

LED Operation Theatre Lights



The Science of LED Lighting Technology

Company Profile

Enertech is the Largest and widest Manufacturing Company of Surgical Products like Electrosurgical generators, Vessel Sealing System, complete Endoscopy Sets and it is Serving the Medical Fraternity from the Last 22 years. Enertech Proudly announces its launch of next generation LED operation Theater Lights. In the Enertech LED operating Theatre Lights, you can enjoy all the benefits of Latest LED Technology like Comfort, Cost Saving, pure light ,very low heat, eco friendly design compatible with modern modular OT's in a uniquely effective package. The Other unique Feature of Enertech Lights is its Compact design with significantly high performance LEDs with very high efficiency and low energy loss, of the Second generation.

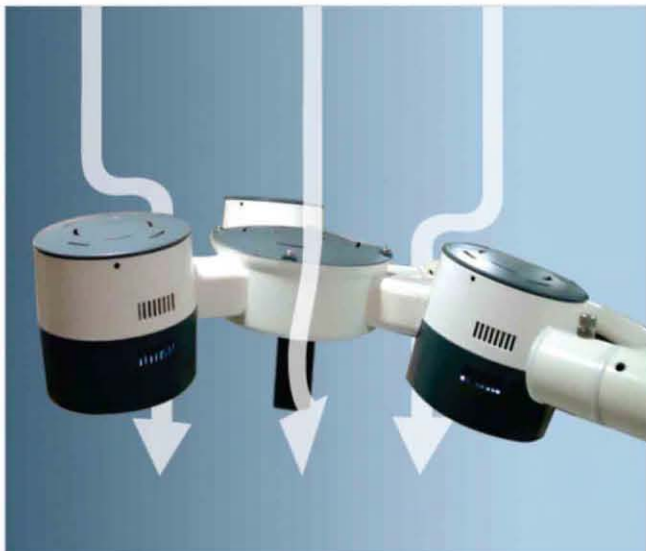
The New generation LED OT Lights improves the Vision drastically on one hand. And on the other hand its cool light provides the optimum condition and ease to operate during surgery which revolutionizes the work of surgeon.

Enertech has been providing the widest range of operation theater lights, to satisfy every type of customers in terms of Cost, performance and luxury. In all, its cost-effective price leads the way in the International market and endeavours to become the "hidden Champion" among the global manufacturers of LED operating theater Lights.

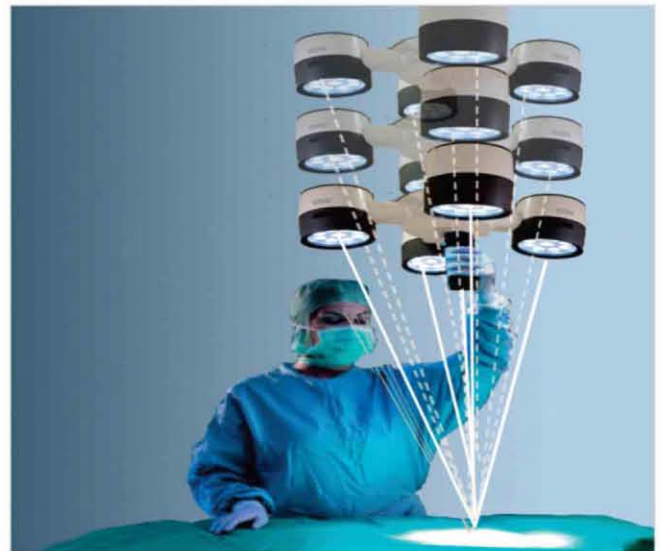


Chairman And MD of Enertech- Mr. Chetan Shah receiving honorary award from Dr. Shankar Dayal Sharma-President of India, at Raj Bhavan, Governor's palace, for excellent contribution to India in the field of Research Development and Manufacturing.

Enertech: - The Science of LED Lighting technology



Suitability For Laminar Air Flow

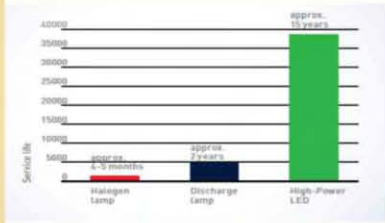


Special Easy Focusing arrangement

Index

Advantages of LED OT light over Halogen OT Light.....	3	Exclusive Image of Enertech LED OT Light	6
Unique Features of Enertech LED OT Lights	4	Enertech's Standard Series LED OT Light.....	8
- Auto Focus.....	4	Enertech's Eco- Line Series LED OT Light.....	12
- Laminar Air Flow Compatibility	5	Enertech's Colour Series LED OT Light.....	14
- Suturing Light Facility.....	5	Contact us.....	16

Advantages of LED OT Lights over Halogen OT Lights



Long Life

With the traditional Life of at-least 100 operational hours of Halogen, an Enertech LED provides almost 200 times longer life. No frequent replacement would be required thereby :-

1. Reduces the cost of maintenance
2. Periodic bulb replacement expenses.
3. Low downtime
4. Shadow less operation due to no unexpected bulb failure during surgery



Cost Effective

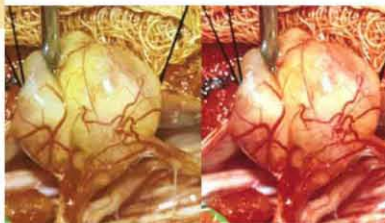
The Advance technology LED light requires low in fact no servicing expenses. The long Lasting LEDs ends the requirement of replacing the bulbs periodically.

Power bills reduced to less than 20 %



Cool & infrared-Free lights

Halogen Lights cause an increase in field temperature of around 7-8 °C, while Enertech LED's result in only 1-2 °C increase. The Cooler light in the head area of the surgeon allows for fatigue-free operation and prevents tissue from drying out in the OT field. Reduced heat, particularly in the area of the surgeon's head, provides a more comfortable environment with the potential to improve surgical team performance or efficiency, which results in improvement of outcomes.



Pure Light Quality

The illumination is nearest to day light and evenly spread across the surgical site to create a stunningly uniform working area and avoid distractions. LEDs provide homogenous light field. There is consistency in the light across it's focused area with no hot spots or drop offs. Its pure light improves the differentiation and contrast between tissues of similar colour, hence making layer differentiation and surgical movement clear and easier.



Safety matters

Safety

No harmful emission of IR or UV rays. More safe for surgeons as well as patients.



Protects the Environment

Enertech LEDs consume one-fifth less energy as compared to traditional halogen while producing the same intensity of light. Estimated CO2 reduction results in at-least 1.25 tones per year per operation theatre. Enertech LEDs are also safe to recycle.

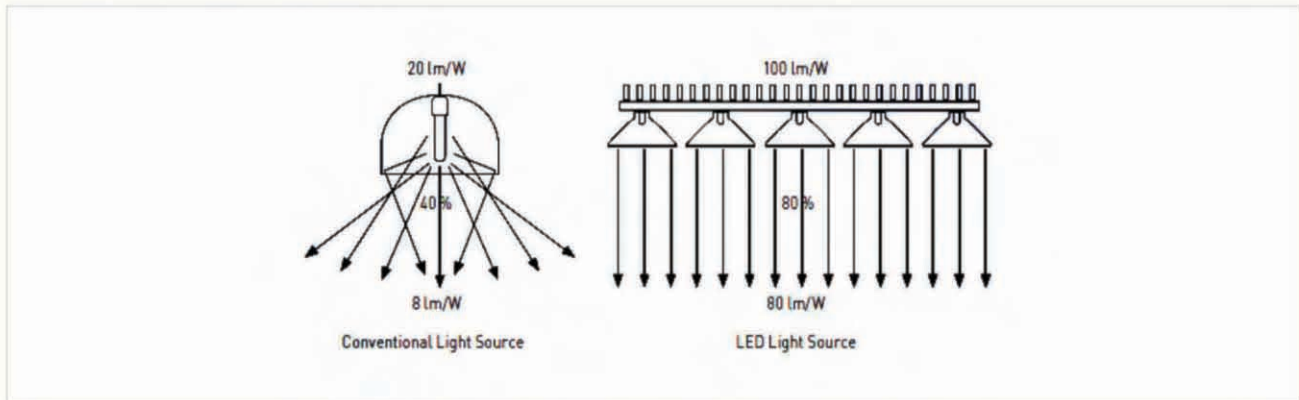


Variable Colour Temperature (Available in Colour Series)

The colour temperature can be varied in multiple steps from 3800 K to 6800 K in steps of 200 K. A very wide range of possible 20 options is provided. Light with a higher colour temperature improves the ability to concentrate, which allows the surgeons to have optimum visual conditions depending on the extent of perfusion of the surgical site. A better contrast can also be achieved by changing the light colour temperature in accordance with the tissue type and the structure of the OT light field.

Unique Features of Enertech LED OT Lights

Efficient Focus of LEDs



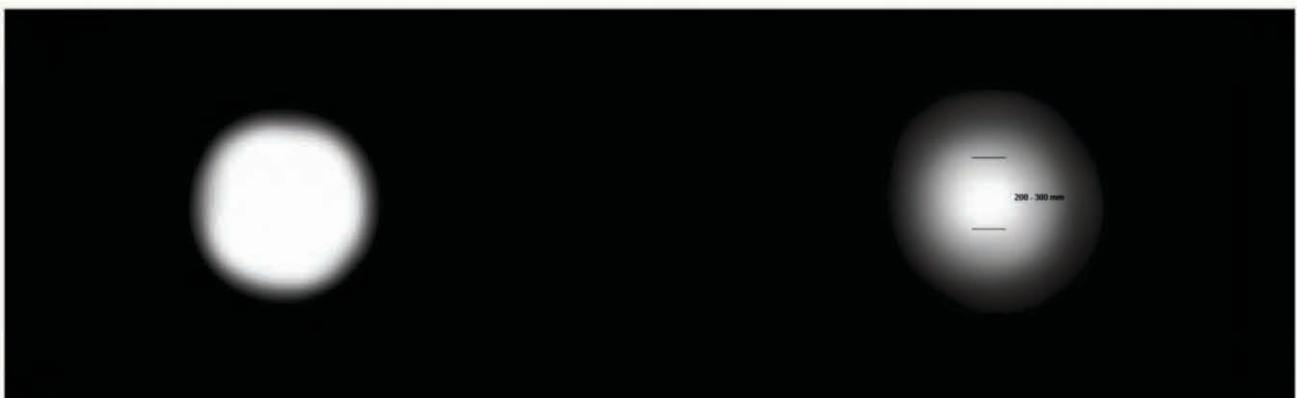
Auto Focus

Due to high Focus Co-efficient of LEDs, the beam formation takes place at exactly 1 meter distance. Hence manual adjustment is eliminated; focus can be attained from any convenient angle by simple adjustment of distance of dome from site.



Beam Formation

Enertech LED light produces high light intensity across the full illuminate area avoiding the variable contrast lighting and distractions, and offers uniform Vision for working area. Each Reflector generates homogeneous lighting for surface. This creates an ideal depth of illumination, enabling the operator to work without the need to make the readjustments. Traditional Operating Theater lights create a high light intensity by squashing the light flux into the middle of the beam, creating a "hot Spot". This high contrast 'hot spot' gives a very bright centre, leaving the rest of the field relatively dim in-comparison.

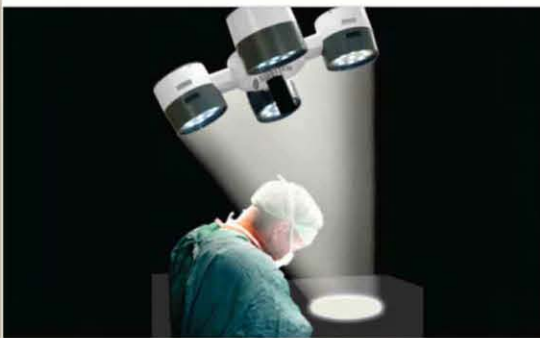


Unique Features of Enertech LED OT Lights



Laminar air flow compatibility and Compact design

The open design of the Enertech lights reduces the Surface area that impedes the flow of air from the air supply ceilings, resulting in a less turbulent flow underneath the light and thus controlling the contamination in the operating room. The shape of Enertech's DOME assures the visual comfort and is particularly suitable for Laminar Flows. Lastly its compact design makes the Enertech LED light specifically small, flat and streamlined which in turn gives it's distinctive and justifiably futuristic appearance.



Shadow Free illumination

Shadows exist in surgery, created by surgeon position, surgical team movement, equipment or the depth of a wound. The key is to minimize shadows so a surgeon always has the clearest possible view of the surgical site. Enertech LED light ensures the relation between light body and light field diameter to perform an optimum illumination of the OT field in terms of area and depth. The Enertech reflectors are designed to construct a number of light beams to dissolve the shadows.



Suturing Light for convenient post-operative procedure

When the lights are turned off, a low intensity radiant beam is emitted so that suturing process can be carried out in great comfort and without time delay.



Multi Lens System

Good Visibility and the homogeneous illumination at the surgical site are the key elements during the operation. Therefore Enertech has design its Multi-lens system based on the individual optical lens principle. Since each LED's has its own convergent lens, each creates its own light field. It distributes the emitted light volume uniformly in the operating room.



LED Operation Theatre Light



Standard Series

Standard Series - Full Dome



Technical data	Nova LED - F
Reflector System	4
Illumination Intensity	140000 Lux.
LED Service Life	50000 Hours.
Colour Temperature	5500 K.
Colour Rendering Index	90 Ra
Temperature increase in Surgeon's head area	< 2 ° C
Index Light Spot	200 - 250 mm
Brightness Adjustment	Nearly 0%- 100% From Panel or Remote Control.
Power	230 VAC/ 50/60 Hz.

Standard Series - Medium Dome



Technical data	Nova LED- Me
Reflector System	3
Illumination Intensity	90000 Lux.
LED Service Life	50000 Hours.
Colour Temperature	5500 K.
Colour Rendering Index	90 Ra
Temperature increase in Surgeon's head area	< 2 ° C
Index Light Spot	200 - 250 mm
Brightness Adjustment	Nearly 0%- 100% From Panel or Remote Control.
Power	230 VAC/ 50/60 Hz.

Standard Series - Examination Dome



Technical data	Nova LED - Ex
Reflector System	1
Illumination Intensity	40000 Lux.
LED Service Life	50000 Hours.
Colour Temperature	5500 K.
Colour Rendering Index	90 Ra
Temperature increase in Surgeon's head area	< 2 ° C
Index Light Spot	200 - 250 mm
Brightness Adjustment	Nearly 0%- 100% From Panel or Remote Control.
Power	230 VAC/ 50/60 Hz.

Standard Series Ceiling Configurations

Nova LED F+F



Nova LED Me+ Me



Nova LED - F + Me



Nova LED - Me



Nova LED - F



Standard Series Mobile Configurations

Nova LED - Me - M



Nova LED - F - M



Nova LED - Ex.





EcoLine Series

EcoLine Series



Technical data	Eco Line
Reflector System	4
Illumination Intensity	100000 Lux
LED Service Life	40000 Hours
Colour Temperature	5200 K.
Colour Rendering Index	90 Ra.
Temperature increase in Surgeon's head area	< 2 ° C
Index Light Spot	220 - 280 mm
Brightness Adjustment	Nearly 0%- 100% From Panel.
Power	230 VAC/ 50/60 Hz.

EcoLine Series - Examination



Technical data	Eco Line – Ex
Reflector System	1
Illumination Intensity	35000 Lux.
LED Service Life	40000 Hours
Colour Temperature	5200 K.
Colour Rendering Index	90 Ra.
Temperature increase in Surgeon's head area	< 2 ° C
Index Light Spot	220 - 280 mm
Brightness Adjustment	Nearly 0%- 100% From Panel.
Power	230 VAC/ 50/60 Hz.

EcoLine Series Configurations

Eco Line



Eco Line Twin



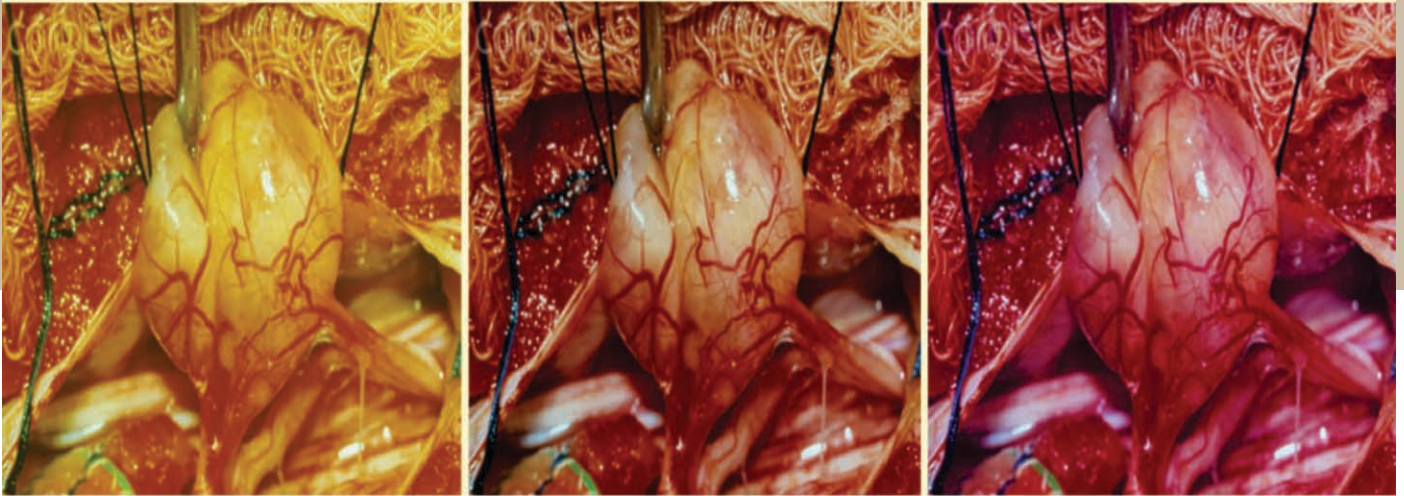
Eco Line - M



EcoLine - Ex

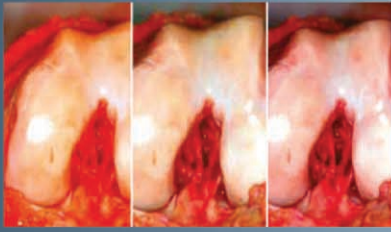


Colour Series



Technical data	Vari Col
Reflector System	4
Illumination Intensity	140000 Lux.
LED Service Life	50000 Hours.
Colour Temperature	3800 K - 6800 K Variable.
Colour Rendering Index	Variable
Temperature increase in Surgeon's head area	< 2 ° C
Index Light Spot	200 - 250 mm
Brightness Adjustment	Nearly 20%- 100% From Panel or Remote Control.

Colour Series Configurations



Variable Colour Temperature

The colour temperature can be varied in multiple steps from 3800 K to 6800 K in steps of 200 K. A very wide range of possible 20 options is provided. Light with a higher colour temperature improves the ability to concentrate, which allows the surgeons to have optimum visual conditions depending on the extent of perfusion of the surgical site. A better contrast can also be achieved by changing the light colour temperature in accordance with the tissue type and the structure of the OT light field.

VariCol Twin



VariCol - M



VariCol





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