



**MAGNETIC
INDUCTION LAMP**

**EVERY 2 MINUTES
A MAHINDRA IS BORN**
We call it Rise.

THE ONLY COMPANY HERE TO MAKE EVERYTHING FROM 2-WHEELERS TO TRUCK

RISE



Mahindra & Mahindra

Mahindra & Mahindra is a 16 Bn USD multinational group with presence in more than 100 countries and more than 155,000 employees. M&M has a growing presence in Automobile, Aerospace, After Market, Components, Consulting Services, Defence, Energy, Financial Services, Logistics, Real Estate, Retail & Two Wheelers.

We are a group united by a common purpose - **Rise**.

Mahindra CIE Automotive Limited

It is a listed entity operating as a single company having 6 business lines.

In 2013, Mahindra Group announced its global alliance with CIE Automotive of Spain with intent of creating an automotive supplier that would rank amongst the Top 100 globally.

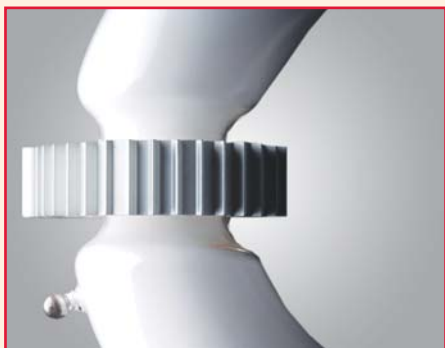
Mahindra CIE Automotive, combined the Mahindra Group's automotive component operations held under the Systech Sector with CIE Automotive's European Forgings operations.

Systech automotive component business covered a product portfolio spanning stampings, castings, forgings, gears, magnetic Products and composites with operations in India, Germany, Italy and the UK. CIE's European forging business has operations in Spain and Lithuania.

Magnetic Products Division of MAHINDRA CIE

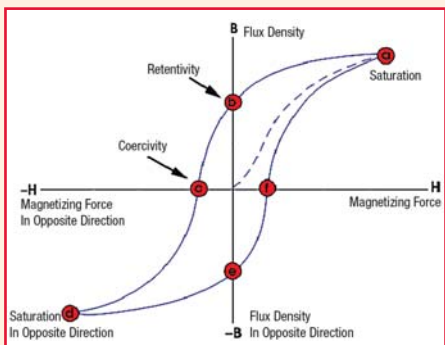
Established in 1963, Magnetic Products Division of Mahindra CIE is a pioneer and largest manufacturer of Magnetic Materials in India. Its products find wide usage in Automotive Electrical Systems, Industrial Electronics, Consumer Durable Electronics. Some of the well known applications are, Various DC Motors for Automobiles (Wiper Motors, Power Window Movement etc), AC Generator- Magneto & Starter Motors for Two Wheelers, Keyless Access Systems for Automobiles, Impeder Cores.

Over the years, Magnetic Products Division of Mahindra CIE has not only acquired a good share of business of its customers due to its excellent products and service but also an insight into Applications of Magnetism. This Core Competency, developed over years of work with customers, is now driving its "Energy Efficient Magnetic Products" like Magnetic Induction Lamps, Magnetic Assemblies for BLDC Motors, Special Purpose Coils etc.



Mahindra CIE's Magnetic Induction Lamps

Magnetic Induction Lamp works on the principle of Magnetic Induction. Magnetic Assemblies are the Key Components of the lamp. It influences Application Frequency, EMI Radiation as well as the Electrical Power Saving achieved.

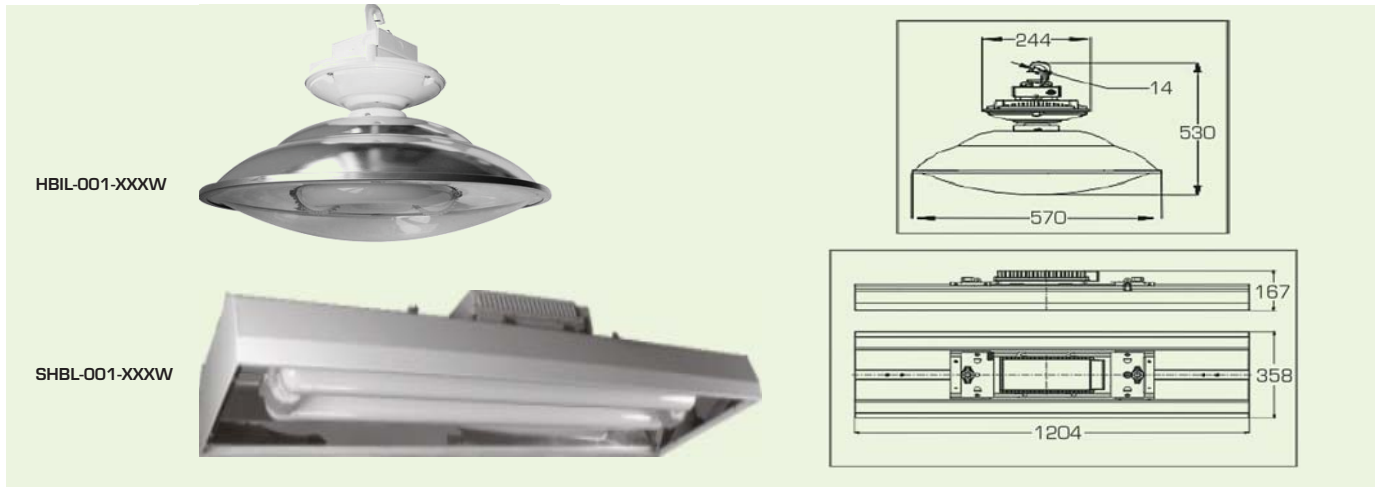


Magnetic Products Division of Mahindra CIE understands the requirements from the Magnetic Materials for the specific application. It has developed specifically designed material grades which offer Low Magnetic Loss as well as High Magnetic Saturation at the operating frequency.

Rich Experience of its engineers in Induction as well as Lighting Technology has contributed to the development of Mahindra CIE's Magnetic Induction Lamp – a unique "Energy Efficient Product"

MAGNETIC INDUCTION LAMPS

High Bay Lights



FEATURES:-

Average lifetime 80K to 100K hours, maintenance free, suitable for long term usage.

Specially designed luminaire construction ensures

- * Uniform and wide spread of light.
- * Proper heat dissipation for the lamp and ballast.

Polycarbonate/Acrylic lens cover.

High purity Aluminum Reflector with very good lighting efficiency. Corrosion free powder coated electronic ballast casing to withstand industrial environment.

Extremely low loss electronic driver. Over all losses are less than 5% of total input power.

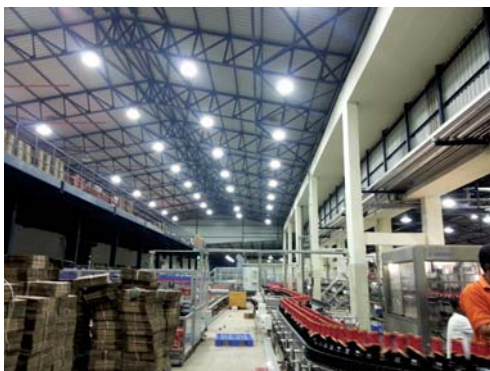
User Friendly Simple to install

APPLICATIONS : Workshop, Indoor stadium, Warehouse, Airport, Railway station, Gas station, Amusement Park, Exhibition hall, Supermarket

TECHNICAL SPECIFICATION

Color Temperature - 2720 ~ 6500K

Model No.	Wattage	I/P Power	Operating Voltage	Power Factor	THD	Efficacy LM/W	CRI	IP class	Installation
HBIL - 001-100	100W	105W	120-277	>0.95	<10%	75~80	≥80	IP 54	Hook
HBIL - 001-120	120W	126W	120-277	>0.95	<10%	75~80	≥80	IP 54	Hook
HBIL - 001-150	150W	158W	120-277	>0.95	<10%	80~85	≥80	IP 54	Hook
HBIL - 001-200	200W	210W	120-277	>0.95	<10%	80~85	≥80	IP 54	Hook
HBIL - 001-250	250W	263W	120-277	>0.95	<10%	85~90	≥80	IP 54	Hook
SHBL - 001-400	400W	400W	120-277	>0.95	<10%	85~90	≥80	IP 20	L Shape bracket



Mahindra CIE strives for continuous product innovation. Product Specifications are therefore subject to change without notice.

Range of Products : High Bay Lamp, Street Lamp, Flood Lamp, Flame Proof Lamp, Canopy Lamp, Office Lamp, Tunnel Lamp.

Mahindra CIE Automotive Limited - Magnetic Products Division,

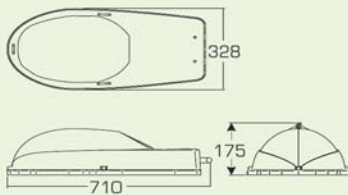
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MAGNETIC INDUCTION LAMPS

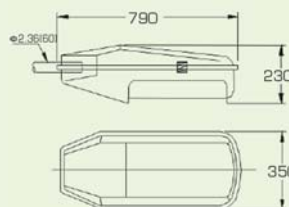
Street Lights



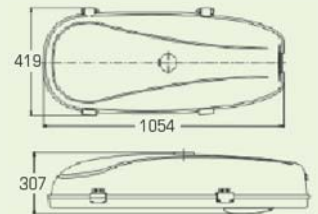
SLST-001-40/80/100W



SLST-001-120/150W



SLST-002-200/250W



FEATURES :-

Average lifetime 80K to 100K hours, maintenance free, suitable for long term usage.

High purity Aluminum Reflector with very good lighting efficiency.

High pressure die cast aluminum alloy casing.

Clear Tempered glass or Polycarbonate lens cover.

Heat resistant silicon rubber sealing to ensure high level IP rating.

APPLICATIONS : Freeway, Highway, Parking Lots, Public entrances, Streets and Roadways.

TECHNICAL SPECIFICATION

Color Temperature - 2720 ~ 6500K

Model No.	Wattage	I/P Power	Operating Voltage	Power Factor	THD	Efficacy LM/W	CRI	IP class	Lamp Shape
SLST - 001- 40	40W	42W	120-277	>0.95	<10%	70~75	≥80	IP 65	Squar Tubular
SLST - 001- 80	80W	84W	120-277	>0.95	<10%	75~80	≥80	IP 65	Squar Tubular
SLST - 001-100	100W	105W	120-277	>0.95	<10%	75~80	≥80	IP 65	Squar Tubular
SLST - 001-120	120W	126W	120-277	>0.95	<10%	75~80	≥80	IP 65	Squar Tubular
SLST - 001-150	150W	158W	120-277	>0.95	<10%	80~85	≥80	IP 65	Squar Tubular
SLST - 002-200	200W	210W	120-277	>0.95	<10%	80~85	≥80	IP 65	Squar Tubular
SLST - 002-250	250W	263W	120-277	>0.95	<10%	85~90	≥80	IP 65	Squar Tubular



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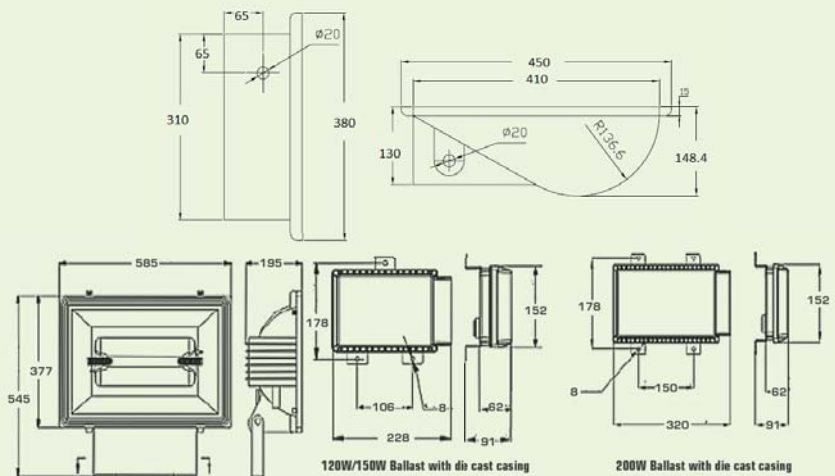
Flood Lights



FLIB-001- 40/80/100W



FLNB-001-120/150/200W



FEATURES :-

Average lifetime 80K to 100K hours, maintenance free, suitable for long term usage.

Die cast aluminum casing with powder coated finish for corrosion resistance.

Silicon rubber (environment protection IP 65) seal to withstand wet locations.

Anodized aluminum reflector with good lighting distribution.

Separate casing for electronic driver for easy installation.

Uniform and wide spread of light (Max. area coverage)

No flicker and comfortable lighting for eyesight protection

Dimming Function available upon request.

APPLICATIONS : Billboards, Buildings, Parking lots, Plazas, Tennis court, Outdoor lightings, Entrance gates.

TECHNICAL SPECIFICATION

Color Temperature - 2720 ~ 6500K

Model No.	Wattage	I/P Power	Operating Voltage	Power Factor	THD	Efficacy LM/W	CRI	IP class	Ballast Type
FLIB - 001-40	40W	42W	120-277	>0.95	<10%	70~75	≥80	IP 65	Integral Ballast Type
FLIB - 001- 80	80W	84W	120-277	>0.95	<10%	75~80	≥80	IP 65	Integral Ballast Type
FLIB - 001- 100	100W	105W	120-277	>0.95	<10%	75~80	≥80	IP 65	Integral Ballast Type
FLNB - 001-120	120W	126W	120-277	>0.95	<10%	75~80	≥80	IP 65	Non Integral Ballast Type
FLNB - 001-150	150W	158W	120-277	>0.95	<10%	80~85	≥80	IP 65	Non Integral Ballast Type
FLNB - 001-200	200W	210W	120-277	>0.95	<10%	80~85	≥80	IP 65	Non Integral Ballast Type



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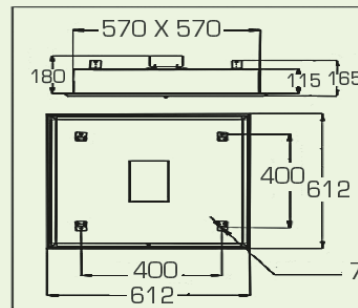
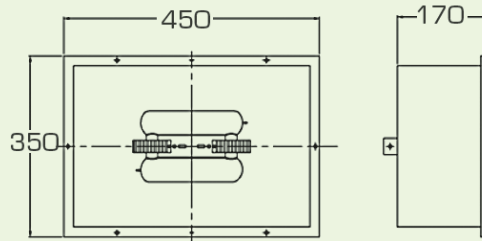
Low Bay Lights/Canopy Lights



CNIL-001-40/80/100/120W



LBIL-001-150/200W



FEATURES :-

Average lifetime 80K to 100K hours, maintenance free, suitable for long term usage.

Recessed Mounting fixture for indoor light.

CRCA housing with powder coated surface for corrosion resistance.

User Friendly Simple to install.

Acrylic lens cover (available Toughned glass cover upon request)

Light weight and compact structure for easy installation and maintenance.

APPLICATIONS : Office, Shopping malls, Petrol station, Railway station, Schools, Low height workshop etc.

TECHNICAL SPECIFICATION

Color Temperature - 2720 ~ 6500K

Model No.	Wattage	I/P Power	Operating Voltage	Power Factor	THD	Efficacy LM/W	CRI	IP class	Mounting
CNIL - 001-40	40W	42W	120-277	>0.95	<10%	70~75	≥80	IP65	Recessed
CNIL - 001-80	80W	84W	120-277	>0.95	<10%	70~75	≥80	IP65	Recessed
CNIL - 001-100	100W	105W	120-277	>0.95	<10%	75~80	≥80	IP 54	Recessed
CNIL - 001-120	120W	126W	120-277	>0.95	<10%	75~80	≥80	IP 54	Recessed
LBIL - 001-150	150W	158W	120-277	>0.95	<10%	80~85	≥80	IP 54	Recessed
LBIL - 001-200	200W	210W	120-277	>0.95	<10%	80~85	≥80	IP 54	Recessed



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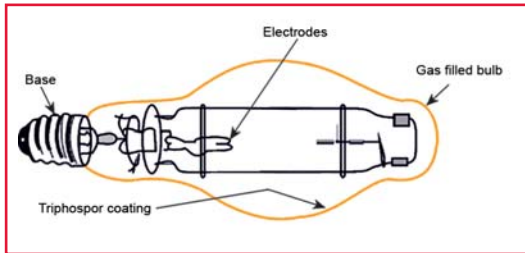
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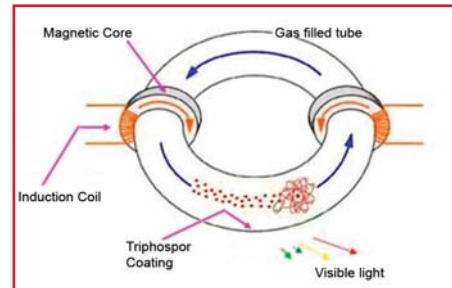
Working principle of Magnetic Induction Lamp:

Magnetic induction lamps are basically low pressure fluorescent lamps. High performance magnetic cores (ferrite cores) with an induction coil on it, are wrapped around on the endless glass tube. The induction coil produces a strong high frequency magnetic field through the glass & excites the inert gas inside and turns it into plasma. When atoms of the plasma return to ground state, they emit UV light. This UV light is converted to visible light by the triphosphor coating inside of the glass tube.

In conventional Metal Halide lamps, the gas is excited by the electrons generated by heating of the filament in the bulb. Lot of power is used to keep the filament heated for sustained light.

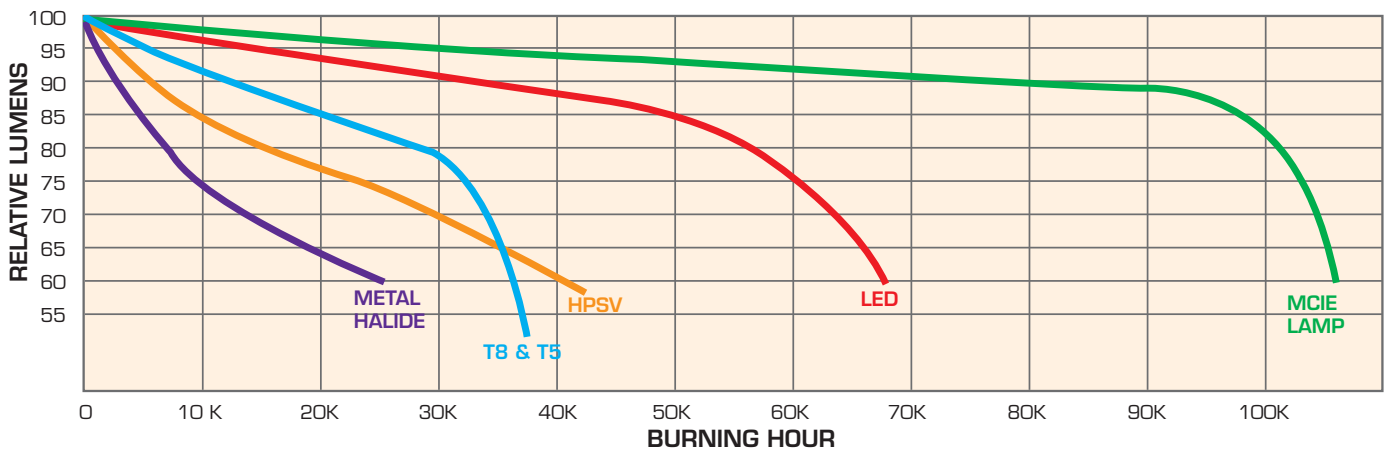


Schematic construction of Metal Halide lamp




Schematic construction of Induction lamp

The Magnetic Induction lamp system represents a transformer with inductor as the primary coil & gas in the tube as single-turn secondary coil. Magnetic Induction technology solves "aging of filament" related problems. This results in maintenance free long life of Magnetic Induction Lamps.



	FEATURE	BENEFIT
1	Extremely Long Life, (80000 to 100000 Hours)	Reduced re lamping costs
2	High Lumen maintenance rate. {>90% after 2000 hours}	Consistent light levels for a very long life.
3	High Color Rendering index (CRI) > 80	True color identification similar to that under natural light. Ideal for outdoor as well as indoor applications.
4	High Pupil Luminous Flux {Up to 150 Plm\N}	Better visibility, reduced eye strain and stress.
5	Power factor > 0.95	High system efficiency & reduced power consumption.
6	Low Harmonic Distortion	Enhancing electric grid security and electrical safety.
7	Green Lighting - No liquid mercury	Environment friendly : Ensures safe disposal.
8	Low heat output and no UV radiation	No additional heat load, No health hazards.
9	Low surface temperature, Low pressure lamp	In case of any accident the lamp "IMPLODES" & does not lead to fire.

Magnetic Products Division of Mahindra CIE Magnetic Induction Lighting



Saving upto 40% - Electrical Energy over
Conventional Metal Halide Lamps.

Long Life of more than 80, 000 Hrs with
negligible lumen decay – **Low Relamping Cost.**

Environment friendly – Very low Mercury usage –
No liquid Mercury – **Green Building Compliant.**

High Color Rendering Index –
Daylight Effect - Good Vision.

Instant Restrike – **No time Lost** When the Lamp
Reglows After Power Resumption.

Maintenance Free – Low Downtime
for Lamp Replacement.

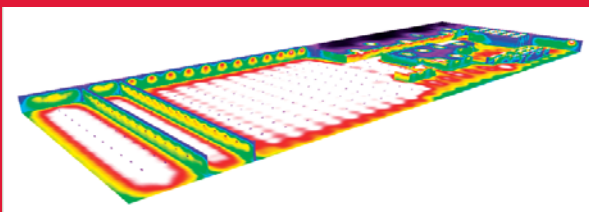


Optimised Lighting Solutions by Mahindra CIE :- Special Service

Magnetic Products Division of Mahindra CIE provides lighting solutions with complete energy optimization. World class software simulation helps us offer you an optimized solution with reference to electricity consumption as well as the number of lamps/types of lamps. Lumen distribution is customized as per desired Lux levels according to your work environment.

The example above shows the application where MCIE's Magnetic Induction Lighting was selected over conventional Metal Halide Lamps. This resulted in a saving of 1800 units / day (37%) of energy !

Annual saving of about Rs 27 L !





LIT UP ! ALWAYS !

MAHINDRA CIE AUTOMOTIVE LIMITED
MAGNETIC PRODUCTS DIVISION

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