

OPERATIONS GUIDE

BLUEDENT XPRESS – cable powered LED curing light



- Black color
- Silver color



- 100-240V AC
- 24V AC-DC
- 12V AC-DC



OPERATIONS GUIDE

ATTENTION!

Before installation and starting work with the unit, carefully read this guide!



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I. UNIT DESCRIPTION AND FUNCTION

LED curing light BLUEDENT XPRESS is a light source for intraoral polymerization of dental materials. The unit uses LED (Light Emitting Diode) module as the light source.

The emitted light is in the wavelength range 390-510 nm (the relevant range for camphor quinone - containing products).

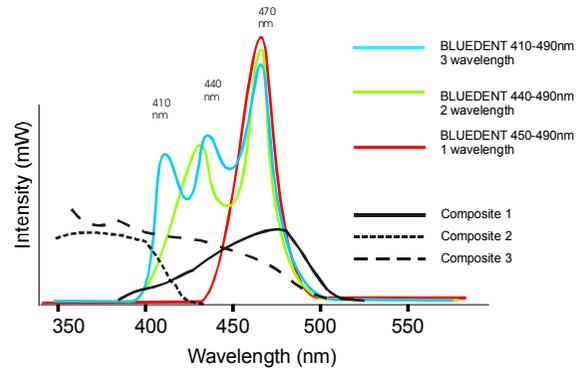
BLUEDENT XPRESS consists of Emitting handpiece.

BLUEDENT XPRESS is produced in conformity with MDD 93/42/EEC and 2007/47/EC.

II. TECHNICAL DATA

1. Operating voltage - noted on front page:
110-240VAC, 50-60Hz or 24VAC-DC(±10%) or 12VAC-DC (±10%)
2. Power consumption - 0,115 A for 220VAC, 0,35A for 24VAC-DC and 0.7A for 12VAC-DC
3. Dimensions:
- Emitting handpiece
diameter - 14 x 16 mm
length - 225 mm
4. Weight of Emitting handpiece - 150 g
5. Light intensity:
- In RAMP mode - 1500 mW/sq.cm
- In HYPER mode - 3500 mW/sq.cm
6. Emitting time:
- In RAMP mode - 10 / 20 sec. /±5% /;
- In HYPER mode - 3 / 3+3 sec. /±5% /;
7. Emitted light - blue, 450-490 or 410-490 nm.
8. Light source - 4 powerful LED crystals

3 broadband LEDs covering all photoinitiators in 410-490 nm wavelength range.



1. Emitting handpiece 2. LED module 3. Start/Stop button 4. Color indication ring 5. Cable

9. Soft start:

- In RAMP mode - 4 sec. after unit's activation

10. Audible signal:

- In RAMP mode - every 10 sec.
 - In HYPER mode - every 3 sec.
- Possibility to turn off the audible sound.

11. Possibility for start and stop of Emitting handpiece at any moment.

12. Working mode:

- XPRESS - (1 min. lighting / 10 min rest.)

The manufacturer of this unit declares to provide on request all additional necessary technical documentation / information which will help the user's technical staff to service the parts of the unit which the manufacturer has claimed to be a subject for repair.

III. ACCESSORIES AND SPARES

1. Emitting handpiece - 1 pce.
2. Adapter - 1 pce.
3. Handpiece holder - 1 pce.
4. Barrier sleeve - 50 pcs.
5. Operations guide - 1 pce.

IV. SAFETY PRECAUTIONS

As with all technical devices, the proper function and safe operation of this unit depend on the user's compliance with the standard safety procedures as well as the specific safety recommendations described in this Operations guide.

1. The unit must be used in strict accordance with the Operations guide. The manufacturer accepts no liability for any damage resulting from the use of this unit for any other purposes.
2. Before start-up of the unit make sure that the operating voltage indicated on the unit label corresponds to the mains voltage. Operation of the unit at a different voltage may damage the unit.

Electrical safety is ensured by Protection class II against electrical current damages according to EN 60601-1. Use of "Shuko" plug or unit's grounding is not necessary.

BLUEDENT should be operated in indoor premises, in the following conditions:

- temperature +10° - +40° C;
- relative air humidity - 30 - 75%;
- atm. pressure 700 - 1060 hPa;
- absence of chemically active or flammable substances.

3. Irradiation of the eyes bears certain risk for their damage. Therefore the light must not be directed toward the eyes! Exposure must be restricted to the working area. Use of protection glasses that blocks effectively the blue spectral range is highly recommended!

This curing unit produces high-output curing energy! A significant increase in curing energy is possible compared with equipment previously used. It is important to observe the following precautions and procedures:

- Do not place light directly on or towards unprotected gingiva or skin.
- Adjust curing techniques in accordance with the increase in curing energy.



ATTENTION! The emitted light is in the wavelength range 390-510 nanometers. During work use protection goggles and/or protection shield!

4. The unit can be used only doctor's advice by or in persons with heart pacemakers implant; persons with photobiological reactions; persons currently taking photosensitive medication; persons with cataract surgery; persons with retinal diseases, etc.
5. Solvents, flammable liquids and powerful heat sources must not be kept near the unit as exposure to one of these factors may damage the plastic parts of the unit.
6. Cleaning agents should not enter the unit as this may short-circuit the unit or cause potentially dangerous malfunction.
7. Only factory-authorized technicians are authorized to open and repair the unit.
8. Only original BLUEDENT spare parts should be used to replace defective parts. The unit warranty does not cover any damage resulting from the use on non-original replacement parts. The unit or any of its parts should not be disassembled while it is connected to the mains!
9. BLUEDENT XPRESS must be used with barrier sleeves to avoid cross contamination and liquid damage. Dispose the barrier sleeve after each patient procedure.
10. **FRAGILE!** Be extremely careful during transportation, storage and handling of the unit!
11. Pursuant to Directive 2002/96/EC, this symbol shows that the product must not be disposed of as urban waste at the end of its operating life. The product must be taken to centers specialized in separate collection of electric and electronic equipment. Correct disposal of the equipment, which is no longer used, prevents negative consequences for the environment and human health!

V. PREPARATION AND SEQUENCE OF OPERATION

BLUEDENT is designed for use as a wall-mounted unit (after fixing the handpiece holder on a vertical surface).

1. Take the curing light BLUEDENT out from the packing. Fix the handpiece holder on a vertical surface - wall, dental chair arm, etc.

Attention! The unit should be placed at least 1 meter away from any heat source.

2. Put a new barrier sleeve on the front part of the handpiece.

3. Connect the power adapter to the mains outlet.

BLUEDENT XPRESS has 2 curing modes. They are indicated on the color ring on handpiece.

When ring is lit **RED** - HYPER mode;
GREEN - RAMP mode;
BLUE - change of mode, sound signal.



First select desired curing mode by pressing and holding the Start/Stop button.

The device has soft start (gradual increase in LED module intensity) in standard curing mode, which helps prolong LED module's life and at the same time avoid stress and shrinking in photocomposite.

4. The unit is activated by pressing the Start/Stop button of the handpiece.

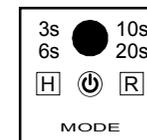
Timer selection:

- In RAMP mode:

- press *once (1x)* for 10 sec;
- press *twice (2x)* for 20 sec;

- In HYPER mode:

- press *once (1x)* for 3 sec;
- press *twice (2x)* for 3+3 sec;



RAMP mode (S) - GREEN color

HYPER mode (H) - RED color

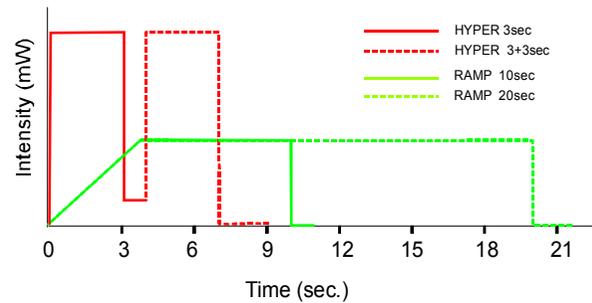
Blue light appears at the end of handpiece head.

In HYPER mode, after each 3 / 3+3 sec. cycle, there is a 5 sec. pause, when indication ring blinks, and the device cannot be activated until it stops blinking. This pause is created for dental pulp protection from overheating.

5. BLUEIDENT XPRESS has RAMP and HYPER mode of light curing that guarantee full and fast hardening of the restorative material:

RAMP mode (10 / 20 sec.) - During the first 4 sec. light intensity slowly increases to 1500 mW/sq.cm - "soft start" to avoid stress in the restorative material.

HYPER mode (3 / 3+3 sec.) - In this mode the light intensity is at maximum level - 3500 mW/sq.cm that ensures fast polymerisation and is suitable for work with liquid composites.



6. Direct the emitting light of handpiece to the curing spot at the closest distance (2-7 mm) and make sure the emitting head does not touch the photocomposite during the first several seconds and after that, when surface layer is hardened enough, the head can touch the photocomposite.

7. After second pressing of the Start/Stop button or after the selected 10 / 20 or 3 / 3+3 sec. exposure the unit is deactivated.

8. Switching off of curing light in the end of the day shall be done by unplugging of adapter from the wall socket.

Overheating protection

The unit is equipped with overheating protection, which is activated if the temperature of the handpiece rises up to 40°-45°C.

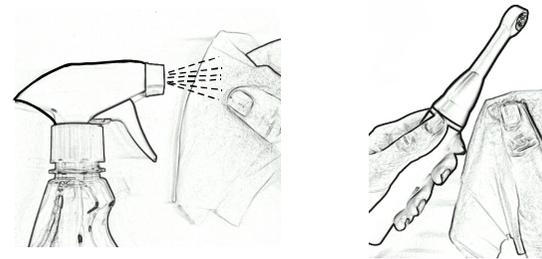
When overheating protection is activated the unit flashes 4 times with audible signal, then is deactivated until the temperature of the metal handpiece reaches 35°C.

VI. ROUTINE CARE AND MAINTENANCE

1. Cleaning of the unit

For disinfection of the unit, spray the disinfection agent onto a piece of soft cloth / cotton and clean the handpiece and power adapter. Do not spray directly on handpiece. Prevent liquids from entering openings of the unit. Do not immerse units in disinfectants. Do not use abrasives or solvents as these may damage the unit!

Suitable cleaners: Cavicide products, Isopropyl alcohol-based cleaners, Ethyl alcohol-based cleaners, Lysol disinfectant, Other no-bleach and non-abrasive disinfectants or cleaners.

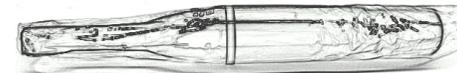


Do not spray directly onto handpiece or in button / charge connector!



2. Infection control

To prevent cross-contamination, it is obligatory to use a disposable barrier sleeve over the handpiece for each patient.



VII. WARRANTY CONDITIONS

1. Warranty period of the BLUEIDENT curing light is 24 (twenty four) months from the date of purchase. If date of purchase is not written, warranty starts at date of production.

2. During the warranty period the replacement of the defective parts (LED module - 6 months warranty) is done free of charge by manufacturer's service.

3. If during the guarantee period the unit is damaged, due to incorrect operation (mechanical, chemical, thermal or electrical damages), damage caused by improper use, storage or any other reasons in user's fault, the repair is paid by the user. If any damage is noticed on electric cables, the device must be brought immediately to manufacturer's service. The device must not be used if cables are damaged.

If liquids, such as water and solvents, aggressive or flammable substances and their vapors, also pouring or wiping the device with the same, insects or rodents have entered the device, it must be brought immediately to manufacturer's service. In such cases warranty is lost.

Damages and claims are not accepted due to electric shocks, thunder storms, non-following of measures for electric safety or insufficient protection of patients, personnel or outer persons toward light irradiation.

The manufacturer does not owe compensation for lost benefits in cases of defects or imperfect functioning of the device regardless of the cause.

No claims and damages are accepted due to incorrect security and attention for protection during transportation, unpacking, moving, work and preservation of device. Warranty becomes null and void if any of the above mentioned happens.

If a dispute arises on the application and interpretation of this Operations guide, it shall be solved according to the applicable laws in Republic Bulgaria, and the court of Plovdiv shall be the court of jurisdiction.

4. This warranty becomes null and void if any repair to or servicing of the product is performed by any unauthorized party or if other than original BLUEIDENT spare parts are used therefore.

5. The manufacturer recommends that the users check once a year (or if there is an incident immediately) in the manufacturer's service if the parameters: output light intensity and heat radiation of their units are in the admissible range. This check-up is done free of charge in the manufacturer's service.

6. The warranty servicing is performed at the manufacturer's service at the following address:



155 Vasil Aprilov Blvd.
4027 Plovdiv
Bulgaria
tel./fax: +359 32 641913 , +359 32 644089
e-mail: office@bglight.com
http://www.bglight.com

VIII. BLUEIDENT DATA

SN:	<input type="text"/>
LOT:	<input type="text"/>
DATE OF PRODUCTION:	<input type="text"/>
QC:	<input type="text"/>
DATE OF PURCHASE:	<input type="text"/>



IX. SYMBOLS

	Manufacturer BG LIGHT LTD, 155 Vasil Aprilov Blvd., 4027 Plovdiv, Bulgaria
	Pursuant to Directive 2002/96/EC, this symbol shows that the product must not be disposed of as urban waste at the end of its operating life.
	Pay attention to the instructions accompanied by this symbol.
	Fragile!
	Product with CE mark.
	Applied part type BF
	The device is equipped with double electric insulation (Class II)
Ω	Ohm (electric resistance unit)
s	Second (time unit)
W	Watt (power unit)
Hz	Hertz (frequency unit)
mm	Millimeter (length unit)
A	Amper (electric current unit)
V	Volt (electric voltage unit)
Pa	Pascal (atmosphere pressure unit)
$^{\circ}\text{C}$	Degrees Centigrade (temperature unit)
g	Gram (weight unit)
SN	Serial number
LOT	Lot
QC	Quality control

X. SERVICE DATA
