MicroCentrifuge

1536

User Manual

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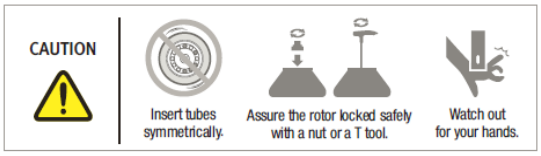
This manual is for the users who operate the device for the first time.
This manual provides information on the detailed instructions, precaution, troubleshooting and maintenance care.

1. Meanings of Labels & Safety Precautions

1.1 Safety Labels on Instrument

The labels on the instrument represent safety instructions and directions.

Label	Meaning	Label	Meaning
	Attention and warning.		Attention and warning for electric shock
Label		Meaning	
		Attention and warning for correct way of sample balancing in the rotor Attention and warning for rotor coupling Attention and warning for lid opening and closing	

1.2 Safety Precautions

Before using the instrument, please read this operation manual to ensure correct usage. Incorrect handling of the instrument may possibly result in personal injury or physical damage on the instrument or its accessories.

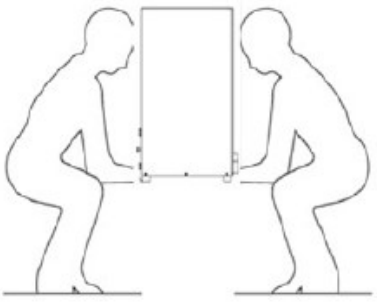
1. ALWAYS locate the instrument on a flat, rigid and stable table capable of withstanding the weight of the instrument and its spinning operation.
2. ALWAYS make a safety zone of 30 cm around the instrument to indicate that neither hazardous materials nor persons should be permitted within the area during operation.
▶ ALWAYS position the instrument with enough space on each side of instrument to ensure proper air circulation.
3. ALWAYS install the instrument within a temperature and humidity controlled environment. (Permissible ambient temperature: 5 ~ 35 ℃, Relative humidity: ≤ 85%)
4. Before connecting the main power, check the rated voltage.
5. Should not use incompatible rotors and accessories.
▶ Only use the rotors manufactured from GYROZEN Co., Ltd., appropriate centrifugal tubes and adaptors to hold sample containers tight in the rotors.
6. Before operating the instrument, check if the rotor and the lid are securely fastened.
▶ Should operate the instrument with a compatible rotor properly installed and secured to the motor shaft.
7. Mount the rotor on the motor shaft properly, check it by spinning manually.
8. Do not stop the rotor by hands while spinning.
9. Manual lid release is available only when spinning of the rotor is completely stopped.
10. Should not exceed the rated rotational speed or specific gravity. If the loaded samples have densities of over 1.2 g/ml, the maximum rotational speed should be kept lower to prevent from rotor failure.
11. The sample content should not exceed 80% of total capacity of a tube. Otherwise, it may cause spillage of sample or even the tube breakage.
12. ALWAYS load the sample tubes symmetrically with evenly weighted samples not to cause rotor imbalance. If necessary, use the water blank to counterbalance the unpaired sample.
13. The rotation speed should not exceed the highest value of the individual guaranteed g-forces for centrifuge, rotor, bucket or adaptor. Especially, the guaranteed g-strength of the sample container should not be neglected.
14. The rotors should be cleaned and kept dry after use, for longer life span and safety.
15. ALWAYS disconnect the power supply prior to maintenance care and service to avoid electrical shock.
16. ALWAYS use proven disinfection procedures after centrifuging biohazardous materials.
17. Should not centrifuge flammable, toxic, radioactive, explosive or corrosive materials.

18. When it is necessary to use toxic or radioactive materials or pathogenic microorganisms which belong to the Risk Group II of WHO: "Laboratory Bio-safety Manual," should follow national regulations.
19. After using the centrifuge, turn the power switch off.
20. Unplug power cord before cleaning or whenever the centrifuge is to remain unused for a long period of time.

- ✓ Do not place dangerous materials within 30 cm distance around the instrument, and that is also recommended by IEC 61010-2-020.
- ✓ Use the emergency lid open function only when the lid button on the control panel is dumb under the condition of complete stop of rotor running.
- ✓ Never attempt to open or move the instrument until it is completely stopped.
- ✓ Power input of 10% greater or less than the recommended voltage or fluctuates frequently may cause malfunction of the instrument and often serious damage.
- ✓ Install the instrument at the place free from any kinds of corrosive gases.

1.3 lifting and carrying

When moving the product, two people should grab it from the frong and back as shown in Figure



1.4 Transport, Storage, Use conditions

Use Condition	Storage and transport condition
- Indoor use	- Ambient Temperature : -10 ~ 40℃
- Room Temperature : 5 ~ 40℃	- Relative humidity : 10 ~ 90%
- Relative humidity : 30 ~ 85%	- Atmospheric pressure : 500 ~ 1060 hPa
- Atmospheric pressure : 500 ~1060 hPa	

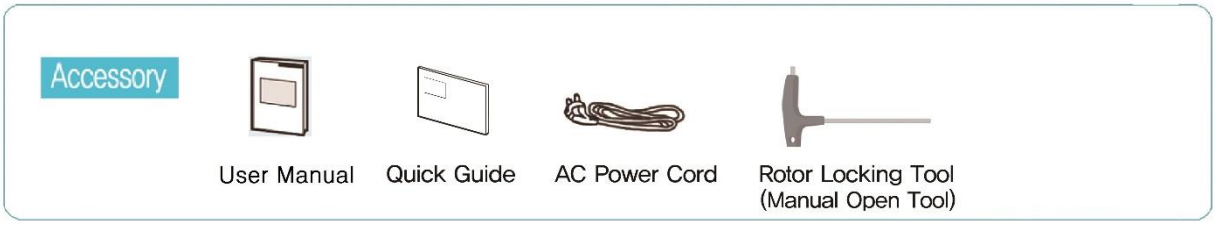
2. Product Description

2.1 Intended Use

The device is used mainly in the laboratory to separte the components through centrifugal force

2.2 Product Description

1	Lid	2	Power Socket	3	Power Switch
4	Chamber	5	Manual Lid Control	6	Display & Control Panel



2.3 Technical Specifications

Cat. No.	GZ-1536
Max. RPM	15,000 rpm
Max. RCF	21,583 x g
Max. capacity	36 x 2.0 ml, 10 x 5.0 ml, 4 x 8-tube PCR Strips
Time control	Pulse, timed < 100 min or continuous
Time counting range	Selectable, at set speed or from starting
RCF/RPM display	RPM/RCF automatic conversion and simultaneous display
RCF/RPM control	1 RPM (RCF) increment
Noise level (dB)	≤ 60
Parameters input method	Numeric Keys
Parameters changeability during operation	Yes for all parameters
Key lock function	Yes
Ending alarm sound	Adjustable of sound tone and number of repetition
ACC/DEC ramps	9/10
Program memory	100
Parameters on display window	RPM, RCF, Time (Min:Sec), ACC DEC, Operating Status, etc. All set values and running status are displayed simultaneously.
Display	3.5 Inch LCD, Black colored lettering with light grey background
Imbalance cutout	Yes
Safety lid lock	Yes
Lid drop protection	Yes
Power supply (V, Hz)	230V~ (110V optional), 50/60Hz
Power requirement (VA)	450
Dimension (W x D x H, mm)	240 x 378 x 240
Weight without rotor (kg)	11.9
CE mark	Yes

3. Installation

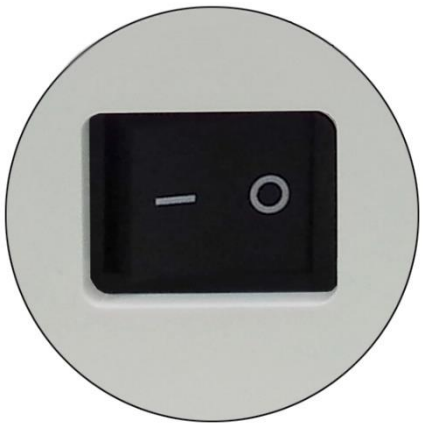
3.1 Power On / Off

Action

1 Connect the AC power cord to the power socket on the left back of the instrument and put the plug into the outlet.

▶ Check the proper power.

2 Turn on the instrument by pressing the power switch on the right back of the instrument. Turn on the switch [I].



3.2 Lid Release

For centrifuge lid opening, [⏏] button is used.
Display shows the status of lid (open ⏏, closed ▬).

Action

1 Touch the [⏏] button to open the closed centrifuge lid.

- ▶ When the lid is open, the display status changes from ▬ to ⏏.
- ▶ The lid is automatically opened with end alarm when the operation is completed.

Note!
The lid of 1536 is opened or sealed by a motorized system. Therefore, the lid can be sealed by gentle pressing-down.

3.3 Rotor Coupling and Disassembling

Action

1 Before coupling a rotor, clean the motor shaft, rotor, and chamber with soft dry towel.

▶ If you find any foreign substances, they must be removed from the motor shaft, rotor and chamber.

2 Mount a proper rotor into the motor shaft and fix it using Rotor Locking Tool.

▶ To assemble the rotor, rotate the Rotor Locking Tool **clockwise** until tightly assembled.

▶ To disassemble the rotor, rotate the Rotor Locking Tool **counterclockwise**.

▶ Grasp the rotor with one hand and assemble or disassemble the rotor using the Rotor Locking Tool.

3 After placing the sample tubes into the holes of the rotor, firmly close the rotor lid by rotating the rotor lid nut clockwise.

▶ To close the rotor lid: clockwise

▶ To open the rotor lid: counterclockwise

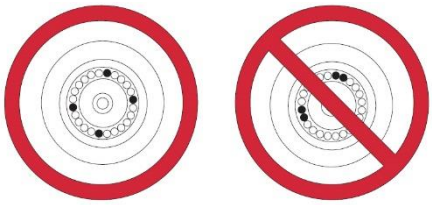
3.4 Positioning of Sample Tubes

Action

1 Before loading sample tubes, check the water drop or dirt in the rotor hole or inner adaptor.

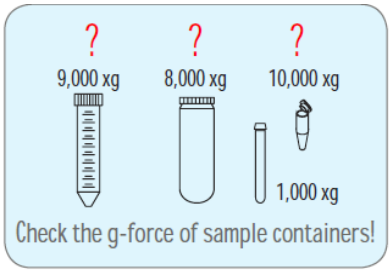
▶ If you find any water drops or dirt in the rotor hole or adaptor, remove them with soft and dry cloth.

2 The sample tubes should be placed in the rotor holes in a balanced way.



▶ The sample tubes should be loaded symmetrically with the density and the weight considered to avoid imbalance.

▶ In case the number of samples cannot make balance in weight, please use control tubes. Otherwise, it can cause noise or vibration, which may damage the instrument.



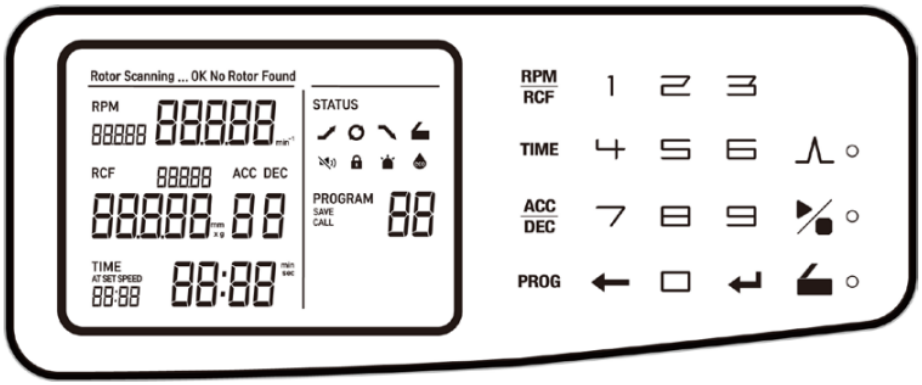
▶ Only use appropriate centrifugal tubes and do not exceed the speed beyond the tube's max g-strength.

Note!

For the safety, the instrument has 'Imbalance cutout' function to sense the imbalance of the loaded tubes.

4. Operation

4.1 Key Functions of Control Panel



1. RPM/RCF

RPM/RCF indicates rotating speed.

The maximum RPM/RCF of 1536 is 15,000/21,583.

2. TIME

Time can be set at 'Minute' and 'Second' with the range up to 99 min 59 sec (00:00: continuous).

3. ACC/DEC

The acceleration and deceleration rates can be set from 1 to 9 and from 0 to 9, respectively. The DEC '0' in deceleration means natural deceleration. As the number increases, the acceleration or the deceleration becomes faster.

4. PROG (Program)

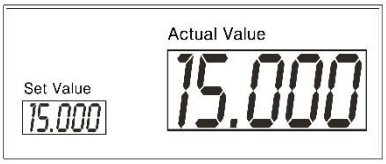
Max. 100 programs can be saved and recalled.

Note! Actual Value / Set Value

Display shows 'Actual Value' and 'Set Value'.

The input value is set at the position of the Actual Value,

which shifts to the position of the Set Value by touching the [ENTER] key.



5. Pulse ( )

The [Pulse] button is for quick and short spin-down. Rotor spins while the button is kept touched and stops immediately as the button is released.

6. Start/Stop ( )

The [Start/Stop] button is to start or stop centrifugation.

7. Lid ( )

The [Lid] button is to open the closed centrifuge lid.

8. STATUS

Display shows the status of the following parameters (Spinning, Acc/Dec, Lid Open/Close, End Alarm, Key Lock, Eco mode).

STATUS Symbol	STATUS Meaning	STATUS Symbol	STATUS Meaning
	Accelerating		Centrifuge Lid Open
	Decelerating		Centrifuge Lid Closed
	Spinning in progress		Key-Locked to freeze parameter change
	Silent		Key-Unlocked to change parameters
	Sound		Warning
	Backlight off		

9. Numeric Key and others

Key	Function	Key	Function
0-9	Numbers for setting value		Enter to set or confirm the values
	Backspace to delete the number before the insertion point		

Note! Change the Set Value during Centrifugation

RPM/RCF, TIME, ACC/DEC can be modified during centrifugation. The changed parameters are immediately applied to the ongoing operation.

Note! Lock Mode

All input buttons can be locked for protocol security. When the [PROG] button is kept touched for longer than 2 seconds, all buttons can be locked ( ) or unlocked ( ).

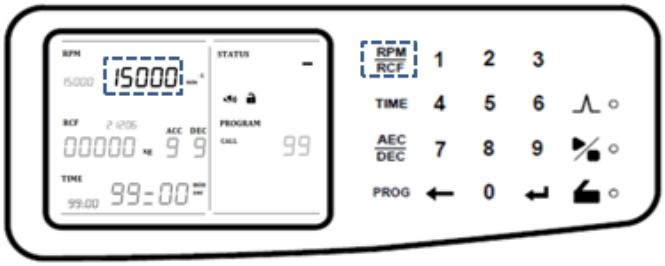
4.2 Setting Rotation Speed

The rotation speed is indicated as RPM (Rotation per Minute) / RCF (Relative Centrifugal Force).
The speed range of 1536 is 500~15,000 rpm and 24~21,583 x g.
The RPM and RCF values are indicated on the display at the same time.

4.2.1 Setting RPM

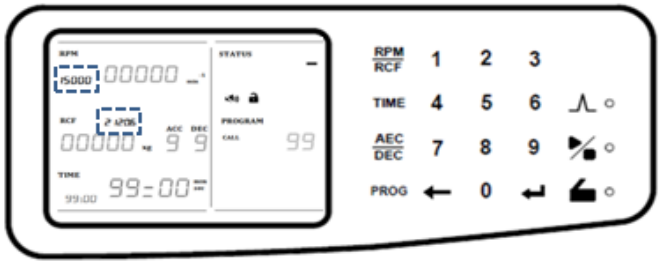
Action

1 Touch the [RPM/RCF] once.



▶ The RPM mode is activated by touching [RPM/RCF].
▶ If the RCF mode is selected, touch [RPM/RCF] once more.
▶ The input RPM value flickers on the display window and can be set here.

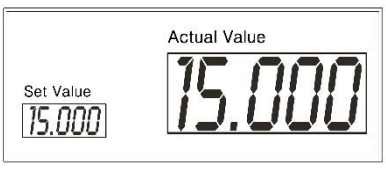
2 Touch the numeric keys to change the input value and [ENTER] key to complete the setting.



▶ After the setting value is saved, actual value is '00000'.
▶ When RPM value is saved, RCF is converted automatically.
▶ If any keys are not touched for 15 seconds, the setting mode is cleared.

Note! Actual Value / Set Value

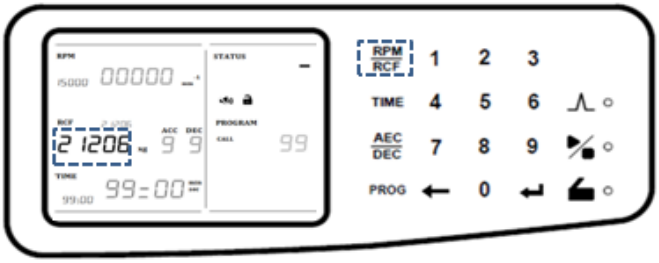
Display shows 'Actual Value' and 'Set Value'.
The input value is set at the position of the Actual Value, which shifts to the position of the Set Value by touching the [ENTER] key.



4.2.2 Setting RCF

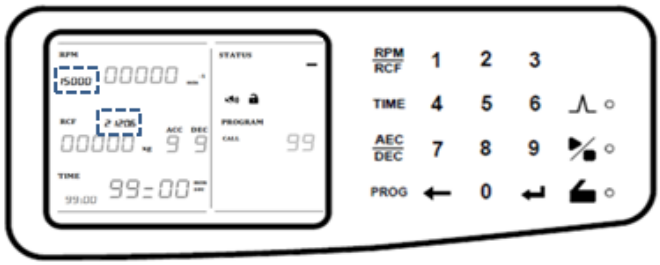
Action

1 Touch [RPM/RCF] twice.



▶ The RCF mode is activated by touching [RPM/RCF] twice.
▶ If the RPM mode is selected, touch [RPM/RCF] once more.
▶ The input RCF value flickers on the display window and can be set here.

2 Touch the numeric keys to change the input value and [ENTER] key to complete the setting.



▶ After the setting value is saved, actual value is '00000'.
▶ When RCF value is saved, RPM is converted automatically.
▶ If any keys are not touched for 15 seconds, the setting mode is cleared.

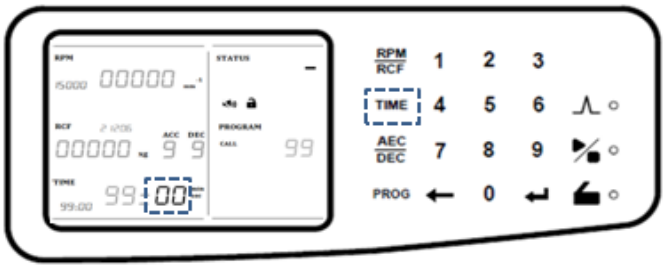
4.3 Setting Time

4.3.1 Setting Time

Time can be set at 'Minute' and 'Second' and the operation time is available up to 99 min 59 sec or continuous (00 min 00 sec).
Two alternative time counter modes are available. In the normal mode, the time count starts at the point when the [Start] button is touched. On the other hand, the 'At set speed' mode counts the time of rotation at the set speed.

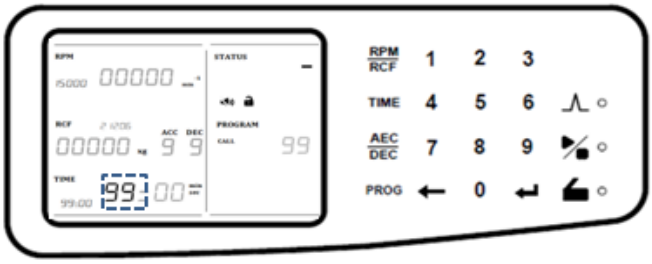
Action

1 Touch the [TIME] button once or twice to set the 'SEC' or 'MIN' time value.



▶ When the time value can be set, the 'SEC' or 'MIN' sign is shown on the display window.

2 Touch the numeric keys to change the input value and [ENTER] to complete the setting.



▶ The input value is saved by touching [ENTER].

▶ The setting unit is 1 sec or 1 min.

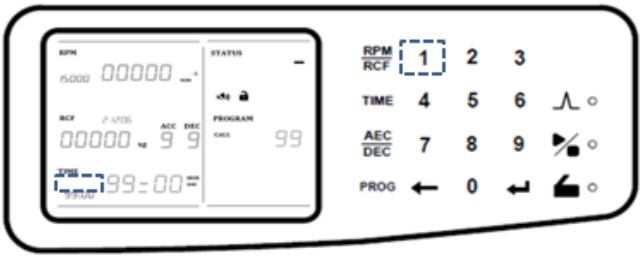
▶ If any keys are not touched for 15 seconds, the setting mode is cleared.

4.3.2 Setting the Time Counter Mode

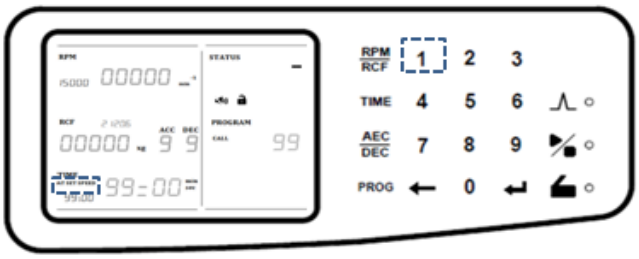
Action

1 Keep touching the number one [1] key for 3 seconds.

▶ If the time mode is set, 'At set speed' sign is shown on the display window.

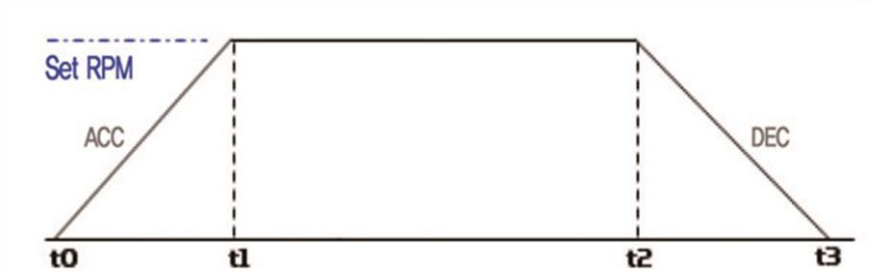


2 Keep touching the number one [1] key for 3 seconds again to turn off the time mode (Normal mode).



Note! Time Counter Mode (Norma/ At set speed)

For the exact time control during centrifugation, the instrument can be set as normal mode which starts count at the point when the [Start] button is touched and 'At set speed' mode which starts to count at the point when the actual speed reaches the set speed.



*Normal (blank in time mode): From t0 to t2

*At set speed: From t1 to t2

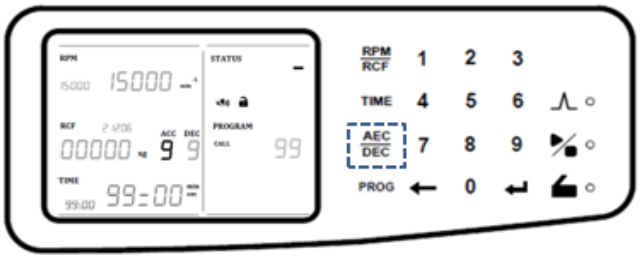
4.4 Setting Acceleration / Deceleration (ACC/DEC)

Acceleration (level: 1~9) and deceleration (level: 0~9 (0: spontaneous deceleration)) can be controlled according to the sample characteristics.

4.4.1 Setting ACC/DEC

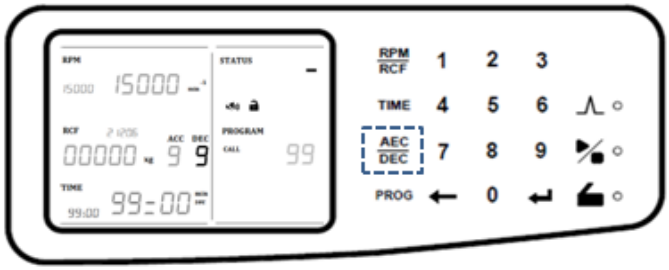
Action

1 Touch [ACC/DEC] button once or twice to set the 'ACC' or 'DEC' value.



▶ The input value of the ACC or DEC flickers on the display window and can be set here.

2 Touch the numeric keys to change the input value and [ENTER] to complete the setting.



▶ The input value is saved by touching [ENTER].

▶ The acceleration can be set from 1 to 9. (ACC9: the fastest acceleration).

▶ The deceleration can be set from 0 to 9. (DEC0: natural deceleration).

▶ If any keys are not touched for 15 seconds, the setting mode is cleared.

4.5 Start / Stop

The [Start/Stop] button is used to start or stop the centrifugation.

4.5.1 Start

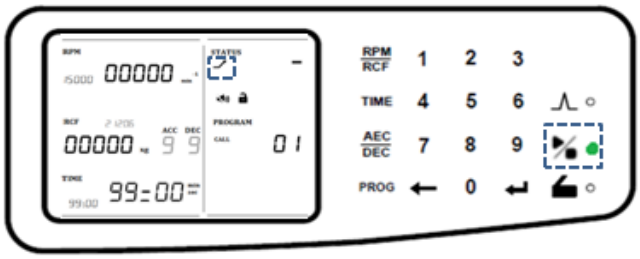
Action

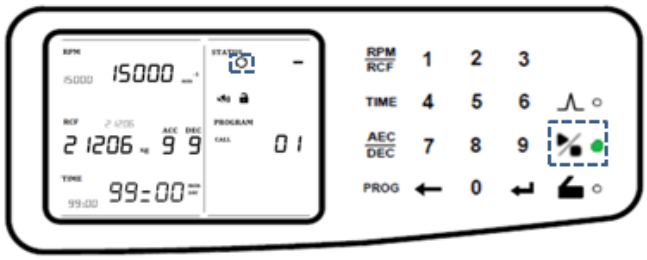
1 After setting the RPM/RCF, Time and ACC/DEC, touch the [▶/■] button.

▶ When the rotation starts, the acceleration sign (↗) flashes on the display.

▶ When the actual speed reaches the set speed, the spinning sign (↻) flashes on the display.

▶ The [Start/Stop] [▶/■] can be ready only when the lid is closed.





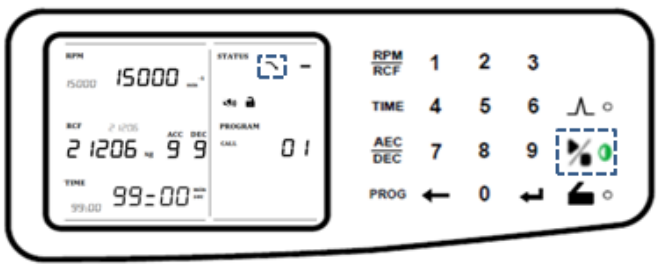
4.5.2 Stop

Action

1 Touch the [▶/■] button to stop spinning.

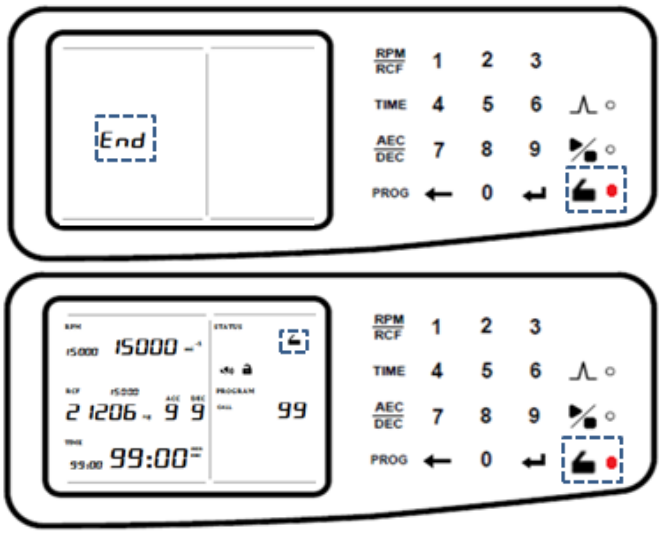
▶ If you touch the [Start/Stop] button, the operation stops immediately.

▶ The deceleration sign (↘) flashes on the display while braking the rotation.



▶ When the operation is completed, 'End' is shown on the display window and lid is automatically opened with the sign ( ) flash on the display.

▶ Touch any key or close the lid to switch 'End' display to the main screen.



Note! Stop at the Maximum Braking Deceleration

Touch the [ ] button twice for the fastest deceleration. And the rotation stops at the maximum deceleration rate (DEC9) regardless of the set DEC value.

4.6 Pulse (Short Spin)

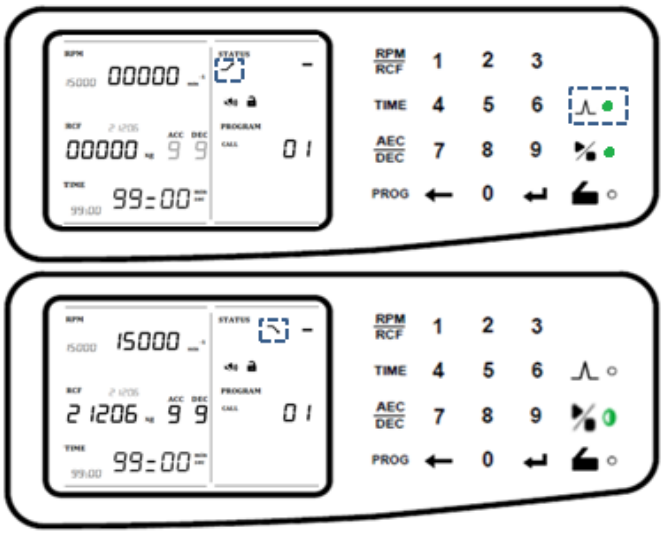
This function can be used for the quick and short spin-down. If the touched [Pulse] button is released, the centrifuge decelerates immediately. (Short Spin)

Action

1 Touch the [ ] button.

▶ When the [Pulse] button is touched, the acceleration sign ( ) flashes on the display.

▶ When the [Pulse] button is released, the deceleration sign ( ) flashes on the display.



▶ If the actual speed reaches the set value, the centrifuge starts to decelerate even when the [Pulse] button is kept touched.

▶ When the operation is complete and the rotor stops, the lid is automatically opened.

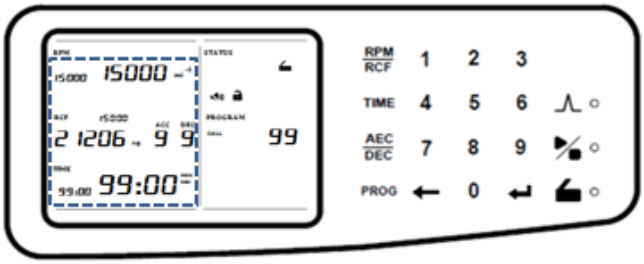
4.7 Save / Call Program

Save Program

The set parameters (speed, time and ACC/DEC) can be stored in the individual programs and recalled for next use.

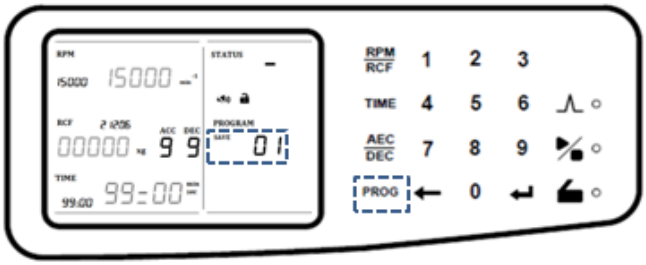
Action

1 Set parameters (RPM/RCF, Time and ACC/DEC, etc.) and save them in the program. (refer to 4.2 Setting Rotation Speed / 4.3 Setting Time / 4.4 Setting ACC/DEC)



2 Touch the [PROG] button twice.

▶ The program number flickers and the "SAVE" sign appears on the display window.



3 Touch the numeric keys for the program number and [ENTER] to complete the setting.

▶ Maximum 100 programs can be saved. (Program number: 00 to 99).

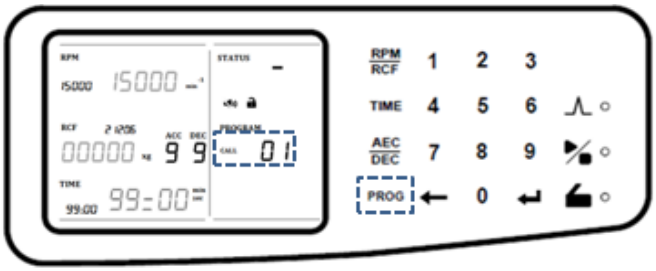
Call Program

The saved programs from 0 to 99 can be recalled at need.

Action

1. Touch the [PROG] button once.

   ▶ The program number flickers and the "CALL" sign appears on the display window.



2 Select the program number and touch [ENTER] to recall the saved program.

   ▶ If any keys are not touched for 15 seconds, the setting mode is cleared.

Note! Lock Mode

All input buttons can be locked for protocol security. When the [PROG] button is kept touched for longer than 2 seconds, all buttons can be locked ( ) or unlocked ( ).

4.8 Setting End Alarm

Users can select the preferred end alarm. The end alarm with different sound volume (END VOL) and different repeat time (END LOOP) can be selected.

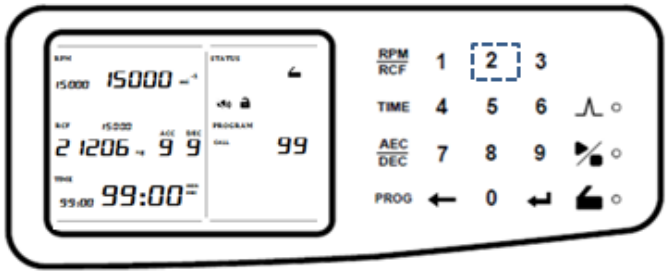
4.8.1 Setting the Volume of the End Alarm

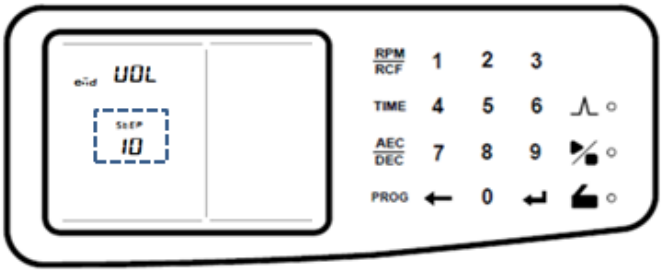
Action

1 Keep touching the number two [2] button for 3 seconds to change the sound volume.

▶ Sound Volume: 0~10 steps (0: silent)

▶ If there is no following input for 10 seconds, the setting mode becomes cleared.





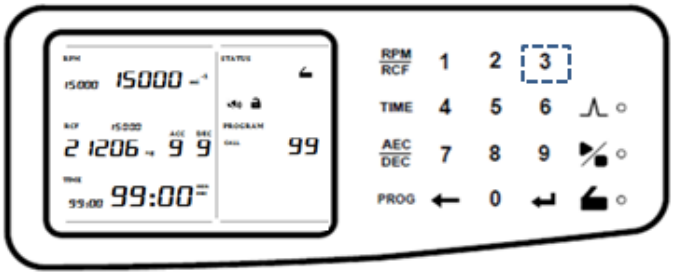
4.8.2 Setting the Repeat Time

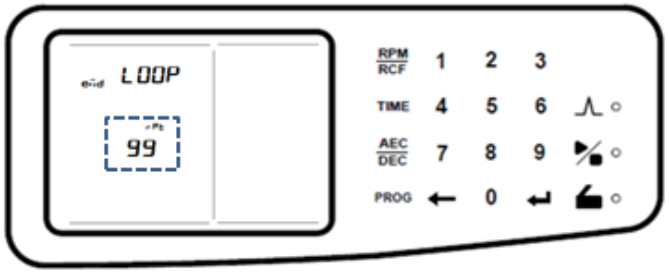
Action

1 Keep touching the number three [3] button for 3 seconds to change the sound repeat time.

▶ The range of the repeat time is 0~99 (0: silent, 99: 99 times).

▶ If there is no following input for 10 seconds, the setting mode becomes cleared.





4.9 Manual Lid Release

When the lid of the instrument is not opened automatically or by touching the lid button ( ) due to an accidental power shut-off or any unexpected causes, users can manually open the lid by following the instruction.

Action

1 Check if the rotor in the centrifuge is completely stopped.

2 Find the opening for manual lid control on the right side of the instrument and remove the white rubber cap.

3 Insert the Manual Lid Release Tool into the opening and turn it clockwise until the lid is released.

▶ After the lid is opened, it is recommended to wait until electricity gets back to normal.

Note!

The manual lid release should be performed only when spinning is completely stopped. If not, it could bring about harmful damage to the operators or the samples.

5. Maintenance

5.1 Outer Part of Instrument, Chamber, Shaft and Rotor

Outer Part of Instrument

1. Clean the outside of the instrument with dry soft cloth. If necessary, dip the cloth in neutral detergent and clean any contaminated area. Keep completely dry after cleaning.

2. Do not use any volatile chemicals such as alcohol, benzene, benzole, and thinner, etc.

3. Be careful not to make scratches on the surface of the instrument.

▶ Scratches may cause corrosion on the surface of the instrument.

▶ Any parts with rust should be cleaned with neutral detergents and kept dry.

Chamber

1. Keep dry inside the chamber after every use.

2. If the chamber is contaminated, clean contaminated area with the cloth dipped in neutral detergent.

Shaft

1. Always keep the motor shaft clean to avoid any imbalance problem caused by the contaminants.

2. After using the instrument, take out the rotor from the shaft and clean the shaft with dry soft cloth to keep dry.

3. If the rotor cannot be easily removed from the shaft, do not pull the rotor by force and call a service engineer authorized by GYROZEN Co., Ltd.

Rotor

1. If any parts become contaminated, clean them with soft wet cloth and keep the rotor dry.

2. Be careful not to make scratches inside or on the surface of rotors. Any small scratches can cause corrosion of the rotor and big damage to the instrument.

3. While the instrument is not used, remove the rotor from the motor shaft and stand it upside down.

5.2 Replacement of Fuse

When you turn on the instrument but it does not power on at all, please check the Power Switch, the connection of the Power Outlet and the Power Socket. If the status keeps going, replace the fuse as the following instruction.

Action

1 Remove the AC Power Cord at the back of the instrument and push the Fuse Case by the flat-head screwdriver to take out the Fuse Case.

2 If you find the fuse broken or damaged, replace it by the new spare one stored in the fuse case and check out if the power can be turned on.

6. Troubleshooting

6.1 Checklist

If any problems occur in the centrifuge, please check the following list before contact your local GYROZEN partner.

Symptom	Checklist
Power failure	Please refer to [3.1 Power On / Off]. Make sure the AC Power cord completely connects the instrument to the power outlet. Check the power switch is on. If it does not power on at all, please replace the fuse by a new one and refer to [5.2 Replacement of Fuse].
Can't be started.	If the lid is not closed completely, the instrument does not run. Check the lid status on the display window and close the lid completely if not. Please refer to [3.2 Lid Release].
Can't open the lid.	If the power is out, check the main fuse for the laboratory to supply the power. If it is not solved shortly, open the lid with the manual lid release tool. Please refer to [4.9 Manual Lid Release].
Can't close the lid.	Remove the dirt at the lid latch and keep the lid completely closed. If the lid is closed by any reasons, please contact GYROZEN service team.
Noise and vibration during running	Please check if the table and the instrument keep level.
	Please recheck the three coupling status on the following. 1. Balanced coupling of the rotor to the motor shaft 2. Complete fixing of the rotor by the Rotor Locking Nut 3. Fastening of the Rotor Lid and the rotor. Please refer to [3.3 Rotor Coupling and Disassembling].
	Check the balanced positioning of the samples in the rotor. Please refer to [3.4 Positioning of Sample Tubes].

6.2 Error Codes

Note!

If any of the following error messages comes up with beeping sound, touch [STOP] button to stop the beep. Touch [ENTER] button to clear the error status and make the instrument restore its default setting. If the error message does not disappear, check into the current status by referring to the following information.

Error	Possible Causes	Actions
Error 1	RPM	If the speed does not reach 200 rpm within 2 seconds after motor starts to operate, this message may appear. Check whether the motor is normally working or not. If the error message does not disappear, please contact a Service Engineer of your local GYROZEN's partner.
Error 2	Lid Open	If the lid opens while spinning or has any trouble in the lid sensor, this message may come up. Remove the dirt at the lid latch and close the lid completely. Check the lid closing status on the display window. If the error message does not disappear, please contact a Service Engineer of your local GYROZEN's partner.
Error 3	Motor Overheating	If the motor is overheated, this message may come up. Keep off the power supply for an hour, and turn on the power to check up the instrument. If the error message does not disappear, please contact a Service Engineer of your local GYROZEN's partner.
Error 4	Low Voltage	If the power input (V/Hz) is at least 10% lower than the recommended power, this message may come up. Turn off the power supply and check the voltage of the Power supply (V/Hz). Use AVR to provide proper power.
Error 5	High Voltage	If the power input (V/Hz) is at least 10% higher than the recommended, this message may come up. Turn off the power supply and check the voltage of the Power supply (V/Hz). Use AVR to provide proper power.

Error 6	Overspeed	If the instrument spins faster than allowed (1,000 rpm higher than the set speed), it may cause overload to motor capacity or any trouble in the output of motor. Turn off and on the power supply to check up the instrument. If the error message does not disappear, please contact a Service Engineer of your local GYROZEN's partner.
Error 7	System	If the installed software has any bugs, this message may come up. Contact a Service Engineer of your local GYROZEN's partner and get the firmware upgrade. Wire disconnection or tuning of the instrument must be performed only by a Service Engineer authorized by GYROZEN Co., Ltd.
Error 8	Imbalance	Check the balance status of the samples in the rotor (please refer to [3.4 Positioning of Sample Tubes]) and turn off and on the instrument to check the status. If the error message does not disappear, please contact a Service Engineer of your local GYROZEN's partner.
Error 9	RPM Sensor	If the rotor recognition fails, this message comes up. The message will be cleared by coupling an appropriate rotor. Please refer to [3.3 Rotor Coupling and Disassembling] Disassemble and couple a compatible rotor and turn off and on the instrument to check out the status. If the error message does not disappear, please contact a Service Engineer of your local GYROZEN's partner.
Error 15	Motor Temperature Sensor	If the motor temperature sensor does not normally work, this message may come up. Please contact a Service Engineer of your local GYROZEN's partner.
Error 17	Data Communication Error	If the data can't be transmitted from the main board to the display module, this message is appeared. If the error message does not disappear, please contact a Service Engineer of your local GYROZEN's partner.
Error 20	Lid Photo Sensor Error (Lid-in)	If the lid-in photo sensor does not normally work, this message may come up. Please contact a Service Engineer of your local GYROZEN's partner.

Error 21	Lid Photo Sensor Error (Motor Close)	If the motor close photo sensor or its cable does not normally work, this message is appeared. Please contact a Service Engineer of your local GYROZEN's partner.
Error 22	Lid Motor Open Photo Sensor	If the motor open photo sensor or its cable does not normally work, this message is appeared. Please contact a Service Engineer of your local GYROZEN's partner.
Error 24	Lid Photo Sensor Error (Motor Close & Open)(1)	If the motor close and open photo sensor recognize at the same time, this message is appeared. Please contact a Service Engineer of your local GYROZEN's partner.
Error 25	Lid Photo Sensor Error (Motor Close & Open)(2)	If any one of the lid photo sensors (the motor close and open photo sensor) cannot recognize, this message is appeared. Please contact a Service Engineer of your local GYROZEN's partner.
Error 26	Lid Photo Sensor Error (Motor Open & Lid In)(1)	If the lid-in photo sensor recognizes when the motor open photo sensor is working, this message is appeared. Please contact a Service Engineer of your local GYROZEN's partner.
Error 27	Lid Photo Sensor Error (Motor Close & Lid In)(2)	If the lid-in photo sensor cannot recognize when the motor close photo sensor is working, this message is appeared. Please contact a Service Engineer of your local GYROZEN's partner.

7. CE Declaration of Conformity

GYROZEN® www.gyrozen.com

DECLARATION OF CONFORMITY

We, GYROZEN Co.,Ltd, hereby declare under our sole responsibility that the product(s) listed below conform to the European Union directives and standards identified in this declaration.

Nous, GYROZEN Co.,Ltd, déclarons sous notre seule responsabilité que le produit (s) indiqués ci-dessous sont conformes aux directives de l'Union européenne et les normes définies dans la présente déclaration.

Nosotros, GYROZEN Co.,Ltd, por la presente declaro bajo nuestra responsabilidad exclusiva que el producto (es) en la lista por debajo de ajustarse a las normas y las directivas de la Unión Europea, identificadas en esta declaración.

Wir, GYROZEN Co.,Ltd, hiermit unter eigener Verantwortung, dass das Produkt (s), die unter die Richtlinien der Europäischen Union und Normen, die in dieser Erklärung.

Description of Product	Centrifuge
Model Name	1536

Relevant Directives/ Harmonised Standards

Machinery	2006/42/EC	as last amended	EN ISO 12100:2010
Low Voltage	2014/35/EU	as last amended	EN 61010-1:2010 EN 61010-2-020:2017
EMC	2014/30/EU	as last amended	EN 61326-1:2013 EN 61326-2-3:2013
RoHS	2011/65/EU	as last amended	EN IEC 63000:2018

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