centrifuge goes in imbalance condition, it immediately stops and goes into "imbalance error" (see Picture 7).

Below some examples of correct and incorrect balances:



6.5 Message “Motor Imbalance”

The centrifuge is equipped by an automatic system for imbalance detection.

In the event that it is used with a load not balanced correctly, the machine will automatically stop and signals a fault to the operator with intermittent beep and message "Motor Imbalance" on flashing red screen.

If this occurs, you should wait until the centrifuge stops and open the lid. Opening the lid the error message will disappear.

Once you open the lid to check the correct load balancing as described at § 6.4

6.6 Message “ERROR check imbalance switch”

IMPORTANT: The system for the imbalance detection is magnetic, so it can sometimes happen that it remains "closed" and then the centrifuge gives the following error message "ERROR Check imbalance switch".

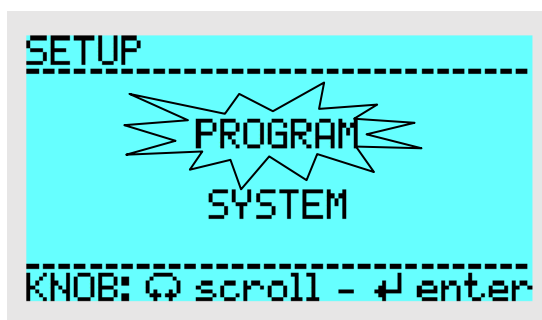
To eliminate the error is sufficient to slightly push for a couple of seconds the motor shaft towards the rear part of the centrifuge by pressing directly the rotor by the hand. If it's necessary repeat the operation.

IMPORTANT: when you switch on the centrifuge for the first time, it may give the above error message. The situation is normal and is due to the transport of the machine with tabs that hold the motor shaft. Follow the steps above to clear the error.

6.7 Setting of programs (if present)

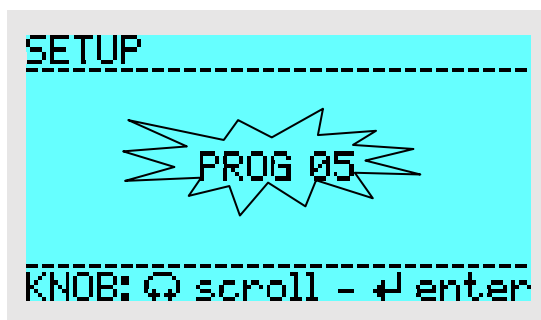
The follow instructions are valid for centrifuges NEYA 10/10R and NEYA 16/16R. To set centrifugation parameters for NEYA 8 please refer to paragraph 6.8.

With closed lid and centrifuge in standby mode (see Picture 4), press shortly SETUP/ESC  key, display goes into SETUP menu and word “PROGRAM” starts to blink (see Picture 10).



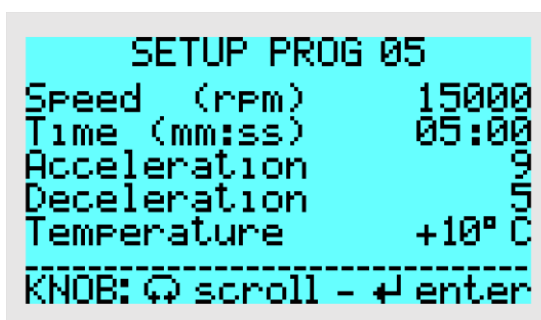
Picture 10

Press shortly the knob  to confirm the flashing selection, display passes into the choose of program to be modified menu (see Picture 11).



Picture 11

Turn the knob  if you desire to change the program to be modified and confirm the selected program pressing shortly the knob. The display passes in the adjusting menu of the selected program parameters “SETUP PROG” (see Picture 12).



Picture 12

In the left part of the screen there are the editable parameters and the selection (flashing) is already active. Through the knob  move the selection on the desired parameter. Press shortly the knob and the selection moves on the value of the chosen parameter (right part of the screen).

Increase or decrease the value turning the knob  in clockwise or counterclockwise. Press again the knob to confirm the value. The selection moves on the parameters.

NOTE: when speed is the flashing parameter, the online guide present on the bottom part of the screen disappears and the word “rcf” or “rpm” appears in correspondence of the multifunction button F2 . Pressing shortly F2 button it's possible alternately change the speed parameter between rpm (revolutions per minute) and rcf (relative centrifugation force).

NOTE: the parameter “temperature” is present only in the refrigerated versions NEYA 10R and NEYA 16R.

After have edited the parameters press more times the SETUP/ESC  button to return to standby display (see Picture 4).

NOTE: if the last parameter down, “deceleration” for the ventilated centrifuges, “temperature” for refrigerated centrifuges, is changed, the word “parameters saved” shortly appears on display and it automatically returns in standby (see Picture 4).

6.8 Setting of centrifugation cycle (only NEYA 8)

With closed lid and centrifuge in standby mode (see Picture 4), press shortly SETUP/ESC  key, display goes into SETUP menu of centrifugation parameters.

In the left part of the screen there are the editable parameters and the selection (flashing) is already active. Through the knob  move the selection on the desired parameter. Press shortly the knob and the selection moves on the value of the chosen parameter (right part of the screen).

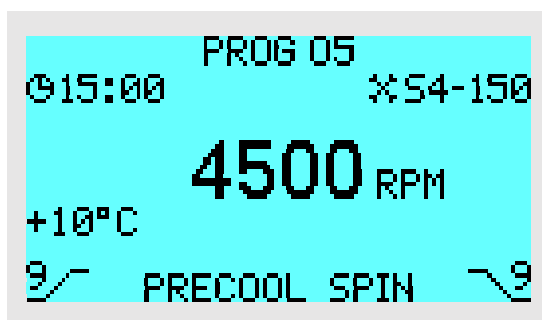
Increase or decrease the value turning the knob  in clockwise or counterclockwise. Press again the knob to confirm the value. The selection moves on the parameters.

After have edited the parameters press more times the SETUP/ESC  button to return to standby display (see Picture 4).

NOTE: if the last parameter down “deceleration” is changed, the word “parameters saved” shortly appears on display and it automatically returns in standby (see Picture 4).

6.9 Selection of the program (if present)

With closed lid and centrifuge in standby mode (see Picture 4) press shortly the knob . The program number in the upper central part of display starts to blink (see Picture 13).



Picture 13

Turn the knob  to modify the program number and after press it to confirm the desired program.

6.10 Start/stop of a centrifugation cycle

IMPORTANT:

Before execute a centrifugation cycle check the rotor is properly locked as described at § 6.3 and to have rightly balanced the loads as specified at § 6.4.

With closed lid and centrifuge in standby mode (see Picture 4), press shortly the START/STOP  button. The centrifugation cycle starts with the set parameter of that program or centrifugation cycle and display appears green as shown in Picture 14.



Picture 14

NOTE: the display contemporary shows the set timer (on the left) and actual timer (countdown) on top right. As shown at Picture 14, the actual timer remains “--:--” until the set speed is achieved.

Once the set speed is achieved the countdown starts and  icon blinks (see Picture 15).

NOTE: during the centrifugation cycle it is possible see alternatively the speed in “rcf” and “rpm” pressing the multifunction key F2 (except NEYA 8).



Picture 15

At the end of set timer or pressing START/STOP  button the centrifugation cycle stops and the centrifuge starts to decelerate.

When rotor is completely stopped, if it is not excluded by the operator in SYSTEM menu, a short intermittent beep alerts the user that the spin cycle has ended.

NOTE: simultaneously to the sound alert and until the lid is opened, the LED bar flashes to indicate that the spin cycle has been completed (see Picture 16).



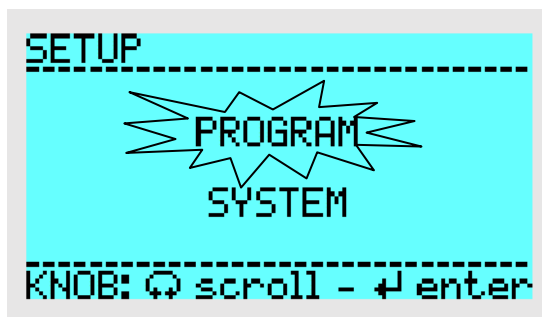
Picture 16

NOTE: only in the refrigerated centrifuges, at the end of centrifugation cycle, the display remains in green color and shows the word “0 RPM” flashing and the detected temperature inside the chamber.

If the temperature of the chamber is higher than the set one for that program, the cooling system remains active until the lid is opened. **The possible ice on the chamber during this phase is absolutely normal.**

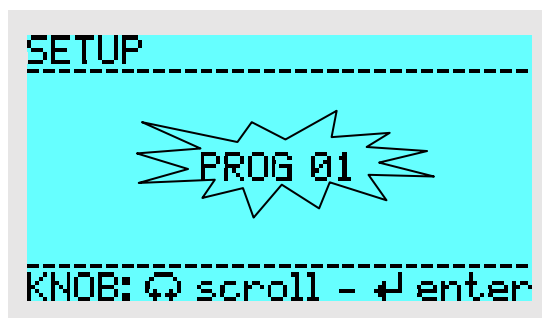
6.11 Block/unblock of a program (if present)

With closed lid and the centrifuge in standby mode (see Picture 4), press shortly the SETUP/ESC button, the display passes in SETUP menu and the word “PROGRAM” starts to blink (see Picture 17).



Picture 17

Press shortly the knob to confirm the blinking selection, the display passes in the menu of program number selection (see Picture 18).



Picture 18 – Program not protected

Turn the knob if you desire to modify the program number to be blocked/unblocked.

To block or unblock the selected program, keep contemporary pressed both the multifunction keys F1 and F2 for some seconds (about 5).

The unblocked program become blocked with purple screen (see Picture 19) and viceversa.



Picture 19 - Program protected

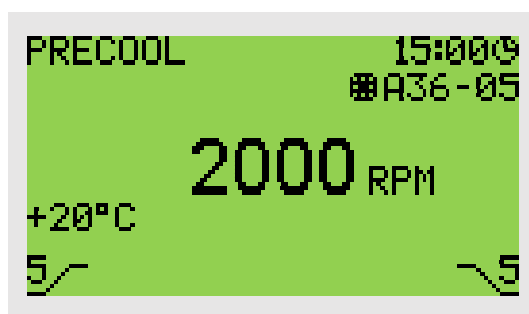
NOTE: when a program is blocked it is not editable. Unblock the program to make it editable.

6.12 PRECOOL function (if present)

In the refrigerated version NEYA 10R and NEYA 16R the precooling function “PRECOOL” is available.

With closed lid and the centrifuge in standby mode (see Picture 4), press shortly the multifunction button F1. The precooling function “PRECOOL” starts with the following preset parameters (see Picture 20):

- Speed= 2000 rpm
- Timer= 15 minuti
- Acceleration= 5
- Deceleration= 5
- Temperature= 4°C



Picture 20 – PRECOOL cycle

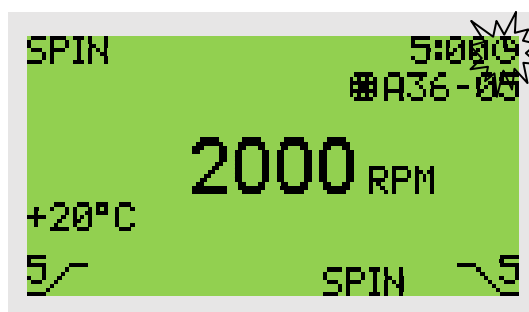
6.13 SPIN function (if present)

With closed lid and the centrifuge in standby mode (see Picture 4), press and keep pressed the multifunction button F2.

The centrifuge starts the centrifugation cycle with the parameters set in the selected program increasing speed until the F2 is pressed arriving to the set speed maximum.

Releasing the F2 key the SPIN cycle stops and the centrifuge decelerates to the complete rotor stopping.

NOTE: due to the SPIN cycle, the set timer in the program is not considered and instead of the countdown on the top right of display the effective timer (countup) is shown (see Picture 21).

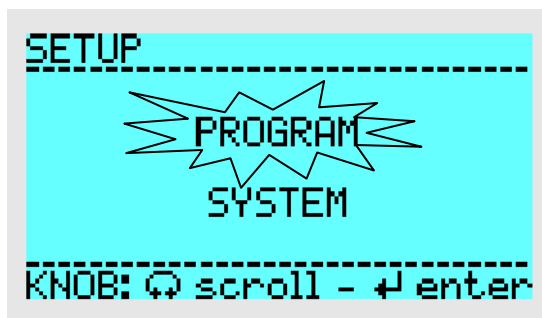


Picture 21 – SPIN cycle

7 SYSTEM menu

In SYSTEM menu there are some settings of the centrifuge that operator can modify.

With closed lid and the centrifuge in standby mode (see Picture 4), press shortly SETUP/ESC button, the display passes in SETUP menu and the word “PROGRAM” starts to blink (see Picture 22).



Picture 22

Turn the knob  to move the selection on “SYSTEM” and press the knob to confirm. The display passes in the next menu in which there are present two items:

- SYSTEM
- SERVICE

Rotate the knob  to move the selection on “SYSTEM” and press the knob to confirm. The display passes in the next menu in which there are present the follow items:

- END cycle beep
- Speed limit
- Time/Date adjustment
- Temperature unit
- Factory reset

7.1.1 END cycle beep

This function permits to enable or disable the audible signal of the end of centrifugation.

By the knob  select this parameter, modify in ON or OFF and confirm by pressing of the knob.

7.1.2 Speed limit

This function permits to set a speed limit that centrifuge cannot overcome even if in the program is set a higher speed.

By the knob  select this parameter, increase or decrease the value and confirm by pressing of the knob.

7.1.3 Time/Date adjustment

By the knob  select, modify and confirm time and date.

7.1.4 Temperature unit

By the knob  select this parameter, modify in °C or °F and confirm by pressing knob.

7.1.5 Factory reset

This function permits to reset all the above parameters to the factory conditions.

By the knob  select this parameter, modify in ON and confirm by pressing of the knob.

8 Clean and maintenance

Proper maintenance and cleaning of the instrument guarantee its good conditions.

The inner chamber of the instrument is made of stainless steel, so it can be cleaned with any detergent provided it is not aggressive and / or corrosive.

You should clean the inside and outside surfaces with a standard all-purpose cleaner sprayed on a soft cloth.

Before proceeding with any cleaning or decontamination, the user must ensure that the method used does not damage the instrument.

IMPORTANT:

If the instrument must be returned for service, it is necessary to provide for proper cleaning and possible decontamination by pathogens of the same.

It is also recommended to put the instrument in its original packaging to send it in for repairs and if it is missed it is necessary to provide to pack it properly in order to the transport.

Any damage caused from the incorrect shipping will not be covered by warranty.

8.1 Greasing of the motor shaft and the rotor pins

In order to facilitate the insertion of the rotor, the motor shaft should be regularly greased and also in the swing out rotors the pins on which the buckets swing must be regularly greased.

The timing of these operations depends on the frequency of use, the operating temperature, the loads centrifuged etc., so it is suggested to regularly check these parts.

Before proceeding with the greasing is essential to remove the old grease.

9 Disposal of electronic equipment



The electrical and electronic equipment marked with this symbol may not be disposed of in landfills.

In accordance with EU Directive 2002/96/EC, the European users of electrical and electronic equipment have the opportunity to give back to the distributor or manufacturer upon purchase of a new one.

The illegal disposal of electrical and electronic equipment is punished with an administrative fine.