Quick Trim

Paraffin Block Trimmer

UPBT-1011

UNITMA

Note

This User Guide describes the installation and operation of Paraffin Block Trimmer (UPBT-1011)

Read and review this manual to avoid injury and prevent damage to this instrument or any products connected to it before you operate. To avoid potential hazards, use this instrument only as specified in this manual.

This manual contains information and warnings that must be followed by the user to ensure safe operation and to maintain the instrument in a safe condition.

User shall be responsible for paying all shipping charges, duties, taxies, and any other charges for any failure or damage or injury caused by improper use or improper or inadequate maintenance and care. UNITMA Co., Ltd. shall not be obliged to furnish service under this case a) to repair damage resulting from attempts by personnel other than UNITMA Co., Ltd. representatives to install, repair or service the products ; b) to repair damage resulting from improper use or connection to incompatible equipment; c) to repair any damage or malfunction caused by the use of non-UNITMA Co., Ltd supplies; or d) to service a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product.

All information is subject to change without prior notice.

Contact to:
UNITMA Co., Ltd.
3F, Dongil B/D, 36, Baekjegobun-Ro 36-Gil,
Songpa-Gu, Seoul, 138-842, Korea
TEL: +82-2-420-0070 / FAX: +82-2-420-9797
http://www.unitma.com
E-mail: unitma@unitma.com

Contents

1. IMPORTANT NOTES

Explanation of Symbols used

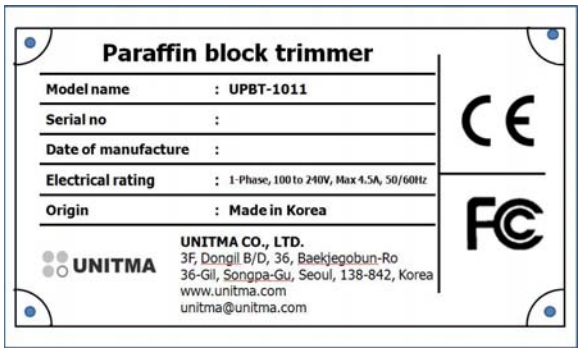
WARNING: WARNING indicates an injury hazard not immediately accessible as you read this symbol. It calls attention to an operating procedure, practice, or the like, that if no correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

BIOHAZARD WARNING: BIOHAZARD WARNING indicates an injury or hazard not immediately accessible as you read this symbol.

Bio-hazard (Infectious agent): A type of micro-organism, bacteria, mold, parasite or virus which normally causes, or significantly contributes to the cause of, increased morbidity or mortality of human beings.

Identification label

The Identification label of Paraffin Block Trimmeris at the left-side of the instrument.
The Identification label indicates the serial number, manufacturing year, electrical rating and frequency.



Qualification of personnel

The Paraffin Block Trimmer should be operated by trained Histopathology laboratory personnel.
All laboratory personnel designated to operate Paraffin Block Trimmer is required to read this entire manual before operating Paraffin Block Trimmer.

The use of the instrument for any other purpose than originally intended may damage the instrument or injure the user and will void all warranties

Desired use of instrument

The instrument is a Paraffin Block Trimmer which removes (trims) excess paraffin residue from Paraffin blocksfor the histopathologicalprocess.

2. SAFETY NOTES

Read the following safety notes to avoid injury and prevent damage to this instrument or any products connected to it.

Misuse of electrical equipment can cause electrocution, burns, fire and other HAZARDS.

READ THE FOLLOWINGS BEFORE USING THE INSTRUMENT

1) Check that the voltage setting matches the supply voltage.
2) Connection to MAIN POWER SUPPLY:
a) For plug-connected instrument only: Where protective ground is required, plug the instrument into a supply outlet which has an earth connection.
b) For PERMANENTLY CONNECTED INSTRUMENT only: Do not use the instrument until it has been installed by a qualified electrician or authorized service engineer.
3) Unplug the instrument immediately after use.
4) Unplug the instrument immediately after some liquid spilt over it.
5) Do not place the instrument in liquid, nor put it where it could fall into liquid. If the instrument becomes wet, unplug it before touching it.
6) Do not leave the instrument unattended while it is plugged in.
7) Use the instrument only for the purpose described in the instructions for use.
8) Do not use accessories which are not supplied or recommended by the manufacturer.
9) Do not use the instrument if it is not working properly, or if it has suffered any physical damage. Examples of physical damage include:
a) Damage to the flexible power supply cord or its plug;
b) Damage caused by dropping the instrument;
c) Damage caused by dropping the instrument into water or splashing water onto it.
10) Do not let the instrument or its flexible cord come into contact with surfaces which is hot.
11) Do not place anything on top of the instrument.
12) Do not use the instrument out door.

To avoid fire and the instrument failure

- Observe all warnings and instructions.
- Observe all Terminal Ratings. To avoid fire or shock hazard, observe all ratings and markings on the instrument. Consult the manual for further ratings information before making connections to the instrument.
- Power Disconnection. The power switch disconnects the instrument from the power source. See instructions for the location. Do not block the power switch; it must remain accessible to the user at all times.
- Regularly inspect the AC power cord for damage and for dust build-up around the power plug or electrical outlet.
- Stop operation and unplug the AC power cord from the electrical outlet and disconnect any other cables immediately in the following cases ; when the instrument functions in an abnormal manner, produces unusual sounds, if there is unpleasant or offensive odor, and becomes too hot to touch.
- Do not operate with suspected failures. If you suspect that there is damage to the instrument, have it inspected by UNITMA Co., Ltd.
- Do not operate in wet/damp conditions.
- Do not operate in a high concentration of explosive gases atmosphere.
- Keep the instrument surface clean and dry.
- Do not allow liquid or small particles to get into the instrument.
- Do not throw or drop the instrument or accessories, or subject the instrument to strong physical shock.
- Unplug the AC power cord from the electrical outlet before cleaning.
- Turn off the power of the instrument when not in use.

Using in proper environment

- Provide proper ventilation. Refer to the manual's installation instructions for details on installing the instrument so it has proper ventilation.
- Do not expose the instrument or accessories to high temperatures, high humidity, or direct sunlight.
- Do not expose the instrument or accessories to dust, smoke or steam.
- Do not place the instrument on surfaces that are tilted, unstable or subject to vibration.
- Do not put heavy objects on the instrument or accessories.
- Do not use the instrument where oxygen gas is used.

To avoid personal injury

- Keep the instrument and accessories out of the reach of children.
- Do not touch the plug of the AC power cord with wet hands.

AC Power cord use and Ground

- Use proper power cord. Use only the power cord specified for the instrumentand certified for the country of use. Verify the voltage and frequency of AC power source.
- Ground the instrument. This instrument is grounded through the grounding conductor of the power cord. To avoid electric shock, the grounding conductor must be connected to earth ground. Before making connections to the input or output terminals of the product, ensure that the product is properly grounded.
- When disconnecting the AC power cord, hold it by the plug and pull straight out from the electrical socket. Never pull by the cord or pull at an angle.

Use the instrument and accessories according to the instructions in this guide

- Use the instrument and accessories according to the instructions in this guide.Neither authorization for the analysis or modification of the instrument, nor the analysis and use of its circuit configuration, is provided.
- Never disassemble the instrument or supplied accessories. Disassembling will void the instrument warranty. Additionally, there is a risk of fire, electrical shock or malfunction.
- Contact UNITMA Co., Ltd. for repairing service.

Do not use the paraffin block or sample which is suspected to have chemical hazard

- Do not use the paraffin block or sample which might influence human body biologically or chemically.

Avoid damage of the scrapper

• The scrapper should be kept clean. Do not use when removing paraffin with an alien substance such as a stapler pin or a silk fabric beside cassette.

Handling of Biohazards

•Working with infectious material requires the following precautions.

a. Limit access to areas where experiments with infectious specimens are in progress.

b. Clearly label areas where biohazards are in use and designate specific areas where biohazards are routinely used, using this symbol (black on red background):

c. Wear lab coat, gloves and safety glasses to prevent contamination from the infectious specimen, and remove them when leaving the work area.

d. Decontaminate work surfaces once per day and after any spill of viable specimen.

e. Eating, drinking and applying cosmetics are not permitted in the work area.

f. Wash hands after handling viable specimens before leaving the lab.

g. Transport contaminated materials in leak-proof containers clearly marked with biohazard labels.

Biohazard Determination

• Lab Bio-safety Level (BSL) Criteria.

The following guidelines can be used by all laboratory personnel.

a. Bio-safety Level 1 is appropriate for undergraduate and secondary educational training and teaching laboratories and/or other facilities in which work is done with defined and characterized strains of viable microorganisms not known to cause disease in healthy adult humans.

b. Bio-safety Level 2 is applicable to clinical, diagnostic, teaching and other facilities in which work is done with the broad spectrum of indigenous moderate-risk agents present in the community and associated with human disease of varying severity.

c. Bio-safety Level 3 is applicable to clinical, diagnostic, teaching, research, or manufacturing facilities in which work is done with indigenous or exotic agents where the potential for infection by aerosols is real and the disease may have serious or lethal consequence.

d.Bio-safety Level 4 is applicable to work with dangerous and exotic agents which pose a high individual risk of life-threatening disease for which there is no vaccine or other treatment available..

• Practices and Techniques, Safety Equipment

Bio-safety Level	Practices and Techniques	Safety Equipment	Facilities
1	Standard microbiological practices	None; primary containment provided by adherence to standard laboratory practices during open bench operations.	Basic
2	Level 1 practices plus; Laboratory coats; Decontamination of all infectious wastes ; Limited access; Protective gloves and Biohazard warning signs as indicated.	Partial containment equipment (i.e., Class I or II Biological Safety Cabinets) used to conduct mechanical manipulative procedures that have high aerosol potential that may increase the risk of exposure to personnel.	Basic
3	Level 2 practices plus; Special laboratory clothing; controlled access	Partial containment equipment used for all manipulations of infectious material	Containment
4	Level 3 practices plus; Airlock system negative air pressure	Maximum containment equipment	Maximum Containment

3. Components and Specification

3.1. Introduction

The instrument is a Paraffin Block Trimmer which removes paraffin residueon the side of the paraffin block after embedding process for the histopathologicalresearch.

The instrument was invented tosavethe time and laborforuserswho uses conventional tools like razors to remove paraffin residuearound the paraffin blocks. In addition, the instrument offers the safeusers' environment than ever.

Paraffin Block Trimmer UPBT-1011 mainly consists of 3 mechanical modules.

1)Conveyor module

① The conveyor moduleis designed to carry the loaded paraffin blocks into the trimming module.

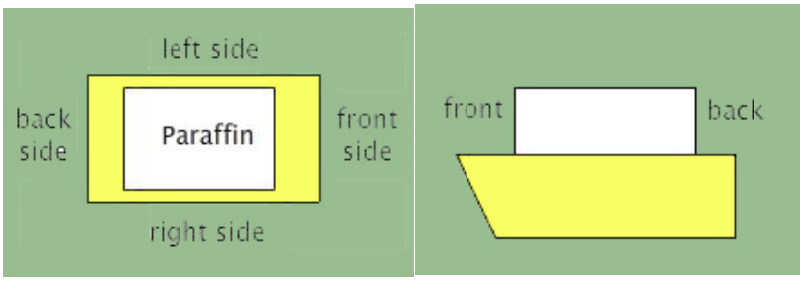
② It has 14 block trays to hold paraffin blocks with a position sensor to place the paraffin blocksin a proper direction.

2)Trimmingmodule

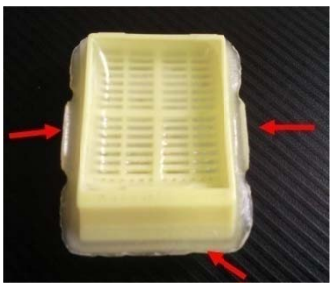
① The module removes paraffin residue from the paraffin blocks.

② It is designed to trim the 4 sides of the block through 2 trimming steps.

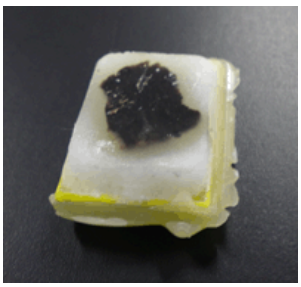
③ It is also originallydesigned to remove only paraffin residue without giving any damages to the tissues on blocks or the plastic cassette as well.



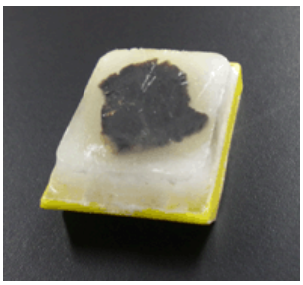
< Paraffin Block >



Block before trimming(bottom)



Block before trimming (top)

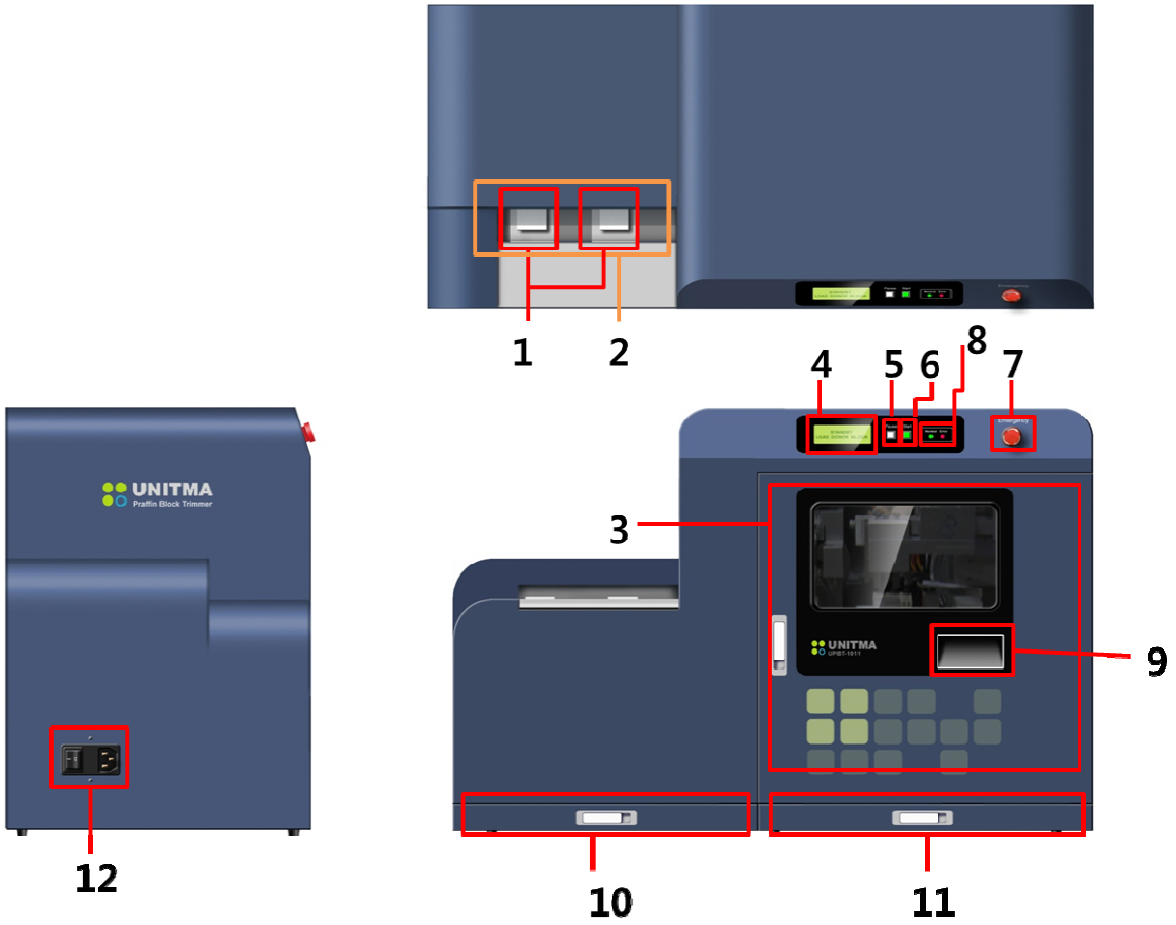


Block after trimming

3) Control module.

The control module is designed to provide the motion control and to check the entire errors or failures by the sensors during running.

3.2. General description



1. Paraffin block tray
2. Conveyor belt
3. Front door
4. LCD display
5. Pause button
6. Start button
7. Emergency Stop button
8. LED indicator
9. Paraffin block outlet
10. Trash box(left)
11. Trash box(right)
12. Main power switch, Plug, Fuse holder

3.2.1. Buttons

Pausebutton is to stop the trimmer temporarily without shutting the power down, showing "Pause Press START" on LCD display.

Start button is to start trimming after turning on Main power switch or to resume trimming after pressing Pause button.

Emergencybutton is to stop the trimmer in case of emergencies. Pressing this button will stop the trimmerinstantly. After problems are solved, turn the button clockwise to restart the trimmer.

3.2.2. LCD Messages

Stand by **Press START**	This message appears when required to reset the trimmer
UNITMA CO., LTD. **Initializing...**	This message appears during initialization of the trimmer
Stand by **Pls load blocks**	This message appears when a user presses Start button, Trimmer is ready to trim the blocks, Please load blocks.
Running **Block count: xx**	This message appears while trimming the blocks. It shows the number of blocks trimmed
Pause **Press START**	This message appears when the user presses Pause button
Pause **Door is open**	This message appears when the front door is open. Solve the problem and close the door.
Check Trimmer **Remove Block**	This message appears when a block is jammed. Open the front door and remove the block.

Clean Trash box	This message appears when the trash box is full. Three short beeps will repeat
Stand by Change direction	This message appears when the block is loaded in ainverse direction. Short beeps will repeat

3.3. Technical data

Nominal Power supply voltages	Switchable Voltage (100 to 240 V)
Nominal supply current	4.5 A @ 30V
Nominal frequency	50 / 60 Hz
Net weight	50kgs
Max Size (W x D x H)	725 x 325 x 470 mm
Operating temperature range	+10 °C to +35 °C (50°F ~95°F)
Humidity during transportation/storage	Max. 80% non-condensing
Operating control SW	MICOM (PIC) type
Monitor	LCD panel (70 x 25mm), Dot Matrix type
Trimming capacity	Max. 900 blocks per ahour
Operation environment	Indoor use only
Main voltage fluctuation	100V to 240V ±10%
Certification / Approval	ISO / CE / FCC

4. Installation

4.1. Site requirements

- **Transporting the instrument**

• Disconnect all external cables before moving the instrument.
• Do not attempt to transport the instrument by yourself. 2 people are required to transport the instrument without causing injury or damaging the instrument.
• Ensure that your footing is solid, and balance the weight of the instrument between your feet.
• Transport the instrument slowly, and never move suddenly or twist your body during transportation
• Keep your back straight and transport with your legs, not on your back. If you must

The weight of the instrument is about 50kgs. Do not move the instrument frequently. Before you install the instrument, ensure that your site is properly prepared so you can avoid having to move the instrument later to accommodate with a power source.

.

• To transport the instrument safely, take the following steps:

1) Since the weight of the instrument is over 50kgs, two adults are necessary for safe transportation.
2) Minimum 2 people working together should hold each side of the instrument.
3) Each people holding one side with both hands should move in coordination.
4) Be careful when moving the instrument to avoid any physical damage.

- **Floor requirement**

Ensure that the floor under the instrument is capable of supporting all other installed instrument. The weight of the instrument is about 50kgs. Do not put any objects on the instrument or accessories.

- **Positioning the instrument**

1) The rear side of the instrument must remain unobstructed to ensure adequate airflow and prevent overheating inside the instrument. Refer to the next instruction of 'Ventilation requirement'.

2) The power inlet in the left side of the instrument is for connecting the power cable to AC power source. Ensure that connecting cable is not obstructed.

- **Ventilating requirement**
  The air intake and exhaust areas must be free from obstructions. Unrestricted air flow is required for proper cooling. Ensure that air flow is not obstructed.
  When installing or using the instrument, provide at least 4 inches (100mm) clearance from the instrument for proper cooling.

- **Relative humidity (non-condensing)**

Operating: 20 to 80%
Storage: 20 to 60%

- **Temperature**
  Operating: 10℃ to 35℃ (50℉ to 95℉)
  Storage: 5℃ to 55℃ (41℉ to 131℉)

- **Do not exposure to direct sunlight.**

- **Do not use an extension cord.**

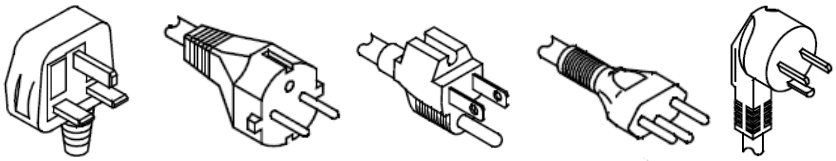
Do not operate the instrument in rooms where possible accumulation of gases may cause explosion or explosive materials are stored.

4.2. Connection to main power

4.2.1. Connection to main power supply

• A constant and stable AC power source supply to the instrument must be ensured at all times. Failure to comply with this will cause severe damage to the instrument.
• Always use a grounded power cord. Do not use defective power cord.

1) Set the AC power switch to the 'OFF' position.
2) Refer to 'Power cords'. UNITMA provides matching power cord to according to countries.



U.K. Europe U.S.A. Switzerland Denmark

3) Connect the power cord (maximum 3m) to the leftof the instrument, then to a suitable AC voltage source. Ensure that you have the correct line cord. Refer to 3.3.

4.2.2. Selecting the voltage of AC power source

- **Do not change the voltage of AC power without authorization from UNITMA.**
- **Contact a service engineer of UNITMA for changing the voltage of AC power source.**
- **Before selecting the voltage of AC power of the instrument, verify if the voltage of AC power intended to use is the same as the voltage of AC power source.**

The instrument hasa **switchable voltage(100V/240V).**Please make sure that before the main power S/W on, a suitable voltage should be selected on SMPS inside after opening the rear door of this instrument**.**

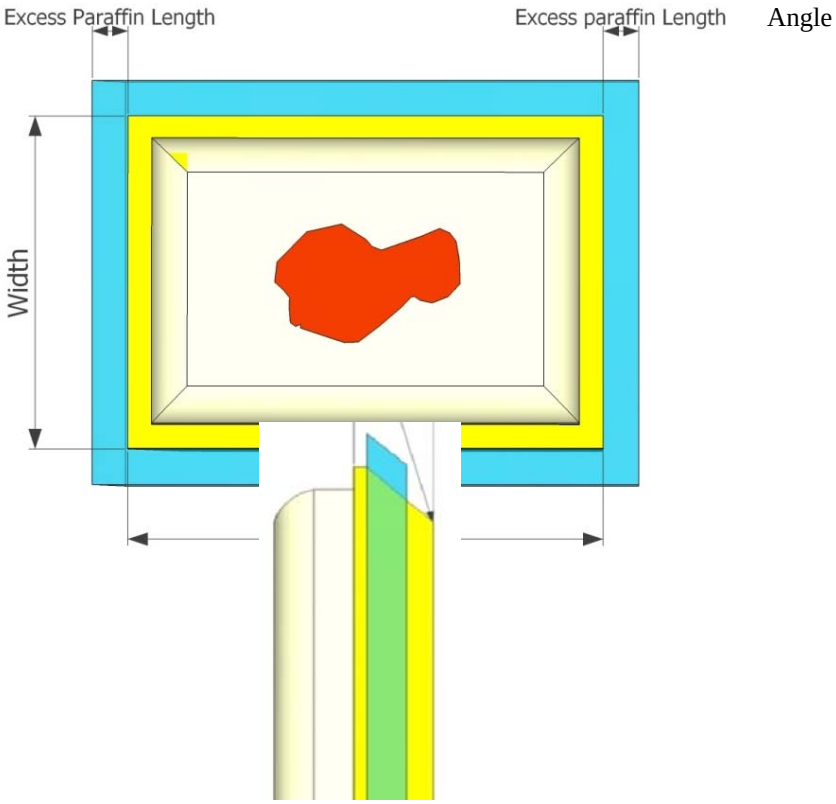
5. Operation

5.1. Applicable paraffin blocks and cassettes

The trimmer can trim the limited embedded blocks as the following dimensions. Please make sure if the dimension of the desired blocks is the applicable shape before start trimming..

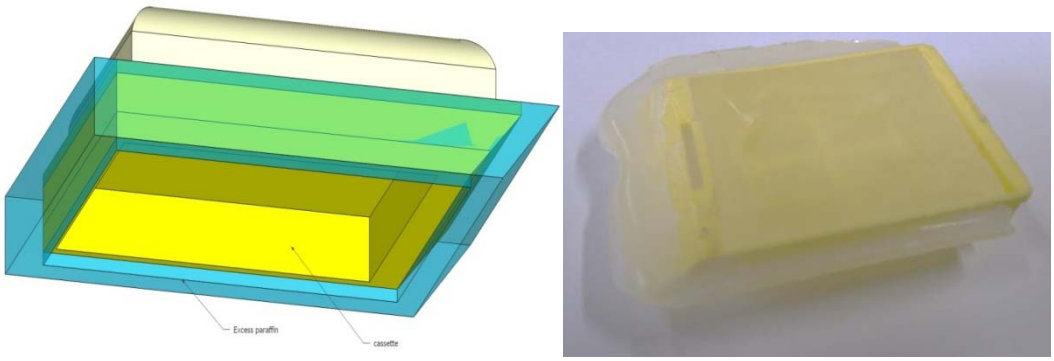
Cassette Width: 28mm ±0.5mm
Cassette Length: 40mm ±0.5mm
Angle of the cassette: 30° ~ 45°

Excess paraffin length (refer to the following image) should be less than 3mm to be loaded on the tray and make the direction sensor to detect the proper direction.



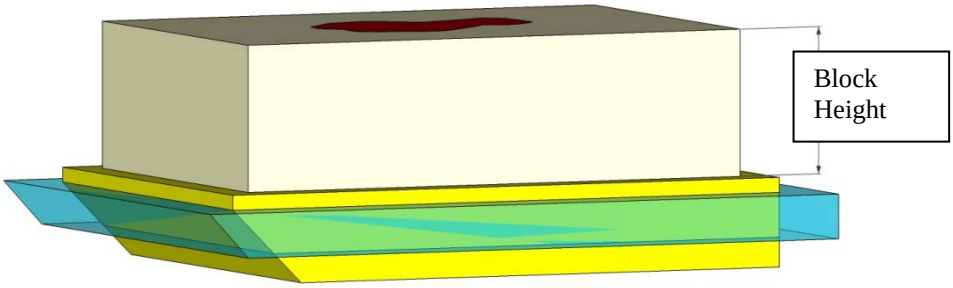
<dimension of the paraffin block>

If the excess paraffin forms below the bottom of the cassette, it is hard to load the block properly on the tray.



<Paraffin block with excess paraffin>

If the height of the paraffin block on the cassette is over 15mm, it can be jammed by the trimming module. Please make sure the maximum height of the paraffin embedded on a cassette should be within 15mm.

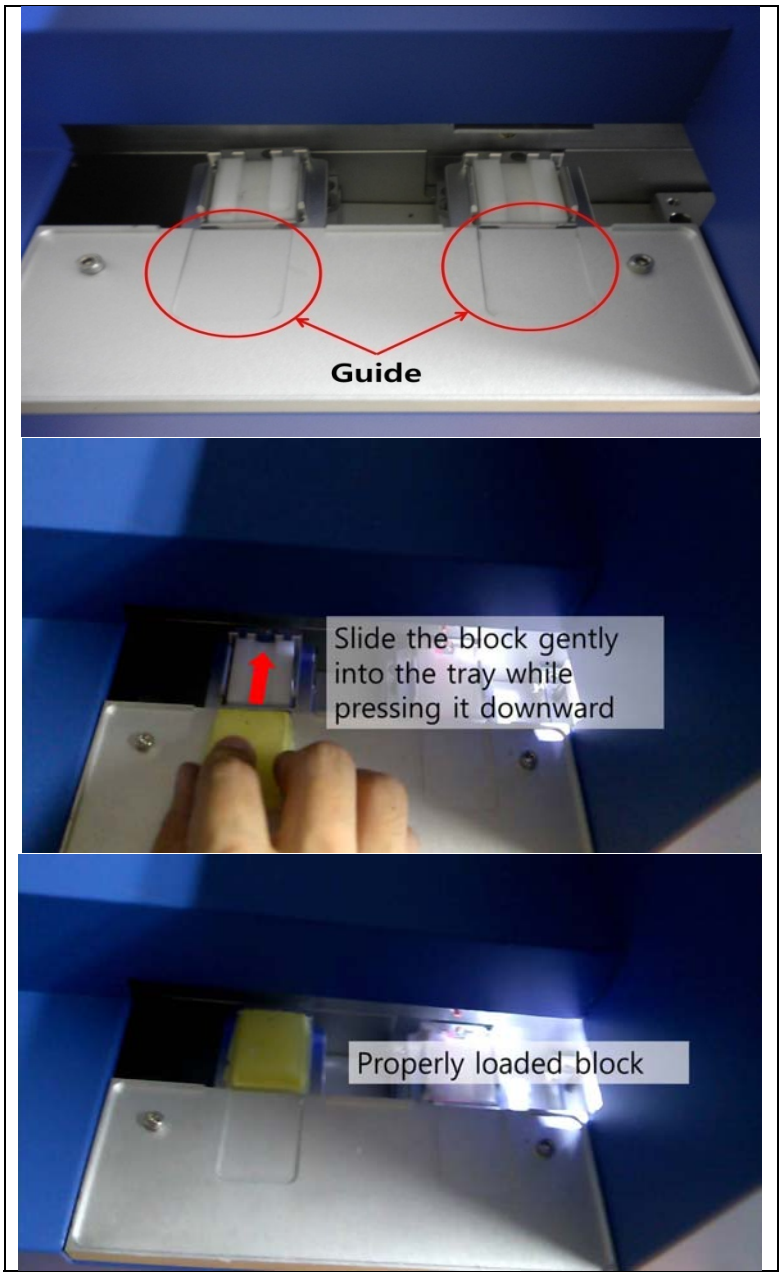


<Paraffin block height>

5.2. How to load block properly

The trimming module is originally designed to trim the blocks even though the block is deviated slightly from the proper position. However, extremely improper positioned block may drop on the conveyor belt or jam in the trimming module which can result in breakage of the cassette. Thus, please make sure to load the paraffin blocks on thetray in acceptable position by the trimming module.

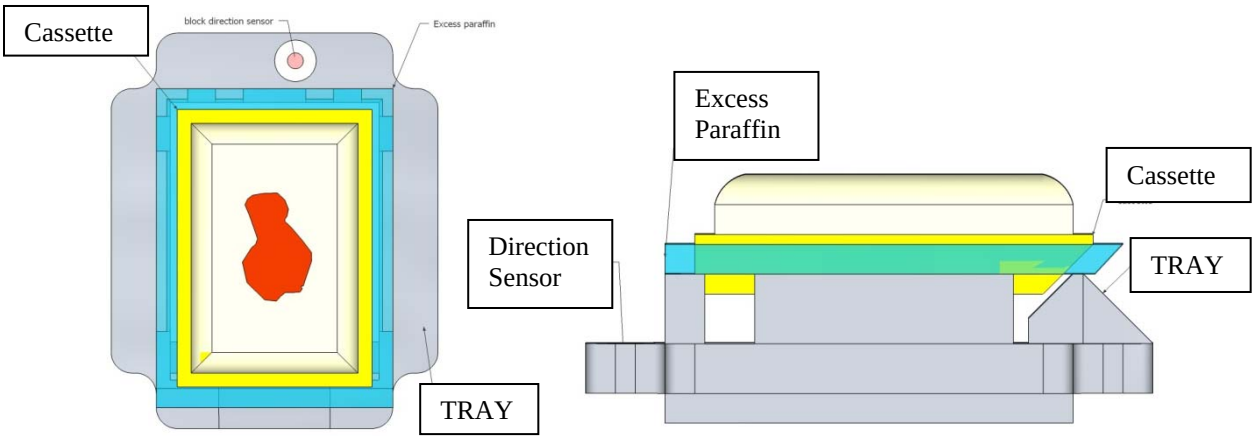
To load a block properly, please position a block along the guide plate in front of the trays, wait for conveyor belt stop, then push a block gently into the tray while pressing it downward.



< How to load a paraffin block properly>

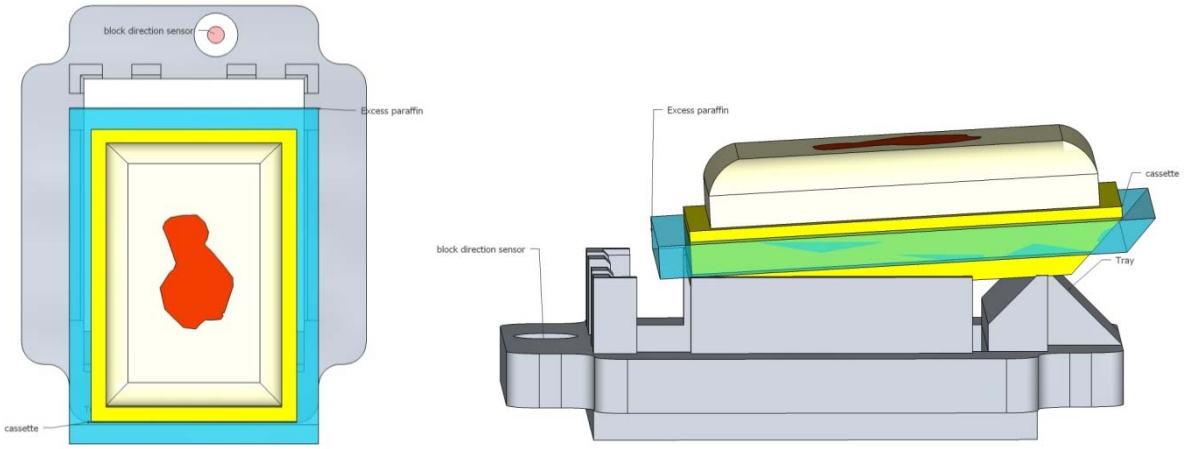
Direction Sensor

Excess Paraffin



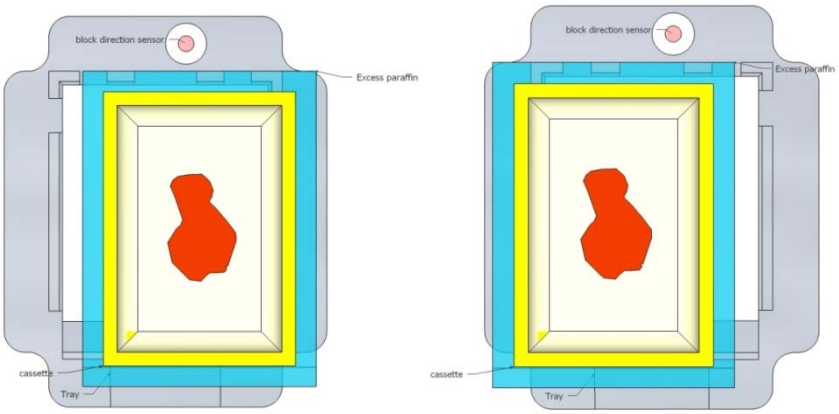
<Properly loaded block, left: top, right: side>

If the block is not pushed to the end, it can be damaged while it is being trimmed. Try to load the block to the end of the tray.



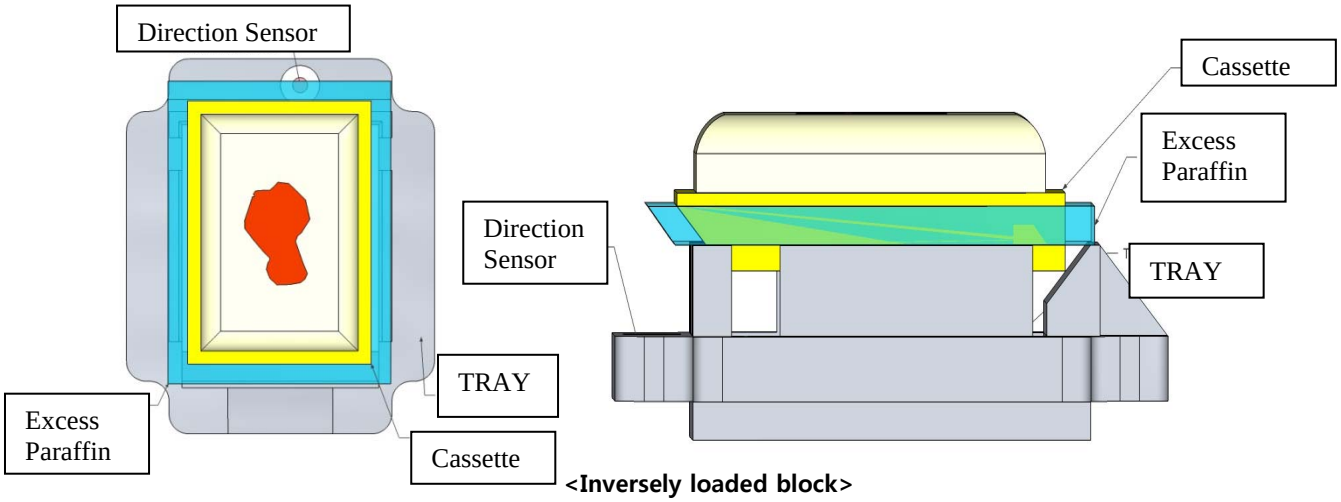
<Block not loaded to the end, left: top, right: side>

If the user loads the block improperly as shown below, it can be damaged while trimming. Please make sure the block does not cross the side guide of the tray.



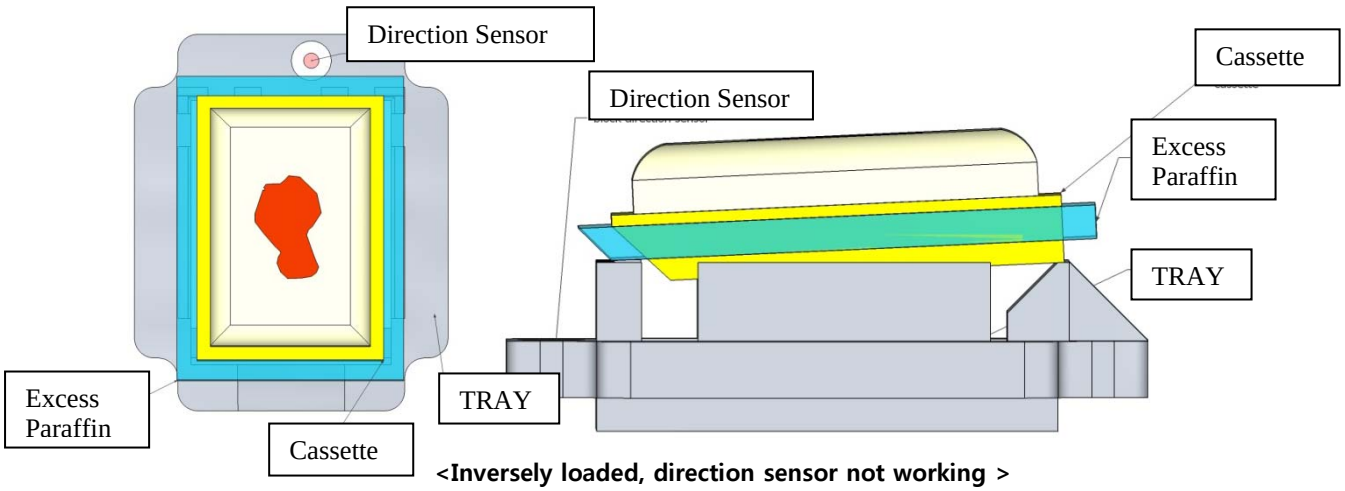
<Block loaded across the guide>

If the block is loaded inversely, block direction sensor detects the wrong direction. The trimmer stops and beeps alarm. Change the direction to the right position and press START to resume.



<Inversely loaded block>

In rare cases when the block is not pushed to the end, block direction sensor cannot detect the direction correctly, resulting in damages to the block. To avoid such a case, please check the direction of the block before loading.

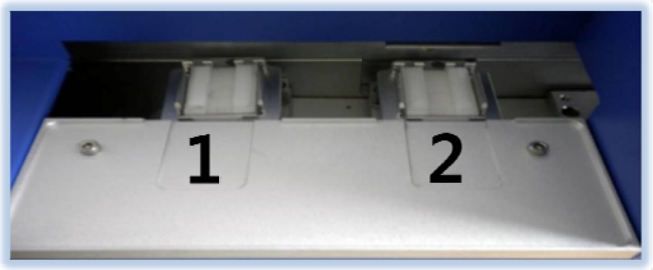


<Inversely loaded, direction sensor not working >

5.3. Operating the Trimmer

1) Check the power line connection.Turn on the **main power switch**located at the bottom of left side. Then"Stand by / Press START" will appear on the LCD display.

2) Press **Start** button to initialize the trimmer. Then"UNITMA CO., LTD. / Initializing..." will appear on LCD display shortly,followed by "Stand by / Pls load blocks".



<Paraffin block tray>

3) When the conveyor belt starts moving, please loadblocks **on the tray #1** to trimblocks. Then, "Running / Block count: xx"will appear in the LCD panel.Trimmed blocks will come out of the outlet.
The sensor in the tray #2 recognizes the existence of the block on the tray and detects its proper direction. When there is no block on the tray #2, thetrimmer will trim the previously loaded blocks and stop.
In order to continue trimming,press **Start** and continue to loadblocks **on the tray #1**afterward.

4) When the required blocks are trimmed completely, please turn the main switch off.

5.4. Additional operations

1. In case of the temporary stop required,press **Pause** button.
When auser wants to start trimming again, press **Start** button. Continue to load blocks **on thetray #1**afterward.

2. In case of emergencies, press **Emergency**button. Then the trimmer will stop instantly.
When the problem is solved, restart the trimmer by turning**Emergency**button clockwise.

3. In case whicha block is loaded in the inverse direction on the tray, short beeps will repeat and the trimmer will stop with showing"**Stand by / Change direction**" on LCD display.Please change the direction of the block and load it again to continue trimming (**refer to6.1**)

4. Whenthe conveyor belt or the trimming module is jammedby thedeviated blocks from the tray or other foreign materials. "**Check Trimmer / Remove Block**" will appear on the LCD display withthe long beeps repeatedly.Please open the front door and clear the trouble(**refer to6.2**).

5. When the trash box is full of the paraffin debris, three short beeps willrepeat and"**Clean Trash box**" will appear. Then, please take the trash box out andemptyit (**refer to6.3**)

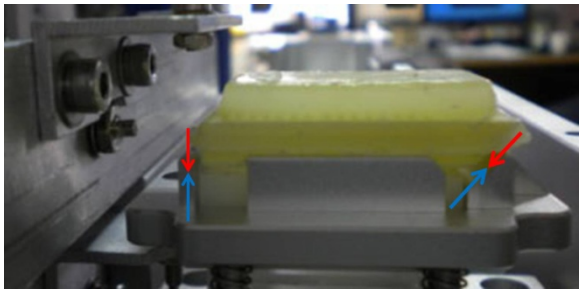
6. Trouble shooting

Alarm	LCD messages	Possible Cause	Solution
Short beep repeats "_____ __ "	"Stand by / Change direction"	A block is loaded in the oppositedirection	Take out the block & load in the proper direction to resume trimming
Long beep repeats "_____""_____""_____"	"Check Trimmer / Remove Block"	A block is jammed in the conveyor belt	Open the front door & remove the block, Close the door to restart trimming
Three short beeps repeats "____""____""____"	"Clean Trash box."	The trash box is full	Take out the box, empty debris and reinstall the box to resume trimming

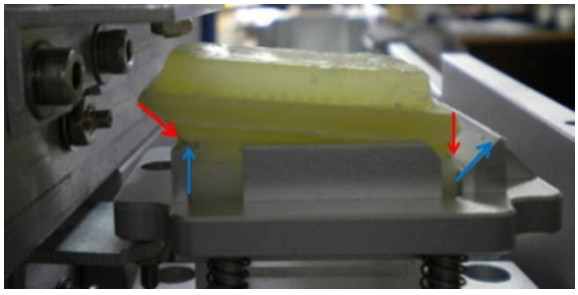
6.1. Standby / Change direction

If paraffin block is loaded in the inversely, a red LED lights and "**Standby / Change direction**" will appear on LCD display.A short beep will also repeat.

Remove the block to turn the alarm off, loaditin the proper direction and press **Start**to resume.



Block loaded in the proper direction



Block loaded in the inverse direction

6.2. Check Trimmer / Remove Block

When the trimming module is jammed, red LED lights and "**Check Trimmer / Remove Block**" will appear on LCD display. A long beep will also repeat.

Please open the front door to turn the alarm off, and remove the cause(block) and close the door to restart trimming.

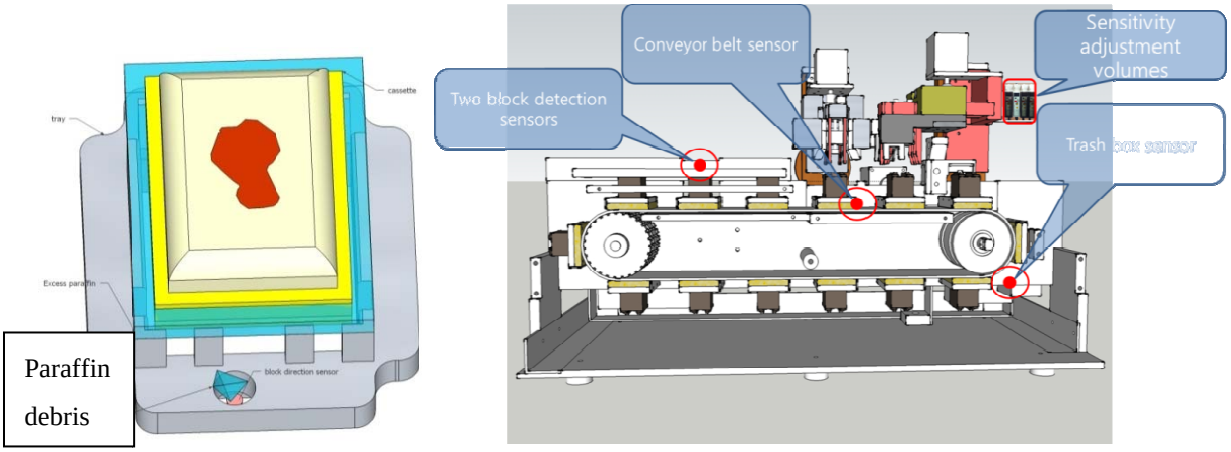
6.3. Clean Trash box

When trash box is full of paraffin debris, red LED light and "**Clean Trash box**" will appear on LCD display. Three short beeps will also repeat.
and then, remove & empty the trash box to turn the alarm off.

Because the material characteristic of paraffin is too sticky, a trimmed block rarely does not come out of the outlet and drops on the trash box.

6.4. Check the sensor

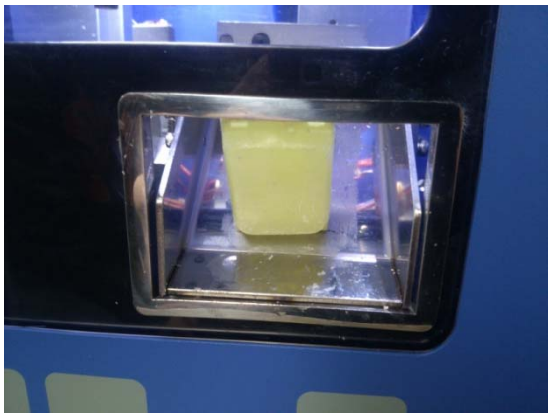
Sometimes paraffin debris can block the sensor. Check the sensors to see any foreign materials are blocking them.



<Paraffin debris blocking the sensor (left), the position of the sensors (right)>

6.5. clean the outlet

If the paraffin block is stuck on the outlet, please wipe the outlet with soft cloth.



<Paraffin block stuck on the outlet>

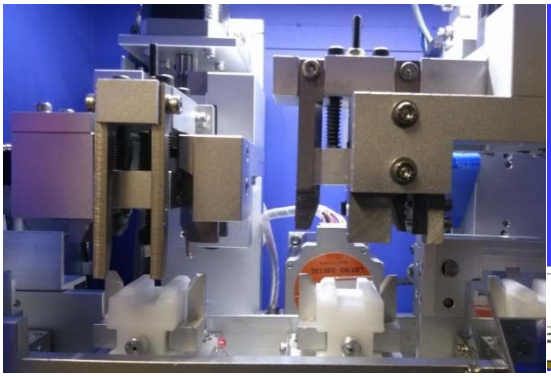
7. Cleaning & Maintenance

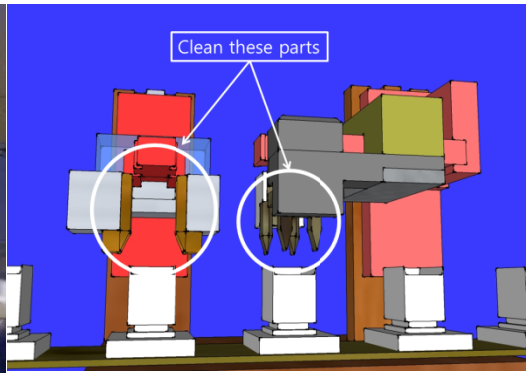
7.1. Cleaning the instrument after operation

• For safety reasons, unplug the AC power cord from the electrical outlet before cleaning.

• Do not allow liquid or small particles to get into the instrument or accessories when cleaning.

- Empty the trash box after trimming paraffin blocks when the alarm beeps.
- Empty and clean the bottom plate.
- Wipe out debris from trays with Alcohol and soft cloth.
- Clean trimming modules with a brush and soft cloth after every work
- Clean outlet after every work
- Recommend to use a vacuum cleaner to remove paraffin debris if available
- When trimmed blocks are not cleaned for a while, open the front door and clean following parts with brushes and soft cloth.





7.2. Maintenance

7.2.1. Checking the instrument

UNITMA recommends that the instrument be checked by the user at least once every two months or whenever you move the location of the instrument.

Check	Action
Exterior & Interior	**• Clean as per the instruction**
Labels	**• Check for readability or missing labels.**
AC cord	**• Check the cord and molded connectors for damage.**
Feet	**• Check for presence of all four feet.** **• Check feet for physical damages or deterioration.**
Power cord receptacle	**• Make sure receptacle is free of foreign matter** **• Check for presence of all 3 connector pins and make sure they are straight.**

7.2.2. Replacing the fuse

• Use only a fuse of the same specification. Refer to the fuse specification in the guide.

•Unplug the AC power cord. Removing or touching the fuse with the AC power cord plugged may expose you to hazardous voltages and cause severe damages.

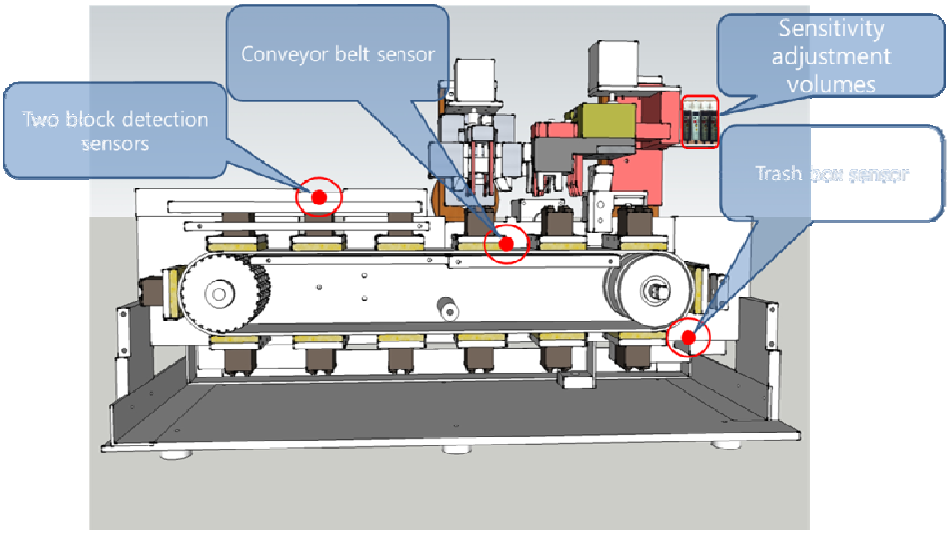
1) Locate the fuse holder module. It is located as part of the power cord assembly on the left side of the instrument.

2) Remove the old fuse by gently pulling it out.

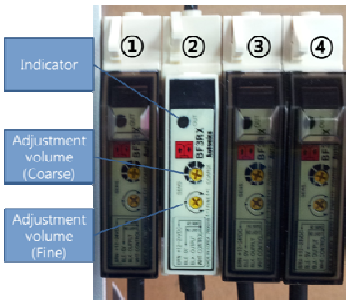
3) Loada new fuse into the fuse holder.

7.2.3. Adjusting sensors

There are 4 fiber optic sensors and sensitivity adjustment volumes. When there are malfunctions related to sensors, checkif there is any foreign substance blocking the sensor.



Sensor adjustment volumes are properly preset. However long distance shipment may cause small deviation, in that case, please contact local distributor to adjust sensitivity volumes according to the following procedure.



Number	①	②	③	④
Indicator	Trash box	Conveyor belt	Block	Block direction
ON	clean	Tray not detected	No block	Wrong direction
OFF	full	Tray detected	Block recognized	Correct direction

<Four sensitivity adjustment volumes>

Order	Sensor type		Adjustment	Adjuster	
	①②③	④		Coarse	Fine
1	Initial setting		Adjuster(coarse) should be fixed at **Min**. and fixed at center for Fine adjustment	Min.	(−) (+)
2			Fix adjuster(coarse) by turning clockwise slowly when the light is being received	ON Min.	(−) (+)

3			Turn counterclockwise adjuster(fine) until it does not detect , and turn clockwise until it detects again, this will be A position	Adjuster (coarse) is not required to set afterwards	
4			Then turn clockwise adjuster(fine)until it does not detect, and turn counterclockwise until it detects again when light is not received. This position will be B.		
5	-	-	Fix it at the middle of A and B position This will be the best position to set.		
6			If you cannot adjust as above method, set adjuster(fine) at max., then do above procedure again		

7.3. Technical support

• Contact UNITMA for repairing services, replacement of components and additional consumables.

7.4. Disposal of waste

- **Waste disposal of paraffin blocks**

1) The waste with tissue specimen should be contained and handled separately from other wastes at the point of generation.
2) The waste with specimen shall be placed in a red biohazard bag.
3) Red biohazard bags are to be tied.
4) Red biohazard bags are to be placed for storage, handling, and transport in propercontainer with tight fitting lids labeled with the words "Bio hazardous Waste" or the word "Biohazard", and the international biohazard symbol on the lids and sides so as to be visible from any lateral direction.
5) Pathology Waste: All pathological wastes must be separated from other medical hazardous wastes. Waste will be placed in a red bag and deposited into a specially marked secondary container labeled with words "Pathology Waste" or "PATH". The container will be stored in the morgue refrigerator until pick-up by authorized medical waste hauler for transportation to an approved incineration facility. Once

specimens or tissues are deemed waste, they shall not be stored for more than seven (7) days at a temperature above 32°F.

8. WARRANTY & SERVICE

UNITMA Co., Ltd. offers the limited warranty for the Paraffin Block Trimmer against defects in material and workmanship under normal use and service for period of 1 year from the date of purchase.

8.1. Terms & Conditions

1) UNITMA will, at no charge, either repair the Paraffin Block Trimmer (with new parts) or replace it with a new unit during the warranty period provided it is returned in accordance with the term of the warranty. Replaced new parts are warranted for the balance of the original applicable warranty period. Replaced defect parts of the product shall become the property of UNITMA.
2) This limited warranty is provided by UNITMA to the original end-user purchaser and is not assignable or transferable to any other third party.
3) UNITMA cannot be responsible in any way for any additional equipment not furnished by UNITMA which has been attached to or used in connection with the product.
4) Customer must provide a proof of purchase (bearing the date of purchase and the product's serial number) in order to receive the warranty service. Warranty service will be provided by UNITMA through one of its authorized warranty service centers.

8.2. The Warranty does not cover :

1) Defects or damage resulting from the use of the product other than its normal customary usage.
2) Defects or damage from misusage such as breakage, spillage or liquid or substances that can cause circuit-shortcut of the electronic boards and battery leakage, etc.
3) Defects or damage from improper testing, operation, installation, alteration, modification or adjustment of the instrument.
4) Breakage or damage unless caused directly by the defects in material and workmanship.
5) A product with unauthorized modification, dissembling, and/or repair which adversely affect the performance.
6) A product with serial number and/or the warranty seal removed or made ineligible.
7) Scratches or other cosmetic damage to the product that do not affect the operation.
8) Normal and customary wear and tear.
9) Force Majeure: any damage beyond the reasonable control of UNITMA such as but not limited to : Fire, Flood, Earthquake, act of Terrorism, etc.
10) Shipping costs for pick-up and delivery from user's facility.

8.3. Contact for technical service

UNITMA Co., Ltd.
3F, Dongil B/D, 36, Baekjegobun-Ro 36-Gil,
Songpa-Gu, Seoul, 138-842, Korea
Tel : +82 2 420 0070
Fax: +82 2 420 9797
e-mail :unitma@unitma.com
website : http://www.unitma.com