

Multi-Purpose, High Speed Centrifuge

# 1248R/1580R

## User's Manual



# GENESPEED®

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4. Before connecting the power, check the rated voltage.

5. Should not use unapproved rotors and accessories.

Only use rotors from Baygene Company Limited with appropriate centrifugal tubes and suitable adaptors to embrace sample containers tightly enough inside rotors.

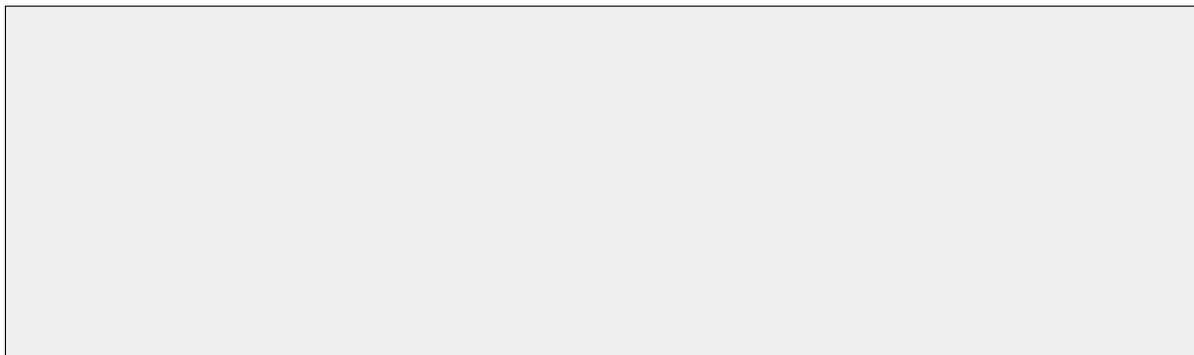
6. Before operating the instrument, check if the rotor and the rotor lid are securely fastened.

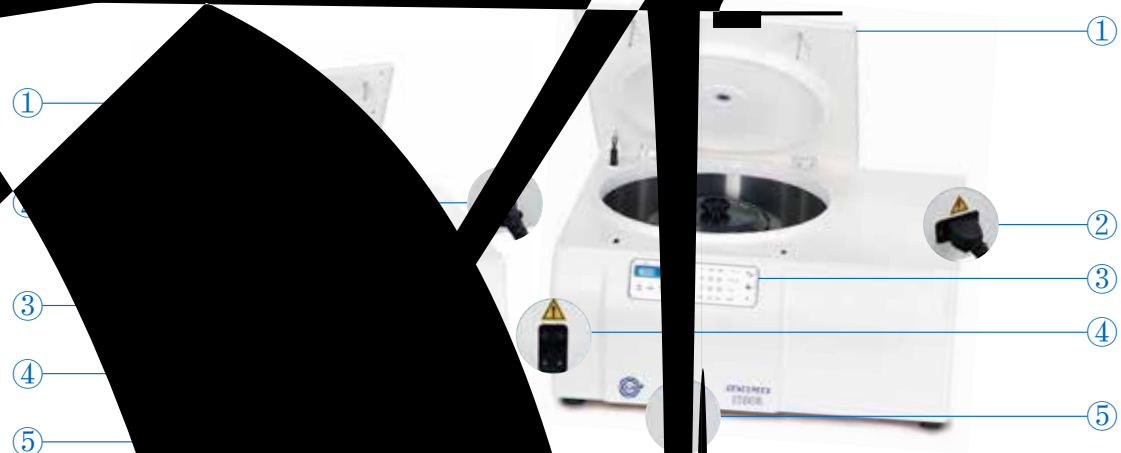
Should operate the instrument with a rotor properly installed and secured to the motor shaft.

7. Mount the rotor on the motor shaft properly, check it with spinning manually.

8. Do not stop the rotor by touching with hand during the instrument is running.

9. Emergency Lid-Lock Release should / Rpdududg to ors d / Tj(y)Tj13.266 0 Td(.)Tj(e)Tj(l)Tj( )Tj(s)rj(n)Tj(i)



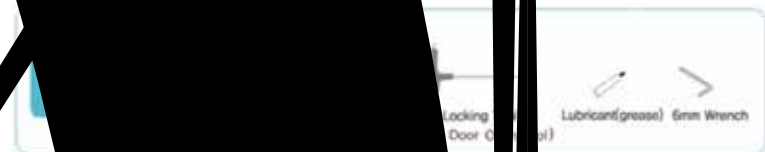


1 Lid

4 Power Switch

Ventilation Hole

3 Display & Control Panel





## Installation

### 4-1. Power On/Off and Lid Release

Action

#### 4-1-1. Power On/Off

- 1 After connecting the AC Power cord at the power socket on the right back of the instrument, put the plug into the outlet.
  - ▶ Check the proper power.

power switch on the left side of the instrument.

When the power is turned on, a beep sound, right before setting value is displayed.

The setting values are Max. rpm, 10 min, ACC.

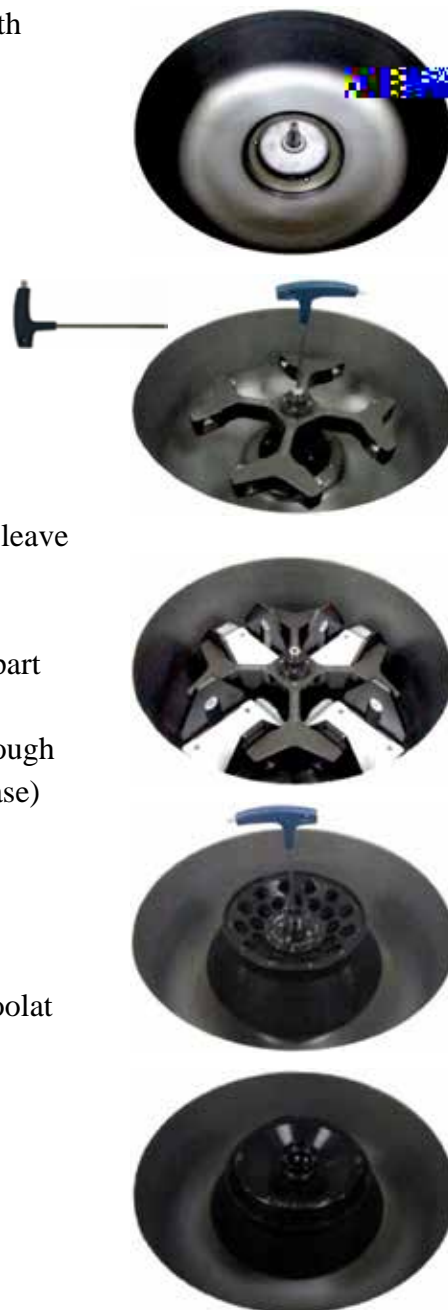
## 4-2. Rotor Coupling and Disassembling

### Action

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

#### 4-2-1. Swing-Out Rotor

- 2 Mount a proper rotor into the motor shaft.
- 3 Grasp the rotor with one hand, and place Rotor Locking Tool at the center hole of the rotor.
  - ▶ To assemble the rotor: Rotate the Rotor Locking Tool clockwise until tightly assembled.
  - ▶ To disassemble the rotor: Rotate the Rotor Locking Tool counterclockwise.
- 4 Hang the appropriate buckets into the rotor.
  - ▶ Load the identical bucket at each wing for safety. (Do not leave a vacant wing without bucket. All wings should hold identical bucket. )
  - ▶ Remove dirt and dust around hooks of rotor and hanging part of bucket.
- 5 Spin the rotor manually to check if bucket swinging is free enough and ever. If they do not swing freely, apply the Lubricant (grease) to the linking area.



#### 4-2-2. Fixed Angle Rotor

- 2 Mount a proper rotor into the motor shaft.  
Grasp the rotor with one hand, and place the Rotor Locking Tool at the center hole of the rotor.
  - To assemble the rotor: Rotate the Rotor Locking Tool clockwise until tightly assembled.
  - To disassemble the rotor: Rotate Rotor Locking Tool counterclockwise.
- 3 To close of the rotor lid, rotate the rotor lid nut clockwise.  
For opening lid: rotate the rotor lid nut counterclockwise.

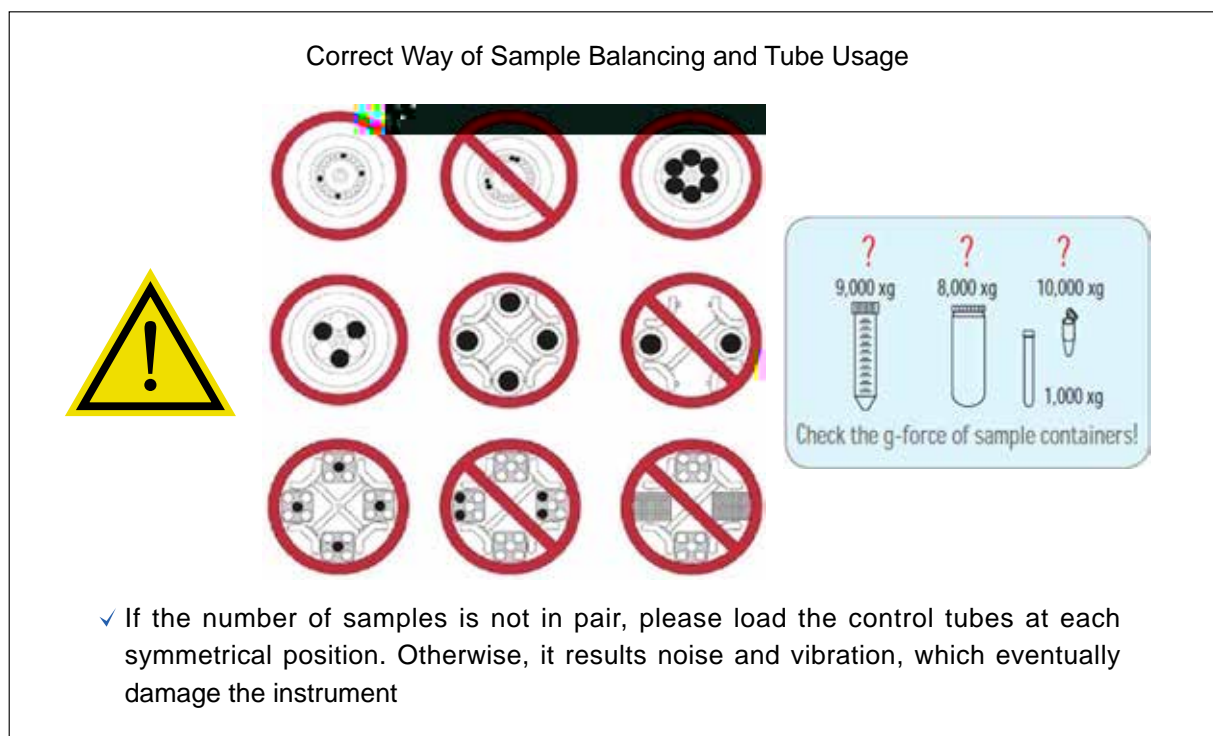




### 4-3. Positioning of Sample Tubes

#### Action

- 1 Before loading sample tubes, check the water drop or dirt in the rotor hole or inner adaptor.
  - ▶ If there is a water drop or dirt in the rotor hole or inner adaptor, remove it with soft dry cloth.
- 2 Tubes should be placed in the rotor with same amount of samples at symmetrical positions.
  - ▶ Only use appropriate centrifugal tubes and do not exceed the speed beyond the tube's max g-force.

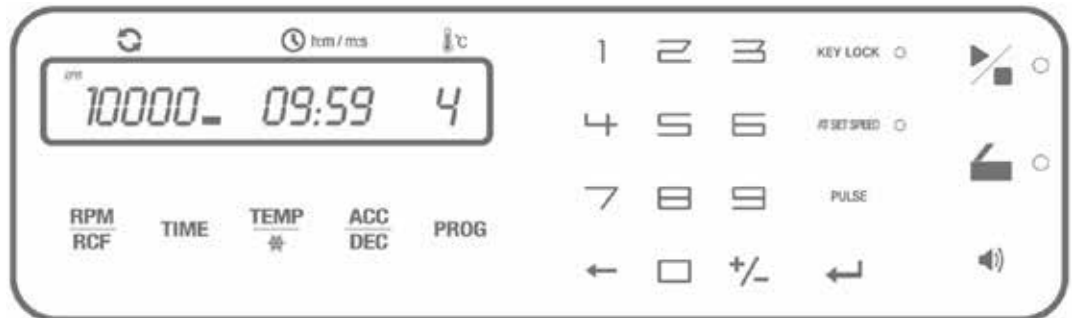


☞ For safety, the Imbalance Cut Off function will be occurred, if there is imbalance of loading tubes (Error 8, Imbalance error). Please refer to 7. Trouble Shooting.



## 5. Operation

### 5-1. Key Functions of Control Panel



RPM/RCF	For automatic conversion of RPM/RCF and to set the speed
TIME	Use to set time, available range up to 9 hour 59 min (00:00: continuous)
Temp	"Use to set temperature (-20 ~ 40 ) Use to reach rapid refrigeration up to the setting temperature.(touch for more than 2 seconds.)
ACC/DEC	Use to set the acceleration & deceleration level from 1 to 9 steps. 0 in deceleration step means natural deceleration. Larger number means faster acceleration or deceleration.
PROG	Use to save a set of setting values or recall the saved program number
KEY LOCK	Use for key lock mode
AT SET SPEED	Use to count the run time once the actual run speed reaches to the set speed value
Pulse	Use for quick runs
Enter	Use for completion of data setting
Start/Stop	Use to start and stop operation
Lid	Use to open instrument lid
Sound	Use to set the number of sound and volume



## 5-2. Setting the RPM/RCF Value

### Action

#### 5-2-1. Setting the RPM Value

- ▶ Speed setting unit: 1rpm/ 1xg
- 1 Touch the [RPM/RCF] button once.
  - ▶ RPM MODE is generated with touching a [RPM/RCF] button once.
  - ▶ RCF MODE is generated with touching the [RPM/ RCF] button twice.
  - ▶ RPM/ RCF LED is flickering at the display window.
- 2 Touch the number buttons to change input value.
  - ▶ If you do not touch the number button for 15 seconds, the setting mode is cleared.
- 3 Touch the [ENTER] button to complete the setting.
  - ▶ Touch [ENTER] to save the setting value.
  - ▶ If wrong number is entered, touch [ ← ] button and change the value again.



## 5-3. Setting the Time Value

### Action

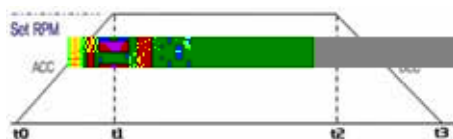
#### 5-3-1. Setting the AT SET SPEED mode

- 1 Touch the [AT SET SPEED] button once.



##### AT SET SPEED Mode

For exact time control, this instrument can be set with AT SET SPEED mode which counts the run time once the actual run speed reaches to the set speed value and stops when the deceleration begins.



\*[AT SET SPEED] lamp turns on: From t1 to t2

\*[AT SET SPEED] lamp turns off: From t0 to t2



### 5-3-2. Setting the 'MIN/ HOUR' Value

- ▶ Time setting unit: 1hr. / 1 min.

#### Action

- ✓ Time is down-counted after starting centrifugation.
- 1 Touch the [TIME] button once.
    - ▶ MIN value on LED is flickering.
  - 2 Touch the number buttons to change the minute value.
    - ▶ If you do not touch the number button for 15 seconds, the setting mode is cleared.
    - ▶ If wrong number is entered, touch [←] button and change the value again.
  - 3 Touch the [ENTER] button to pass the HOUR value setting.
  - 4 Touch the number buttons to change the hour value.
    - ▶ If you do not touch the number button for 15 seconds, the setting mode is cleared.
    - ▶ If wrong number is entered, touch [←] button and change the value again.
  - 5 Touch the [ENTER] button to complete the setting.



### 5-4. Setting Temperature and Fast Cool

#### Action

#### 5-4-1. Setting Temperature

- ✓ Temperature can be set from -20 to 40
- ✓ Temp setting unit: 1

- 1 Touch the [TEMP] button. Default or latest temperature value blinks on the display window.
- 2 Touch the number buttons to change temperature.
- 3 Touch the [ENTER] button to complete setting.





## 5-5. Acceleration / Deceleration

Use the adjustment function of acceleration (level: 1~9) & deceleration levels (level: 0~9) to protect sensitive samples.

### Action

---

Touch [ACC/DEC] button.

Touch the number buttons to change input ACC value.

Input the desired level of ACC from 1 to 9. (Level 9: The fastest acceleration)

If you do not touch the number button for 15 seconds, the setting mode is cleared.

If wrong number is entered, touch [ ] button and change the value again.

Fix the ACC level by touching [ENTER] button.

Touch the number buttons to change input DEC value.

Input the desired level of DEC from 0 to 9. (Level 0: Natural deceleration / Level 9: The fastest deceleration)

If you do not touch the number button for 15 seconds, the setting mode is cleared.

If wrong number is entered, touch [ ] button and change the value again.

Fix the DEC

(D)TjT.33a s tn

T

(t)Tj(26(e)Tj2.6TjTj(ATTj(f)T(s)Tj(t( )Tj( )Tj(



## 5-6. Program Saving & Recalling

### Action

---

Set parameters. (Refer to 5-2 ~ 5-5)

Touch the [PROG] button twice.

SAVE is turned on the display window.

Touch the number buttons to change input Program number.

If you do not touch the number button for 15 seconds, the setting mode is cleared.

Save up to 100 programs. (Program numbers from 00 to 99).

If wrong number is entered, touch [ ] button and change the value again.

Touch the [ENTER] button to complete the saving.

To recall the saved program, touch the [PROG] button once.

CALL is turned on the display window.

Touch the number buttons to select program number you want to recall and then touch the [ENTER] button.

If you do not touch the number button for 15 seconds, the setting mode is cleared.

If wrong number is entered, touch [ ] button and change the value again.

## 5-7. Start/Stop

### Action

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After setting RPM/RCF and Time, touch [START/STOP] button.

During running, a Start LED is turned on.

The instrument is running only when the lid is closed.

When you touch the [ENTER] button during operation, display window shows the saved setting parameters

In case of touching the [START/STOP] button, the operation is stopped.

When you touch the [START/STOP] button twice, the operation is stopped with DEC 9.

## 5-8. Repeat Account and Sound Pitch of End Alarm

Repeat account and sound pitch of the end alarm can be selected.

Action

### 5-8-1. Setting the Sound Pitch of End Alarm

1 Touch [SOUND] button.

- ▶ Sound LEVEL\_03 appears on the display window.

2 Touch the number buttons to change the value for the pitch of sound.

3 Fix the value by touching [ENTER] button.

- ▶ Sound LEVEL: 0~10 (0: silent)



### 5-8-2. Setting the Repeat Count of End Alarm

1 Touch [AT SET SPEED] button for more than 2 seconds.

- ▶ Sound rPt appears on the display window.

2 Touch the number buttons to change the value for the repeat count.

3 Fix the value by touching [ENTER] button.

- ▶ The number of finishing sound: 0~99 (0: silent, 99: 99 times)



## 5-9. Pulse

It is for quick and short spin down.

Action

1 If you touch [PULSE] button and release at the point you want to stop, the centrifuge decelerates immediately.

- ▶ When the operation is completely stopped, lid is automatically opened.



## 5-10. Emergency Lid-Lock Release

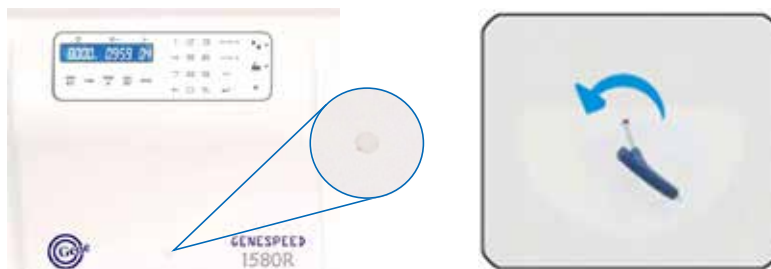
For emergency lid-lock release, you can use the Emergency Lid-Lock Release Tool when the instrument is completely stopped.

The lid can be unlocked manually with the Emergency Lid-Lock Release Tool through the emergency lid-lock release hole.

Action

1 Find the emergency lid-lock release hole in the frontbody of the instrument and take out the white rubber closure.

2 Insert the Emergency Lid-Lock Release Tool into the hole and revolve it counter clockwise until the lid is released.



Manual opening should be performed only when spinning is completely stopped. Otherwise, harmful damage will be accompanied to not only operators but samples. After opening the lid manually, it is recommended to wait until normal electricity comes back.

## 6. Maintenance

### 6-1. 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 contaminated area. Keep completely dry after cleaning.
2. Do not use any volatile chemicals such as alcohol and benzene, etc.
3. Be careful not to make scratches on the surface of the instrument. The scratches can cause corrosion on the surface of the instrument.
  - ✓ If any rust appears, clean it with neutral detergents and keep dry.

### 6-2. Chamber

1. Keep dry inside the chamber after every use.
2. If the chamber is contaminated, dip the cloth in neutral detergent and clean contaminated area.

### 6-3. Shaft

1. Always make special attention to clean the motor shaft to avoid any imbalance problem due to 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.

### 6-4. Rotor

1. If any parts are contaminated with samples, clean the rotor 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. If you do not use the instrument, keep the rotor separately from the motor shaft and stand it upside down.





## 6-5. Transportation of Instrument

1. If you need to move or ship the instrument, be cautious to protect the motor shaft from any physical impact or turbulence.
2. Do not mount a rotor in any cases of movement. Fill inside the chamber with proper materials to keep the motor shaft on place and not to be influenced by physical pressure.

## 7. Trouble Shooting

### 7-1. Check List

Symptom	Check List
Power failure	Connect the AC Power cord and make sure that the line is completely connected between the instrument and power outlet. Check the power switch is turned on. (Please refer to 4-1. Power On/Off and Lid Release)
Don' t run	If the lid is not closed completely, the instrument can' t run.
	Check the Lid LED on the display window and close the lid completely.
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 in shortly, open the lid with emergency lid-lock releasetool manually for safety of sample. (Please refer to 5-9. Emergency Lid-Lock Release)
Can' t close the lid	Remove the dirt at the lid latch and then close the lid completely again. If the lid seems not being closed by mechanical reason, please contact our service team.
Noise and vibration during running	Please check the balanced status of both the table and the instrument.
	Please re-check the coupling status of the following three matches to minimize the noise <ol style="list-style-type: none"><li>1. the balanced way of coupling of the rotor into the motor shaft</li><li>2. the completeness of fixing of the Rotor Locking Nut on the rotor</li><li>3. the matching status of Rotor Lid with the rotor</li></ol> (Please refer to 4-2. Rotor Coupling and Disassembling)
	Check balances of samples in the rotor. (Please refer to 4-3. Positioning of Sample Tubes) and load the same weight of samples symmetrically.

### 7-2. Error Code

If the instrument shows the error code with beeping sound, press [START/STOP] button to stop the beeping sound and press [ENTER] button to release of the error status and make the instrument go to the default setting again.



Error	Possible Causes	Actions
Error 1	RPM Sensor	<ul style="list-style-type: none"> <li>- Shut off the power supply, and then, turn on the power switch again to check the instrument.</li> <li>- If the error code shows continuously although you try to operate again, please contact us.</li> </ul>
Error 2	Lid	<ul style="list-style-type: none"> <li>- If the lid opens during the instrument running or is troubled in lid sensor, this message is appeared.</li> <li>- Remove the dirt at the lid latch and then close the lid completely again. Check the Lid LED on the display window. If the error code shows continuously, please call GENESPEED® Field Service Engineer.</li> </ul>
Error 3	Motor Overheating	<ul style="list-style-type: none"> <li>- If the motor is overheated, this message is appeared.</li> <li>- Shut off the power supply for an hour, and then turn on the power switch for checking the instrument.</li> <li>- If the error code shows continuously, please contact us.</li> </ul>
Error 4	Low Voltage	<ul style="list-style-type: none"> <li>- If the power input of Power supply (V/Hz) is 10% less than required power, this message is appeared.</li> <li>- Shut off the power supply and then check the voltage of the Power supply (V/Hz).</li> <li>- Use AVR to provide proper power.</li> </ul>
Error 5	High Voltage	<ul style="list-style-type: none"> <li>- If the power input of Power supply (V/Hz) is 10% more than required power, this message is appeared.</li> <li>- Shut off the power supply and then check the voltage of the Power supply (V/Hz).</li> <li>- Use AVR to provide proper power.</li> </ul>
Error 6	Over Speed	<ul style="list-style-type: none"> <li>- If the instrument is spun with over speed, there will be some problems in the overload of motor and the output of motor.</li> <li>- Shut off the power supply, and then, turn on the power switch again to check the instrument.</li> </ul>
Error 7	Software	<ul style="list-style-type: none"> <li>- If the installed software has bugs, this message is appeared.</li> <li>- Tuning the firmware (Download)*</li> </ul>
Error 8	Imbalance	<ul style="list-style-type: none"> <li>- Check weight-balances of samples (Please refer to 4-3. Positioning of Sample Tubes) and then turn off and on the instrument for checking.</li> </ul>

[illegible]

