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## USER'S MANUAL

LEDs FILM VIEWER FOR INDUSTRIAL RADIOLOGY  
CODE M-CB-20 DIM. CM 10 x 24



### SUMMARY

1	Introduction.....	1
2	Symbols.....	2
3	Intended use.....	3
4	Precautions .....	3
5	Specifications .....	3
6	Nameplate and focus laser radiation .....	4
7	Safety test .....	4
8	Tool tips.....	5
9	Package contents.....	6
10	Specifications of use .....	6
11	Maintenance.....	6
13	Measures in case of failure .....	6
14	Accessories .....	6
15	Disposal.....	7

This manual is an integral part of the device, in case of transfer of the instrument must be attached to it.

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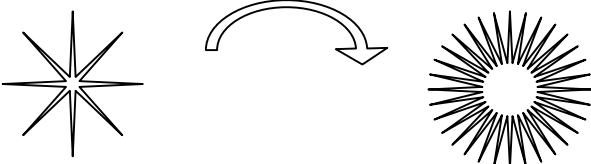
## 1 Introduction

Thank you for purchasing this product.

The operating instructions are an integral part of this film viewer. Contain important safety information on the use and disposal. In the case of the sale of the device to third parties, together with all related documentation.

**Keep the purchase invoice for the product traceability and warranty period**

## 2 Symbols

Symbol	Description
	<b>WARNING: read this manual carefully</b>
<div>LASER RADIATION DO NOT STARE INTO BEAM CLASS 2 LASER RADIATION</div> 	<b>Laser radiation, do not stand near of the beam. Device class 2. The device has a maximum luminance of 90,000 cd /sqm</b>
	<b>Do not open the cabinet. WARNING possibility of electrocution</b>
	<b>CAUTION: This device should only be used indoors</b>
	<b>Do not dispose into the environment. Managing the disposal under current legislation</b>
<b>0, I</b>	<b>On switch: 0: off, I: on</b>
	<b>The sun with a few rays is low luminance. The one with many rays is high luminance. The arrow indicates the direction of rotation to increase the luminance.</b>

### 3 Intended use

The X-ray film viewer for industrial radiology code M-CB-20 Dim. cm 10 x 24 high luminance has been designed, manufactured and tested in compliance with applicable regulations.

Is dedicated to the analysis of industrial radiography, high density (about 3.9 D) and should be used by individuals who are knowledgeable and trained.

The X-ray film viewer is constituted by a casing of sheet metal coated with Platen opal material that has the function of spreading evenly the light coming from the plates illuminating diode LED.

Is possible to adjust the luminance and control the switching by foot pedal placed on the floor or bench.

The introduction of the LEDs in this category of viewers has allowed to reduce considerably the dispersion of energy in the form of heat and therefore increase the efficiency of 5 times, making negligible the temperature problems present in models with halogen lamps.

The duration of the lighting elements is greater than 30,000 hours, virtually boundless.

The quality of the light remains excellent for the entire duration of the LEDs.

Maintenance costs are drastically reduced.

### 4 Precautions



**Note: The power connector is considered as the means of disconnection device:  
do not place the product in a way that is difficult to disconnect the power connector.**

**The protection provided by the device may be compromised if used in a manner not specified by the manufacturer**



Before you install, connect, and use the film viewer, read the following carefully and follow these simple rules:





- Use the device only if you are entitled
- Keep the device completely away from water or other liquids
- Protect the power cord from sharp edges and hot surfaces
- Check before use that power cables, pedal and plug are intact
- Be sure to connect the negatoscope in earthed power efficient
- Do not use power supplies inadequate
- Do not look without eye protection, especially at close range, the luminance of this negatoscope (90,000 cd / sqm). This equipment is considered a Class 2 laser product
- Always keep the document table clean
- In case of scratches on the platen glass replaced in order to avoid errors of observation
- Do not defeat the dissipation of heat from the housing blocking the ventilation openings
- Use indoors only negatoscope
- If an inspection and / or replacement make sure that the film viewer is not too hot.
- Do not use the negatoscope in the presence of gas
- In case of scrapping To disperse the device or its parts
- Isolate the negatoscope before making any type of intervention, disconnect the device from the mains
- Use, in the event of replacement, fuses with the same characteristics

### 5 Specifications

**Technical characteristics of the industrial X-ray film viewer code M-CB-20 Dim. cm 10 x 24**

Characteristics	UM	Securities
Rated voltage	V ~	230
Maximum power	W	77
Frequency	Hz	50
fuses	I	5X20 T 400 mA L 250
Class of insulation		I
Laser product class		2
maximum luminance	Cd/mq	90.000
Noise less than	dBA	85
Temperature range of use	°C	10 – 40
Relative humidity Max	Rh	80%
altitude	M	2000
color Temperature	°K	6000
External Dimensions (H x W x D)	cm	21 x 38 x 19,5
Size reading area	cm	10 x 24
Cable length pedal	cm	265
Length of supply cable	cm	185
Weight	kg	6.5
Degree of protection	IP	20
Color	Ral	5012
relative humidity	RH	80 %
Reference standard		See Declaration of Conformity

## 6 Nameplate and focus laser radiation

Cablas S.r.l.	www.cablas.com		
Code M-CB-20 Dim. cm 10X24 Serial Number:			
	90.000 cd/sqm max		
230V ~	50Hz	78 W	
F1, F2,	5x20 T 400 mA L 250 V		

LASER RADIATION  
DO NOT STARE INTO BEAM  
CLASS 2 LASER RADIATION



## 7 Safety test

Each such product is made

- a proof of earth continuity between the ground terminal and accessible metal parts
- a dielectric strength test by applying AC voltage of 1390 V rms between power supply terminals (phase and neutral) and all accessible parts for at least 2 s.

## 8 Tool tips



2 Light box

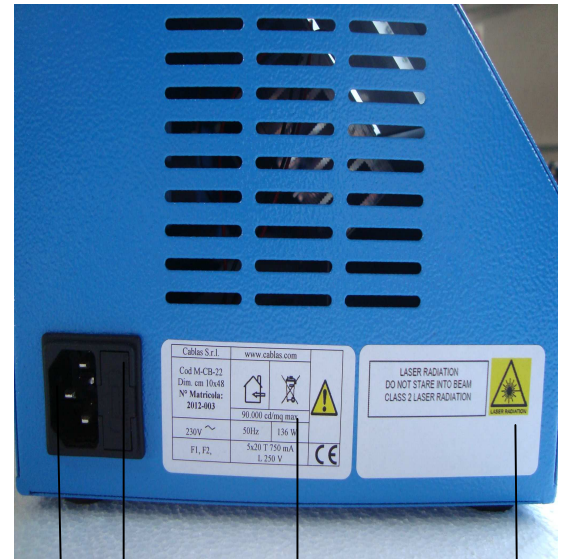
3 Luminance aduste: increase in a clockwise direction

10 Reading mask

5 Indicator light

1 Pedal power light box

4 Switch



8 Nameplate

9 Attention: laser radiation

6 Fuse holder

7 Connector connection power cable



### Informations and note

- 1 can be used by hand or foot
- 2 observe floor covered with film to prevent damage to your eyes
- 3 always start with minimum luminance (potentiometer fully counter-clockwise)
- 4 Turn off the equipment after work
- 5 shows the lamp connection to network
- 6 in replacement use fuses with the same characteristics
- 7 Disconnect the power cord in case of maintenance
- 8 nameplate
- 9 attention to laser light
- 10 masks of reading to adapt the reading area of the film

## 9 Contents of the pack

The product is packed in a cardboard box containing:



- Power cord
- User and maintenance
- 2 Spare fuses 5x20 T 400 mA L 250 V
- 2 Masks reading

## 10 Specification use

Place the negatoscope so that it is convenient to use

The negatoscope is designed to analyze radiographs industrial high optical density (about 3.9 D) and should be used:

- by staff trained and informed
- in place suitable internal.
- connected to the mains at 230 V ac **with earth**.
- placed on stable surface with appropriate height for operator sitting or standing.
- The foot switch can be used on the ground (with stand) or next to the film viewer.

-   **Warning! The maximum luminance of the device is very high (90,000 cd / sqm):**
  - do not look directly at the light table on: Class 2 laser product
  - The platen should always be thoroughly cleaned (damp cloth) and free of scratches
  - Insert the film to be analyzed to minimum luminance (regulator full scale anticlockwise) and increase it later, gradually until it reaches the value suitable for reading.

## 11 Maintenance

**Note:** The power connector is considered as the means of disconnection device:  
do not place the product in a way that is difficult to disconnect the power connector.

The protection provided by the device may be compromised if used in a manner not specified by the manufacturer

Periodically check the condition of the table, the power cables, pedal and plug. Any replacement must be performed by qualified personnel. Any unauthorized intervention will void the warranty.

For cleaning, use only a slightly damp cloth on the outside after being disconnected from the mains.

**NOTE:** Periodically check the luminance reference tool

### 12 Product traceability

On the nameplate of each negatoscope there is the serial number that uniquely identifies the object.  
This number should be quoted in any kind of request, together with the place and date of installation

### 13 Measures in case of failure



**Do not open the equipment absolutely**

For this device is intended by the operator only the intervention of replacing fuses.

In case of failure, before calling for service, check the following:

- The wall outlet that is connected to the unit is powered
- The indicator light remains off even when the power is turned on, the pedal is pressed and the dimmer switch is rotated clockwise (maximum intensity).

In this case, check, after disconnecting the unit from the mains, fuses and possibly replace them with fuses of the same characteristic.

## 14 Accessories

Reading mask

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## 15 Disposal

Give the film viewer to licensed waste according to local regulations



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**SCHERMATURE ANTIX - ACCESSORI PER RADIOLOGIA**

### CE CONFORMITY DECLARATION

The undersigned "CABLAS S.r.l."  
office at Via Michelangelo Buonarroti 52/B  
20083 Cologno Monzese (MI) - ITALY

#### DECLARES

Under own responsibility that the product

**X-RAY FILM VIEWER FOR INDUSTRIAL RADIOLOGY LED TYPE**

Codes

M-CB-20	M-CB-22
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Which this declaration refers, is conforms to the follow norms:

**EN 61010-1:2010**

Safety requirements for electrical equipment for measurement, control and laboratory use. Part 1: General requirements.

**EN 62471: 2008**

Photobiological safety of lamps and lamp systems

**EN 61326: 2006**

Electrical equipment for measurement, control and laboratory use. EMC requirements. Part 1: General requirements.

Meets the essential requirements of the following European Directives

- Low Voltage: 2006/95/EC
- EMC: 2004/108/EC

Cologno Monzese, year 2013

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