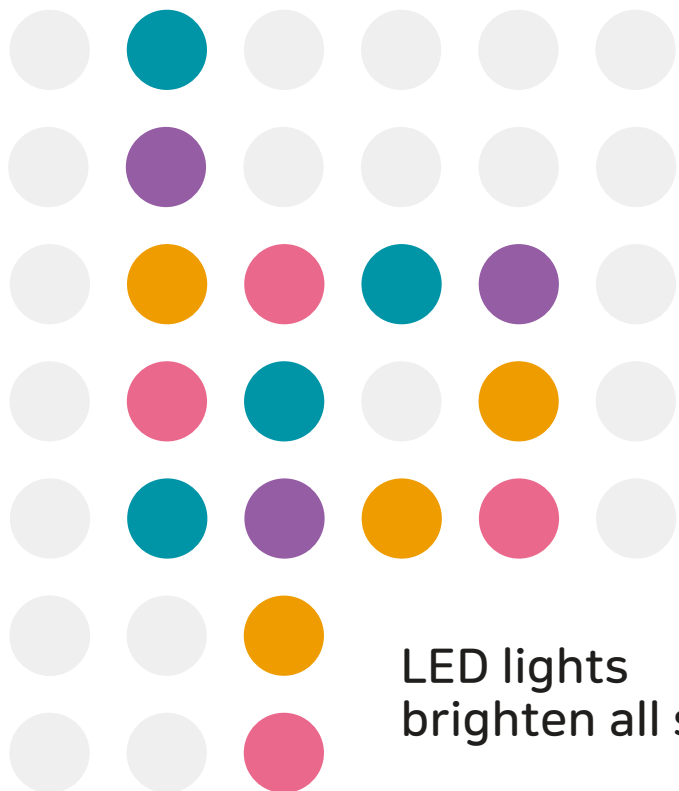


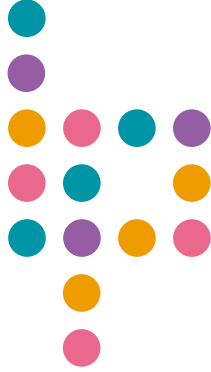
# ICEPIPE LED LIGHTING

ICEPIPE PRODUCT CATALOGUE



LED lights  
brighten all sites





# CONTENTS

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## LED HIGH BAY



p.10 HB2000



p.11 HB2200



p.14 HB2010



p.15 HB2210/HB221D



p.18 HB2510

## LED FLOOD LIGHT



p.20 HB2000



p.21 HB2200



p.24 HB2010



p.25 HB2210/HB221D



p.28 HB2510



p.30 NTB



p.30 NTB



p.32 NCD



p.34 RCT



p.35 RCT



p.36 RCT

## LED BULB



p.38 OB150N



p.39 OB150Nc



p.40 OB200



p.41 OB200c



p.42 OB230



p.43 OB230c

# History

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



## • 2024

- May. Patent acquired for “System for controlling and monitoring voltage supply by using thermoelement”  
Patent acquired for “System for supplying voltage by using thermoelement”
- 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

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

## • 2022

- Dec. New release of chargeable battery type of portable working light IDL 18W
- Jun. New release of LED flood light NTB300C
- May. LED Flood lights with mechanical coupling to ICEPIPE heatsink registered as Excellent Production
- Apr. New release of external driver type of ultra-high power LED flood light RCT (400,450W/800,900W/1200,1350W) with mechanical coupling to ICEPIPE heatsink

## • 2021

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

## • 2020

- Oct. 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 and 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)

## 2016

- Aug.** Launch of Super High Power LED Flood Light CT8000 700W
- Jun.** Won KOTRA Award for High Output LED Bulb OBB 80W L+ 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 for LED Flood light LED lighting CT3000, CH2500 / LED Down light POP200 launched
- Jul.** High Power LED Bulb OBB (60W, 80W) / OBM launched
- May.** LED High-bay UR2000/ LED Flood light CD4000 launched
- Mar.** LED Bulb OBB 18W, 25W launched

## 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 Lighting CD800, CD1500 launched
- Jun.** LED Lighting CH2000, CT2000, CT2500 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 launched

## 2013

- Nov.** Cheonan (Korea) Factory established
- Oct.** Won KES's the Best New Product Award
- Aug.** Daegu (Korea) Branch Office established
- Jul.** LED Lighting CR2000 150W 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)  
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

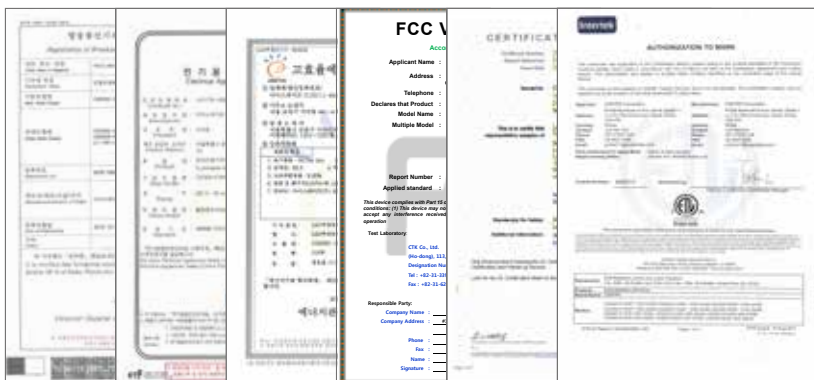
- Korea
- US
- China
- Japan
- Europe
- Canada
- Australia
- Brazil
- India
- Indonesia
- Thailand
- The Philippines
- Vietnam
- Mexico
- Russia





## 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



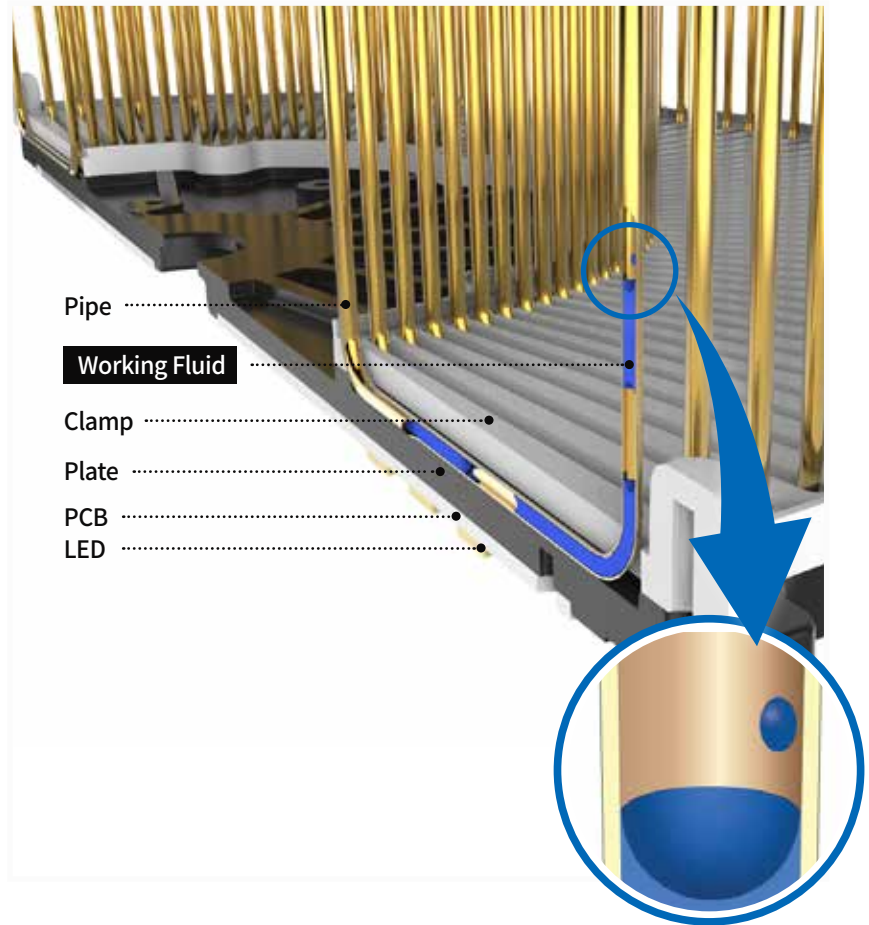
# FDP Technology

(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

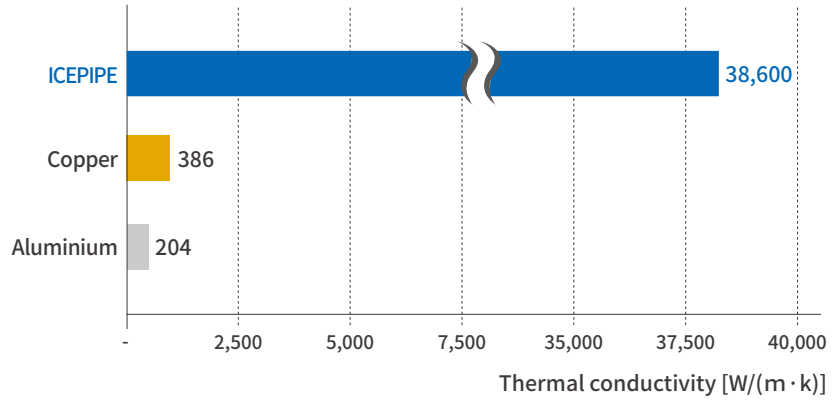


#### Patent



- 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.

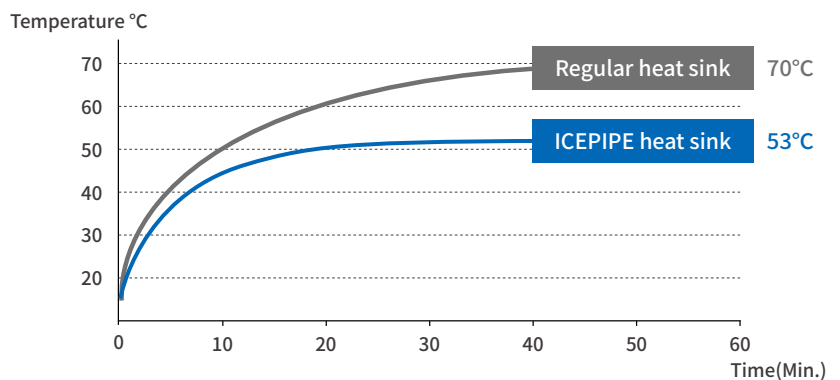


$$V_{TWM} = \frac{T_m (\text{°C}) \times H_w (\text{kgf})}{P (\text{W})} < 1$$

- $T_m(\text{°C})$  : 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.

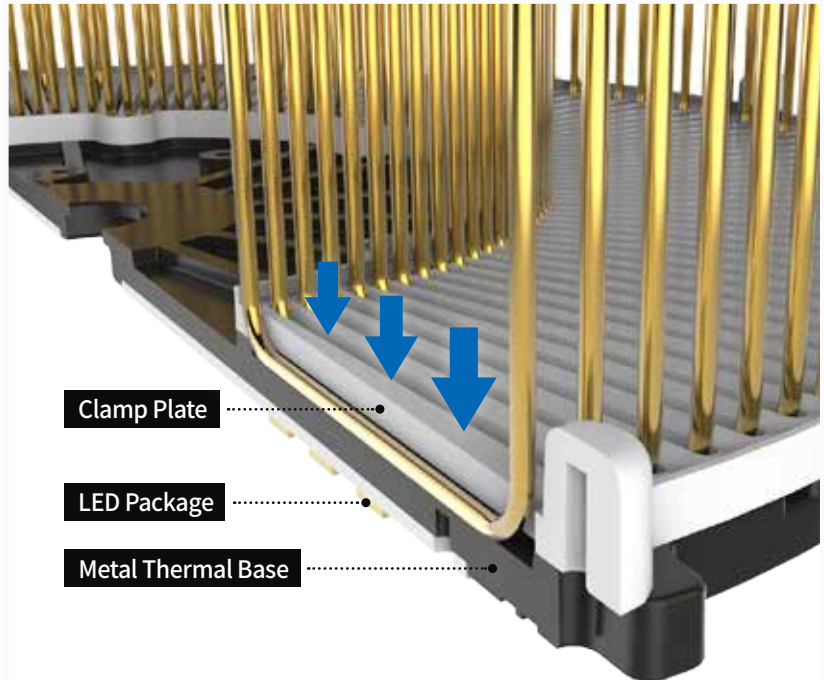
# Clamping Technology

## 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



Clamp Plate

LED Package

Metal Thermal Base



Patent



Green Technology Certificate

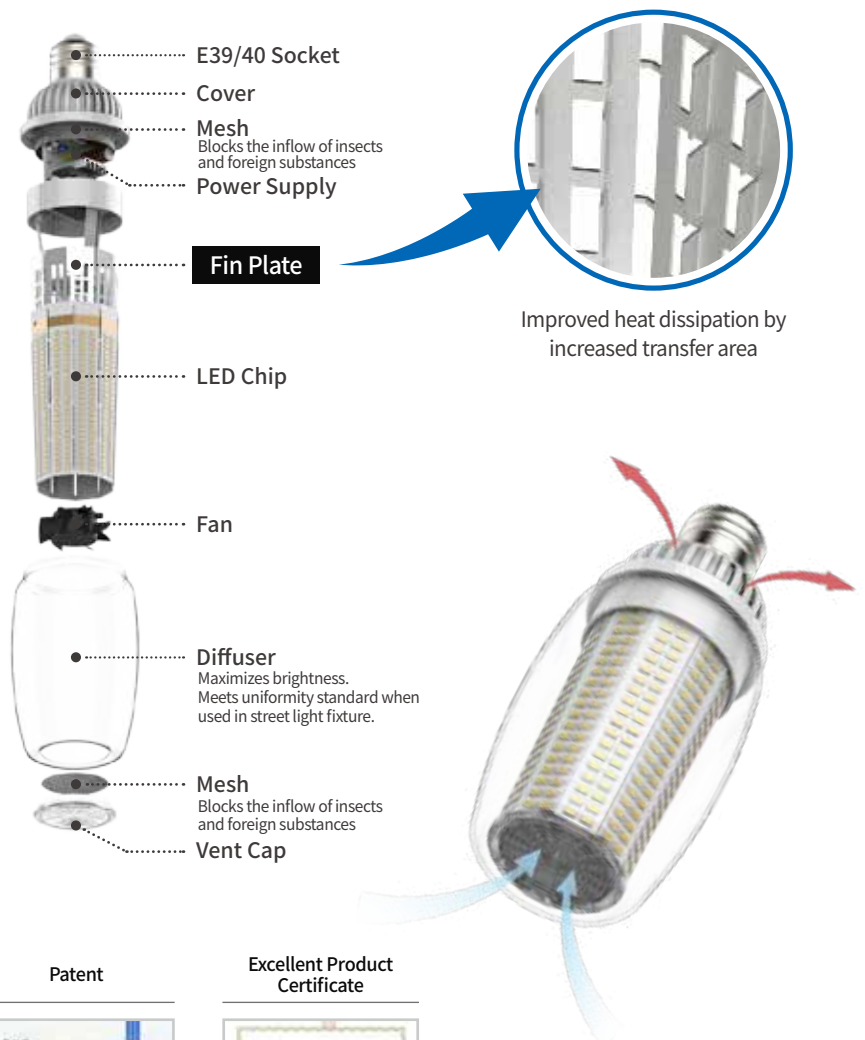


# Hollow Ventilation Heat Dissipation Technology

## TECHNOLOGY 3

### Patented hollow ventilation structure improved air-cooling heat dissipation

- The folded LED PCB in angles creates better air flow inside the passage
- Fin Plate attached on the back side of LED PCB strengthens its heat dissipation
- Air-breathe into the PCB hollow through FAN maximized the heat dissipation performance
- Usable with various lighting fixture in wide range of sites.
- Compliant with industrial standards such as structural, electrical, optical characteristics, drop, temperature test, factory inspection, etc.



Patent



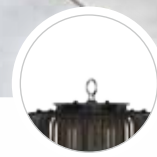
Excellent Product Certificate





80 W / 100 W

# HB2000



Hook Type

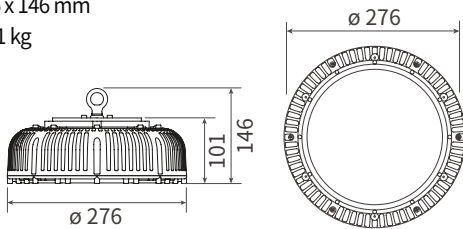


Socket Type



## DIMENSION

- Size :  $\phi 276 \times 146$  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 : L-N 4kV, L-FG 6kV
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Material : Polycarbonate
- Heatsink : Copper ICEPIPE Heatsink
- IP Rating : -
- 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

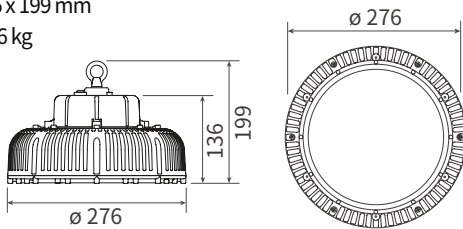
130 W / 150 W

# HB2200



## DIMENSION

- Size :  $\varnothing$  276 x 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 : L-N 4kV, L-FG 6kV
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)

- Material : Polycarbonate
- Heatsink : Copper ICEPIPE Heatsink
- IP Rating : -
- 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

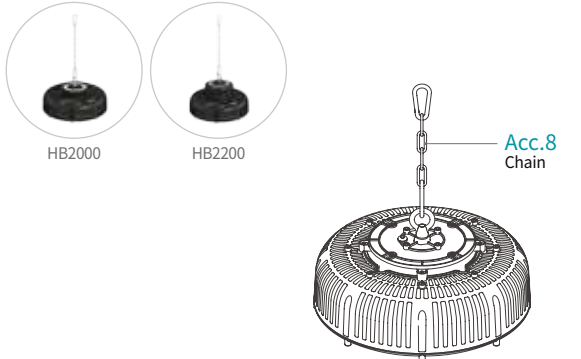


Warehouse

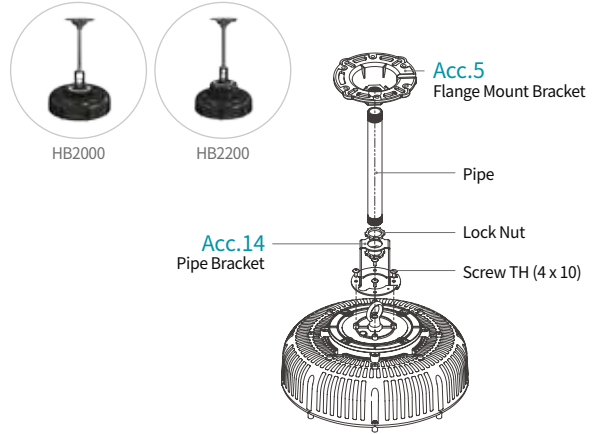


# INSTALLATION TYPE \* Illustrated by HB2000

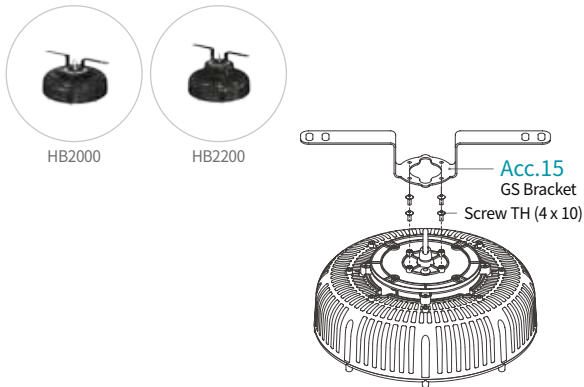
## ① Chain



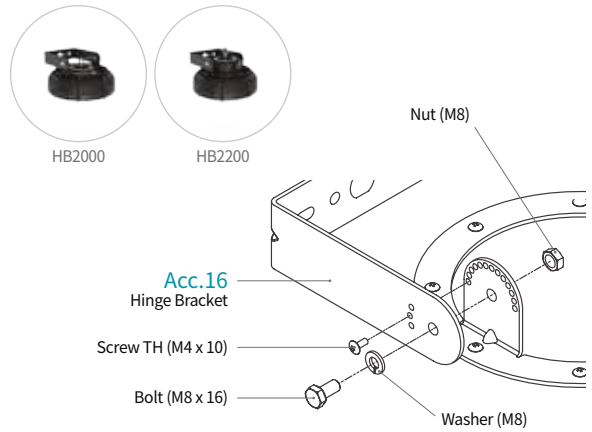
## ② FMB Pipe Bracket



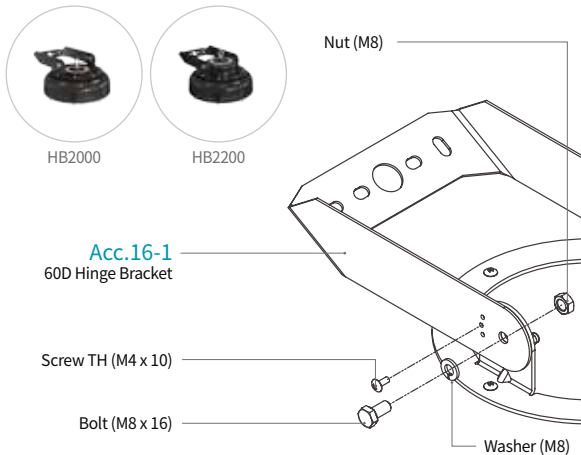
## ③ GS Bracket



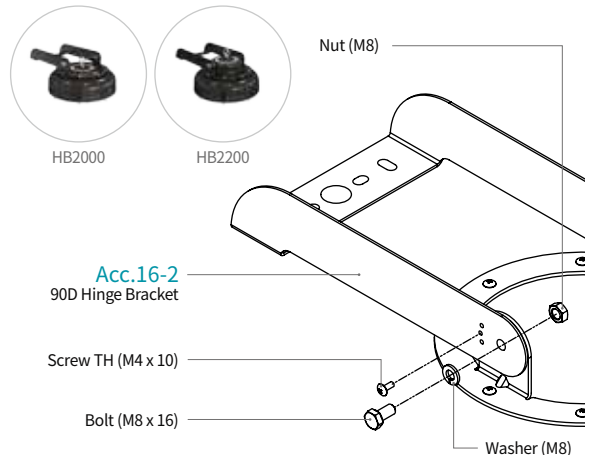
## ④ Hinge Bracket



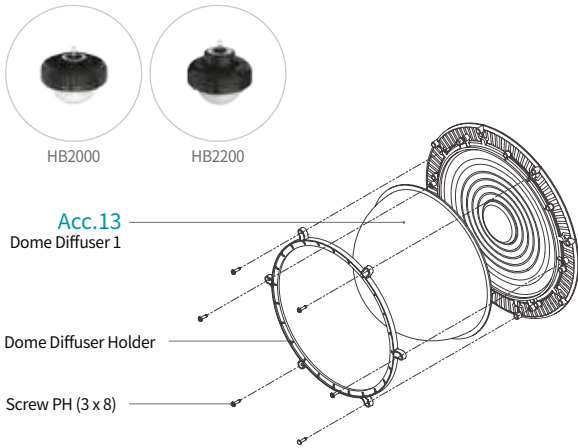
## ⑤ 60D Hinge Bracket



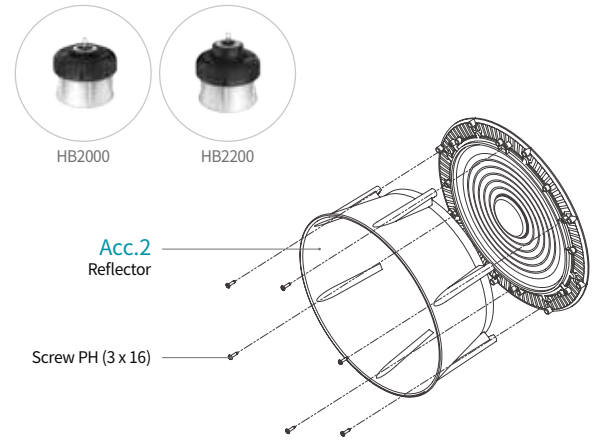
## ⑥ 90D Hinge Bracket



**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°	65°



External Driver

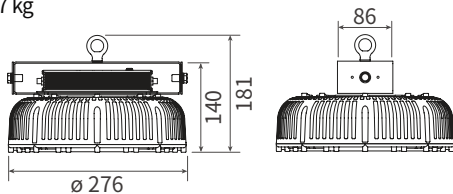
60W / 80 W / 100 W

# 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	L-N 4kV L-FG 6kV
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	L-N 6kV L-FG 10kV
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



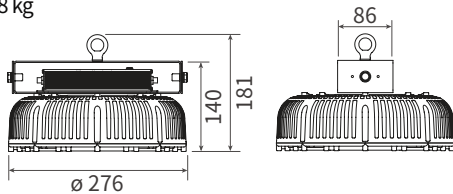
LED HIGH BAY

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	L-N 6kV L-FG 10kV
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	L-N 6kV L-FG 10kV
 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



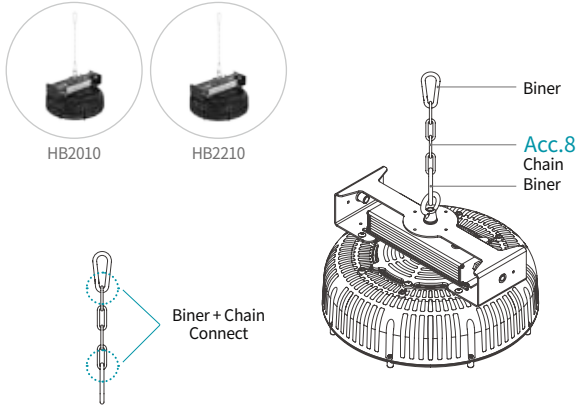
Warehouse



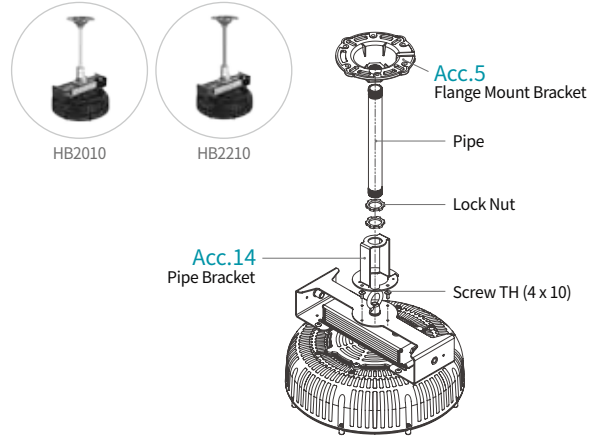
HB2010 / HB2210

**INSTALLATION TYPE** \* Illustrated by HB2010

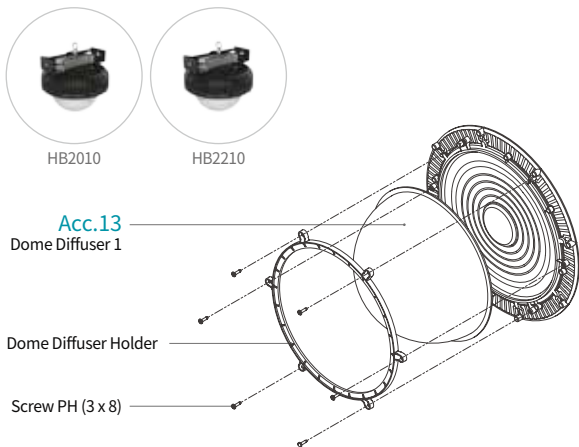
**① Chain**



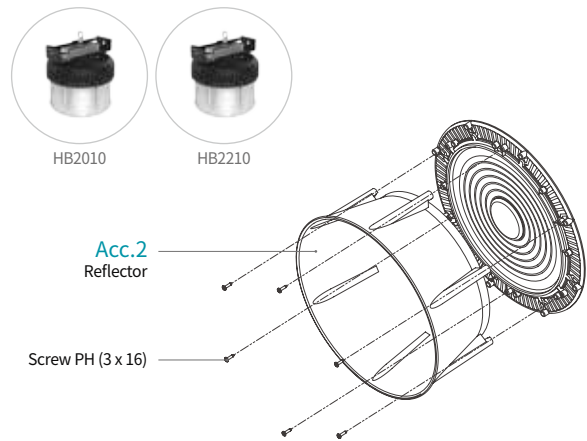
**② FMB Pipe Bracket**



**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

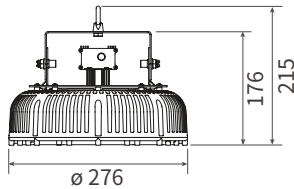
200 W

# HB2510



## DIMENSION

- Size :  $\varnothing$  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 : L-N 6kV, L-FG 10kV
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)

- Material : Polycarbonate, STS
- Heatsink : Copper ICEPIPE Heatsink
- IP Rating : -
- 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



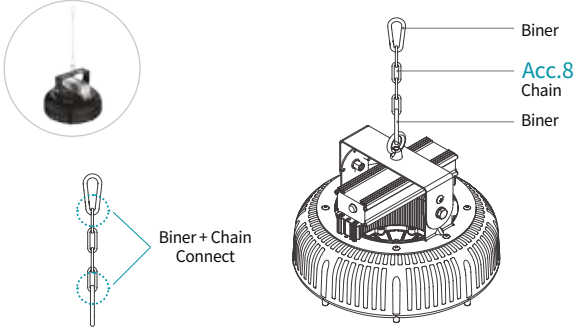
Auditorium



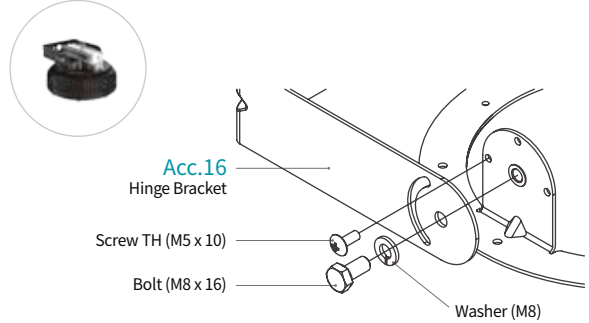
Warehouse

## INSTALLATION TYPE

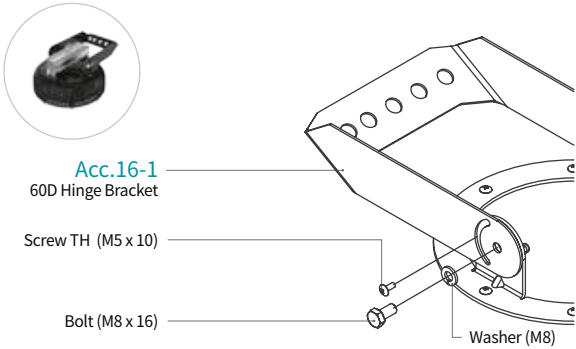
### ① Chain



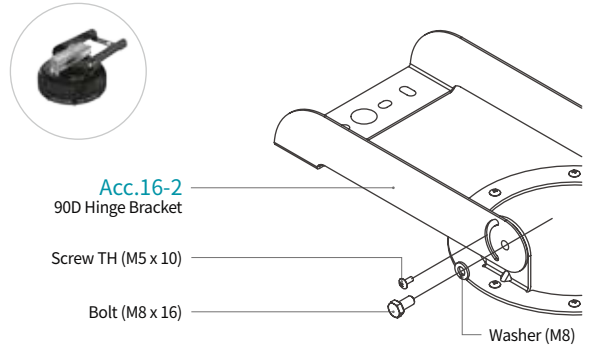
### ② Hinge Bracket



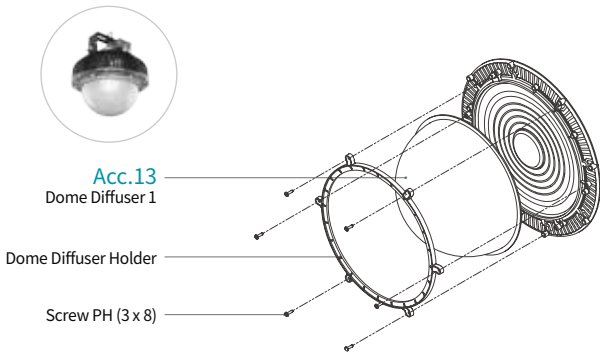
### ③ 60D Hinge Bracket



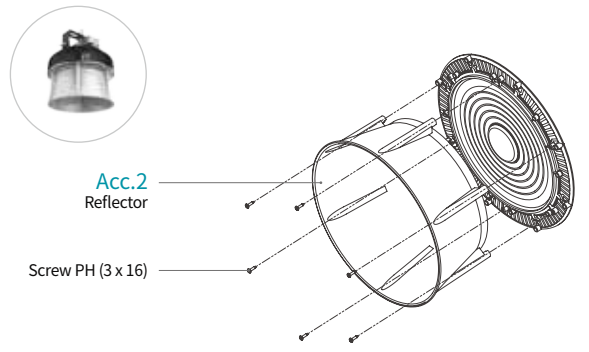
### ④ 90D Hinge Bracket



### 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°



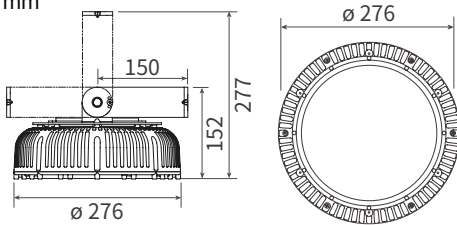
80 W / 100 W

# 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 : L-N 4kV, L-FG 6kV
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)
- Material : Polycarbonate, STS
- Heatsink : Copper ICEPIPE Heatsink
- IP Rating : IP66
- 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



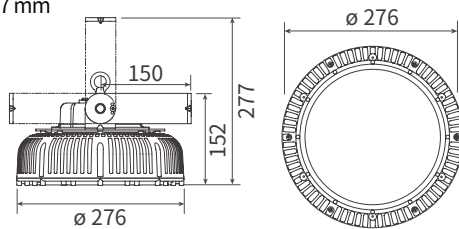
LED HIGH BAY

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 : L-N 4kV, L-FG 6kV
- Operating Temperature : -30°C ~ 50°C (-22°F ~ 122°F)

- Material : Polycarbonate, STS
- Heatsink : Copper ICEPIPE Heatsink
- IP Rating : IP66
- 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



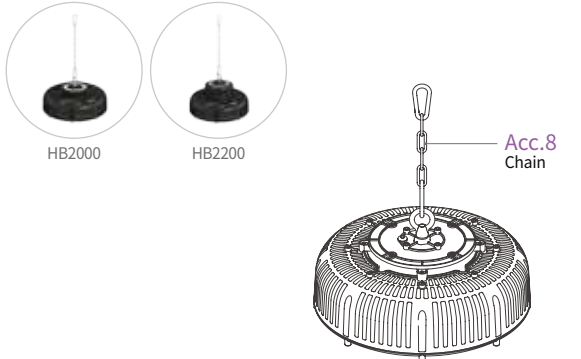
Gas Station



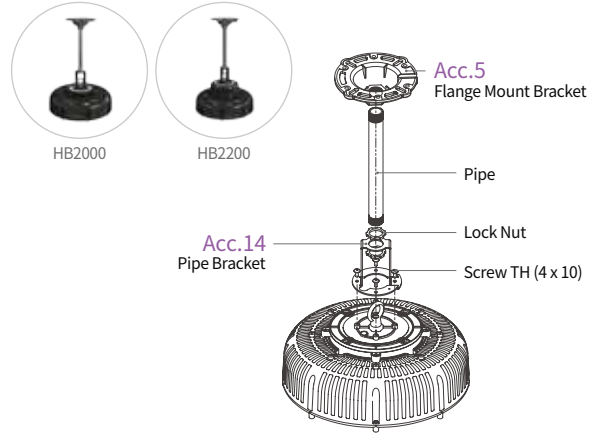
HB2000 / HB2200

INSTALLATION TYPE \* Illustrated by HB2000

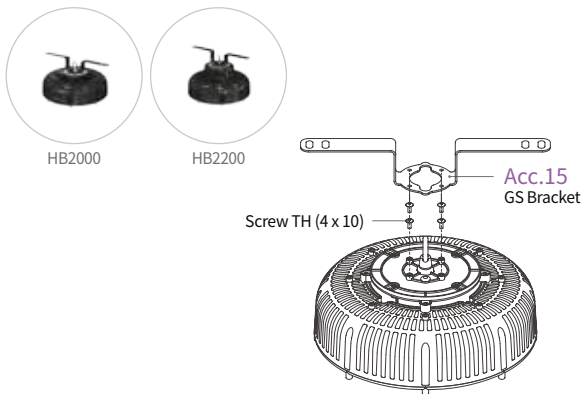
① Chain



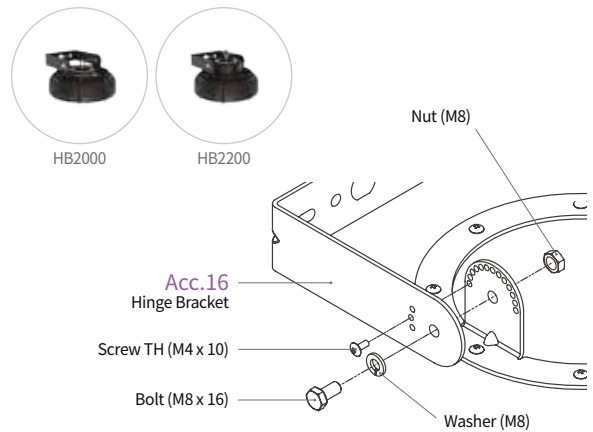
② FMB Pipe Bracket



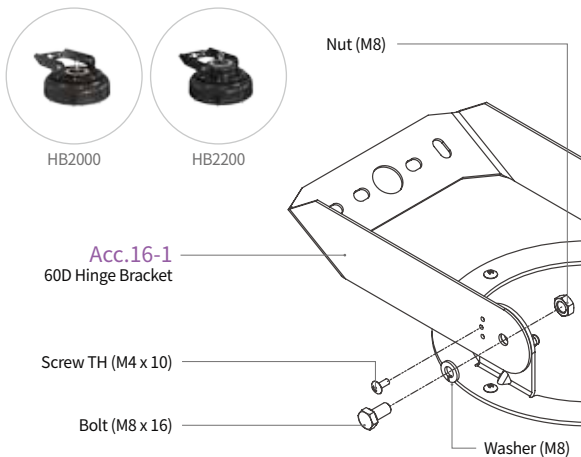
③ GS Bracket



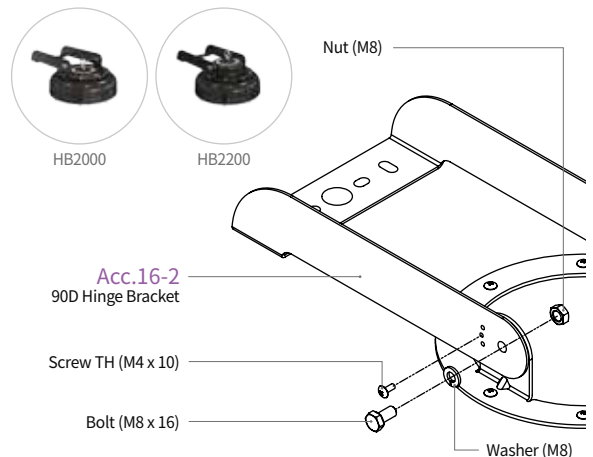
④ Hinge Bracket



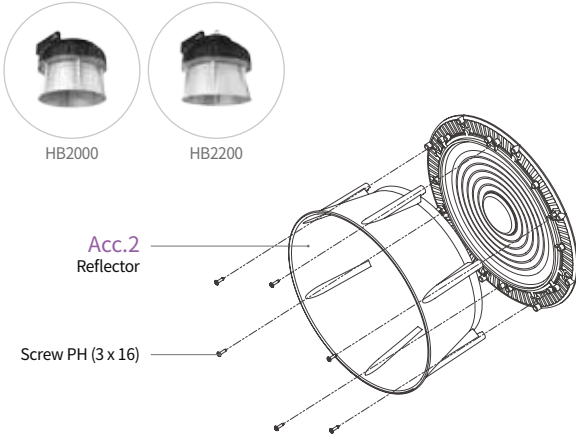
⑤ 60D Hinge Bracket



⑥ 90D Hinge Bracket



### Acc.2 Reflector



### Beam Angle \* Illustrated by HB2000

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



External Driver

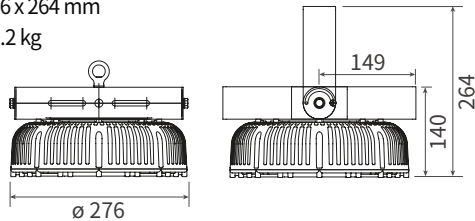
60W / 80 W / 100 W

# HB2010



## DIMENSION

- Size :  $\phi$  276 x 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	L-N 4kV L-FG 6kV
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	L-N 6kV L-FG 10kV
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

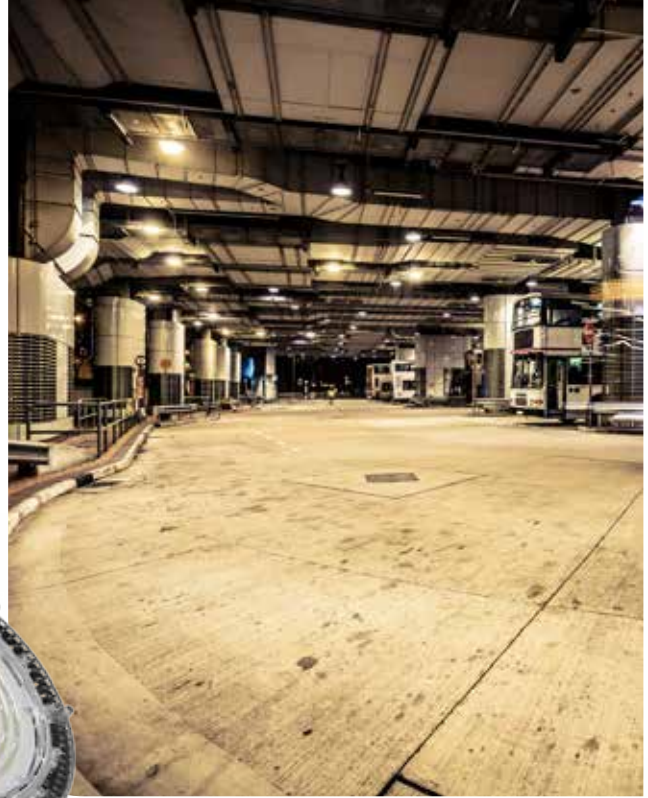


Gas Station

External Driver

130 W / 150 W

# HB2210 HB221D



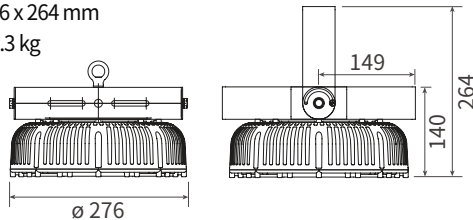
LED HIGH BAY

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	L-N 6kV L-FG 10kV
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	L-N 6kV L-FG 10kV
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



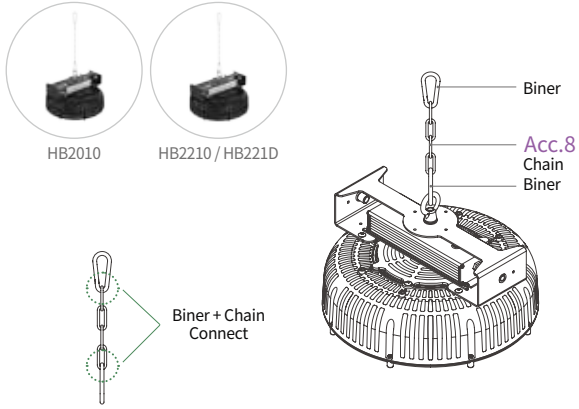
Gas Station



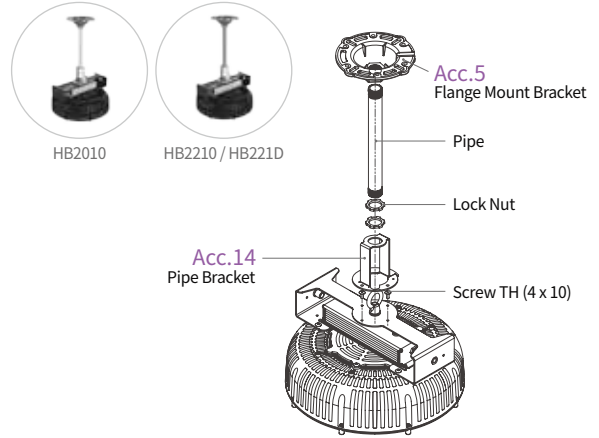
HB2010 / HB2210 / HB221D

INSTALLATION TYPE \* Illustrated by HB221D

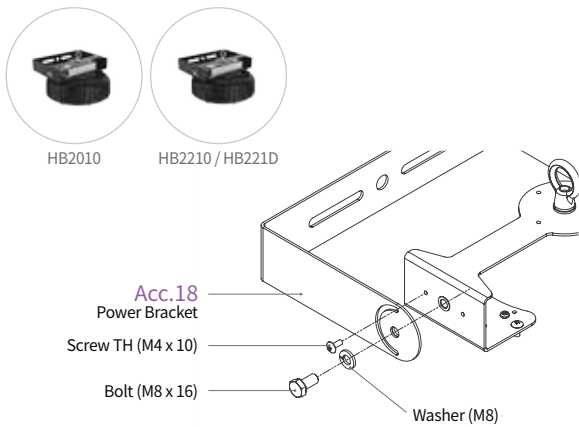
① Chain



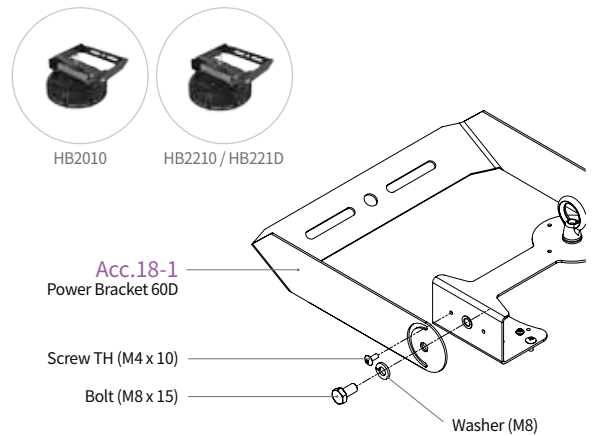
② FMB Pipe Bracket



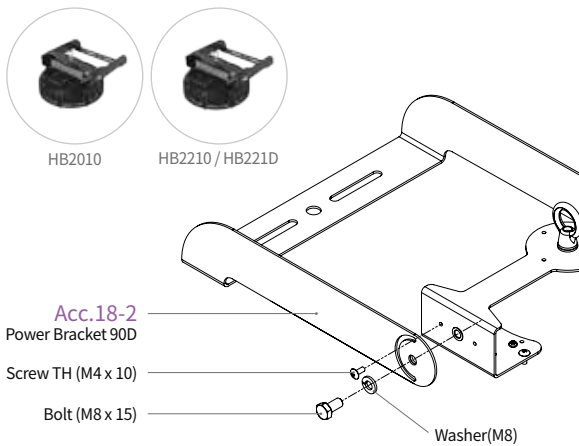
③ Power Bracket



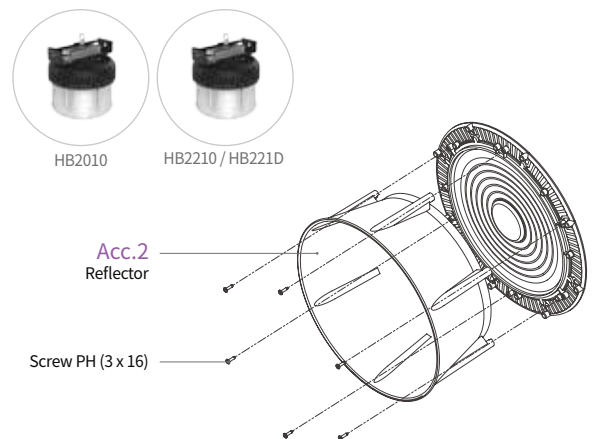
④ Power Bracket 60D



⑤ Power Bracket 90D

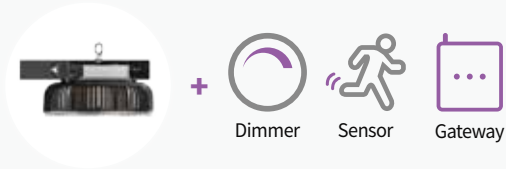


Acc.2 Reflector





### 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°

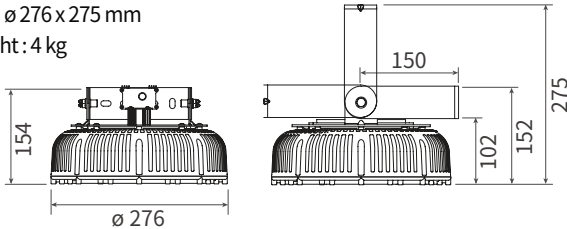


# HB2510



## DIMENSION

- Size :  $\varnothing$  276 x 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 : L-N 6kV, L-FG 10kV
- Operating Temperature: -30°C ~ 50°C (-22°F ~ 122°F)

- Material : Polycarbonate, STS
- Heatsink : Copper ICEPIPE Heatsink
- IP Rating : IP66
- 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



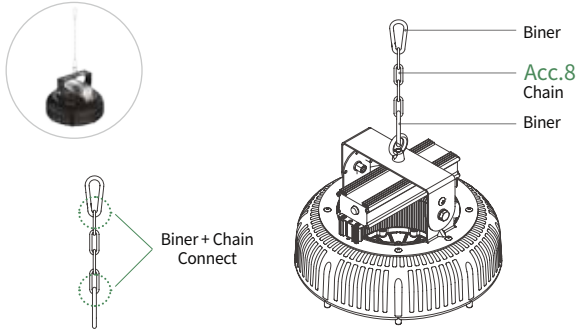
Building Exterior



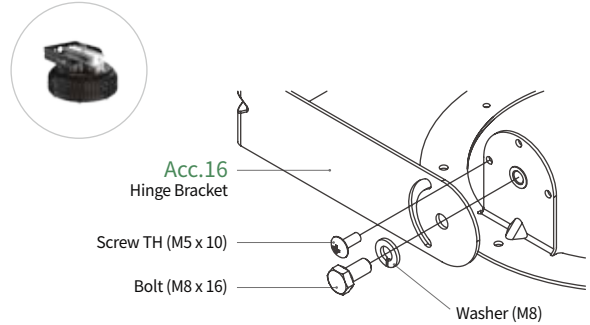
Gas Station

## INSTALLATION TYPE

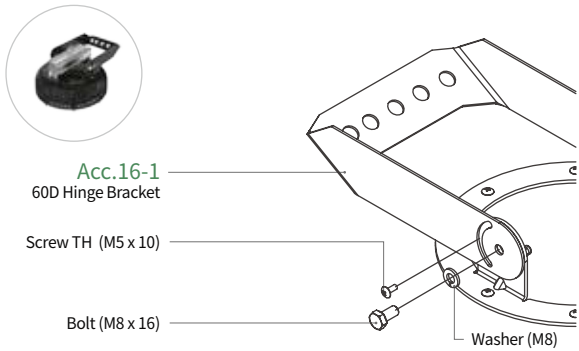
### ① Chain



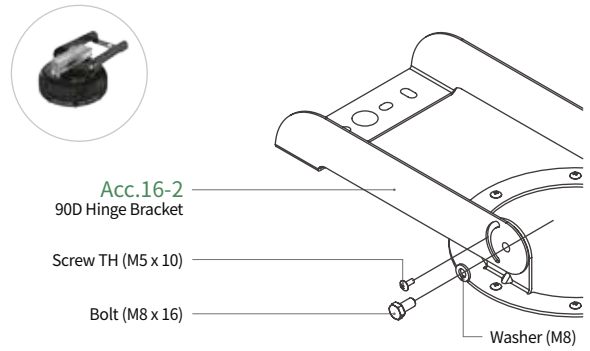
### ② Hinge Bracket



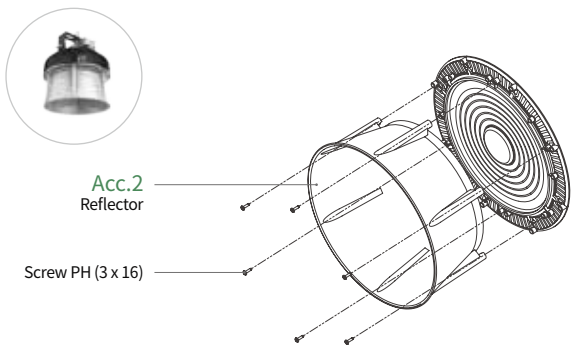
### ③ 60D Hinge Bracket



### 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



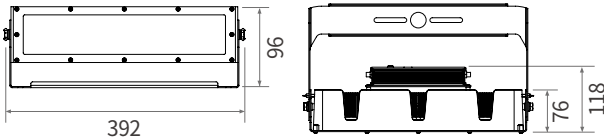
Option Sun visor



## DIMENSION

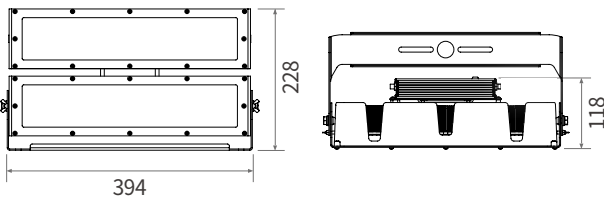
### 130 W / 150 W

- Size : 392 x 96 x 118 mm
- Weight : 3.7 kg



### 300 W

- Size : 394 x 228 x 118 mm
- Weight : 7 kg



## 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 : L-N 6kV, L-FG 10kV
- Operating Temperature : -30°C ~ 50°C
- Material : Aluminum, STS
- Heatsink : Copper ICEPIPE Heatsink
- IP Rating : IP67
- Installation Angle : 360°
- External Driver : 150Wx1EA / 150Wx2EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes)
- CCT : Standard - 5700K / Option - 3000K(Non-lens type only)
- 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

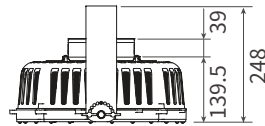
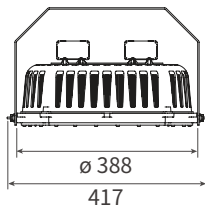


Option Sun visor



## DIMENSION

- Size :  $\phi$  388 x 248 mm
- Weight : 7.5 kg(400) / 8 kg(400C) \*SMPS incl.(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-N 4kV, L-FG 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



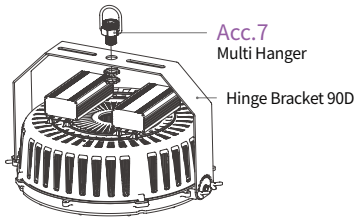
Building Exterior



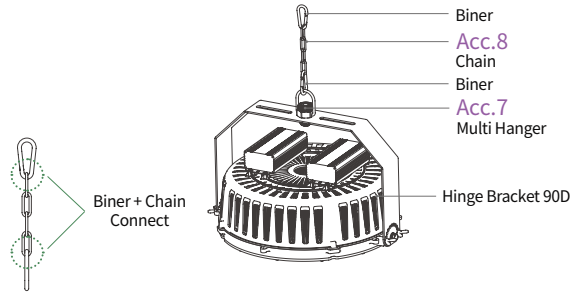
Outdoor Parking Lot

## INSTALLATION TYPE

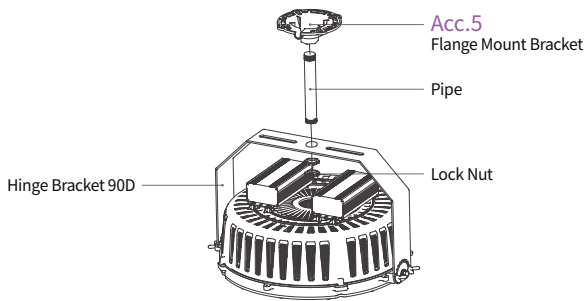
### ① Multi Hanger



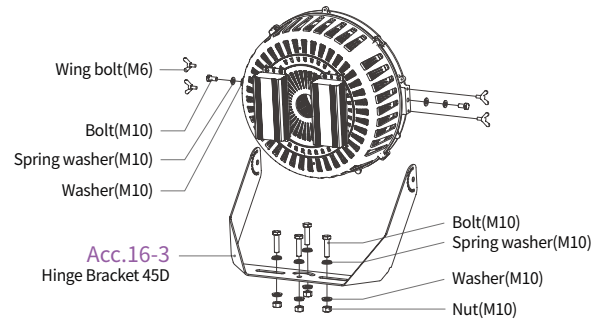
### ② Chain



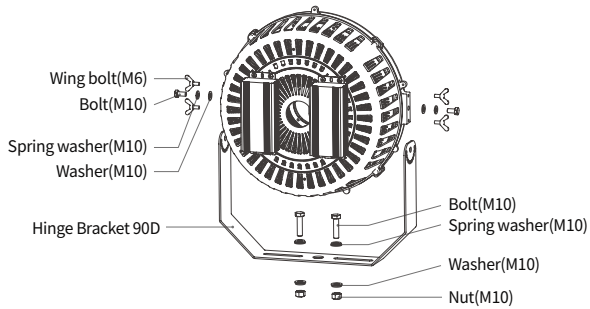
### ③ Pipe



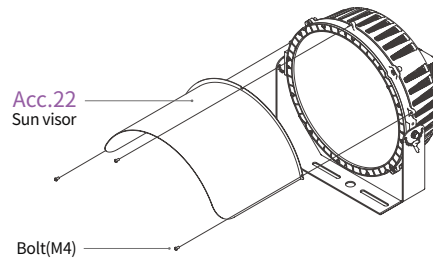
### ④ Hinge Bracket 45D





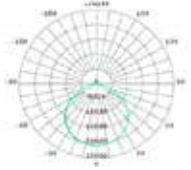
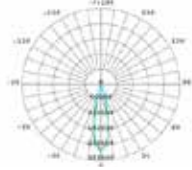
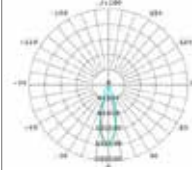
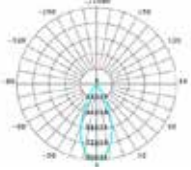
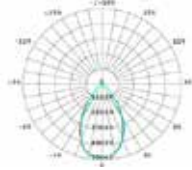
### ⑤ (STANDARD) Hinge Bracket 90D



### Acc.22 Sun visor



## Beam Angle

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



External Driver

400 W / 450 W

# RCT

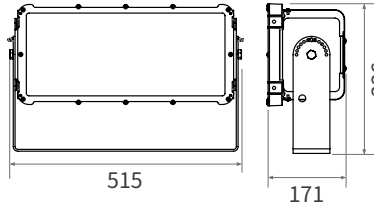


Option Sun visor



## 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 : L-N 6kV, L-FG 10kV
- IP Rating : IP67

- Material : Steel
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C
- Installation Angle : 360°

- External Driver : 480W x 1EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes)
- CCT : Standard - 5700K / Option - 3000K(Non-lens type only)
- 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



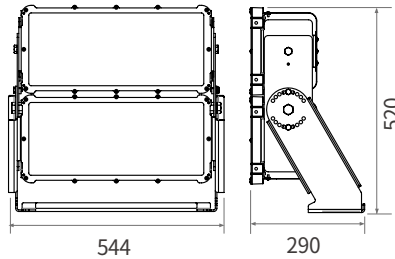
LED HIGH BAY

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 : L-N 6kV, L-FG 10kV
  - IP Rating : IP67
  - Material : Steel
  - Heatsink : Copper ICEPIPE Heatsink
  - Operating Temperature : -30°C ~ 50°C
  - Installation Angle : 360°
  - External Driver : 480W x 2EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes)
  - CCT : 5700K
  - 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



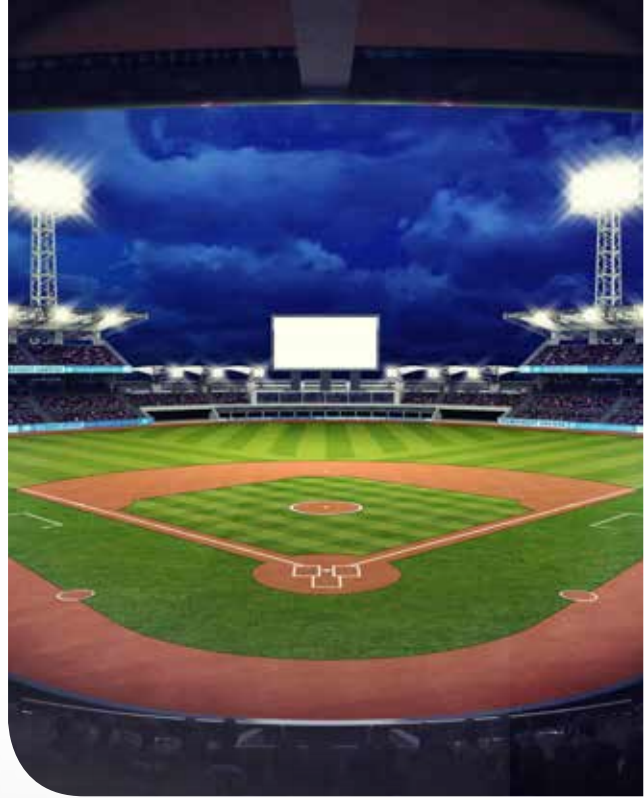
External Driver

1200 W / 1350 W

# RCT

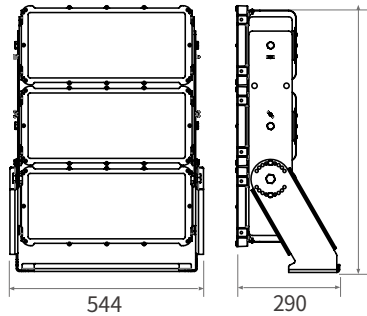


Option Sun visor



## 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 : L-N 6kV, L-FG 10kV
- IP Rating : IP67

- Material : Steel
- Heatsink : Copper ICEPIPE Heatsink
- Operating Temperature : -30°C ~ 50°C
- Installation Angle : 360°

- External Driver : 480W x 3EA (3 in 1 dimming: 0-10V/PWM/3-Timer-Modes)
  - CCT : 5700K
  - 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



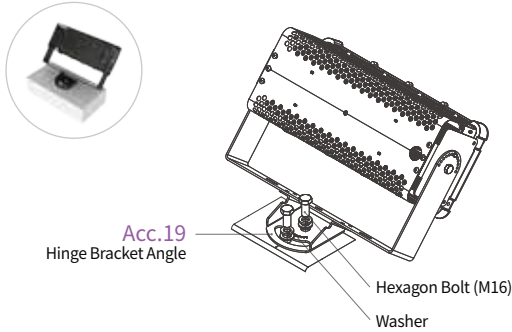
Port



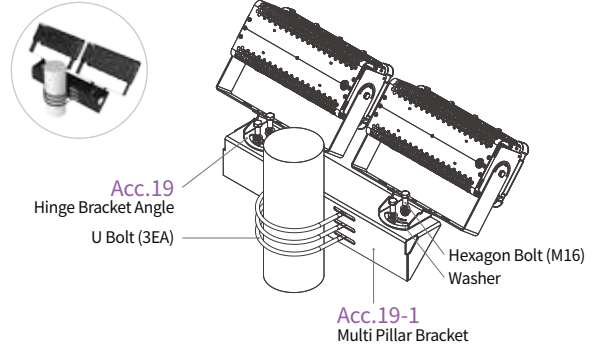
Arena

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

**① Hinge Bracket Angle**



**② Multi Pillar Bracket**

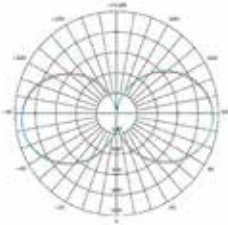


**BEAM ANGLE**

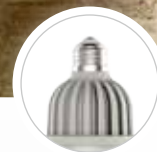
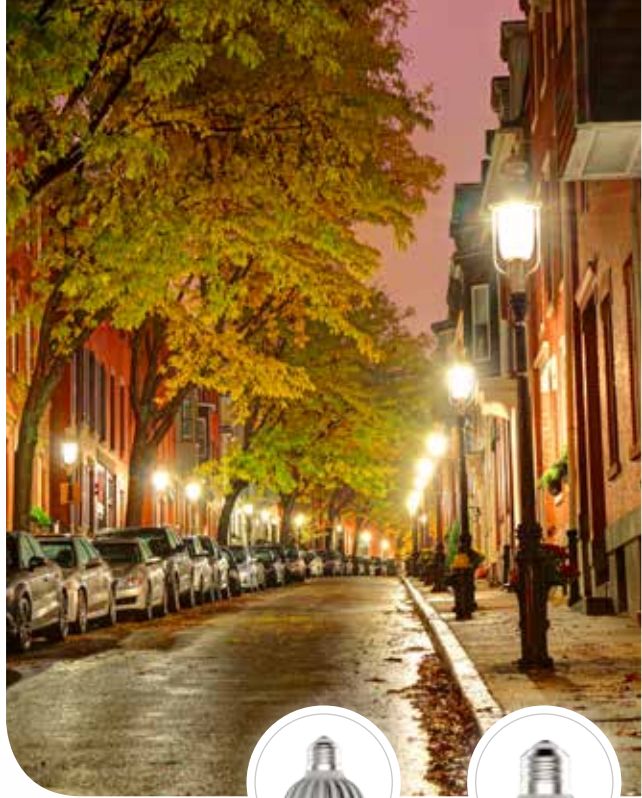
RCT-400	RCT-450	RCT-400C		RCT-450C	
120°		20°	30°	45°	60°
RCT-800A	RCT-800C		RCT-900C		
10°	20°	30°	45°	60°	
RCT-1200A	RCT-1200C		RCT-1350C		
10°	20°	30°	45°	60°	



# OB150N



Beam Angle : 330°



OB150NS : E26/27 Socket



OB150NL : E39/40 Socket



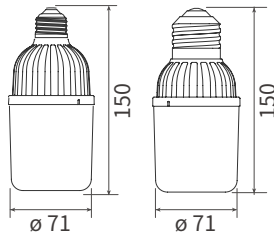
## DIMENSION

### OB150NS

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

### OB150NL

- Size :  $\varnothing$  71 x 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
- Optimized heat dissipation with fan circulation system
- 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

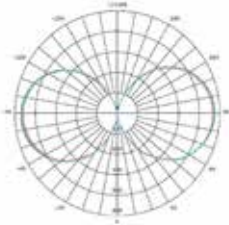


Outdoor Parking Lot

Security Light

30 W / 35 W

# OB150Nc



Beam Angle : 330°



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



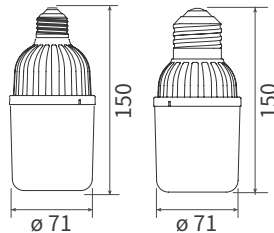
## DIMENSION

### OB150Nsc

- Size :  $\phi$  71 x 150 mm
- Weight : 205 g

### OB150Nlc

- Size :  $\phi$  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
- Optimized heat dissipation with fan circulation system
- 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

LED HIGH BAY

LED FLOOD LIGHT

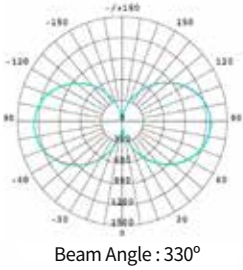
LED BULB



Security Light

40 W / 50 W / 60W / 80 W

# OB200



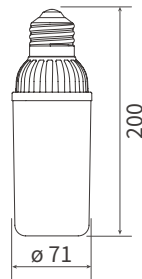
## DIMENSION

### 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
- Optimized heat dissipation with fan circulation system
- 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	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°
- Voltage : Standard - AC120-277V / Option - AC100-240V

- 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

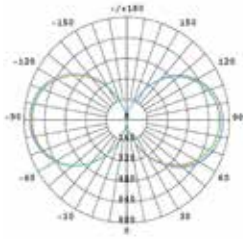


Outdoor Parking Lot

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

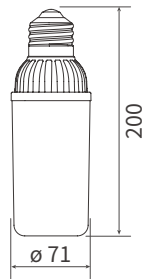
## DIMENSION

### 40 W / 50 W

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

### 60W / 80 W

- Size :  $\phi$  71 x 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
- Optimized heat dissipation with fan circulation system
- 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	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°
- Voltage : Standard - AC120-277V / Option - AC100-240V

- 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



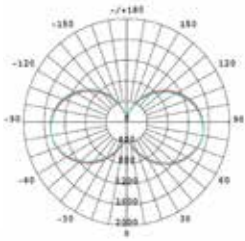
Outdoor Parking Lot



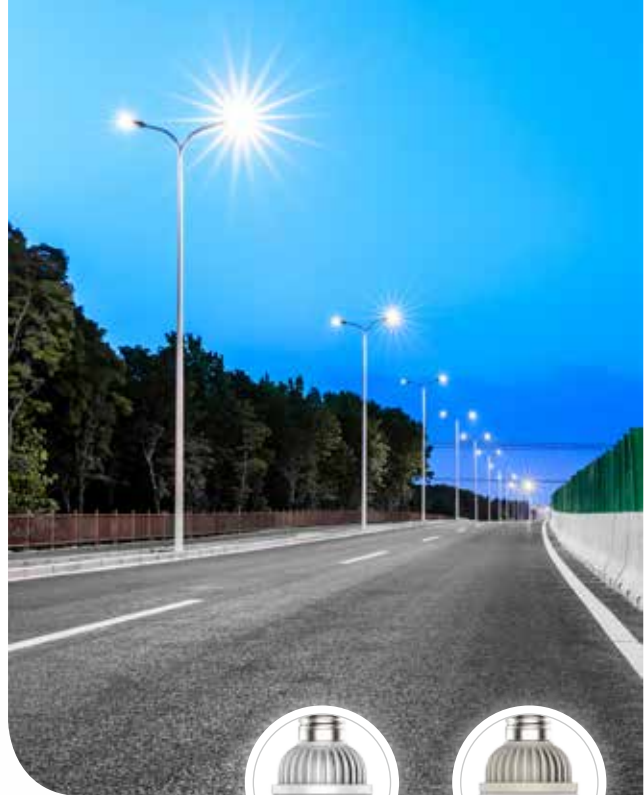
Street Light

100 W / 120 W

# OB230



Beam Angle : 330°



100 W : Polycarbonate



120 W : PA6



(100W)

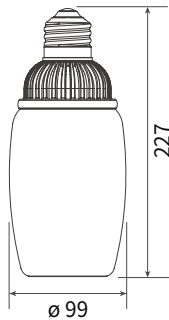
## DIMENSION

### 100 W

- Size :  $\phi$  99 x 227 mm
- Weight : 420 g

### 120 W

- Size :  $\phi$  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
- Patented Hollow Ventilation Heat Dissipation Technology improved air-cooling heat dissipation
- 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

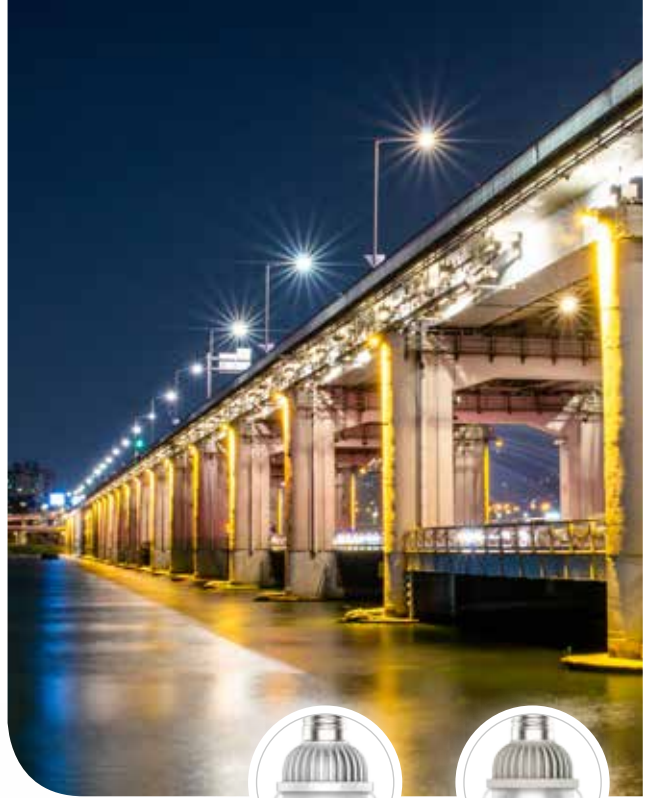
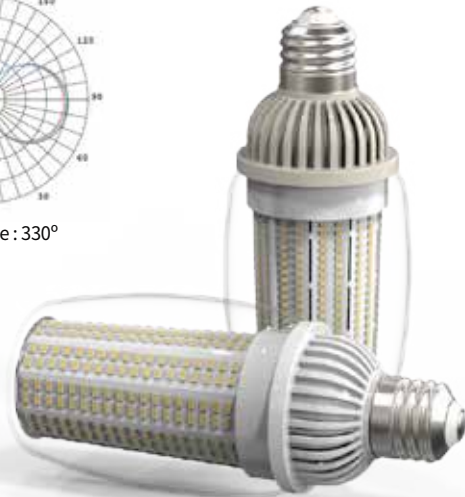
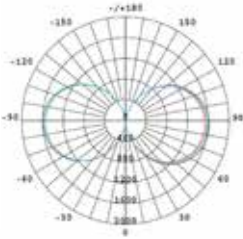


Residential Area

Street Light

100 W / 120 W

# OB230c



100 W : Polycarbonate



120 W : PA6



(100W)

LED HIGH BAY

LED FLOOD LIGHT

LED BULB

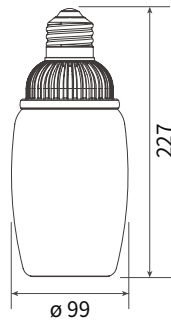
## DIMENSION

### 100 W

- Size :  $\phi 99 \times 227$  mm
- Weight : 420 g

### 120 W

- Size :  $\phi 99 \times 227$  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 Hollow Ventilation Heat Dissipation 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



OB150N / OB150Nc / OB200 / OB200c / OB230 / OB230c



## 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

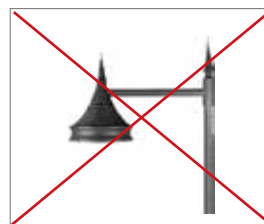


Horizontal light fixture

### ② Unsuitable



Small fixture

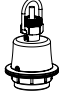
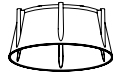



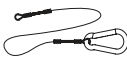
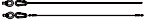
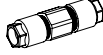


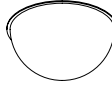

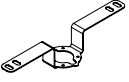
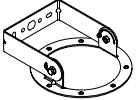
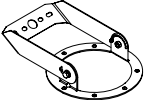
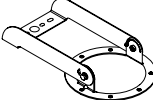
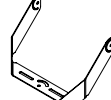

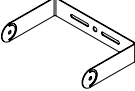
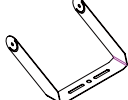
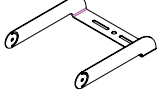
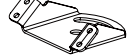

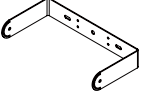
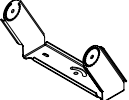
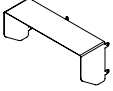
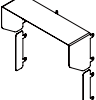
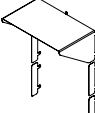
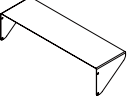



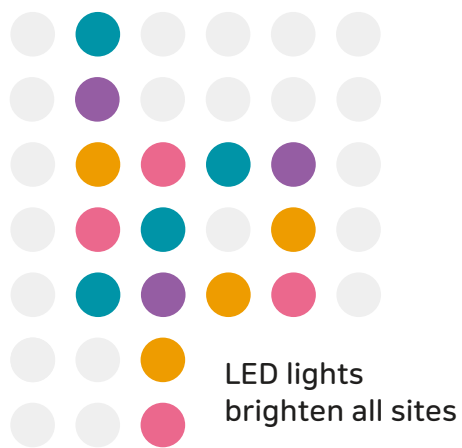
Unshielded Shade



Downlight

# ACCESSORIES

<p><b>Acc.1</b></p>  <p>Socket Holder 1</p>	<p><b>Acc.2</b></p>  <p>Reflector</p>	<p><b>Acc.5</b></p>  <p>Flange Mount Bracket</p>	<p><b>Acc.7</b></p>  <p>Multi Hanger</p>	<p><b>Acc.8</b></p>  <p>Chain</p>	<p><b>Acc.9</b></p>  <p>Safety Wire(500mm)</p>
<p><b>Acc.9-1</b></p>  <p>RCT Safety Wire(1m)</p>	<p><b>Acc.10</b></p>  <p>Waterproof Connector</p>	<p><b>Acc.10-1</b></p>  <p>Waterproof Connector</p>	<p><b>Acc.10-2</b></p>  <p>Waterproof Connector</p>	<p><b>Acc.13</b></p>  <p>Dome Diffuser 1</p>	<p><b>Acc.14</b></p>  <p>Pipe Bracket</p>
<p><b>Acc.15</b></p>  <p>GS Bracket</p>	<p><b>Acc.16</b></p>  <p>Hinge Bracket</p>	<p><b>Acc.16-1</b></p>  <p>Hinge Bracket 60D</p>	<p><b>Acc.16-2</b></p>  <p>Hinge Bracket 90D</p>	<p><b>Acc.16-3</b></p>  <p>NCD Hinge Bracket 45D</p>	<p><b>Acc.17</b></p>  <p>Mounting Bracket</p>
<p><b>Acc.18</b></p>  <p>Power Bracket</p>	<p><b>Acc.18-1</b></p>  <p>Power Bracket 60D</p>	<p><b>Acc.18-2</b></p>  <p>Power Bracket 90D</p>	<p><b>Acc.19</b></p>  <p>Hinge Bracket Angle</p>	<p><b>Acc.19-1</b></p>  <p>Multi Pillar Bracket</p>	<p><b>Acc.19-2</b> <span>SUS</span></p>  <p>RCT Hinge Bracket 1</p>
<p><b>Acc.19-3</b> <span>SUS</span></p>  <p>RCT Hinge Bracket 2</p>	<p><b>Acc.20</b></p>  <p>RCT Sun Visor 1</p>	<p><b>Acc.20-1</b></p>  <p>RCT Sun Visor 2</p>	<p><b>Acc.20-2</b></p>  <p>RCT Sun Visor 3</p>	<p><b>Acc.21</b></p>  <p>NTB Sun Visor</p>	<p><b>Acc.22</b></p>  <p>NCD Sun Visor</p>



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Certifications may vary according to each product and there may be a difference in replaceable output depending on site environment.  
Specification and appearance are subject to change without prior notice, please refer to our website for the latest information.