

Vacu-Mixer

Operating Instructions

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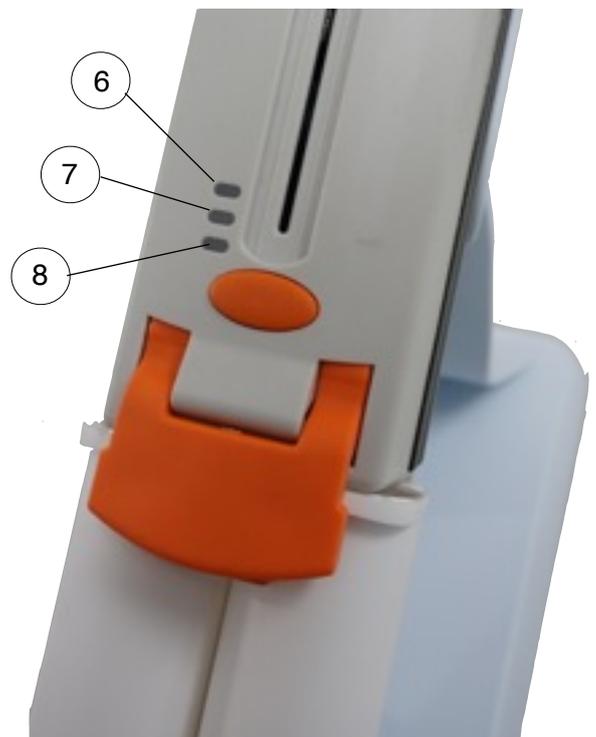


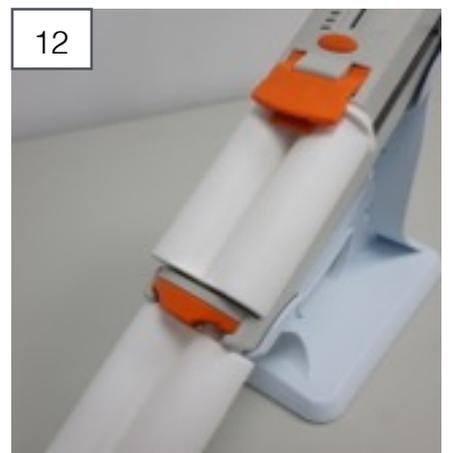
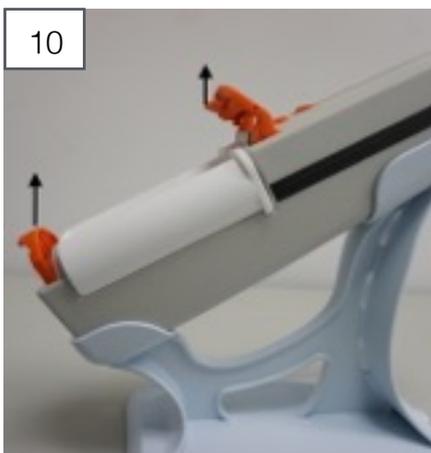
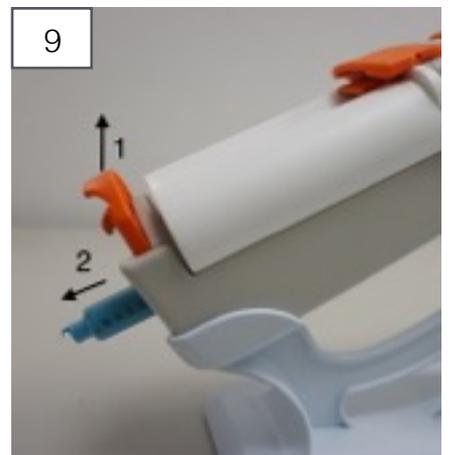
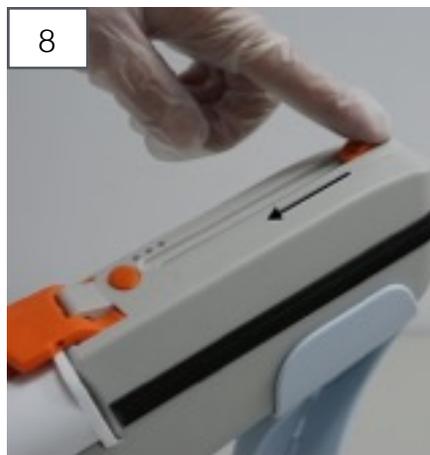
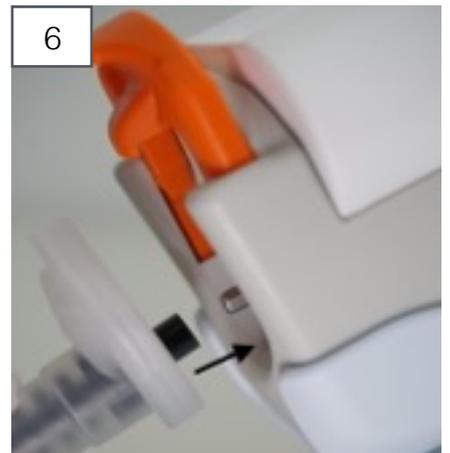
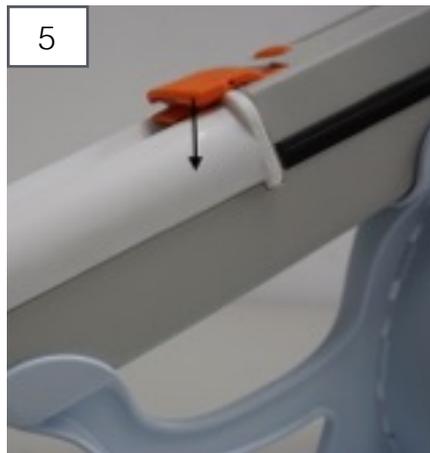
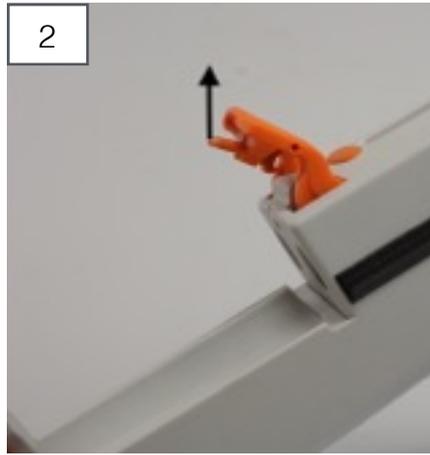
Spare parts

Vacu-Mixer



1	Start / Stop
2	Cartridge lock
3	Cartridge release
4	Locking ring
5	Plunger indicator
6	LED (Red - Battery indicator)
7	LED (White - Cartridge low volume)
8	LED (Blue - Cartridge emptied)
9	Plunger
10	Stand





1. Safety Instructions

- Using these operating instructions as a starting point, instruct all operators of the unit with regard to the area of application, the possible hazards during operation, and the proper operation of the unit.
- Observe the information on risks and hazards in section B.

2. Introduction

Vacu-Mixer is an automatic mixing unit for the preparation of impression materials. The Vacu-Mixer is capable of working with 1:1 120ml cartridges. The 1:1 120ml cartridge has been specifically designed for this unit. This is the only form of packaging which can be used in Vacu-Mixer.

The mixer spindle allows the use of dynamic Vacu mixing tips with a hexagonal connection.

The plunger can be pushed back to the start position when unlocked so that the cartridges can be exchanged quickly.

Please have these operating instructions readily available for the operators.

Additional information can be found in the Section, "Information for Operators", at the end of these instructions.

3. Installation

The Vacu-Mixer is supplied as a portable device, but can also put it on the stand as a tabletop unit (See Spare parts no.10).

Install Recommendations

Operate the unit at room temperature 18 - 24°C [64 – 75.2°F].

When setting up the unit, please note the following:

- Do not place the unit under a heat source.
- Do not place the unit in front of open windows.
- Do not set the unit up where it will be subjected to direct sunlight.
- Do not subject the unit to high humidity.

4. Charging

The Vacu-Mixer has been shipped in a low charge condition to prevent possible problems.

Therefore, you should charge it at least 6 hours prior to use(Fig 1).

4.1 LED display in charging (see Spare parts no.6)

Capacity	<10%	10%~25%	25%~75%	75%~99%	100%
LED Display	blinking Red	Red	Orange	blinking Green	Green

- Charge only with the adapter provided, and make sure the adapter doesn't get wet.
- When the LED in Red light, the Vacu-Mixer needs to be charge immediately. When the LED blinks in Red light, it is probably stop work in anytime.

- The Vacu-Mixer contains a 800mah Lithium-ion battery. After it's being fully charged, it can support 4~5 120ml cartridges.
- The adapter housing and the Vacu-Mixer will become slightly warm to the touch while charging. This is normal and does not indicate a problem.
- **DO NOT** place adapter in an area of extreme heat or cold. It works best at normal room temperature.

5. Operation

5.1 Operating Elements (see Spare parts.)

- (1) Start/Stop button
- (2) Cartridge lock
- (3) Cartridge release
- (4) Locking ring
- (5) Plunger indicator
- (6) LED charging
- (7) LED cartridge nearly empty
- (8) LED cartridge emptied

5.2 Inserting the Cartridge

1. Open the Cartridge release (Fig.2).
2. Make sure the plungers indicator on the start position or push the Plunger indicator to retract the plungers back to the start position (Fig.11).
3. Insert the cartridge into the cartridge bed (Fig.4).
4. Close the Cartridge lock (Fig.5).
5. Attach a new mixing tip prior to beginning mixing (see Section 5.3).
6. Use the Plunger indicator move the plungers forward until the plungers meet the cartridge (Fig.8). The mixing process cannot be started until the plungers are touching the pistons.

5.3 Attaching the Mixing Tip

1. Pulling up the Locking ring. (Fig.3).
2. First place the mixing tip pointing upwards only on the tip of the mixing shaft (Fig.6).
3. Turn slightly the mixing tip with the corresponding outflow openings of cartridge.
4. Press down the Locking ring firmly to insure that the mixing tip is seated tightly on the outflow openings (Fig.7).

Caution:

- Always attach a mixing tip and insure it is seated tightly before push the 'Start' Button!
- After mixing, leave the mixing tip on the cartridge as a seal!

5.4 Loading the Impression Tray

- Press the "Start/Stop" button. The unit extrudes paste only as long as the "Start" button is held down. (see Spare parts no.1).
- When the "Start/Stop" button is released, the motor audibly continues to run briefly. This movement relieves the pressure on the cartridge to minimize the unnecessary flow of the pastes.

- Tilt the tray to load it. Fill the tray continually from one side to the other, keeping the opening of the mixing tip immersed in the paste. If necessary, use a spatula to smooth the impression material surface.
- When filling a impression tray, fill one side first. Release the “Start/Stop” button briefly and turn the tray over, then fill the other side.
- A mixing tip may be used only as long as the mixing shaft inside the mixer rotates smoothly. If the mixing process is interrupted for more than 30 seconds, the material inside the mixing tip will begin to set, and a new mixing tip must be attached (see Section 5.4, “Attaching the Mixing Tip”).

Caution: If the mixing unit is operated when there is set material inside it, the unit will beep 5 times and turn off automatically to prevent damage.

5.5 Replacing a Cartridge

1. Remove the mixing tip. (Fig.9)
 2. Open the cartridge release(Fig.10).
 3. Push the plunger indicator to retract the plungers back to the start position (Fig.11).
 4. To remove the cartridge from the unit.
- The LED (white, see Spare parts no.7) goes on when there is only a small amount of material left in the cartridge. We recommend to replace a new cartridge. To keep the inexhausted cartridges and use Vacu-connector to transfer unused material from three to four partial tubes to refill one tube. (Fig.12, For more information about connector, please contact your local agent).
 - If the cartridge is emptied during an extrusion, the blue LED(white, see Spare parts no.8) goes on, and a new cartridge must be replaced.

5.6 Disposal of Consumable Materials

Dispose of used mixing tips and empty cartridges in residual waste. Be sure to comply with local waste disposal regulations.

6. Maintenance and Cleaning

6.1 Cleaning

- Clean all components with a soft cloth. Solvents or abrasive cleaners may not be used in any case, as they can damage the plastic components!
- With the pistons retracted, the cartridge bed is easily accessible for cleaning.
- To disinfect all components, spray the disinfectant on a towel and use it to disinfect the unit. Do not spray the disinfectant directly on the device.
- Disinfectant agents must not enter the unit!
- Dry residual disinfectants on the device with a soft and fluff-free cloth, as they damage the plastic components.

Caution: Never use superheated steam for disinfection!

6.2 Maintenance and Repair

- No components inside the unit require servicing or repair by the user.
- Don't attempt to replace the battery yourself—you may damage the battery, which could cause overheating and injury. The lithium-ion battery in Vacu-Mixer should be replaced only by authorized service provider, and must be recycled or disposed of separately from household waste. Don't incinerate the battery.

7. Troubleshooting

Error	Error	Corrective action
The unit does not start, LEDs do not light	Battery exhausted.	Charging immediately.
The unit does not start, LED blinks in red	Low battery capacity.	Charging immediately.
Unit starts, but no paste extruded	The Cartridge lock does not lock.	Press down the Cartridge lock.
	Plungers have not contacted with the piston yet.	Use the Plunger indicator move the plungers forward until the plungers meet the piston.
Unit starts, but no paste extruded, LED in blue, beep 1 time and stop	Paste temperature too low.	Allow the pastes to warm to room temperature(minimum 18°C).
Unit starts, beeps 5 times and stop	Material has hardened in the mixing tip	Install a new mixing tip.
Cartridge cannot be removed / cannot be installed	Plungers have not fully retracted to their home position.	Press the plunger indicator to retract the plungers back to the start position.
LED does not light during charging	The unit does not connect to adaptor exactly.	To reconnect the adaptor exactly.

Customer Information

The following information is intended to assist you, the operator, in safely working with the Vacu-Mixer in your laboratory.

Using these operating instructions as a starting point, instruct all operators of the unit with regard to the area of application, the possible hazards during operation, and the proper operation of the unit.

Please have these operating instructions readily available for the operators.

A. Application Area

A.1 Proper Use

Vacu-Mixer is an automatic mixing unit for the preparation of impression materials. The Vacu-mixer is capable of working with 1:1 120ml cartridges. The 1:1 120ml cartridge has been specifically designed for this unit. This is the only form of packaging which can be used in Vacu-Mixer.

- **Always comply with all safety and processing instructions provided by the manufacturer!**
- **Impression materials are to be processed in accordance with the manufacturer's instructions!**
- **Only the mixing tips specified by the manufacturer may be employed.**

A.2 Technical Data

Cartridges:	Suitable for use with Vacu-Mixer Dimensions: 35 x 65 x 110 mm
Housing:	All parts of the housing are made of impact resistant plastic (polycarbonate,ABS)
Adapter:	Input: 100V - 240V , 50/60 Hz, AC Output: 12V , 1A , DC
Ambient temperatures:	18°C/64°F 40°C/104°F
Rel. humidity:	20% 80%
Classification:	Hazard Class I
Dimensions:	Vacu-Mixer: 59 x 82.5 x 270 mm, Vacu-Mixer on stand: L 275 mm xW 120 mm x H 256mm
Mixer Weight:	765g (empty, stand not included)
Storage and transport:	-20°C to + 60°C / -4°F to + 140°F Maximum rel. humidity 80%
Continuous sound pressure level:	>70 dB(A)

B. Hazard and Warning Information

- The unit may be used only in strict accordance with the following instructions. We accept no liability for any damage arising from any other or improper use of this unit.
- Only intended for indoor use. The unit is only designed for dry applications and may not be operated or stored outdoors or under wet conditions.
- If the unit is moved from a cold into a warm environment, condensation can result in a hazardous situation. Never begin operating the unit until it has reached the ambient temperature.
- To avoid electrical shock, do not insert any objects into the unit.
- Keep solvents, flammable liquids, and powerful heat sources away from the unit as they may damage the plastic housing.
- Do not allow any cleaning agents to enter the unit during cleaning as they could cause an electrical short or a dangerous malfunction.
- Only a properly trained, authorized technician may open the unit housing and repair the unit.
- Note any hazard or warning information provided by the material manufacturer.
- Do not operate in an explosion-prone area.

C. Authorized Individuals

Only properly trained individuals may operate and service the unit.
Any repairs not specifically described in these operating instructions may only be performed by a qualified electrician.

D. Maintenance / Repair

No components inside the unit require servicing or repair by the user.
Repairs may only be performed by qualified electricians or authorized dealers.

E. Disposal Information

E.1 Disposing of Consumables

Empty cartridges and used mixing tips must be disposed of in accordance with the manufacturer's instructions.

E.2 Instrument Disposal

The instrument must be disposed of by a specialist facility. This specialist facility must be informed of any hazardous residue in the instrument.

E.3 Meaning of the Symbols

The EU Directive prohibits the disposal of any electric or electronic devices marked with these symbols in combination with household waste.

F. Liability Exclusion

HO Dental Company shall be absolved from all claims for damages or warranty if:

- **The product is employed for any purposes other than those cited in the operating instructions;**
- **The product is altered in any way other than those alterations described in the operating instructions;**

- **The product is repaired by other than an authorized facility or if any but Ho Dental Company parts are employed;**
- **The product continues to be employed, despite obvious safety faults or damage;**
- **The product is subjected to mechanical impacts or is dropped.**

G. Warranty

HO Dental Company warrants this product to be free from defects in material and manufacture. HO Dental Company **MAKES NO OTHER WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** User is responsible for determining the suitability of the product for user's application. If this product is defective within the warranty period, your exclusive remedy and HO Dental Company's sole obligation shall be repair or replacement of the HO Dental Company product.