

HyLED C50 Vet Introduction

PMLS Marketing



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Basic Information

Surgical light—position

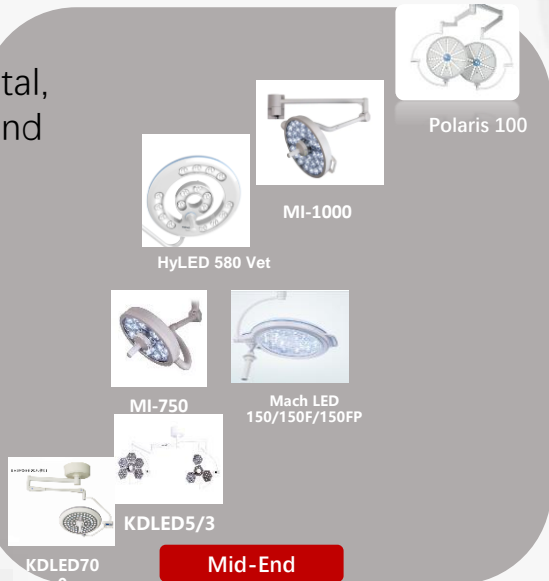
Price

Main customers (C50 Vet):

medical university/teaching hospital,
research institutions , and High-end
animal hospital chains.



Polaris 50

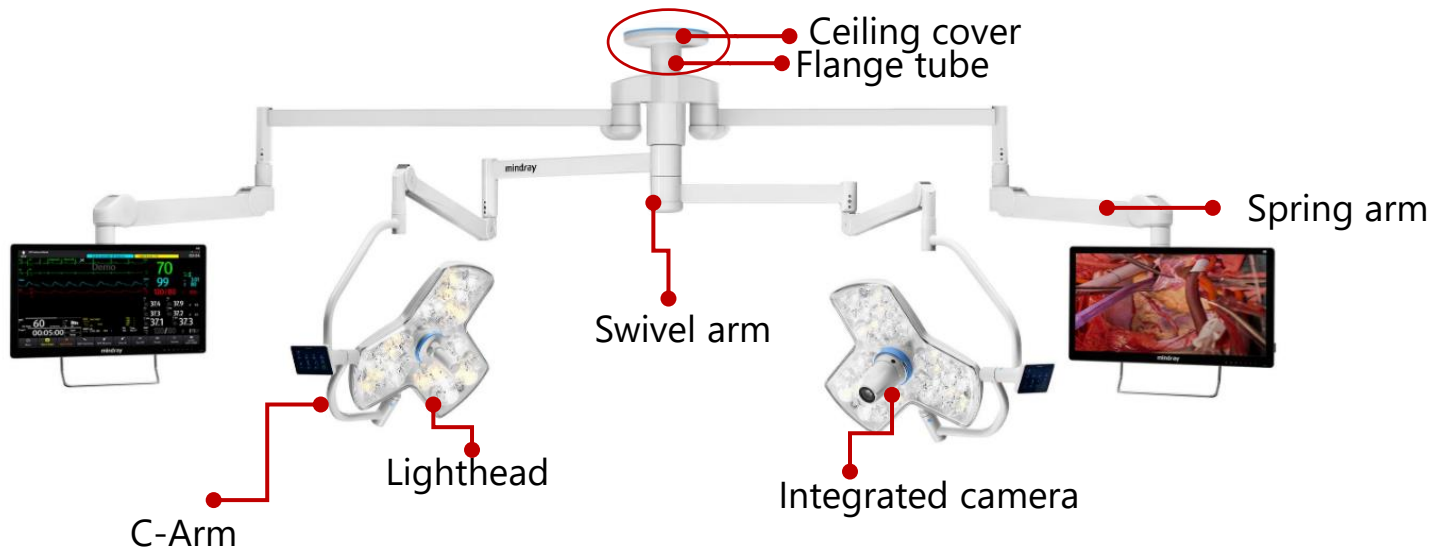


Polaris 100



Performance

Basic information

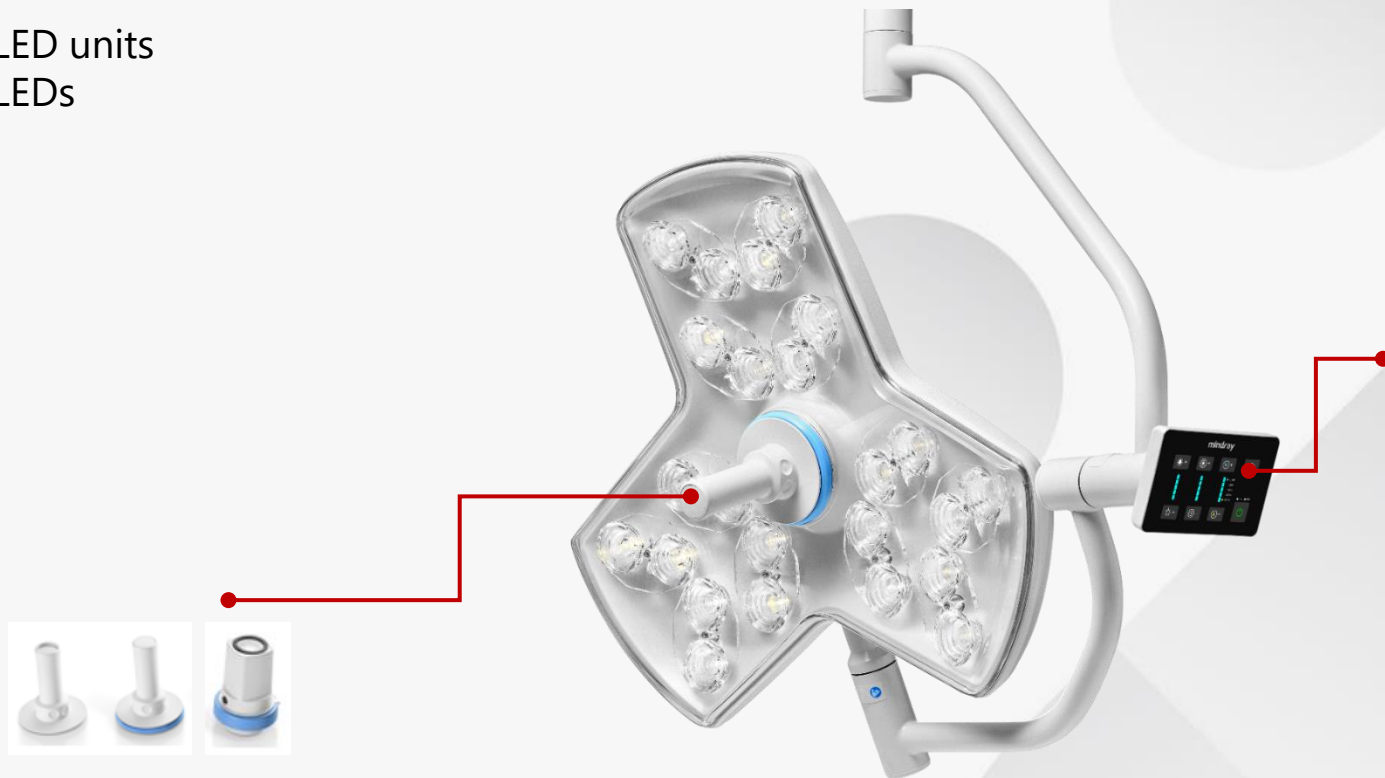


Basic information

mindray 迈瑞
animal care 动物医疗

12 LED units
24 LEDs

Y design



Touch screen



Integrated camera(option)
/Multi-functional handle FUNC

Technical Specification

Item	HyLED C50 Vet	HyLED 750 Vet
Max. illuminance (Ec) (1m)	160,000 lux	160,000 lux
Light field diameter (1m)	140-270mm	180-300mm
Depth of illumination (20%)**	1,300 mm	1,200mm
Depth of illumination (60%)**	600 mm	600mm
Color Temperature	Standard: 4,350K Optional: 3,500-5,100K	4350K
Color rendering index(Ra)	99	96
Color rendering index(R9)	97	97
Shadow dilution with tube	100%	100%
Shadow dilution with one lateral mask	71%	75%
Dimming range	5%(MIS light) -100%	5(MIS light)-100%
Power supply of all light head	55W	85W
Protection against harmful ingress of water or particulate matter	IP 55	IP54



*All values measured according to IEC 60601-2-41.

*Due to manufacturing and measuring tolerances, all data relating to lighting systems has a tolerance of +/- 10%.

**Max. patch light field diameter



Selling Points



See Widely



Control Easily



Operate safely

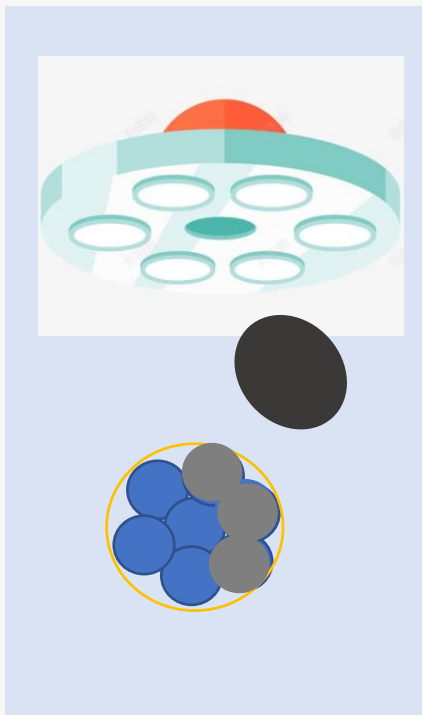
A close-up, high-angle view of a modern surgical light fixture. The fixture is white and has a rectangular head with rounded corners. It features multiple circular light lenses arranged in a grid pattern. A central white cylindrical component, likely for height adjustment, is visible. A control arm extends from the side of the head, ending in a black touch-screen control panel. The panel displays the 'mindray' logo and various icons for light control, including brightness, color temperature, and power. The background is a plain, light gray.

Widely

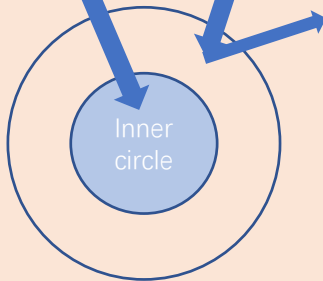
See widely -Revolutionary surgical site illumination

See Widely

Multi-Patch Superposition Technology(MPST)



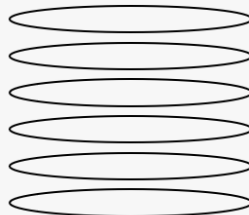
MPST technology



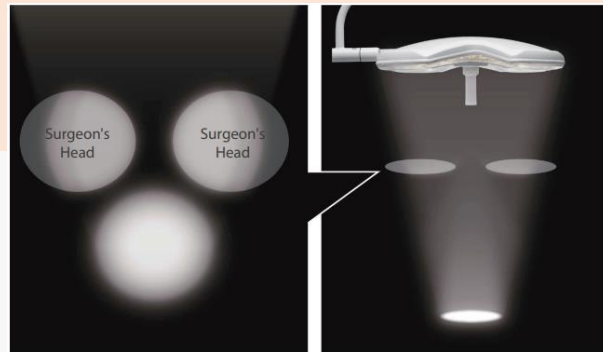
Light field



12 Uints

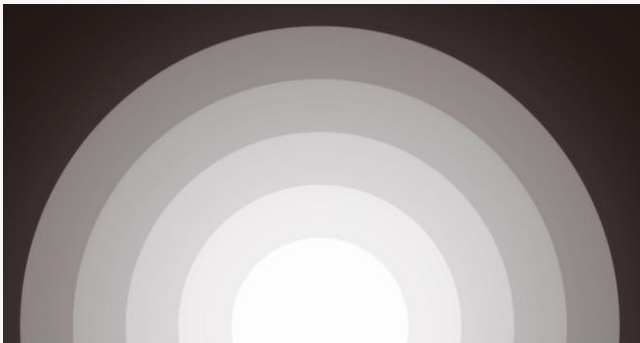


The same
site and patch



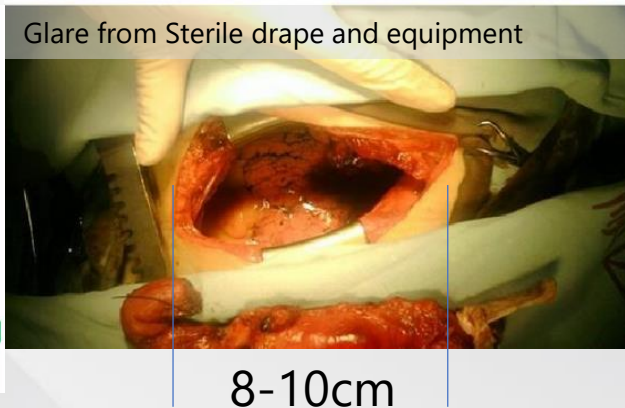
Homogeneous light field even when
intercepted by the surgeon' s head.

Wide Range Field Size Design



Field Size: **14cm-27cm**
More Focus and Less Glare

Biconcave lens, the same grade as industry equivalent
In terms of the light field size, biconcave lens is only
49% of the common equivalents on the market
(assuming that the light field size is about 20cm)



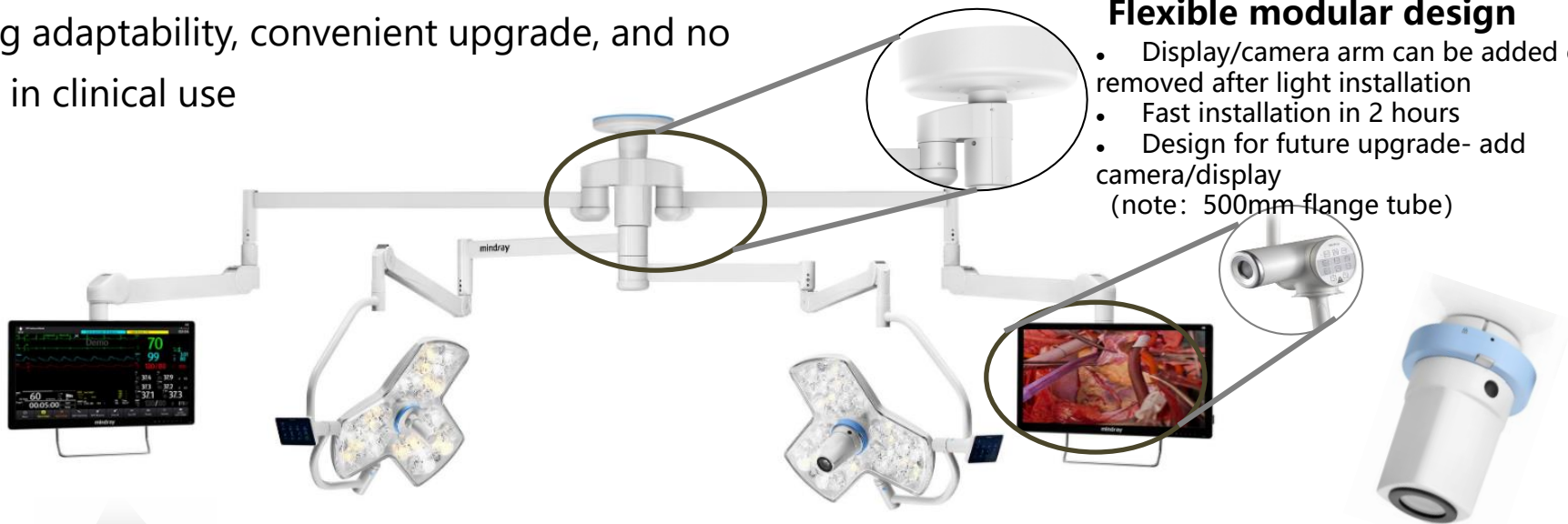
See Widely

Various Options for Flexibility

Strong adaptability, convenient upgrade, and no delay in clinical use

Flexible modular design

- Display/camera arm can be added or removed after light installation
- Fast installation in 2 hours
- Design for future upgrade- add camera/display (note: 500mm flange tube)



Adaptive Display Holder

- Supporting large 4K endoscopic Providing various video combination solutions for hospital needs
- No need extra customization

separation design separate maintenance



Easily
Control Easily

Control Easily

Stopless Rotation

This concept was first introduced in Veterinary surgical light.
From top to bottom, full joint infinite design.



Except wired camera

Vets are able to position the lights to the exact field, No matter whether in which surgeries.

Control Easily

Multi-functional handle FUNC

Allows the Vets to control multi-functions directly with a synchronous notice on the field.
A customized combination can be set among

- ✓ Illuminance,
- ✓ Light field diameter
- ✓ Color temperature



Control Easily

Control APP on the Tablet

Vets or nurses can control surgical light via the APP on the Tablet, no need to get into the OR or get close the light to do the control.





Safely
Operate safely

Operate Safely

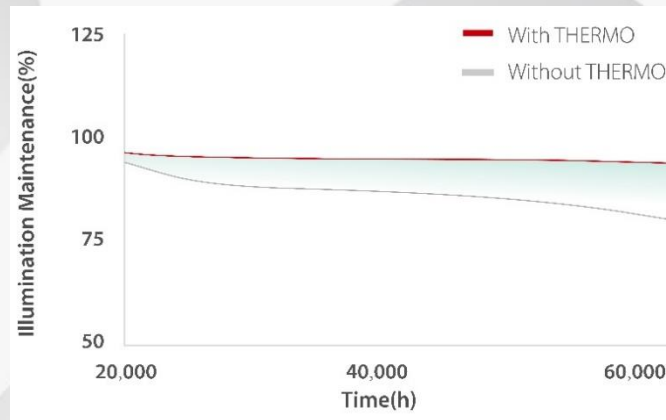
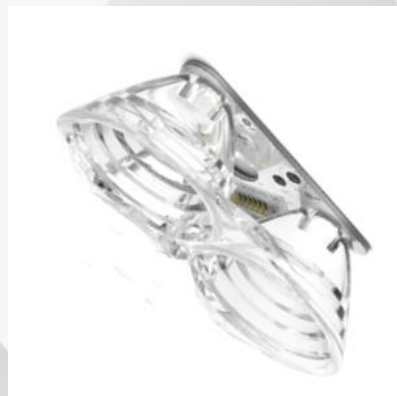
Lighting Constant Guarantee

-Anti-attenuation THERMO Technology

THERMO patented technology:

The LED light will be affected by the attenuation after a long time used, Anti -attenuation THERMO Technology will compensate and optimize the LED light to the illuminance is stable within the ten-year life.

The pure aluminum substrate ensures heat radiation and avoids illuminance attenuation during long-term operation.

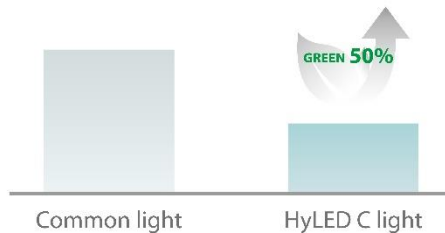


Patent No :CN 109104784 A

Operate Safely

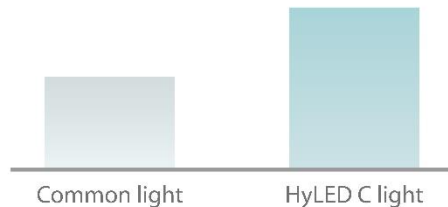
Ultra Low Power Design

Comparison of power consumption



ultra-low power consumption

Comparison of running time



supporting up to 6-hour
continuous lighting during surgery

- Energy saving and environmental protection
- C50 Vet: 30 W ultra-low power consumption
- Rohs compliant

Operate Safely

Infection Control Design



- Integrated screwless design
- The whole arc surface is easy to clean
- Laminar flow design to reduce the impact of turbulence
- Antibacterial coating surface design

Dust prevention

Water prevention

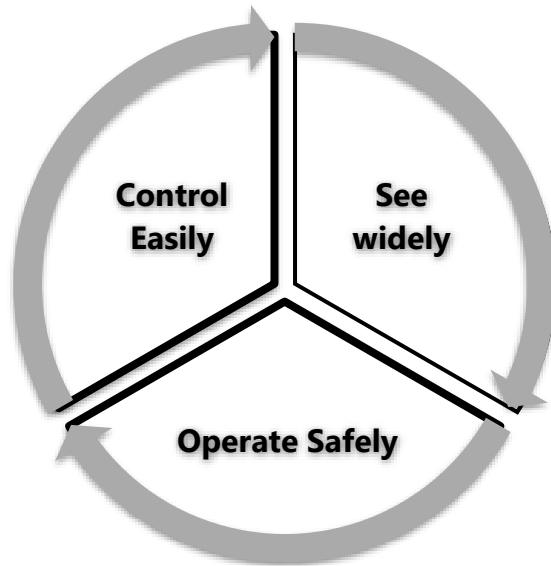
I P 5 5

Through the integrated design, it can reduce the redundant seam and screw and other clean dead corners, high waterproof and dust-proof, and surface antibacterial design, which can effectively reduce the product damage caused by reagent corrosion, making it more durable and beautiful

Selling points

Easily

- Stopless design
- Multi-function Handle
- Control APP on the Tablet



Widely

- Multi-Patch Superposition Technology
- Wide Range Field Size Design, 14-28cm
- Various Options for Flexibility






Safely

- Stable Illumination Technology
- Ultra Low Power Consumption
- Infection Control Design



Competition

Competition

Function	Mindray HyLED C50 Vet	DR.Mach Mach LED 5/3sc	Mach LED 300 SF Spot and MC	Drager Polaris 200/100	Martin E9i
					
Central illumination (lux)	160,000	160,000/ 140,000	160,000	160,000/ 120,000	160,000
Colour temperature (K)	Standard: 4,350K Optional: 3,500-5,100K	Fixed: 4,500K Optional: 3,750- 4,750K	Fixed: 4,500K Optional: 3,750-4,750K	4,400, 5,000 and 5,600	Fixed: 4,350K
Light field size	14 -27cm	20-32cm	17- 25cm	Fixed 20	18-27 cm
Depth of illumination(mm)	1,300	1,200	1,200	1,300	1,250
Colour rendering index (CRI) (Ra)	99	96	96	95	99
MPST	√	×	×	×	×
4K display support	√	×	×	×	×

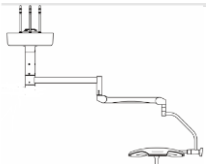
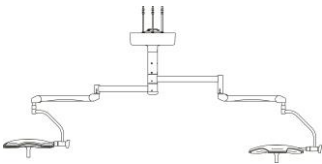
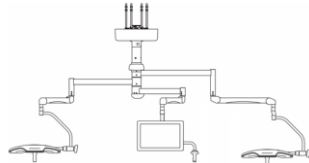
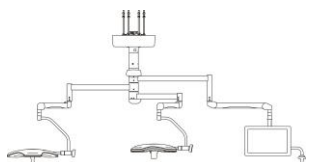
Competition-Light field

Function	Mindray HyLED C50 Vet	DR.Mach Mach LED 5/3sc	Mach LED 300 SF Spot and MC	Drager Polaris 200/100	Martin E9i
Modular Suspension System	√	×	×	×	×
Stable Illumination Technology	√	×	×	×	×
Ultra Low Power Design	30	65/45	/	/	40
Integrated screwless design	☆☆☆☆☆	☆☆☆	☆☆☆	☆☆☆	☆☆
Water and dust resistance	IP 55	/	IP 42	IP 42	IP 42

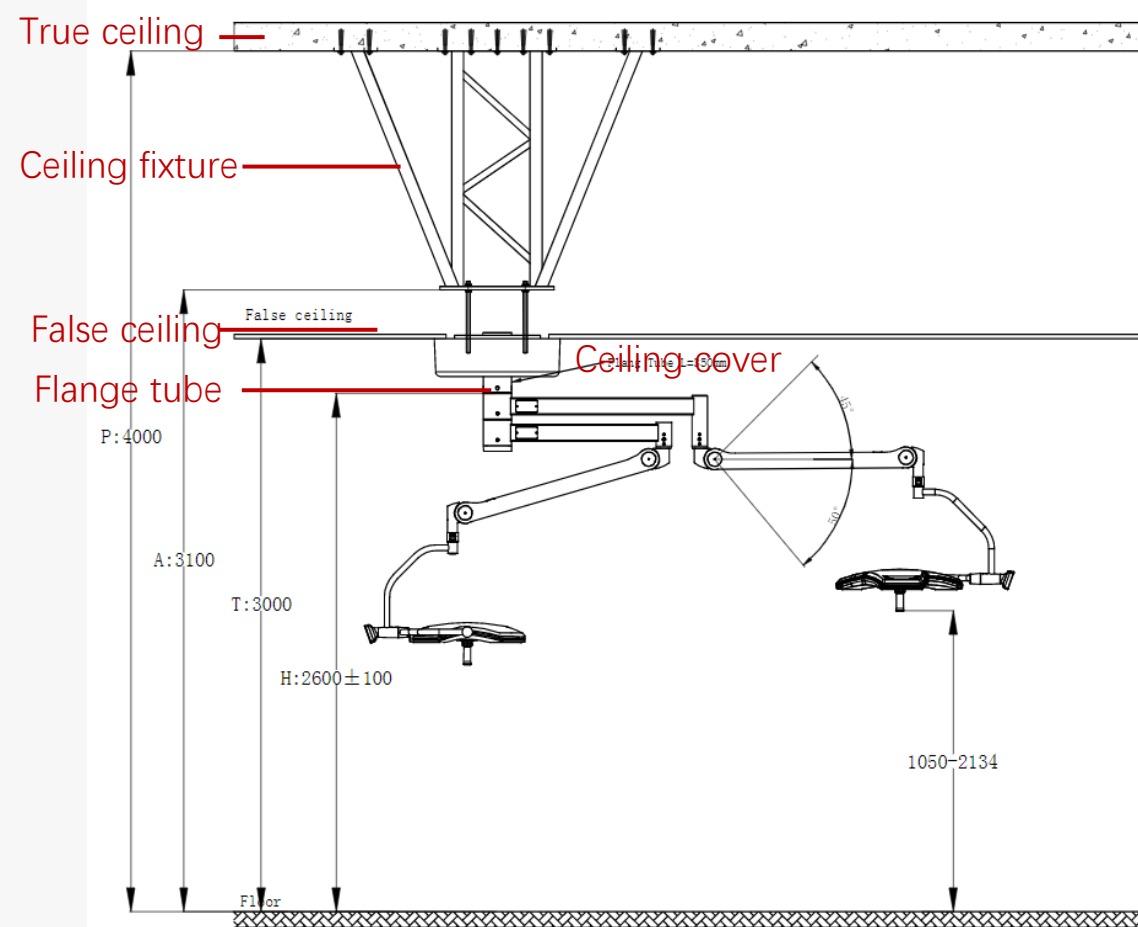


Configuration

Configuration

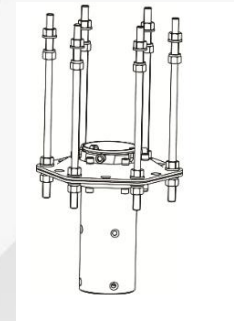
型号	Main Description & Configuration	Picture
<u>HyLED C50 VET</u>	C50 Vet,Single head, Standard arm	
<u>HyLED C50 VET</u>	C50 Vet,Dual head,Standard arm	
<u>HyLED C50 VET</u>	C50 Vet,Dual head+Display arm,Standard arm	
<u>HyLED C50 VET</u>	C50 Vet,Dual head+Integrated camera+Display arm,Standard arm	

Installation drawing



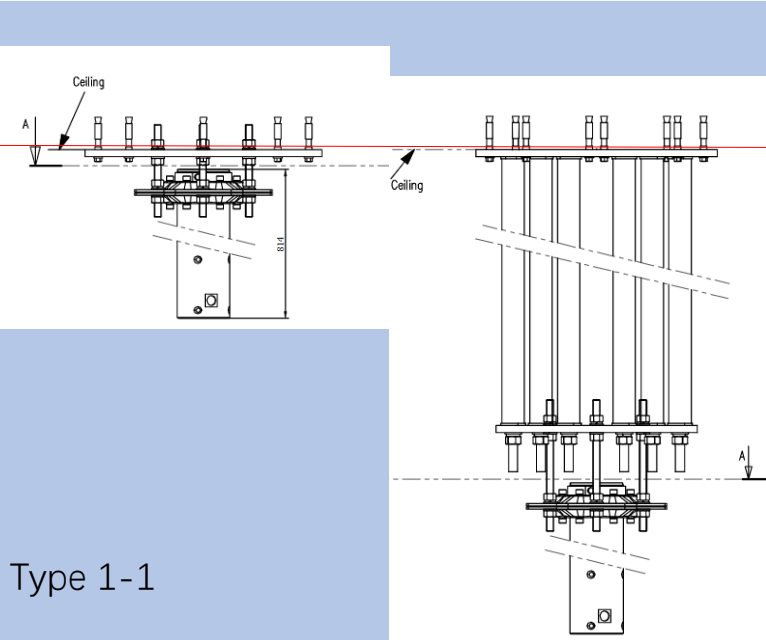
Ceiling fixture

1. In the case of OR reconstruction, hospital can check whether the old fixture is usable;
2. Ceiling fixture Mindray ;

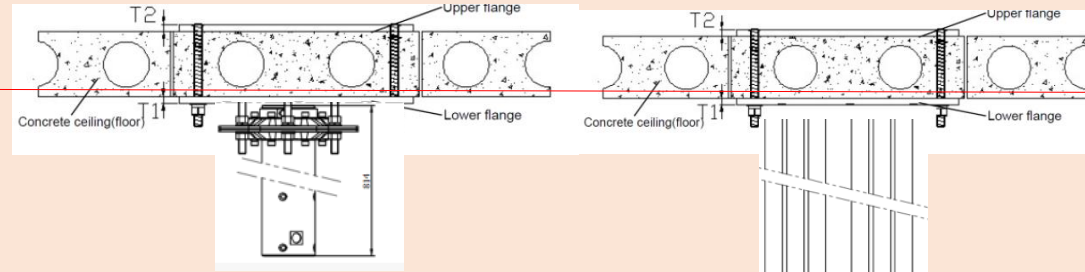


Ceiling fixture Mindray:

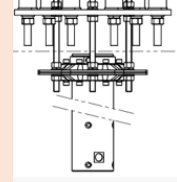
Type 1



Type 2



Type 2-1



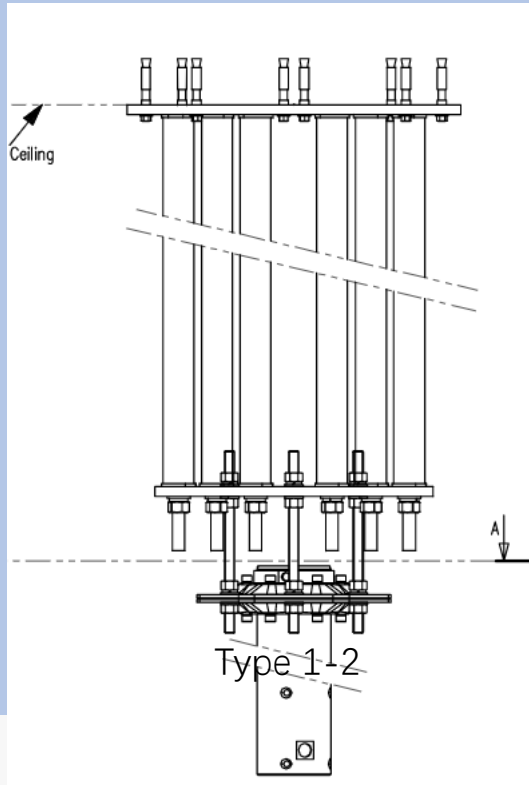
Type 2-2

Type 1-1

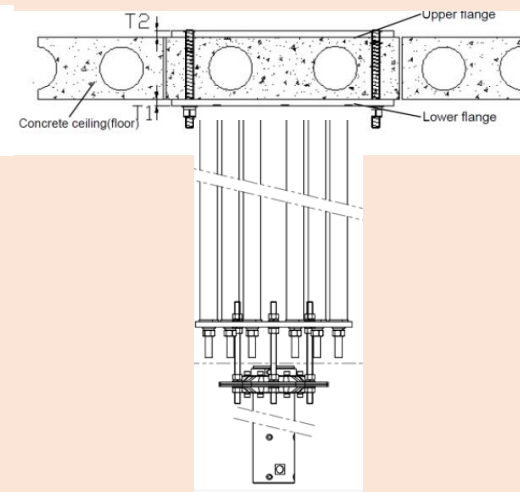
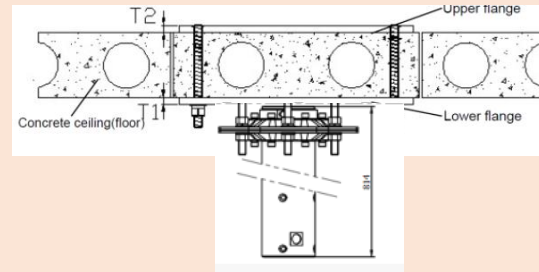
Type 1-2

Ceiling fixture Mindray:

Type 1



Type 2



Type 2-1

Type 2-2

Type 1-1

Animal Care, We Do



MPST Clinical Significance

Concept :

Multi-Patch Superposition Technology

Pain points :

Deep cavity surgery cannot be seen clearly. The center illuminance is not bad, but the illuminance for the side wound field may be intercepted by shadows.

Although pancreas, recta, cardia surgeries have large incisions, many tissues cannot be seen clearly.

Advantage :

12 layers of light field ensures a homogeneous and round light field even if 80% lighting is blocked by the surgeon.

Clinical significance :

Even if the lighthouse is intercepted by Vets' heads, the illuminance under the surgical area is homogeneous so that Vets' judgements cannot be affected.

Homogeneity before being blocked

- Under min. light field $D50/D10 = 60\%$

Wide Range Field Size Design Clinical significance

Concept :

14 cm-30cm

Pain points :

The aperture cannot be too large. Otherwise, the illuminance will be out of the operative field and the reflection can barely keep Vets' eyes open, not to mention the darker inside.

Advantage :

The lens efficiency is optimized and the luminous area is increased.

Clinical significance :

For Vets with tiny incisions, such as appendectomy, cholecystectomy, thyroidectomy or spine surgery and mitral valve replacement surgery, the light is more focused and the glare from peripheral region is less.

How to get ultra-small light field

- 1、 Multi-functional handle FUNC
- 2、 Touch screen control
- 3、 Control APP

Various Options for Flexibility

Concept :

Various Options for Flexibility

Advantage :

Adaptive display rack Subsequent upgrades can adapt to mainstream displays, saving costs

Pain points :

"Endoscopic surgery request to have Flexible display which can see from different direction.

With the development of cavity mirror technology, 3D, 4K, fluorescence, etc., various cavity mirror manufacturers have generated a large number of display matching suspension requirements.

At the same time, the size and weight of the display screen recommended by different manufacturers are different, which brings great confusion to the medical staff. Each time, the specific size and weight of the display screen manufacturer should be asked, and the operating light manufacturer should be required to adapt the display rack.

Clinical significance :

Strong adaptability, convenient upgrade, and no delay in clinical use

Stopless Rotation Clinical significance

Concept :

Stopless Rotation

Advantage :

The wiring is converted to surface contact signal transmission to solve the problem of clamping when the light head rotates

Pain points :

" During the operation, the light holder is often adjusted due to the needs of the operation, but due to the design limitations, vets are often limited when adjusting the light holder. Especially during the operation, when the lighting angle changes, it is not easy to adjust to the desired position. As a result, the light must be turned over or reversed in a large range, which seriously affects the use experience. "

Clinical significance :

- Improve the regulation efficiency of the vet's operation process.
During surgery, the doctor will adjust the light head dozens of times
- Improve the vet's mood. The light holder will affect the operation rhythm
- The efficiency of the peripheral rotating light head of the nurse is higher during the operation to avoid being scolded by the vet for not being stuck in place

Multi-functional handle FUNC Clinical significance

Concept :

Multi-functional handle FUNC

Pain points :

Nurses could be blamed by the vets if they fail to adjust the function as vets want.

Advantage :

The light field and illuminance can be adjusted in many ways.

Clinical significance :

Vets would like to use sterile control to adjust the illuminance effect they want. The nurse's aid is usually dissatisfactory.

How to control

- 1 . Rotate the handle to adjust the light field size.
- 2 . Hold the handle and press the sensor area and then rotate it to adjust the illuminance.
- 3 .The second gesture can be customized:
 - First gesture: flare adjustment
 - Second gesture: default illumination adjustment, which can be switched to color temperature or M-Field function

Control APP handle Clinical significance

Concept :

Control APP on the Tablet

Pain points :

- When the operating light parameters need to be adjusted during the operation, the arm control position is sometimes high, which is inconvenient for nurses to touch
- It is close to the sterile area of surgery, which increases the risk of infection

Clinical significance :

It is more convenient and flexible to use the panel remote control. The nurse can adjust the operating light without turning around to see the effect like the wall control. Keep away from the sterile area of the operation, do not touch the doctor to destroy the sterility, and reduce the risk of infection

Advantage :

Provide more flexible and convenient control mode

C50如何选择炮筒和弹簧臂

