Micromotor MX2

Instruction

REF 2100199-0004/2014.05/ENG

English

Medical devices entirely made in Switzerland by Bien-Air Dental SA.

Identification
Brushless electric micromotor.
The most commonly used coupling in the world as per ISO Standard 3964 with internal spray and light with LED light.
Sterilisable motor
USA Caution: Federal law restricts this device to sale by or on the order of a dentist.

Intended use

Product intended for professional use only. Use in dentistry for prophylaxis, general dentistry and endodontics work and in the field of body care and health treatment. The device is not designed for use in an explosive atmosphere (anaesthetic gas).
The device is intended for medical treatment only; any use other than that for which this product is intended is unauthorised and may be dangerous. The medical device meets all the current legal requirements.

Technical data

Classification
Class IIa in accordance with European Directive 93/42/EEC concerning medical devices. This medical device is in compliance with the legislation in force.

Electrical safety
According to IEC 60601-1 standard (General safety for Medical Electrical Equipement), the device shall be classified as a class II type B device.

Associated terminology is defined in sections 3.14 (3.13 if Class I) & 3.132 of the same standard. The following requirements as specified in IEC 60601-1 apply:
- Protection against electrical shock
- Ingress of liquids
- Protection against excessive temperatures and other safety hazards

Electromagnetic compatibility
Corresponds to the electromagnetic compatibility in accordance with IEC 60601-1-2. Declaration by the manufacturer regarding electromagnetic compatibility.

Hose Junction fig. 1
Hose with connector type MX2.
Brushless type, 3-phase. Effective power according to the type of electronic power supply used.
Synchronous motor with permanent magnets.
Body of chromium and nickel-plated brass. Stainless steel nose.

Rphase
0.8 Ohm (included hose MX2 resistance).
Lphase
55 µH
Torque constant
6 mNm/ A rms
Back emf constant
6.5 mV/(rad/s).

Permanent 1.25 A rms
I max.5.0 A rms [10s]

Cooling
Through compressed air from the unit. Place the flowmeter on the connector and set 10 to normliter/ min. **fig. 2**.

Air consumption output
10 Nl/min (+/-10%).

Dimensions
Ø 21.2 x 73.5 mm (0.83 x 2.90 inches) including the nose attachment.

Coupling
Nose in accordance with ISO 3964, with internal spray and light.

Weight
94 g (3.18 oz) without the cable.

Operating times
According to the type of electronics used.
Noise level
In accordance with ISO 11498, less than 53 dBA at 45 cm (17.72 in).

Recommanded rotation speed
Max. 40.000 rpm.

Direction of rotation
Clockwise and anticlockwise.
Torque
Depending on the type of electronic controller used.

Light
LED, variable from 10 klux to 38 klux.

Assembly

⚠ **Important**
Never connect an instrument on a running micromotor.
Changing the seals, fig. 3

Disposal

This device must to be recycled. Electrical and electronic equipment may contain dangerous substances which constitute health and environmental hazards. The user must return the device to its dealer or establish direct contact with an approved body for treatment and recovery of this type of equipment (European Directive 2002/96/EC).

Maintenance

⚠ **Important**
- The instrument is delivered "non sterile".
- Before using for the first time and within a maximum of 30 minutes after each treatment, clean, disinfect the attachment, then sterilise. Observing this procedure eliminates any blood, saliva or saline solution residues.
- Do not immerse in an ultrasonic bath.
- **Do not clean in a washer-disinfectant unit fig. 8**.
- Only use original Bien-Air Dental maintenance products and parts or those recommended by Bien-Air Dental. Using other products or parts may cause operational failure and/or void the guarantee.

In the event of prolonged disuse, the instrument must be stored in a dry environment. Clean and sterilise the instrument before reuse.

Precautions of use
The standard precautions in particular wearing individual protection equipment (gloves, glasses…), must be complied with by healthcare personnel working with contaminated or potentially contaminated medical instruments. Pointed and sharp instruments should be handled with great caution.
Check that the steriliser and the water that is used are clean. After each sterilisation cycle, remove the device from the sterilising apparatus immediately, in order to reduce the risk of corrosion.

We recommend that the motor is cleaned and sterilised as described below before the initial first use and subsequently after each treatment.

❶ Cleaning

The external surface of the motor must be cleaned to remove impurities as follows **fig. 4**.
- Hold the motor by the nose under running water (< 25ºC) as shown in the diagram below
- With the aid of a soft bristled brush, clean the external surface of the motor.
- Avoid allowing water to enter internally into the motor either by the the nose or hose connector.

❷ Disinfection

Carefully rub the external surfaces of the motor, for approximately one minute, with a soft bristle brush impregnated with a detergent or disinfectant solution **fig. 5**.

The motor must be rinsed as follows fig. 4
- Hold the motor by the nose under running water (< 25ºC) as shown in the diagram below
- Avoid allowing water to enter internally into the motor either by the the nose or hose connector.

Suitable detergents
- Detergent or detergent-disinfectant (pH 6- 9.5) recommended for cleaning-disinfection of dental or surgical instruments.
- Quaternary ammonium- and/or enzyme-based surfactants.
- Do not use solutions that are corrosive or contain chlorine, acetone aldehydes or bleaches.
- Do not soak in physiological liquid (NaCl).

❸ Sterilisation

Do not use a sterilisation procedure other than the one described below.
Procedure: Fractionated pre-vacuum steam sterilisation, Class B cycle acc. to EN13060. The procedure has been validated according to ISO 17664. All Bien-Air Dental straight handpieces are sterilisable in an autoclave up to 135°C (273.2°F). Duration: 3 or 18 min., depending to the national requirements in force.

Important
The quality of the sterilisation depends very much on the cleanliness of the device. Only perfectly clean devices may be sterilised **fig. 6**.
The instrument will function in excess of 500 sterilisations.

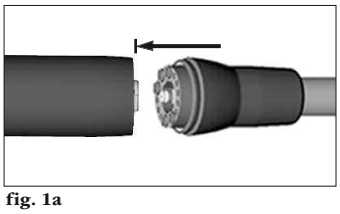
fig. 1a

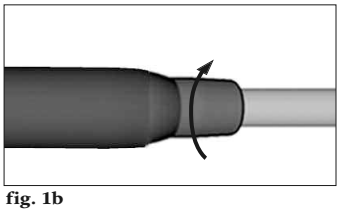
fig. 1b


fig. 2


fig. 3

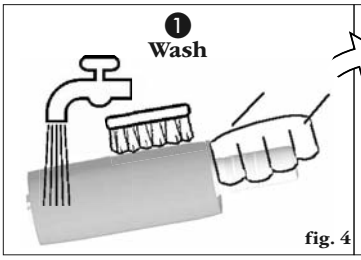

fig. 4

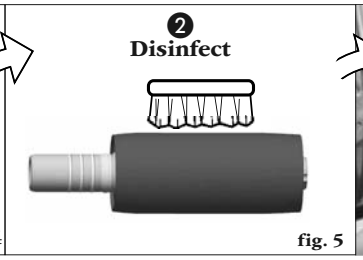

fig. 5

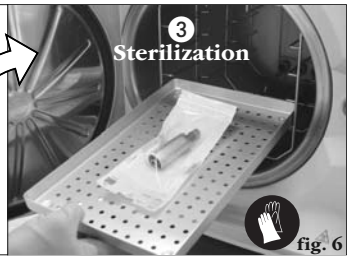

fig. 6

fig. 7

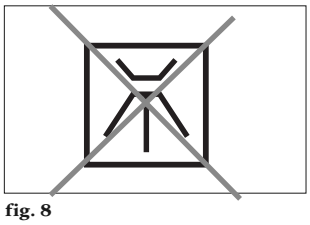
fig. 8

❹ Lubrication

⚠ **Important**
The Bien-Air Dental motor MX2 is maintenance free. Do not spray any lubricant or cleaning solution into the motor fig. 7!

Servicing
Never disassemble the device. For all modification and repair, we recommend that you contact your regular supplier or Bien-Air Dental directly. Bien-Air Dental asks the user to have its dynamic instruments checked or inspected at least once a year.

Transportation and storage conditions
Temperature between -40°C (-40°F) and 70°C (158°F), relative humidity between 10% and 100%, atmospheric pressure 50 kPa to 106 kPa (7.3 to 15.3 psi).

Information
The technical specifications, illustrations and dimensions contained in these instructions are given only as a guide. They may not be the subject of any claim. The manufacturer reserves the right to make technical improvements to its equipment, without amending these instructions. For all additional information, please contact Bien-Air Dental SA at the address indicated on the back cover.

Other precautions for use

The device must be used by a qualified professional in compliance with the current legal provisions concerning workplace safety, health and accident prevention measures, and these working instructions. In accordance with these requirements, the operators:

- must only use operating devices that are in perfect working order; in the event of irregular functioning, excessive vibration, abnormal heating or other signs indicating malfunction of the device, the work must be stopped immediately; in this case, contact a repair centre that is approved by Bien-Air Dental;
- must ensure that the device is used only for the purpose for which it is intended, must protect themselves, their patients and third parties from any danger, and must avoid contamination through the use of the product.

Rest the device on a suitable support to avoid risks of infection for yourself, the patient or third parties.

- To ensure the lifetime of the instrument, it is essential to maintain the quality of the cooling air and water utilised.

The compressed air should be dry and purified and the compressor should be regularly maintained. To avoid the tubing and connectors from blocking, the water should be filtered and purified to avoid impurities and build-up of high levels of calcium deposits.

Guarantee

Terms of guarantee
Bien-Air Dental grants the operator a guarantee covering all functional defects, material or production faults. The device is covered by this guarantee for 36 months from the date of invoicing.

In the event of justified claim, Bien-Air Dental or its authorised representative will fulfil the company's obligations under this guarantee by repairing or replacing the product free of charge.

Any other claims, of whatever nature, in particular in the form of a claim for damages and interest, are excluded.

Bien-Air Dental shall not be held responsible for damage or injury and the consequences thereof, resulting from:

- excessive wear and tear
- improper use
- non-observance of the instructions for installation, operation and maintenance
- unusual chemical, electrical or electrolytic influences
- poor connections, whether of the air, water or electricity supply.

The guarantee does not cover flexible "fibre optic" type conductors, or any parts made of synthetic materials.

The guarantee shall become null and void if the damage and its consequences are due to improper manipulation of the product, or modifications to the product carried out by persons not authorised by Bien-Air Dental.

Claims under the terms of the guarantee will be considered only on presentation, together with the product, of the invoice or the consignment note, on which the date of purchase, the product reference and the Serial No. should be clearly indicated.

REF 1600677-001 MOT MX2

Set supplied

MX2
REF 1600677-001

REF 1300967-010

Optional accessories

REF 1600678-001

10x
REF 1300967-010

REF 1501393-001
REF 1501384-001

REF 1600307-001

REF	Legend
1600677-001	Micromotor MX2, with internal spray and LED
1600678-001	Hose MX2 Grey, fixed connector, with air flow return
1300967-010	O-Ring for the motor MX2
1501393-001	Electronic DMX2 Plus
1501384-001	Electronic DMX2 Pro
1600307-001	Flow-meter for micromotors MX2

List of Bien-Air Dental SA registered trade mark products ®:

Aquilon®, Bora®, Boralina®, ChiroPro®, Eolia®, Gyro®, Gyrolina®, Isolite®, Lubrifluid®, Lubrimed®, MX®, PowerCare®, Prestilina®, Spraynet®

In these instructions, "Device" corresponds to the product described in the heading "Identification". For example, turbine, contra-angle, handpiece, micromotor, tube, electronics, connectors, station etc.

Symbols

CE 0120 — CE Marking with number of the notified body.
Manufacturer.
Attention.
Recyclable electrical and electronic material.
Wear rubber gloves.
Electrical security. Applied part type B.
135°C — Sterilisable at the specified temperature.
Move in the direction indicated.
Light.
Move fully to the stop, in the direction indicated.

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