

[ User Manual ]

**ShinMAX** GS350

**Innovate Alginate Mixer**



**MONITEX**

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## ● Preface ●

Thank you for purchasing **ShinMAX** automatic alginate mixer. **ShinMAX** is a unique apparatus with electronic & mechanism control for mixing dental alginate impression use in dental practices and orthodontic professionals. With the design of built-in micro-processors and pre-programmed, **ShinMAX** provides the highest performance in efficiency to work out a complete bubbles-free alginate mixture of fine consistency for obtaining the perfect impression.

**ShinMAX** is designed of centrifugation and adopted for vibration and rotation the dental alginate impression materials in accordance with the measurement of powder/water and the mixing time setting recommended. All the items description on this User Manual is not applied to other materials.

Prior to using this equipment, please read this USER MANUAL carefully and follow the maintenance to enable the function to be fully implemented.

Please store this USER MANUAL in a safe place after reading. If there is any further modification of product, or the contents of this manual shall have any further amendment, no notice shall be otherwise advised.

The **ShinMAX** is for dental use only, and the user shall be well trained or educated by the proper operation in compliance with the manual.

If any item is damaged or problems occurred, please do not try to use or repair it yourself. Please contact your local distributor for solution

## ● Exclusions ●


1. We shall not assume any responsibility if any malfunction, damage, or accident of personal body injure is caused by the improper removal, modification, maintenance, or repair as not being conducted by the dealer designated by us.
2. We shall not assume any responsibility if any malfunction, damage, or accident of personal body injure is caused by the use of the product not provided by us.
3. We shall not assume any responsibility if any malfunction, damage, or accident of personal body injure is caused by the improper removal, modification, maintenance, or repair as not use the parts provided by us.
4. We shall not assume any responsibility if any malfunction, damage, or accident of personal body injure is caused by the improper operation as not in compliance with the manual.
5. We shall not assume any responsibility if any malfunction, damage, or accident of personal injure is caused by the ambient environment as not in compliance with the power, installation environment and using conditions specified on this manual.
6. We shall not assume any responsibility if any malfunction, damage, or accident of personal injure is caused by fire disaster, earthquake, flood, or struck by lightning.


## ● Precautions & Cautions to prevent accident or malfunction ●


Prior to the operation of **ShinMAX** alginate mixer , please read firstly all the "Important cautions" marked below. The operation shall be always in compliance with the important cautions specified on the manual so as to avoid any malfunction. Please use this equipment correctly and carefully to avoid any personal injure.

### **Symbols of Important Cautions for avoiding the possible personal injure while in operation :**

For symbols are used in this manual to ensure that the product is used safely and correctly, and to prevent injury to the user and other persons as well as damage to property. Those symbols along with their meanings are shown below.

 **DANGER** : This indication alert matters that have the risk of causing death or serious injury if the product is operated incorrectly while ignored this indication.

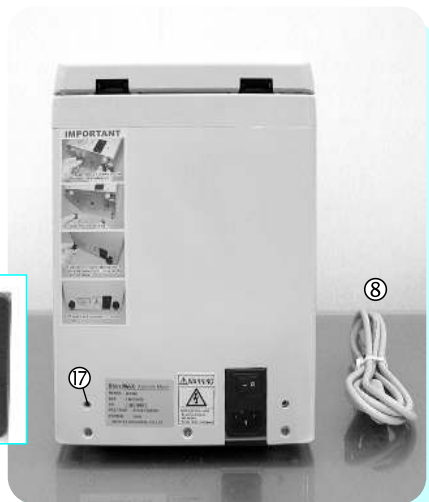
 **WARNING** : This indication stipulates matters that have the risk of causing function disabled or damage to **ShinMAX** if the product is operated incorrectly while ignoring this indication.

 **CAUTION** : This indication stipulates matters that have the risk of causing a light injury to the user and other persons, or damage to the product if the user or operator ignoring this indication.

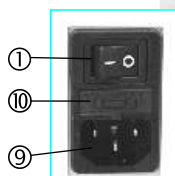
! **IMPORTANT** : The important caution is possible to cause malfunction of machine, imperfect result, poor mixture or other effects.

- \* The responsibility for the operation of medical therapeutic machine and maintenance inspection is attributable to the user (hospital or clinic)
- \* The operation of medical therapeutic machine shall be conducted by the authorized person.

## ● Illustrations and description of components and accessories ●

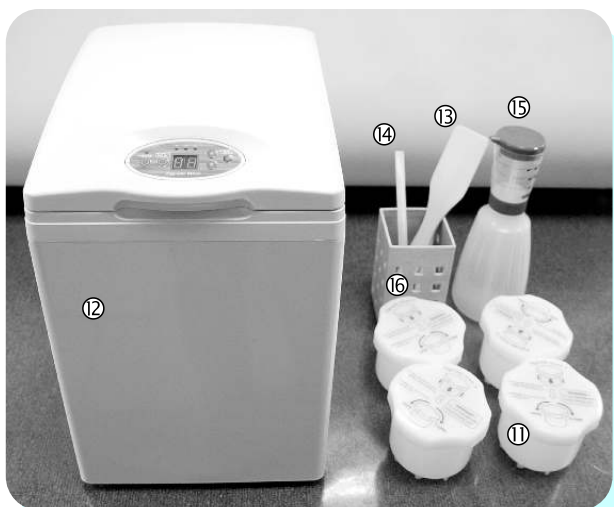


- ① Main switch
- ② Power on/off button
- ③ Memory selection
- ④ Start/Stop button
- ⑤ Mixing Time display
- ⑥ Increase ▲ / Decrease ▼ Timer set
- ⑦ Memory address indicator



- ⑧ Power cord
- ⑨ Sector connector  
(110/220~240 Vac.)

- ⑩ Fuse holder
- ⑪ Mixing cup
- ⑫ Machine body housing
- ⑬ Spatula
- ⑭ Stirring stick
- ⑮ Water-dosing bottle
- ⑯ Basket for miscellaneous articles
- ⑰ Motor base bolts store location



## ● Use Cautions ●

Please adhere to the following operational guidelines specified so as to assure smooth operation of free from the malfunction, damage of equipment, or the accident of injure persons.

1. Use cold water (10°C~ 20°C) for mixing to extend the setting time of alginate. If desires to use a fast-set alginate, it should specifically watch the setting time.
2. Don't start the operation if the mixing cup lid has not been closed well, to avoid any spilled or malfunction.
3. The capacity of alginate impression material is 25g ~ 100g for each mixing, never exceed 100g.
4. Only operate with the mixing cup in a closed state to prevent the possible spillage occurred while running.
5. If the small hole at the center of mixing cup lid is blocked, this would cause difficulty on closing. Any blocks or residues in the hole should be always removed.
6. If there is any abnormal noise or vibration occurred while in mixing, press the STAR/STOP button immediately and lift the cover to check if any disorder condition happened.
7. The mixing cup is consumable. Change a new one if it can not be closed well.
8. To immobilize the motor with two fixing bolts at the bottom of **ShinMAX** when moving the unit for repair or a delivery (Fig.1) far. Otherwise, it may cause a more serious or other malfunction of further damage.

# ● Environmental Conditions for Installation and Use ●

## 1. Conditions for installation and use :

- (1) For indoor use only
- (2) Operating ambient temperature is between 2°C ~ 40°C (35.6 ~ 104°F)
- (3) Operating altitude is below 2000 meters and atmospheric pressures between 900 ~ 1600 millibars.
- (4) Relative Humidity is lower than 80%.
- (5) Operating area should be free of dust, acids or solvent vapors  
The required electric voltage : AC110V ( ± 15V ) ; AC220 ( ± 20V )

## 2. Installation :

- (1) **ShinMAX** should be positioned and used in areas free from vibrations. On a stable cabinet or a table with strong horizontal surface, of which the strength is sufficient to support steady of running operation.
- (2) Never install at a place near the inflammable substance.
- (3) Keep away from water or moisture, which may cause electric shock or lead to mechanical problems
- (4) Do not place anything on the top of cover or control panel to avoid any damage or spillage. .

## 3. Before / After Transportation :

- (1) Before installation **ShinMAX**, remove the two bolts fixed at the bottom and follow the instruction (Fig.1) to store them in order to use later for moving.
- (2) If the mixer needs to be moved for repair or delivered to a far place, put the same two bolts back in place to immobilize the motor firstly before attempting to move the unit, to prevent some possible further malfunction or damage.



Fig.1



#### 4. Power :

- (1) Check that the power switch on the back of the unit is off, and then connect the power cord to the sector. (Fig.2)



Fig.2

- (2) Plug into a standard AC outlet, with co-axial cable of AC 220V 50/60Hz with the capacity of 3A or AC110V 50/60Hz with the capacity of 5A. In order to avoid electric shock, the electric power cord shall be connected at the grounding terminal of 3P co-axial cable.

#### **Danger :**

- Check to see that **ShinMAX**'s voltage requirement matches your power source. Damage to **ShinMAX**, electric shock, or fire may occur if the voltages are incompatible.
- Keep potentially dangerous substances a minimum of a 30 cm(1 ft) radius from **ShinMAX**; such as those fire, inflammable, moisture, toxic, radioactive and contaminant materials.
- Also always keep dry hands and body to touch the power socket, main switch and for operating the equipment.

## ● Operation ●

### Mixing alginate :

- (1) Turn on the main switch on the back of machine. (Fig.3) An led indicator is lit on left the control panel and the **ShinMAX** is ready for operation.



Fig.3

- (2) Press "POWER" on/off button on the control panel to have the power on with the time indicator on digital display showing the pre-set mixing time. (Fig.4).



Fig.4



### Caution

- Always keep the equipment in a sleep mode " the time display is off " unless to do mixing operation.
- Do not have the equipment in idle operation. **ShinMAX** is designed in centrifugation and demanded to operate mixing always with material in the mixing cup.  
**No impression material, no operation!**

(3) Prepare the required powder by scoop and instruction, supplied with alginate material.

**Note:** Before dosing, stir the alginate powder to loosen it well. Scoop it from the storage box with a light, swift movement and then stroke the powder smooth: do not compress the powder in the scoop.

Using the water dosing bottle or a beaker to measure the appropriate amount of cold water at room temperature(10 ~ 20°C) . Add water to the mixing cup with alginate (Its better to mix according the instruction of correct ratio alginate powder/water)

## ! Important

The setting time of alginate can be controlled by different water temperature. Watch out the setting time will be shortened if not use the cold water, particularly in summer.

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(4) Follow to the instruction of ideal mixing ratio to have a better consistency of impression. You can make the mixture thinner or higher viscosity by adding more or less water respectively. (Fig.5)

Fig.5

## ● Operation ●

- (5) Moisten firstly by using the enclose stick to stir the alginate powder and water together in the mixing cup for about 2 seconds before placing it into the mixing well. (Fig.6) The user can shake the cup a few times for preliminary mixing before placing it into the mixer if without using stirrer. Skipping this pre-moisten step may result in poor mixing or imperfect consistency of mixture..

**Hint:** To rotate the stirrer along the wall of mixing cup before taking out, for avoiding the residual stained or waste on the stick.



Fig.6

- (6) Close the lid of the mixing cup tightly by holding and turning forward actually. Make sure the small hole in the center of lid is not blocked and following the instruction of silk print and arrow mark on the lid of cup.



Fig.7

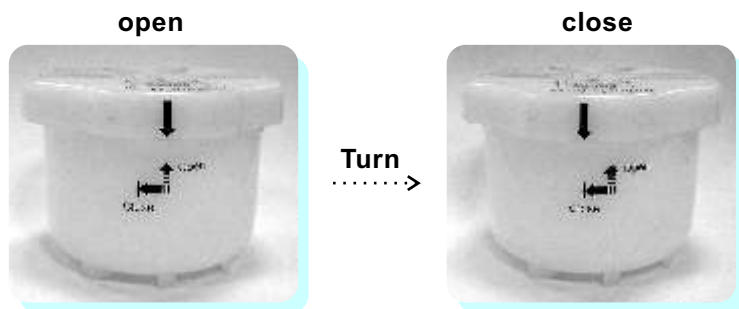


Fig.8

In the meanwhile, have a look to make sure the mixer is ready on timer set of what you need for mixing. Also check if the spatula and exact tray are prepared ready for use.

## ! Important

The mixing cup lid must be closed well as instructed; otherwise, could be some spillage or splash occurred during mixing. The separated lid may hit against the cover. That could further cause serious malfunction to the machine and endanger the user.



The mixing cup lid is consumable, please change to a new one if it becomes transformed by a heavy loading or over-time of usage.

- (7) Place the mixing cup into the mixing well.(Fig.9) Make sure the mixing well is very clean and the cup is completely positioned inside the mixing well.



Fig.9

## ● Operation ●

**Notes:** To proceed the above working steps with a swift movement as quick as possible for avoiding insufficient setting time of the alginate mixture. Keep in mind that the longer of preparation, the shorter of setting time and working time remained.

(8) A safety function :

The cup is ready placed in mixing well and to close the cover of mixer. Make sure whether the cover has been closed properly; otherwise, it can not start operation.

(9) Please refer to the table "Setting for Mixing Time" on page 15/16 and set the timer for different mixing amount of scooped alginate to meet the required mixing time. When complete the setting and press the START button to run operation.(Fig.10) The cover of mixer is locked when running operation under a safety control.

The digital timer will countdown second by second and display the time of completion to end with a "beep" to unlock the cover.



Fig.10

## ! Important

The setting time of alginate will be changed by the different mixing time set on the mixer. Please set the mixing time as short as required for alginate mixing to retain more sufficient time of setting and working.

### Note:

- The working/setting times increase with a lower (water) temperature. At higher temperatures the times become shorter.
- The water hardness has the same effect; the harder the water used for mixing, the shorter the working/setting time.

## ! Important

If intends to stop the operation during mixing, press the button START/STOP. The mixer will be stopped immediately. If any abnormal condition happened in running, the mixer should be also stopped immediately to conduct an inspection. If the abnormal condition can not be improved, please have the mixer to repair.

- (10) When mixing is complete, open the cover and take the mixing cup out. Use the spatula to remove the alginate mixture and fill the ready tray immediately. (Fig.11)



Fig.11

## ● Operation ●

### ⚠ Warning :

Although the mixer stops operation automatically, please don't try to open the cover until the "beep" sounded to unlock.

### **Recommended steps to get a perfect impression:**

- a) Use a wet finger to stroke it smooth. Make sure that the patient has rinsed the mount with warm water in the mean time.
- b) Insert the filled impression tray into the patient's mouth applying gentle pressure.
- c) Allow the impression material to set in the mouth and remove the tray form the mouth in a single rapid movement
- d) Rinse the tray under cold running water to remove saliva and any residues.
- e) Remove any excess water, but leave the surface moist, Never blow-dry!
- f) Immediately after rinsing, pour out the plaster impression and make a second plaster model if desired.
- g) If immediate pouring is impossible, store the impression in a firmly sealed plastic bag to achieve a relative humidity of 100%.  
This is essential for optimum results at a later pouring.
- h) Make the plaster model within 48 hours after taking the impression.



## ● Set the mixing time ●

- (1) The timer has following three memories program preset in the manufacturer. (Each memory can be altered and re-programmed by user)

Memory Pre-programed	Mixing Time (sec.)
1	8
2	10
3	12

- (2) Press the button of MEMORY / SELECT to choose the time required for mixing. The mixing items of each corresponding memory button preset will be stored until the user changes the memory time.
- (3) Press the button ▲ or ▼ second by second shown on the display to manually adjust the desired mixing time of extending or to shorten. The maximum mixing time is limited in 16 seconds. When the cycle of mixing is complete, the mixing time will resume to its original pre-programmed time set in memory.
- (4) If intends to modify the preset mixing time in memory, you can firstly adjust second by second by the button ▲ or ▼ to the required mixing time. Press both buttons ▲ and ▼ in the same time. The mixer will sound 2 beeps and display the mixing time flashed twice.
- (5) The mixing time shall be set in accordance with the listed instruction as standard.



### Caution

Increasing mixing time hastens the setting of the impression material.

## ● Set the mixing time ●

\* The time setting for the place in condition of electric hertz of 50 Hz (with water temperature between 10 to 20℃) is listed as below:

Scoop of Alginate	Mixing Time (sec.)
1 (25g incl. water)	7~10
2 (35g incl. water)	8~11
3 (45g incl. water)	9~12

\* The time setting for the place in condition of electric hertz of 60 Hz (with water temperature between 10 to 20℃) is listed as below:

Scoop of Alginate	Mixing Time (sec.)
1 (25g incl. water)	6~9
2 (35g incl. water)	7~10
3 (45g incl. water)	8~11

### ! Important

1. The above recommendation on amount of alginate scoops and the corresponding mixing time shall be adopted an average time. If there is any difference between water temperature and room temperature that's established on instruction by the alginate supplier, the setting time different as it should be.
2. Set the mixing time according to the amount and the type of material to be mixed. Adhere to the manufacturer instruction.

## ● Maintenance ●

1. Turn off the main switch and disconnect **ShinMAX** from its power source before cleaning or maintenance procedures.
2. Do not clean while the mixer is operating or at high temperatures.

### 3. **Mixing cup :**

After setting, the remained residues of impression material inside the mixing cup can be cleaned and removed easily. Remove any blocks and residues in the small hole at the center of lid all the time. (Fig.12)

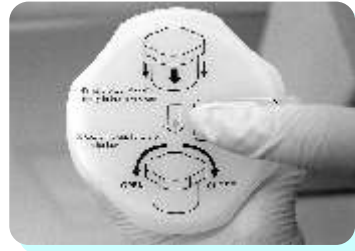


Fig.12

## ! Important

1. The small hole at the center of lid shall be cleaned all the time. If it's blocked, the lid will be very hard to close or open.
2. The water remained after cleaning shall be removed completely, otherwise, it will cause an error for measuring the required ratio to mix alginate and water in next impression. An incorrect viscosity of the mixture can be result.

### 4. **Cleansing:**

The materials coated on the inside of mixer, mixing cup rest, or inside of the lid can affect the mixing power. Clean these areas with a dry cloth or water-soaked gauze (not wet). If it is serious stained, please use the natural cleaning agent.



## Caution

Never use the solvent or volatile oil for cleaning, which would have the surface of machine faded.

## ● Trouble Shooting ●

### ! Important

If finds any malfunction or problems that has adopted the following solutions, please contact the local dealer and send for repair.

Problem	Causes	Solutions
<b>ShinMAX</b> does not turn on	The power cord is disconnected from the power source	Inspect and connect the power cord to the outlet
	The Fuse is blown	Inspect and/or change the fuse
<b>ShinMAX</b> does not work	The lid is not closed	Close the lid tightly
Abnormal noise or vibration in running	The screw nuts have not been removed from the bottom of the unit	Remove 2 screw nuts from the bottom
	Start but idle running nothing inside the mixing cup	Stop the mixer. Make sure to add the mixture into the cup
	The amount of mixture is too much	Limit the mixture to 3 scoops
	Mixing cup lid come off	Stop the mixer. Close mixing cup lid well
	Damage of gears	Send for repair
Time display doesn't lit on	PCB faulty	Send for repair
Tardiness on initial running	Start capacity is decayed	Send for repair
Poor mixing	Incorrect ratio of powder/water	Follow to the correct ratio of powder / water, or add water a little more
	Preliminary mixing is not done (for bulk amount mixture over 2 scoops)	Moisten firstly the alginate powder with stirrer stick in the mixing cup, or shake a few times, before put into the mixer
	Too short of mixing time	Extending or reset the mixing time
	Insufficient speed of rotation	Send for repair
	Poor quality of alginate or expired	Change a new batch alginate
Error code "E1" appear on the time display	The top cover is not closed well	Close the top cover again
Error code "E2"	Defective on control board	Send for repair

## ● Specification ●

Model : **ShinMAX** GS350

Power : AC110V ( $\pm 15V$ ), AC220V ( $\pm 20V$ ), 220W

Maximum Speed : 3400 r.p.m ( 60Hz)

2900 r.p.m ( 50Hz)

Motor : AC Motor, 2 pole (110V 220W ; 220V 200W)

Dimensions : 205 (W) x 250 (D) x 290 (H) mm

Weight : 41.9 lb (19 kgs)

Capacity : 25~100g / cup

Timer : 1~16 seconds, adjustable

Programs : 3 Memories (preset 8, 10 & 12 seconds)

Safety Functions : Automatic door locking and stopping

Operating Conditions : Temperature : 2°C~ 40°C

(35.6 ~104°F)

Humidity : lower than 80%

Altitude : below 2000 meters

**MONITEX** INDUSTRIAL CO., LTD

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6F, 70 GUANG-FU ROAD SEC. 1,  
SAN-CHONG CITY, TAIPEI, TAIWAN  
TEL : 886-2-29993869 FAX: 886-2-29993647  
E-mail : [fomed@fomed.com.tw](mailto:fomed@fomed.com.tw)  
<http://www.monitex.com.tw>

