

Love of life begins with "Rcom"

MARU DELUXE H&B

Ver. 2.5

DIGITAL EGG INCUBATOR USER'S MANUAL

**MARU DELUXE Hatcher & Brooder (100 / 380)
MX-100HBD / MX-380HBD**



Rcom



How to use Rcom MARU DELUXE Hatcher & Brooder 100 / 380

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Introduction

Before use

Hatching and
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Product Information



Successful hatching depends on many numbers of factors. Neither Autoelex (Rcom) nor its global distributors and vendors can be held responsible for loss of life or property damage caused by user neglect, alteration, modification or painting, change of use or power failure. To avoid errors, mishaps and danger, carefully check this User Manual before initial use. Also please check the manual regularly to ensure your operation of the machine is correct.

Mark Explanation



Caution : Caution mark against a fault that can cause damage, trouble, or failure of incubation.



Prohibited.



It is necessary to keep.



Do not disassemble.



Remove the power cord from outlet.



Do not touch.



Ground Connection for preventing electric shock.



Tip : References or useful suggestions in using Rcom product



CAUTION Warning of actions which may be dangerous or cause damage to the incubator.

Rcom MARU H&B

Firstly, we sincerely thank you for purchasing Rcom MARU H&B. It has been designed to analyze airflow using built in digital technology to maintain an optimal environment within the MARU H&B cabinet. The incubation parameters are controlled using purpose built control systems coupled with high end sensors, all in order to permit optimum results. However, best results occur when the user, couples personal knowledge of the machine and of incubation and hatching along with observation skills with the Maru H&B sensing, automation and control systems. The machine needs your help, good breeding flock, healthy flock diet, fertile eggs, reasonable incubation room environment and a 'clean' power supply in order to provide excellent results. User's knowledge of the machine and manage the MARU H&B are very important. Certainly, the Maru provides an optimal incubation environment but parameters need to be managed, i.e. temperature and humidity depends on egg species, environment, and capacity. Moreover, the Rcom MARU H&B has been carefully designed to provide an optimal setting and or hatching environment, therefore, before using the incubator, we strongly recommend that you read the manual carefully.

Features of Rcom MARU H&B**[Main Function]**

- * Convenient jog dial operation for optimized user interface
- * Integrated simple control panel (superior maintenance)
- * FND display for easy recognition of incubation state
- * Artificial intelligence electronic control system by Rcom technology
- * Precise temperature and humidity sensor produced by Sensirion, Swiss (ver. 3rd Generation of Sensirion, Swiss)
- * Transparent double insulated viewing window
- * Sliding vent to in the chamber
- * Dependable temperature by Rcom optimum air flow technology
- * Innovative PTC Heating Type humidifier eliminates bacteria from humidity reservoir
- * Built-in water level sensing switch automatically detect the water level inside the humidifier and alarm water refill is required
- * Increased temperature stability and energy efficiency due to high-density insulated body developed by Rcom
- * Built-in 'open door' micro-switch detection

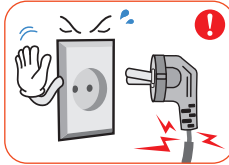
[Useful Function]

- * Degree C / degree F interchangeable
- * Built-in brooding compartment for convenient management
- * Separate humidifier not required due to built-in humidifier unit within the device
- * Warning & display function of abnormal temperature caused by ambient temperature fluctuation
- * Incubation data memory and alarm function in case of blackout
- * Equipped with water nipple in front for efficient water supply
- * Maximized egg setting available with the universal egg basked (Sold Separately)
- * Equipped with upper cover for convenience of cleaning or maintenance after hatching
- * Built in LED dome-light for ease of viewing when door is open
- * Built-in internal air filter for equipment protection

[Sold Separately]

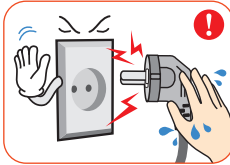
- * Universal Egg Basket and ABS Divider, Basket Support

Electrical hazards

CAUTION Be careful the details below when you use.

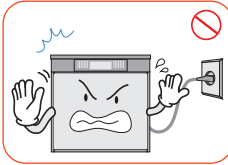
Do not use a damaged power cord or loose outlet.

► Risk of electric shock or fire.



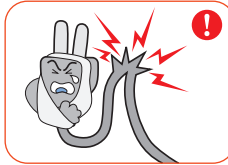
Do not pull the cord when taking out the power cord, and keep wet hands away from connecting plug.

► Risk of electric shock or fire.



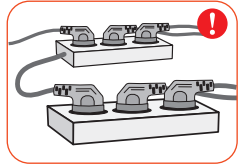
Never pull the plug out of the outlet during the incubation period.

► Incubation will be interrupted.



Do not twist or crush electric cord.

► Risk of electric shock or fire.



Do not insert multiple connecting plugs in an outlet.

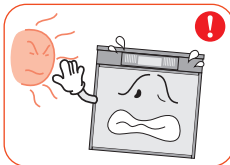
► Risk of fire or electrical overload.

Setting Cautions

CAUTION Be careful the details below when you use.

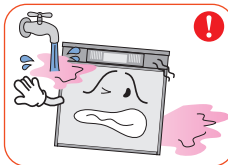
Do not install in dusty or dirty environment.

► Risk of damage or fire within the incubator.



Do not install under the direct sunlight.

► Risk of fire or interference with the incubation process.



Do not install in moist or humid environment.

► Risk of fire or electric shock.



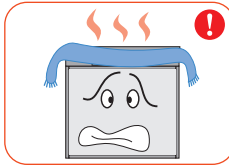
Do not install in excessively cold or hot conditions, cigarette smoke, etc.

► Risk of interference with the incubation process.



Do not use any other non-standard parts except those provided.

► Risk of damage or hatching failure.



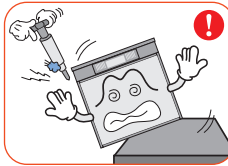
Do not cover the ventilating opening.

► Inner temperature can rise, interrupting incubation.



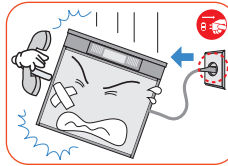
Install away from heat sources.

► Risk of damage to the incubator case and interference with the incubation process.

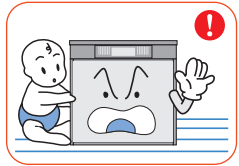


Ensure that the incubator is installed on a stable surface away from edges.

► Risk of damage to incubator and eggs and user from accidental knocks or drops.



If the machine requires repair disconnect from the power supply and please contact to your service center.



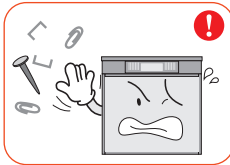
Children should be supervised to ensure that they do not play with the appliance.

► Risk of knocking the machine or accidental interference with the controls.



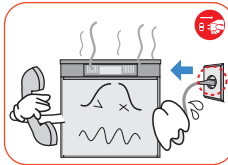
Do not disassemble or modify the incubator in any way.

► Risk if electric shock or fire.



Please ensure that no small objects get into the holes on the machine.

► Risk of electric shock or fire.

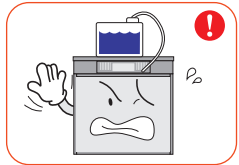


If the machine sounds strange or emits smoke contact your service center.

► Risk of electric shock or fire.

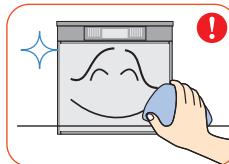


Clean the machine thoroughly before storing.



Do not place water container on the machine.

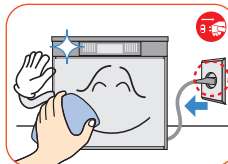
Cleaning Cautions

CAUTION Be sure to disconnect the electric cord from the outlet before cleaning.

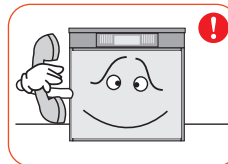
Clean the machine by a soft cloth with a neutral detergent.



Brush away dust on the plug with a dry cloth.



Do not use chemicals like wax, benzene, alcohol, thinner, aromatic, or lubricant, etc.

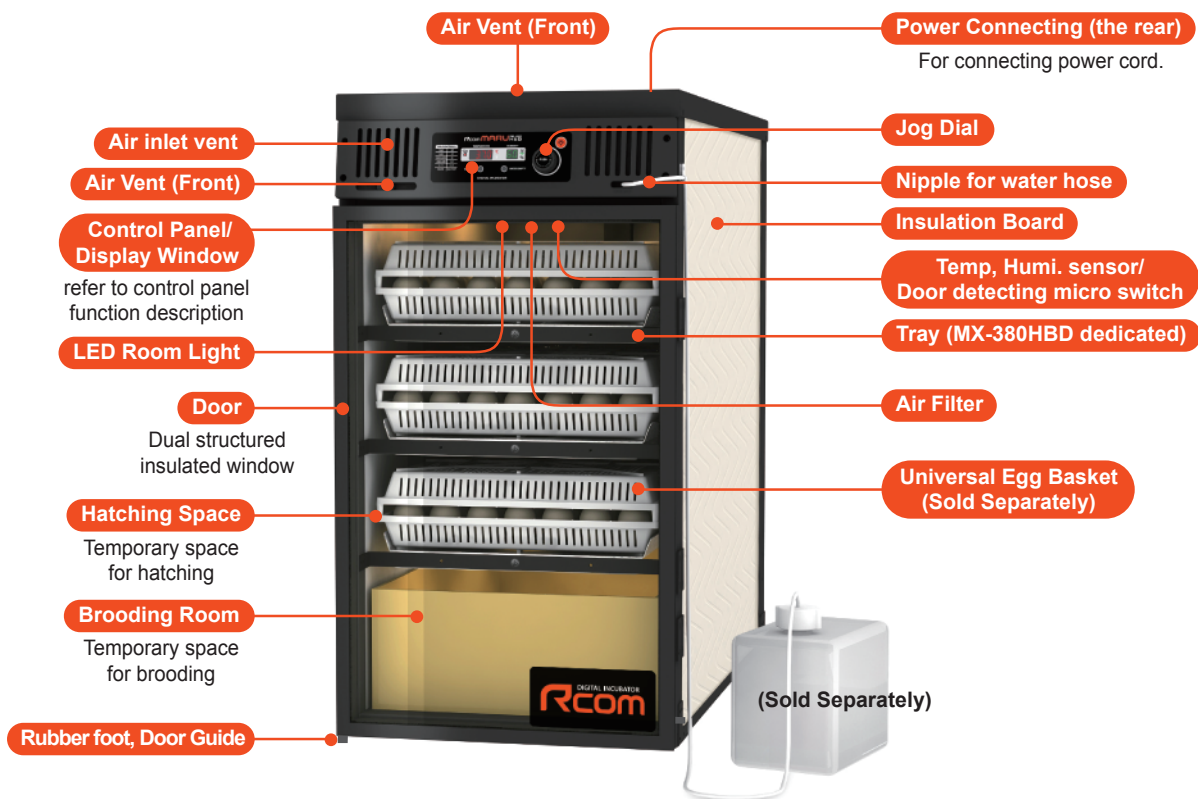


For special cleaning of inner part per year, contact to the service center.
► If you don't clean the inside of incubator for a long time, dust can cause some trouble or a fire.

Identification of Parts

* MX-380HBD model image

Serial NO is located on the upper front cover. (ex. RCM0000000)
is a product specific number.



Basic Components



Manual



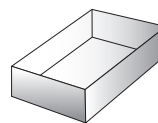
Power Cord



Silicon Tube : 1.5M (Diameter: Ø4*6)



Driver

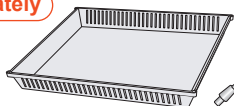


Brooding Box



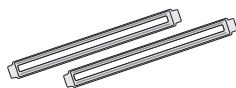
Air Filter

Sold Separately



Universal Egg Basket / Basket Support

MX-380HBD 12EA / 24EA



ABS Divider

MX-380HBD 36EA



(4EA)



(2EA)



(2EA)



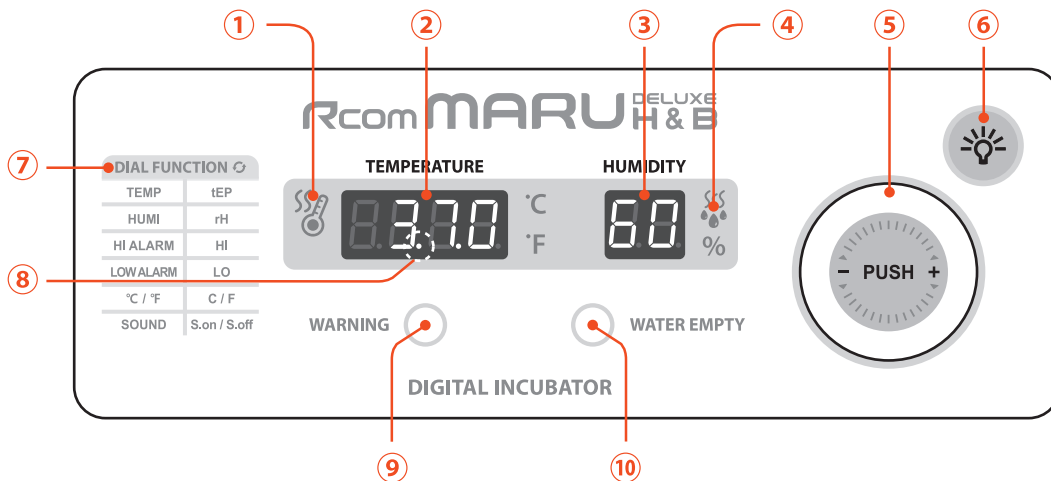
Pieces : 18EA

Spinning Wheel, Bracket

MX-100HBD 4EA
MX-380HBD 4EA

Name & Function of Operation Parts

Rcom MARU DELUXE H&B 100 / 380



● Names and components of each part

- ① **Heater Operation Lamp** : Light on when working
- ② **Temp. Display** : Current Temperature Display
- ③ **Humidity Display** : Current Humidity Display
- ④ **Pumping System Operation Lamp** : Light on when working
- ⑤ **Jog Dial** : Press and turn around to left and right
 - Function setting mode will appear when pressed for 3 seconds
 - Temp. and humidity can be checked when pressed for 1 second
- ⑥ **Room Light Button** : To turn the light on and off with-in the equipment
- ⑦ **Function Table** : Function can be selected in order by using the jog dial
- ⑧ **Outage Notification** : Blinks during power outages.
(Release button: press the jog dial once)
- ⑨ **Warning Lamp** : Turned on in case there's any problem with temperature
- ⑩ **Water Supplement Lamp** : Blinks with water shortage ("Water empty signal" will be alarmed every 10 seconds)

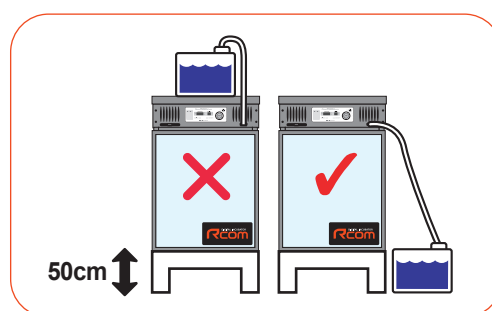
What is an Incubation Room?

The Incubation Room is a confined space for setting and operating an MARU H&B efficiently. An Incubation Room environment has a considerable effect on hatch rate. Controlling the MARU H&B environment is recommended; there should be little noise or vibration and constant temperature ranging upwards from 28°C(82.4°F) with small variation in temperature. For optimum performance, pay attention that your MARU H&B isn't exposed to temperature drops compared with daytime. Do not directly exposed the MARU H&B to sunlight during daytime. also, please MARU H&B where direct wind from air-conditioner not to reach.

⚠ If you set a high temperature, condensation will occur and may causes water to leak from the machine and it which is not a technical problem. You need to keep temperature between 28°C (82.4°F).

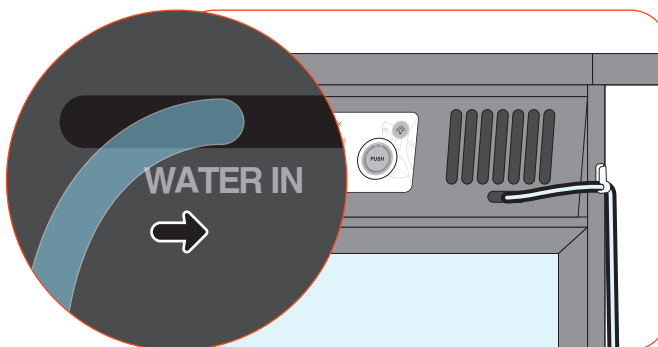
How to Install the this MARU H&B

- ▶ Please set the machine horizontally on a stable, tallish table (50[cm] or above)
- ▶ Ensure the machine is completely level, so the door can close completely.
- ▶ Connect silicon tubing onto the nipple of machine, and the other end of silicon tubing into a water container.



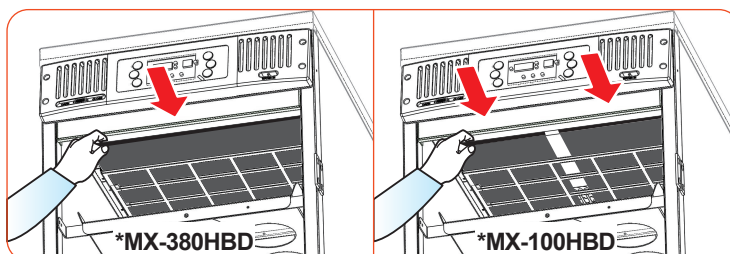
⚠ Do not place water container on top of the machine. It may flood the humidity nit.

⚠ Using tap water or underground water instead of distilled water in this unit's humidification device will cause serious debris (scale) to develop. In this case, the inconvenience of frequent cleaning will occur and when left alone, may become the cause of malfunction or breakage. If you have any questions regarding such problems, please contact the place of purchase and failure of the device due to the consumer negligence(due to non-cleaning), even if it occurred with in the free A/S period, repair charges might occur when repairing, so use of distilled water is highly recommended.



- ▶ To set up the Air Filter, please open the Door, and look at the ceiling inside of the machine. You can set up the Air-filter as shown in the picture below.

⚠ Clean the air filter every 2 weeks .
[Refer to the Page 17]



[Rotary wheel assembly method] - Rotary wheels are sold separately

Sold Separately

Pieces : 18EA



(2EA)

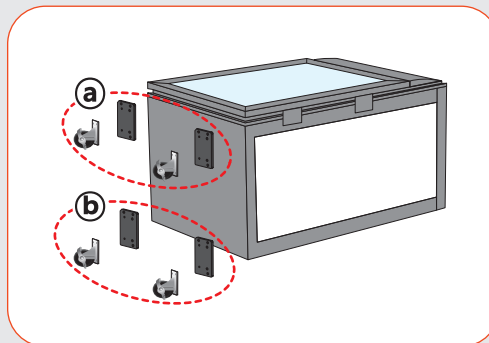


(2EA)



(Bracket 4EA)

- ▶ (a) : the front - brake-type wheel x 2
- ▶ (b) : the rear - brake free-type wheel x 2
- ▶ Cautiously, lay the machine down :
 bracket-wheel-screw in sequence
 (a) for the front 2wheels, assemble brake-type wheel
 (b) for the rear 2wheels, assemble brake free-type wheel
 Once the assembly done, put up the assembled machine with care.



The device can be broken or injured due to weight when setting up or laying down the machine, so remove the egg basket or trays inside the device before assembling.

Preparing for Hatching and Brooding

- ▶ When the power cord is plugged in and turned on the digits on the temperature and humidity FND appears, then Temperature and Relative Humidity will increase a little. (Their default value is respectively : 37.0°C (98.6°F) and RH 60%) A initial smell may be noticed this is to be expected.



Do not connect power supply before the machine is assembled completely.
Risk of electric shock.

- ▶ Please check and refill distilled water every 2 days during incubation. Or as needed
(If the water tank is small, please check every day.)



If you use the machine without adding humidification water or intend to incubate eggs at low humidity under RH 20%, you must stop the humidification function. Please turn off the humidity function if there is no water available otherwise the humidity unit will fail, making the machine unuseable. When using this function (disabled humidification) the Water Empty Led and the related alarm from the control panel are turned off. [Refer to the page 13]

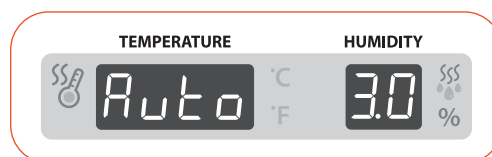
※ To turn off the Humidification Function : Set humidity under RH 20%.



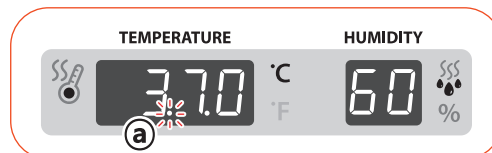
Using tap water or underground water instead of distilled water in this unit's humidification device will cause serious debris (scale) to develop. In this case, the inconvenience of frequent cleaning will occur and when left alone, may become the cause of malfunction or breakage. If you have any questions regarding such problems, please contact the place of purchase and failure of the device due to the consumer negligence (due to non-cleaning), even if it occurred with in the free A/S period, repair charges might occur when repairing , so use of distilled water is highly recommended.

- ▶ For this equipment, divider for the universal tray is not required. Please remove the dividers.

- ▶ For the first two seconds, after power on, FND blinks and the pump starts working (until the internal humidification water tank is filled : In case of water shortage the pump runs for 2min.) and for another one second, the version number will be displayed on FND.



- ▶ After version indication, buzzer sounds for about 15sec. At the same time, present temp. & humidity is displayed and power failure alarm indication (" . ") Ⓐ is blinking.



- ▶ Press Jog dial in to remove buzzer and alarm indication. (Buzzer will cease automatically after 15sec.)

※ Power Outage notification: If power fails during operation or the power cord is reconnected after being removed for some reason Ⓐ (" . ") will blink.

Tip Quick Start : If you just connect the power plug and turn power on, the machine automatically starts hatching and brooding with factory setting. [Factory setting: Temperature 37.0°C (98.6°F), Humidity RH 60%]

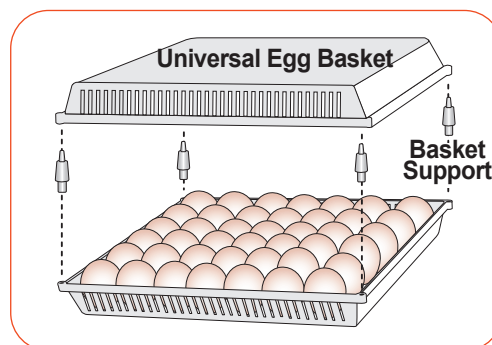
- ▶ Current temperature and humidity will appear on the display panel and it will slowly reach the set value after 1~2 hours.

※ The artificial intelligence system memorizes and classifies ambient conditions to assist in keeping optimum temperature; temperature can move up slowly at first stage.

How to Start Hatching and Brooding

- ⚠ Test the machine to be sure that the machine works without any problem before placing eggs in the machine. Please ensure you remember how to use the machine and maybe re-read instructions.

- ▶ Eggs in the "last stage of hatching" should be taken from the incubator (or setter) and put on the H&B cabinet shelves. If there is an extra universal egg basket, it could be used as a cover, as shown in the picture.

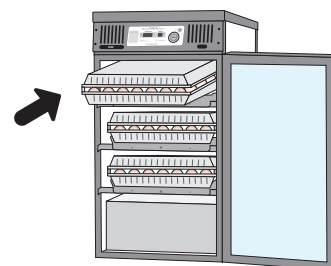


- ▶ Put the eggs in the universal egg basket, and basket supports into the four corners, turn an empty universal tray upside down, plug into the basket supports to cover the tray that contains your eggs.

- ▶ Insert the assembled universal trays into each of the shelves.


- ⚠ Be sure to close the door completely, if not, the temperature and humidity will not be controlled. Please check if the machine's floor is wet or not, it should be dry, otherwise the machine may not reach the normal temperature. (Do not place water container on top of the machine.)


* MX-380HBD model image




Humidification

- ▶ All kinds of bird need over RH 60% humidity during the period prior to hatching.
- ▶ How to turn humidification off : When you don't need the humidification function with your working machine, you can turn off by setting under RH 20% in the humidity setting mode.
The mark "--" appears on FND and the humidity function stops.
[Refer to the Page 13]
- ▶ Indication of water shortage : When the sensor detects low water level, water empty lamp is turned on.
Lasting water shortage causes turning water empty lamp on, blinking of humidity working lamp and alarm ringing.
- ▶ Pumping Motor Test Method: During the operation of the machine, pressing the jog dial 3 times shortly will operate the pump motor.

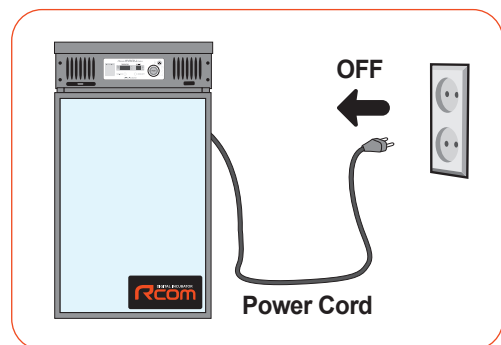
 In case of water shortage, it works. When the inside of the machine is filled with water, the pump motor works for 0.5 second. (Check motor working sound)

 Please turn off the humidity unit if the unit is empty water otherwise, humidity unit will be broke or you may not no longer use the unit. So please turn off the humidity unit. [Refer to the page 13]

 **Using tap water or underground water instead of distilled water in this unit's humidification device will cause serious debris (scale) to develop. In this case, the inconvenience of frequent cleaning will occur and when left alone, may become the cause of malfunction or breakage. If you have any questions regarding such problems, please contact the place of purchase and failure of the device due to the consumer negligence (due to non-cleaning), even if it occurred with in the free A/S period, repair charges might occur when repairing , so use of distilled water is highly recommended.**

How to Terminate Hatching and Brooding

- ▶ No power switch for the machine.
The power cord should be unplugged to turn the machine off after hatching and brooding.
- ▶ Rcom MARU do not need to be initialized after hatching and brooding.
When you need the same condition as the previous set, all you need to do is to plug in your machine.



Humidity and Condensation principles, Air Flow considerations

- ▶ When hatching, humidity should be relatively high to prevent the thin membrane from drying out or hardening before hatching.
- ▶ When hatching, it's recommended not to open the door often. This is because if you open the door often humidity will be rapidly decreased and it will take a long time to regain the proper humidity.

⚠ machine internal temperature is 37°C (98.6°F) or more, and hatching room temperature is below 28°C, in that case, RH 70% humidity is may not be able. The difference of ±5% humidity value may occur from the humidity sensors difference, and there are no problems at hatching.

- ▶ It's very important to maintain humidity higher 1~2 days before hatching than the early and middle incubation periods. Humidity requirements during incubation are RH 45~55% for waterfowl, RH 40~45% for poultry and RH 35~45% for parrot, in general. One day before hatching, all kinds of birds need about RH 65% humidity and sometimes need higher than that. However, in areas of high ambient humidity, lower levels of humidity may be needed during incubation.
- ▶ Air Controlling Lever : Outer fresh air can be flowed into machine inside without affecting insulation. When eggs start hatching, open air controlling lever either fully or half-open.
- ▶ If the temperature where machine installed is high, it will effects to tmachine setting temperature. In this case, you are able to adjust temperature by Air ventilation on the top of machine.

**You can adjust
Air Ventilation**



1/4 open



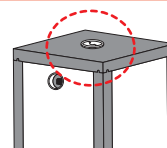
1/2 open



close



wide open



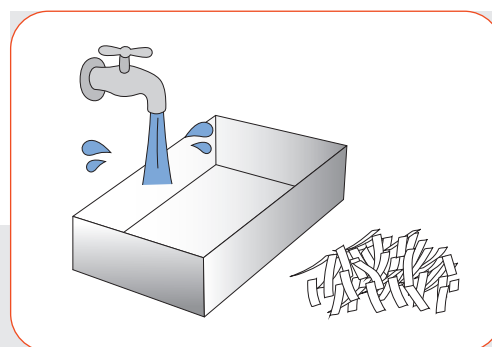
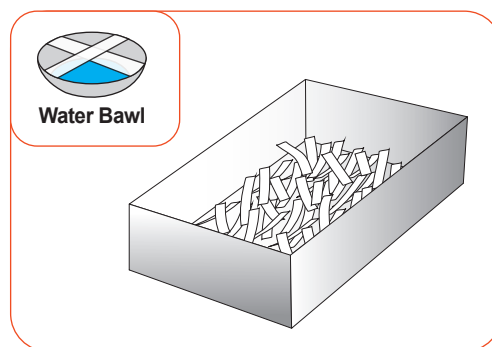
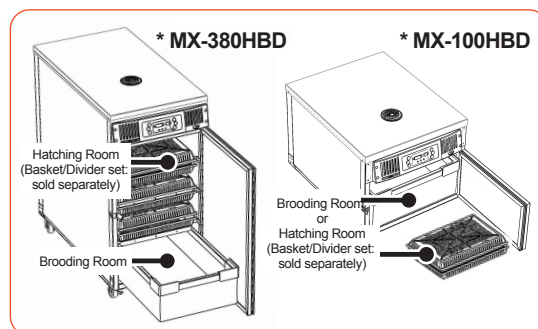
⚠ If you set high temperature, condensation will occur the near Air Vent and may causes licking water from the machine and it is not a technical problem.

Post-Hatch maintenance

- ▶ Chicks incubated from the hatching Room should be relocated to the brooding space located in the lower section of the device. The temperature for the H&B cabinet should normally be 37°C (98.6°F)
 - ▶ Temperature management : Start from 37°C (98.6°F), lowering the temperature by 1~2°C (1.8~3.6°F) every week to adapt the chicks to the external temperature. Chick Observation is important during brooding as is cleanliness.
 - ▶ Humidity Management : Even if the humidifier is not turned on, the humidity of the H&B cabinet will be high due to hatching chicks. Please open the Air Vent to the maximum setting.
 - ▶ The H&B cabinet should always be clean. By lining the brooding room with sawdust, wood shavings or finely cut paper, chances of contamination can be reduced. Also, the opening of the water bowl should be covered in a shape of "+" with a tape. (To prevent chicks from falling into the bowl)
- ⚠ If you put too much water into drinkers, chicks could fall into the water bowl and their wet feathers can cause hypothermia, leading to the death of the chicks. In this case, dry the wet feathers with a hair dryer.**
- ▶ Feed should be regularly replaced with new and uncontaminated feed. For young chicks, yolks from boiled eggs should be crumbled, mixed with grains or vegetables and fed for good results. As there are some differences in chick feed for each kind of bird, it is desirable to obtain useful information about the chicks before hatching. (Please refer to Rcom website for helpful information on birds)

[H&B cabinet Cleaning]

- ▶ Clean all the contaminants off the cabinet floor and replace sawdust, wood shavings or finely cut paper.



Dew Condensation

Dew condensation is natural phenomenon which can be occurred when machine inner temperature is big different from outer temperature. So, water can leak from the machine during humidification, which is normal. Appropriate machine internal temperature is between 28°C (82.4°F).



Return to Factory Settings

- ▶ This function is for return machine to factory setting.
- ▶ Unplug power cord. Reconnect power plug whilst simultaneously pressing the jog dial. Then, "rSt AL" will be indicated in the display, now the MARU is returned to factory settings. (Default setting)

Temperature Settings

- ▶ When jog dial is pressed for 3 seconds from the initial setting, "tEP" (Temperature) is displayed for 0.5 seconds and the temperature setting will blink.
- ▶ When the temperature setting is blinking, turn the jog dial to left or right to increase or decrease the temperature by 0.1°C. [Default Value: 37.0°C (98.6°F)]
- ▶ When the desired setting is reached, press the jog dial once to save the set temperature value, now next phase, humidity setting's "rH" (humidity), will display for 0.5 seconds on the display window and the set value will blink.

※ If you do not wish to change the setting values for the remaining functions in the next steps, press the jog dial for 3 second and the standard values will be entered, the SET display and menu will discontinue.

Humidity Settings and Humidifier Device OFF method

- ▶ From the temperature setting, press the jog dial once and "rH" (Humidity) will be displayed for 0.5 second and humidity display will blink.
- ▶ When the humidity display blinks, turn the jog dial left or right to increase or decrease the humidity by 1%. [Default Value: RH 60%]
- ▶ If, when the humidify display is blinking, and you set the RH below 20%, (set by turning the jog dial to the left), the humidity function will now be "OFF" and will be displayed as (a) on the display panel.
- ▶ When the desired setting is reached, press the jog dial once to save the set humidity value and sequence will move to the next phase i.e Abnormal High Temperature alarm. "HI" (Abnormal High Temperature Alarm), will display for 0.5 seconds on the display window and the set value will blink.



The temperature and humidity level is optimized according to the international standard at the time of shipping. It could be recalibrated by the user if the user wishes to do so, but this is not recommended.

When in need of adjustment, please refer to our homepage (www.Rcom.co.kr → Information → User Manual Category) or contact the place of purchase. Commercially available thermometer and hygrometers may have drastic measurement deviations, so it is recommended to use thermometer and hygrometer designated for this purpose. [Designated Thermometer and hygrometer – Refer to Rcom Homepage]

※ If you do not wish to change the setting values for the remaining functions in the next steps, press the jog dial for 3 second and the standard values will be entered, the SET display and menu will discontinue.

Factory Setting Display



Step 1



Step 2



Step 3



Humidity Function OFF



Step 4



The Abnormal High Alarm Settings



What is the abnormal high temperature alarm?

It is a function that lets the users know that the cabinet temperature increased due to unusual external temperatures, when the temperature of the incubating cabinet increases beyond the set value due to increased internal temperature, this alarm will ring along with the "HI" display and temperature difference (ex: 3 degrees). After that, even if the temperature returns to normal, the jog dial needs to be pressed to cancel the alarm, otherwise the alarm will continue to sound along with the blinking display.

- ▶ From the humidity setting, press the jog dial once and "HI" (abnormal High temperature alarm) will be displayed for 0.5 second and temperature display will blink.
- ▶ When the alarm set value is blinking, turn the jog dial left and right to increase or decrease the value by 1°C. [Default Value: 2°C (3.6°F)]
- ▶ When the desired setting is reached, press the jog dial once to save the set alarm value and the setup sequence will move to the next phase i.e Abnormal Low Temperature Alarm. "LO" (Abnormal LOW Temperature Alarm), will display for 0.5 seconds on the display window and the set value will blink.



※ It shows that the set temperature value is approximately 3°C (5.4°F) higher than the Maru incubator's incubation chamber (the Cabinet).

※ If you do not wish to change the setting values for the remaining functions in the next steps, press the jog dial for 3 second and the standard values will be entered, the SET display and menu will discontinue.

Step 5



Step 6



The Abnormal Low Alarm Settings

- ▶ From the Abnormal High Temperature Alarm setting, press the jog dial once and "LO" (abnormal LOW temperature alarm) will be displayed for 0.5 second and the temperature display will blink.
- ▶ When the alarm set value is blinking, turn the jog dial left or right to increase or decrease the value by 1°C. [Default Value: -3°C (-5.4°F)]
- ▶ When the desired setting is reached, press the jog dial once to save the set alarm value and the setup sequence will move to the next phase, that is Celsius/Fahrenheit. "C,F" (Celsius/Fahrenheit), will display for 0.5 seconds on the display window and the set value will blink.



Abnormal Low Temperature :

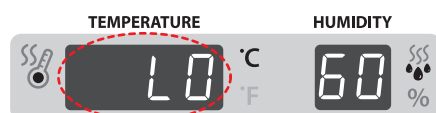
In case of abnormal low temperature "LO" will be displayed on the display window and the procedure will be the same as the abnormal High temperature



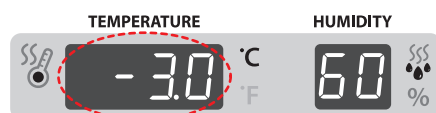
※ It shows that the set temperature is 4°C (7.2°F) lower than the actual cabinet temperature of the machine.

※ If you do not wish to change the setting values for the remaining functions in the next steps, press the jog dial for 3 second and the standard values will be entered, the SET display and menu will discontinue.

Step 7

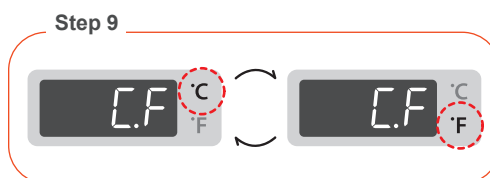



Step 8



How to change between Centigrade and Fahrenheit Temperature units

- ▶ From the abnormal LOW temperature alarm setting, press the jog dial once and "C.F" (Celsius/Fahrenheit) will be displayed for 0.5 second and LED for "C" will blink.
- ▶ By turning the jog dial left or right, LED light for "C" or "F" will blink accordingly [Default Value : °C]
- ▶ When the desired setting is reached, press the jog dial once to save the set value and the setup sequence will move to the next phase of sound. "S.nd" (Sound), will display for 0.5 seconds on the display window and the set value will blink.

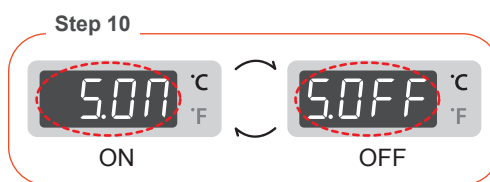


 $^{\circ}\text{C} = 5/9 (^{\circ}\text{F} - 32)$

- ※ If you do not wish to change the setting values for the remaining functions in the next steps, press the jog dial for 3 second and the standard values will be entered, the SET display and menu will discontinue.

Sound ON /OFF

- ▶ From the "C/F" change setting, press the jog dial once and "S.nd" (Sound) will be displayed for 0.5 second and the set value will blink. [Default Value : ON]
- ▶ When you turn the jog dial to the left or right, "S.ON" ↔ "S.OFF" will be displayed respectively.
- ▶ After setting the desired setting, press the jog dial once to save the setting and the settings sequence is complete.

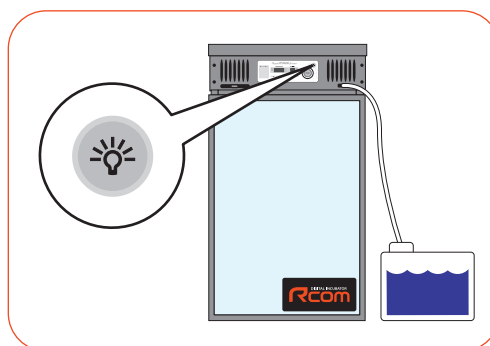


- ※ If you do not wish to change the setting values for the remaining functions in the next steps, press the jog dial for 3 second and the standard values will be entered, the SET display and menu will discontinue.

Room Light ON/OFF Setting

- ▶ When you press the cabinet light button, you can ON/OFF the room light. [Default Value : OFF]
- ▶ When the door is open, the cabinet light turns on, when the door is closed, the light is OFF.

- ⚠ Leaving the lamp on for a long period of time is not good for hatching and brooding.

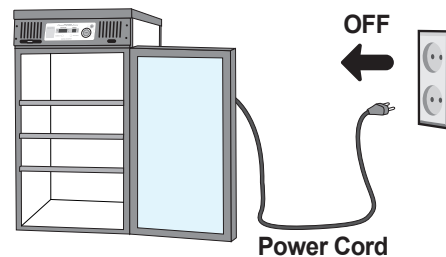


Instructions for Disassembling and Cleaning

⚠ Power cord must be removed from the outlet of the machine.

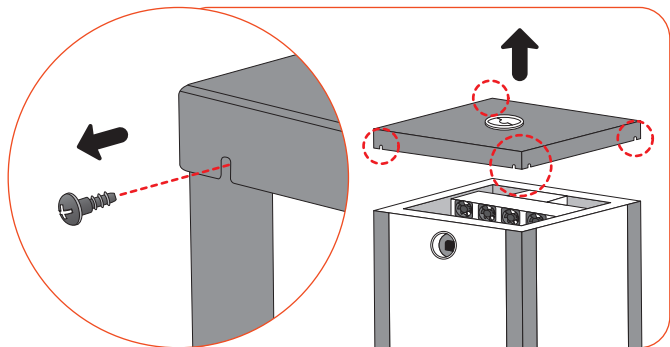
- ▶ If you turn the machine off and then leave the machine door closed after high humidity hatching and brooding, accumulated moisture inside the machine evaporates and sticks to electric and electronic circuits. This could cause problems, be sure to open the machine door and completely remove moisture inside of machine.

* MX-380HBD model image



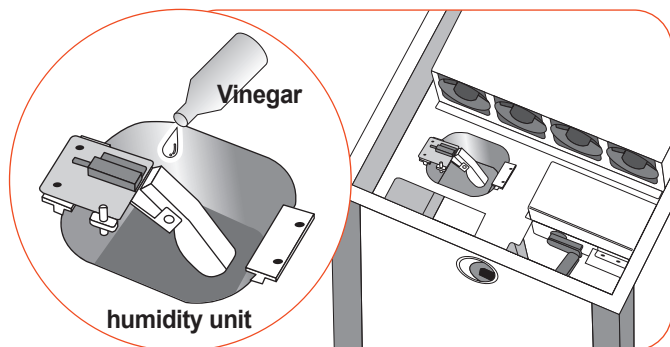
[Cleaning the Controller Unit]

- ▶ As shown in the picture, unscrew 6 screws located in the corners of the machines cover with the screwdriver and open the cover.



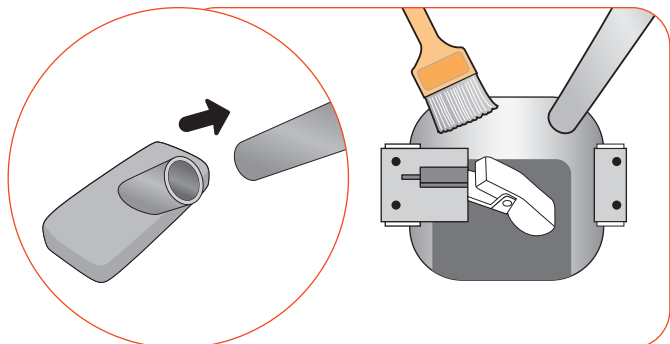
- ▶ Remove all the remaining water from the humidity unit.

Tip If a lot of dirty substance(scale) has formed in the humidifier unit, soaking it in vinegar overnight will neatly clean the humidifier unit.
If a lot of scale has formed it is likely you are not using distilled water, please use distilled water as it prolongs machine life.



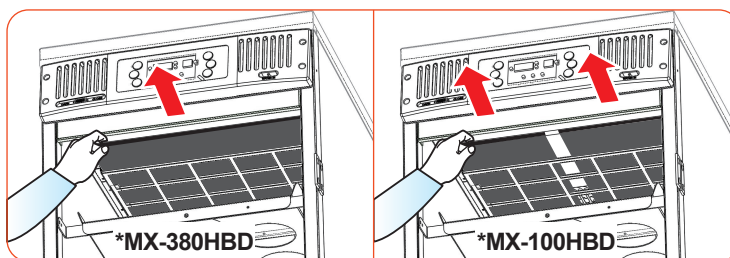
- ▶ dirty substance(scale) can form in the humidity unit and pan should be removed by using a vacuum cleaner, brush and/or further cleaning aided by vinegar.

⚠ If there are any dirty substance(scale) in the humidifier unit and pan, it must be removed.



[Air filter Cleaning]

- ▶ Open the H&B door, remove the air filter located in the cabinet ceiling moving it in the direction of the arrow, clean with water and dry. It is recommended that the air filter should be changed once every 6 months to 1 year. (Depending on Use)

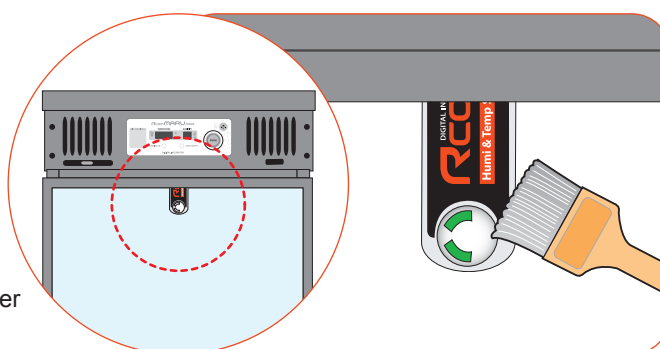


! Air filter should be cleaned every 2 weeks.

- ▶ Follow the reverse disassembly process for reassembly.

[Cleaning the Temperature, Humidity sensor]

- ▶ This sensor part lies in upper part inside the machine, behind the controller assembly but in front of the fan/heater unit. Occasionally, fluff, feathers, dirt (Dander) or water disturbs the accurate measurement of temperature & humidity. Please clean Dander away with a soft brush.



[Cleaning the Incubator Cabinet]

- ▶ After hatching, remove egg basket and divider inside of machine, and clean the inside with vacuum cleaner. Tiny dust should be removed with brush again.

Tip After several hatching, dust or bird feathers (Dander) can build up in the mechanisms, controller and humidity unit and cause incorrect operation or malfunction. So, ensure you clean the incubator carefully after each hatch. (The life span of the humidity unit can be reduced when used without cleaning.)

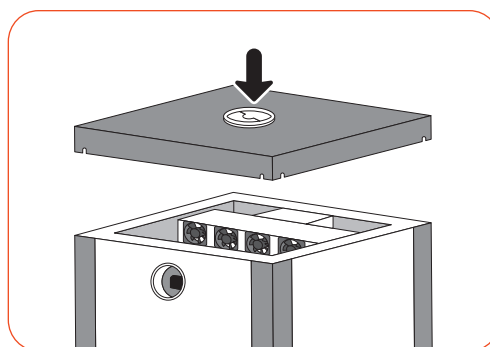
! Feather Dander and dust can clog up or foul circulation fans; this can make the fans noisy and also destroy the fans. It is very important to clean your machine, for maintenance reasons and also to increase incubation success.

- ▶ Clean the egg basket and dividers, brooding box with water and an antiseptic solution, and then dry naturally or operate machine temporary to dry them.

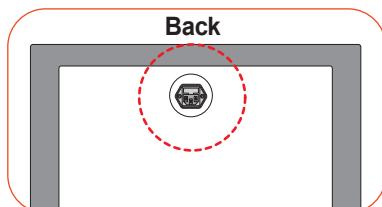
! Be careful not to allow moisture into the power connecting parts on the rear of the machine.

! Do not clean the machine with benzene or thinner. There is a risk of transformation or dis-colorization.

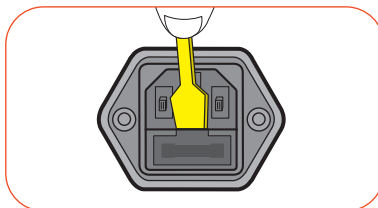
- ▶ Reassemble in the reverse order of disassembling and store machine safely in a cool dry place.



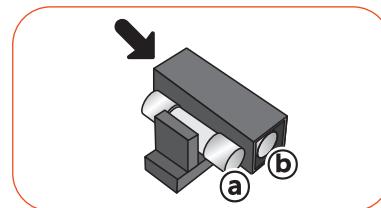
Replace the Fuse



- ▶ Fuse is located at the top of power connection part on back side of machine.



- ▶ When the fuse is damaged, remove the fuse at the inside below of power connection part, with screwdriver.



- ▶ Replace ①(Used Fuse) fuse with ②(Spare Fuse) fuse.
For AC 100V use :
250V 5.0A Ø5*20mm
For AC 230V use :
250V 3.0A Ø5*20mm

General maintenance

All our Rcom digital products of Autoelex Co., Ltd. are made by precision systems under strict quality control. But occasionally some defective products are found on the way of their distribution. If any problem occurs, then please contact Autoelex service center or distributors in your country. We will do our best to solve the problems, if any, for you. This product is designed in modular mode, so for its repair, if any, a qualified person can replace the part concerned with ease.

* Complaint Department : 82-55-337-2560

* E-mail Receipt : Rcom@Rcom.co.kr

Troubles	Expected Causes (Possibility)	Countermeasures
In case hatching rate is low	<ul style="list-style-type: none"> ▶ When the egg is an unfertilized egg. ▶ Getting infected by germs. ▶ Wrong incubation setting. ▶ Health condition of mother bird. ▶ Improper egg turning. 	<ul style="list-style-type: none"> ▶ Inspect the egg to check possibility of egg surviving. ▶ Disinfect the machine. ▶ Check all settings of machine. Especially, check them focusing on the temperature. ▶ Review care of health of mother bird.
When a chick hatches out earlier than expected or a deformed chick hatches out	<ul style="list-style-type: none"> ▶ Setting temperature high. 	<ul style="list-style-type: none"> ▶ Lower temp. setting of the machine about 0.5°C (1°F) ex) 37.5°C (99.5°F) → 37.0°C (98.6°F)
When a chick hatches out later than expected	<ul style="list-style-type: none"> ▶ Setting temperature low. 	<ul style="list-style-type: none"> ▶ Raise temp. setting of the machine about 0.5°C (1°F) ex) 37.0°C (98.6°F) → 37.5°C (99.5°F)
When hatching dates are so different from each egg (When all chicks don't hatch out at the same time but over a long period)	<ul style="list-style-type: none"> ▶ Eggs stored for different lengths of time. ▶ Different incubation temperatures. 	<ul style="list-style-type: none"> ▶ Minimize the time to store egg properly. ▶ Check Temperature difference in the machine. (sunlight, temp of incubation room, etc.)

Troubleshooting(FAQ)

For more detailed self-diagnosis, see Rcom homepage
"SELF DIAGNOSIS" category.

Circumstance	Items to be confirmed	Solutions
No signs of power to the incubator.	<ul style="list-style-type: none"> ▶ Check electric cord is properly connected. ▶ Check if there is a power outage. ▶ Check whether the plug is damaged. ▶ Check the fuse. 	<ul style="list-style-type: none"> ▶ Connect the cord again. ▶ Check the main socket with any other electric appliances. ▶ Try to insert to another outlet. ▶ Change the Fuse. [Refer to the page 18]
When temperature is too high / When temperature is too low	<ul style="list-style-type: none"> ▶ Check your setting temperature. ▶ Initialize the machine. [Refer to the page 13] ▶ Please check the bottom of machine is wet or not. ▶ Check air filter if there is dust on it. 	<ul style="list-style-type: none"> ▶ Set the temperature as required. ▶ Please remove moisture. ▶ Please put the water tank on the floor and use. ▶ Clean up the air filter [Refer to the page 17]
Alarm sounds with "HI" indication (abnormal high temp.)	<ul style="list-style-type: none"> ▶ Check if room temperature is too high. ▶ Check if machine is exposed to the direct rays of sun. ▶ In case of lowering temperature. 	<ul style="list-style-type: none"> ▶ Adjust room temperature 28°C (82.4°F) ▶ Install machine without the direct rays of sun. ▶ Return machine to factory setting. [Refer to page 13]
Alarm sounds with "LO" indication (abnormal low temp.)	<ul style="list-style-type: none"> ▶ Check if room temperature is too low. (especially during night) ▶ please check the bottom of machine is wet or not. 	<ul style="list-style-type: none"> ▶ Adjust room temperature 28°C (82.4°F) ▶ Place thermometer inside of machine and check if setting temperature is correct. ▶ Please remove moisture. ▶ Please put the water tank on the floor and use.
Humidity will not go high enough.	<ul style="list-style-type: none"> ▶ Check your setting humidity. ▶ Close the door again after checking. ▶ Initialize the machine. [Refer to the page 13] ▶ Check if pumping is working. [Refer to the page 10] ▶ Check if outside temperature is too low. 	<ul style="list-style-type: none"> ▶ Supply water. ▶ Check if silicon tube is blocked. ▶ Set the humidity again as required. ▶ Clean the humidity unit. [Refer to page. 16~17] ▶ Move the H&B in warm place
The machine makes some noise. - A little noisy occurs from the inside of circulation fan.	<ul style="list-style-type: none"> ▶ Check if there is any hatching dust such as feather or eggs-shell in the machine FAN. ▶ A little noisy is not faulty. 	<ul style="list-style-type: none"> ▶ Remove power and then open maintenance cover to clean the FAN for air circulation. [Refer to page 16~17]
Dew foams in the incubator.	<ul style="list-style-type: none"> ▶ Check the machine is not placed too cold circumstances. ▶ When you turn OFF machine and then turn ON. ▶ In case of setting high humidity. 	<ul style="list-style-type: none"> ▶ Adjust room temperature 28°C (82.4°F) ▶ Dew condensation is a natural phenomenon and not a malfunction of the device. [Refer to the page 12]
Water leaks from the machine.	<ul style="list-style-type: none"> ▶ Check if you did not place the water container on the machine. ▶ Check that the machine placed on inclined surface. ▶ Check if it is Dew condensation. ▶ When set as high humidity. ▶ When moved without taking out the water tank for the humidifier unit. ▶ When humidity unit is not cleaned. 	<ul style="list-style-type: none"> ▶ Please put the water tank on the floor and use. ▶ Place machine under a level surface. ▶ Dew condensation is a natural phenomenon and not a malfunction of the device. ▶ Remove the remaining water in the humidity unit using pipettes or syringe. ▶ Clean the dust(scale) from the humidifier unit after use.



Test the machine to be sure that the machine works without any problem before placing eggs in the machine. Please ensure you remember how to use the machine and maybe re-read instructions.


Specification

1-1 Name : Rcom MARU DELUXE Hatcher & Brooder 100 /
Rcom MARU DELUXE Hatcher & Brooder 380

1-2 Model : MX-100HBD / MX-380HBD

NAME	Model No.	Capacities [Chick egg size]	Functional Ranger	The number of Trays	Option	
Rcom MARU DELUXE H&B 100	MX-100HBD	40~70	temperature: 20~42℃ (68~107.6°F) humidity: 20~70%	1 floors×1row	Egg basket + Basket supporter	
Rcom MARU DELUXE H&B 380	MX-380HBD	300~350	temperature: 20~42℃ (68~107.6°F) humidity: 20~70%	3 floors×1row	Egg basket + Basket supporter	
NAME	Model No.	Humidification Device	Dimensions (W*H*L) [mm]	Weight [Kg]	Maximum electric power [W]	Average electric power [W]
Rcom MARU DELUXE H&B 100	MX-100HBD	○	419*368*732	19	440	60
Rcom MARU DELUXE H&B 380	MX-380HBD	○	440*838*823	30	440	70

 We are not allowed to extend warranty therefore we ONLY provide 1 year warranty service.

 You will be asking for service charge if you are in below cases.

1. Broken or Problem caused by 'No cleaning' or 'Improper handling'
2. Broken or problem caused by 'Not using distilled water'
3. Broken or problem caused by 'Trying Bird hatching in incubator'
(Please don't try bird hatching in incubator. Please use Hatcher during bird hatching.)
4. Broken or problem caused by 'Wrong controlling(Using)'
5. Broken or Problem caused by using the machine out of User's Manual.
6. Broken or problem caused by 'Customer's mistake or fault'

※ Product Registration Procedures

If you are a new member of Rcom, you need to log in our website at www.Rcom.co.kr

1. Click "SIGN UP" on top of the right corner.
2. Fill out the information on the blanks.

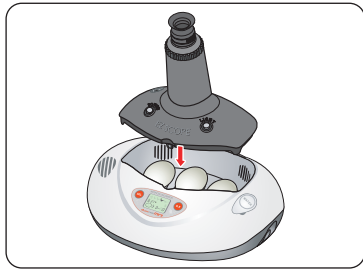
If you already registered your information on the Rcom website, please log in to www.Rcom.co.kr.

1. Click "Login" on top of the right corner.
2. Select "Customer" and click "Register Products".
3. Fill out the information on the blanks.

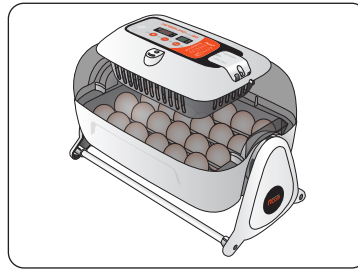
You will need below information to register on our website.

1. Your name
2. Your (home/company) address & Email address, country
3. Your product(model) name & Serial number
4. Date of purchase & Name of purchased shop you bought from

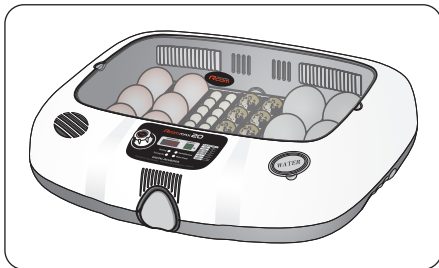
Rcom Incubator Series



Rcom PRO MINI (PX-03)



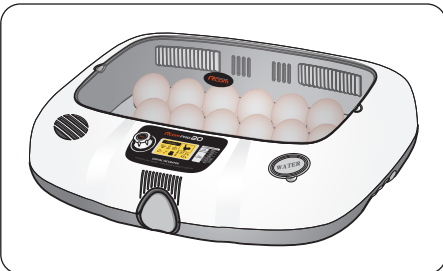
Rcom KINGSURO MAX 20 (MX-SURO)



Rcom MAX 20 (MX-20D)



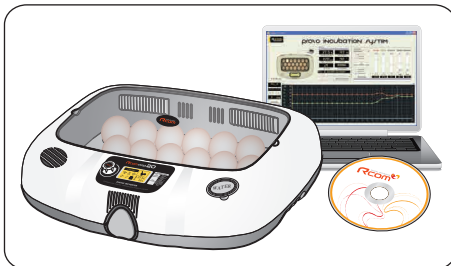
Rcom Bird Brooder&ICU (MX-BS500)



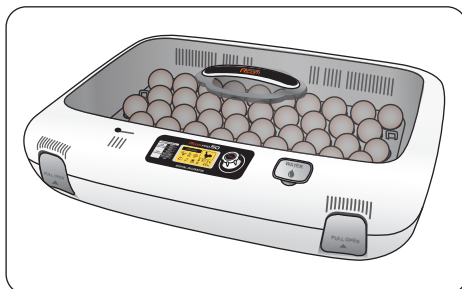
Rcom PRO 20 (PX-20D)



Rcom MARU DELUXE MAX 380 (MX-380CD)



Rcom USB 20 (UX-20D)



Rcom PRO 50 (PX-50D)



**Rcom DIGILOG
(PX-V1)**



**Rcom DIGILOG2
(PX-V2)**

Rcom is designed for user's easy and convenient use.
It can be changed without notice for improvement in performance,
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SELLER

MANUFACTURER

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82-55-337-2561~3 (Office)
- FAX : 82-55-337-2568
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