Lares Research

ProStyle E LED Motor

Operating Manual

REF 13185 CE 0120

Lares Research
295 Lockheed Ave
Chico, CA 95973

Identification:
Brushless electric sterilizable micromotor. Handpiece attachment per ISO 3964 with internal sprays and LED lighting.

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 general dentistry work. Any use other than that for which this device is intended is prohibited and may prove dangerous.
This device is not designed for use in an explosive atmosphere (anesthetic gas)

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 Equipment), The device shall be classified as a class II type B device. Associated terminology is defined in sections 3.14 (3.13 in 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 60601-2. Declaration by the manufacturer regarding electromagnetic compatibility.

Hose Junction
Lares ProStyle E control hose with connector. 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
0.9 Ohms (included hose MCX resistance)
Lphase
60μH
Torque constant
5.20 mNm/A rms
Permanent
1.25 A rms
I maximum
5 A rms (10s)
Cooling
Though compressed air from the unit. Place the flow meter on the connector and set to 10 normliter/min (figure 2).
Air consumption
10 Nl/min
Dimensions
∅21 X 64 mm (0.82 X 2.51 inches) including the nose attachment.
Coupling
Nose in accordance with ISO 3964, with internal spray and light.
Weight
76g (2.68 oz.) without the cable.
Operating times
According to the types of electronics used.

Noise Level
In accordance with ISO 11498, less than 53 dBA at 45 cm (17.72 inches).

Motor Speed
Maximum 40,000 rpm
Recommended Rotation speed
From 1000 rpm to a maximum 40,000 rpm
Direction
Clockwise and anti-clockwise
Torque
Depending on the type of electronic controller used.
Light LED
LED, variable from 10k LUX to 38k LUX.

Important
The device must not be started without a bur inserted into the chuck.
To ensure that your Contra-angle/micro motor unit functions with maximum efficiency, it must be cooled by an air supply of 8-10 standard liters per minute on the nose of the micro-motor (figure 2).
Never mount an instrument on a rotating motor.
Disposal
This device must be recycled. Electrical and electronic equipment may contain dangerous substances which constitute health and environmental hazards. The user must return the device to an approved body for treatment and recovery of this type of equipment (European Directive 2002/96/EC).

Maintenance
Separately clean and sterilize the device before the treatment of each patient.
Important
● The motor is delivered "non-sterile".
● Before using for the first time and within a maximum of 30 minutes after each treatment, clean, disinfect the motor, then sterilize. Observing this procedure eliminates any blood, saliva or saline solution residues and prevents the transmission system from being blocked.
● Do not clean in a washer/disinfectant unit.
● Do not immerse in an ultra-sonic bath.
● Use only Lares Research provided maintenance products and parts or those recommended by Lares Research. Using other products or parts may cause operational failure and/or void the warranty.

Precautions of Use
The universal precautions, in particular wearing of personal protective equipment (gloves, goggles etc.), should be complied with by medical personnel using or performing maintenance of medical devices that are contaminated or potentially contaminated.
Pointed and sharp instruments should be handled with great caution.
Check that the sterilizer and the water that is used are clean. After each sterilization cycle, remove the device from the sterilizing apparatus immediately in order to reduce the risk of corrosion.
We recommend that the motor is cleaned and sterilized as directed below before the initial first use and subsequently after each treatment.

Suitable Detergent
For manual cleaning-disinfection:
● Lares Clean-N-Dry spray.
● Detergent or detergent-disinfectant (pH 6-9.5) recommended for cleaning-disinfection of dental or surgical instruments. Quarternary ammonium- and/or enzyme-based surfactants.
● Do not use detergents that are corrosive or contain chlorine, acetone, aldehydes or bleaches.
● Do not soak in physiological liquid (NaCl).

Important
In the event of prolonged disuse, the motor must be stored in a dry environment. Clean and sterilize the motor before reuse.
After cleaning and disinfecting/sterilizing the motor and before using it, operate at moderate speed, with a bur in the chuck, for 10 to 15 seconds to verify function.

① Cleaning
The external surface of the motor must be cleaned to remove impurities as follows.
● Hold the motor by the nose under running water (<25C) as shown in diagram, figure 4.
● With the aid of a soft bristle brush, clean the external surface of the motor.
● Avoid allowing water to enter internally into the motor either by the nose or the connector.
② 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 (figure 5).
The motor must be rinsed as follows
Rinsing:
Rinse the outside of the device with cold running water (<35C/<95F) for about 30 seconds. Avoid allowing water to enter internally into the motor either by the nose or the connector.
Drying:
Dry immediately to remove all traces of detergent and rinsing water to prevent any adverse impact on the internal components, e.g. which might cause them to seize. If necessary, clean with a dry paper towel.

③ Lubrication, checks and conditioning process
Verify cleanliness
Visually check the cleanliness of the motor. If required, re-clean with a soft brush.
The ProStyle E Motor is maintenance free and does not require lubrication.
Do not spray any lubricant or cleaning solution into the motor!

Packaging process
Wrap the motor in a cleared, approved packaging for steam sterilization.

④ Sterilization
Important
The quality of the sterilization depends very much on the cleanliness of the device. Only perfectly clean devices may be sterilized.

Do not use a sterilization procedure other than the one described below.

Procedure:
Autoclave with steam after fractioned initial vacuum phase, Class B according to EN13060.
The procedure has been validated to ISO 17664.
Nominal temperature: 134C (273F). Duration 3 or 18 minutes according to the national guidelines in force.
The motor will function in excess of 500 sterilizations.

Servicing
O-rings should be changed when they are damaged or leaking (figure 3).
Never disassemble the device. For any modification or repair, we recommend that you contact your account manager directly. Lares Research asks that you have the device checked or inspected once per year.

Transport and storage conditions
Temperature between -40C (-40F) and 70C (158F), relative humidity between 10% and 100%, atmospheric pressure 50 kPa to 106kPa (7.3 to 15.3 psi).
Information
The technical specifications, illustration 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 Lares Research directly at 1-888-333-8440.

Other precautions for use
The device must be used by a qualified person in accordance with the current legal provisions concerning industrial 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 repair center.
● 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.
Excess material from products used for maintenance (lubricants, cleaning products and disinfectants) originating from the motor may penetrate into the electric motor and interfere with its functioning. It is essential to follow the maintenance instructions accompanying each product. Never lubricate the electric motor.
Recommendations
It is essential to use dry, purified compressed air in order to ensure the long working life of the device. Maintain the quality of the air and water by regular maintenance of the compressor and filtration systems. The use of unfiltered hard water will lead to early blockage of the tubes, connectors and spray ports.
The device must not be used in the presence of open lesions, injury to soft tissue or recent extractions. The exhaust air could propel infected material into the wounds and cause infections and risk embolism.
The device is intended for medical treatment only; any use other than that for which this product is intended is unauthorized and may be dangerous. The medical device meets all the current legal requirements.

Warranty
Each Lares ProStyle E Motor is warranted against defects in materials and workmanship for a period of 3 years from the date of purchase.
Additional Conditions of Warranty:
1. Warranty registration is automatic as of shipping date (Outside the US warranty registration may be required).
2. The motor must be operated and maintained in accordance with procedures outlined in these instructions.
3. The motor must not be subjected to abuse or neglect.
4. The motor must not be repaired or disassembled by anyone other than Lares Research or your authorized Lares distributor.
Lares Research will repair or replace, at its discretion without charge, any defective parts covered by this warranty provided the ProStyle E motor is returned to the factory, transportation prepaid. (Outside the US return to your authorized Lares distributor.) Lares Research makes no other warranties expressed or implied.

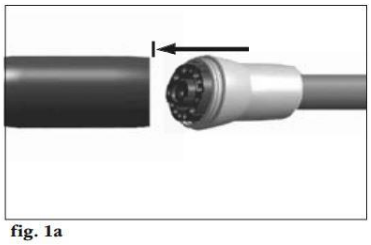

fig. 1a

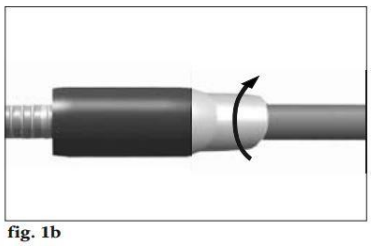

fig. 1b

fig. 2

fig. 3

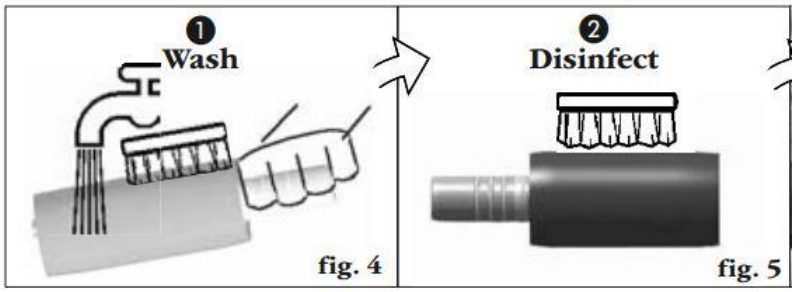

fig. 4

fig. 5