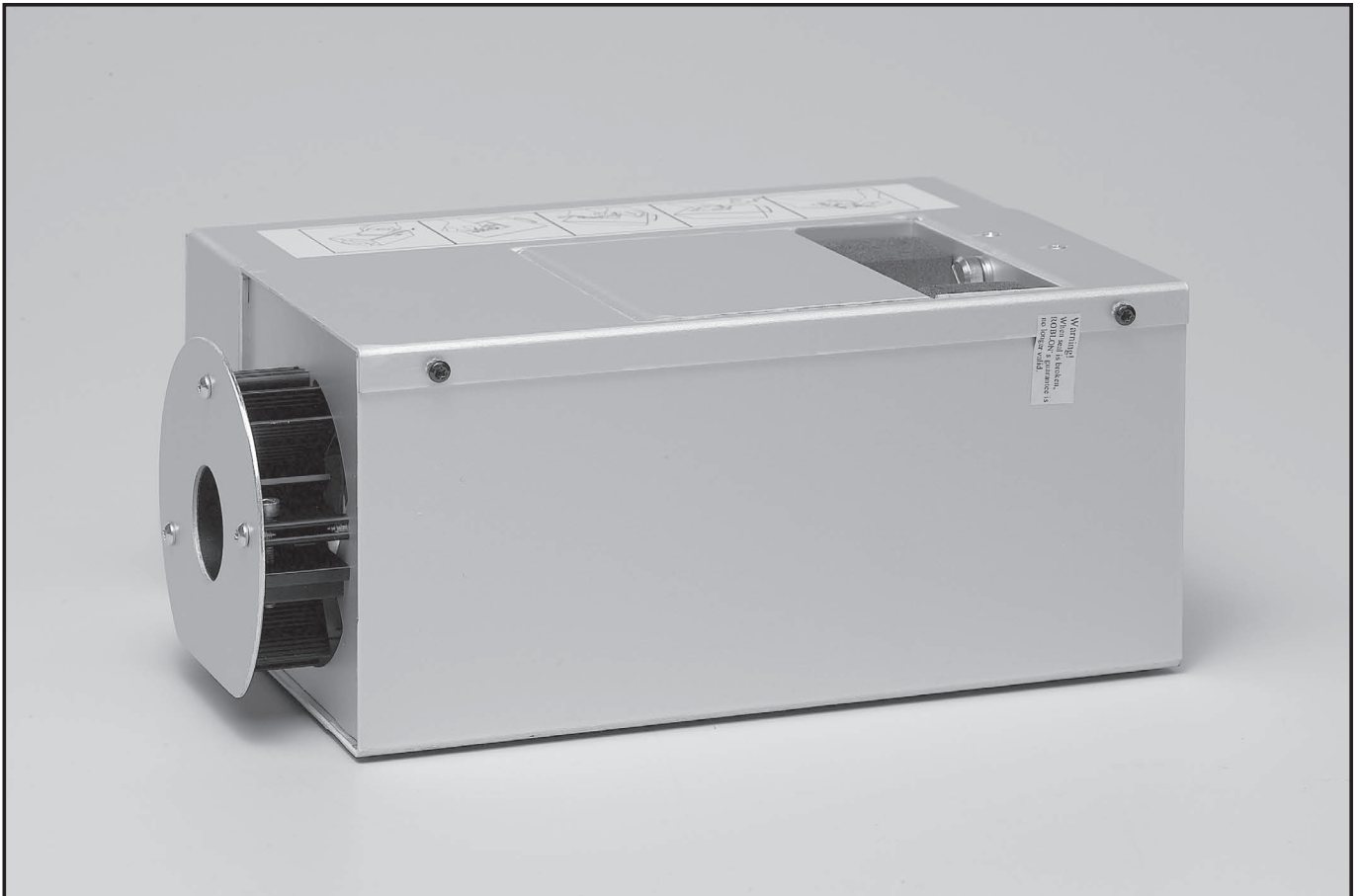


FL 150-3 B
Metal Halide Light Generator
for Fiber Optic Lighting Systems

User Manual



This user manual describes the following product:
Item number 0161 0000 FL 150-3 B. White light.

1.0 Introduction

The fiber optic lighting system consists of a light generator as the electrical device and the fiber harnesses as the light. The functionality depends on how it is operated and on the maintenance of the components.

This guide should serve you as a guideline and the forms and lists should be a helpful tool to assure a well operated and maintained system. The compliance with the maintenance formalities is the main contribution to

- guarantee functionality
- an expanded life span of the components
- save avoidable replacement costs
- have a satisfying, uninterrupted system illumination

Your Roblon Fiber Optics metal halide light generator, type FL 150 - 3, is intended for indoor use in fiber optic lighting systems using either glass or PMMA fibers.

The metal halide light generator has been developed to meet the requirements of a fiber optic lighting system, where the light output intensity and efficiency must be optimized in order to ensure the best performance. Furthermore, this generator is prepared for use in cabinets or showcases, either semi-closed or closed compartments.

This document describes the following product: Item number 0161 0000 FL 150-3B. White light.

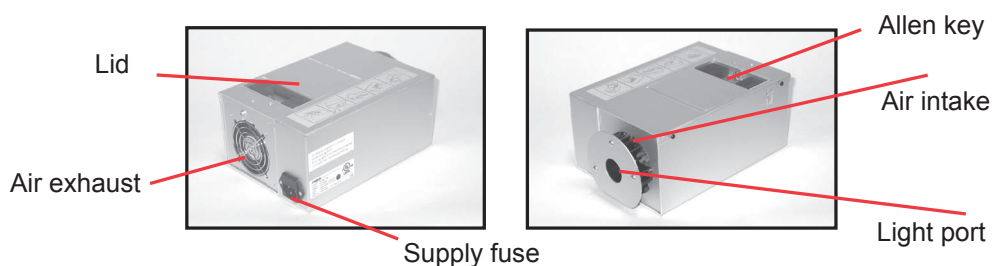
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1.2 Product overview and packing list

When opening the box, the following should be included:

1	FL 150-3 B light generator
1	Lamp (fitted in the light generator)
1	Power cord
1	3mm Allen key (fitted in the lid)
1	User manual



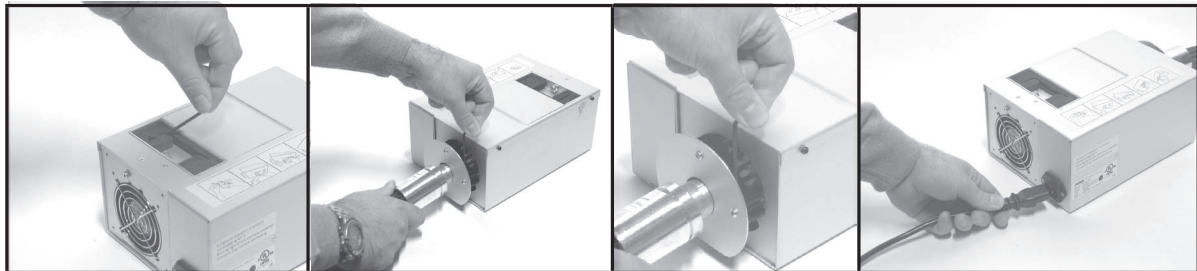
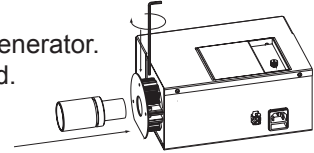
1.3 Technical data

Lamp:	CDM-SA/R 150W Metal halide
CRI:	96
Colour temp:	4200K
Light port:	Ø28
Supply:	100 - 240V (Nominal) 50 or 60 Hz
Power consumption:	178W
Cooling system:	12VDC axial fan (80x80mm)
Fan Noise level:	28,5 dB(A)
Thermal protection:	Auto reset
Ambient temperature:	-30°C to 40°C
Dimensions (WxDxH):	170x257x110mm
Weight:	1,9kg
Safety approvals:	cUL, UL153 (portable cabinet luminaire, E233873)
	CB, IEC 60598
	FCc, Part 15
	EMC, EN 50015, EN 61000, EN 61547
	PSE, CE

2.0 Installation instructions

Unpack the unit, and make sure that the grounded power supply cord is suitable for your country. The light generator is prepared for universal power input, capable of running from 100 - 240 V (nominal) 50 or 60 Hz.

1. Insert the fiber harness' common end fully into the output port of the light generator.
2. Tighten the grille screw with the supplied Allen key, which is stored in the lid.
3. Connect the power supply lead into the back of the light source.

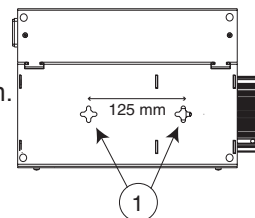


Note.

Before switching on, make sure that the requirements from the installation instructions are observed.

2.1 General mounting of the FL150-3

Are available for mounting two unidirectional keyholes (1) with a distance of 125 mm. The keyholes are suitable for screws with a head diameter of max. Ø9 mm. One of the keyholes is accessible from the inside of the light generator for fastening the mounting screw.



Free-standing on a shelf:



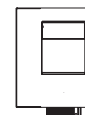
Ceiling suspension - upside down:



Horizontally wall mounted:

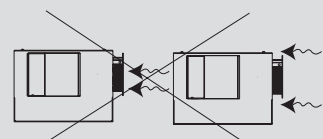


Vertically wall mounted:



Note.

When installing in any direction, please make sure that the hot air from one light generator does not blow directly into the air intake of the light generator next to it.

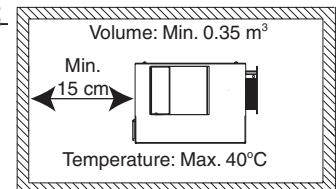


2.2 Mounting in closed compartments

The FL 150 - 3 is suitable for mounting in closed compartments such as cabinets or showcases. When installing in closed compartments two very important criteria must be fulfilled.

1. When installing one or more light generators in a closed compartment

the volume of the chamber cannot be less than 0,35m³ per light generator. Furthermore, the back of the light generator cannot be placed closer than 15 cm to any of the walls of the compartment. The temperature of the surrounding area inside the compartment cannot exceed 40°C.



2. In compartments smaller than 0.35 m³ the light generator needs to »breathe« to keep cool.

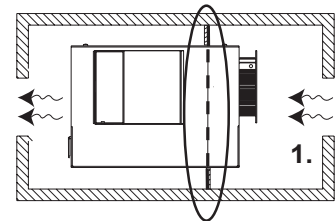
Ventilation holes must be made in the compartment corresponding to min. 50 cm² of air intake and min. 50 cm² of exhaust air. When using this installation method, the air intake and exhaust of the light generator must be separated. Also the holes of the cabinet must be pointed in different directions. When doing so, it is possible to install the light generator in very small compartments.

Also here, the temperature of the surrounding area cannot exceed 40 °C.

Some examples of separation of air intake and air outlet holes are given below.

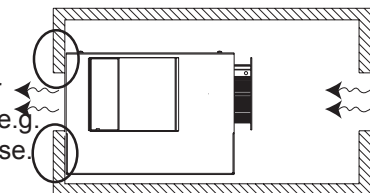
Example 1.

In this example, the air intake and the exhaust is separated by a space dividing plate. This plate can be placed anywhere along the sides of the light generator as long as it fits exactly to the light generator.



Example 2.

In this second example, a hose-like fitting is made. In order to ensure an airtight separation of the airflow. This method is the most flexible, as the air separator can be formed to suit the needs of exactly your application. Use e.g. ventilation flange +7800 0505 for standard Ø100 mm flexible ventilation hose.

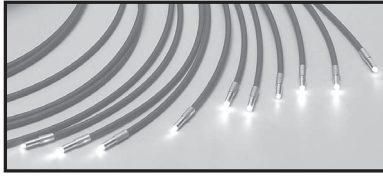


Note.

If the mounting and ventilation instruction are not observed, the light generator will become too hot, causing the thermal protection to activate and the light generator to switch off.

3 . 0 Fiber types

All glass and plastic (PMMA) optical fibers can be used with the FL 150 - 3. Endlight as well as sidelight is applicable.



For all fiber types:

- Do not bend more than the max allowable bend radius
- Do not pull or jerk the fiber
- Do not step on the fiber

4 . 0 Switching on

When the fiber bundle is secured and the power cord is inserted, the unit may be connected to the main supply.

Note.

With this type of lamp about 2 - 5 minutes will elapse from switching on until the lamp is delivering full light output.

CAUTION

To reduce the risk of fire, electric shock, or injury to persons:



- a) Use only insulated staples or plastic tie to secure cords.
- b) Route and secure the cords so that they will not be pinched or damaged when the cabinet is pushed to the wall.
- c) Position the portable cabinet light generator with respect to the cabinet so that the lamp replacement markings can be read during relamping.
- d) Not intended for recessed installation in ceilings or soffits.

When using the light generator mounted on a surface, the following must be observed

- a) Not intended for surface installation inside built-in furnishings such as kitchen cabinets, china cabinets or trophy cases.
- b) The portable cabinet light generator may be installed under a kitchen cabinet when the power supply cord is not concealed or run through openings in the cabinet.
- c) Do not conceal the power supply cord (or power supply) inside a wall, ceiling, soffit, kitchen cabinet or similar permanent structure.
- d) Do not run the power supply cord through holes in walls, ceilings or floors.

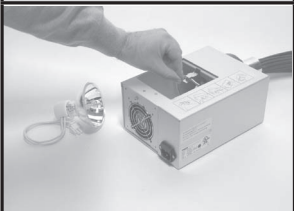

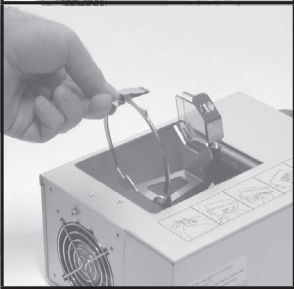


SAVE THESE INSTRUCTIONS

5.0 Care, maintenance and replacement


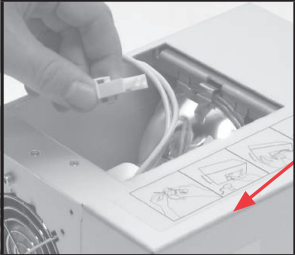

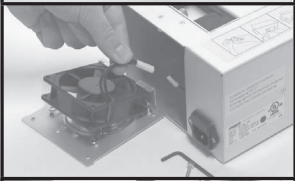
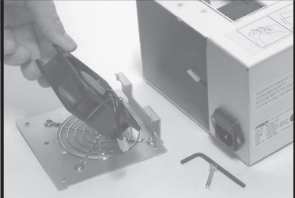

Please observe the maintenance schedule very carefully in order to ensure the optimal performance of the lighting system.

5.1 Maintenance tasks and explanations

Component	Tasks and explanation	Inspection period	Operator
A. Light generator environment vacuuming	<p>Vacuum the surrounding space of the light generator. The generator needs a dust-free environment. therefore please remove the dust by vacuuming the surrounding space.</p> <p>The outer housing of the light generator can be cleaned with a soft damp cloth when necessary.</p>	Monthly	Retailer
B. Light generator environment	<p>Inspect the surrounding space of the light generator. The ventilation slits and the ventilator can not be covered; good air circulation is absolutely necessary.</p> <p>Note: Light generators placed in a cabinet have a certain space, which is determined for the generator and this space has to be kept free! Please refer to the installation instructions in this manual for specific measures.</p>	Monthly	Retailer
C. Light generator fan	<p>Inspect the light generator fan and if necessary change. The running fan usually gives a slight noise. You can feel the air blowing by holding the hand next to the fan.</p> <p>The fan should be cleaned with a damp cloth and the cooling grille can also be cleaned with a damp cloth.</p> <p>If the fan is not running, unplug the main supply cord, let the generator cool down and take the generator out of the cabinet.</p> <p>If the fan fails to work because it has reached end of life, it needs to be replaced. Then follow the instructions in section 5.2.</p> <p>Note: Do not operate with a defective fan.</p>	Once a year	Retailer

Component	Tasks and explanation	Inspection period	Operator
<p data-bbox="194 443 472 510">D. Light generator glass filters</p>    	<p data-bbox="488 443 1067 510">Inspect and clean the glass filters and if necessary change.</p> <p data-bbox="488 510 1067 600">The glass filters and the harness common end of the fiber optics should be wiped with a dry, lintfree cloth when cold.</p> <p data-bbox="488 629 1067 696">Change the filters if the glass is broken or cracked.</p> <p data-bbox="488 725 1067 792">Note: do not use alcohol or any other solvent to clean the fibre harness common end.</p> <p data-bbox="488 822 1067 855">Please take the following steps:</p> <ol data-bbox="488 855 1067 1279" style="list-style-type: none"> 1. Take out the lamp 2. Release the filter system that keeps the lamp in place. 3. Jiggle out the filter system by pulling the bracket towards the back of the generator and take it out of the box. 4. Clean the filters (Remove the filters from the bracket by releasing the spring clip that holds the filters. The filters' relative position should be observed when reinstalling). The thick filter must always be placed closest to the fiber end. 5. Install the filters and the lamp by reversing the above procedure. <p data-bbox="488 1308 1067 1375">The same procedure may be used when installing an optional dichroic colour filter.</p> <p data-bbox="488 1435 1067 1525">Note: The generator can not be used without filters! Filters and surrounds can never be inserted the wrong way.</p>	<p data-bbox="1083 443 1278 600">Twice a year and always when you change the lamp</p>	<p data-bbox="1294 443 1410 477">Retailer</p>
<p data-bbox="194 1606 472 1673">E. Light generator fiber connection</p> 	<p data-bbox="488 1606 1067 1673">Inspect and clean the fibre connection surface.</p> <p data-bbox="488 1673 1067 1762">Clean the fiber harness common end with a damp lintfree cloth, but do not touch it with the fingers.</p> <p data-bbox="488 1792 1067 1881">If the surface looks burnt, has black dots on it or looks yellow please inform Fiber Optics sales representative. Further action will then be taken.</p> <p data-bbox="488 1910 1067 2000">Note: Do not bend or pull the cable, as the harness may be fix connected with the cabinet.</p>	<p data-bbox="1083 1606 1278 1695">Always when you change the lamp</p>	<p data-bbox="1294 1606 1410 1639">Retailer</p>

5.2 Replacements tasks and explanations

Component	Tasks and explanation	Replace period	Operator
<p>A. Lamp replacement</p>	<p>Before replacing the lamp, please make sure that the unit is switched OFF. Allow it to cool off.</p> <p>Please take the following steps:</p> <ol style="list-style-type: none"> 1. Remove the lid. 2. Disconnect the lamp. 3. Release the lamp plug and lift out the lamp. 4. Install a new lamp, reversing the procedure. <p>See the instructions on the light generator !!!</p>  	<p>By lamp defect or after 6,000 operating hours</p>	<p>Retailer</p>
<p>B. Fan / ventilator replacement</p>	<p>Changing the fan is easily done. It is only necessary to release one Allen screw</p> <p>Please take the following steps:</p> <ol style="list-style-type: none"> 1. Remove the screw at the back. Use Allen Key. 2. Tip the back plate out, starting from the top. 3. Remove the bracket from the hinge. 5. Release the fan from the bracket. 6. Release the fan plug from the light generator. 7. Install a new fan by reversing 1 to 5. 8. Make sure that the fan runs freely after installing again.   	<p>When defective</p>	<p>Retailer</p>
<p>C. Supply fuse replacement</p>	<p>The supply fuse is placed in the mains supply socket. The fuse is exchanged by releasing the fuse drawer from the mains supply socket and removing the fuse from here. Use Ø 5X20mm type 5 AT.</p> 	<p>When defective</p>	<p>Retailer</p>

6.0 Troubleshooting

If you experience a faulty unit, go through this checklist to be able to resolve the problem yourself.












Symptom	Cause?	Solution
No light	Is the power ON?	Turn on the power.
	Is the supply fuse intact?	Replace the fuse.
	Is the power cord properly connected?	Reinsert the power cord.
	Is the lid closed and the screw turned completely tight (interlock will be activated)? Tighten the screw completely	Tighten the screw completely. Close and secure the lid.
	Is the light generator too hot?	Check with the installation instructions. Cool off for 10 minutes then try again.
No light, fan running	Is the lamp blown	Replace lamp with new one.
Light switches ON/OFF	Is the light generator too hot while operating?	Check with installation instructions.
	Is the fan blocked?	Clear the airways.
	Is the fan not running?	Reinsert the fan plug.
	Is the fan still not running?	Replace the fan with a new one.
The light output has diminished.	Is the lamp old?	Replace the lamp with a new one.
	Are the filters dirty?	Clean the filters.
	Is the fiber harness common end dirty?	Clean the harness common end.

If the unit has been fully checked corresponding to the above listed procedure and the light output is still not satisfactory, please contact your supplier.

Warning.

Only a properly trained person should undertake the work of servicing other than the above mentioned.

7.0 Spare parts and accessories

Description		Type	Roblon item number
Lamp		Philips CDM-SA/R 150W	6515 0005
Fan		Sunon KDE 1208PTB3	6408 0124
CTC filter -900K		Reduces colour temperature from 4200K to 3300K (40x40x1,3mm)	5100 0201
CTC filter -1200K		Reduces colour temperature from 4200K to 3000K (40x40x1,3mm)	5100 0206
CTC filter KW65		Reduces colour temperature (40x40x1,3mm)	5100 0208
Colour filter - yellow		Yellow dichroic colour filter (40x40x1,3mm)	5400 5002
Colour filter - green		Green dichroic colour filter (40x40x1,3mm)	5400 5003
Colour filter - blue		Blue dichroic colour filter (40x40x1,3mm)	5400 5005
Colour filter - red		Red dichroic colour filter (40x40x1,3mm)	5400 5006
Harness adaptor		Reduces the lightport size from Ø28 to Ø9	7800 0130
Ventilation hose adaptor		For connecting light generator to Ø100mm flexible ventilation hose.	7800 0505

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