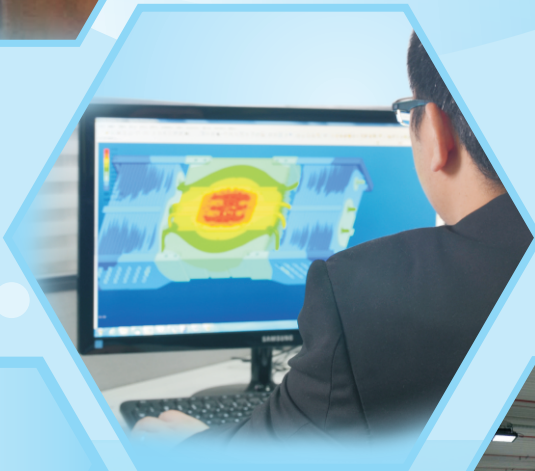


LED Lighting
Thermal Solution Provider



About COOLTRON

Company Overview

Cooltron Group is an American company that has been designing and manufacturing industrial cooling products for over 17 years. Headquartered in the USA with manufacturing branches in China and Taiwan, the company strives to expand its product lines and actively develop investment strategies by expanding its manufacturing network. Cooltron products are found in many industries and fields ranging from LED lighting, medical equipment to entertainment devices.

Research and Development

Quality control and product development are the foundations of Cooltron's business model. While maintaining their existing product line, Cooltron actively listens to its customers to constantly improve, innovate, and develop new products. The company offers professional value-added services such as the development of new models, customized wiring, special functioning fans, thermal engineering design and testing.

Mission Statement

Cooltron greatly value its customers and their input. The company strives to create a professional company while providing solutions that can improve the industrial cooling industry. As an industrial service provider, Cooltron's mission is to meet all demands in a professional manner and provide high quality products at a competitive price.

COOLTRON Group History

- 1999 Company was founded in Los Angeles, USA
- 2000 Established a sales branch in Shenzhen & Hong Kong, China
- 2006 Devoted to R&D and manufacturing of electronics cooling products
- 2008 Launched patented Stator Outlet Blade technology
Launched compact fan and blower series
- 2011 Began adding heat sink product line

Innovated bearing system called - Fluid Lubricant Bearing technology
- 2012 Launched high performance AC fan series
Signed cooperation agreements with America, Europe, Asia and South Africa
- 2013 Invested significant amounts of resources in thermal technologies R&D
- 2014 Cooltron office obtained ISO9001 certification
- 2015 Devoted to develop high performance cooling module
- 2016 Fully launched business for LED lighting high power thermal solution product series



COOLTRON and Thermal Solution

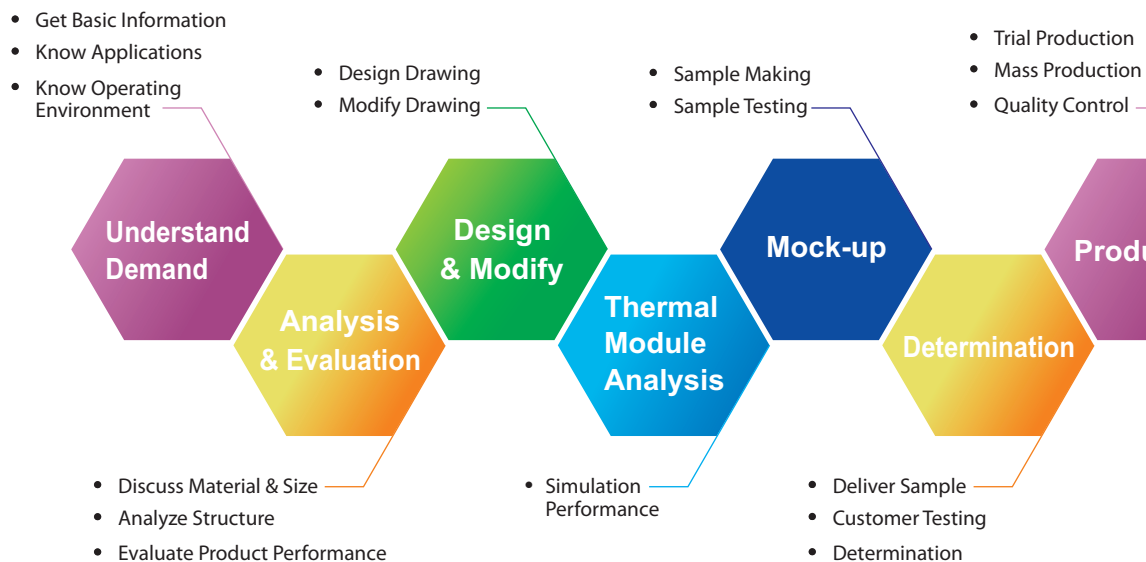
Heat Sink Material & Property:

- **Copper:** Higher density for faster thermal conductivity but at higher costs
- **Copper Embedded Aluminum:** The most optimum cost performance solution combining copper base's faster heat conductivity and other aluminum parts' faster heat dissipation capabilities, but at less cost than pure copper
- **Pure Aluminum:** Most popular 6063, 6061 or 1070; Good thermal dissipation at fair price
- **Aluminum Alloy:** Lower cost solution for easy formation process but still maintain a strong structure

Main Technology and Manufacturing Operation:

- **Extrusion:** Aluminum - Cutting - Alkaline Cleaning - CNC (Turnery) - Deburring - Riveting Aluminum Ring - Sand Blasting - Anodizing
- **Cold-forging:** Cutting - Cold Forging - Rotary Cutting - CNC (Turnery) - Laser Positioning - Drilling - Tapping - Anodizing
- **Die-casting:** Die casting - Deburring - Polishing - CNC - Tapping - Nickelizing
- **Stamping:** Aluminum - Punching - Bending - Molding - Discharging - Post-processing

COOLTRON Services:



Why Choose COOLTRON As Your Thermal Solution Provider?

- Original manufacturer for OEM/ODM
- Industry leading and patented technologies
- Order flexibility for sample orders, small quantity pilot-run, and mass production
- Full and complete production process - starting from CFD design & simulation, prototype samples, mass production, surface treatment, till thermal resistance tests on each part
- More affordable prices, better cost performance, and shorter lead time

About COOLTRON LED Lighting Thermal Solution

- With an independent brand and core technology, Cooltron has obtained knowledge for cooling fans, blowers and accessories from worldwide customers in the past 17 years.
- To cope with today's electronics device design trends, Cooltron began adding heat sink products to its new thermal product series in 2011. Thanks to Cooltron's dedication to technology innovation, quality reliability, and years' over investments on manufacturing facilities, Cooltron heat sink business has grown substantially during such a short time period over recent years.
- In 2015, to meet the market demand from traditional lighting to LED lighting, Cooltron thermal division devoted to develop high performance thermal module. With its own research and development capability of heat sink in the past several years, Cooltron especially focuses on high power LED lighting thermal solution.

Manufacturing Capability

Equipment & Manufacturing Capability:

To guarantee COOLTRON heat sink products' best cost performance and reliability, COOLTRON not only invests on acquiring the most advanced production equipment, but also spends a lot of time, money, and efforts on R&D engineers recruiting, machines operation and maintenance technicians' on-the-job training, and QC personnel workshops.

COOLTRON has a full and complete line of heat sink production equipments that enables production in different combination of production technique for the best custom design and cost performance, including Puncher Machines, Cold Forging Machines (Oil Press Machine), CNC Machines, Welding Machines, Ultrasonic Cleaning Equipments, and Tooling Equipments.



Stamping Workshop



The biggest tonnage of stamping equipments at COOLTRON factory is 350T.

The maximum size of products is 39" (L) X 19.5" (W)

Extrusion Workshop

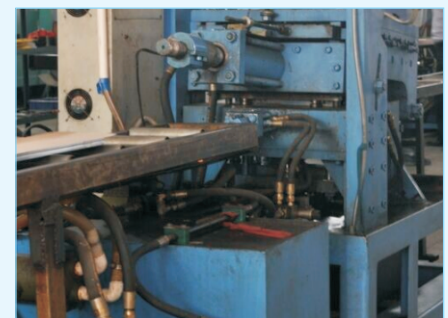


The tonnage of extrusion equipments at COOLTRON factory are 1,600T, 3,600T and 6,500T.

The maximum size of products is 21" (W) X 4" (H), around 30 lbs/foot.

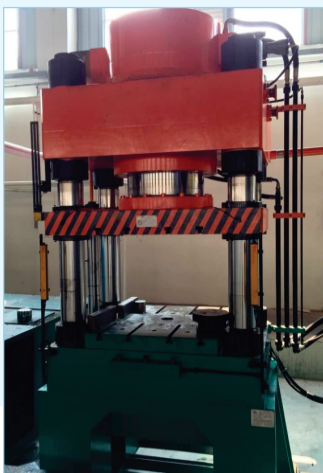


Skiving Workshop



The maximum size of skiving products is 7.5" (W) X 2" (H).

Forging Workshop



The maximum size of products is 15.5" (L) X 11.5" (W) X 6" (H).



The biggest tonnage of forging equipments at COOLTRON factory is 3,500T.



POST PROCESSING WORKSHOP

Milling / Bonding Fin / Packing



CNC workshop



Packing & Bonding



Milling



Drilling Machine

Drilling Machine And Tester



Thermal Resistance Tester

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LED FLOOD LIGHT - HEAT SINK

FE Series 17 - 18



FF Series 19 - 20



LED TUNNEL LIGHT - HEAT SINK

SE Series 21 - 22

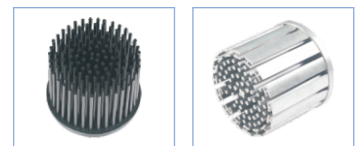


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LED DOWN LIGHT - HEAT SINK

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LED LIGHTING KNOWLEDGE

LED lighting knowledge 29 - 30

LED High Bay Light - Heat Sink (HE Series)

Most Optimal Heat Sink Profile Design

The fins contour designs maximize the total ambient contact surface area.

400W



Easy & Flexible LED Drivers Installation

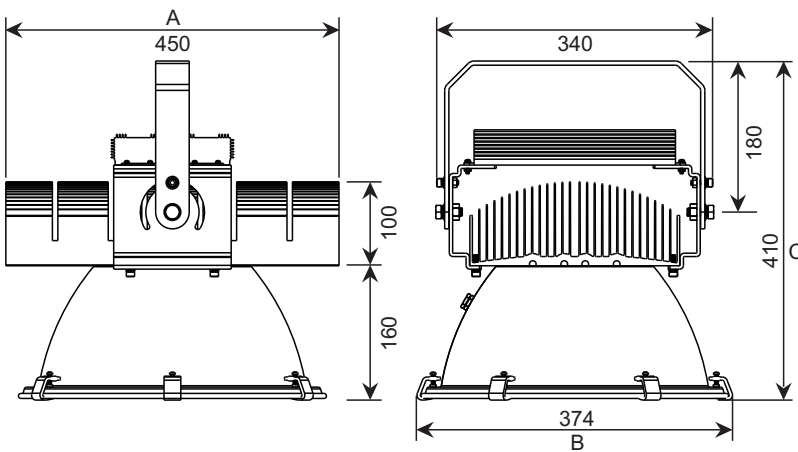
The multiple holes mounting plate design is flexible to place either single or dual LED drivers. (LED Driver is not Included)

Lampshade Respirator Design

The lampshade respirator design, though water-proof, allows air-exchange to avoid any foggy condition that humidity will affect light quality.

IP65 Rated Ingress Protection

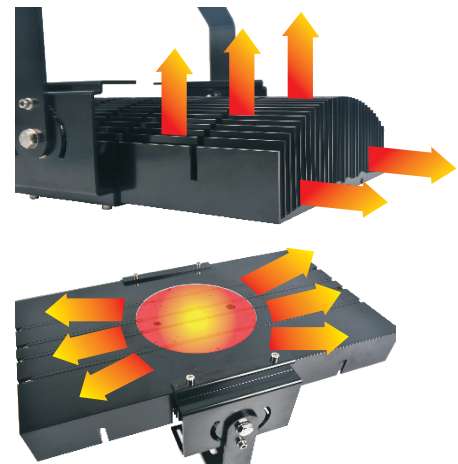
Dimension



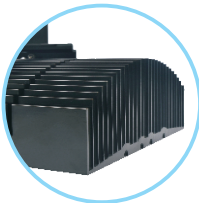
HE1400 (unit: mm)

Heat Dissipation Sketch

The perfect combination of heat dissipation and thermal conduction. 3D type radiator which is formed from cooling modules and fin ducts can greatly lower down the temperature of light source, extending its life span.



Product Features



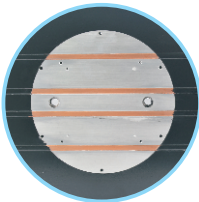
Most Optimal Heat Sink Profile Design

The fins contour designs maximize the total ambient contact surface area. The patented heat pipes seamless embedding technologies minimize the thermal resistance and enhance the heat conduction efficiency.



Adjustable Multiple Angles Mounting Brackets

The heat sink assembly's mounting brackets have a couple of holes to adjust to the desired mounting angle (up to 240°) for LED light installation conveniences.



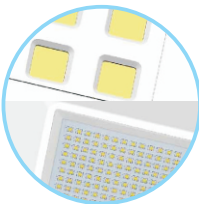
Patented Seamless Heat Pipes Embedding and Riveting Technologies

Cooltron's patented heat pipes technologies enable perfect heat pipes embedding along the heat sink base - flat and seamless contact, and reduce the thermal resistance to a minimum due to possible gap between aluminum heat sink base and heat pipes.



Tempered Glass Cover

The 4mm thick tempered glass cover provides strong resistance to heat and impact and ensures operation safety. The tempered glass cover also supply better than industry average light transmittance rate over 91% maximum.



Flexible Adoption of Great Variety SMD LED Modules

This thermal design allows choices of great variety of SMD LED modules and saves products series development costs and efforts.

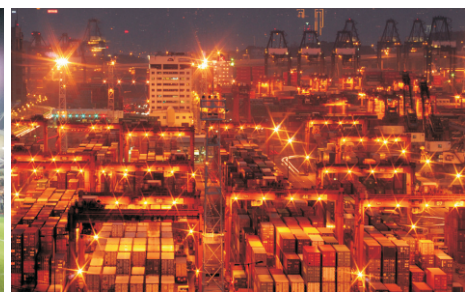
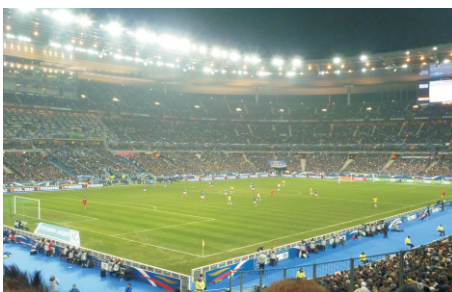


Nano-Coated Reflector with Multiple Angles Options for Suitable Light Distribution

Industry's most advanced nano-coated reflector with multiple reflective angles options suitable for different light distribution coverage that different application needs. The maximum light reflectivity is over 87% with glass cover.

Application

Product Application: stadiums, marina, golf course, architectural lighting, squares, industrial plants, highway toll stations, supermarkets, exhibition halls, stadiums and the like. It can replace the traditional metal halide and high pressure sodium.



Model Number	Power (W)	Size (mm)	PCB Size (mm)	Chip Model	LED QTY (pcs)	Series/Parallel	Power Supply
HE1200	200W	A:260xB:374xC:410	Ø110x2.0	3030(6V/1W)	200	5S/40P	30V (6A)
HE1300	300W	A:380xB:374xC:410	Ø110x2.0	3030(6V/1W)	300	5S/30P x2	30V (6A) x2
HE1400	400W	A:450xB:374xC:410	Ø110x2.0	3030(6V/1W)	400	5S/40P x2	30V (7.5A) x2

※ The above parameters are for reference only, ultimately you have to refer to the physical specification issued by the Company.

※ All the products are supplied in kits which does not include power and lamp beads.

※ (LED Driver Case Optional for Purchasing; LED Driver is not Included)

LED High Bay Light - Heat Sink (HF Series)

Patented Seamless Heat Pipes Embedding & Riveting, and Fins Insertion Technologies

Cooltron's patented heat pipes technologies enable perfect heat pipes embedding - flat and tight, along the heat sink base, and securely riveting through the stamped fin arrays. Also, tightly inserted into heat sink base fins help reduce thermal resistance to a minimum due to possible gaps between heat pipes, fins and heat sink base.



Easy & Flexible LED Drivers Installation

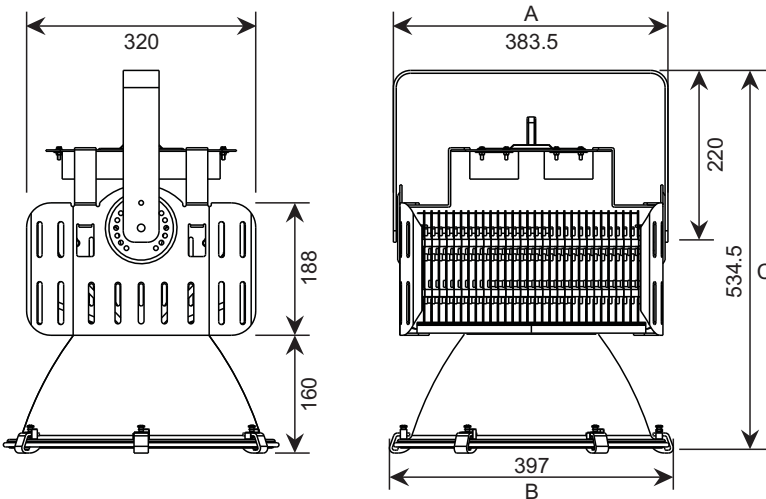
The multiple holes mounting plate design is flexible to place either single or dual LED drivers. (LED Driver is not Included)

Protection Plates with Ventilators Design

2 Side protection plates help protect fragile heat pipes from any impact or damages and multiple holes on the protection plates help heat convection with the ambient.

IP65 Rated Ingress Protection

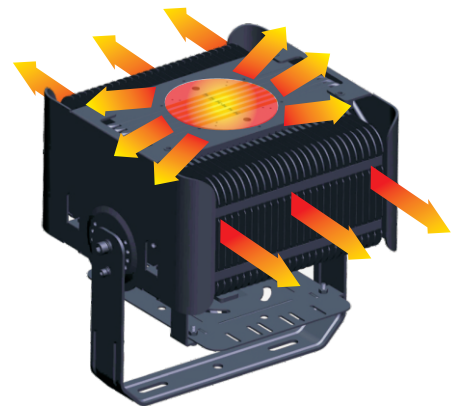
Dimension



HF1500 (unit: mm)

Heat Dissipation Sketch

The perfect combination of heat dissipation and thermal conduction. 3D type radiator which is formed from cooling modules and fin ducts can greatly lower down the temperature of light source, extending its life span.



Product Features



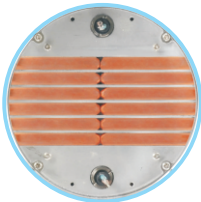
Lampshade Respirator Design

The lampshade respirator design, though water-proof, allows air-exchange to avoid any foggy condition that humidity will affect light quality.



Adjustable Multiple Angles Mounting Brackets

The heat sink assembly's mounting brackets have 17 holes to adjust to the desired mounting angle (up to 288°) for LED light installation conveniences.



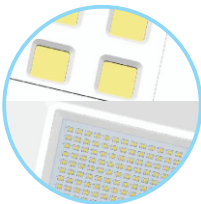
Patented Seamless Heat Pipes Embedding Technologies

Coolton's patented heat pipes technologies enable perfect heat pipes embedding - flat and tight, along the heat sink base.



Tempered Glass Cover

The 4mm thick tempered glass cover provides strong resistance to heat and impact and ensures operation safety. The tempered glass cover also supply better than industry average light transmittance rate over 91% maximum.



Flexible Adoption of Great Variety SMD LED Modules

This thermal design allows choices of great variety of SMD LED modules and saves products series development costs and efforts.



Multi-Angle Reflector Options

Industry's most advanced reflector with multiple reflective angles options - 25°, 60°, 90° suitable for different light distribution coverage that different application needs. The maximum light reflectivity is over 87% with glass cover.

Application

Product Application: workshops, industrial plants, warehouses, highway toll stations, gas stations, supermarkets, exhibition halls, stadiums and other lighting places. It can replace the traditional metal halide and high pressure sodium.



Model Number	Power (W)	Size (mm)	PCB Size (mm)	Chip Model	LED QTY (pcs)	Series/Parallel	Power Supply
HF1300	300W	A:301.5xB:397xC:534.5	Ø132x2.0	3030(6V/1W)	300	(5S/30P) x2	30V (6A)
HF1400	400W	A:342.5xB:397xC:534.5	Ø132x2.0	3030(6V/1W)	400	(5S/40P) x2	30V (6A) x2
HF1500	500W	A:383.5xB:397xC:534.5	Ø132x2.0	3030(6V/1W)	450	(5S/45P) x2	30V (7.5A) x2

※ The above parameters are for reference only, ultimately you have to refer to the physical specification issued by the Company.

※ All the products are supplied in kits which does not include power and lamp beads.

※ (LED Driver Case Optional for Purchasing; LED Driver is not Included)

LED High Bay Light - Heat Sink Square (HS Series)

High Performance Thermal Design

The integrated AL6063 heat sink base & 2 side protection plates design maximizes the contact surface area for heat conduction and convection.

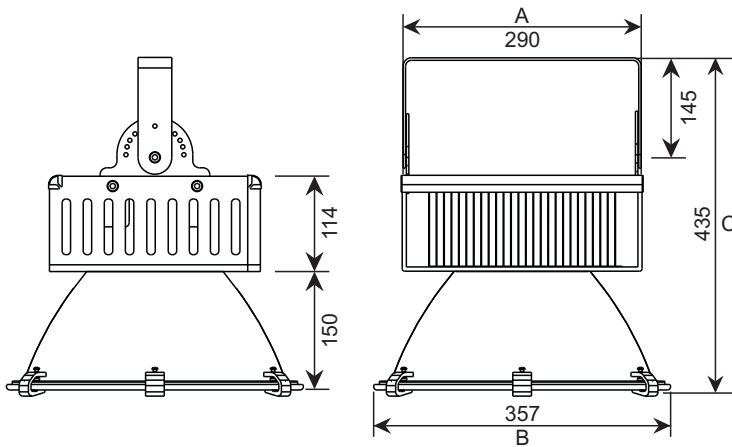


Patented Fins Insertion Technologies

These Al1050 fins tightly inserted into AL 6063 heat sink base help conduct the heat faster due to minimum thermal resistance by gaps between fins and heat sink base.

IP65 Rated Ingress Protection

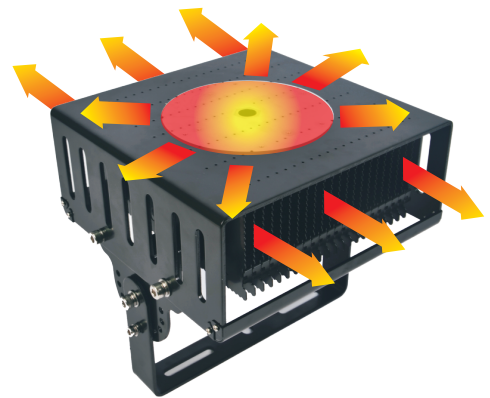
Dimension



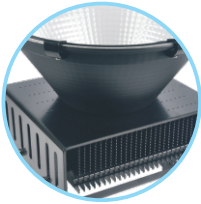
HS1200 (unit: mm)

Heat Dissipation Sketch

The perfect combination of heat dissipation and thermal conduction. 3D type radiator which is formed from cooling modules and fin ducts can greatly lower down the temperature of light source, extending its life span.



Product Features



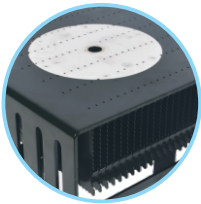
High Performance Thermal Design

The integrated AL6063 heat sink base & 2 side protection plates design maximizes the contact surface area for heat conduction and convection.



Adjustable Multiple Angles Mounting Brackets

The heat sink assembly's mounting brackets have 11 holes to adjust to the desired mounting angle (up to 200°) for LED light installation conveniences.



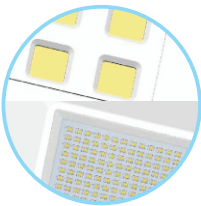
Patented Fins Insertion Technologies

These Al1050 fins tightly inserted into AL 6063 heat sink base help conduct the heat faster due to minimum thermal resistance by gaps between fins and heat sink base.



Tempered Glass Cover

The 4mm thick tempered glass cover provides strong resistance to heat and impact and ensures operation safety. The tempered glass cover also supply better than industry average light transmittance rate over 91% maximum.



Flexible Adoption of Great Variety SMD LED Modules

This thermal design allows choices of great variety of SMD LED modules and saves products series development costs and efforts.

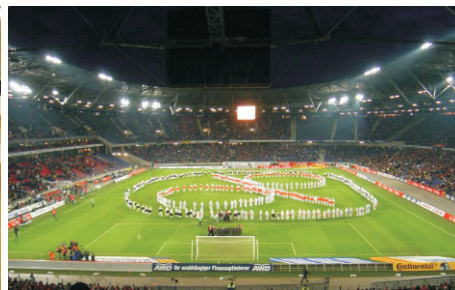


Multi-Angle Reflector Options

Industry's most advanced reflector with multiple reflective angles options - 25°, 60°, 90° suitable for different light distribution coverage that different application needs. The maximum light reflectivity is over 87% with glass cover.

Application

Product Application: workshops, industrial plants, warehouses, highway toll stations, gas stations, supermarkets, exhibition halls, stadiums and other lighting places. It can replace the traditional metal halide and high pressure sodium.



Model Number	Power (W)	Size (mm)	PCB Size (mm)	Chip Model	LED QTY (pcs)	Series/Parallel	Power Supply
HS1100	100W	A:260xB:357xC:362.5	Ø132x2.0	3030(6V/1W)	100	5S/20P	30V(3A)
HS1150	150W	A:260xB:357xC:400	Ø132x2.0	3030(6V/1W)	150	5S/30P	30V(5A)
HS1200	200W	A:290xB:357xC:435	Ø132x2.0	3030(6V/1W)	200	5S/40P	30V(6A)

※ The above parameters are for reference only, ultimately you have to refer to the physical specification issued by the Company.

※ All the products are supplied in kits which does not include power and lamp beads.

※ (LED Driver Case Optional for Purchasing; LED Driver is not Included)

LED High Bay Light - Heat Sink (HU Series)

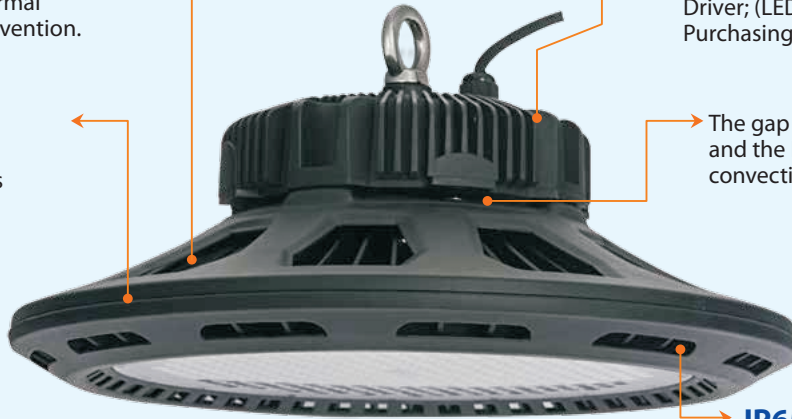
Integrated Thermal Design

Integrated design with cooling and fins, which greatly enhance the heat dissipation area. Improve thermal performance through air convection.

Excellent Design

UFO Ultra-thin shape design with pure aluminium protects constructure.

240W



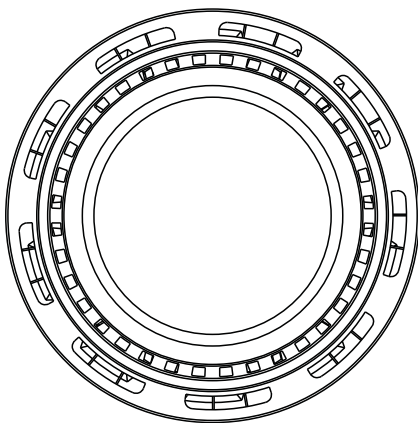
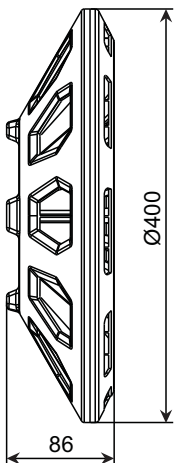
LED Driver Case Thermal Functions

Aluminum LED Driver case with ribs help dissipate high heat generated by LED Driver; (LED Driver Case Optional for Purchasing; LED Driver is not Included)

The gap between the LED Driver Case and the LED Light helps form air convection cooling.

IP65 Rated Ingress Protection

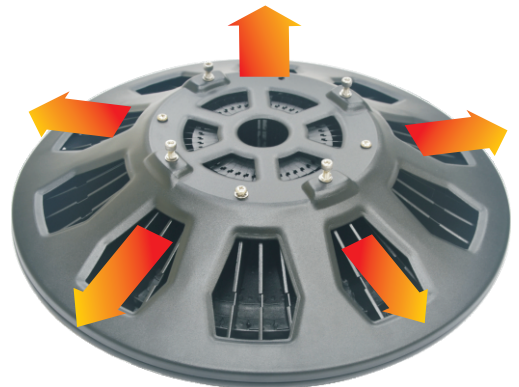
Dimension



HU1240 (unit: mm)

Heat Dissipation Sketch

The perfect combination of heat dissipation and thermal conduction. 3D type radiator which is formed from cooling modules and fin ducts can greatly lower down the temperature of light source, extending its life span.



Product Features



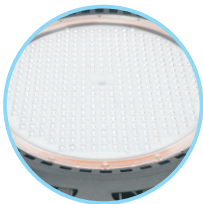
Integrated Thermal Design

Integrated design with cooling and fins, which greatly enhance the heat dissipation area. Improve thermal performance through air convection.



Patented Riveting Technology

Mainly using Al1050 cooling fins with 4mm pure aluminium plate to tighten during riveting process.



High Light Transmission Lens

Lens with high light transmission PC materials; 60°, 90°, 120° angles adjustable points.



Lens Respirator Design

Integrated design with respirator and lens which reduces assembly issue; Can clear fog; Avoid condensation; life-extending.

Application

Product Application: workshops, industrial plants, warehouses, stadiums, airport terminal and other lighting places.



100W



160W



240W

Model Number	Power (W)	Size (mm)	Lamp Panel Size (mm)	Chip Model	LED QTY (pcs)	Series/Parallel	Electrical Parameter
HU1100	100W	∅ 260X68mm	∅ 149X2mm	SMT/3030	154	7S/22P	21.6~36V 2.7A
HU1160	160W	∅ 325X78mm	∅ 199X2mm	SMT/3030	245	7S/35P	21.6~36V 4.5A
HU1240	240W	∅ 400X86mm	∅ 258X2mm	SMT/3030	360	9S/40P	36~60V 4.5A

※ The above parameters are for reference only, ultimately you have to refer to the physical specification issued by the Company.

※ All the products are supplied in kits which does not include power and lamp beads.

LED Flood Light - Heat Sink (FE Series)

High Reflectivity Pure Aluminum Reflector

Pure aluminum (AL 99.80%) provides much better reflectivity, anti-oxidation, and anti-color fading effects.



Tempered Glass Cover

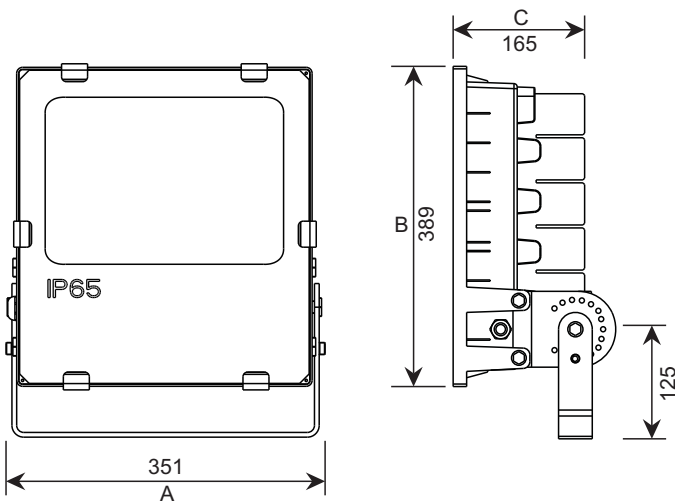
The 4mm thick tempered glass cover provides strong resistance to heat and impact and ensures operation safety.

Reliable Thermal Design

The extruded AL6063 aluminum heat sink body is a better cost/thermal performance solution for its easy production but reliable thermal functions.

IP65 Rated Ingress Protection

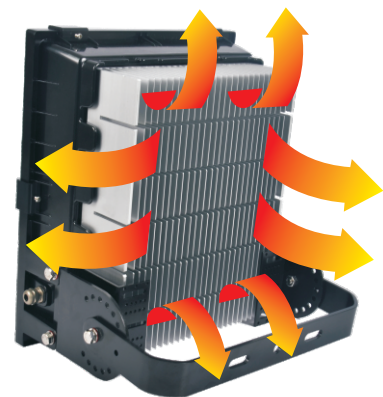
Dimension



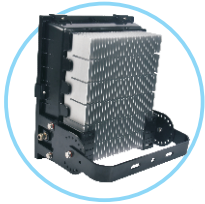
FE1250 (unit: mm)

Heat Dissipation Sketch

The perfect combination of heat dissipation and thermal conduction. 3D type radiator which is formed from cooling modules and fin ducts can greatly lower down the temperature of light source, extending its life span.

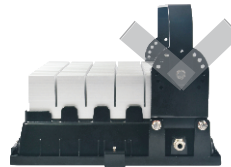


Product Features



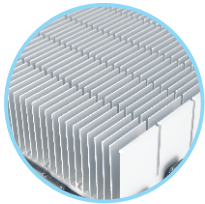
Strong Die-Casted Housing

The strong structure design of this die-casted aluminum housing help protection flood light from any possible impacts and damages.



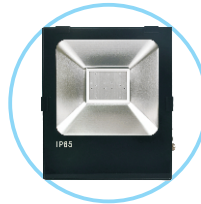
Adjustable Multiple Angles Mounting Brackets

The heat sink assembly's mounting brackets have 15 holes to adjust to the desired mounting angle (up to 120°) for LED light installation conveniences.



Selection of High Quality Materials

Using AL6063 Aluminium for body heat extrusion, and thermal performance is stable and reliable.



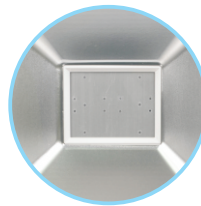
Tempered Glass Cover

The 4mm thick tempered glass cover provides strong resistance to heat and impact and ensures operation safety. The tempered glass cover also supply better than industry average light transmittance rate over 91% maximum.



Flexible Adoption of Great Variety SMD/COB LED Modules

This thermal design allows choices of great variety of SMD/COB LED modules and saves products series development costs and efforts.



High Reflectivity Pure Aluminum Reflector

Pure aluminum (AL 99.80%) provides much better reflectivity, anti-oxidation, and anti-color fading effects.

Application

Product Application: shopping malls, exhibition halls, hotel exterior, billboards, sculpture, the square night view, landscape lighting, grow lamps, etc.



Model Number	Power (W)	Size (mm)	PCB Size (mm)	Chip Model	LED QTY (pcs)	Series/Parallel	Power Supply
FE1100	100W	A:326xB:339xC:150	118x85	COB/3030	COB50Wx2/100	5S/20P	30V (3A)
FE1150	150W	A:326xB:339xC:150	118x85	COB/3030	COB70Wx2/150	5S/30P	30V (5A)
FE1200	200W	A:351xB:389xC:158	130x119	COB/3030	COB50Wx4/200	5S/40P	30V 6A)
FE1250	250W	A:351xB:389xC:158	130x119	COB/3030	COB75Wx4/250	5S/50P	30V (8A)

※ The above parameters are for reference only, ultimately you have to refer to the physical specification issued by the Company.

※ All the products are supplied in kits which does not include power and lamp beads.

LED Flood Light - Heat Sink (FF Series)

High Reflectivity Pure Aluminum Reflector

Pure aluminum (AL 99.80%) provides much better reflectivity, anti-oxidation, and anti-color fading effects.



Tempered Glass Cover

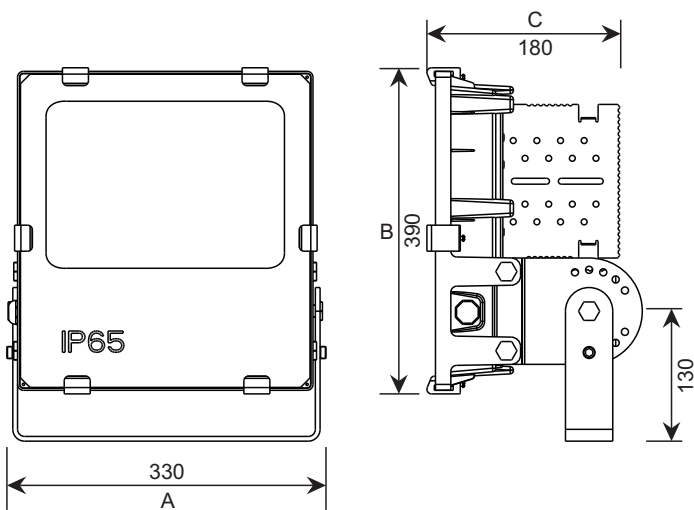
The 4mm thick tempered glass cover provides strong resistance to heat and impact and ensures operation safety. The tempered glass cover also supply better than industry average light transmittance rate over 91% maximum.

Lampshade Respirator Design

The lampshade respirator design, though water-proof, allows air-exchange to avoid any foggy condition that humidity will affect light quality.

IP65 Rated Ingress Protection

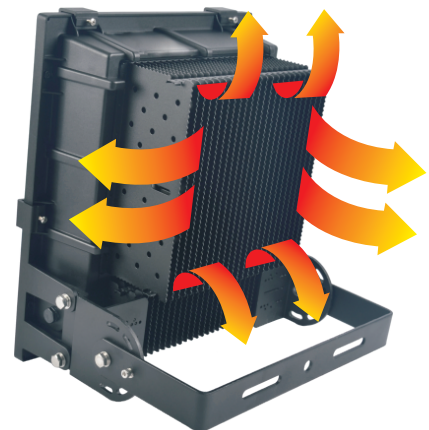
Dimension



FF1200 (unit: mm)

Heat Dissipation Sketch

The perfect combination of heat dissipation and thermal conduction. 3D type radiator which is formed from cooling modules and fin ducts can greatly lower down the temperature of light source, extending its life span.



Product Features



High-Performance Thermal Design

The composition of stamped AL1050 fins arrays ensures the maximum contact surface area at a given space, and fins tightly inserted into Al6063 heat sink base enhance the heat conductivity efficiency.



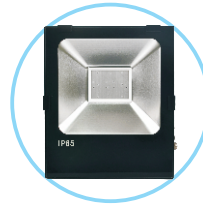
Adjustable Multiple Angles Mounting Brackets

The heat sink assembly's mounting brackets have 15 holes to adjust to the desired mounting angle (up to 120°) for LED light installation conveniences.



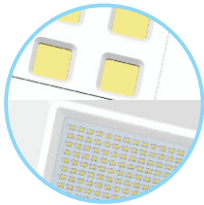
Lampshade Respirator Design

The lampshade respirator design, though water-proof, allows air-exchange to avoid any foggy condition that humidity will affect light quality.



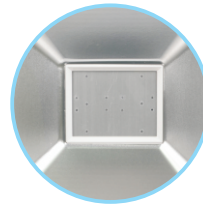
Tempered Glass Cover

The 4mm thick tempered glass cover provides strong resistance to heat and impact and ensures operation safety. The tempered glass cover also supply better than industry average light transmittance rate over 91% maximum.



Flexible Adoption of Great Variety SMD/COB LED Modules

This thermal design allows choices of great variety of SMD/COB LED modules and saves products series development costs and efforts.



High Reflectivity Pure Aluminum Reflector

Pure aluminum (AL 99.80%) provides much better reflectivity, anti-oxidation, and anti-color fading effects.

Application

Product Application: shopping malls, exhibition halls, hotel exterior, billboards, sculpture, the square night view, landscape lighting, grow lamps, etc.



Model Number	Power (W)	Size (mm)	PCB Size (mm)	Chip Model	LED QTY (pcs)	Series/Parallel	Power Supply
FF1070	70W	A:207xB:245xC:120	65x68	COB/3030	COB 70Wx1/70	7S10P	30-36V (1.5A)
FF1100	100W	A:260xB:280xC:156	118x85	COB/3030	COB 50Wx2/100	5S20P	30-36V (3.0A)
FF1150	150W	A:260xB:280xC:180	118x85	COB/3030	COB 70Wx2/150	5S30P	30-36V (4.2A)
FF1200	200W	A:330xB:390xC:178	130x119	COB/3030	COB 50Wx4/204	6S34P	36-42V (5.0A)

※ The above parameters are for reference only, ultimately you have to refer to the physical specification issued by the Company.

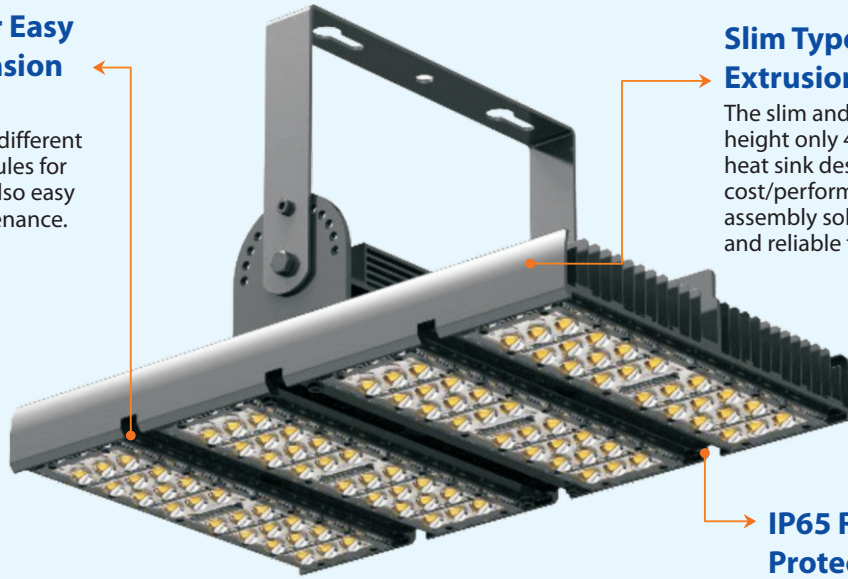
※ All the products are supplied in kits which does not include power and lamp beads.

LED Tunnel Light - Heat Sink(SE Series)

Modular Design for Easy Product Line Expansion and Maintenance

The modular design allows different combination of single modules for different applications and also easy for replacement and maintenance.

180W

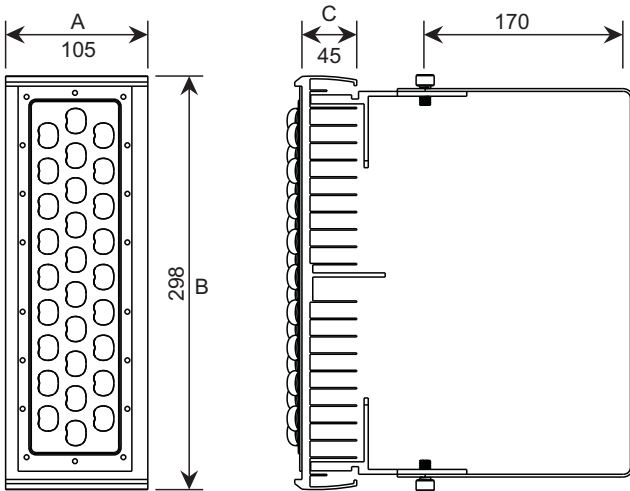


Slim Type Aluminum Extrusion Heat Sink Design

The slim and light-weight type (fin height only 48mm) aluminum extrusion heat sink design offers the best cost/performance rating heat sink assembly solution for its easy production and reliable thermal functions.

IP65 Rated Ingress Protection

Dimension



SE1060 (unit: mm)

Heat Dissipation Sketch

The perfect combination of heat dissipation and thermal conduction. 3D type radiator which is formed from cooling modules and fin ducts can greatly lower down the temperature of light source, extending its life span.

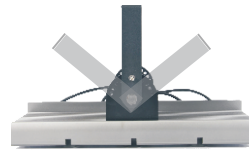


Product Features



Slim Type Aluminum Extrusion Heat Sink Design

The slim and light-weight type (fin height only 48mm) aluminum extrusion heat sink design offers the best cost/performance rating heat sink assembly solution for its easy production and reliable thermal functions.



Adjustable Multiple Angles Mounting Brackets

The heat sink assembly's mounting brackets have 13 holes to adjust to the desired mounting angle (up to 180°) for LED light installation conveniences.



Modular Design for Easy Product Line Expansion and Maintenance

The modular design allows different combination of single modules for different applications and also easy for replacement and maintenance.



Great Variety Beam Angle Options

Multiple choice of great variety of LED SMD arrays and beam angles.

Application

Product Application: roads, railways, subways, tunnels and other underground passageway lighting, city streets, bridges, sidewalks and other road lighting, but also for the urban landscape, billboards, building facades and other landscape lighting.



60W



90W



120W



180W

Model Number	Power (W)	Size (mm)	PCB Size (mm)	Chip Model	Multiple-series Connection	Max. Temperature	Beam Angle
SE1060	60W	A:230xB:298xC:45	260x60	XTE	12S 2P	≅ 50°	60°x 60° 90°x 90° 60°x 150°
SE1090	90W	A:340xB:298xC:45	260x60	XTE	12S 2P	≅ 50°	
SE1120	120W	A:430xB:596xC:45	260x60	XTE	12S 2P	≅ 50°	
SE1180	180W	A:340xB:596xC:45	260x60	XTE	12S 2P	≅ 50°	

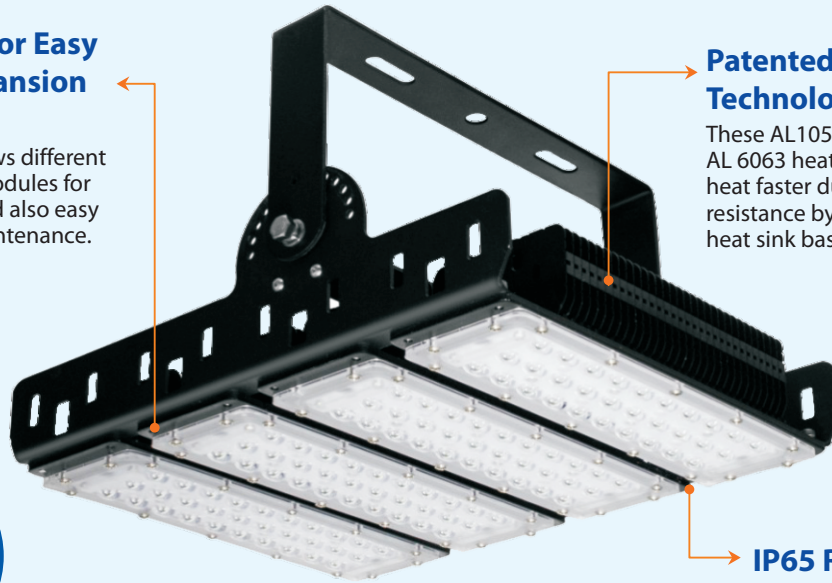
※ The above parameters are for reference only, ultimately you have to refer to the physical specification issued by the Company.

※ All the products are supplied in kits which does not include power and lamp beads.

LED Tunnel Light - Heat Sink(SF Series)

Modular Design for Easy Product Line Expansion and Maintenance

The modular design allows different combination of single modules for different applications and also easy for replacement and maintenance.

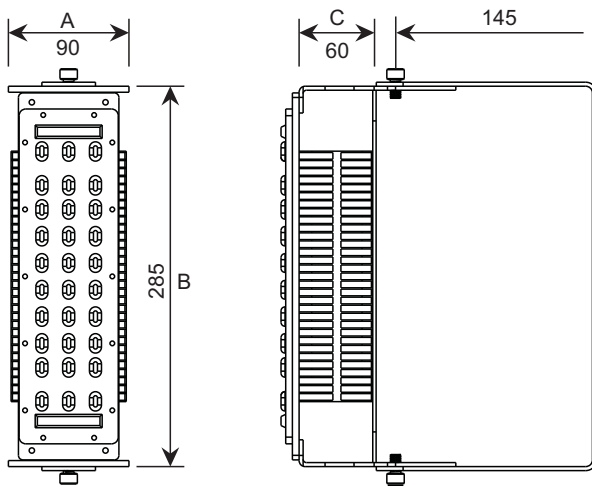


Patented Fins Insertion Technologies

These AL1050 fins tightly inserted into AL 6063 heat sink base help conduct the heat faster due to minimum thermal resistance by gaps between fins and heat sink base.

IP65 Rated Ingress Protection

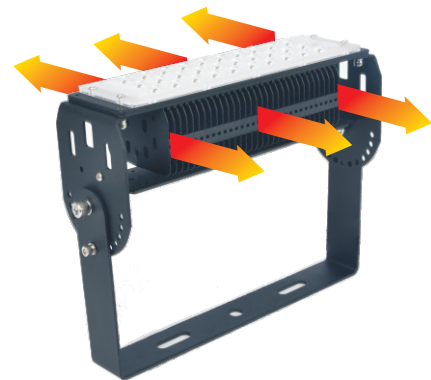
Dimension



SF1050 (unit: mm)

Heat Dissipation Sketch

The perfect combination of heat dissipation and thermal conduction. 3D type radiator which is formed from cooling modules and fin ducts can greatly lower down the temperature of light source, extending its life span.

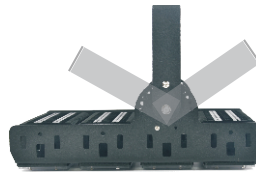


Product Features



High Performance Thermal Design

The integrated AL6063 heat sink base & 2 side protection plates design maximizes the contact surface area for heat conduction and convection.



Adjustable Multiple Angles Mounting Brackets

The heat sink assembly's mounting brackets have 13 holes to adjust to the desired mounting angle (up to 180°) for LED light installation conveniences.



Patented Fins Insertion Technologies

These AL1050 fins tightly inserted into AL6063 heat sink base help conduct the heat faster due to minimum thermal resistance by gaps between fins and heat sink base.



Great Variety Beam Angle Options

Multiple choice of great variety of LED SMD arrays and beam angles.

Application

Product Application: roads, railways, subways, tunnels and other underground passageway lighting, city streets, bridges, sidewalks and other road lighting, but also for the urban landscape, billboards, building facades and other landscape lighting.



50W



100W



150W



200W

Model Number	Power (W)	Size (mm)	PCB Size (mm)	Chip Model	Multiple-series Connection	Max. Temperature	Beam Angle
SF1050	50W	A:90xB:283xC:60	222x52	XTE	10S 3P	≅ 50°	60°x 60° 90°x 90° 60°x 150°
SF1100	100W	A:180xB:283xC:60	222x52	XTE	6S 8P	≅ 50°	
SF1150	150W	A:270xB:283xC:60	222x52	XTE	12S 4P	≅ 50°	
SF1200	200W	A:360xB:283xC:60	222x52	XTE	10S 3P	≅ 50°	
SF1300	300W	A:270xB:566xC:60	222x52	XTE	12S 4P	≅ 50°	
SF1400	400W	A:360xB:566xC:60	222x52	XTE	10S 3P	≅ 50°	

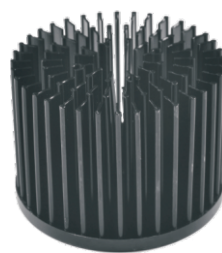
※ The above parameters are for reference only, ultimately you have to refer to the physical specification issued by the Company.

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LED Down Light - Heat Sink

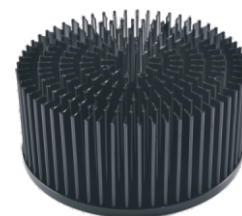
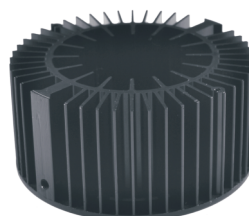


Model Number	DG046-008-001	DG051-010-001	DG061-015-001
Dimension	Ø46 x 36mm	Ø51 x 50mm	Ø61 x 57mm
Material	AL 1070	AL 1070	AL 1070
Technology	Cold Forging	Cold Forging	Cold Forging
Finish	Anodized Black/Silver	Anodized Black/Silver	Anodized Black/Silver
Applicable Power	5~8W	5~10W	10~15W

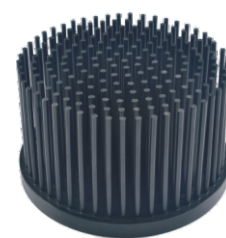


Model Number	DG065-020-001	DG071-020-001	DG091-035-001
Dimension	Ø65 x 59mm	Ø71 x 50mm	Ø91 x 50mm
Material	AL 1070	AL 1070	AL 1070
Technology	Cold Forging	Cold Forging	Cold Forging
Finish	Anodized Black/Silver	Anodized Black/Silver	Anodized Black/Silver
Applicable Power	15~20W	15~20W	30~35W

LED Down Light - Heat Sink

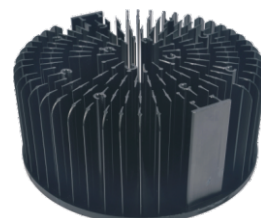
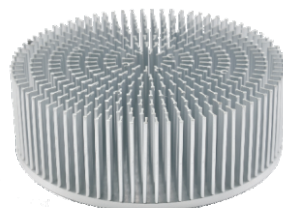


Model Number	DG100-025-001	DG100-030-001	DG111-050-001
Dimension	Ø100 x 33mm	Ø100 x 48mm	Ø111 x 50mm
Material	AL 1070	AL 1070	AL 1070
Technology	Cold Forging	Cold Forging	Cold Forging
Finish	Anodized Black/Silver	Anodized Black/Silver	Anodized Black/Silver
Applicable Power	20~25W	25~30W	30~36W

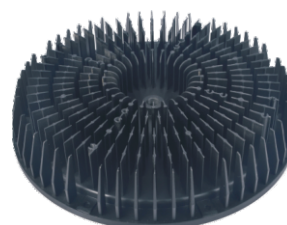
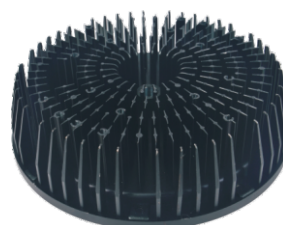
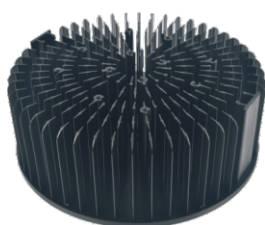


Model Number	DG118-030-001	DG118-060-001	DG120-050-001
Dimension	Ø118 x 54mm	Ø118.5 x 130mm	Ø120 x 70mm
Material	AL 1070	AL 1070	AL 1070
Technology	Cold Forging	Cold Forging	Cold Forging
Finish	Anodized Black/Silver	Anodized Black/Silver	Anodized Black/Silver
Applicable Power	25~30W	50~60W	45~50W

LED Down Light - Heat Sink

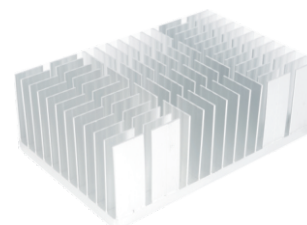


Model Number	DG140-075-001	DG151-065-001	DG180-100-001
Dimension	Ø140 x 70mm	Ø151 x 50mm	Ø180 x 80mm
Material	AL 1070	AL 1070	AL 1070
Technology	Cold Forging	Cold Forging	Cold Forging
Finish	Anodized Black/Silver	Anodized Black/Silver	Anodized Black/Silver
Applicable Power	65~70W	60~65W	80~100W



Model Number	DG220-150-001	DG240-150-001	DG320-200-001
Dimension	Ø220 x 80mm	Ø240 x 60mm	Ø320 x 63.5mm
Material	AL 1070	AL 1070	AL 1070
Technology	Cold Forging	Cold Forging	Cold Forging
Finish	Anodized Black/Silver	Anodized Black/Silver	Anodized Black/Silver
Applicable Power	120~150W	120~150W	180~200W

LED Down Light - Heat Sink



Model Number	DG082-025-001	DG090-015-001	DG150-045-001
Dimension	82x82x48mm	90x90x16mm	150x97x50mm
Material	AL 1070	AL 1070	AL 1070
Technology	Cold Forging	Cold Forging	Cold Forging
Finish	Anodized Black/Silver	Anodized Black/Silver	Anodized Black/Silver
Applicable Power	20~25W	10~15W	40~45W

LED Lighting Knowledge

LED lighting is rapidly replacing legacy incandescent and fluorescent lighting systems as upfront costs have declined considerably.

LED lighting offers advantages over legacy systems in almost every respect including cleaner, whiter light; they are more efficient, which reduces ongoing operating cost and is better for the environment; and they last much longer, which reduces the time and cost associated with replacement.

LED Lighting Heat Transfer

Generally speaking, it is very important to LED lighting heat dissipation by working stable and high quality. LED lighting consists of LED, heat sink, drive and the lens, so the heat sink is a key part for a whole LED lighting. High quality heat sinks can better improve LED lifetime.

COOLTRON offers a wide range of advanced cooling technologies specifically for high power LED lighting applications. Some people have predicted a great growth through 2016 within the commercial/industrial LED markets. LED commercial/industrial application markets include public active recreation area lighting, architectural lighting, municipal construction lighting, transportation infrastructure, and more.



Heat Conduction Formula

$$Q = -KA \Delta T / \Delta L$$

- Q: heat transfer rate
- A: cross-sectional area of heat flux
- $\Delta T / \Delta L$: temperature gradient
- K: thermal conductivity (W/mk)
(Example: Al = 230, Cu = 380)

Important Components for Thermal Design

- Heat Sink
- Heat Pipe
- Fan
- TIM (Thermal Interface Material)
- Combination of aforementioned components

LED lighting heat sink provides a path for heat from the LED source to outside medium.

Heat can travel from one place to another in three ways: Conduction, Convection & Radiation.

- **Conduction:** heat transfer from one solid to another
- **Convection:** heat transfer from a solid to a moving fluid, for most LED applications the fluid will be air
- **Radiation:** heat transfer from two bodies of different surface temperatures through thermal radiation

Material - Normally this is aluminum, although copper may be used with an advantage for flat-sheet heat sinks.

Shape - Thermal transfer takes place at the surface of the heat sink. Therefore, heat sinks should be designed to have a large surface area. This goal can be reached by using a large number of fine fins or by increasing the size of the heat sink itself.



The Key Factors of LED Lighting Heat Sink:

- Material
- Design
- Thermal Management
- Process Method and Efficiency

What Can Cooltron Help With Your Heat Sink of LED Lighting?

- High Power LED Lighting Cooling Demand
- Customized LED Lighting Cooling Demand
- Traditional Lighting Converted to LED Commercial Lighting
- Improve the Cooling Efficiency of LED Lighting
- Reduce Research & Development Costs of Cooling Module
- LED Lighting and Cooling Module Develop Together



US Headquarter
(California, U.S.A.)

275 Paseo Tesoro
Walnut, CA 91789
U.S.A.

Tel : +1-909-598-6033
Fax: +1-909-598-6043
heatsinks@cooltron.com

Asia-Pacific Branch
(Shenzhen, China)

5F Xingyue Building, Shiguan Industrial Park,
Longhua New District, Shenzhen, China.
Post Code 518109

Tel : +86-755-8209-0805
Fax: +86-755-2904-3077