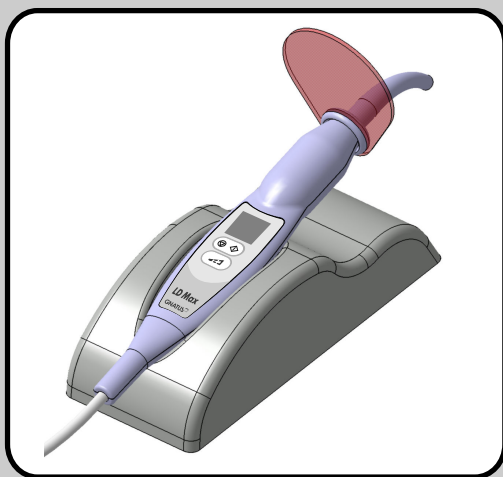


Manual do Proprietário

Owner's Manual

Manual del Propietario

CE



Optilight LD Max (Fotopolimerizador e Clareador)

Optilight LD Max (Curing Light and Whitener)

Optilight LD Max (Lámpara de Fotocurado y Clareador)

Cód. 300050918 Rev. 00

GNATUS 

DEAR CUSTOMER

Congratulations. You have made a good choice when you decided to buy a GNATUS QUALITY product comparable to the best products available in the World. This manual is a general presentation of your product and it will give you important details to help you to solve possible problems.

Please, read it and keep this with you.

PRODUCT DESCRIPTION

The Optilight LD Max belongs to the newest generation of **LED** photo-activation devices. This abbreviation stands for **Light Emitting Diode**, a totally different type of light emission, if compared to conventional halogen equipment.

Unlike traditional devices, which generate wide-spectrum light and heat, this technology uses a cold light of the precise wave length needed to activate various dental products.

LED technology, which was recently introduced in Dentistry, brought about several useful features to those light-curing devices used in composite resin restoration. Besides being more durable, LED technology turned devices more compact, ergonomic and easier to install and transport. The emission of cold light within a precise wave length range ensures the safe cure of camphorquinone-activated composites, preventing dental heating, pulp damage or discomfort for both patient and dentist. Although being relatively new, this technology is nowadays in its second generation. LED safety and efficiency, now allied to high-energy emission, are available to all clinic procedures which require light-curing power, including bleaching treatments.

The light of 440nm-460nm wave length, allied to the high energy emitted by Optilight LD Max, makes possible the multi-functionality of this device:

- **Direct restoration procedures:** composite resins, ionomers and adhesives.
- **Indirect restorations:** adhesive cementation of laminates, inlays, esthetic pins and metal-free crowns.
- **Dental Bleaching:** activation of bleaching gel and polymerization of gingival barriers. Compatible with 35% hydrogen peroxide-based bleaching gels.
- Attachment of braces and orthodontic accessories.
- **Activation of light-cure materials**, such as sealants, surgical cements and covering bases.

Designed and built with cutting-edge technology, it meets the highest standards specified by world's dental authorities.

It features an automatic bi-voltage power supply, which allows operation in the range of 90 to 240 V AC, 50/60 Hz.

Operation control display in handpiece, sound alarm with beep every 10 seconds and 4 beeps at the end of the cycle.

Advantages offered by Optilight LD Max:

- More spectrally-selective light than conventional lamps.*
- Cold light, it doesn't heat up the resin nor the tooth**
- Light compact equipment that provides handling comfort.
- Low power consumption.
- Longer useful life of the light emitting diode (equivalent to 36.000.000 cycles of 10 seconds).
- It does not use optical filter.
- It does not require forced ventilation, thus avoiding noise emission.

* We noted that the light emitted by the Optilight LD Max is completely contained within the absorption interval of the photo starter, therefore it's 100% used, whereas the conventional equipment running on halogen lamps has non-used wave-length regions.

** The Optilight LD Max doesn't generate heat since it uses light emitting diodes.

The light conductor is removable, made out of high resistance polymer and of easy maintenance.

The handpiece's low weight and its anatomic design ensure the dentist more comfortable and practical handling.

PRODUCT DESCRIPTION

The handpieces's support makes access and handling easier.

ISO 9001/2000 and ISO 13485/2003 Quality System, ensures that products are manufactured under standard procedures.

Products manufactured in compliance with RDC 59 - ANVISA - (Sanitary Surveillance National Agency) - which guarantees compliance with sanitary regulations concerning BPF - (Good Manufacturing Practices), requested by Mercosul Sanitary authorities.

Note: Use handpieces and accessories that comply with requirements of directive 93/42/EEC (with CE mark).

IMPORTANT:

· This equipment is exclusively for dental use. It must be operated and handled by specialized professionals (certified professionals, according to the legislation of the country) and the instructions contained in this manual shall be observed. User shall always use tools and instruments in perfect working conditions, and he/she shall protect himself/herself and patients from any possible danger.

· This equipment can't be used in the presence of inflammable anesthetics or products that may cause explosions.

· When this device comes to the end of its useful-life, it shall be dumped in an appropriate location (according to the legislation of the country).

· To ensure the safe operation of your equipment, use only the assemble configurations (Dental Chair, Dental and Water Units and Dental Light) supplied by Gnatus authorized Dealers / Technical Assistance.

WARRANTY OF THE EQUIPMENT

This warranty covers product's manufacturing faults for the warranty period and standards specified on the Warranty Certificate. The Warranty Certificate is attached to product, and must be completed by the authorized technician when equipment is installed.

Doubts and information: GNATUS Call center (55-16) 2102-5000.

GENERAL DATA

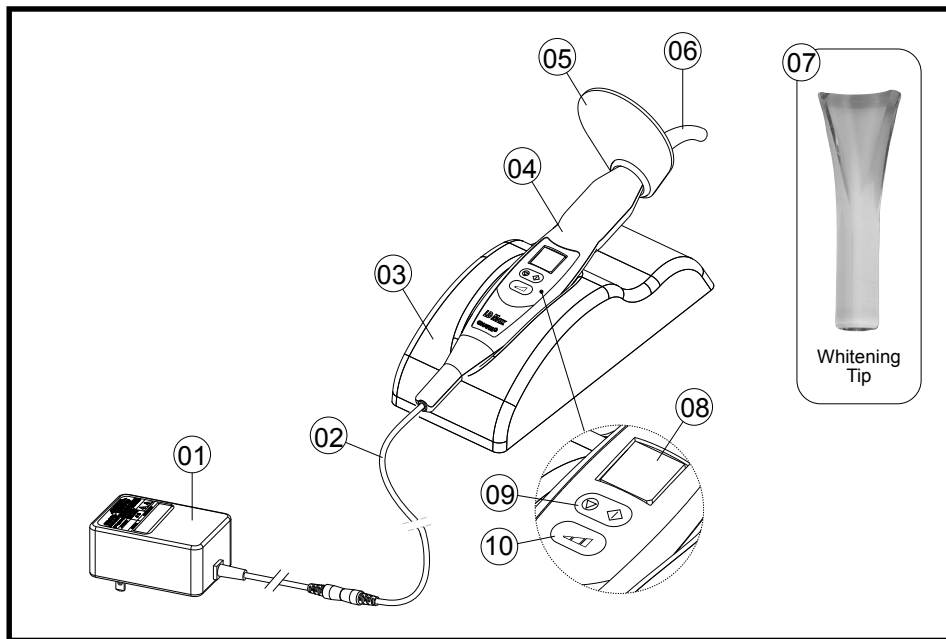
Maintenance of the equipment

The equipment doesn't need preventive maintenance, however when there is any problem that this manual can't solve, ask for an authorized Gnatus technician.

List of pieces and circuit scheme

Gnatus Company declares that the supply of the circuit scheme, list of pieces or any other information that propitiate technical attendance for the user, can be request if there is an agreement between the user and Gnatus Company.

GENERAL DATA



01 - Power Supply

02 - Cable PP - (2.20m)

03 - Optilight LD Max body

04 - Pen

05 - Ocular protector

06 - Light conductor

07 - Light conductor Whitening Tip

08 - Display

09 - On/Off timer button

10 -Time selection

TECHNICAL SPECIFICATIONS

- **Power supply**
Ve: 90V~240V~
Vs: 5,0V, 1,2 A.
- **Frequency**
50/60Hz.
- **Power**
15VA
- **Light source**
1 LED.
- **Active medium**
Semiconductor Led (InGaN).
- **Wavelength**
440nm - 460nm
- **Timer**
90 seconds.
- **Timer alarm**
sound alarm with beep every 10 seconds and 4 beeps at the end of the cycle.
- **Activation**
Through the hand-piece button.
- **Light conductor**
Made out of special polymer, rotational, removable and reuse sable.
- **Hand-piece body**
ABS injected
- **Net weight**
0.82 kg
- **Gross weight**
1.36 kg
- **Product classification:**
In compliance with
NBR IEC 60601-1
- **Degree of protection against electric shock:**
B type
- **Electric shock protection type:**
Class two equipment.
- **Water leak protection**
IPX 0
- **Application together with anesthetic products that could be inflammable in the presence of air, oxygen or nitrous oxide:**
Not recommended

Warning:

- The acrylic light conductor (pointer) is a material widely used in the dentist industry in partial and complete prosthesis, orthodontic device, implants and many other applications that guarantees its bio-compatibility with the mouth mucus.

• Applied norms:

This product was tested and approved in compliance with the following standards:

EN 60601-1 (1990);	NBR IEC 601-1 (1994);	IEC 61000-4-2 (1999);
Amendment 1 EN 60601-1 (1992);	Emenda 1 NBR IEC 601-1 (1994);	IEC 61000-4-3 (1998);
Amendment 2 EN 60601-1 (1995);	(1994);	IEC 61000-4-4 (1995);
Amendment 13 EN 60601-1 (1995);	NBR IEC 601-1-2 (1997);	IEC 61000-4-5 (1995);
EN 60601-1-2 (2001);	CISPR 11, edição 3.1 (1999);	IEC 61000-4-6 (1996);
		IEC 61000-4-11 (1996);

This equipment was designed, manufactured and tested in compliance with the following standards:
NBR-IEC série 601-1 Equipamento Eletromédico - Parte 1: Prescrições gerais para segurança;
EN 980:2003 (Ed. 2) - Graphical symbols for use in the labelling of medical devices;
ISO 14971 - Medical devices - application of risk management medical devices;
ISO 9687: 1993 - Dental equipment - graphical symbols;
ISO 7494 - Norma dental units;
ISO 13485-2 - Quality systems - medical devices;
ISO 780 - Packaging - pictorial marking for handling goods;
ISO 11144 - Norma dental equipment - connections for supply and waste lines;

TECHNICAL SPECIFICATIONS

Special providence or particular conditions for installation

- Check the electric net, it must be compatible with the specified one in the equipment.
- Verify the general key of the equipment in the position "0".

OBS: These information also make part of the Manual of Installation and Maintenance of the equipment that can be found with the authorized Gnatus technician.

Transport and storage conditions

The equipment must be transported and stored with the following observations:

- Carefully, should not suffer drop and neither receive impact.
- With the side of the arrow upward.
- With humidity protection, not to expose to rains, sparkling of water or humidified floor.
- With temperatures from -12°C to 50°C.
- With maximum piling up of 13 units for storage.

Content of accessible and non-accessible demarcations

FABRICANTE E RESPONSÁVEL PELA GARANTIA			MANUFACTURER AND RESPONSIBLE FOR THE WARRANTY			FABRICANTE Y RESPONSABLE POR LA GARANTIA		
GNATUS			GNATUS EQUIPAMENTOS MÉDICO-ODONTOLÓGICOS LTDA.					
Rod. Abrão Assed, Km 53+450m - Ribeirão Preto - SP - Brasil								
APARELHO	EQUIPMENT	APARATO	OPERAÇÃO	OPERATION	OPERACION			
						NUM. REGISTRO MS:		
EQUIPAMENTO DE CLASSE II			IPX0	15VA	10229039027			
CLASS II EQUIPMENT								
EQUIPAMIENTO DE CLASSE II								
Authorized representative with regards to the Directive 93/42 in the European Economic Area:						CE		
Obelis S.A. Av. De Tervuren 34, blo 44, B-1040, Brussels, Belgium,						!		
Tel: 32 2.732.59.54, Fax: 32 2.732.60.03 E-mail: mail@obelis.net								

GNATUS	!	CE
N° REG. MS: 10229039027		

English

TECHNICAL SPECIFICATIONS

Packing symbols



Packing to be stored with a maximum stack of 13 units.



Packing to be transported and / or stored with the harrows up.



Packing to be transported and / or stored avoiding humidity, rains and wet floor.



Packing to be transported and / or stored with care (should not suffer drop and neither receive impact).



The packing must be stored and transported away from direct sun light exposure.



Temperature limit for the packing to be stored or transported.

Product symbols



B type equipment



Landing (in many parts of the equipment) indicates the condition of being landed.



Warning - Consult the manual



On/Off timer button

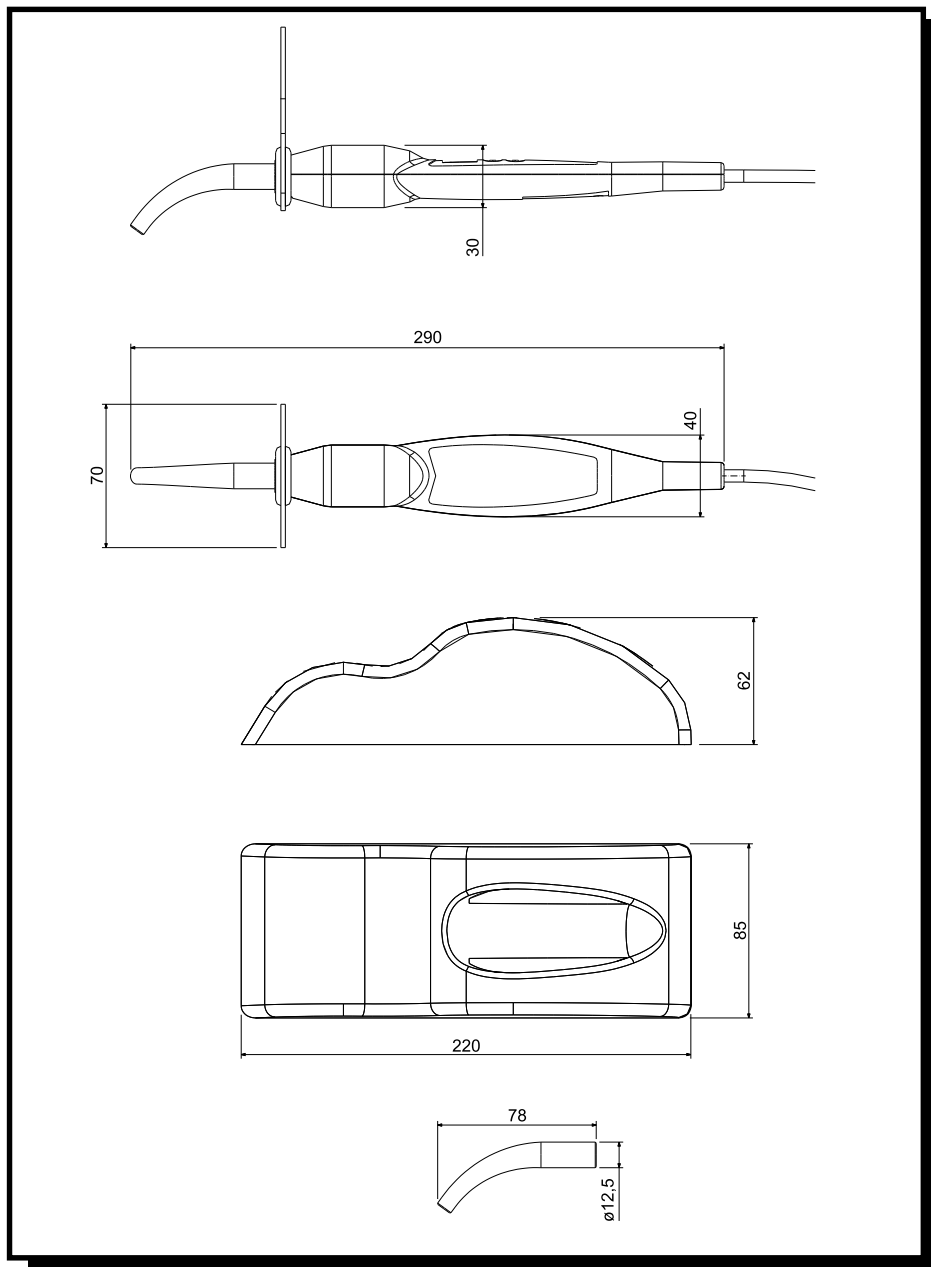


Time selection



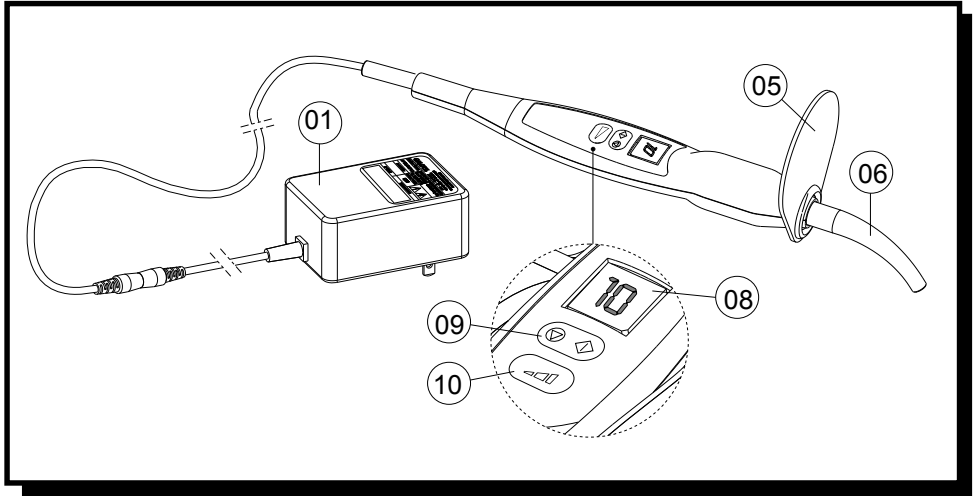
TECHNICAL SPECIFICATIONS

Dimensions (mm)



English

OPERATION



- For your safety the Optilight LD Max is equipped with an automatic bi-voltage power supply of 90V~240V~ - 50/60Hz.

- Plug in the power supply (01) to the electrical outlet.
- Select application time, press time selection button (10), which values are: 10s (standard mode), 20s, 60s, 80s and 90s.
- To initiate a polymerization cycle, press the timer trigger (09), which generates a short beep every 10 seconds and a 4 beeps at the end of the cycle.
- To interrupt a polymerization cycle just activate the timer trigger again (09).

IMPORTANT:

- Keep the light conductor tip (06) at least 2mm away from the restoration.
- Keep the light conductor (06) always protected by an expendable PVC film, which must be changed for every patient. This procedure protects the light conductor from scratches and other residues.
- Use the polymerization time recommended by the compound resin manufacturer and always perform restorations in incremental layers with a maximum thickness of 2mm.

Instructions for equipment operation



WARNING

- Never aim the blue light beam towards the eyes
 - Use the eyesight protection (05)
- In order to protect the eyes, the eyesight protection (05) filters only the blue light used for the resins polymerization, and it allows ambient light to pass through.

MAINTENANCE

Recommendations for the dental equipment maintenance.

Your Gnatus equipment has been designed and developed according to the standards of modern technology. Similarly to other kinds of equipment, it requires special care, which is many times neglected due to several reasons and circumstances.

Therefore, here are some important reminders for your daily routine. Try to follow these simple rules, which will save you a lot of time and will avoid unnecessary expenses once they start making part of your working procedure.

Precautions

- Install your equipment in an appropriate place away from sunlight exposure and humidity.
- The equipment and the light conductor cannot be placed in the oven or autoclaves.
- The conductor can't be immersed in solvents or substances that contain acetone in its composition.
- Avoid the light conductor to terminal to touch the resin to be polymerized.
- When using the Optilight LD Max check if the light conductor output doesn't have residues that might obstruct the light beam.

INTERCHANGEABLE AND/OR REMOVABLE PARTS REPLACEMENT

If stains, fissures or scratches where detected in the eyesight protection or in the light conductor, replace damaged components.

Cleaning conductor

The light conductor cleaning and the optical protector must be done using only neutral soap and cotton. To the exterior of the pen use neutral soap or alcohol 70% vol.

Never use any other chemical based product than previous mentioned, because along the time these products attack the surface of the instrument.

Never immerse the instrument in disinfection baths.

Cleaning the equipment

To clean the equipment, we recommend the use of "BactSpray (Reg n° MS: 3.2079.0041.001-5) or any other similar product:

Active component: Benzalkonium chloride (tri-quaternary ammonium)
Solution 50%..... 0.329%

Chemical composition: Butyl Glycol, Decyl polyglucose, Sodium Benzoate, Sodium Nitrate, Essence, Deodorized Propane / Butane, demineralized Water.

For more information concerning cleaning procedures, see manufacturer's instructions.

WARNING:

- In order to prevent risks and damages to equipment, make sure that the liquid does not enter into the unit.
- The application of other solvent-based cleaning products or sodium hypochloride isn't recommended, because they may damage the equipment.



English

TROUBLESHOOTING

Problem:	Probable Cause:	Solution:
- Equipment is not working.	- Power source is disconnected. - Power cut.	- To connect the alimentação source. - Check the energy supply.
- Equipment is not polymerizing resins.	- Resin is not suitable for photo polymerizator wave length.	- Provide proper resin for the photo polymerizator wave length, the ones which contains photo initiators with alcanphor quinone.

ATTENTION:

Any other problem that could happen with its equipment, should only be repaired by an authorized technician Gnatus.

The bad use, negligence or maintenance not made by technician authorized by the maker, will imply in the loss of the warranty.

FINAL CONSIDERATIONS

The most important aspect related to equipment care is that concerning spare parts.

To guarantee the life span of your equipment, use only **original Gnatus spare parts**. They are sure to follow the technical specifications and standards required by Gnatus.

We must also point out to you our chain of authorized dealers. Only dealers that make part of this chain will be able to keep your equipment constantly new for they count on technical assistants who have been trained and on specific tools for the correct maintenance of your equipment.

Doubts and information: GNATUS Call center (55-16) 2102-5000.