
Instruction Manual

Rotator

WSC -2900

Rotator atto



6th Edition
November 25th, 2025



Table of contents

Introduction	1
About this manual	1
Safety precautions	1
Operation precautions	3
Notices	5
1 Overview	6
1.1 Purpose	6
1.2 Principle	6
2 Inspection when unpacking	6
2.1 Inspection at unpacking	6
2.2 Product configuration	6
3 Part name and the function	7
3.1 Main unit	7
3.2 Accessories	8
3.3 Option	9
3.4 Control panel	10
4 Preparations	12
4.1 Installation environment	12
4.2 Installation	13
4.3 How to attach and detach the turntable	14
4.4 How to make a two-tiered turntable	16
4.5 How to change the angle	18
5 Operation	19
5.1 Timer settings	19
5.2 Rotation speed settings	20
5.3 Sample tube attachment/ removal	21
5.4 Start/ Stop	22
6 Troubleshooting	23
7 Maintenance	24
7.1 Cleaning	24
7.2 Inspection	24
7.3 Maintenance/ Repair	24
7.4 Warranty	25
8 Specifications	26
9 Option	27

Introduction

Thank you for purchasing ATTO Corporation's "WSC-2900 Rotator atto ." This instruction manual is delivered to you together with the system so that you can make full use of it. Not only those of you using this system for the first time, but also those of you having used before, should read this document carefully to understand contents. If you use this system for the first time, please read this document from beginning in serial order. In addition, this document contains information related to maintenance and guarantees as well as how to use it. Please keep it handy all the time to make its full use.

If you have any questions on your purchased products or the instruction manual, please feel free to contact us. (Please refer to the back cover.)

About this manual

Before using the product, please read this document carefully. After reading it, please be sure to keep it for your future reference. When you relocate this system, be sure to attach this document to it.

If there is any defect in this document such as misplaced or missing pages, or if this document is lost or stained, we will replace it with a new one. Please take a moment to contact the distributor you purchased the product from or our company's customer service department (please refer to the back cover). At that time, please inform us of your product name and type. This document was created with our most careful attention; however, should you find any queries, errors or omissions, please inform our company's customer service department (please refer to the back cover).

Safety precautions







To use this system safely, it must operate it properly. Do not use this product until you read this document carefully and understand the content sufficiently. Precautions on usage and safety described in this document are applied to the use of this system only for the specified purpose of use. Do not use this system for any purpose or by any method other than described here. If you use this system for any purpose or by any method other than described in this manual, you will be held responsible for any necessary safety measures as operator.

If you operate the system for the first time, you need to be given instructions from an experienced operator with proper knowledge, and to understand its principle and method. Not only people operating this system for the first time but also people having ever used it after receiving professional education should keep this instruction manual handy to make its effective use. In order to prevent electric shock caused by the system or any damage to the system, please understand and follow the correct operation method shown in this manual.

If you have questions or concerns related to the principle, maintenance or inspection, feel free to contact our company (please refer to the back cover).

Safety symbol

To use this system safely and maintain the safe status, the following symbols are indicated in the instruction manual and on the system's main unit. Please note the meaning of each symbol and observe each item.

Symbol	Description
 Danger	This symbol indicates emergent danger, such as death or heavy injury caused by ignoring the symbol and mishandling the system.
 Warning	This symbol indicates possibility of danger, such as death or injury, caused by ignoring the symbol and mishandling the system.
 Caution	This symbol indicates possible occurrence of property damage caused by ignoring the symbol and mishandling the system.
	This symbol indicates prohibition.
	This symbol indicates an important matter.
	This symbol indicates a tip to the operation.

CE marking



Complies with the provisions of following Directives as completed equipment under evaluation of conformity based on the following harmonized standard.

Directive	Standard
Low Voltage Directive, 2014/35/EU	EN 61010-1 :2020
EMC Directive, 2014/30/EU	EN 61326-1 :2013
RoHS Directive, 2011/65/EU	EN IEC 63000:2018








Indicate disposal instruction.

DO NOT throw this unit into a municipal trash bin when this has reached the end of its lifetime. To ensure utmost protection of the global environment and minimize pollution, please recycle this unit.








Operation precautions

There are precautions for preventing fire, electric shock and other accident or failure. Read and understand the information well, and be sure to observe it.


Danger

<p>Power supply connection</p> 	<p>Do not use a deformed or corroded electrode terminal, AC adapter, power cable whose insulation coating is peeled off, or damaged power cable. Do not connect any power supply other than the one attached to this system. Before operating this system, check and confirm there is no damage to it. Otherwise, it may catch fire or cause electric shock due to loose connection. If there is any damage, stop using this system and connect our company (please refer to the back cover).</p> <p>After use, be sure to turn off the power switch and disconnect AC adaptor from outlet. When disconnecting AC adaptor from outlet, be sure to turn off the power switch and disconnect it by holding the AC adaptor instead of pulling cable.</p>
<p>No wet hand</p> 	<p>When handling this system, keep your hands dry. Do not touch AC adaptor or connection terminal with wet hands. If you do, electric shock or failure may be caused.</p> <p>If power supply part or AC adaptor gets wet, do not use it. If you do, electric shock or failure may be caused. If wetted, stop using it and contact our company (please refer to the back cover) .</p>
<p>Main unit</p> 	<p>Do not put any foreign object into this system. If you do, electric shock or failure may be caused.</p> <p>If the external surface of this system gets wet, do not use it. If you do, electric shock or failure may be caused. When using it, wipe moisture off the surface and dry it.</p>
<p>Maintenance</p> 	<p>If an error occurs or if there seems to be an error or failure while this system is being used, stop using it immediately. If you find any defect at the time of inspection, do not use this system. If you do, electric shock or failure may be caused.</p> <p>While this system is in use, check if there is any error, such as abnormal sound or smoking, and see if any liquid leakage by regular visual inspection. If you find an error, failure or defect, stop using it and contact our company (please refer to the back cover)</p>
<p>Reagent</p> 	<p>Deleterious substance, hazardous materials and material having a carcinogen may be used for making buffer, staining, decoloring and another reaction. Do not touch them directly with human body. It may cause death accident or body injury, like burns. In use of chemicals, read carefully the precaution of chemical and protect human body with gloves and masks.</p>

Warning

Installation location 	<p>Do not install the instrument on a wobbly table, on a slope, or in a location subject to strong vibrations. Install the instrument on a laboratory bench with a level, stable, and hard surface. Failure to do so may result in an electric shock hazard due to tipping over or liquid leakage.</p> <p>Do not place any objects on top of this device, as this may cause an electric shock if the device falls over.</p>
Main unit 	<p>This is not of explosion-proof structure. Install it at the place where there is no exposure to fire or combustible gas.</p> <p>When taking this system out of a low-temperature room for use, take measures against dew condensation before moving it. If condensation is seen, dry it completely. Otherwise, electric shock or failure may be caused.</p>
Transfer 	<p>While this system is in operation, do not touch any parts other than operating panel, nor move it. Also, electric cords may get entangled and the system may fall. When moving this system, be sure to turn off the power switch, disconnect AC adaptor and removing cables.</p>
Maintenance 	<p>When you execute maintenance or cleaning, be sure to turn off the power switch and disconnect AC adaptor.</p> <p>To maintain good performance and safety of this product, please ask us for periodical maintenance, inspection and calibration (please refer to the back cover).</p>
No disassembly 	<p>Do not disassemble or modify this system. Do not remove external cover. Interior adjustment or repair of this product should be made by our engineers. If adjustment or repair needs to be done, please ask us for it (please refer to the back cover).</p> <p>Our company will not accept any responsibility for any accident or failure caused by disassembly or modification done by yourself.</p>
Stickers 	<p>Do not peel off the warning stickers. They indicates a dangerous section of this system. If it is peeled off or cannot be read due to stain, please contact us (please refer to the back cover).</p>
Power cable 	<p>Do not use the power supply part and AC adaptor of this system for any other purpose. If you do, failure or accident may be caused. We will not accept responsibility for any accident or failure caused by using the power supply and AC adapter of this system for any other than this system. If this system is used outside Japan, prepare the conversion adapter complying with the standards of the country where you use it. If an AC adapter other than the one included with the product is used, it may cause malfunction or output problems, damage to the device (power supply unit), deterioration or damage to the AC adapter, or fire. If you have any questions, please contact us or our sales agent (please refer to the back cover).</p>

Caution

Stickers	The name plate sticker shows important information for maintenance and management of the product. Do not peel it off.
Dew condensation 	When the device is quickly moved from a low-temperature area (low- temp. room, cold outdoor, etc.,) to a high-temperature area (warm room, etc.,), there is possibility of [Condensation], i.e. moisture in the air becomes water drops. If condensation happens within the unit, some parts may short out. When the unit is moved from a low-temperature area to a high- temperature area, set the unit where there is plenty of ventilation and away from direct sunlight, and turn the unit power on after the device gets to the same temperature as the room temperature.

Other notes

Application	This system is physical and chemical equipment for research. It is not medical equipment. Therefore, it cannot be used for medical practices, such as care-related judgement or treatment effect checking.
Export	Export of certain services or cargos is controlled by the foreign exchange law and the government decree or ministerial ordinance of foreign trade control law of Japan. The product is subject to such regulations. Even if the product is not pertinent to the government decree, it is necessary to submit the document to the customs office to that effect. If the product is pertinent, it is necessary to obtain the export license from the Ministry of Economy, Trade and Industry and submit the license to the customs office. When you export our company's product, please contact the distributor or our company's customer department in advance (please refer to the back cover).
Trademarks/ Copyright	Reprint or copy of a part or whole of the instruction manual would require the permission of the copyright. The specification of the product and the contents of the instruction manual may be changed without prior notice.

1. Overview

1.1 Purpose

The **Rotator atto** is a device used for inverting and mixing samples in various experiments. It is compatible with 1.5 mL, 15 mL, and 50 mL tubes.

1.2 Principle

This device gently mixes samples by slowly rotating the turntable on which the sample tubes are placed.

2. Inspection when unpacking

2.1 Inspection at unpacking

When you receive the product, please check that the main unit and accessories are correctly packed and that there is no damage. If you find any defect or damage, please contact the distributor you purchased the product from or our company immediately (please check the back cover). Please check when unpacking within one week after receiving the product. If more than one week has passed, the warranty for damage or missing items may not be available.

2.2 Product configuration

This product consists of the main unit and accessories.

Main unit

Model	WSC -2900
Product No.	4002900
Main unit	Rotator atto

Accessories

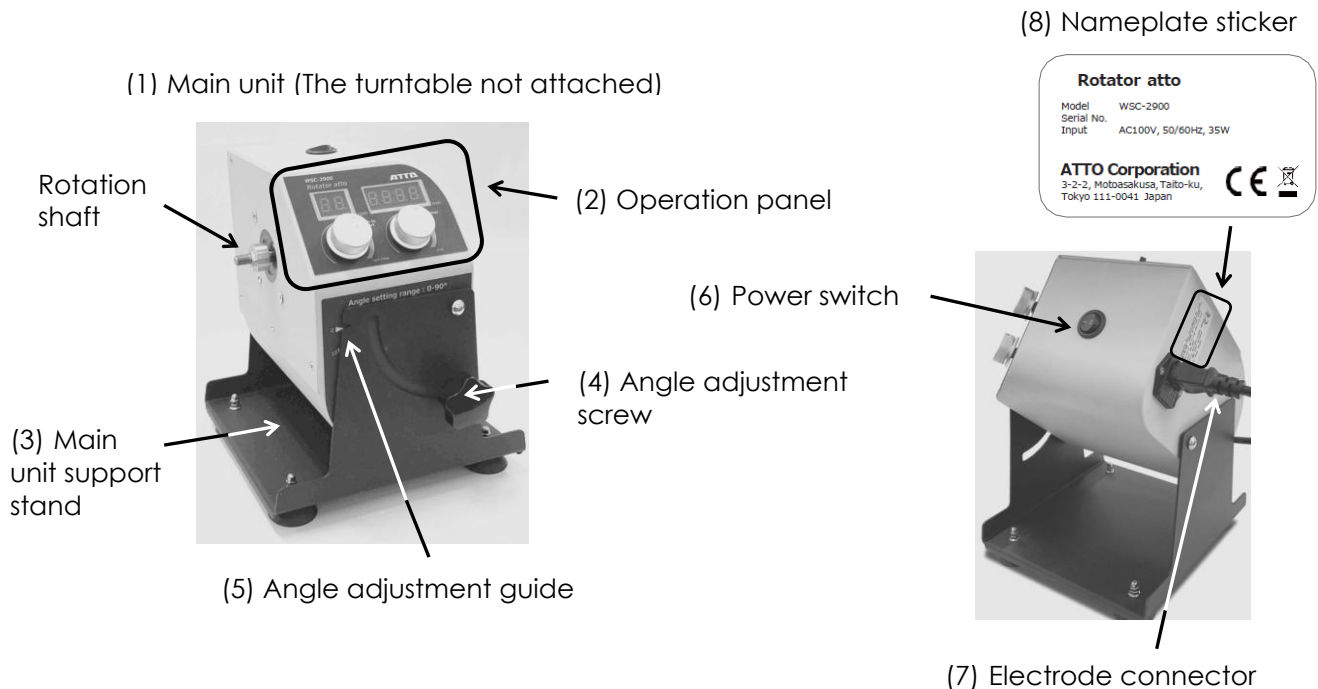
Power cable	1
Instruction manual	1
Spanner	1

Option

Product No.	Name	Description
4002940	Turntable A (for WSC-2900)	50mL tubes x 10
4002941	Turntable B (for WSC-2900)	15mL tubes x 18
4002942	Turntable C (for WSC-2900)	1.5mL tubes x 64
4002944	Turntable E (for WSC-2900)	50mL tubes x 10 15mL tubes x 10 1.5mL tubes x 30
4002949	Double platform connector (for WSC-2900)	Connector for stacking two turntables

3. Part name and the function

3.1 Main unit



(1) Main unit

Attach the turntable to the rotating shaft of the main unit using fixing screws. On the operation panel, set the rotation speed and timer, and press START/STOP to begin or stop operation. You can adjust the rotation angle by loosening the angle adjustment screw. Use the angle adjustment guide as a reference to fix it at the desired angle.

(2) Operation panel

The rotation speed and timer are set and displayed on the panel.

The left dial is used to set the rotation speed and to start/stop operation, while the right dial is used to set the timer.

(3) Main unit support stand

It supports and secures the main unit.

(4) Angle adjustment screw

Loosen this screw, adjust the angle of the main unit, and then tighten it to secure. When performing this operation, support the main unit with your hand.

(5) Angle adjustment guide

Align the guide with the markings indicating the desired angle (0–90°) of the main unit.

(6) Power switch

Switch the device on or off.

(7) Electrode connector.

This is the connector for attaching the included AC adapter.

(8) Nameplate sticker

The nameplate shows the product name, model, serial number, power information (input voltage, frequency, and power consumption), manufacturer name, and CE marking.

Turntable fixing screw

Secure the turntable to the rotation shaft of the main unit. It is set on the unit at the time of delivery. Rotate counterclockwise to remove it from the main unit. A silicone sheet is placed on the side that contacts the turntable. Rotate clockwise to attach it to the unit.

Turntable fixing screw



Silicone sheet
The side that contacts the
turntable

3.2 Accessories

- (1) Instruction Manual
This document.

- (2) Power Cable
The cable used to connect the Rotator atto to an electrical outlet.



- (3) spanner
A 10 mm spanner used to tighten the double platform connector when configuring the optional turntable in two tiers.
It can also be used when removing the turntable fixing screw if the screw rotates together with the main shaft.



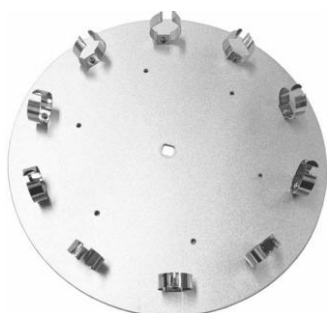
3.3 Option

There are four types of turntables and a holder for stacking the turntables. Each turntable is equipped with a tube holder sized to fit the corresponding tubes.



Tube holder (50mL Tube)

Turntable A (for WSC-2900)



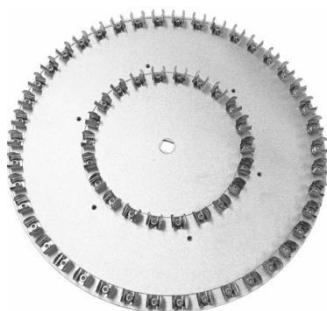
Tube size / No. of tubes:
50 mL tubes × 10

Turntable B (for WSC-2900)



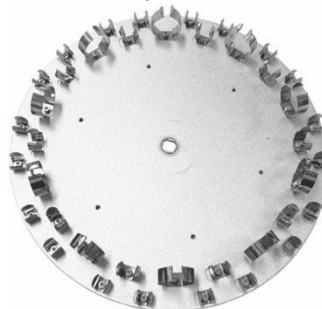
Tube size / No. of tubes:
15 mL tubes × 18

Turntable C (for WSC-2900)



Tube size / No. of tubes:
1.5 mL tubes × 64

Turntable E (for WSC-2900)



Tube size / No. of tubes:
50 mL tubes × 10
15 mL tubes × 10
1.5 mL tubes × 30

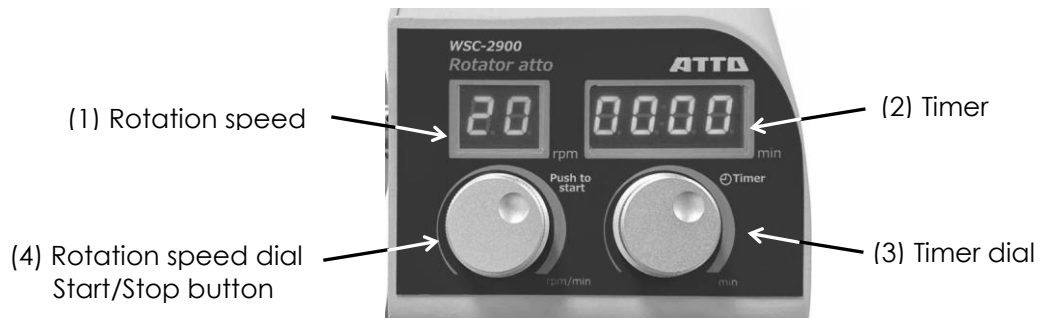
Double platform connector
(for WSC-2900)



3.4 Control panel

Operation panel

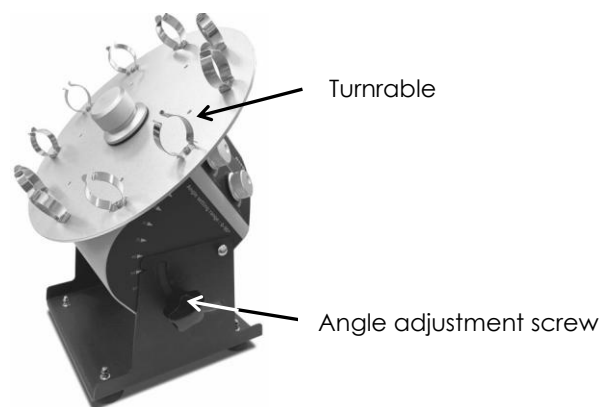
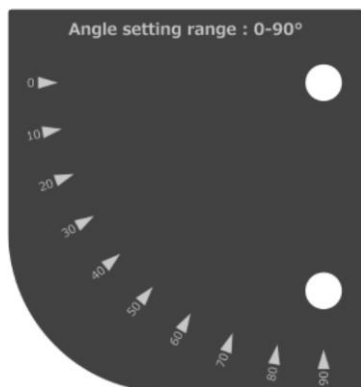
Set the rotation speed and timer.



- (1) Rotation speed (rpm)
Displays the set rotation speed and the current rotation speed during operation.
- (2) Timer (min)
Displays the set time and elapsed time. When the operation finishes at the set time, "OVER" is displayed. If set to 0, the timer is disabled (timer-free mode), and "0000" is always displayed.
- (3) Timer dial
Used to set the timer. Turning the dial clockwise increases the value, and turning it counterclockwise decreases the value. The setting range is 0–9999 minutes.
The set value is displayed on "(2) Timer."
Pressing the dial changes the input digit. If set to 0, the timer-free mode is activated, and the unit continues operation until the "Start/Stop button" is pressed.
- (4) Rotation speed dial, Start/Stop button
Used to set the rotation speed. Turning the dial clockwise increases the speed, and turning it counterclockwise decreases it. The setting range is 10–80 rpm.
The set value is displayed on "(1) Rotation speed."
When the turntable is stopped, pressing the dial starts operation at the set speed and time. When the turntable is running, pressing the dial stops operation.

Angle setting

This is a guide for adjusting the turntable rotation angle. Turning the angle adjustment screw counterclockwise will release the main unit, allowing you to change the turntable's angle by changing the main unit's angle.



4. Preparation

4.1 Installation environment

Please use this system in the following environment.

Location	Inside a room only
Ambient temperature	4-45 °C
humidity	≤70% RH

Warning

Do not install the product in combustible gas atmosphere. It is not of explosion-proof structure, so the product may cause explosion or fire. Install it in an environment that does not contact combustible gas.

Do not install the product in corrosive gas environment. This is because it can cause corrosion of conductor inside this product or contact failure of connector, which may lead to malfunction, failure.

Do not install the product in environment with much dust or dirt. Dust or dirt may get attached to the product, which can cause electric shock, fire or failure.

Caution

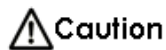
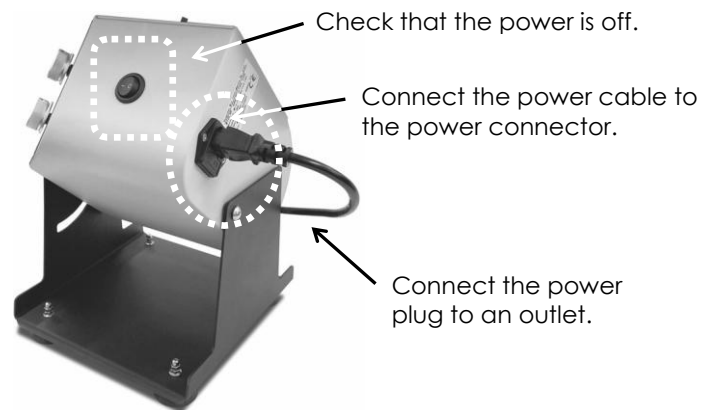
Do not use the product at a place where there is strong magnetic field or electric field around, or a place where there is much waveform strain of input power supply or noise. Malfunction may be caused.

Do not install the product where it is exposed to direct sunlight, where temperature suddenly changes, or where humidity is high. If dew condensation occurs, do not use this product. This system cannot be used outdoors. It is designed so that safety and performance can be ensured under the environmental conditions; ambient temperature 4°C-40°C, relative humidity 5%-70% (No dew condensation)

4.2 Installation

Connect the power cable to the power connector.
Next, remove the turntable fixing screws.

1. Make sure the power switch is off (o).
2. Connect the power cable to the power connector on the back of the main unit.
3. Connect the power plug to an outlet.
4. Turn on the power switch (I).
5. Remove the turntable by fixing screws.



Caution

Turn on the power to the main unit before removing the turntable fixing screw.
When the power is off, the rotation shaft turns freely, and the fixing screw cannot be removed.

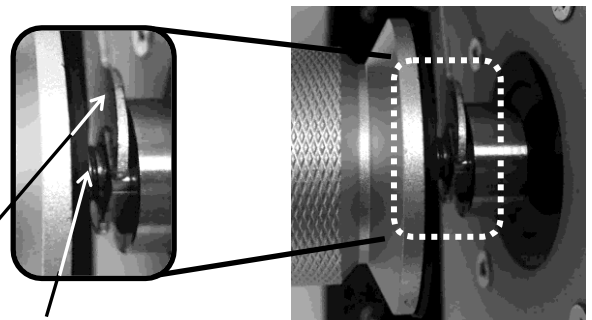
6. Turn off the power switch (o).
7. Refer to “4.3 How to attach and detach the turntable” for instructions on setting the turntable and adjusting the operating angle.

Remove the turntable fixing screws.



If the turntable fixing screw rotates together with the rotation shaft even after turning on the main unit, hold the shaft in place with the supplied spanner and remove the screw.

Spanner

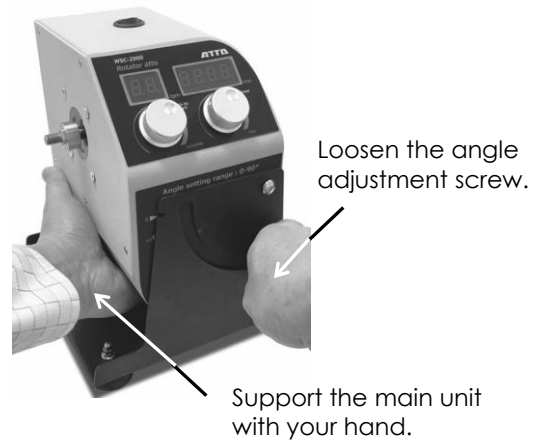


Rotation shaft

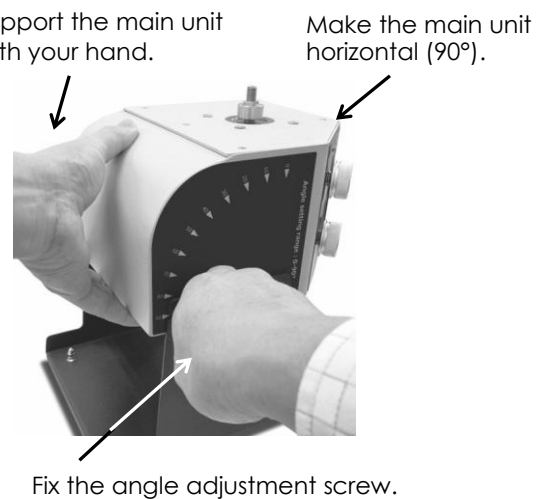
4.3 How to attach and detach the turntable

Place the main unit horizontally (90°) and remove the turntable.

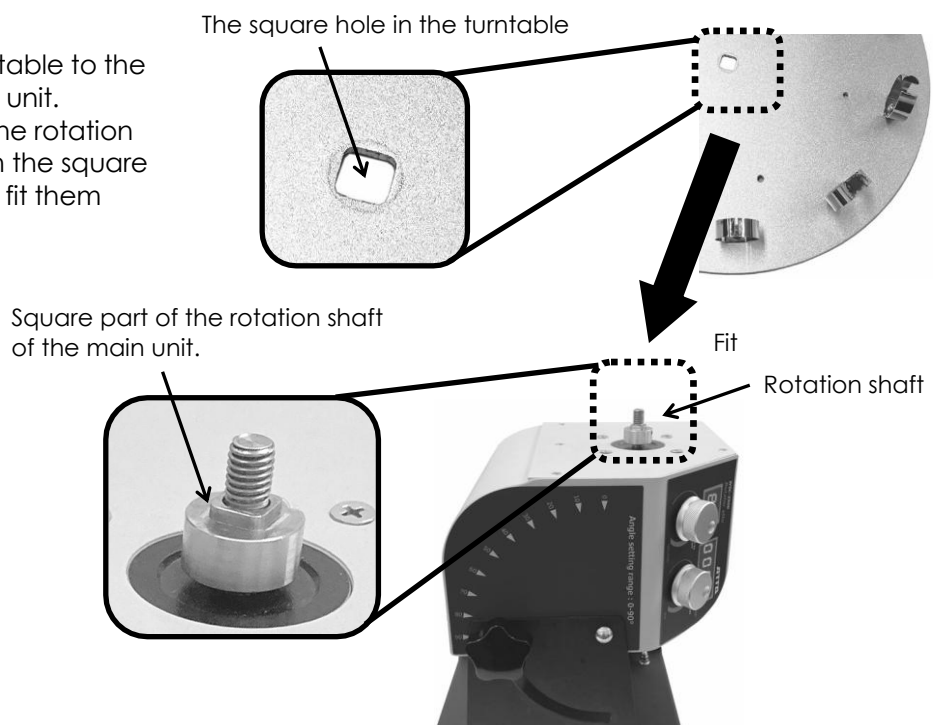
1. While supporting the main unit with your hand, turning the angle adjustment screw counterclockwise to loosen it.



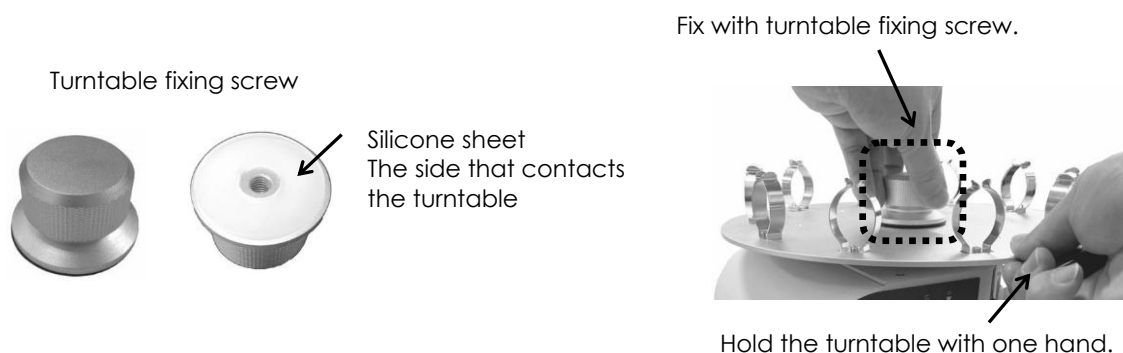
2. While supporting the main unit with your hand, make it horizontal (90°).
3. Turn the angle adjustment screw clockwise to secure it in place.



4. Attach the (optional) turntable to the rotation shaft of the main unit. Align the square part of the rotation shaft of the main unit with the square hole of the turntable and fit them together.



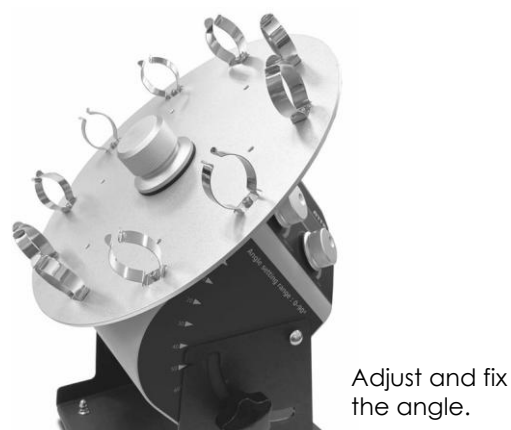
5. Use the turntable fixing screw to secure the turntable to the main unit's rotation shaft. Hold the turntable with one hand, and use the supplied turntable fixing screw with the other hand to tighten it.



Caution

When securing the turntable with the fixing screw, make sure that the silicone sheet is properly set in place. If the silicone sheet is not installed, the turntable may become loose during operation.

6. Adjust the main unit to the angle you want to use. Refer to above to adjust the angle of the main unit.



Caution

Before rotating the turntable, be sure to turn the turntable fixing screw clockwise and check that the turntable is properly secured. If it is not, the turntable may come off and cause damage to the device.

* When replacing the turntable, perform the same steps 1–3 to set the main unit horizontally (90°). Loosen the turntable fixing screw, remove the turntable, and attach a different one.

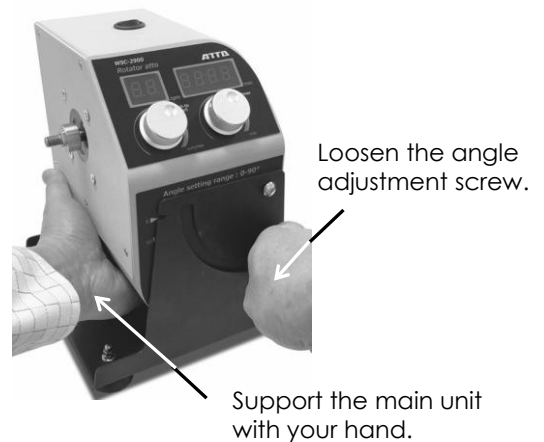
Caution

When securing the turntable with the fixing screw, make sure that the silicone sheet is properly set in place. If the silicone sheet is not installed, the turntable may become loose during operation.

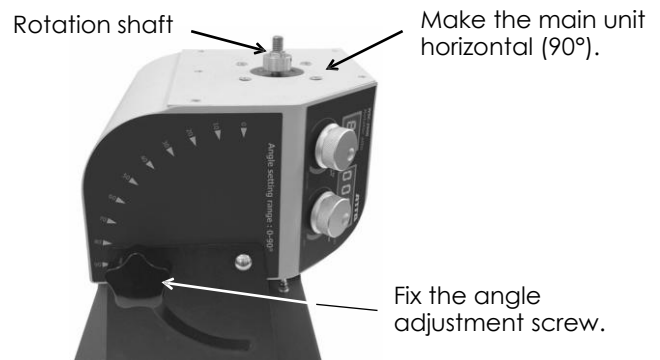
4.4 How to make a two-tiered turntable

This device can be equipped with two turntables.

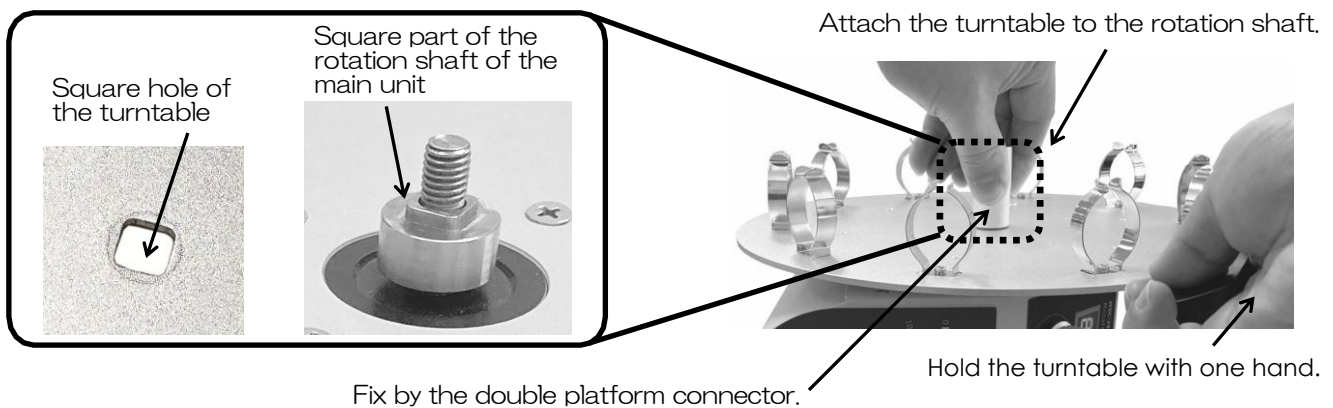
1. While supporting the main unit with your hand, turning the angle adjustment screw counterclockwise to loosen it.



2. While supporting the main unit with your hand, make it horizontal (90°).
3. Turn the angle adjustment screw clockwise to secure it in place.



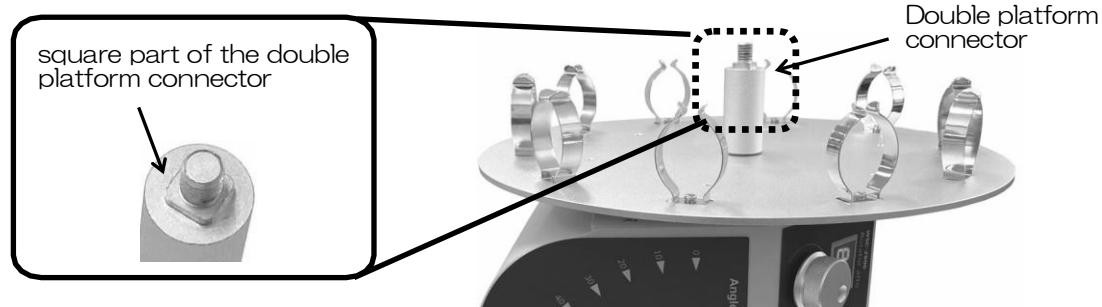
4. Attach the first (optional) turntable to the rotation shaft of the main unit. Align the square part of the rotation shaft of the main unit with the square hole of the turntable and fit them together.
5. Hold the turntable with one hand, and use the double platform connector (optional) with the other hand to secure the turntable in place.



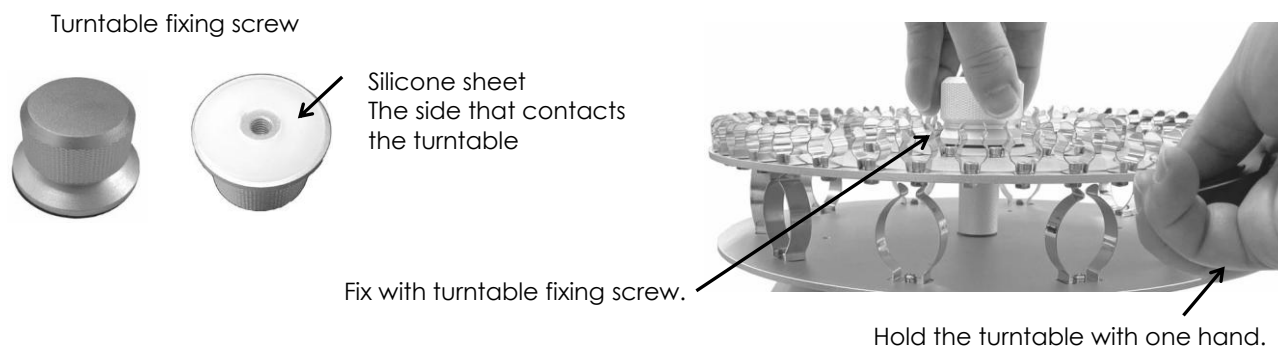
Tighten it further using the supplied spanner.



6. Attach the second (optional) turntable to the double platform connector (optional). Align the square part of the double platform connector with the square hole of the turntable and fit them together.



7. Use the turntable fixing screw to secure the turntable to the main unit's rotation shaft. Make sure that the silicone sheet is set on the side of the turntable fixing screw that comes into contact with the turntable. Hold the turntable with one hand, and use the supplied turntable fixing screw with the other hand to tighten it.



⚠ Caution

When securing the turntable with the fixing screw, make sure that the silicone sheet is properly set in place. If the silicone sheet is not installed, the turntable may become loose during operation.

8. Adjust the main unit to the angle you want to use. Refer to 4.3 above to adjust the angle of the main unit.

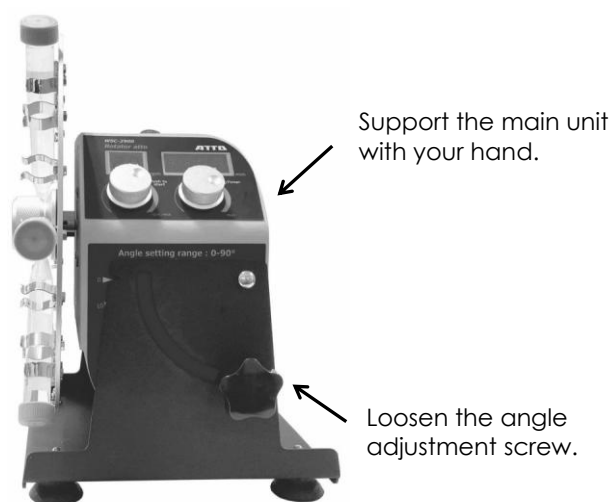
⚠ Caution

Before rotating the turntable, be sure to turn the turntable fixing screw clockwise and check that the turntable is properly secured. If it is not, the turntable may come off and cause damage to the device.

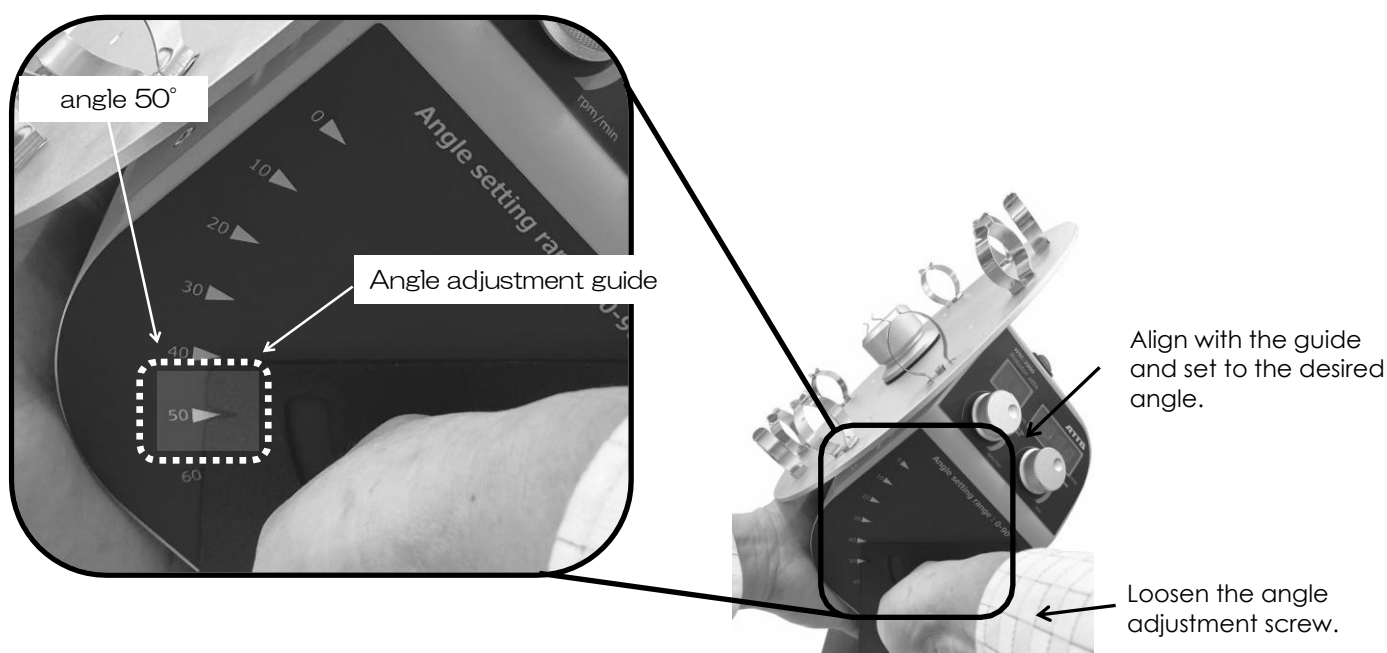
* When replacing the turntable, perform the same steps 1–3 to set the main unit horizontally (90°). Loosen the turntable fixing screw, remove the turntable, and attach a different one.

4.5 How to change the angle

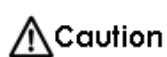
1. While supporting the main unit with your hand, turning the angle adjustment screw counterclockwise to loosen it.



2. Align the angle indicated on the main unit with the angle adjustment guide to set the desired angle.



3. Turn the angle adjustment screw clockwise to secure it in place.



Caution

Change the angle only when the device is stopped. Changing the angle while the device is operating may cause the unit to tip over, resulting in injury or damage.

5. Operation

5.1 Timer settings

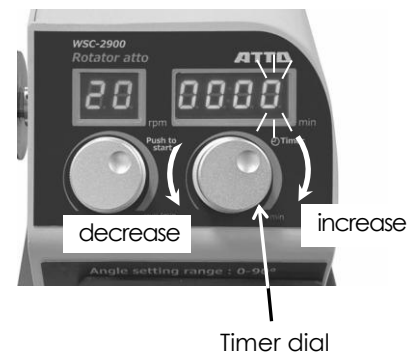
Set or change the operating time.

1. Turn the power switch on (I).
2. "Rotation Speed" and "Timer" panels It lights up.
3. Set the time using the "Timer dial."



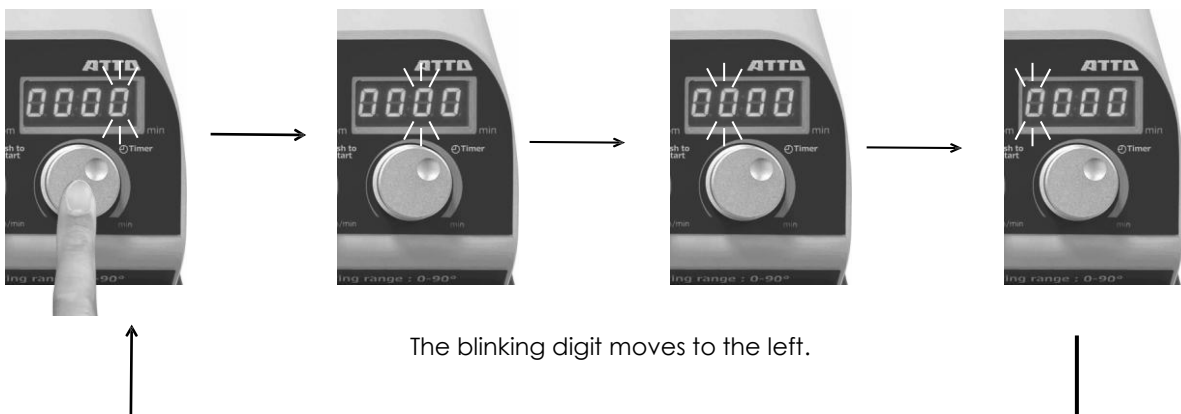
"Rotation Speed" and "Timer" panels It lights up.

4. When you turn the timer dial, the digits of "Rotation Speed" will start blinking.
Turning clockwise increases the digit, turning counterclockwise decreases the digit.
The setting range is 0 to 9999 minutes.
When set to 0000, the timer is disabled, and the system will continue running until the "Start/Stop" button is pressed.



5. You can also set each digit of the timer individually.
When you press the timer dial, and the digit currently selected will start blinking.
Press the dial again to move the blinking digit to the left.
Continue pressing the dial until the digit you want to change is selected.

Press the timer dial.



5.2 Rotation speed settings

Set or change the rotation speed.

1. Turn the power switch on (I).
2. "Rotation Speed" and "Timer " panels It lights up.
3. Set the rotation speed using the rotation speed dial, Start/Stop button.



"Rotation Speed" and "Timer " panels It lights up.

4. Turning clockwise increases the rotation speed, turning counterclockwise decreases the rotation speed. The setting range is 10 to 80 rpm.

* When stacking two turntables, use a rotation speed of 30 rpm or less.



Rotation speed dial, Start/Stop button

Caution

If you notice excessive vibration of the main unit or the turntable while the device is operating, stop it immediately.

This may be caused by an excessive load, unbalanced placement of sample tubes, or a rotation speed that is too high.

Reduce the number or volume of tubes, reposition the sample tubes to balance them, or lower the rotation speed setting.

Caution

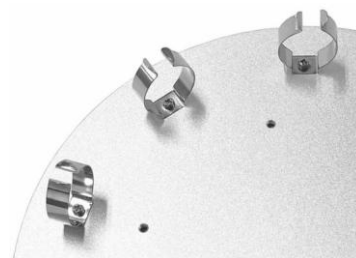
When using the double platform connector to set the plate holders in two tiers, vibration of the main unit or the turntable may occur during operation.

Set the rotation speed to 30 rpm or less.

5.3 Sample tube attachment / removal

Attachment

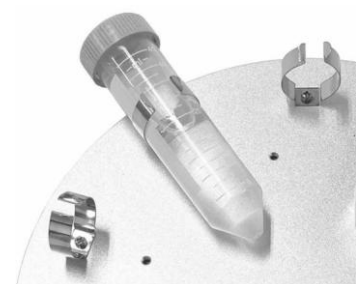
1. Turn the power switch on (I).
2. Set the turntable according to the tubes you are using.
For details on how to set it, refer to "4.3 How to attach and detach the turntable".
3. Insert the tubes into the tube holders on the turntable.
Hold the turntable with one hand and set the tubes with the other hand.



Tube holder (50mL Tube)

Removal

4. Press the Start/Stop button to stop the rotation.
5. Remove the tube.



Caution

Set the tubes symmetrically using tubes of the same volume to maintain weight balance.

If the balance is not maintained, the device or the turntable may vibrate, which could lead to accidents or damage.

Caution

Make sure the tubes are securely capped.

If liquid leaks during operation, it may cause accidents or damage to the device.

Caution

Attach or remove the tubes only when the device is stopped.

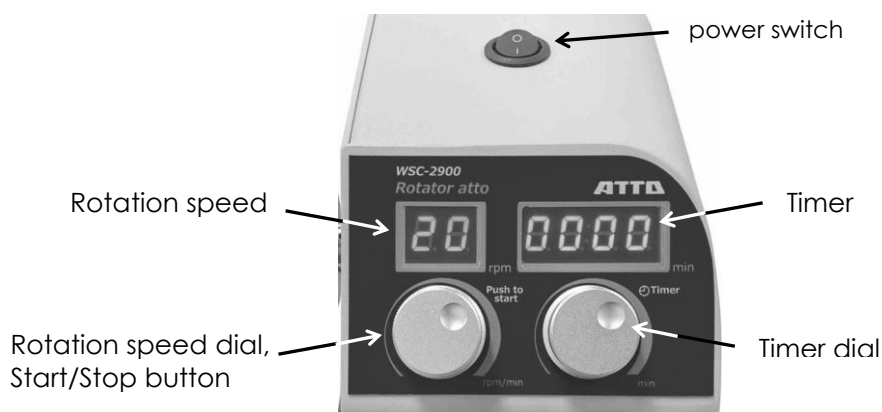
Failure to do so may cause the device to tip over, resulting in accidents or damage.



When removing a tube, hold down the lower part of the tube; this will cause the upper part to lift, allowing for smooth removal.

5.4 Start/ Stop

1. Turn the power switch on (I).
"Rotation Speed" and "Timer"
panels It lights up.
2. Set the turntable according to the tubes you are using.
For details on how to set it,
refer to "4.3 How to attach
and detach the turntable".



Caution

Attach or remove the turntable only when the device is stopped.
Failure to do so may cause the device to tip over, the turntable to fall, or
result in damage.

Caution

Change the angle only when the device is stopped. Changing the angle
while the device is operating may cause the unit to tip over, resulting in
injury or damage.

3. Insert the tubes into the tube holders on the turntable.
Hold the turntable with one hand and set the tubes with the other hand.

Caution

Attach or remove the tubes only when the device is stopped.
Failure to do so may cause the device to tip over, resulting in accidents or
damage.

4. Set the timer and rotation speed.
For details on how to set it, refer to "5.1 Timer settings" and "5.2 Rotation speed settings".
* To run the device for any desired time without using the timer, set it to "0000."
* When stacking two turntables, use a rotation speed of 30 rpm or less.
5. Press the rotation speed dial, Start/Stop button.
You will hear a "beep," and the device will operate at the set rotation speed and time.

Caution

Do not touch any part of the device other than the control panel while it is
operating. Doing so may cause the device to tip over, resulting in
accidents or damage.

6. When the set time is reached, the device will beep ("beep beep beep...") and stop.
"OVER" will be displayed on "Timer" panel.
7. To stop the device at any time, press the rotation speed dial, Start/Stop button.
You will hear a "beep," and the device will stop.
* When the timer is set to "0000," press the rotation speed dial, Start/Stop button to stop the
device at any time.


6. Troubleshooting

Symptom	Cause	Solution
Even when the power switch is turned on, the rotation speed and timer display on the control panel do not light up.	The device does not turn on.	Make sure that the power cable is properly connected to both the device's power connector and the outlet. If the problem persists, please contact our company.
	There is a problem with the power switch.	Stop using the device immediately and contact our company.
The turntable rotation and speed are unstable.	The sample tubes are not set symmetrically.	Set the sample tubes symmetrically to balance them.
	The sample tubes are not evenly distributed.	Make sure the sample tubes set symmetrically have equal volumes.
	The turntable is not set correctly.	Check section "4.3 How to attach and detach the turntable", and reset it.
The displayed rotation speed differs from the actual speed.	There is a problem with the device.	Stop using the device immediately and contact our company.

7. Maintenance

7.1 Cleaning

 **Warning** Do not use corrosive detergents to clean the device or its accessories.

 **Warning** When cleaning the device, turn off the power switch and unplug the power cable.


Main unit	When the surface of the main unit gets dirty, wipe gently by soft cloth with neutral detergent diluted in water.
Power cable	When the surface gets dirty, wipe gently by soft cloth with neutral detergent diluted in water. Do not use until it is dried sufficiently.
Turntable	When the surface of the turntable gets dirty, wipe gently by soft cloth with neutral detergent diluted in water.

7.2 Inspection

Regular maintenance and inspections can help prevent malfunctions and accidents, allowing you to use the device with confidence.

Depending on the frequency and duration of use, we recommend performing periodic inspections to maintain performance.

If you notice any of the following abnormalities or problems, please contact our company.

 **Warning** When inspecting the device, turn off the power switch and unplug the power cable.

Main unit	Confirm there is no damage, deformation or electrode connector corrosion by visual observation.
Power cable	Confirm there is no damage, deformation, or insulation layer is not peeled off and damaged by visual observation.

7.3 Maintenance/ Repair

Our company provides repair support for seven years after delivery. As a general rule, we do not repair devices that have been in use for more than seven years.

Even for products within seven years of delivery, repairs may not be possible if parts are difficult to obtain. Maintenance parts (performance parts for repair) are retained for seven years after production ends. For externally sourced parts, availability may be less than seven years from the end of production.

If any abnormalities or malfunctions occur during use in accordance with this manual, or if you notice issues during maintenance inspections, please check the "Troubleshooting" section and contact our company.

If repairs are required, as a general rule, please send the product to our Maintenance Service Group. If on-site repair is requested, additional travel expenses will apply.

7.4 Warranty

ATTO Corporation warrants all its products subject to the terms and conditions set forth below.

1. This warranty covers all new products that are sold by ATTO Corporation (hereinafter called ATTO).
2. Expendable items are not covered by this agreement.
3. Claims under this warranty are limited to defects in material and workmanship of the products.
4. Malfunction and/or damage due to neglect, abuse, operation or repair contrary to specifications and/or instructions presented by ATTO are not warranted.
5. ATTO shall not be liable to consequential damage, labor, loss or expense directly or indirectly arising from use of the products.
6. Damage due to transit is not covered by this warranty.
7. The warranty period is one (1) calendar year from a date when the products are shipped from ATTO to an original purchaser.
8. This warranty period is not applied to any defect that is reported to ATTO later than one (1) calendar month from a date of warranty termination.
9. ATTO shall supply parts to replace faulty parts of defective products under this warranty, free of charge.
10. ATTO shall repair defective products under this warranty, which cannot be repaired at field, free of charge.
11. ATTO shall replace defective products under warranty, which cannot be repaired, free of charge.
12. Freight charges for return and replacement shipments under this warranty are shared by ATTO and the purchaser, that is one way by either party and another way by another party.
13. Warranty period of repaired products and replacement products or parts is three (3) calendar months from a date when the said products or parts are shipped from ATTO, or a remaining term of an original warranty period of the defective products, whichever lasts longer.
14. Return of the products for credit or refund is not accepted unless otherwise agreed in writing by ATTO.

8. Specifications

Product name	Rotator alto
Model	WSC -2900
Rotation speed	10 to 80 rpm
Angle adjustment range	0 to 90°
Timer	0 to 9999 min
Input	100 to 230 VAC 50 / 60 Hz 35W
Size	206 (W) x 260 (D) x 300 (H) mm
Weight	Main unit 4.5 kg

9. Option

When placing an order, please specify the product code.

For orders, contact our Customer Service Department to confirm the latest prices.

Product No.	Name	Description
4002940	Turntable A (for WSC-2900)	50mL tubes x 10
4002941	Turntable B (for WSC-2900)	15mL tubes x 18
4002942	Turntable C (for WSC-2900)	1.5mL tubes x 64
4002944	Turntable E (for WSC-2900)	50mL tubes x 10 15mL tubes x 10 1.5mL tubes x 30
4002949	Double platform connector (for WSC-2900)	Connector for stacking two turntables



ATTO Corporation

Head Office:

3-2-2 Motoasakusa, Taito-ku, Tokyo, 111-0041, JAPAN

Website:

<https://www.attoeng.com/>
