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VER.24.2

ICEPIPE

LED LIGHTING

ICEPIPE PRODUCT CATALOGUE



ICEPIPE
www.icepipeLED.com
We try to be 30% better

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LED HIGH BAY



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LED FLOOD LIGHT



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LED BULB



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History

ICEPIPE is leading the development of LED lighting with patented technology and continuous research



2024年

- Apr.** New release of external driver type of circular LED flood light NCD(400W) with mechanical coupling to ICEPIPE heatsink
- Feb.** Start of technical review for smart controlled LED bulb OB230D-IOT

2023年

- Sep.** New release of LED flood light ELP
- Aug.** RCT series registered as Excellent Product in Korea Public Procurement Market

2022

- Jun.** New release of LED flood light ITN 300C
- May.** Flood lights(4 models) with mechanical coupling to use oscillating capillary tube heatsink as heat dissipation material were registered as Excellent Production

2021

- May.** Convention on the “Development and Demonstration of 2017 Waste Heat Renewable Thermoelectric Generation System” for the National Energy Management Corporation

2020

- Oot.** OB Series (13 models) with Hollow Ventilation Heat Dissipation Technology were registered as Excellent Product in Korea Public Procurement Market.
New release of high output LED lamp OB230c (120W)
- May.** Oscillating Capillary Tube Heat Pipe Pressurized Coupling Technology acquired Green Technology certification
- JAN** New release of high output LED bulb OB200c

2019

- Nov.** OB Series (5 models) with Hollow Ventilation Heat Dissipation Technology were registered as Excellent Production.
- Jul.** Hollow Ventilation Heat Dissipation Technology got 'K mark' certification
- Jun.** New release of ultra-high output LED floodlight CTC8010-800W. Patent for Oscillating Capillary Tube Heatsink Pressurized Coupling Technology.
- Jan.** New release of smart LED lamp HB2000 80W & 100W

2018

- Jul.** Launched e-Biz management system
- Jun.** Minister's award from South Korean Ministry of Trade, Industry and Energy (MOTIE)
- Apr.** New release of ultra-high output LED flood light with external power, CD4010 300W & 400W
- Jan.** New release of ultra-efficient and high output LED bulb, OB150 & OB230 series

2017

- Nov.** New release of modular LED street light DR2000 / tunnel light DT2000
- Aug.** New release of high output LED floodlight with external power, CT8010 600W & 700W
- May.** New release of high output LED bulbs(square type) OBB 60W L+, 80W L+ & OBBc 80W L+
- Feb.** EU Liaison Office established(Germany) in February 2017, Establishment planned since December 2016

2016

- Aug.** Launch of Super High Power LED Flood Light CT8000 700W
- Jun.** Won KOTRA Award for High Output LED Bulb OBB 80W L+
- Jun.** Selected as KICOX Global Leading Company
- Mar.** Selected as G-PASS company by Public Procurement

2015

- Dec.** US branch office(ICEPIPE Corp. USA) established
- Sep.** Acquired KS(Korean Standards) Mark (LED Flood Light) CT3000, CH2500 LED lighting, LED Downlight POP200 launched
- Jul.** High Power LED Bulb OBB (60W, 80W), OBM launched
- May.** UR2000, CD4000 LED lighting launched
- Mar.** LED Bulb OBB 18W, 25W launched



Creative Thinking



Technology Research



Eco-Friendly Management Ideals

2014

- Dec.** High Power Omni LED Bulb and Ultralight High Power LED Floodlight selected as World class Products of 2014 (OBB / CT2050 / CT2550 / CT5000 / CT8000)
- Nov.** LED Bulb OBA2 / High Power LED CD800, CD1500 LED lighting launched
- Jun.** CH2000, CT2000, CT2500 lighting launched
- Mar.** Omni LED Bulb, Winner of the Red Dot Product Design Award 2014 (One of the world's top 3 design awards: Red Dot, iF, IDEA)
- Feb.** LED Downlight POP LED launched

2013

- Nov.** Cheonan (Korea) Factory established
- Oct.** Won KES's the Best New Product Award
- Aug.** Daegu (Korea) Branch Office established
- Jul.** CR2000 150W LED Lighting launched
- May.** Omni LED Bulb launched
- Apr.** Certified for High Energy Efficiency Equipment
*LED Street Light 120W, LED Security Light 60W
- Mar.** Designated as Government's Excellent Products
*LED Flood Light 400W, 700W

2012

- Sep.** Designated as the Products for Government's Obligation Purchase by Korea's Public Procurement Service(PPS)
*LED Flood Light 100W, 150W / LED Street Light 150W, 200W / LED Tunnel Light 80W
- Jun.** Acquired KS (Korean Standards) Mark
*LED Tunnel Light / LED Street Light
- Apr.** Designated as Excellent Products by Korea's Public Procurement Service(PPS) *LED Flood Light 100W, 150W, 200W
- Feb.** Acquired NEP(New Excellent Product) Certification (Ministry of Trade, Industry & Energy, Republic of Korea (MKE))

2011

- Dec.** Won Korean World-class Product Award from Ministry of Trade, Industry & Energy, Republic of Korea (MKE)
- Dec.** Acquired High-Efficiency Appliance Certification MIKE / KEMCO (Korean Energy Management Corporation)
- Oct.** Patent for LED Lighting & Display Apparatus registered

2010

- Nov.** Established R&D Center
- Nov.** Acquired Quality Management System (ISO 9001:2008 Certification)
- Sep.** Acquired NET(New Excellent Technology Certification Administered by Ministry of Trade, Industry & Energy, Republic of Korea(MKE))
- Aug.** ICEPIPE Corporation founded

2009

- Aug.** Patent for Lighting & Display Apparatus with ICEPIPE technology registered
- Apr.** Patent for Heatpipe-type Heat Dissipation Apparatus registered

2008

- Aug.** Design Patent for Heat Dissipation Apparatus registered

2007

- Jan.** ICEPIPE research began

CERTIFICATION

Patented technology of ICEPIPE and a number of quality certificates prove the excellence of our products.



Patent

- Korea
- US
- China
- Japan
- Europe
- Canada
- Taiwan
- Australia
- New Zealand
- The Philippines
- Mexico
- Eurasia
- Russia



Design Right

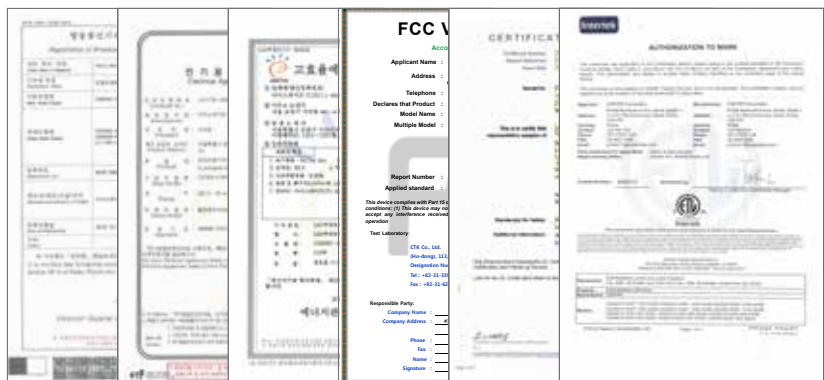
- Korea
- US
- China
- Japan
- Europe
- Canada
- Australia
- Brazil
- India
- Indonesia
- Thailand
- The Philippines
- Vietnam
- Mexico
- Russia





Certificates Documents

- Enterprise Institute Certificate
- Venture Business Confirmation
- ISO 9001 Certificate
- ISO 14001 Certificate
- Excellent Product Certificate
- KS Certificate
- EMC Certificate
- KC Electrical Appliances Safety Certificate
- High Efficiency Energy Certificate
- FCC Certificate
- UL Certificate
- ETL Certificate
- DLC Certificate
- PSE Certificate
- CE Certificate
- CB Certificate
- Water·dust proof test(IP67)
- Green Technology Certificate
- K mark Certificate



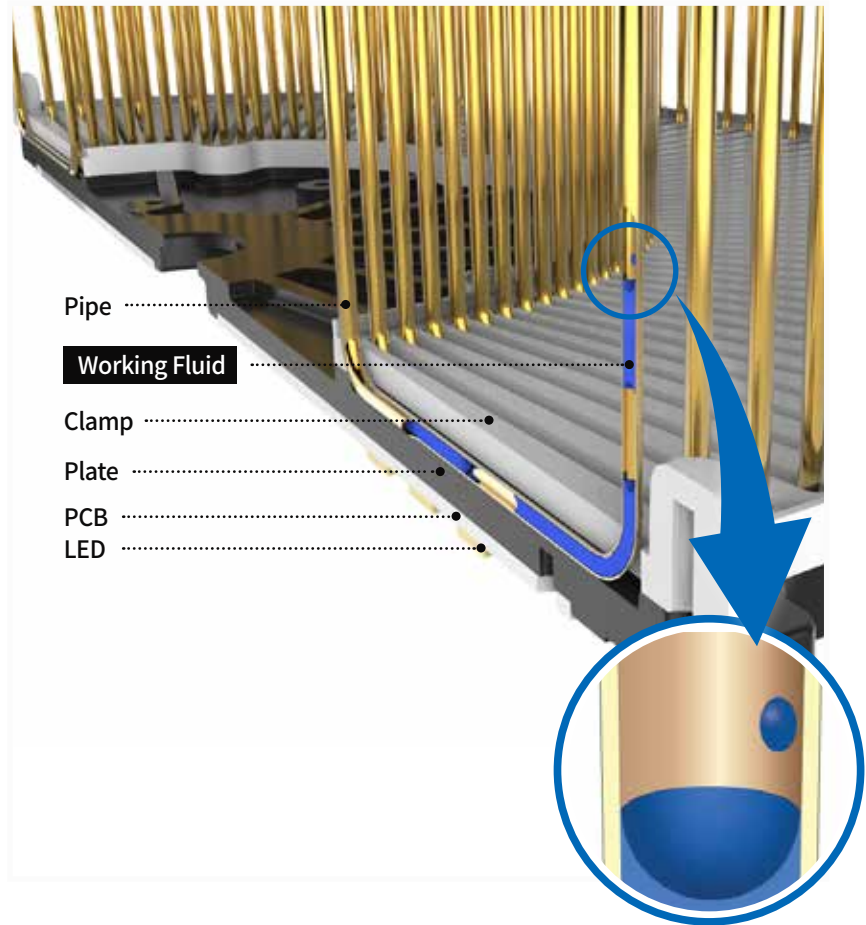
FDP Technology

(Fluid Dynamic Pressures)

TECHNOLOGY 1

Patent technology of ICEPIPE-Improved heat dissipation by fast heat transfer using FDP

- The fastest heat transfer rate by excellent air flow
- Sufficient heat dissipation area
- ICEPIPE's thermal conductivity = 40,000 W/m · K
- Less raw materials used reducing the weight and production cost

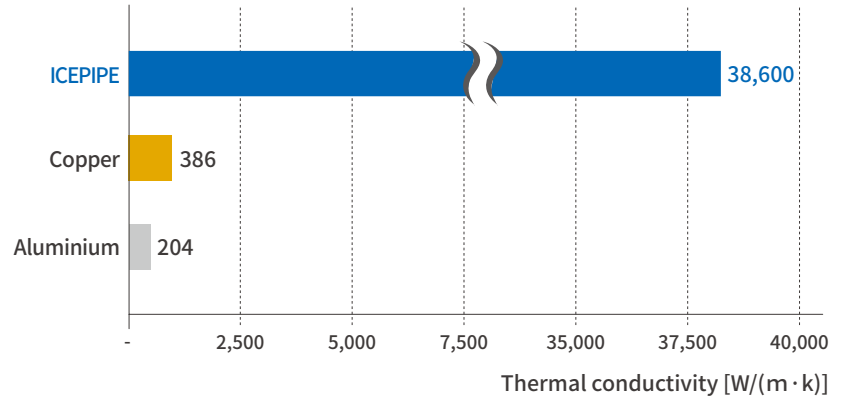


Patent



Heat Transfer Rate Comparison

Heat transfer rate of ICEPIPE heat sink is 200 times higher than the one of Aluminium.



V_{TWM} (Value of Thermal resistance Weight Multiplier)

LED lighting with VTWM below 1 signifies minimization of weight and temperature.

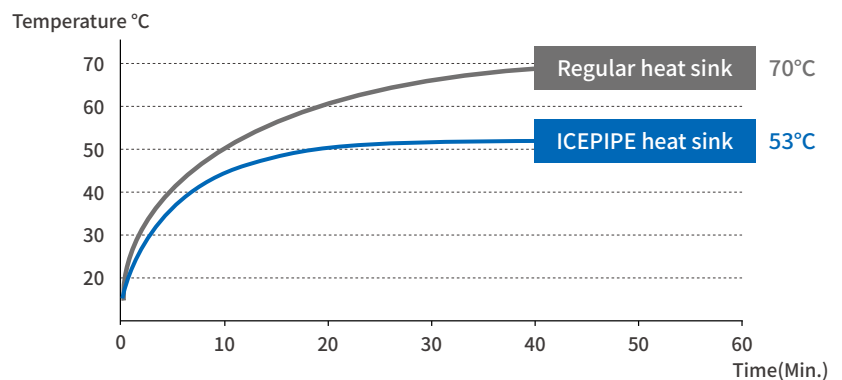


$$V_{TWM} = \frac{T_m (\text{°C}) \times H_w (\text{kgf})}{P (\text{W})} < 1$$

- $T_m(\text{°C})$: LED PCB Temp
- $H_w(\text{kgf})$: Weight of heat sink
- $P(\text{W})$: LED luminaire's total power consumption

Temperature Comparison

ICEPIPE's world-class technology dramatically reduces LED temperature.



- Ambient Temperature : 24 °C
- Test Samples : Same volume heat sinks of ICEPIPE and its competitors.

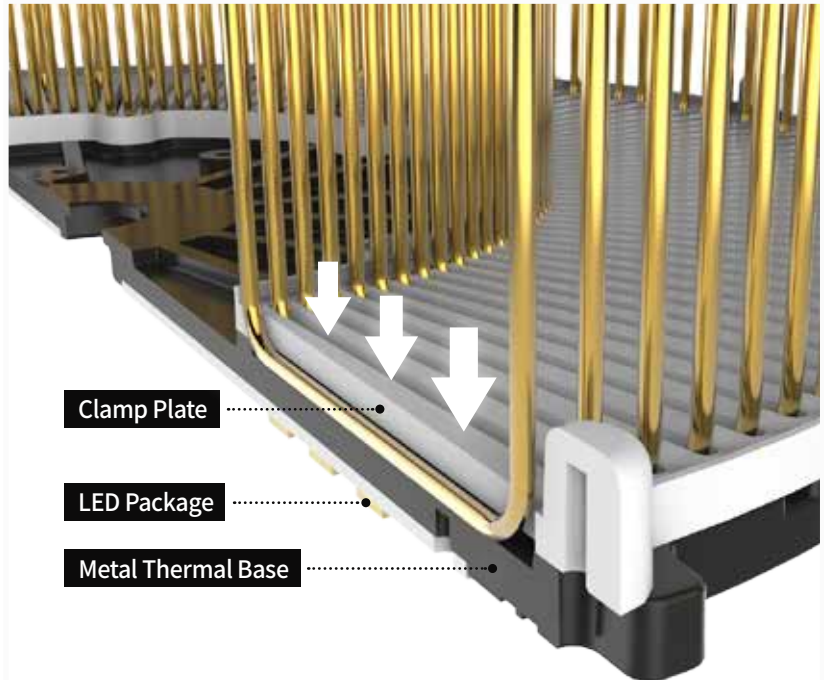
Clamping Technology

Oscillating Capillary Tube Heatsink

TECHNOLOGY 2

Unique heat dissipation technology using directional and elastic clamps

- Mechanical coupling to use oscillating capillary tube heatsink as heat dissipation material
- Mechanical bonding of heating part and heatsink made excellent durability
- Pressurized assembly by using elastic deformation of clamp
- Improved heat dissipation performance and reduced material cost compared to conventional adhesive (epoxy, etc.) bonding methods

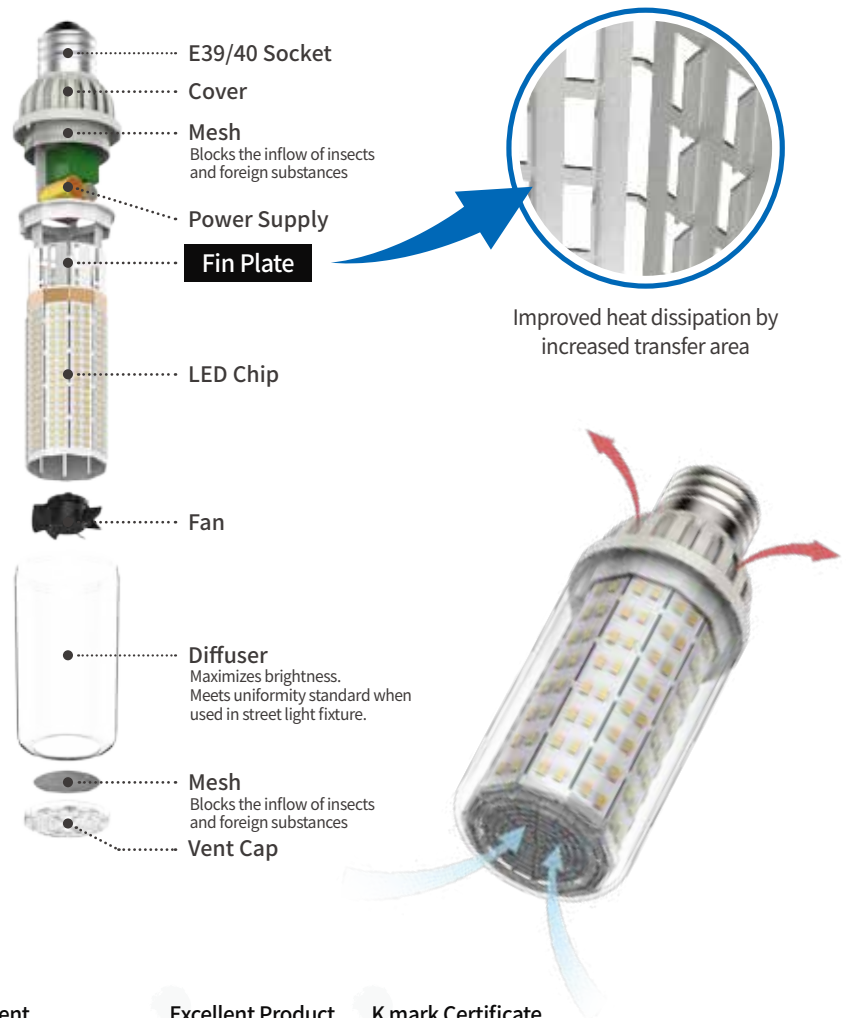


Fin Plate Ventilation Technology

TECHNOLOGY 3

Patented Fin Plate Technology improved air-cooling heat dissipation

- Folded LED PCB provides better air flow
- Excellent heat dissipation by patented Fin Plate Technology
- Usable with multiple lighting fixtures in various sites
- Compliant with industrial standards such as structural, electrical, optical characteristics, drop, temperature test, factory inspection, etc.



Patent



Excellent Product Certificate

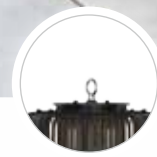


K mark Certificate



80 W / 100 W

HB2000



Hook Type

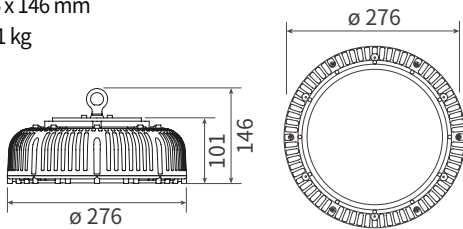


Socket Type



DIMENSION

- Size : ϕ 276 x 146 mm
- Weight : 2.1 kg



FEATURES

- Clamping Technology applied LED high bay
- High luminous efficacy (150 lm/w)
- LED replacement for MH 250~350 W with 75% electricity saving
- Installable vertically and horizontally at any angle
- Various cover options and mounting options are available
- Various beam angle are available with cover lens
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
HB2000-80S	80 W	MH 250 W	150 lm/W	12,000 lm	80 Ra	5,700 K	AC 120-277 V	50/60 Hz
HB2000-100S	100 W	MH 350 W	150 lm/W	15,000 lm				

- PF : > 0.96
- THD : < 15 %
- Surge withstand capability : 4 kV
- IP Rating : -

- Material : Polycarbonate
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Factory



Gymnasium



Auditorium



Warehouse

130 W / 150 W

HB2200



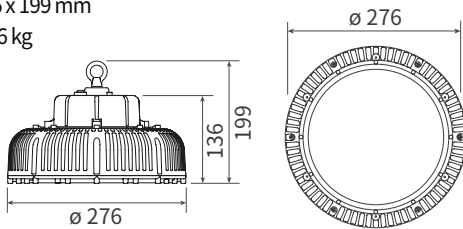
LED HIGH BAY

LED FLOOD LIGHT

LED BULB

DIMENSION

- Size : $\varnothing 276 \times 199$ mm
- Weight : 2.6 kg



FEATURES

- Clamping Technology applied LED high bay
- High luminous efficacy (150 lm/w)
- LED replacement for MH 400~500 W with 70% electricity saving
- Installable vertically and horizontally at any angle
- Various cover options and mounting options are available
- Various beam angle are available with cover lens
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
HB2200-130S	130 W	MH 400 W	150 lm/W	19,500 lm	80 Ra	5,700 K	AC 120-277 V	50/60 Hz
HB2200-150S	150 W	MH 500 W	150 lm/W	22,500 lm				

- PF : > 0.96
- THD : < 15 %
- Surge withstand capability : 4 kV
- IP Rating : -

- Material : Polycarbonate
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)

*LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Factory



Swimming Pool



Auditorium

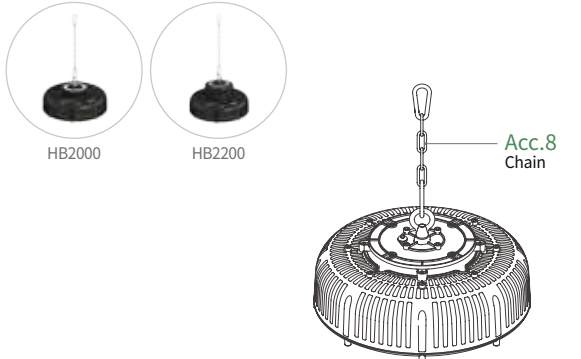


Warehouse

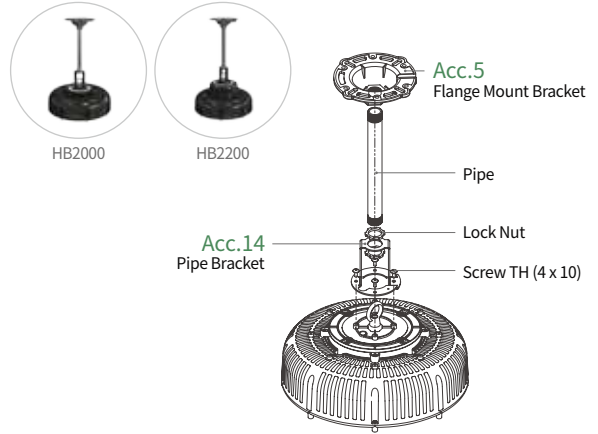
HB2000 / HB2200

INSTALLATION TYPE * Illustrated by HB2000

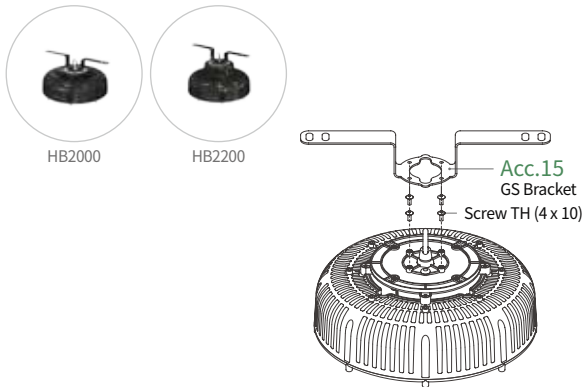
① Chain



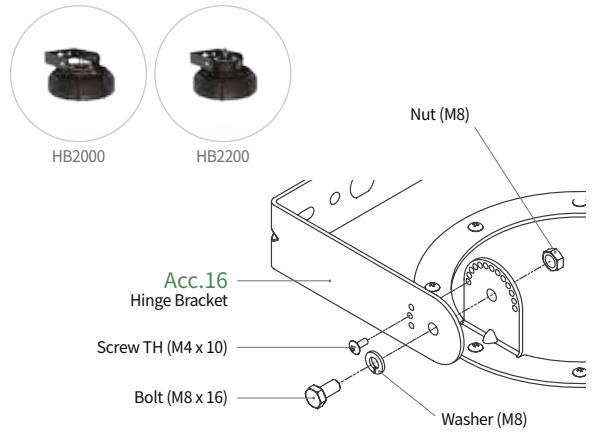
② FMB Pipe Bracket



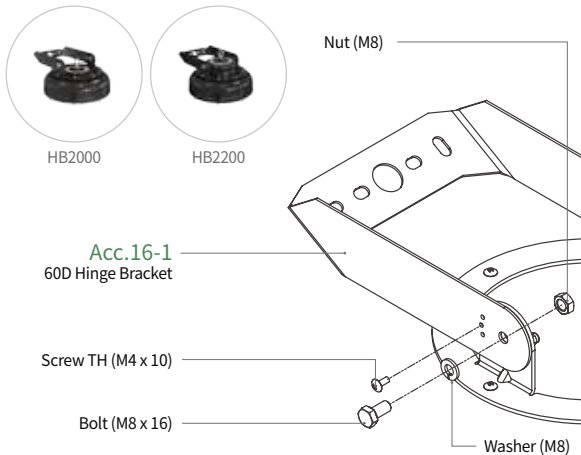
③ GS Bracket



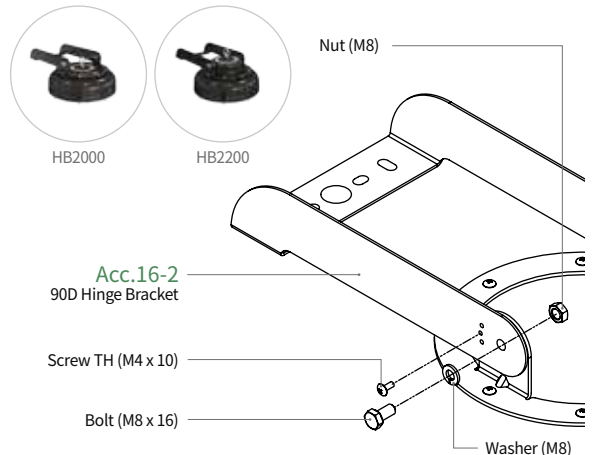
④ Hinge Bracket



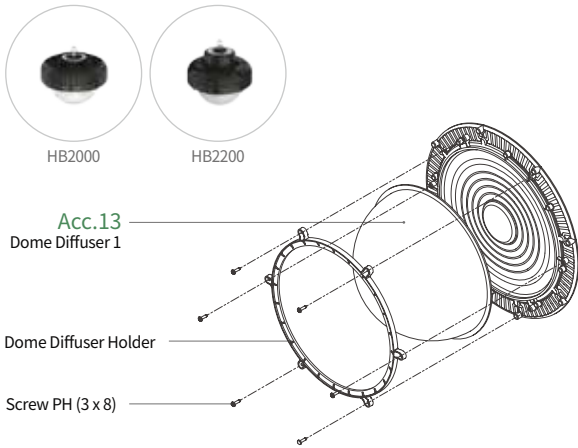
⑤ 60D Hinge Bracket



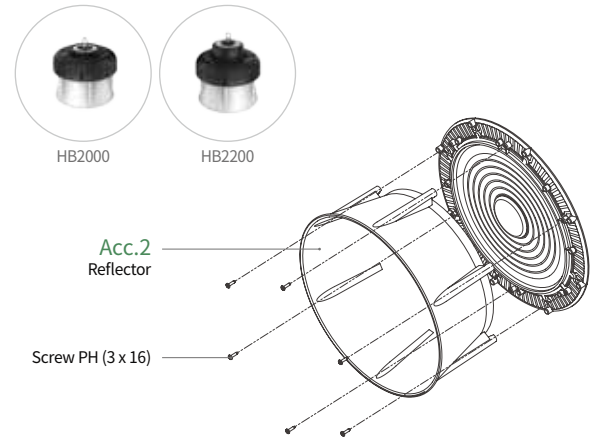
⑥ 90D Hinge Bracket



Acc.13 Dome Diffuser



Acc.2 Reflector



Beam Angle * Illustrated by HB2000

Standard	Clear	Diffuser Cover	Cover Lens		Dome Diffuser	Reflector
	80°	97°	45°	60°	110°	130°

External Driver

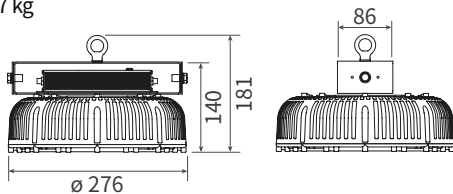
60W / 80 W / 100 W

HB2010



DIMENSION

- Size : $\phi 276 \times 181$ mm
- Weight : 2.7 kg



FEATURES

- Convenient maintenance with external driver
- Clamping Technology applied LED high bay
- High luminous efficacy (150 lm/W)
- LED replacement for MH 200~350 W with 75% electricity saving
- Various cover options and mounting options are available
- Various beam angle are available with cover lens
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency	Surge withstand capability
HB2010-60S	60 W	MH 200 W	150 lm/W	9,000 lm	80 Ra	5,700 K	AC 100-240 V	50/60 Hz	2kV(L-N) 4kV(Line-FG)
HB2010-80S	80 W	MH 250 W	150 lm/W	12,000 lm	80 Ra	5,700 K	AC 220-240 V	50/60 Hz	4 kV
HB2010-100S	100 W	MH 350 W	150 lm/W	15,000 lm					

- PF : > 0.96 (HB2010-60S : > 0.9)
- THD : < 15% (HB2010-60S : < 20%)
- IP Rating : -

- Material : Polycarbonate, STS
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- External Driver : 100W x 1EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes for 60S)
- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Factory



Gymnasium



Auditorium

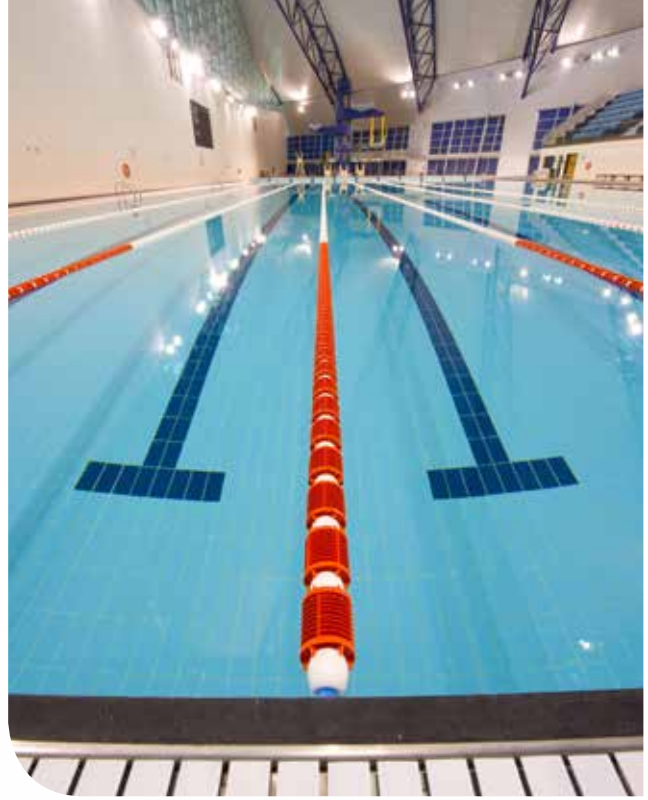


Warehouse

External Driver

130 W / 150 W

HB2210 HB221D



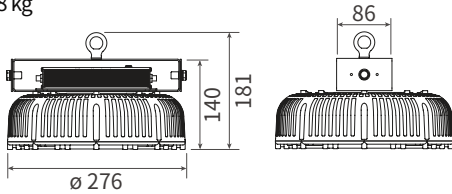
LED HIGH BAY

LED FLOOD LIGHT

LED BULB

DIMENSION

- Size : $\varnothing 276 \times 181$ mm
- Weight : 2.8 kg



FEATURES

- Convenient maintenance with external driver
- Clamping Technology applied LED high bay
- High luminous efficacy (150 lm/W)
- LED replacement for MH 400~500 W with 70% electricity saving
- Various cover options and mounting options are available
- Various beam angle are available with cover lens
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency	Surge withstand capability
HB2210-130S	130 W	MH 400 W	150 lm/W	19,500 lm	80 Ra	5,700 K	AC 220-240 V	50/60 Hz	4 kV
HB2210-150S	150 W	MH 500 W	150 lm/W	22,500 lm					
⚠ HB221D-130S	130 W	MH 400 W	150 lm/W	19,500 lm	80 Ra	5,700 K	AC 100-240 V	50/60 Hz	6kV(L-N) 10kV(Line-FG)
⚠ HB221D-150S	150 W	MH 500 W	150 lm/W	22,500 lm					

- PF : > 0.96
- THD : < 15% (HB221D : < 10%)
- IP Rating : -

- Material : Polycarbonate, STS
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- External Driver : 150W x 1EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes for D-150S)
- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)

*LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Factory



Swimming Pool



Gymnasium

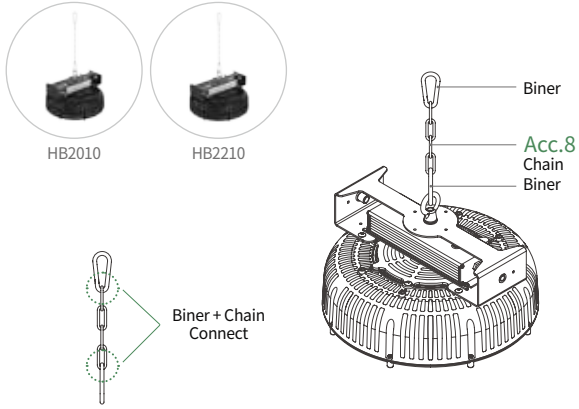


Warehouse

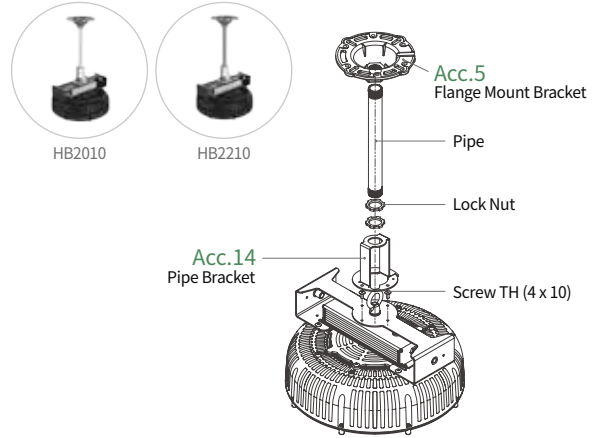
HB2010 / HB2210

INSTALLATION TYPE * Illustrated by HB2010

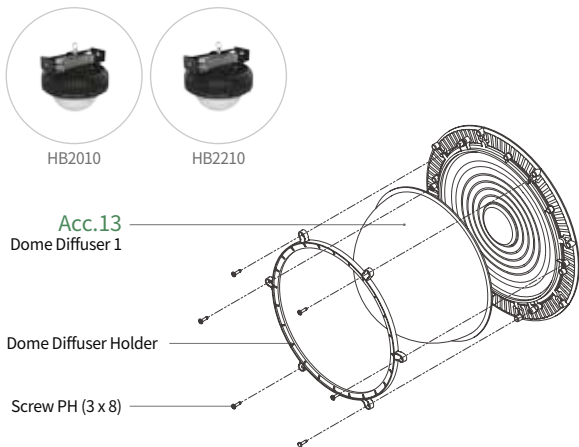
① Chain



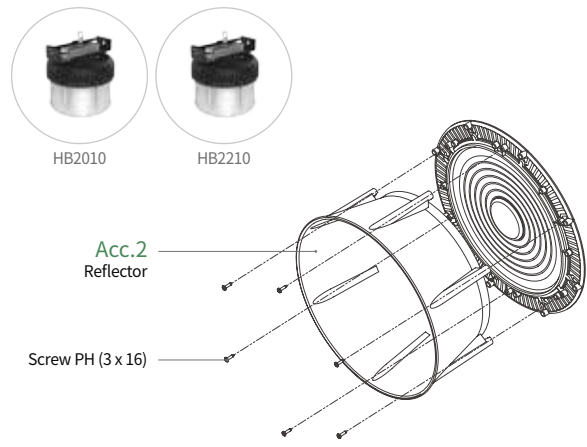
② FMB Pipe Bracket



Acc.13 Dome Diffuser



Acc.2 Reflector



Beam Angle * Illustrated by HB2010

Standard	Clear	Diffuser Cover	Cover Lens		Dome Diffuser	Reflector
80°	97°	35°	50°	110°	130°	65°



Dimming Option



+



Dimmer



Sensor



Gateway

- 0-10V/PWM/3-Timer-Modes
- Motion/daylight sensor
- Wireless/wired control applicable

If it's not compatible dimming (0-10V, PWM, 3-timer-modes), interface controller is required.
e.g.) If it's connected with DALI/DMX, additional switching module (DALI-PWM converter) is needed.



External Driver

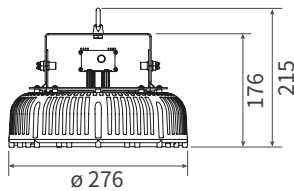
200 W

HB2510



DIMENSION

- Size : ϕ 276 x 215 mm
- Weight : 4 kg



FEATURES

- Convenient maintenance with external driver
- Clamping Technology applied LED high bay
- Through a double-array ICEPIPE, expanded heat dissipation space even having less volume
- High luminous efficacy (140 lm/W)
- LED replacement for MH 600 W with 70% electricity saving
- 360 degree installation without restriction.
- Various beam angle are available with cover lens
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
HB2510-200S	200 W	MH 600 W	140 lm/W	28,000 lm	80 Ra	5,700 K	AC 100-240 V	50/60 Hz

- PF : >0.96
- THD : <10%
- Surge withstand capability : 6kV(L-N), 10kV(Line-FG)
- IP Rating : -

- Material : Polycarbonate, STS
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- External Driver : 200W x 1EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes)
- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)
*LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Factory



Gymnasium



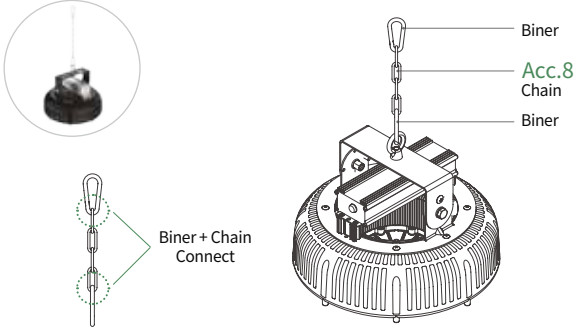
Auditorium



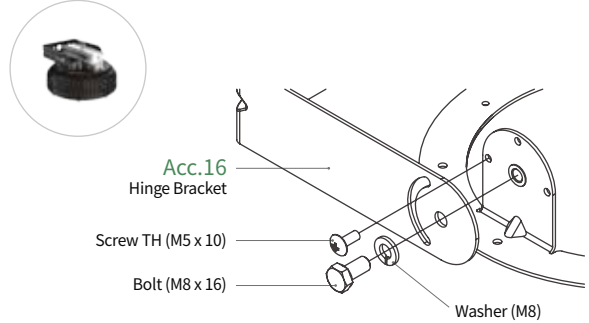
Warehouse

INSTALLATION TYPE

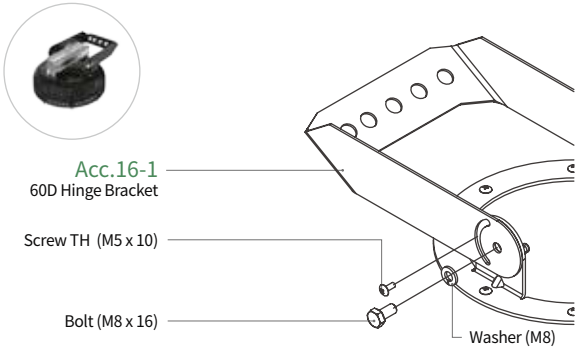
① Chain



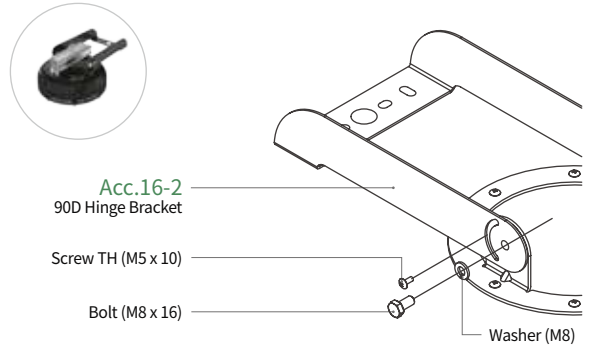
② Hinge Bracket



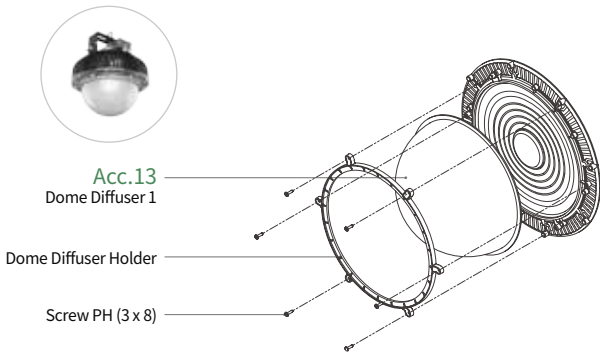
③ 60D Hinge Bracket



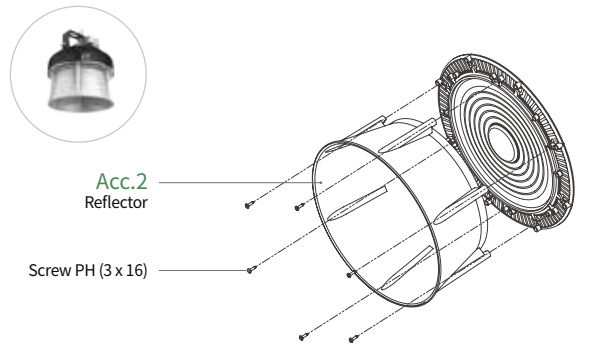
④ 90D Hinge Bracket



Acc.13 Dome Diffuser



Acc.2 Reflector

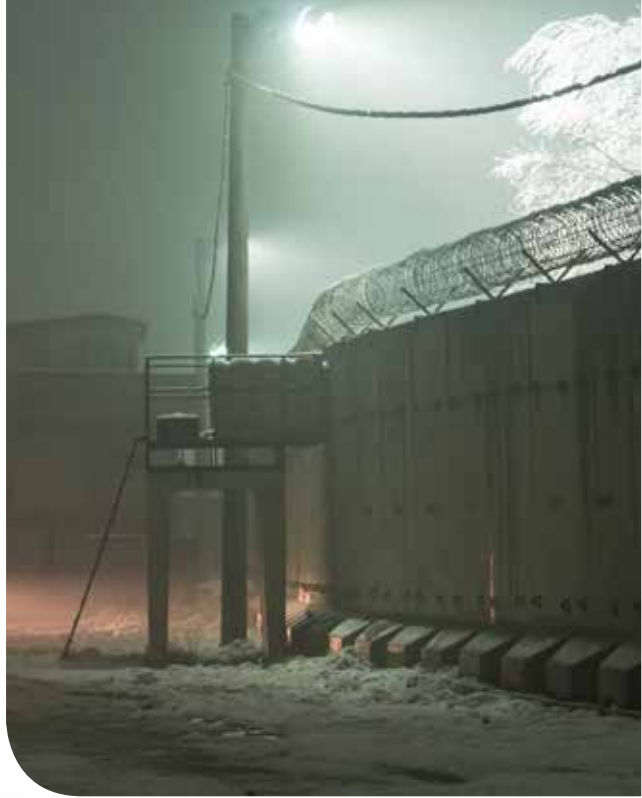


Beam Angle

Standard	Clear	Diffuser Cover	Cover Lens			Dome Diffuser	Reflector
80°	97°	35°	50°	110°	130°	65°	

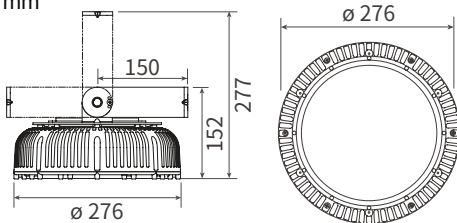
80 W / 100 W

HB2000



DIMENSION

- Size : $\varnothing 276 \times 277$ mm
- Weight : 2.7 kg



FEATURES

- Clamping Technology applied LED flood light
- High luminous efficacy (150 lm/W)
- LED replacement for MH 250~350 W with 75% electricity saving
- Installable vertically and horizontally at any angle
- Various cover options and mounting options are available
- Various beam angle are available with cover lens
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
HB2000-80S	80 W	MH 250 W	150 lm/W	12,000 lm	80 Ra	5,700 K	AC 120-277 V	50/60 Hz
HB2000-100S	100 W	MH 350 W	150 lm/W	15,000 lm				

- PF : > 0.96
- THD : < 15 %
- Surge withstand capability : 4 kV
- IP Rating : IP66

- Material : Polycarbonate, STS
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Military Border



Outdoor Sports Facilities



Building Exterior



Gas Station

130 W / 150 W

HB2200



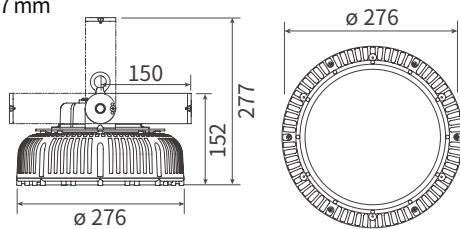
LED HIGH BAY

LED FLOOD LIGHT

LED BULB

DIMENSION

- Size : $\varnothing 276 \times 277$ mm
- Weight : 3.3 kg



FEATURES

- Clamping Technology applied LED flood light
- High luminous efficacy (150 lm/W)
- LED replacement for MH 400~500 W with 70% electricity saving
- Installable vertically and horizontally at any angle
- Various cover options and mounting options are available
- Various beam angle are available with cover lens
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
HB2200-130S	130 W	MH 400 W	150 lm/W	19,500 lm	80 Ra	5,700 K	AC 120-277 V	50/60 Hz
HB2200-150S	150 W	MH 500 W	150 lm/W	22,500 lm				

- PF : > 0.96
- THD : < 15 %
- Surge withstand capability : 4 kV
- IP Rating : IP66

- Material : Polycarbonate, STS
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Outdoor Parking Lot



Outdoor Sports Facilities



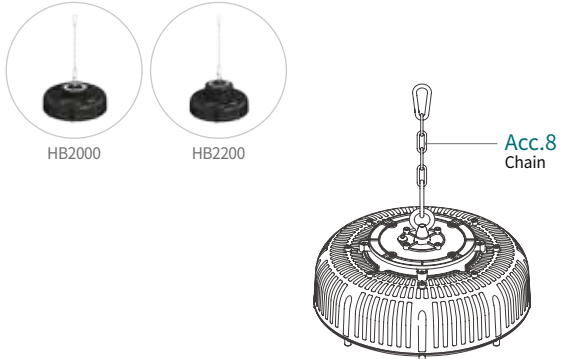
Building Exterior



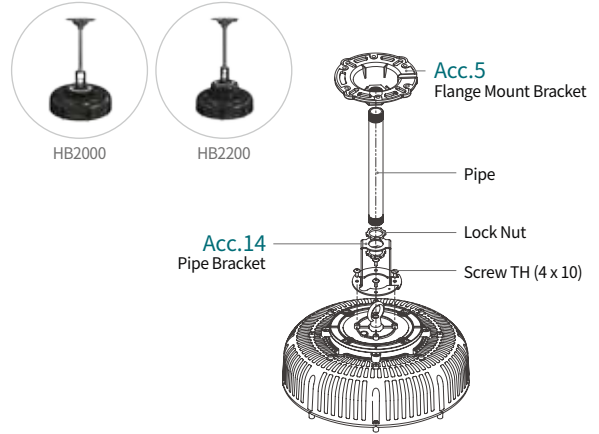
Gas Station

INSTALLATION TYPE * Illustrated by HB2000

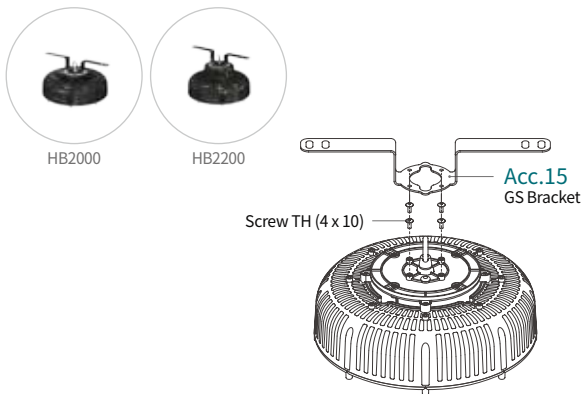
① Chain



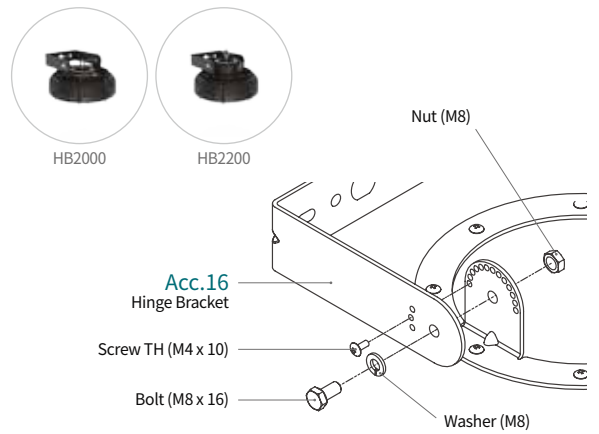
② FMB Pipe Bracket



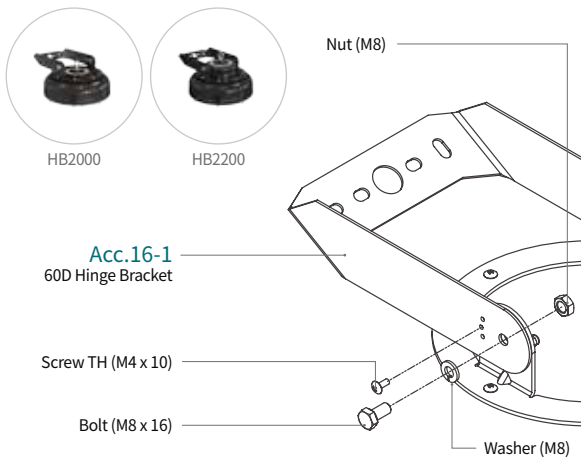
③ GS Bracket



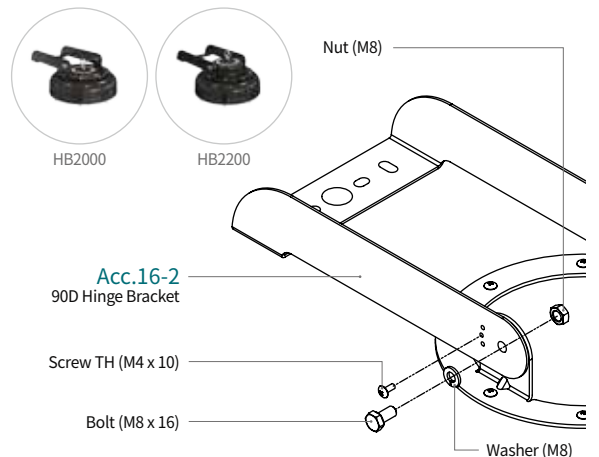
④ Hinge Bracket



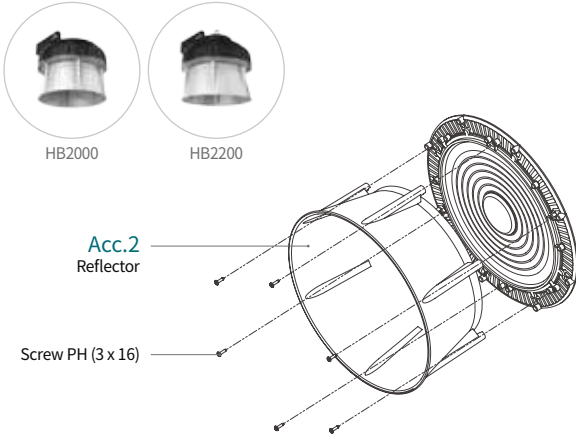
⑤ 60D Hinge Bracket



⑥ 90D Hinge Bracket



Acc.2 Reflector



Beam Angle * Illustrated by HB2000

Standard	Clear	Diffuser Cover	Cover Lens		Reflector
80°	97°	45°	60°	110°	65°



External Driver

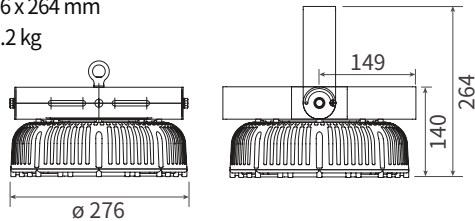
60W / 80 W / 100 W

HB2010



DIMENSION

- Size : $\phi 276 \times 264$ mm
- Weight : 3.2 kg



FEATURES

- Convenient maintenance with external driver
- Clamping Technology applied LED flood light
- High luminous efficacy (150 lm/W)
- LED replacement for MH 200~350 W with 75% electricity saving
- Various cover options and mounting options are available
- Various beam angle are available with cover lens
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency	Surge withstand capability
⚠ HB2010-60S	60 W	MH 200 W	150 lm/W	9,000 lm	80 Ra	5,700 K	AC 100-240 V	50/60 Hz	2kV(L-N) 4kV(Line-FG)
HB2010-80S	80 W	MH 250 W	150 lm/W	12,000 lm	80 Ra	5,700 K	AC 220-240 V	50/60 Hz	4 kV
HB2010-100S	100 W	MH 350 W	150 lm/W	15,000 lm					

- PF : > 0.96 (HB2010-60S : > 0.9)
- THD : < 15% (HB2010-60S : < 20%)
- IP Rating : IP66
- Material : Polycarbonate, STS
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- External Driver : 100W x 1EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes for 60S)
- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Military Border



Outdoor Sports Facilities



Building Exterior

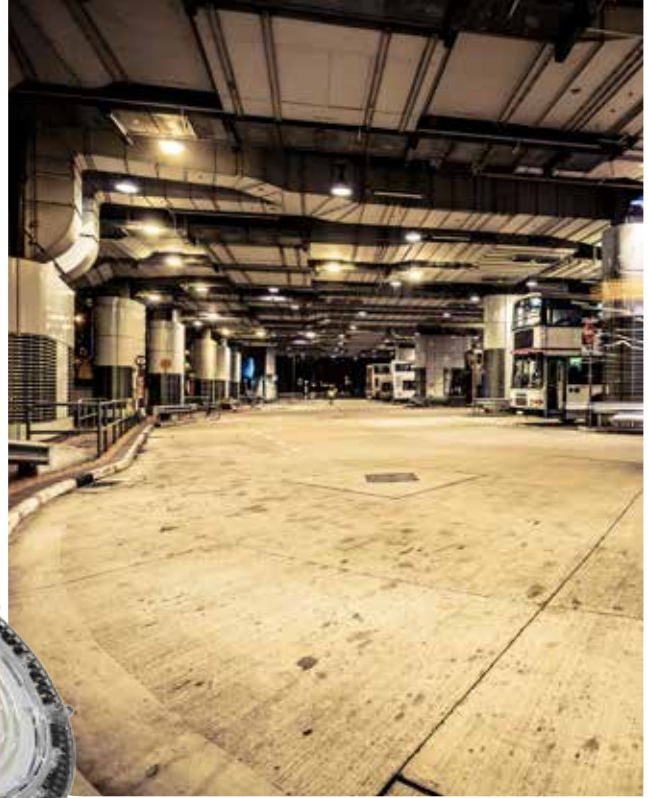


Gas Station

External Driver

130 W / 150 W

HB2210 HB221D



LED HIGH BAY

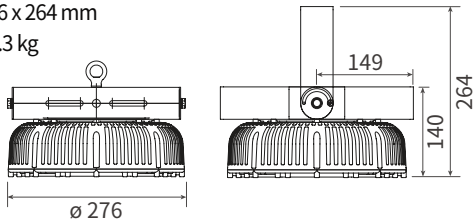
LED FLOOD LIGHT

LED BULB



DIMENSION



- Size : $\varnothing 276 \times 264$ mm
- Weight : 3.3 kg



FEATURES

- Convenient maintenance with external driver
- Clamping Technology applied LED flood light
- High luminous efficacy (150 lm/W)
- LED replacement for MH 400~500 W with 70% electricity saving
- Various cover options and mounting options are available
- Various beam angle are available with cover lens
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency	Surge withstand capability
HB2210-130S	130 W	MH 400 W	150 lm/W	19,500 lm	80 Ra	5,700 K	AC 220-240 V	50/60 Hz	4 kV
HB2210-150S	150 W	MH 500 W	150 lm/W	22,500 lm					
 HB221D-130S	130 W	MH 400 W	150 lm/W	19,500 lm	80 Ra	5,700 K	AC 100-240 V	50/60 Hz	6kV(L-N) 10kV(Line-FG)
 HB221D-150S	150 W	MH 500 W	150 lm/W	22,500 lm					

- PF : > 0.96
- THD : < 15% (HB221D : < 10%)
- IP Rating : IP66

- Material : Polycarbonate, STS
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- External Driver : 150W x 1EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes for D-150S)
- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)

*LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Outdoor Parking Lot



Outdoor Sports Facilities



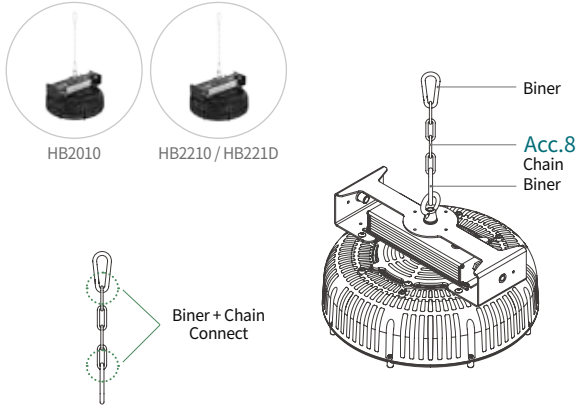
Building Exterior



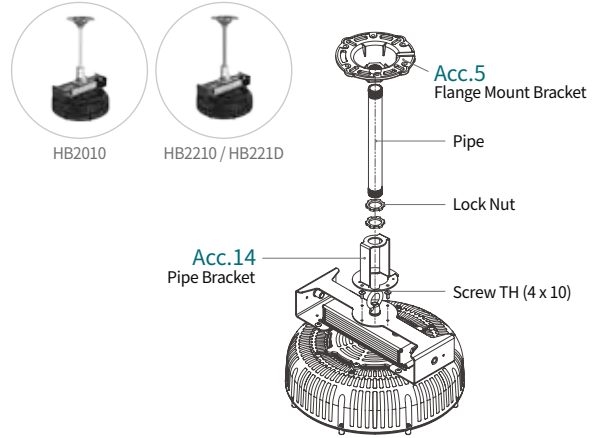
Gas Station

INSTALLATION TYPE * Illustrated by HB221D

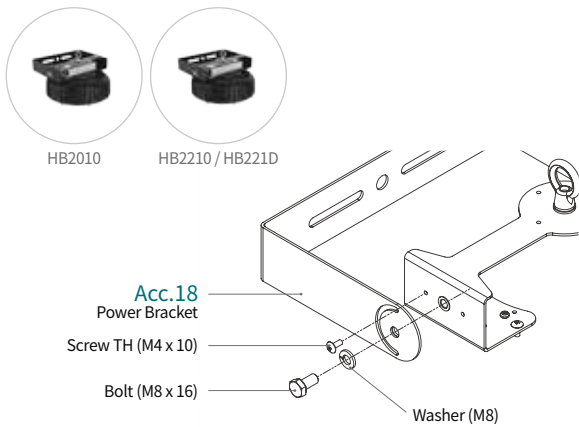
① Chain



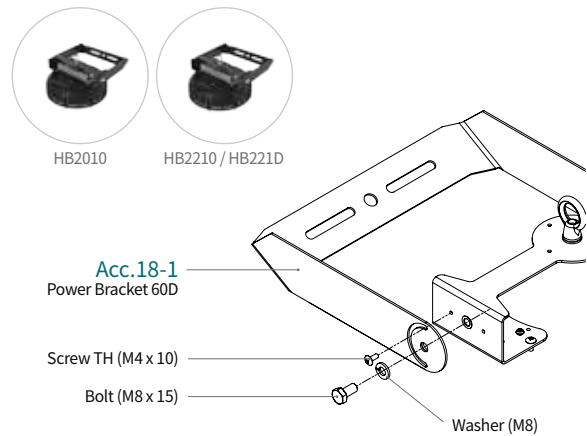
② FMB Pipe Bracket



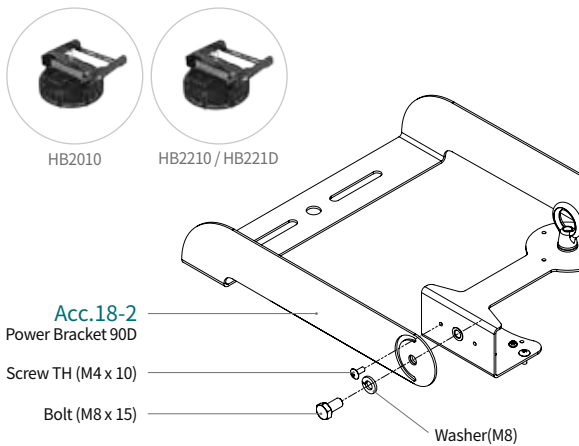
③ Power Bracket



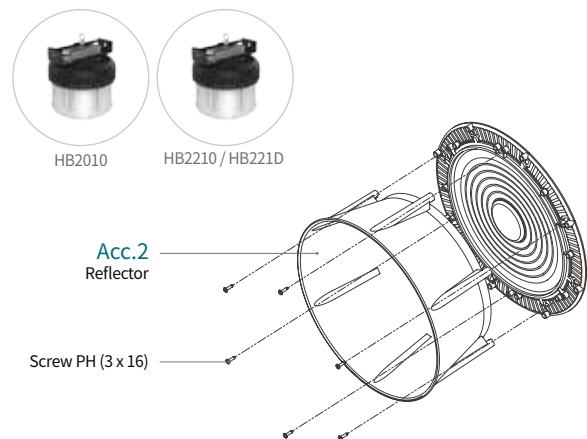
④ Power Bracket 60D



⑤ Power Bracket 90D

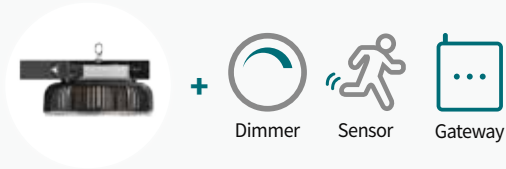


Acc.2 Reflector





Dimming Option



- 0-10V/PWM/3-Timer-Modes
- Motion/daylight sensor
- Wireless/wired control applicable

If it's not compatible dimming (0-10V, PWM, 3-timer-modes), interface controller is required. e.g.) If it's connected with DALI/DMX, additional switching module (DALI-PWM converter) is needed.

Beam Angle * Illustrated by HB2010

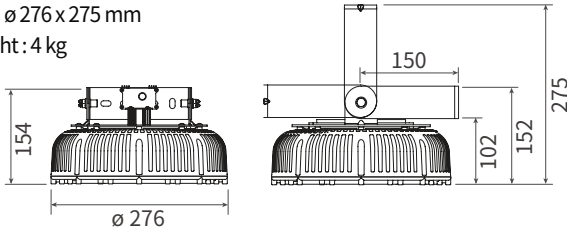
Standard	Clear	Diffuser Cover	Cover Lens		Reflector
80°	97°	35°	50°	110°	65°

HB2510



DIMENSION

- Size : $\varnothing 276 \times 275$ mm
- Weight : 4 kg



FEATURES

- Convenient maintenance with external driver
- Clamping Technology applied LED flood light
- Through a double-array ICEPIPE, expanded heat dissipation space even having less volume
- High luminous efficacy (140 lm/W)
- LED replacement for MH 600 W with 70% electricity saving
- 360 degree installation without restriction.
- Various beam angle are available with cover lens
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
HB2510-200S	200 W	MH 600 W	140 lm/W	28,000 lm	80 Ra	5,700 K	AC 100-240 V	50/60 Hz

- PF : >0.96
- THD : <10 %
- Surge withstand capability : 6kV(L-N), 10kV(Line-FG)
- IP Rating : IP66

- Material : Polycarbonate, STS
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- External Driver : 200W x 1EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes)
- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)
*LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Military Border



Outdoor Sports Facilities



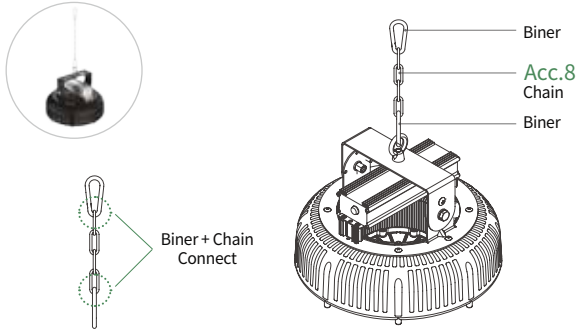
Building Exterior



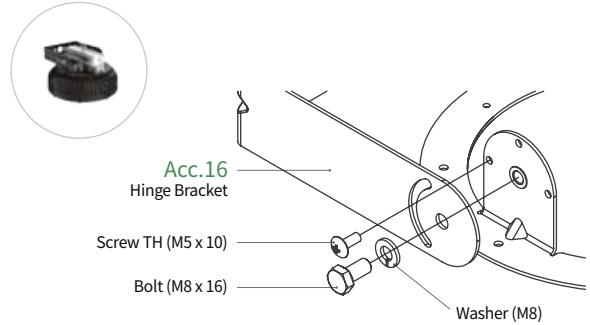
Gas Station

INSTALLATION TYPE

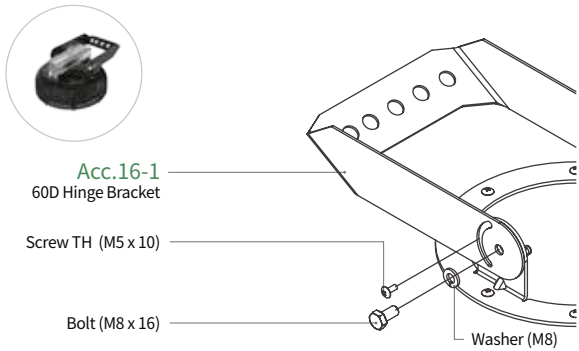
① Chain



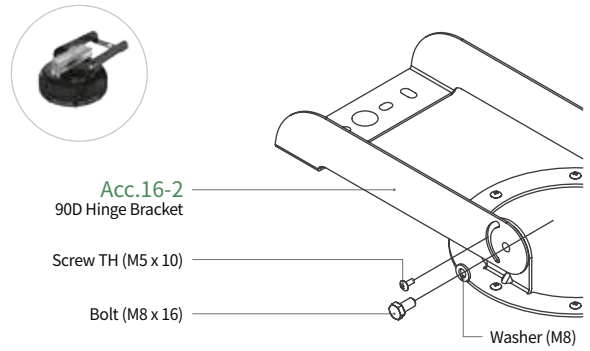
② Hinge Bracket



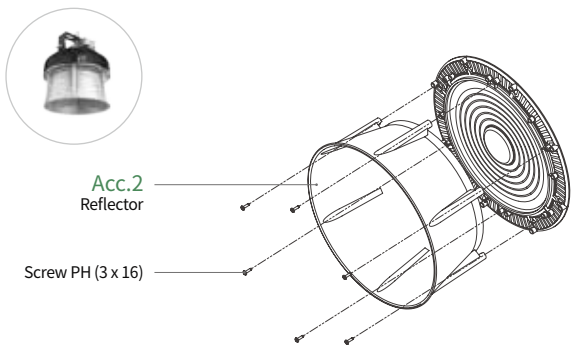
③ 60D Hinge Bracket



④ 90D Hinge Bracket



Acc.2 Reflector



Beam Angle

Standard	Clear	Diffuser Cover	Cover Lens		Reflector	
80°		97°	35°	50°	110°	65°



ICEPIPE LED LIGHTING

External Driver

130 W / 150 W

NTB



Option Sun visor



External Driver

300 W

NTB



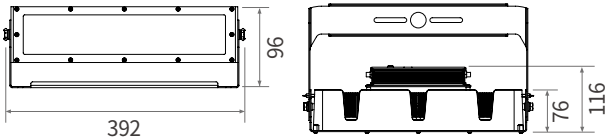
Option Sun visor



DIMENSION

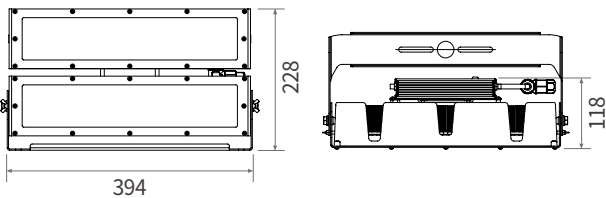
130 W / 150 W

- Size : 392 x 96 x 116 mm
- Weight : 3.7 kg (Converter, Bracket incl.)



300 W

- Size : 394 x 228 x 118 mm
- Weight : 7 kg (Converter, Bracket incl.)



FEATURES

- External driver for safe & easy repair
- Through strong materials, suitable for harsh environment
- Excellent heat dissipation by ICEPIPE FDP technology
- Various lens options provide optimal illumination for the installation site
- IP67 (driver & lamp) for outdoor use
- Eco-friendly & RoHS compliant (UV/Lead/Mercury-free)

APPLICATION



Factory



Building Exterior



Outdoor Parking Lot



Outdoor Sports Facilities

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
NTB-130	130 W	MH 400 W	145 lm/W	18,850 lm	80 Ra	5,700 K	AC 100-240V	50/60 Hz
NTB-150	150 W	MH 500 W	145 lm/W	21,750 lm				
NTB-130C	130 W	MH 400 W	140 lm/W	18,200 lm	75 Ra			
NTB-150C	150 W	MH 500 W	140 lm/W	21,000 lm				
NTB-300C	300 W	MH 800 W	140 lm/W	42,000 lm				

- PF : > 0.96
- THD : < 15 %
- Surge withstand capability : 6 kV
- IP Rating : IP67
- Material : Aluminum, STS
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°
- External Driver : 150Wx1EA / 150Wx2EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes)
- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

BEAM ANGLE

NTB-130	NTB-150	NTB-130C	NTB-150C	NTB-300C
110°	20°	30°	45°	60°

External Driver

400 W

NCD

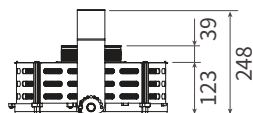
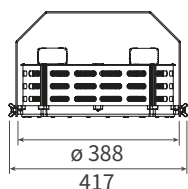


Option Sun visor



DIMENSION

- Size : \varnothing 388 x 248 mm
- Weight : 8.6 kg (SMPS incl.) *SMPS : 1.2 kg



FEATURES

- High wattage but compact size
- External driver for safe & easy repair
- Usable at indoor and outdoor with various mounting options
- Compact and versatile design with 360° installation angle
- IP66 (driver & lamp) for outdoor use
- Excellent heat dissipation by ICEPIPE FDP technology
- Eco-friendly & RoHS compliant (UV/Lead/Mercury-free)

SPECIFICATION

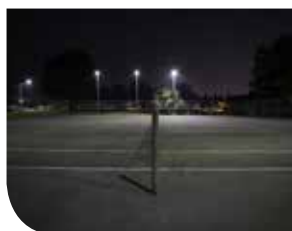
Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
NCD-400	400 W	MH 1 kW	140 lm/W	56,000 lm	> 80 Ra	5,700 K	AC 220 V	50/60 Hz
NCD-400C	400 W	MH 1 kW	150 lm/W	60,000 lm	> 75 Ra			

- PF : > 0.95
- THD : < 15 %
- Surge withstand capability : L-L : 4kV, L-F-G : 2kV
- IP Rating : IP66
- Material : Polycarbonate, aluminum, Steel
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C
- Installation Angle : 360°
- CCT : 5700 K
- LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp

APPLICATION



Indoor Sports Facilities



Outdoor Sports Facilities



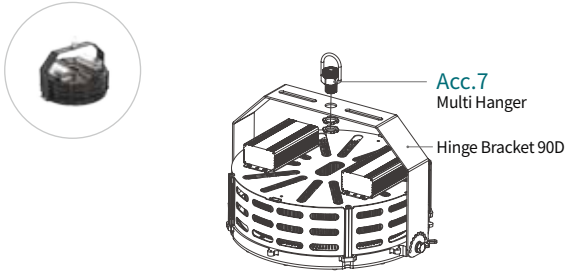
Building Exterior



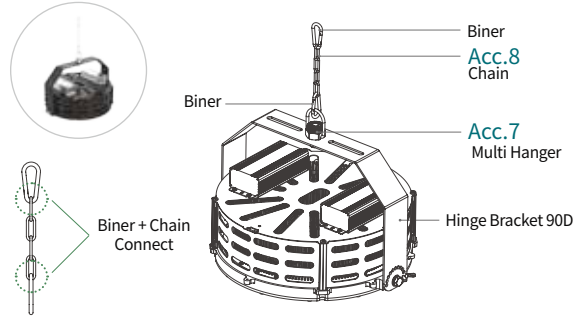
Outdoor Parking Lot

INSTALLATION TYPE

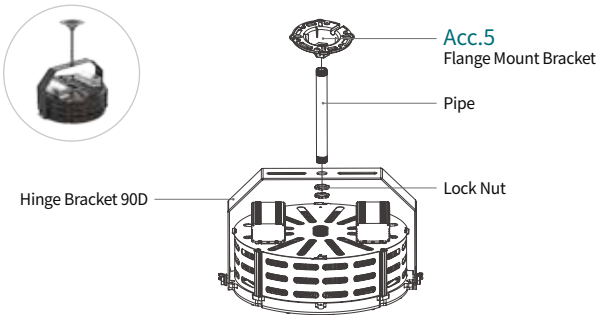
① Multi Hanger



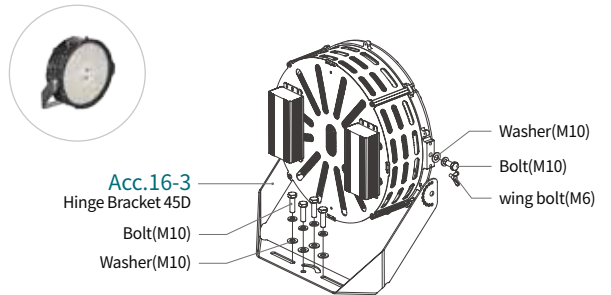
② Chain



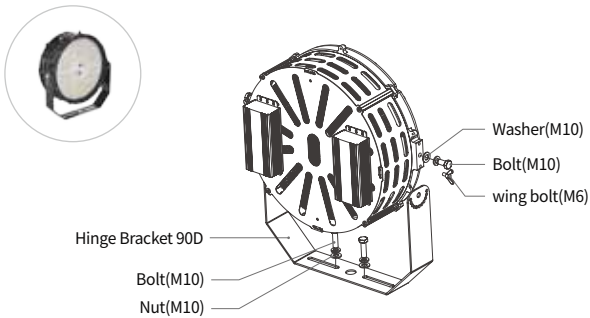
③ Pipe



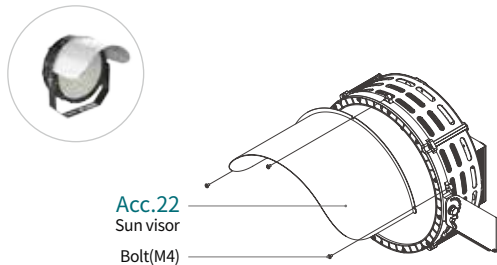
④ Hinge Bracket 45D



⑤ (STANDARD) Hinge Bracket 90D



Acc.22 Sun visor



Beam Angle

NCD-400	NCD-400C				
110°	20°	30°	45°	60°	

External Driver

400 W / 450 W

RCT

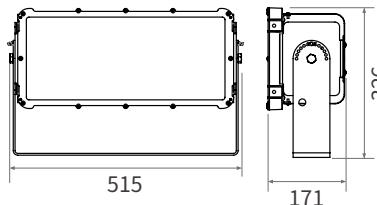


Option Sun visor



DIMENSION

- Size : 515 x 171 x 326 mm
- Weight : 10.5 kg (Driver not incl.)



FEATURES

- External driver for safe & easy repair
- Replace MH 1~1.2kW
- Excellent heat dissipation by ICEPIPE FDP technology
- Improved durability by metal housing & glass cover
- Various lens options (20°~120°)
- IP67 (driver & lamp) for outdoor use
- Eco-friendly & RoHS compliant (UV/Lead/Mercury-free)

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
RCT-400	400 W	MH 1 kW	145 lm/W	58,000 lm	80 Ra	5,700 K	AC 100-240 V	50/60 Hz
RCT-450	450 W	MH 1.2 kW	145 lm/W	65,250 lm				
RCT-400C	400 W	MH 1 kW	140 lm/W	56,000 lm	75 Ra			
RCT-450C	450 W	MH 1.2 kW	140 lm/W	63,000 lm				

- PF : > 0.9
- THD : < 15 %
- Surge withstand capability : 6 kV
- IP Rating : IP67

- Material : Steel
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- External Driver : 480W x 1EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes)
 - CCT : Standard - 5700 K / Option - 5000 K, 4000 K, 3000 K, 2700 K
 - LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Outdoor Sports Facilities



Port



Factory



Outdoor Parking Lot

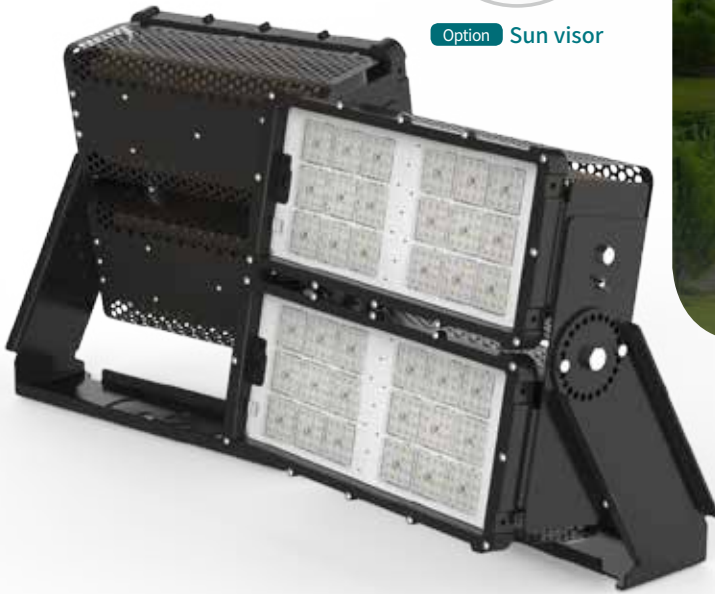
External Driver

800 W / 900 W

RCT



Option Sun visor



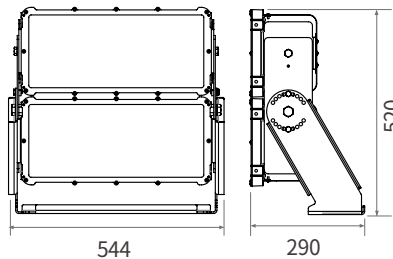
LED HIGH BAY

LED FLOOD LIGHT

LED BULB

DIMENSION

- Size : 544 x 290 x 520 mm
- Weight : 24 kg (Driver not incl.)



FEATURES

- External driver for safe & easy repair
- Extended irradiation distance by applying narrow angle lens
- Fast ROI (Return On Investment) by replacing MH 2~2.5kW
- Excellent heat dissipation by ICEPIPE FDP technology
- Improved durability by metal housing & glass cover
- Various lens options provide optimal illumination for the installation site
- IP67 (driver & lamp) for outdoor use
- Eco-friendly & RoHS compliant (UV/Lead/Mercury-free)

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
RCT-800A	800 W	MH 2 kW	115 lm/W	92,000 lm	75 Ra	5,700 K	AC 100-240 V	50/60 Hz
RCT-800C	800 W	MH 2 kW	140 lm/W	112,000 lm				
RCT-900C	900 W	MH 2.5 kW	140 lm/W	126,000 lm				

- PF : > 0.9
- THD : < 15 %
- Surge withstand capability : 6 kV
- IP Rating : IP67

- Material : Steel
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- External Driver : 480W x 2EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes)
 - CCT : Standard - 5700 K / Option - 5000 K, 4000 K, 3000 K, 2700 K
 - LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Golf Course



Stadium



Port



Outdoor Facilities

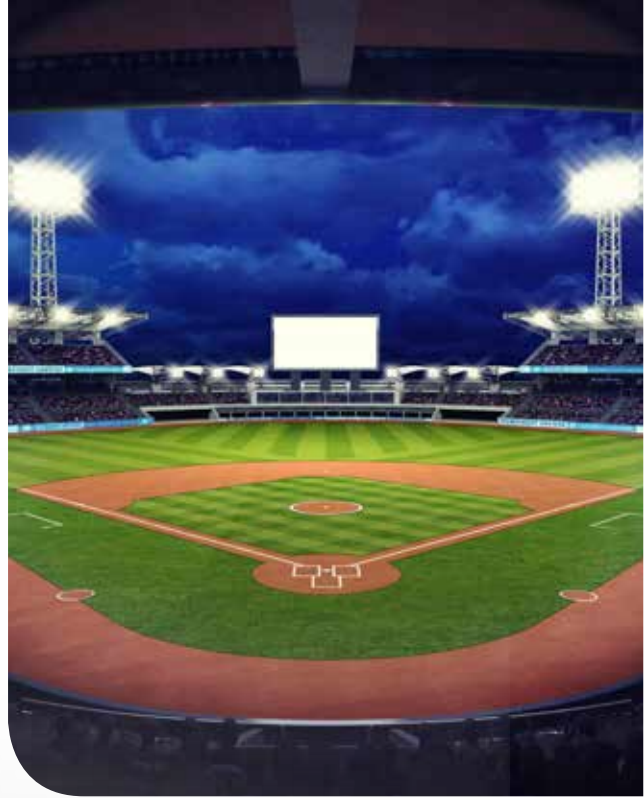
External Driver

1200 W / 1350 W

RCT

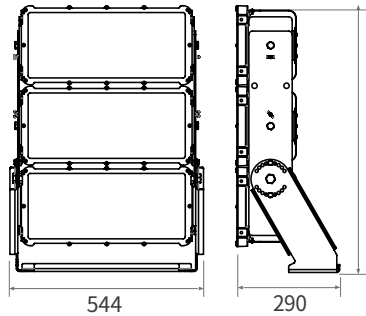


Option Sun visor



DIMENSION

- Size : 544 x 290 x 746 mm
- Weight : 34 kg (Driver not incl.)



FEATURES

- External driver for safe & easy repair
- Extended irradiation distance by applying narrow angle lens
- Fast ROI (Return On Investment) by replacing MH 3~4kW
- Excellent heat dissipation by ICEPIPE FDP technology
- Improved durability by metal housing & glass cover
- Various lens options provide optimal illumination for the installation site
- IP67 (driver & lamp) for outdoor use
- Eco-friendly & RoHS compliant (UV/Lead/Mercury-free)

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
RCT-1200A	1,200 W	MH 3 kW	115 lm/W	138,000 lm	75 Ra	5,700 K	AC 100-240 V	50/60 Hz
RCT-1200C	1,200 W	MH 3 kW	140 lm/W	168,000 lm				
RCT-1350C	1,350 W	MH 4 kW	140 lm/W	189,000 lm				

- PF : > 0.9
- THD : < 15 %
- Surge withstand capability : 6 kV
- IP Rating : IP67

- Material : Steel
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Installation Angle : 360°

- External Driver : 480W x 3EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes)
 - CCT : Standard - 5700 K / Option - 5000 K, 4000 K, 3000 K, 2700 K
 - LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Stadium



Golf Course



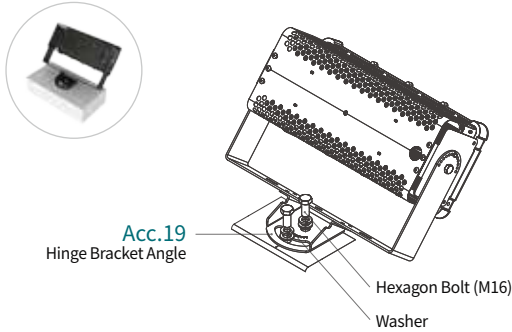
Port



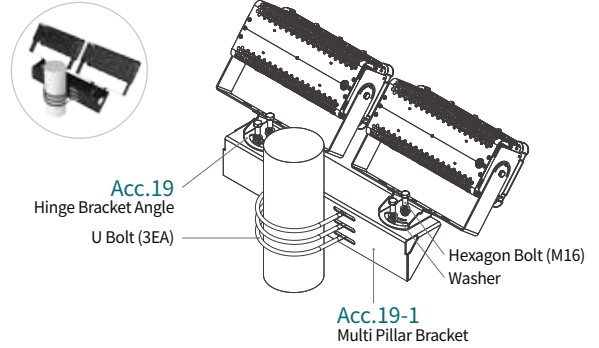
Arena

INSTALLATION TYPE * Applied to RCT-400 / RCT-450 / RCT-400C / RCT-450C

① Hinge Bracket Angle



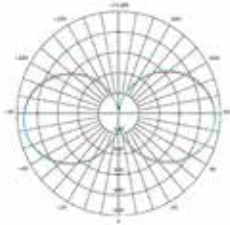
② Multi Pillar Bracket



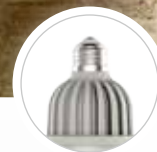
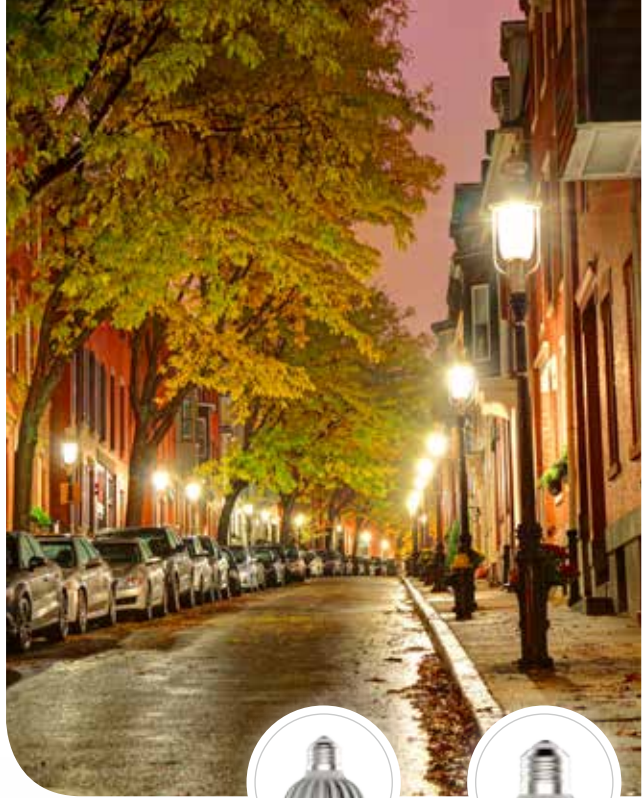
BEAM ANGLE

RCT-400	RCT-450	RCT-400C		RCT-450C	
120°		20°	30°	45°	60°
RCT-800A		RCT-800C		RCT-900C	
10°	20°	30°	45°	60°	
RCT-1200A		RCT-1200C		RCT-1350C	
10°	20°	30°	45°	60°	

OB150N



Beam Angle : 330°



OB150NS : E26/27 Socket



OB150NL : E39/40 Socket



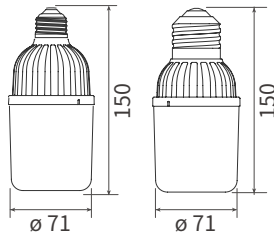
DIMENSION

OB150NS

- Size : $\varnothing 71 \times 150$ mm
- Weight : 205 g

OB150NL

- Size : $\varnothing 71 \times 150$ mm
- Weight : 220 g



FEATURES

- LED replacement for 70~100W Metal Halide lamp
- Ultra-high efficacy of 135 lm/W
- Ideal for outdoor security light
- Super light and compact design for easy installation and safety
- Milky type cover for glare prevention
- Mesh application to prevent the inflow of foreign substances
- Patented Fin Plate Technology improved air-cooling heat dissipation
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
OB150NS-30W	30 W	MH 70-100 W	135 lm/W	4,050 lm	80 Ra	5,700 K	AC 100-240 V	50/60 Hz
OB150NL-30W				4,725 lm				
OB150NS-35W	35 W	MH 70-100 W	135 lm/W	4,725 lm	80 Ra	5,700 K	AC 100-240 V	50/60 Hz
OB150NL-35W				4,725 lm				

- PF : > 0.96
- THD : < 15 %
- Material : PA6

- Socket : E26/27 , E39/40
- Operating Temperature : -20°C ~ 50°C (-4°F ~ 122°F)
- Installation Angle : 360°

- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K

- LED Package Life time : 50,000 hours (25°C)

- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Park



Walkway



Residential Area

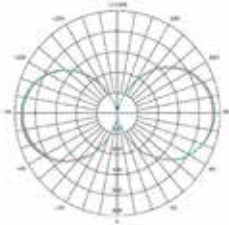


Outdoor Parking Lot

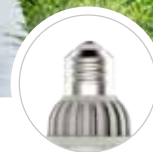
Security Light

30 W / 35 W

OB150Nc



Beam Angle : 330°



OB150Nsc : E26/27 Socket OB150Nlc : E39/40 Socket



LED HIGH BAY

LED FLOOD LIGHT

LED BULB

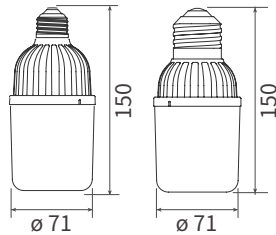
DIMENSION

OB150Nsc

- Size : ϕ 71 x 150 mm
- Weight : 205 g

OB150Nlc

- Size : ϕ 71 x 150 mm
- Weight : 220 g



FEATURES

- LED replacement for 70~100W Metal Halide lamp
- Ultra-high efficacy of 150 lm/W
- Ideal for outdoor security light
- Super light and compact design for easy installation and safety
- Clear type cover enables greater brightness
- Mesh application to prevent the inflow of foreign substances
- Patented Fin Plate Technology improved air-cooling heat dissipation
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
OB150Nsc-30W	30 W	MH 70-100 W	150 lm/W	4,500 lm	80 Ra	5,700 K	AC 100-240 V	50/60 Hz
OB150Nlc-30W								
OB150Nsc-35W	35 W			5,250 lm				
OB150Nlc-35W								

- PF : > 0.96
- THD : < 15 %
- Material : PA6

- Socket : E26/27, E39/40
- Operating Temperature : -20°C ~ 50°C (-4°F ~ 122°F)
- Installation Angle : 360°

- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K

- LED Package Life time : 50,000 hours (25°C)

*LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Park



Walkway



Residential Area



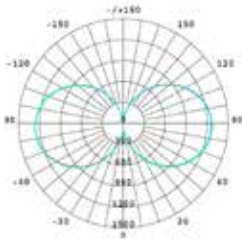
Outdoor Parking Lot



Security Light

40 W / 50 W / 60W / 80 W

OB200



Beam Angle : 330°



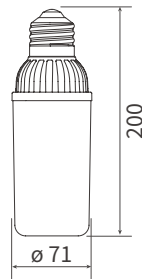
DIMENSION

40 W / 50 W

- Size : \varnothing 71 x 200 mm
- Weight : 300 g

60W / 80 W

- Size : \varnothing 71 x 200 mm
- Weight : 314 g



FEATURES

- Excellent luminous efficacy (145 lm/w) by expanding the light emitting part
- Applicable in various fixtures thanks to its small and slim size
- Optimized for security light
- Super light and compact design for easy installation and safety
- Milky type cover for glare prevention
- Mesh application to prevent the inflow of foreign substances
- Patented Fin Plate Technology improved air-cooling heat dissipation
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
OB200-40W	40 W	MH 100-175 W	145 lm/W	5,800 lm	80 Ra	5,700 K	AC 120-277 V AC 100-240 V	50/60 Hz
OB200-50W	50 W	MH 100-175 W	145 lm/W	7,250 lm				
OB200-60W	60 W	MH 100-175 W	140 lm/W	8,400 lm				
OB200-80W	80 W	MH 175-250 W	145 lm/W	11,600 lm				

- PF : > 0.96
- THD : < 15 %
- Material : PA6

- Socket : E39/40
- Operating Temperature : -20°C ~ 50°C (-4°F ~ 122°F)
- Installation Angle : 360°

- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)

*LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Park



Walkway



Residential Area

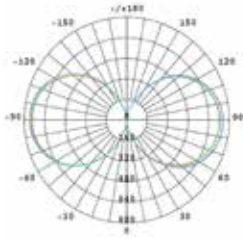


Outdoor Parking Lot

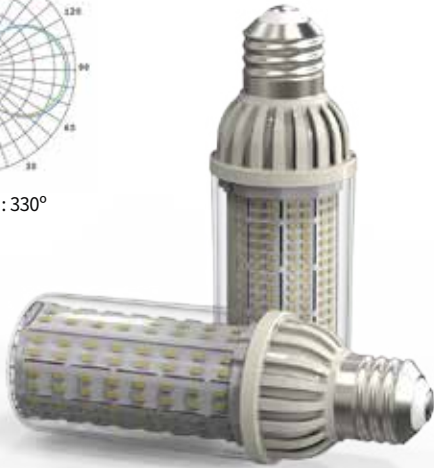
Security Light

40 W / 50 W / 60W / 80 W

OB200c



Beam Angle : 330°



40 W / 50 W



60 W



80 W



LED HIGH BAY

LED FLOOD LIGHT

LED BULB

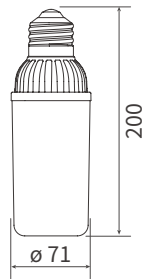
DIMENSION

40 W / 50 W

- Size : $\phi 71 \times 200$ mm
- Weight : 300 g

60W / 80 W

- Size : $\phi 71 \times 200$ mm
- Weight : 314 g



FEATURES

- Excellent luminous efficacy (150 lm/w) by expanding the light emitting part
- Applicable in various fixtures thanks to its small and slim size
- Optimized for security light
- Super light and compact design for easy installation and safety
- Maximized brightness by clear cover
- Mesh application to prevent the inflow of foreign substances
- Patented Fin Plate Technology improved air-cooling heat dissipation
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
OB200c-40W	40 W	MH 100-175 W	153 lm/W	6,120 lm	80 Ra	5,700 K	AC 120-277 V AC 100-240 V	50/60 Hz
OB200c-50W	50 W	MH 100-175 W	150 lm/W	7,500 lm				
OB200c-60W	60 W	MH 100-175 W	150 lm/W	9,000 lm				
OB200c-80W	80 W	MH 175-250 W	155 lm/W	12,400 lm				

- PF : > 0.96
- THD : < 15%
- Material : PA6

- Socket : E39/40
- Operating Temperature : -20°C ~ 50°C (-4°F ~ 122°F)
- Installation Angle : 360°

- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Park



Walkway

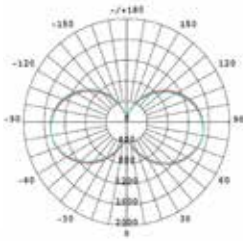


Residential Area

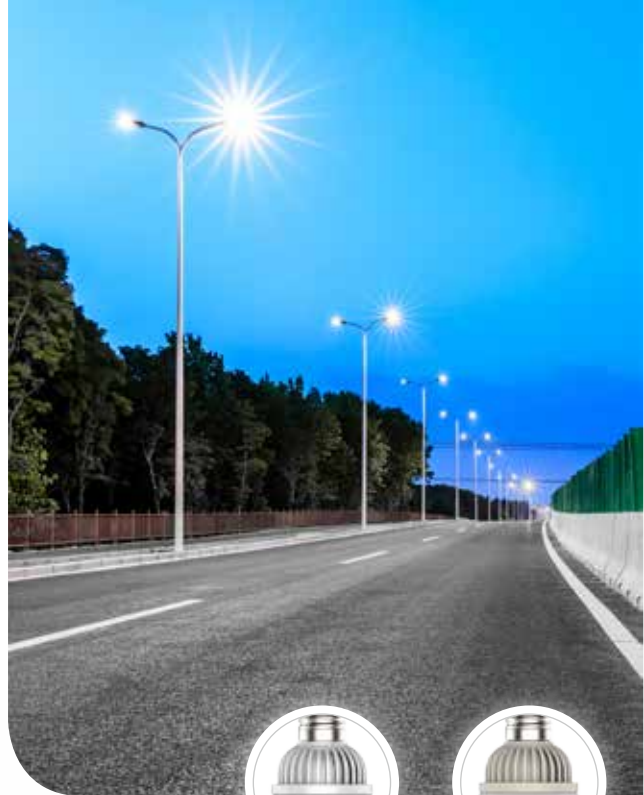


Outdoor Parking Lot

OB230



Beam Angle : 330°



100 W : Polycarbonate



120 W : PA6



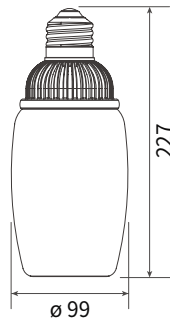
DIMENSION

100 W

- Size : ϕ 99 x 227 mm
- Weight : 420 g

120 W

- Size : ϕ 99 x 227 mm
- Weight : 445 g



FEATURES

- Optimized for street light and replaceable conventional light
- LED replacement for 250~400W Metal Halide lamp
- Ultra-high efficacy of 140 lm/W
- Milky type cover for glare prevention
- Mesh application to prevent the inflow of foreign substances
- Optimized heat dissipation with Fan circulation system
- High wattage street light bulb which nobly awarded by Ministry of Trade, Industry and Energy
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
OB230-100W	100 W	MH 250-350 W	135 lm/W	13,500 lm	80Ra	5,700 K	AC 120-277 V	50/60 Hz
OB230-120W	120 W	MH 350-400 W	140 lm/W	16,800 lm				

- PF : > 0.96
- THD : < 15 %
- Material : Polycarbonate

- Socket : E39/40
- Operating Temperature : -20°C ~ 50°C (-4°F ~ 122°F)
- Installation Angle : 360°

- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Street/Road



Bridge



Park

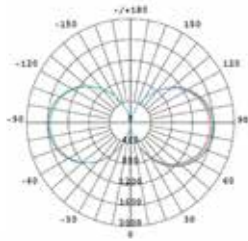


Residential Area

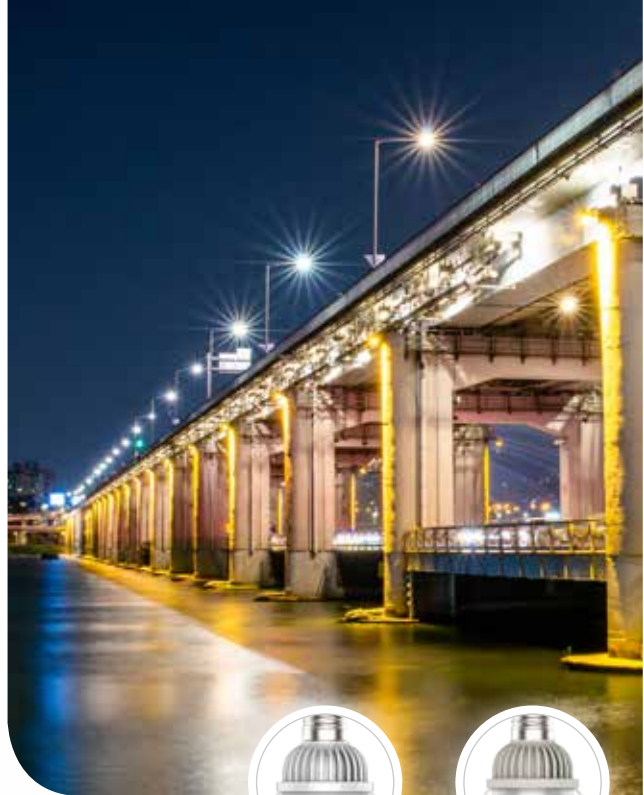
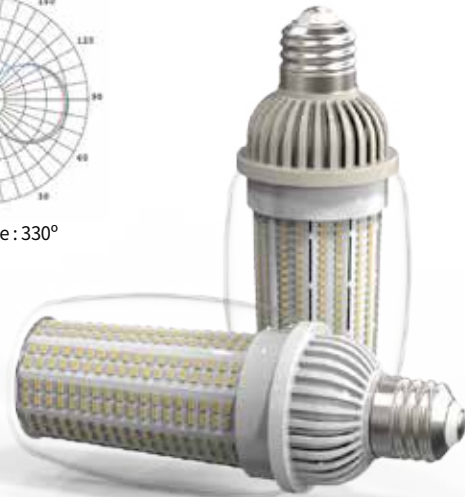
Street Light

100 W / 120 W

OB230c



Beam Angle : 330°



100 W : Polycarbonate



120 W : PA6



LED HIGH BAY

LED FLOOD LIGHT

LED BULB

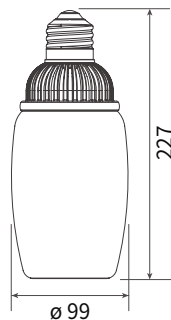
DIMENSION

100 W

- Size : ϕ 99 x 227 mm
- Weight : 420 g

120 W

- Size : ϕ 99 x 227 mm
- Weight : 445 g



FEATURES

- Optimized for street light and replaceable conventional light
- LED replacement for 250~400W Metal Halide lamp
- Ultra-high efficacy of 150 lm/W
- Clear type cover enables greater brightness
- Mesh application to prevent the inflow of foreign substances
- Patented Fin Plate Technology improved air-cooling heat dissipation
- Ultraviolet free, no mercury and lead-free RoHS Compliance

SPECIFICATION

Model No.	Wattage	Replacement	Luminous Efficacy	Total Lumen	CRI	CCT	Voltage	Frequency
OB230c-100W	100 W	MH 250-350 W	145 lm/W	14,500 lm	80 Ra	5,700 K	AC 120-277 V	50/60 Hz
OB230c-120W	120 W	MH 350-400 W	150 lm/W	18,000 lm				

- PF : > 0.96
- THD : < 15 %
- Material : Polycarbonate, PA6

- Socket : E39/40
- Operating Temperature : -20°C ~ 50°C (-4°F ~ 122°F)
- Installation Angle : 360°

- CCT : Standard - 5700 K, 3000 K / Option - 5000 K, 4000 K, 2700 K
- LED Package Life time : 50,000 hours (25°C)
- *LED package life time according to industry standard (LM80), high operating temperature may shorten life span of LED package and LED lamp.

APPLICATION



Street/Road



Bridge



Residential Area



Outdoor Parking Lot



Mesh Structure

*Illustrated by : OB200c

Mesh application to prevent the inflow of foreign substances



LIGHTING FIXTURE

① Recommended



Cutoff streetlight



Fully shieldedtype



Fully shieldedtype



Fully shieldedtype



Downward type

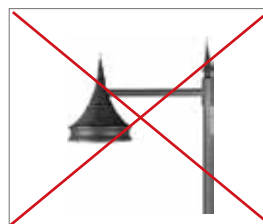


Horizontallight fixture

② Unsuitable



Small fixture









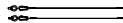





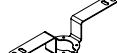

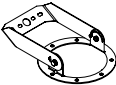
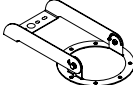



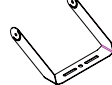
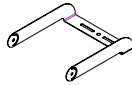


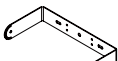
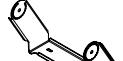




UnshieldedShade



Downlight



ACCESSORIES

<p>Acc. 1</p>  <p>Socket Holder 1</p>	<p>Acc. 2</p>  <p>Reflector</p>	<p>Acc. 5</p>  <p>Flange Mount Bracket</p>	<p>Acc. 7</p>  <p>Multi Hanger</p>	<p>Acc. 8</p>  <p>Chain</p>	<p>Acc. 9</p>  <p>Safety Wire</p>	<p>Acc. 9-1</p>  <p>Safety Wire - RCT(1m)</p>
<p>Acc. 10</p>  <p>(2WAY) Waterproof Connector</p>	<p>Acc. 10-1</p>  <p>(3WAY) Waterproof Connector</p>	<p>Acc. 10-2</p>  <p>(4WAY) Waterproof Connector</p>	<p>Acc. 13</p>  <p>Dome Diffuser 1</p>	<p>Acc. 14</p>  <p>Pipe Bracket</p>	<p>Acc. 15</p>  <p>GS Bracket</p>	<p>Acc. 16</p>  <p>Hinge Bracket</p>
<p>Acc. 16-1</p>  <p>Hinge Bracket 60D</p>	<p>Acc. 16-2</p>  <p>Hinge Bracket 90D</p>	<p>Acc. 16-3</p>  <p>Hinge Bracket 45D</p>	<p>Acc. 17</p>  <p>Mounting Bracket</p>	<p>Acc. 18</p>  <p>Power Bracket</p>	<p>Acc. 18-1</p>  <p>Power Bracket 60D</p>	<p>Acc. 18-2</p>  <p>Power Bracket 90D</p>
<p>Acc. 19</p>  <p>Hinge Bracket Angle</p>	<p>Acc. 19-1</p>  <p>Multi Pillar Bracket</p>	<p>Acc. 19-2 SUS</p>  <p>RCT Hinge Bracket 1</p>	<p>Acc. 19-3 SUS</p>  <p>RCT Hinge Bracket 2</p>	<p>Acc. 20</p>  <p>Sun Visor 1</p>	<p>Acc. 20-1</p>  <p>Sun Visor 2</p>	<p>Acc. 20-2</p>  <p>Sun Visor 3</p>
<p>Acc. 22</p>  <p>NCD Sun Visor</p>						

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