



BA Alginate Mixer

Instructions for use



MODEL: BASE900
REF: BA180005



CB HEALTHCARE CONSULTING GmbH
Am Neumarkt 34, 22041 Hamburg, Germany



B.A. INTERNATIONAL LTD.
Unit 9, Kingsthorpe Business Centre,
Studland Road, Kingsthorpe,
Northampton NN2 6NE U.K.



www.bainternational.com

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EXPLANPLANATION OF GRAPHICAL SYMBOLS

IEC 60878 and ISO 3864-B.3.6 : Warning: Dangerous voltage.

ISO 7000-0434 : Caution, consult ACCOMPANYING DOCUMENTS.

ISO 7000-1641 : Follow operating instructions or consult instructions for use.

IEC 60417 -5009 : STAND-BY.

SYMBOL DESCRIPTION



Caution, Indicates the need for the user to consult the instructions for use for important cautionary information, such as warnings and precautions that cannot, for a variety of reasons, be presented on the medical device itself.



Any warnings or precautions for immediate attention of the user. May be kept to a minimum, in which case, more detailed information in the IFU.



CE Mark: conforms to essential requirements of the Medical Device Regulation 2017/745 (EU).



Date and country of Manufacture; Indicates where and the date when the medical device was manufactured.



Manufacturer, Indicates the medical device manufacturer, as defined in Medical Device Regulation 2017/745 (EU).



UK Conformity Assessed.



EU Importer.



Indicates a carrier that contains unique device identifier information.



Serial number, Indicates the manufacturer's serial number so that a specific medical device can be identified.



Fragile, handle with care, indicates a medical device that can be broken or damaged if not handled carefully.



Keep dry, indicates a medical device that needs to be protected from moisture.



Indicates the item is a medical device.



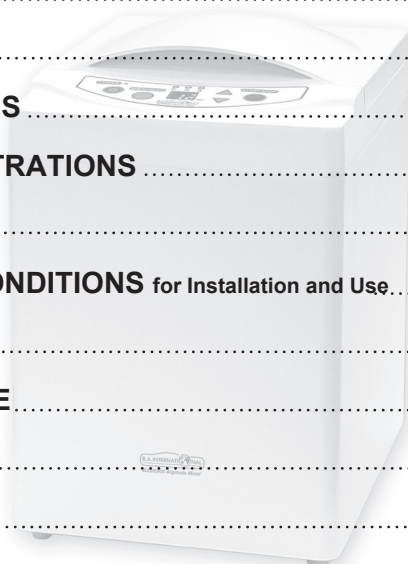
European Representative.

Users manual for

BASE900 BA Alginate Mixer

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INTRODUCTION

Thank you for purchasing the BASE900 BA Alginate Mixer. Designed with built-in microprocessors and pre-programmed, the BASE900 BA Alginate Mixer gives the highest performance efficiency to provide a complete bubble-free alginate mix of a fine consistency to obtain the perfect impression. The BASE900 BA Alginate Mixer uses centrifugation and by combining vibration and rotation mixes the dental alginate impression material in accordance with the ratio of powder/water and the pre-set recommended mixing time. None of items described in this User Manual apply to any other materials.

Prior to using the equipment, please read the **USER MANUAL** carefully.

Please keep the **USER MANUAL** in a safe place for future reference. Any modifications to subsequent models will not be notified to present users.

The BASE900 BA Alginate Mixer is for dental use only; please ensure that the apparatus is operated in accordance with the instructions in the user manual.

Any damage or repairs should be carried out by a fully trained professional. Please contact your local distributor.

>>According to the EU Medical Devices Regulation, users/patients are obliged to report serious events with a medical device to the manufacturer and to the competent authority of the country in which they occurred.

INTENDED USE

The BASE900 BA Alginate Mixer is a unique apparatus for mixing dental alginate used by dental practices and orthodontic professionals.

EXCLUSIONS

We shall not assume any responsibility for any malfunction, damage, accident or personal injury caused by:

1. The improper removal, modification, maintenance or repair not being carried out by BA International or their representative.
2. The use of product not provided by us.
3. The improper removal, modification, maintenance or repair with parts not provided by us.
4. The use not in compliance with the manual.
5. Changes to the ambient environment not in compliance with the power installation and user conditions specified on this manual.
6. Fire disaster, earthquake, flood, or lightning strike.

ADVISORY WARNINGS

Before use please read the “Important warning notices” marked below. All operation should be in compliance with any important notices specified in the manual to avoid any malfunction.

WARNING NOTICES



DANGER: indicates the risk of causing death or serious injury if the product is operated incorrectly without due care and attention.



WARNING: indicates the risk of causing malfunction or damage to the BASE900 Alginate Mixer if the product is operated incorrectly without due care and attention.



CAUTION: indicates the risk of causing a potential slight injury to the user and other persons, or damage to the product without due care and attention.



IMPORTANT: indicates risk of malfunction of machine, imperfect results, poor mixture or other effects.



EU-wide legislation, as implemented in each Member State, requires that waste electrical and electronic products carrying the mark (left) must be disposed of separately from normal household waste. This includes monitors and electrical accessories, such as signal cables or power cords. When you need to dispose of your display products, please follow the guidance of your local authority, or ask the shop where you purchased the product, or if applicable, follow any agreements made between yourself.

The mark on electrical and electronic products only applies to the current European Union Member States.

DETAILS AND ILLUSTRATIONS

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. Voltage adaptor
10. Fuse holder
11. Mixing bowl
12. Machine casing
13. Spatula
14. Mixing stick
15. Water-dosing bottle
16. Basket for miscellaneous articles
17. Retention bolts (immobilisation bolts) in base of unit.



USER ADVICE

Please adhere fully to the following operational guidelines to ensure smooth, malfunction-free operation.

1. Use cold water (10C° ~ 20C°) to extend the setting time. If using a fast-set alginate monitor the setting time carefully.
2. Before operating ensure that the Mixing bowl lid has been fully closed, to avoid any spillage or malfunction.
3. Capacity of alginate impression material for mixing is between 25g and 100g, never exceed 100g.
4. Only operate with a closed mixing cup to prevent the possible spillage while running.
5. Ensure small hole in the centre of Mixing bowl lid is free of debris or residue or this will impair closing.
6. Should any abnormal noise or vibration occur while in mixing, press the START/STOP button immediately and lift the cover to check contents.
7. The Mixing bowl is replaceable. Renew if damage or difficulty in closure is experienced.



Fig.1

8. There are two retention bolts (for immobilisation) at the base of the unit, these should be removed before use and replaced if the unit is moved or sent for repair, (Fig.1) this prevents unnecessary damage during transit.

ENVIRONMENTAL CONDITIONS FOR INSTALLATION AND USE

1. Conditions for installations and use:

- 1) For indoor use only.
- 2) Operating ambient temperature is between 25°C to 35°C (77°F~95°F)
- 3) Operating altitude is below 2000 metres and atmospheric pressures between 900 ~ 1600 millibars.
- 4) Relative Humidity is 15% to 95% @ 40°C, noncondensing
- 5) Operating area should be free of dust, acids or solvent vapours.
- 6) The required electric voltage: AC 100~120V or AC 210~230V.

2. Installation:

- 1) The BASE900 BA Alginate Mixer should be positioned on a firm, flat, vibration free surface.
- 2) Never install near to inflammable substances.
- 3) Keep away from water or moisture to avoid electric shock or mechanical problems.
- 4) Do not place anything on the cover or control panel to avoid any damage or spillage.

3. Before/After Transportation:

- 1) Before installing the BASE900 BA Alginate Mixer remove the two bolts fixed at the bottom and follow the instruction (Fig.1) to store them safely.
- 2) If the mixer needs to be moved or sent for repair, replace the bolts to immobilize the motor to prevent possible malfunction or damage.



Fig.2

IMPORTANT :

Keep the unit upright when removing/installing the screws to prevent disturbing the balance of the motor.

4. Power:

- 1) Check the power switch on the back of the unit is off, and then connect the power cord to the voltage adaptor. (Fig. 2)
- 2) Plug into a standard AC outlet, with co-axial cable of AC 210~230V 50/60Hz with a 6.3Amp fuse or AC100~120V 50/60Hz with a 10Amp fuse. In order to avoid electric shock, the electric power cord shall be earthed.



Warning:

- Check to see the BASE900 BA Alginate Mixer's voltage requirement matches your power source. Damage to the BASE900 BA Alginate Mixer, electric shock, or fire may occur if voltages are incompatible.
- Keep any potentially dangerous substances (such as flammables, water sources, and contaminants), a minimum of 30cm (1ft) radius from the BASE900 BA Alginate Mixer.
- Ensure that hand and body are dry when touching power socket, main switch or operating the equipment.

INSTRUCTIONS

Mixing alginate:

- 1) Turn on the main switch on the back of the machine (Fig.3). LED indicator will light on the left side of the control panel and the BASE900 BA Alginate Mixer is ready for operation.
- 2) Press "POWER" on/off button on the control panel to display time indicator showing digital pre-set mixing time (Fig.4).



Fig.3



Fig.4

CAUTION:

- Always keep the equipment in a sleep mode with "the time display is off" when not in use.
- Do not operate empty. The BASE900 BA Alginate Mixer is designed to operate when material is in the Mixing bowl. **No impression material, no operation!**

- 3) Measure the appropriate amount of powder using the scoop and instructions supplied with the chosen alginate material.

NOTE: Before dosing, agitate 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.

- 4) Using the water dosing bottle or a beaker measure the appropriate amount of cold water at room temperature (10~20°C). Add water to the alginate in Mixing bowl.



Fig.5

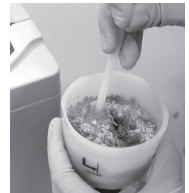


Fig.6

! IMPORTANT: The setting time of alginate can be controlled by different water temperature. Care should be taken as setting time will be shortened if cold water is not used, particularly in summer.

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



Fig.7



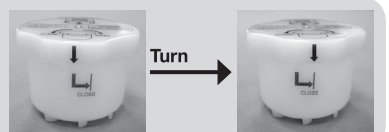
Fig.8

- 6) Stir the alginate powder and water together in the Mixing bowl for about 2 seconds before placing it into the mixing well (Fig.6). The user can alternatively, shake the cup a few times for preliminary mixing before placing it into the mixer if not using the stirrer provided. Skipping this pre-mix step may result in poor mixing or imperfect consistency of mixture.

HINT: Scrape the stirrer along the edge of mixing bowl to remove excess material and avoid any residual staining.

- 7) Close the lid of the Mixing bowl tightly. Ensure the small hole in the centre of the lid is not blocked. (Fig.7/Fig.8)

! IMPORTANT: The Mixing bowl lid must be closed tightly; otherwise spillage or splash may occur or separated lid may hit against the cover. The Mixing bowl lid is replaceable, please renew if it becomes loose fitting.



- 8) Place the Mixing bowl securely into the mixing well. (Fig.9)

NOTES: Follow these instructions swiftly to avoid the early setting of alginate mixture. Remember, longer preparation, leaves shorter setting and working time.

- 9) Machine will not operate unless the lid is properly closed.
- 10) Select the mixing time from the table in this Page for the quantity of alginate used. Press the **START** button to run operation (Fig.10). For safety, the cover of the mixer is locked during operation. The digital timer will count down in 1 second intervals and at completion a “beep” will sound and the cover will unlock

! IMPORTANT: Changing the mixing time will affect the setting and working time of the alginate. Please set the mixing time as short as required to obtain longer setting and working time.

NOTE: The working/setting time increases with a lower (water) temperature. At higher temperatures the time becomes shorter. The water hardness has the same effect; harder the water used for mixing, the shorter the working/setting time.

! IMPORTANT: Pressing the button **START/STOP** will stop the mixer immediately. If any abnormal conditions occur during operation, the mixer should be also stopped immediately to conduct an inspection. If the abnormal condition cannot be rectified, please return mixer for repair

- 11) When mixing is complete, open the cover and remove the Mixing bowl. Use the spatula to remove the alginate mixture and fill the required impression tray(s) immediately. (Fig.11).

! WARNING: Although the mixer stops automatically, do not open the cover until the “beep” has sounded.



Fig.9



Fig.10



Fig.11

SET THE MIXING TIME

- 1) The timer has three pre-set memory programs (1). (Each memory can be altered and re-programmed by the user).
- 2) Press **MEMORY/SELECT** button to select time required for mixing.
- 3) To manually adjust the time press the **▲ or ▼** button. The maximum mixing time is 16 seconds. When the mixing is complete, the mixing time will return to its original pre-programmed time.
- 4) To permanently modify a pre-set mixing time, press the **▲ or ▼** button to the required mixing time. Then press **▲ or ▼** simultaneously. The mixer will sound 2 beeps and mixing time display will flash twice.
- 5) The new mixing time will now be stored as a pre-set in the memory.

(1)

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

(2)

Alginate Scoops	Estimated Weight (incl. water)	Estimated Mixing Time (50Hz)	Estimated Mixing Time (60Hz)
1	≈ 25 g	7 ~ 10 sec	6 ~ 9 sec
2	≈ 35 g	8 ~ 11 sec	7 ~ 10 sec
3	≈ 45 g	9 ~ 12 sec	8 ~ 11 sec

! CAUTION: Increase mixing time hastens the setting of the impression material.

! IMPORTANT:

1. The above recommendation re alginate measurement and mixing time is an average time. Any difference in water temperature or room temperature suggested by the alginate manufacturer will require a different mixing time.
2. Always adhere to the manufacturers instructions when set the mixing time for the quantity used.

MAINTENANCE

1. Turn off the main switch and disconnect the BASE900 BA Alginate Mixer from its power source before any cleaning or maintenance procedures.
2. Do not clean while the mixer is operating or at high temperatures.
3. **Mixing bowl:** After setting the remained residues of impression material inside the Mixing bowl can be cleaned and removed easily. Always remove any blocks or residue from the small hole at the centre of the lid. (Fig.12)

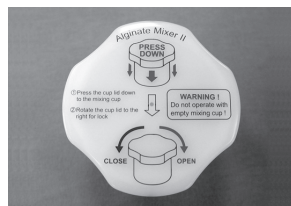


Fig.12

! IMPORTANT:

Cleaning: Residues on the inside of the mixer or mixing bowl or inside of the lid can affect the mixing power. Clean these areas with a dry cloth or water-soaked cloth (not wet). If serious stained, please use a neutral cleaning agent. Ensure any liquid used in cleaning is removed before next use as it may cause problems on subsequent mixing.

! CAUTION:

Never use the solvent or volatile oil for cleaning, this may damage the machine.

TROUBLESHOOTING

! IMPORTANT: Below is a list of hints for problem solving. If problems still persist, please contact BA International and return item for repair.

PROBLEM	CAUSES	SOLUTIONS
BASE900 BA Alginate Mixer does not turn on	• Power cord is disconnected from power source or main power switch is off. • The Fuse is blown.	• Inspect and connect the power cord to the outlet and check the main power switch. • Inspect and/or change the fuse.
BASE900 BA Alginate Mixer 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 • Start but idle running nothing inside the Mixing bowl • The amount of mixture is too much • Mixing bowl lid come off • Damage of gears	• Remove 2 screw nuts from the bottom • Stop the mixer. Make sure to add the mixture into the cup • Limit the mixture to 3 scoops • Stop the mixer. Close Mixing bowl lid well • Send for repair
Time display does not light up	PCB faulty	Send for repair
Poor mixing	• Incorrect ratio of powder/water • Preliminary mixing is not done (for bulk amount mixture over 2 scoops) • Too short of mixing time • Insufficient speed of rotation • Poor quality of alginate or expired	• Check correct ratio of powder / water • Pre-mix the alginate powder in the Mixing bowl with stirrer, or shake a few times, before put into the mixer • Reset the mixing time • Send for repair • Change a new batch alginate
Error code "E1" appear on the time display	The top cover is not properly closed	Close the top cover again
Error code "E2"	Defective control board	Send for repair

SPECIFICATION

Model:	BASE900 BA Alginate Mixer
Power:	AC 100~120V or AC 210~230V
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 (L) x 290 (H) mm
Weight:	38.6 lb (17.5 kg)
Capacity:	25~100g (bowl)
Timer:	1~16 seconds, adjustable
Programs:	3 Memories (pre-set 8, 10 & 12 seconds) Automatic
Safety functions:	door locking and stopping
System operational conditions:	Temperature: 25°C to 35°C (77°F~95°F) Humidity: 15% to 95% @ 40°C, noncondensing Atmospheric, Pressure: 700-1060 hpa
System storage conditions:	Temperature: -20°C to 65°C (-4°F~149°F) Humidity: 15% to 95% @ 40°C, noncondensing Atmospheric, Pressure: 700-1060 hpa
System transportation conditions:	Temperature: -20°C to 65°C (-4°F~149°F) Humidity: 15% to 95% @ 40°C, noncondensing Atmospheric, Pressure: 700-1060 hpa
Altitude:	below 2000 meters

CHECK LIST OF SERVICE & MAINTENANCE

NOTE:

EMC TABLES

Guidance and manufacturer's declaration – electromagnetic emissions

The model BASE900 is intended for use in the electromagnetic environment specified below.
The customer or the user of the model BASE900 should assure that it is used in such an environment.

Emissions test	Compliance	Electromagnetic environment – guidance
RF emissions CISPR 11	Group 1	The model BASE900 uses RF energy only for its internal function. Therefore, its RF emissions are very low and are not likely to cause any interference in nearby electronic equipment.
RF emissions CISPR 11	Class B	The model BASE900 is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purposes.
Harmonic emissions IEC 61000-3-2	Class A	
Voltage fluctuations/ flicker emissions IEC 61000-3-3	Not applicable	

Recommended separation distances between portable and mobile RF communications equipment and the model BASE900

The model BASE900 is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the model BASE900 can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the model BASE900 as recommended below, according to the maximum output power of the communications equipment.

Rated maximum output power of transmitter W	Separation distance according to frequency of transmitter m		
	150 kHz to 80 MHz $d = 1,2 \sqrt{P}$	80 MHz to 800 MHz $d = 1,2 \sqrt{P}$	800 MHz to 2,5 GHz $d = 2,3 \sqrt{P}$
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in metres (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

NOTE 1 At 80 MHz and 800 MHz, the separation distance for the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

EMC TABLES

Guidance and manufacturer's declaration – electromagnetic immunity			
The model BASE900 is intended for use in the electromagnetic environment specified below. The customer or the user of the model BASE900 should assure that it is used in such an environment.			
Immunity test	IEC 60601 test level	Compliance level	Electromagnetic environment – guidance
Electrostatic discharge (ESD) IEC 61000-4-2	± 6 kV contact ± 8 kV air	± 6 kV contact ± 8 kV air	Floors should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %.
Electrical fast transient/burst IEC 61000-4-4	± 2 kV for power supply lines ± 1 kV for input/output lines	± 2 kV for power supply lines ± 1 kV for input/output lines	Mains power quality should be that of a typical commercial or hospital environment.
Surge IEC 61000-4-5	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	± 1 kV line(s) to line(s) ± 2 kV line(s) to earth	Mains power quality should be that of a typical commercial or hospital environment.
interruptions and voltage variations on power supply input lines IEC 61000-4-11	<5 % <i>UT</i> (>95% dip in <i>UT</i>) for 0,5 cycle 40 % <i>UT</i> (60 % dip in <i>UT</i>) for 5 cycles 70 % <i>UT</i> (30 % dip in <i>UT</i>) for 25 cycles <5 % <i>UT</i> (>95% dip in <i>UT</i>) for 5 sec	<5 % <i>UT</i> (>95% dip in <i>UT</i>) for 0,5 cycle 40 % <i>UT</i> (60 % dip in <i>UT</i>) for 5 cycles 70 % <i>UT</i> (30 % dip in <i>UT</i>) for 25 cycles <5 % <i>UT</i> (>95% dip in <i>UT</i>) for 5 sec	Mains power quality should be that of a typical commercial or hospital environment. If the user of the model BASE900 requires continued operation during power mains interruptions, it is recommended that the model BASE900 be powered from an uninterruptible power supply or a battery.
Power frequency (50/60 Hz) magnetic field IEC 61000-4-8	3 A/m	3 A/m	Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.
NOTE <i>UT</i> is the a.c. mains voltage prior to application of the test level.			

Guidance and manufacturer's declaration – electromagnetic immunity

The model BASE900 is intended for use in the electromagnetic environment specified below.
The customer or the user of the model BASE900 should assure that it is used in such an environment.

Immunity test	IEC 60601test level	Compliance level	Electromagnetic environment – guidance
Conducted RF IEC 61000-4-6	3 Vrms 150 kHz to 80 MHz	3 Vrms	Portable and mobile RF communications equipment should be used no closer to any part of the model BASE900, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter. Recommended separation distance $d = 1,2 \sqrt{P}$ $d = 1,2 \sqrt{P}$ 80 MHz to 800 MHz $d = 2,3 \sqrt{P}$ 800 MHz to 2,5 GHz where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer and d is the recommended separation distance in metres (m). Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey, ^a should be less than the compliance level in each frequency range. ^b Interference may occur in the vicinity of equipment marked with the following symbol: 
Radiated RF IEC 61000-4-3	3 V/m 80 MHz to 2,5 GHz	3 A/m	

NOTE 1 At 80 MHz and 800 MHz, the higher frequency range applies.

NOTE 2 These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a. Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, and electromagnetic site survey should be considered. If the measured field strength in the location in which the model BASE900 is used exceeds the applicable RF compliance level above, the model BASE900 should be observed to verify normal operation. If abnormal performance is observed, additional measures may be necessary, such as reorienting or relocating the model BASE900.

b. Over the frequency range 150 kHz to 80 MHz, field strengths should be less than V/m.

