

EN - Translation of the  
original instructions for use  
**New Light Box**

## Components



New Light Box

1. cover with LEDs
2. O-Ring seal
3. polymerization chamber
4. display
5. selector
6. base support



Oil bath lubricated vane vacuum pump

1. purificator filter
2. oil bath air filter inlet filter
3. oil level indicator (tank)
4. shock mounts

## Proper Use

### Proper and improper use

The New Light Box is appropriate to light-cure all the composite resins that polymerize between 360÷520nm. It is forbidden to use or light-cure flammable or potentially explosive substances. It is forbidden to use the New Light Box in places listed in Directive 99/92/CE (to avoid the risk of explosion). It is highly recommended to use the New Light Box in a room with a medium light at least of 100 lux.



**PLEASE NOTE!** Prior to installation and start-up of this unit, carefully read the instructions provided herein! The manufacturer accepts no liability for any damage resulting from the use of this unit for any purpose other than specified.

## Characteristics

### General Information

This manual contains all the safety data for the proper use of the product. It is highly recommended to carefully read the instructions provided herein.

### Technical features

Consumption with vacuum pump: < 185 W  
Consumption without vacuum pump: < 35 W  
Standby consumption: < 4 W  
Power Input (Incl. Vacuum Pump): 230 VAC  
Noise level of the pump (UNI EN ISO 2151): < 70 dBA

## Type plate

The New Light Box could be identified through the type plate positioned on its backside. On this type plate there is written the main technical information related to the trademark.



## Safety information

### Definitions

The New Light Box had been defined and designed according to paragraph 1.1.1 of 2006/42/CE Directive.

**Danger zones:** The inner part of the polymerization chamber, the cover, the base support and the inner parts of the vacuum pump have to be considered as danger zones when they are tampered with or damaged.

**Operators:** The persons authorized to set up the process of composite resins polymerization (thus dental technicians) and the persons authorized to install, adjust, repair or perform whatever maintenance service on the New Light Box and the oil bath vacuum pump.

**Exposed persons:** Any person wholly or partially involved in a danger zone.

**Risks:** All risks are specified in the general and specific instructions that the operators have to follow to correctly use the New Light Box.

## Safety instructions

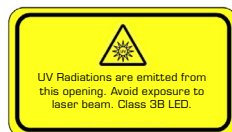
- Should you have any reason to suspect the safety of the New Light Box or the pump to be compromised (malfunctions or visible damages), they must be taken out of operation.
- The New Light Box, the pump and the electric cables must be located in such a way as to avoid possible collisions with persons, equipment or other machinery which might be manoeuvring at the same time and liable to constitute a hazard.
- Keep the pump in a safe and ventilated place to allow the heat sinking.
- The New Light Box must be operated in strict accordance with the following instructions. The use of this unit for any purpose other than specified does not guarantee a sufficient level of security.
- Do not tamper with (dismantle, modify or break) the New Light Box or the pump (case, control system, electrical cables and connections).
- Do not introduce any tool inside the power connectors.
- Do not disconnect connectors when the unit is functioning or connected to the grounded power outlet.
- Do not pour water on the New Light Box nor on the pump.

For the pump safety instructions, please consider specific instructions for use included in the package.

## UV radiation risks

If the blue connector is not fitted, LED UV radiations coming out from the pneumatic fast joint hole can cause ocular lesions (cataractogenesis, photoreinitis etc.) or acute/chronic skin irritation due to exposure (photodermatitis). Thus, it is forbidden to switch on the unit without the blue connector fitted.

Next to the pneumatic fast joint there is the following hazard warning signal:

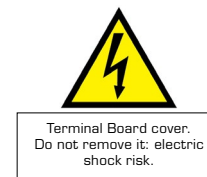


## Risks linked to the pump

If the tube of the pump is disconnected, the user could occur in ocular or eardrum lesions. Thus, it is forbidden to switch on the pump when the tube is disconnected.

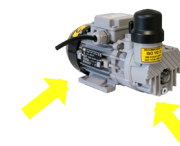
## Safety signs on the pump

On the pump there are the following safety signs:

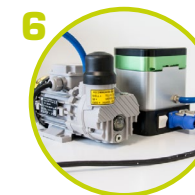
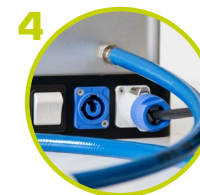
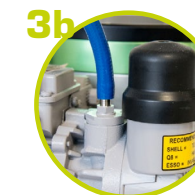
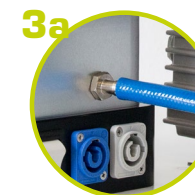


## Safety devices

If the New Light Box is opened when functioning, LEDs turn off automatically with no more UV radiation emission. Removable dangerous elements of the pump are covered and protected by specific cases (motor and pump rotors).



## Prior to start-up of the New Light Box



**Attention** Pour the oil before switching on the New Light Box

1. Unscrew the oil valve with the use of a hex key.
2. Pour the provided oil in the pump until half of the tank and close the oil valve.
3. Connect the blue vacuum tube to the pump and to the New Light Box.
4. Connect the power cable of the pump to the Light Box (grey connector and plug).
5. Connect the power cable (blue connector) to the Light Box and to the properly grounded power outlet.
6. The polymerization chamber has to be clean. It is highly recommended to check the seal has not filth.

## Functioning

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### Correct use of polymer resins

Before starting the polymerization of the resin, carefully read the safety data sheets of the composite resins and follow step by step the provided instructions for use.

Do not put the composite resins inside the New Light Box without the flask.

### Start-up of the unit

After the start-up of the light unit, the display shows the name of the company trademark for a few seconds followed by the message: **CURING PROGRAMS PUSH TO SELECT**. Push the selector to enter the list of programs: turn the selector clockwise or counter-clockwise to go through the list of programs. Push again the selector to choose the preferred program. The last entry of the list is **EXIT**.

### Available programs

- **PROGRAM 1**: just light for 30 sec
- **PROGRAM 2**: just light for 60 sec
- **PROGRAM 3**: just light for 90 sec
- **PROGRAM 4**: just light for 15 sec followed by 4 min of light and vacuum
- **MANUAL PROGRAM 1**: just light with customisable time up to 5 min. Turn the selector clockwise to increase time or counter-clockwise to reduce it with intervals of 5 sec. Push the selector to start the chosen program.
- **MANUAL PROGRAM 2**: light and vacuum with customisable time up to 5 min. Turn the selector clockwise to increase time or counter-clockwise to reduce it with intervals of 5 sec. Push the selector to start the chosen program.

To stop the chosen program press the selector. The display will show **CONTINUE/RETURN**. Select **CONTINUE** to let the program go on or **RETURN** to stop it.

If there is a blackout while using a vacuum program, the New Light Box maintain the vacuum inside the polymerization chamber preventing the opening of the lid.

If this situation occurs and the composite resin or the prosthesis risk to be damaged, it is possible to unlock the lid removing the tube (be careful to remove the plug from the grounded power outlet before).

## Messages and errors

- **PROGRAM...: min: sec:** : display shows this message during the normal functioning of the unit.
- **BREAK OPERATION DOOR OPEN**: display shows this message when the lid is opened during light curing.
- **RESTART min: sec:** : display shows this message when you close the lid or stop a program. **RESTART** appears for a few seconds followed by **PROGRAM...: min: sec:** to indicate the program restarted.
- **CLOSE TO START**: display shows this message if the lid is opened when starting a program. Close the lid to start the program.
- **EMPTYING**: display shows this message for 5sec when starting to use a program with vacuum. Once the polymerization chamber is under vacuum the program starts to work and display shows the message **PROGRAM...: min: sec:** : If vacuum in this first step is not reached within 5 sec, display shows the message: **VEC. ERROR VERIFY & RESTART**. Thus, verify the hermetic closure of the lid and restart the program.
- **ERROR VAC. PUSH TO RETRY**: the polymerization chamber could not be under vacuum or pressure could be too high during a program with light and vacuum together. In these cases the program will be automatically stopped. Verify the hermetic closure of the lid, the integrity of the O-ring and the fastening of the tube. Press the selector on **CURING OK** to restart the program. Two beeping sounds stand for the end of the program. After 2sec display shows again the list of programs within which you could choose for further polymerizations.

## Light-curing times

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### Light-curing times

Please find below programs and light-curing times suggested for Fast Protec composite line:

- Comp Metal Connector: **PROGRAM 2**
- Comp Flow Opaquer: **PROGRAM 3**
- Comp Flow Dentina with closed flask: **PROGRAM 2**
- Comp Flow Dentina with opened flask to light-cure the base of crowns: **PROGRAM 2**
- Comp Flow Incisal with closed flask: **PROGRAM 2**
- Comp Flow Incisal without the flask: **PROGRAM 4**

- Final light curing after polishing and individualization of the composite teeth with Ever Lacquer and Intensive Comp colours: **PROGRAM 4**
- For necessary composite additions: **MANUAL PROGRAM 1** for 5 sec.

## Maintenance

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In order to safely accomplish the maintenance of the unit, switch off the New Light Box and remove the plug from the grounded power outlet. At the end of the maintenance, reset pump tubes, cables or lids previously removed.

### Care of the unit

Clean all components with soft cloth and, if necessary, water. Solvents or abrasive cleaners may not be used in any case, as they can damage the unit components (as surface and display). Cleaning agents must not enter the unit. Do not use metallic items. Dust the unit internally at least every six months.

Periodically check the oil level and, if necessary, top up the pump with the specific oil. For all the details, refer to the provided instructions for use of the pump.

User is responsible for determining the suitability of the product for user's application. If this product is defective within the warranty period, please contact the manufacturer to receive assistance and solve the problem.

If the pump is defective, check the provided instructions for use to find the possible solutions.

### O-ring replacement

If the polymerization chamber could not start the vacuum programme (the display shows the "error vac" message), verify the integrity of the O-ring. If the O-ring is broken or defective, replace it with a new and equivalent one. To substitute the damaged O-ring, lift the seal with a paper clip and pull it out. Carefully clean the base and then insert and fix the new o-rine along the entire perimeter.

## Disposal

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### Disposal

Disposal of the New Light Box and the pump has to be achieved by factory-authorized technicians.

The New Light Box and the pump must be disposed in accordance to local environmental legislations.

It is necessary to recycle the components of the New Light Box according to their specific nature (metal, plastic, gum, electronical parts etc.).

## EC DECLARATION OF CONFORMITY

We (the manufacturer)

PPM srl di Giacomini Manuele e Monica  
via Colloredo di Monte Albano, 80  
33010 Pagnacco, Fraz. Modoletto (Ud)  
Italy

Declare under our sole responsibility, that:

Compact polymerization unit for composite resins  
Model: New Light Box  
Year of manufacturing: 2015

Complies with the following regulations:

- Directive 2006/42/EC that lays down the foundation and regulatory basis for the harmonization of Essential Health and Safety Requirements in the field of machinery at Community level through the national laws of each European country.
- Directive 2006/95/EC that lays down the harmonization of the laws of Member States relating to electrical equipment and electrical appliances designed for use within certain voltage limits.
- Guideline 2004/108/EC that lays down the approximation of the laws of the Member States relating to electromagnetic compatibility.
- CEI EN 61010-1 that lays down safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements.

Name and address of the authorized person to compile the technical file:

Manuele Giacomini

name and surname

Name of the person authorized to sign this declaration of conformity:

Manuele Giacomini

name and surname

(Legal representative)



signature

Pagnacco (Ud), date

21 ottobre 2015

FAST PROTEC is a trademark of PPM srl  
via Colloredo di Monte Albano, 80  
Pagnacco (Ud) / Italy  
T. +39 0432 650047 / F. +39 0432 650635  
info@fastprotec.com / www.fastprotec.com