
Instruction manual

Block Incubation
WSC-2620
PowerBLOCK

4th Edition
April 19, 2024



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Introduction

Thank you for purchasing ATTO Corporation's block incubator "WSC-2620". This instruction manual (i.e. this document) is delivered to you together with the system so that you can make full use of the system.

A new product controlled by the miniature computer, which can be widely used for the preservation and reaction of the samples, the amplification of DNA, the pre-denaturation of the electrophoresis and blood serum coagulation.

Not only those of you who use this system for the first time, but also those who have used it before, should read this document carefully to understand the contents.

If you use this system for the first time, please read this document from the beginning in serial order.

In addition to how to use it, this document contains information related to maintenance, guarantee and services as well. Please keep it handy all the time to make its full use.

If you have any inquiries on your purchased product 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 is a must to 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 other purpose than described here, or do not use this system by any other method than described here. If you use this system for any other purpose or by any other method than described in this manual, you will be held responsible for all 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 who operate the system for the first time but people who have ever used it after receiving professional education should keep this instruction manual handy to make its effective use. In order to prevent any 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 concern related to the principle of maintenance or inspection, feel free to contact our company (please refer to the back cover).

Safety symbols

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 related to the operation.

Operation precautions

These 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

Power supply connection   	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 that 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 contact our company (please refer to the back cover). After use, be sure to turn off the power switch and disconnect it from the outlet. When disconnecting AC adapter from the outlet, be sure to turn off the power switch, and then disconnect it by holding the AC adapter instead of pulling the cable.
Not wet hand  	When handling this system, keep your hands dry. Do not touch AC adapter or connection terminal with wet hands. If you do, electric shock or failure may be caused. If the power supply part or AC adapter 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).
Main Unit 	Do not put any foreign object into this system. If you do, electric shock or failure may be caused. 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.
Maintenance 	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 defect may be caused. While this system is in use, check if there is any error, such as abnormal sound or smoking, or 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).
Heat Alert  	Deleterious substance, dangerous substance, or carcinogenic material may be used for preparation of buffer solution, staining or decoloring operation. Do not allow its direct contact to human body. If you do, fatal accident or body injury, like burn, may be caused. When using chemicals, protect your body with gloves and a mask. Carefully read and observe precautions on handling attached to the chemicals.

Caution

Installation 	Do not install the system on an unstable table, tilted place or a heavily vibrating place. Install it on an laboratory table with horizontal, stable and solid surface. Otherwise, electric shock due to falling or liquid leakage may be caused. Do not put any object on this system. If you do, electric shock due to falling may be caused.
Main Unit 	This system is not of explosion-proof structure. Install it at the place where there is no exposure to fire or combustible gas. 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.
Transfer 	While this system is in operation, do not touch any parts other than operation panel, nor move it. Electric shock may be caused by leakage of Running buffer solution. Also, electric cords may get entangled and the system may fall. When moving this system, be sure to turn off the power switch and disconnect AC adapter, and then disconnect all wiring cables.
Maintenance 	When you execute maintenance or cleaning, be sure to turn off the switch of the power supply and disconnect all lead wires. To maintain good performance and safety of this product, please ask us for periodical maintenance, inspection and calibration (please refer to the back cover).
No disassembly 	Do not disassemble or modify this system. Do not remove the 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). Our company will not accept any responsibility for any accident or failure caused by disassembly or modification done by yourself.
Sticker 	Do not peel off the warning stickers. They indicate 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).

Warning

AC adapter 	Do not use the power supply part and AC adapter 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 system 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 a non-standard adapter is used, heat generation or ignition may occur. If you have any inquiries, please contact us or our sales agency (please refer to the back cover)
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Sticker 	The name plate sticker shows important information for maintenance and management of the product. Do not peel it off.
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Notices

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 medical care-related judgment 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. This 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 specifications of the product and the contents of the instruction manual may be changed without prior notice.

1. Overview

This chapter explains purpose and principle of this system.

1.1 Purpose

This equipment is to mix a sample with heating and cooling (0°C~100°C). Applicable tubes are 0.2 mL、0.5 mL、1.5 mL、2 mL、15 mL、50 mL and 96 well plate.

1.2 Principle

This equipment heats an aluminum block and cool down by peltier element. A temperature of aluminum block is detected by heating sensor and microprocessor regulation it controls heater ON/OFF.

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2. Inspection when unpacking the product

This chapter explains items to be checked when unpacking the product and configuration of equipment.

2.1 Inspection at unpacking

When you receive the product, check if the main unit and the accessories are properly packed and 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 refer to the back cover).

Carry out the inspection at the time of unpacking within one week after you receive the product.

After one week elapses, damage or parts shortage may not be recovered.

2.2 Equipment configuration

The product consists of main unit and accessories.

Main unit WSC-2620

(Block incubator PowerBLOCK Shaker)

Type	WSC-2620
Product no.	4002620
Model name	PowerBLOCK

Accessories

Power cable	1
Hexagonal wrench	1
Manual	1

Option

Code No	Name
4002650	Block for 96pcs×0.2mL Microtubes
4002651	Block for 54pcs×0.5mL Microtubes
4002652	Block for 35pcs×1.5mL Microtubes
4002653	Block for 35pcs×2.0mL Microtubes
4002654	Block for 15pcs×0.5mL+20pcs×1.5mL Microtubes
4002655	Block for 24pcs× ϕ 12mm, Centrifuge tubes
4002656	Block for 12pcs×15mL Centrifuge tubes
4002657	Block for 6pcs×50mL, Centrifuge tubes
4002658	Block for water bath 103×67×30mm
4002659	Block for 96 well plate
4002660	24pcs×5mL, Centrifuge tubes
4002661	Block for 96 deep well plate,

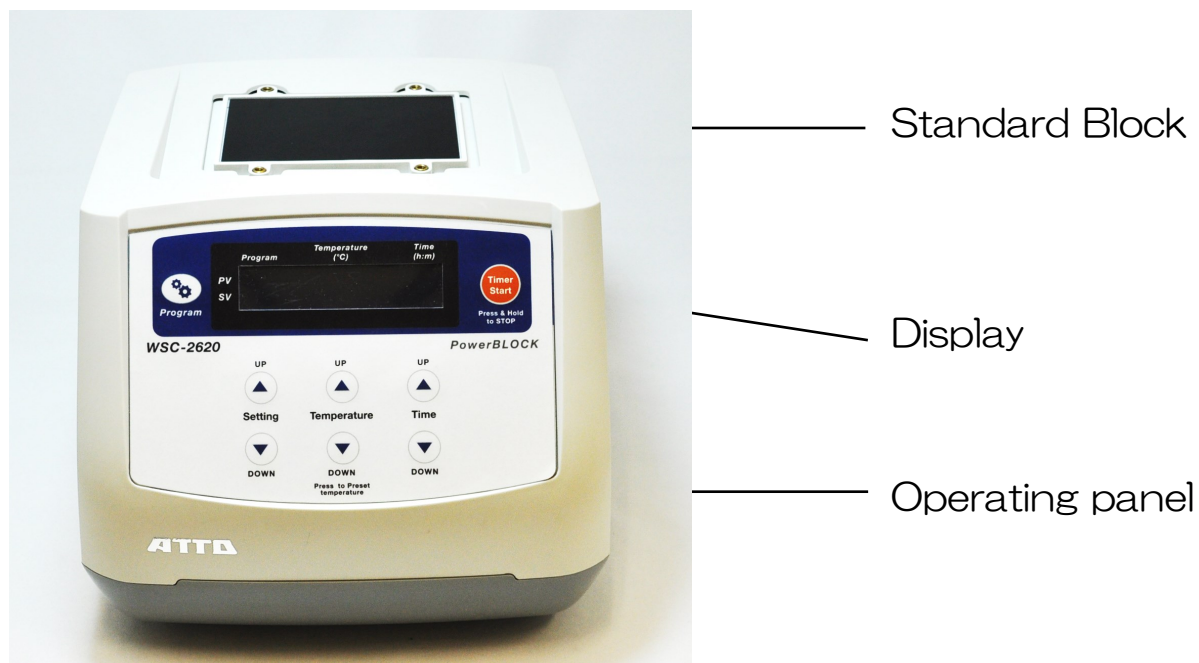


3 Part name and function

This chapter explains part name of unit and each function.

3.1 System configuration

(1) Main unit

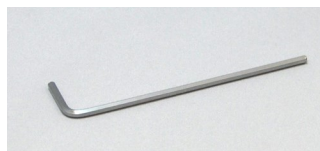


(2) Accessories

Power cable



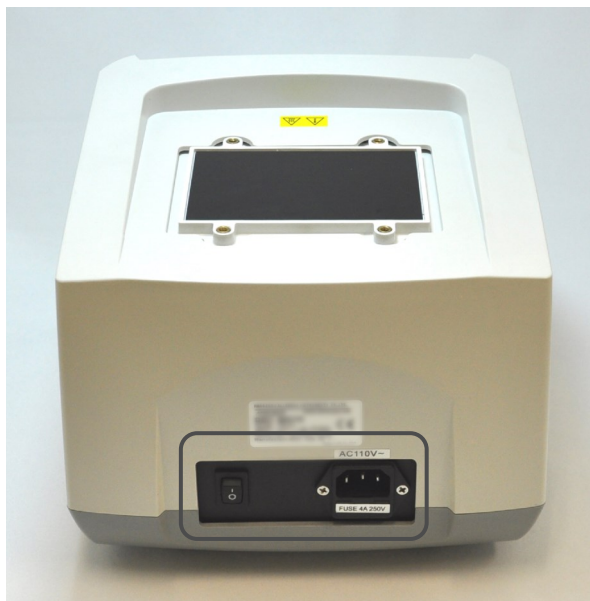
Hexagonal wrench



3.2 Main unit

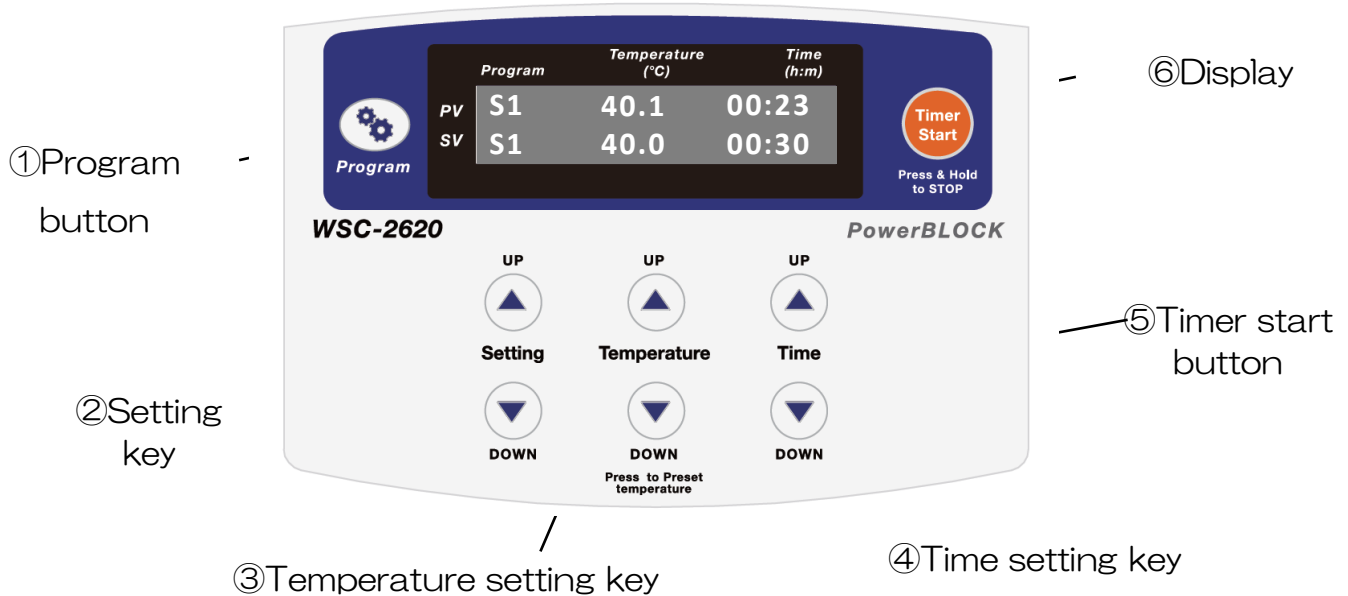
(1) The rear

A power switch and AC inlet to connecting a power source.



①Power switch ②AC inlet

(2)



① Program button

Programmable setting key. Pressing “Program” to make section from S1 to S2, S1 to S2 to S3, or S1 to S2 to S3 to S4, or S1 to S2 to S3 to S4 to S5 running continuously.

② Setting key

Choosing a programmed number. (S1 ~S5).

③ Temperature setting key

Set a temperature.

④ Time setting key

Set a time.

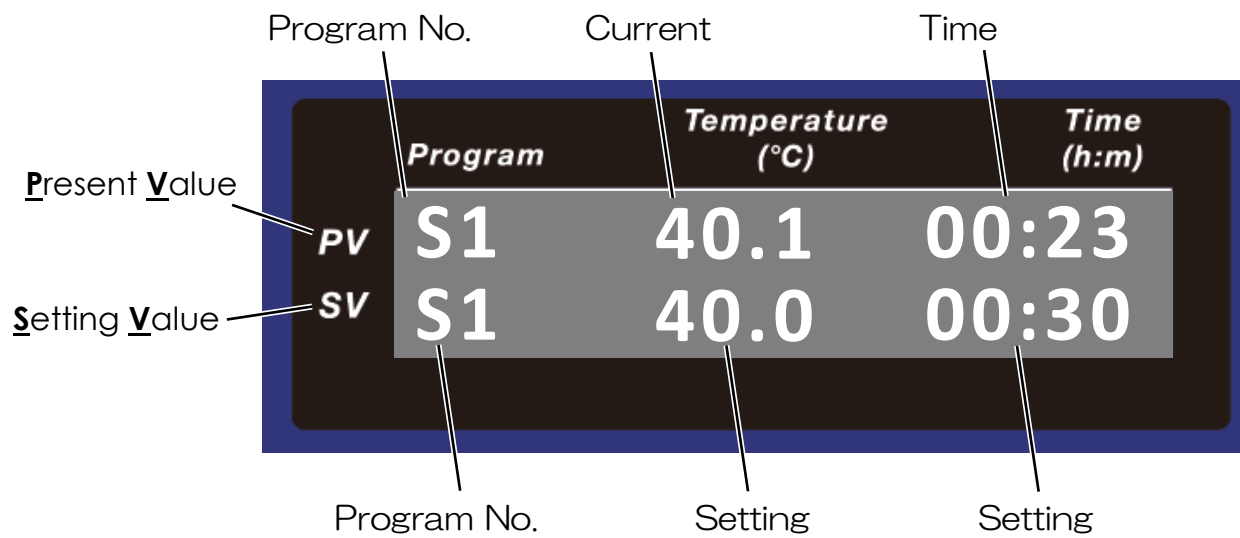
⑤ Timer start button

Starting timer.

If you want to reset the time, please long press of button.

⑥ Display

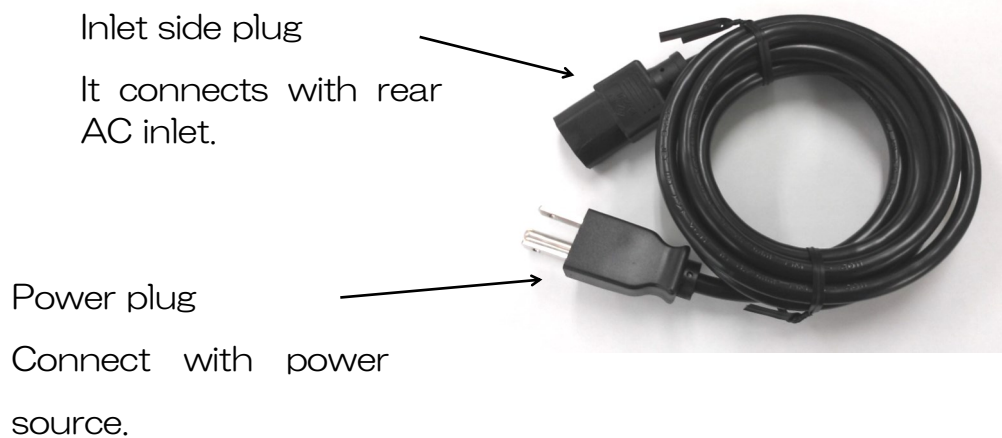
Displaying a program No., a temperature (Current and set condition), a speed (Current and set condition), and a time (left time and set condition).



3.3 Accessories

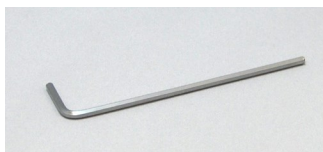
Power cable

It connects with power source.



Hexagonal wrench

It is setting tool, when an aluminum block set in main unit,



4 Preparation

This chapter explains preparation before using the product.

4.1 Installation environment

Environment	Inside a room only
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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 or fire.

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

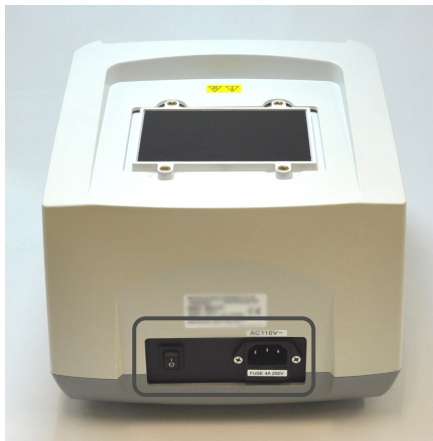
Do not use the product at a place where there is strong magnetic field or electric field around, or a place where there is much waveform strain of input power supply or noise. Malfunction may be caused.

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.

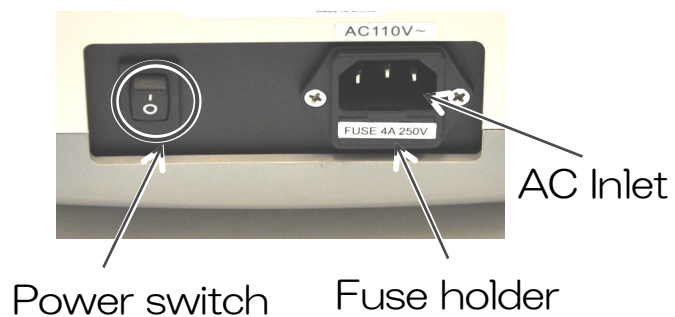
This system cannot be used outdoors. It is designed so that safety and performance can be ensured under the environmental conditions; ambient temperature 5°C ~ 40°C, relative humidity 5% - 90% (no dew condensation).

4.2 Installation

1. Check a power switch to OFF (O) .
2. Connect the power cable to the rear AC inlet.
3. Connect the plug to power source.



Check the switch off



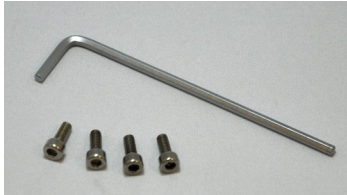
Connect to the rear AC Inlet.

Connect to power source.



4. Fit a 4 holes of aluminum block to main unit.
5. Tighten the screws by hexagonal wrench.

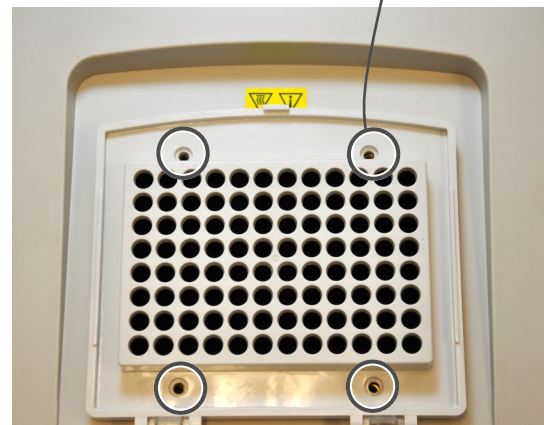
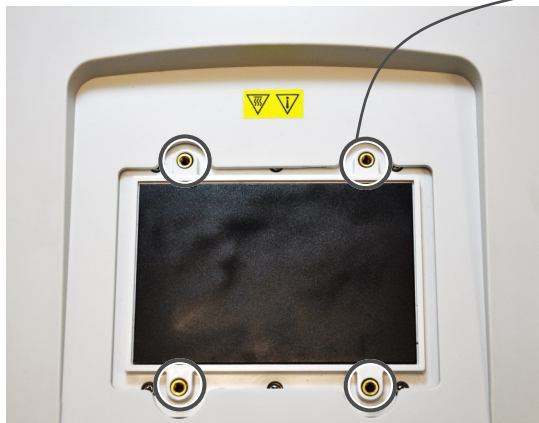
Hexagonal wrench



Screws



Open the Block cover.



Fit Screws' holes

Put 4 screws in holes



Tighten the screws

5 Operation

This chapter explains the basic operation of Block Incubator

5.1 Setting Temperature • time

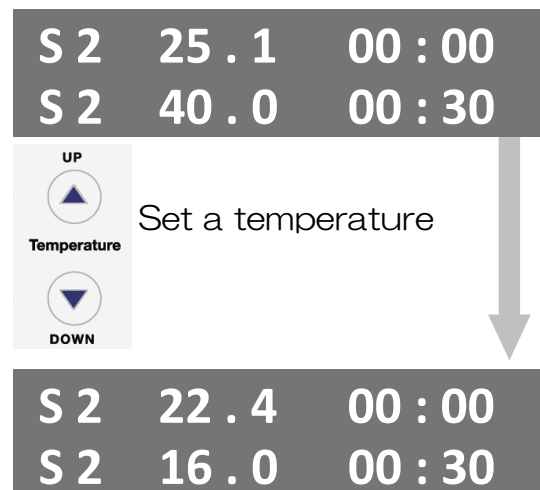
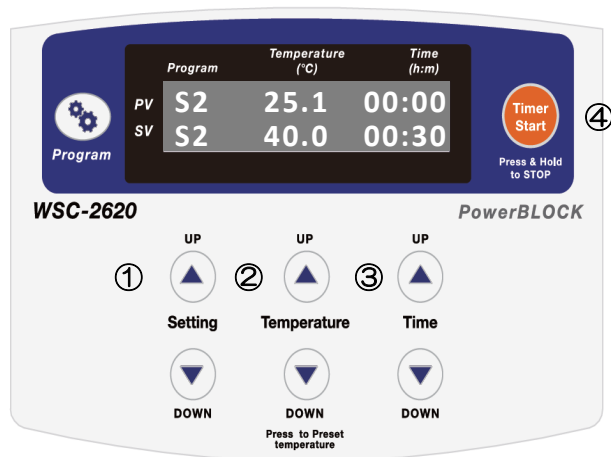
1. The power switch on.

Sound a peep tone and displayed 「System -Testing」 .

2. Choose a program from S1~S5(①) by setting key.

3. Set a temperature by temperature control key(②)

※Just push temperature key, starting the temperature setting mode automatically.
 ※Long press the key up or down, notch up the temperature 0.1°C⇒1.0°C⇒10.0°C.
 ※To hold a setting temperature condition, push temperature arrow key without press timer start button. When you do not need to set the incubation time, you can start with this state.

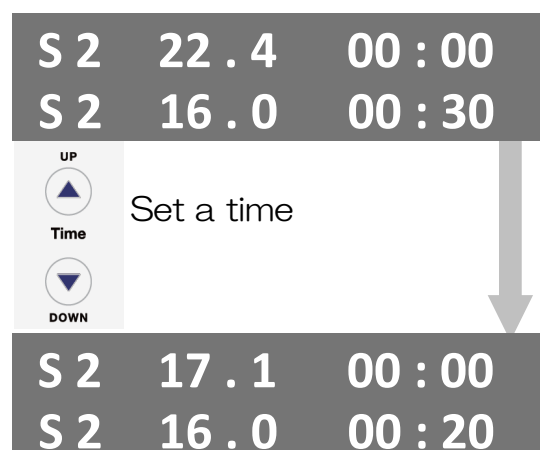


Temperature will be targeted

4. Set a time by timer key(③).

※Long press the key (up and down), notch up 1min⇒10min⇒1 hour.

※Setting temperature the minimum value, displays 「OFF」 . Pressing the timer button, blinking 「CON」 and holding a previously set rotation speed / temperature. (HOLD status).



5. Pushing a “Timer start” button(④).

※Starting rotation even the setting temperature is not reached.

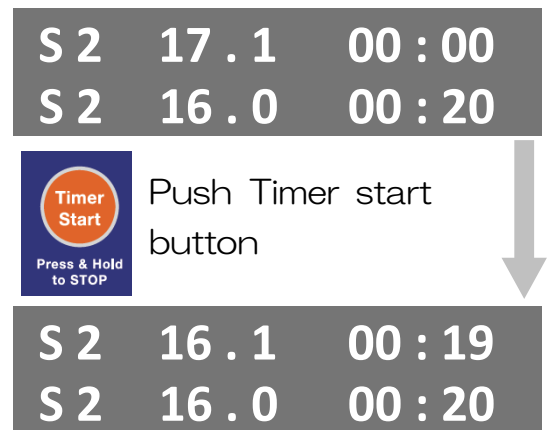
※When the temperature is reached, timer will be started automatically.

※Without starting button, the rotation is waiting with keeping temperature at a set point.

※Timer is count down. Displaying a remnant time.

※Long press the key, the main unit is stopped and be back room temperature.

※When a timer is operating, a timer colon of the display is blinking.



6. When the time is ended, a sound of a peep tone and the device is stopped. The blinking display of timer colon turns into lighting.

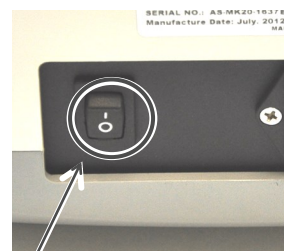
※The temperature keeps the set point after ending time.

Terminate the operating

7. Terminating the device, long press timer start button before finishing timer.

※The device will be stopped and a temperature does not back as room temperature.

8. Turn off the power switch located on rear of main unit.



Power switch

5.2 Set a Program and operating

※The program is started from S1. Four kinds of programming which are $S1 \Rightarrow S2$, $S1 \Rightarrow S2 \Rightarrow S3$, $S1 \Rightarrow S2 \Rightarrow S3 \Rightarrow S4$, $S1 \Rightarrow S2 \Rightarrow S3 \Rightarrow S4 \Rightarrow S5$.

1. Push a "Program" button(①).
2. Push a "Setting" key(②) and choose a program from no.S2~S5.
3. Change to other program with pushing "Program" button.



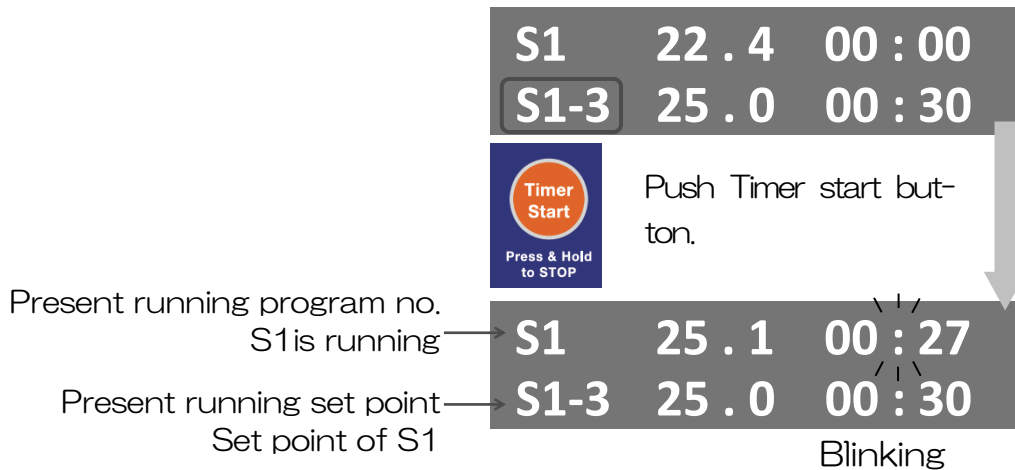
※Press Setting key from above picture, be back to normal display,

4. Push a “Timer Start” button.

※Timer is countdown.

※There is blinking display of the timer colon when the timer is running.

※Long press the “Timer Start” button, a device is stopped and a temperature be back to room temperature.



5. When the timer is reached to the end, sounds a peep tone and the device is stopped. A blinking display of timer colon is stopped (lighting) and a temperature be back to room temperature.

When you want to back normal display from programming display • • •

6. Long press “Timer Start” button to end a program.

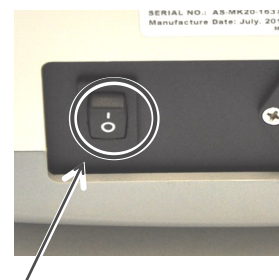
7. Push setting key and be back to normal display.

Terminate the operation

8. Long press key of Timer Start button to end a program.

※Device is stopped and a temperature does not back room temperature.

9. Power off the power switch.



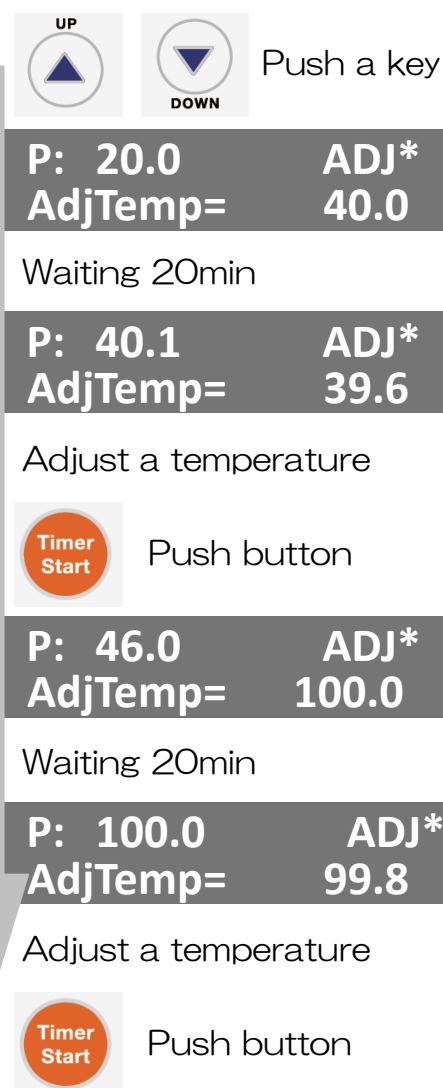
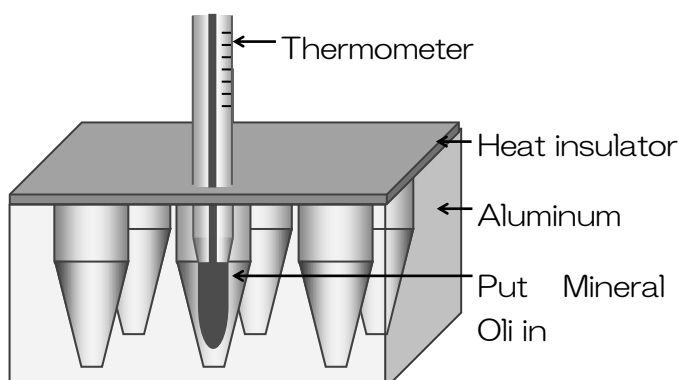
Power Switch

5.3 Calibration on a temperature

No needed a calibration this equipment due to complete it(40°C and 100°C) already.

If there is needed calibration yourself, please refer as following workflow.

1. Check a calibration room' s temperature under 35°C.
2. Power switch on.
3. Put mineral oil in aluminum block and insert a thermometer.
4. Cover the thermometer by heating insulator board.
5. Push two keys up and down simultaneously.
Display shows 「AdjTemp=40.0」
6. Check a temperature 20min later.
Convert to an actual survey through the two keys (Picture showed a value 39.6°C).
7. Push a “Timer Start” button.
8. Temperature up to 100°C automatically as showing 「AdjTemp=100.0」
9. Check a temperature 20min later.
Convert to an actual survey through the two keys (Picture showed a value 99.8°C).
10. Push the “Timer Start” button and check it.



6 Trouble shooting

When you have a trouble on using of this device, contact ATTO with serial number on the rear side of the device.

6.1 Trouble shooting

Symptom	Cause	Remedy
No display	It has a trouble in connection of power cable.	Ensure that the power cable is connected properly without looseness.
It sounds alarm with 「OPEN」 displaying.	It has a trouble with sensor or connection.	Stop using it immediately and contact AT-TO (please refer to the back over)
It sounds alarm with 「SHORT」 displaying.	Short of sensor	Stop using it immediately and contact AT-TO (please refer to the back over)
Heating is not operated.	It has a trouble with heater part.	Stop using it immediately and contact AT-TO (please refer to the back over)
No responding against pushing of buttons.	It has a trouble with button connection.	Stop using it immediately and contact AT-TO (please refer to the back over)

6.2 The exchange of fuse

1. Remove fuse holder from inlet (a rear of main body).

*Use (-) straight screw driver gently .



A rear of main body

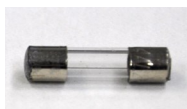
2. Check the fuse holder and fuse. Choose correct fuse (250V 4A $\phi 5 \times 20$) and replace the fuse holder to inlet.

Fuse specification : 250V 4A $\phi 5 \times 20$

(Do not use different fuse)



Fuse holder



Fuse

7 Maintenance

This chapter explains maintenance, inspection cleaning, and maintenance such as response to operation failure of equipment.

7.1 Cleaning

Warning

When cleaning of the device, do not use corrosive detergent or materials.

Aluminum block

When aluminum block has a dirty, wipe the block with soft cloth putting on neutral detergent or alcohol very gently, and wait until it becomes dry completely.

Warning

Execute the cleaning of the aluminum block after detach of block from the main body.

Main body

When cleaning of main body, wipe it with soft cloth putting on diluted neutral detergent by water very gently.

Warning

Execute the cleaning of the main body after power switch off and disconnect an AC adaptor.

AC adaptor

When cleaning of AC adaptor, wipe it with soft cloth putting on diluted neutral detergent by water very gently, and wait until it becomes dry completely.

Warning

Execute the cleaning of AC adaptor after disconnect the AC adaptor from power socket.

7.2 Inspection

Periodical maintenance and inspection can prevent failure or accident, and you can use the equipment safely. The inspection period varies depending on frequency and time of use, but we recommend that you execute inspection periodically for maintaining good performance.

If you find any error or defect as a result of the inspection shown below, please contact us (please refer to the back cover)..

Main body

Check visually to confirm that there is no damage, deformation or corrosion on the terminal part of electrode connector.



When carrying out the inspection of power supply part, disconnect the AC adapter and turn OFF the power switch.

AC adaptor

Check visually to confirm that the insulation coating is not peeled off and that there is no scratch, damage or deformation.



When carrying out the inspection of AC adapter, pull it out from the outlet.

7.3 Maintenance • Repair

Our products come with a repair service period of 7 years from the date of delivery. Therefore, if you wish to have your product repaired, you will need to request it within this period. However, please note that we generally do not accept repair requests for products that have been in use for more than 7 years.

Furthermore, we store parts for discontinued products for a duration of 7 years after production has ceased. Please be aware that even within the repair service period, there may be cases where repair is not possible due to a lack of available parts.

We have full confidence in the quality of our products and provide them to our customers with the assurance that they can use them with peace of mind. However, depending on the usage environment and methods of use, malfunctions or defects may occur. In such cases, we recommend that you request repairs within the repair service period.

If any abnormality or failure occurs while using the unit according to this instruction manual, or if you notice any problem during your maintenance/inspection work, please contact us after checking it according to the relevant [Trouble Shooting] item.

When repair is required, please send the unit back to our Technical Service Group, in principle. If on-site repair is requested, travel expense will be required in addition to the repair cost.

Please refer to the end of Manual for enquiry details.

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 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 this warranty, which cannot be repaired, free of charge.
12. Freight charges for return and replacement shipments under this warranty are shared by ATTO and a 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 prod-

ucts 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 Specification

This chapter explains specifications of equipment.

8.1 Specification

Model name	<i>PowerBLOCK</i>
Type	WSC-2620
Product no.	4002620
Temperature control range	-10°C~100°C
Timer range	1 min ~99 h 59 min
Accuracy of the temperature	$\leq \pm 0.5^{\circ}\text{C}$ (Inside of tube solution temperature)
Programming	5files 、 linkable in order
Shaking speed	-
Orbit	-
Displaying temperature	0.1°C
Temperature rising speed	≤ 10 min (20°C→ 80°C) ≤ 15 min (20°C→100°C)
Cooling speed	≤ 10 min (from 20 to 0°C) Ambient 30°C or lower ≤ 25 min (from 20 to -5°C) Ambient 30°C or lower ≤ 30 min (from 20 to -10°C) Ambient 25°C or lower
Heater, cooling	Peltier element
Power	AC100V, 50/60Hz, 200W
Size	300(L)x212(W)x180(H)mm
Weight	5 Kg

9 Option

9.1 Option

Code No	Name
4002650	Block for 96pcs×0.2mL Microtubes
4002651	Block for 54pcs×0.5mL Microtubes
4002652	Block for 35pcs×1.5mL Microtubes
4002653	Block for 35pcs×2.0mL Microtubes
4002654	Block for 15pcs×0.5mL+20pcs×1.5mL Microtubes
4002655	Block for 24pcs× ϕ 12mm, Centrifuge tubes
4002656	Block for 12pcs×15mL, Centrifuge tubes
4002657	Block for 6pcs×50mL, Centrifuge tubes
4002658	Block for water bath 103×67×30mm
4002659	Block for 96 well plate
4002660	24pcs×5mL, Centrifuge tubes
4002661	Block for 96 deep well plate,



ATTO Corporation

Head Office:

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

TEL: +81-3-5827-6863

FAX: +81-3-5827-6647

E-mail: eig@atto.co.jp

Website: <http://www.atto.co.jp/eng/>