License No.: **20100203 in Hangzhou,Zhejiang**
Standard No.: **Q/ZRX004-2009**

ALGINATE MIXER INSTRUCTION

HL-YMC Ⅰ

HL-YMC Ⅱ

HL-YMC Ⅲ

HL-YMC Ⅳ

Hangzhou ZhongRun Medical Instrument Co., LTD.

Dear customers,

Thanks for purchasing HL-YMC Alginate Mixer produced by Hangzhou ZhongRun Medical Instrument Co., LTD. You must read the instruction carefully before using the device on the safe and right side and make sure to keep it near the device so as to be read at any time.

When run the device, you must observe the rules strictly and preserve correctly and regularly.

On the other hand, our company has the right to reserve an extra notice of the improvement of the device.

The product agrees to EN ISO13485：2003+AC 2009 standard，which is approved by the system authentication of TÜV Rheinland LTD.

The product gained national patent: patent No.: ZL 2007 2 0106521.0 (counterfeiting not allowed). patent No.:201220271668.6

I. Notes of the Medical appliances

1. The device must be used by specific persons instead of nonprofessional ones.

2. Notes on placing the device:

1) It must be put in the place which is not connected with water or any other liquid.
2) It must be kept and used in the place where there is no adverse air caused by air pressure, temperature, humidity, ventilation, insolation, dust, and salt, ion etc.
3) It must be placed steadily and stably without any tilt, quake or the possibility of impact.
4) It must be far away from chemicals and chemical gas.
5) Power socket must apply with the required voltage and current of the device. Make sure to set the socket and lines correctly and the device requires separate socket with safety grounding.

3. Notes before using

1) Check is a must before using. Make sure there is no abnormal phenomenon on the appearance, esp. no water, the electrical lines of the socket is integrated without any crack or breakage, the switch and indicator are normal.
2) Make sure the safety grounding correctly and stably.
3) Make sure the supplying voltage and frequency agrees with the requirement.

4. Notes while using it

1) The device must be used in stomatology dept, it's used for mixing impression material.
2) Monitor whether there is any abnormal phenomena strictly. Once something is abnormal, turn off the switch and pull out the socket.
3) Stop working when overloading: when the external force is too big to overloading the motor, the machine will stop working automatically within 5 seconds; this is a kind of protective procedures, not fault. Press start button, or step on the foot control again to start working.
4) The patient mustn't contact the device.
5) Please wear protective glasses to avoid spatters.

5. Notes after using

1) Checks must be made according to the requirement strictly and turn off the switch.
2) After turning off the switch, the socket must be held down instead of pulling down.
3) Keep requirement about discontinued devices:
1.It must be put in the place which is not connected with water or any other liquid.
2. It must be kept and used in the place where there is no adverse air caused by air pressure, temperature, humidity, ventilation, insolation, dust, and salt, ion etc.
3. It must be placed steadily and stably without any tilt, quake or the possibility of impact.
4. It must be far away from chemicals and chemical gas.
4) To guarantee the normal use of the device, the device and its accessories must be kept properly after cleaning.

6. You mustn't dismantle, or repair the device by yourself when met problem, must contact distributors, and repair by specific persons.

7. You mustn't remake the device, or you have to be responsible for the consequences and lose the warranty at last.

8. Regular check and maintenance

1) Under normal circumstances, it is suggested that check once before using and make maintenance weekly.
2) If it is in idle for a while, the check on the safety and function is needed before resetting. You can use it when you make sure it is normal.

9. Other important notes

If you don't use the device according to the instruction, there will be something wrong with it or some danger and accident, so be on the alert.

II. To guarantee the safety of using the device, the rules must be observed.

1. Pay attention to spatula and mixing bowl when operation, avoiding water and impression material spill out to hurt somebody or something.
2. Because there may occur induction electric or leakage, the device must be far away from pond or moist places.

3.The device should be cleaned and placed in dry and ventilated room without corrosive gas in case of safety.

4.To prevent the metal parts from rusting, the device mustn't be kept in the high heat and moist places.

5. The instruction explains the safe use of the device specifically, please be sure to put it near the device and read it carefully and frequently.

***Our company is not responsible for the following problems:**

1. Mechanical damage and personal accident caused because the staff out of company reform, detach and repair the device.
2. Mechanical damage and personal accident caused due to using the parts out of our recognition.
3. Mechanical damage and personal accident caused because of not obeying the above rules properly.
4. Mechanical damage and personal accident caused due to violating the required voltage, grounding and placed environment.
5. Mechanical damage and personal accident caused by natural disasters such as earthquake, fire, and flood.
6. Spatula and mixing bowl are easy to be damaged, the fee on renewing and changing them should be dealt by yourself.

Marks on the introduction:

⚠ Caution

Mechanical damage and personal accident will be caused if you violate it.

⚠ Attention

Mechanical damage and personal accident will be caused if you violate it.

III. Type and Specifications

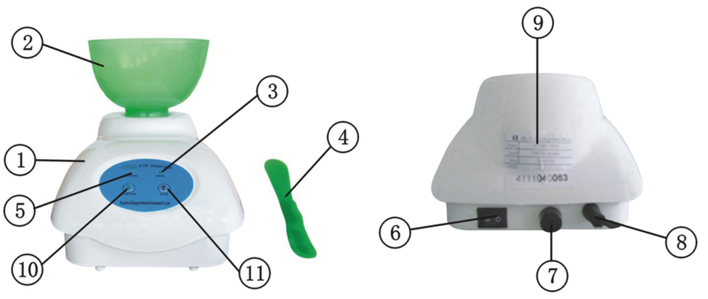
1. **Product Name**: Alginate mixer
2. **Specifications**: HL-YMCI
   HL-YMCII
   HL-YMCIII
   HL-YMC Ⅳ
3. **Power supply**: AC 110V, 60 Hz □
   AC 120V, 60 Hz □
   AC 220V, 50 Hz □
   AC 230V, 50 Hz □
   AC 240V, 50 Hz □
4. **Motor power**: 45W
5. **Comprehensive performance comparison**

TYPE	SPEED	Timing Range（s）	WEIGHT(g)	SIZE(mm)
HL-YMC I	Low speed:120rmp High speed:250rmp	Regular alarm:20s, no timing	2300	260*220*190
HL-YMC II	Low speed:120rmp High speed:250rmp	Regular alarm:20s, no timing	2560	260*220*190
HL-YMC III	0~300rmp	Regular alarm:20s, no timing	2560	260*220*190
HL-YMC Ⅳ	0~300rmp	Regular alarm:20s, no timing	2560	260*220*190

6. **Mixing Time**: according to the specification of the impression material manufacturer.
7. **Classification of the devices**：Ⅱ-B: Electrical devices，common devices，non -AP or non-APG devices, can run continuously.
8. **Service life**：5 years.

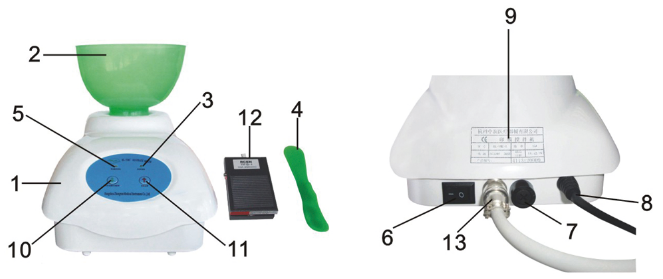
IV. Names of parts and their operations：

HL-YMC I



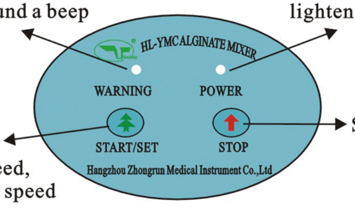
1. Shell 2. Mixing bowl 3. Power supply indicator light 4. Spatula
5. Warning indicator light 6. Power switch 7. Fuse 8. Power cord 9. Nameplate
10. Start/Set button (low speed/high speed change) 11.Stop button

HL-YMC II



1. Shell 2. Mixing bowl 3. Power supply Indicator light 4. Spatula
5. Warning indicator light 6. Power switch 7. Fuse 8. Power cord 9. Nameplate
10. Start/Set button (low speed/high speed change) 11.Stop button 12.Foot switch
13. Foot switch connector

Operating Instruction: HL-YMC I
HL-YMC II



After 20S working, the warning light will flash and sound a beep

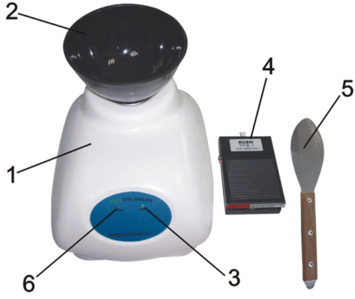
Connect to power supply, lighten the power indicator

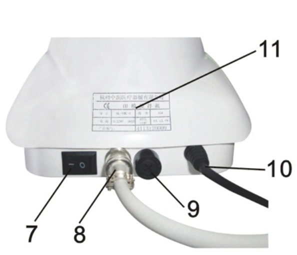
Stop button

START SET:
first press is low speed,
second press is high speed

①. Power switch: a black boat-shaped switch behind the machine.
②. Mixing bowl: lay it on the tray at the top of the unit. Clockwise the mixing bowl into the tray, it will be locked. On the contrary, the mixing bowl can unloaded.
③. “Start/Set” button: the “Start/Set” button is at left side of the front panel. The first press starts to low speed; it will become high speed after press again.
④ “Stop” button: The “Stop” button is at right side of the front panel, press “Stop” button will stop working immediately.

HL-YMC III





1. Shell 2.Mixing bowl 3. Power supply Indicator light 4. Foot switch

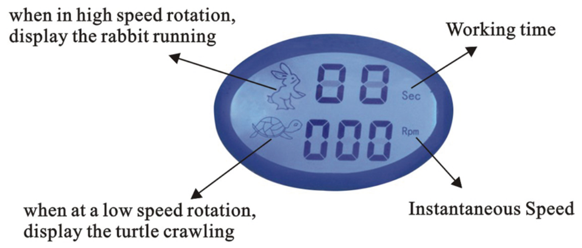
5. Spatula 6. Warning indicator light 7. Power switch

8. Foot switch connector 9. Fuse 10. Power cord 11. Nameplate

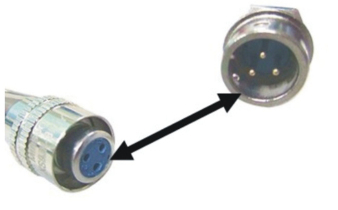
HL-YMC Ⅳ

1 The names of parts are the same as HL-YMC III.

2 Each function display icon:


when in high speed rotation,
display the rabbit running
Working time
88
Sec
000
Rpm
when at a low speed rotation,
display the turtle crawling
Instantaneous Speed

Operating Instruction: Indicator diagram of the foot switch connect with the mainframe.



V. Usage：

1. HL-YMC I

1. Put the cleaning and disinfected mixing bowl into the tray, turn clockwise to lock it.
2. Let power plug connect to the electric socket with grounding, turn on the power switch⑥.
3. Put the water and impression material into the mixing bowl according to the proportion from the manual of impression material. Then mix them to bulk state.
4. Put the spatula into mixture, press Start/Set button⑩ to start at low speed (the liquid and powder will not easy to spill out when in low speed), close the spatula along the mixing bowl and move it according to the rotate direction.
5. Press Start/Set button ⑩ again, it will rotate in high-speed . The spatula should along the wall of mixing bowl, it's better for mixing, after 20S the alarm light will flash to notice user to use the mixture as soon as possible.
6. Press "Stop" button⑪to stop working. Use spatula along mixing bowl to remove the mixture, just complete.
7. Anticlockwise rotate the mixing bowl, then take it out, and clean it.

2. HL-YMC II

1. Put the cleaning and disinfected mixed bowl into the tray, turn clockwise to lock it.
2. Let power plug connect to the electric socket with grounding, turn on the power switch⑥.
3. Put the water and impression material into the mixing bowl according to the proportion from the manual of impression material. Then mix them to bulk state.
4. Put the spatula into mixture, press Start/Set button⑩,or step on foot control⑫to start at low speed (the liquid and powder will not easy to spill out when in low speed), close the spatula along the mixing bowl and move it according to the rotate direction.
5. Press Start/Set button ⑩， or step on foot control⑫again, it will rotate in high-speed , the spatula should along the wall of mixing bowl, it's better for mixing, after 20S the alarm light will flash to notice user to use the mixture as soon as possible.
6. Press "Stop" button⑪to stop working. Use spatula along mixing bowl to remove the mixture.
7. Anticlockwise rotate the mixing bowl, then take it out, and clean it.

3. HL-YMC III

1. Put the cleaning and disinfected mixing bowl into the tray, turn clockwise to lock it.
2. Let power plug connect to the electric socket with grounding, turn on the power switch.
3. Put the water and impression material into the mixing bowl according to the proportion from the manual of impression material. Then mix to bulk state.
4. Put the spatula into mixture, step foot control lightly to start at lower speed (the liquid and powder will not easily spread when in lower speed), close the spatula along the mixing bowl and move it according to the rotate direction.
5. Step foot control heavier, it will rotate in higher speed, the spatula should along the wall of mixing bowl, it's better for mixing, after 20S the alarm light will flash, then every 5 seconds will beep to notice user to use the mixture as soon as possible.
6. Leave foot control, the machine will stop. Use spatula along mixing bowl to remove the mixture, just complete.
7. Anticlockwise rotate the mixing bowl, then take it out, and clean it.

4. HL-YMC Ⅳ(the turtle rabbit race series)

1. Put the cleaning and disinfected mixing bowl into the tray, turn clockwise to lock it.
2. Let power plug connect to the electric socket with grounding, turn on the power switch.
3. Put the water and impression material into the mixing bowl according to the proportion from the manual of impression material. Then mix to bulk state.
4. Speed: according to your need to adjust speed from 0 to 300 rpm by foot control④, which allows you to further release your hands. When in high speed rotation, the LCD screen will show a rabbit running; when in low speed rotation, the LCD screen will show a turtle crawling.
5. Timing alarm: set the working time 20 seconds .After 20 seconds working, the warning indicator light ⑥ will flash and beep to remind the user to use the impression material as soon as possible. By this setting can avoid impression material drying or coagulating.
6. Overload shutdown: when the force caused the motor overload, it will automatically stop rotating after 3 seconds, then step on foot control to start again.
7. Using foot control, it similar to automobile accelerator.
8. Adopt the large LCD display, which can bring vivid image, let you be full of wit and humor in operation.
9. Leave foot control, the machine will stop. Use spatula along mixing bowl to remove the mixture.
10. Anticlockwise rotate the mixing bowl, then take it out, and clean it.

⚠ Attention

A. The mixing time should not be too long, (generally within 20S), the effective using time according to the manual of impression material manufacturer. After well mixing, please take out the mixture promptly to avoid dry condensate.

B. After using, must turn off the switch，and confirm the indicator light is off.

The notice during using:

⚠ Attention

A. Long time mixing may result in bad performance of impression material.
B. After using, must turn off the switch.
C. Please unplug the power cord if you do not use in a long time.

⚠ warning

A. This machine is alginate mixer, please don't use it for other materials, especially toxic liquid and chemicals.

B. Please don't touch the metal parts when using to avoid the harm of the human body. Especially the metal part between the bowl and body.

VI. Daily inspection and maintenance

1.Turn off the power switch.

⚠ warning

1) The inspection and maintenance must be done after complete cooling.
2) The plug must be pulled down.
2. Please clean the bowl and spatula each time after using.
3. Wipe away the dust on surface.

⚠ Attention

Chemical cleaner mustn't be used for cleaning the device.

VII. Answers to common problems

■ Impression material mixed nouniform or part nonuniform.

1.The main reason is disproportion of water and impression material, mix too short or operate incorrectly.

→Mixing again with correct proportion, correct operation.(Details please check FIVE: **Using method)**

2. Impression material get harden.

→Long time no use after mixing.

3. The device doesn’t work at all: check whether the fuse is broken, if it is, please change a proper cartridge fuse.

■ Impression material mixed too sparse or too thick.
The main reason is disproportion of water and impression material.

■ Not solution
1. First consider whether the impression material is deteriorated.
→ change new impression material and operate it again

⚠ Caution **⚠ Attention**

- If the problems can not be solved according to the above suggestions, don't detach and repair the device by yourself. It is a must to keep a connection with the distributor and we will supply our specialized staff to solve them for you.

VIII.Packing List:

1 HL-YMC I

NO.	Name	Quantity(piece)
1	Alginate mixer	1
2	Mixing bowl	1
3	Spatula	1
4	Fuse	1
5	Instruction	1
6	Certificate	1
7	Warranty card	1

2. HL-YMC II
HL-YMC III
HL-YMC Ⅳ

NO.	Name	Quantity(piece)
1	Alginate mixer	1
2	Mixing bowl	1
3	Spatula	1
4	Fuse	1
5	Instruction	1
6	Certificate	1
7	Warranty card	1
8	Foot switch	1