

# Pentaled

Technology for ICU and minor surgery



**Pentaled 12**



**Pentaled 28**



# Technology for ICU and minor surgery

The importance of light during surgeries is related to the need to guarantee the reliability of the visual information perceived by the surgeon during the operation.

Proper lighting makes for comfortable working conditions, reduces stress levels, minimizes the feeling of tiredness and increases productivity. The quality of artificial illumination has primary importance and it is directly proportional to the difficulty of the task requested.

RIMSA, inspired by nature, has chosen a white light similar to sunlight at Zenith for its Led lamps.

PENTALED 12 and PENTALED 28 are a concentration of unparalleled-performance technology, the best for a lamp for ambulatories and minor surgery.

Their compact dimensions and extremely handy structure are permeated by the strong determination of Rimsa heart, a synonym of high technology, quality and performance ever since.

The thin dome with two convenient side grips ensures easier positioning and adjustment and reduces overall dimensions.

The conformity to International rule IEC 60601-2-41 makes them suitable for:

- surgeries
- first aid station
- intensive care
- recovery room
- gynaecology
- minor surgeries





### **Pentaled 12**

RIMSA uses only white-light LEDs to prevent alterations in the colour temperature in the operating field so that when the surgeon's hands come between the lamp and the patient no coloured shadow effects are produced in the lit-up area.

### **Pentaled 28**

## Good reasons for preferring PENTALED 12 and PENTALED 28:

### White light

to prevent colour break-up in the area to be observed.

### Cold light

the LEDs emit only small amounts of heat and this translates into greater comfort for physician and patient

### Longevity

the low power supply current and the excellent management of the heat dispersed by the aluminum dome allow the LED a 50,000 hours lifetime

### Round light

the round-shaped reflector allows to light the work area uniformly and it does not hinder the doctor's view

### Easy to move

the side opposite handles allow to direct the light from every position, both frontally and laterally

### Handle

automatic clutch, can be sterilized in autoclave

### Patented pre-stressed spring arm

pre-stressed spring balancing has been engineered to provide lightness of movement and positioning stability. The charge can be adjusted in time by a special mechanism

### Ecological

the structure is made of steel while the dome of anodized aluminum. 85% of it is made of recyclable materials. The package, studied on purpose to protect the product against accidental collisions, is made of recyclable cardboard and does not require any particular disposal procedures.

### Saving

very low energy consumption, 2/3 lower than a conventional halogen system



### White and cold light



### LED light

Bright and cold light reproduces colours faithfully, assuring an excellent definition of details, a very important requisite for the different surgery and first aid specialities.

### Easy to move



### Ergonomic

The circular reflector, designed to light up the work area thoroughly and suppress all the shadows, is equipped with handy side handles to facilitate positioning. The lighting body, ultra-flat in order to not disturb the operator, is equipped with ultra-resistant polycarbonate screen which guarantees protection against possible accidental collisions. PENTALED12 can be easily positioned thanks to its rotation on 4 axes:

- The structure has a side full-circle handling without any stops
- The arm moves vertically thanks to a spring-compensated balancing system
- The reflector can be rotated on the vertical and horizontal axis.



#### Digital control



#### Sterilisable grip

The dome can be adjusted by means of the sterilisable handle

#### Light intensity adjustment

Light intensity adjustable by means of digital control

Available in ceiling, wall and floor versions and, on request, with battery

#### Lightness of movement



#### Versatile

Thanks to their features, these lamps are suitable for use in surgeries, for minor surgery, intensive care, recovery room and emergency room

## PENTALED 12 50.000 lux @ 1mt

The fact that the lenses are arranged close to one another permits obtaining a light that is always focused. PENTALED 12 makes use of the physical principle of reflection and indirect light. Twelve elliptic reflectors reflect the light rays emitted by the LEDs on the area to be lit up, thereby obtaining a light intensity of more than 50,000 lux at a distance of 1 metre.

The indirect light has the following advantages:

- it does not dazzle
- it does not strain the eyes and favours concentration
- it meets all the visual needs in the diagnostic and minor surgery sphere

The reduced emission of IR rays by the LEDs, together with the low power used, permits obtaining very low heat emission to the benefit of comfort of both patient and physician.

The lamp is always in focus and has a large work range extending from 70 cm to 140 cm. By means of a digital membrane, it is possible to access the switch-on and switch-off functions and to adjust the light intensity.

# 12



Indirect light

On request, it can be supplied with backup units with an autonomy of 3 hours, consisting of batteries and battery charger. Class I medical device with EC mark in conformity with Medical Device directive 93/42 EEC and 2007/47 EC



Code: PENTA12PI

**Floor lamp**

Easy to move thanks to the anti-static wheels featuring brakes to ensure stability and operating safety



Code: PENTA12SO

**Ceiling lamp**

Ideal for best managing the space at disposal. In the version with satellite to increase the scialytic effect



Code: PENTA12+12



Code: PENTA12PA

**Wall lamp**

Recommended for surgical rooms and surgeries of small dimensions. The lamp can be positioned against the wall after use

# PENTALED 28

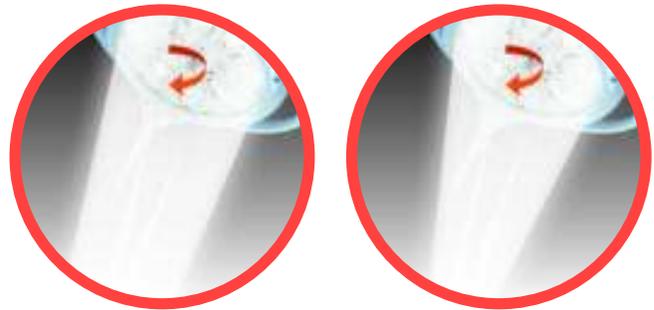
80.000 lux @ 1mt

This lamp offers exceptional technical performance and great operating versatility. It is particularly suitable for minor surgery, gynaecology and emergency room. The dome consists of 28 LED lenses arranged radial fashion to suppress shadows and ensure three-dimensional lighting. The modular design of the LEDs ensures light continuity even in the rare case of a fault affecting an individual LED. The high efficiency of the LED sources and the low current absorption permit obtaining very low IR emissions and a cold light in the operating field. Light intensity is 80,000 lux.

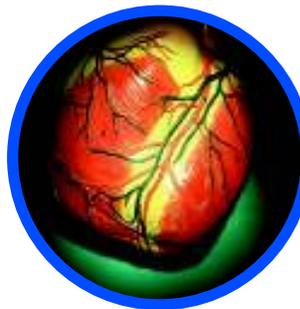
Also available in floor version with anti-static wheels, wall version and ceiling version. On request it can be supplied with backup unit with an autonomy of 3 hours, consisting of batteries and battery charger.

Class I medical device with EC mark in conformity with Medical Device directive 93/42 EEC and 2007/47 EC.

# 28



Light field adjustment

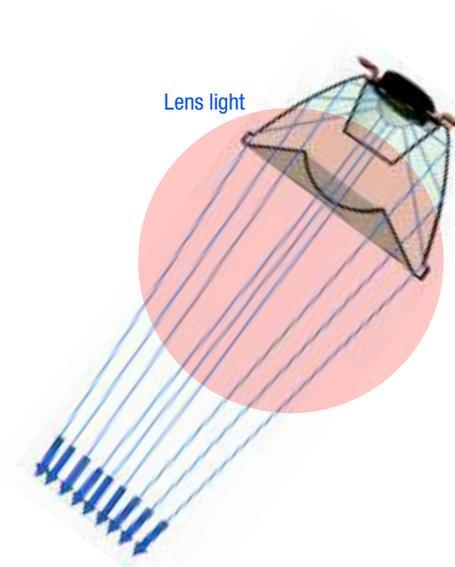


4500K



5000K

Focusing and light field adjustment are achieved by turning the central knob. Through a digital membrane, the switch-on and switch-off functions can be accessed, the light intensity can be adjusted and the colour temperature can be changed 4500-5000K.



Lens light

## Pentaled 28



Code: PENTA28PI

**Floor lamp**

Easy to move thanks to the anti-static wheels featuring brakes to ensure stability and operating safety



Code: PENTA28SO

**Ceiling lamp**

Ideal for best managing the space at disposal. In the version with satellite to increase the scialytic effect



Code: PENTA28+28

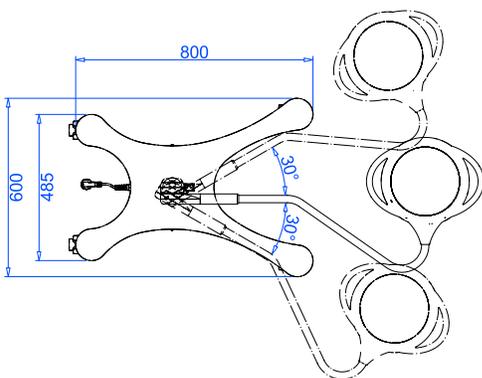
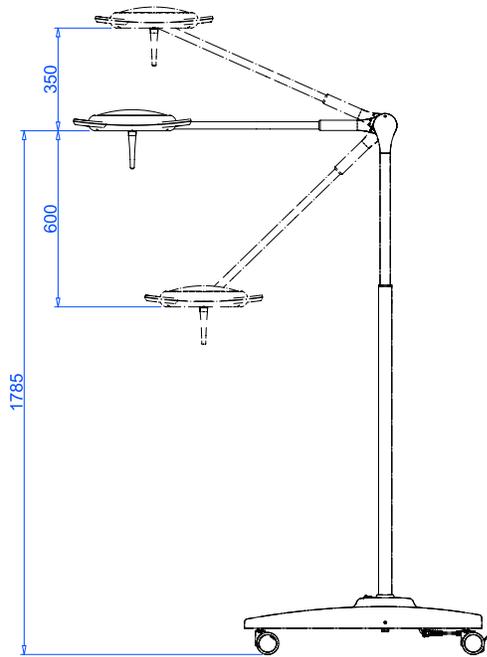


Code: PENTA28PA

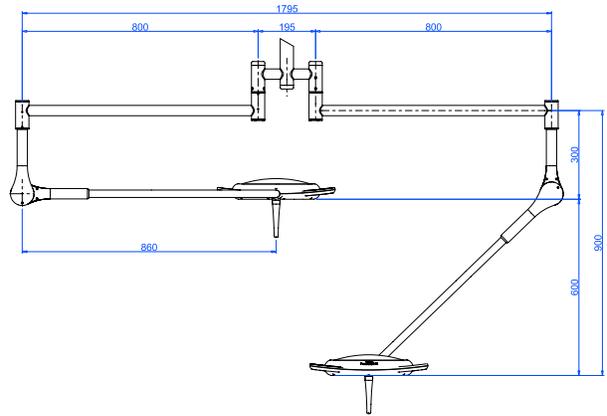
**Wall lamp**

Recommended for surgical rooms and surgeries of small dimensions. The lamp can be positioned against the wall after use

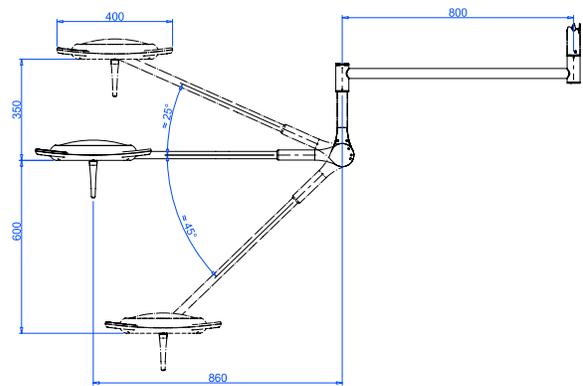
FLOOR



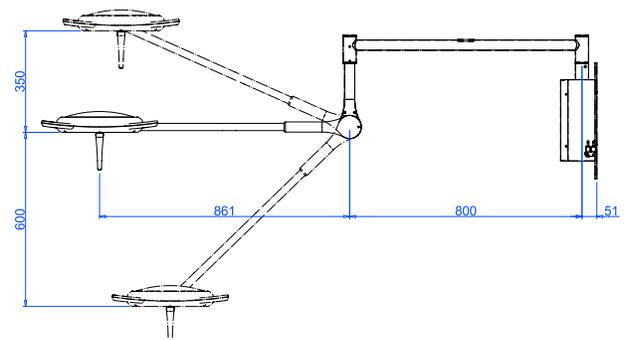
CEILING X 2



CEILING



WALL



## PERFORMANCES

## PENTALED 12 PENTALED 28

Light intensity at 1 m distance (Ec)	Lux	50.000	80.000 (5.000K)	50.000 (4.500K)
Colour temperature	°K	4.500	4.500 / 5.000	
Colour Rendering Index (CRI)	Ra	96	92 (5.000K)	96 (4.500K)
Light field diameter where the illuminance reaches 50% of Ec (d50)	mm	70	135	
Light field diameter where the illuminance reaches 10% of Ec (d10)	mm	140	270	
Depth of illumination IEC 60601-2-41 (L1+L2) at 60% of Ec	cm	87 (62+25)	58 (28+30)	
Total radiated energy Ee where the illuminance reaches max level	W/m2	119	220	
Ratio between radiated energy Ee and illuminance Ec	mW/m2.lx	2,38	2,64	
Radiated UV energy with wavelength less than 400nm	W/m2	0,001	0,001	
R9		92	90 (5.000K)	92 (4.500K)

## ELECTRICAL DATA

Power transformer a.c.	V	100 ÷ 240	100 ÷ 240	
Frequency	Hz	50/60	50/60	
Electrical absorption	VA	40	81	
Luminous source	Led	no. 12	no. 28	
Average led life	hours	50.000	50.000	
Control of the illuminance	%	20 ÷ 100	20 ÷ 100	

## GENERAL DATA

Color		RAL9003	RAL9003	
Directive		2007/47/EEC	2007/47/EEC	
Norms		IEC 60601-2-41	IEC 60601-2-41	
Classification of product (medical device)		Class I	Class I	

## DIMENSIONS

Weight (mobile, ceiling, wall, double)	Kg	18 - 13- 12 - 20	18 - 13- 12 - 20	
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## OPTIONAL

Battery group with authomatic charger		On demand	On demand	
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## RIMSA and the environment

The respect and the protection of the environment have always been a priority to RIMSA.

RIMSA has promoted renewable non-polluting energy sources, equipping each plant with photovoltaic systems which produce 100% requirements for constructing its devices. This renewable energy, obtained from the sun without emissions of CO<sub>2</sub> in the environment, contributes towards the reduction of air pollution.

The photo shows the first plant equipped with photovoltaic panels. RIMSA follows a thorough ecological policy for its products as well:

- it has been the first company in the world to apply the brand new LED technology to medical lamps as a valid substitute to the halogen tradition. The LED is ecological as it does not contain any mercury, toxic gases, filaments and fragile parts;
- using the LED together with the patented “indirect light” system reduces the electric consumption by a good 2/3 (about 33% less) compared to a conventional halogen lamp.

PENTALLED 12 is therefore an ecological lamp all round:

- 50,000 hours lifetime of the LEDs thanks to the excellent dissipation of temperature
- only uses 33% of a halogen lamp
- 85% of recyclable materials. The upper part of the dome is made of anodized aluminum without epoxy powders
- solvent-free painting
- the package has a compact size and is made with 100% recyclable material
- the soft and rounded lines of the dome reduce the amount of cleansers for cleaning

