



# Electric Reach Truck

1400kg to 1600kg Capacity

BR14JW-7 – BR16JW-7



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## Welcome to Doosan Industrial Vehicles

Established in 1968, Doosan Industrial Vehicle has been determined to meet customers' needs for quality materials handling supplies and services, and has become a pillar of Korean industry.

As a result of our dedication and hard work, we are the number one supplier in our domestic market, with an accumulated production volume of over 380,000 units.

All our machines are designed to offer simple, powerful performance as well as operator comfort and environmental friendliness that help you to get the most from your investment. As a result, we have won a number of awards:

The World Best Awards given to the most distinguished product in 2000, the Human Engineering Design Awards in 2005, Numerous Safety Awards from the UK's Forklift Truck Association and a prestigious Red Dot design award for our Intelligent Concept Forklift in 2011.

We have become preferred suppliers to many blue chip companies and our high quality products have helped us secure a place as one of the leading material handling brands in the world's market.

Supplying forklifts to over 90 countries, we work with many of the world's leading fleet users. We can promise that Doosan will continuously endeavour to meet the high standards our customers demand and offer the best value for money products available.



## About Doosan

A reliable partner with a proud history

Founded over 110 years ago, Doosan now employs over 39,000 people in over 37 different countries and has annual revenues in excess of US\$21.6-billion, making it one of the largest corporations in Korea.

Doosan's strength has come from its vast array of products and services ranging from power generation and desalination to major construction projects, engines, military equipment and construction equipment.

Our recent highlights include:

- \* Ranked 471 in the Fortune 500 Global Companies
- \* Acquired Bobcat from Ingersoll Rand for \$4.9-billion
- \* Acquired Skoda Power
- \* Currently involved in major R&D projects across the globe, covering nuclear power, offshore wind farms & fuel cells

As well as building high rise luxury apartments, major highways and power generation, Doosan also boasts its own 5-star Ladena hotel resort and golf complex, a global advertising agency and a Professional baseball team – the Doosan Bears.

Our impressive headquarters in the South Korean capital city, Seoul, the Doosan tower is one of the most well known landmarks, welcoming over 100,000 visitors per day and housing almost 600 shops over eight floors, is extremely popular with the shoppers.



## Introducing the Electric Reach Truck

Advanced yet durable reach truck technology

Built in line with Doosan's ethos and reputation for high quality, affordable machines, the 7 Series is the latest addition to the company's already extensive warehouse range.

It offers an unbeatable combination of high productivity, maximum operator comfort and durability, utilising the latest AC motors coupled with Sauer-Danfoss controllers for advanced

lifting and intelligent driving characteristics. 360 and 180 Degree Steering.

The truck can be programmed to your choice of 360 or 180 degree steering depending on your operating conditions and driver preference.

The latest Doosan 7-Series handles heavy loads with ease; changing direction without speed

reduction and great manoeuvrability in tight spaces, ideal for working in tight warehouse environments.

The fully adjustable seat, armrest and steering console offers reduced strain on arms, wrists & shoulders for comfortable driving day in day out, allowing operators to be more productive, efficient and safe.

# Introducing the Electric Reach Truck

Advanced yet durable reach truck technology

## Safety and Innovation

Safety lies at the forefront of all of Doosan new products and none more so than the new 7-Series Reach Truck.

Innovative technology has been carefully developed and installed to assist the operator in protecting themselves and those around him.

Auto-Steer Wheel Centering on start-up, Automatic Speed Reduction whilst cornering and a clear Load Weight Indicator on the Graphical Interface Display Panel provides real-time information and technical assistance allowing the operator to concentrate on being as productive as possible, whilst the innovative auto-centering of the steer wheel system, means there's no need to check the starting direction.

Doosan's All Wheel Braking System includes the Load Wheel Brakes, the Electronic Parking Brake and the Electric Drive Motor, which uses innovative Regenerative Braking Technology and a Plug (Reverse) Braking facility to put additional power back into the battery to extend the shift life.

The strong chassis and German designed and manufactured high precision mast combined with large capacity batteries, give the Doosan 7-Series Reach Trucks great residual capacities at height allowing the best use of your racking and storage system.

The high precision mast incorporates adjustable wear pads, which ensures not only a longer life for the truck, but also greatly reduced wear and play in the mast channels resulting in a more stable machine, giving your operators great confidence in its capabilities.

The Doosan reach trucks feature load weight sensors, fork height indicators & height pre-selector. This allows the reach truck to be programmed so the forks stop automatically at pre-selected rack heights for quicker and accurate operation. Safety and ease of operation are facilitated by simultaneous hydraulic controls, allowing loads to be lifted and reached forward at the same time, resulting in shorter work cycles and increased productivity.





### **Sophisticated Ergonomics**

The patented design of the 7-series marks other significant technical advances over traditional reach trucks. Not just its superior stability but also the clean, sharp and comfortable design of the reach truck also has the ability to provide an unquestionably better working environment for operators, helping reduce driver fatigue and stress - and consequently improving productivity.

The narrow mast design with chains, hydraulic hoses and cylinders in line with the mast channels, provides operators excellent visibility of the load and surrounding area.

The design of the overhead guard and chassis has been carefully considered to not only provide maximum protection, but also to allow a clear view upwards when placing and retrieving loads.

The 7-Series has other important features fitted as standard, not least a state-of-the-art Graphical User Interface. This informative 22 character display provides real-time performance data and truck status, therefore empowering operators with accurate information about the truck through an easily readable, expendable operator message window.

The decision to develop the new reach truck is the latest sign of Doosan's intention to shift to an even stronger market presence in both national and fleet deals where warehousing equipment plays a more significant role.

## Key Features & Benefits



### AC Drive System Performance

- More robust
- Less complex and more reliable
- Practically maintenance free
- Fastest Performance Speeds whether Loaded or Unloaded
- Contactor-less AC Motors for better speed conversion
- Continuous Torque Loaded and Unloaded

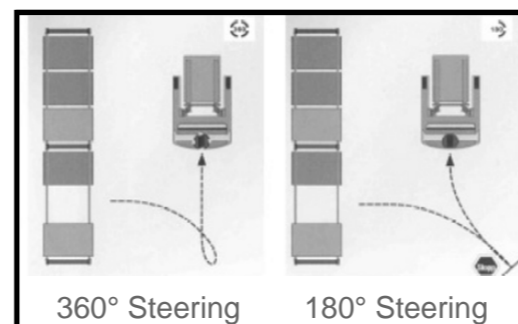
### Optimized Truck Performance

The 7-Series Reach truck offers automatic reduction of travel speed for a more controlled cornering for increased safety.



### 360- & 180-Degree Steering Choice

- Change of Direction without Speed Reduction
- Better Manoeuvrability in Tight Spaces
- Increased Durability of Drive Motor and Invertor
- At Slow Speeds Steering Requires 4 Turns Lock to Lock – High Productivity
- At Fast Speeds Steering Requires 5 Turns Lock to Lock - Assists Safe Driving for Long Distances



### Keyless Keypad Entry & Clear Graphical Display

- Prevents Access to Unauthorised Operators
- Minimises Damage
- Provides Operators with Live Truck Information, such as Battery Discharge Indicator, Load Weight and truck status
- No Lost Keys



## Key Features & Benefits



### Load Weight Indicator with Height Indicator & Selector

- Provides Operators with accurate and clearly visible information which increases safety when loading/unloading racking
- Increases Safety of high lifts ensuring the truck is within its safe residual capacity
- Weight Indicator is integrated into the dashboard, removing the need for separate weigh scales which are prone to damage
- Height Indicator provides the operator with accurate lifting heights for faster and safer placement and retrieval of loads from high-level racking
- Height Pre-selector can be programmed to pre-determined rack levels to assist with quick placement and retrieval of loads



### Auto-Centering of Steer Wheel

- No need to check the starting direction
- Increases Safety & Productivity
- Reduces Site & Truck Damage
- AC Power Steering Motor makes the steering easier to drive reducing operator fatigue
- Conforms to new 2012 Regulations ensuring a double signal to the steering motors substantially reducing steering failures



### Ergonomic Operators Compartment

- Fully Adjustable Control Console with Storage Box
- Fully Adjustable Steering Column
- Fully Adjustable Full Suspension Seat
- Spacious Operators Compartment reduces operator fatigue and ensures a healthy working environment for the drivers
- Electronic Finger-tip Controls with thumb activated travel direction switch, increases productivity with faster hydraulic functions, all of which are programmable to the optimal performance settings to suit your individual application
- The operator is protected by the carefully designed overhead guard which is angled for maximising the operators visibility of the load and racking through the OHG



## Other Key Features



## Performance

- Integral Side-shift
- Tilting Carriage not Tilting Mast
- Class Leading Drive & Lifting Speeds for Highest Productivity
- All AC Motors - Drive / Lift / Steering
- Excellent Residual Capacities at Full Lift Height
- The German manufactured mast sections offer the highest possibility quality, durability and proven technology
- Large Batteries & High Frequency Chargers for Long Shift Life and Fast & Economic Charging
- Adjustable Mast Wear Pads for longer life and reduced play

## Safety

- All Wheel Braking - Drive and Load Wheels
- Automatic Slowing of Drive Speed when Cornering
- Automatic Lift & Reach Speed Control when Loaded or Unloaded
- Great Visibility Through Mast & Carriage
- Optimised Operator Visibility for all round vision such as the Overhead Guard design
- Standard Key-Pad Entry prevents Unauthorised Operator Access
- Integrated Load Weight Indicator assists operators determining safe working loads efficiently

## Ergonomics

- Lowest Entry Step in Reach Truck Class at 350mm for less Operator Fatigue
- Cushioned Armrest with Storage Compartment
- Excellent Access to all Motors for quick & easy Maintenance
- Fork Mounted Camera System with 7" LCD Screen option reduces neck strain when working at high lift heights
- Auto-Centering of Steer Wheel when powered on means no need to check the starting direction every time you get onto the machine
- Easy to Read Graphical Interface provides great real-time information to the operator

## Standard Equipment

### Standard Equipment Includes:

- 1400kgs or 1600kgs capacity model
- Full Free-lift Triplex Mast from 5,000mm to 10,250mm
- Integral Side-Shift
- Tilting Carriage
- 360 or 180-degree Steering
- All Wheel Braking
- Electronic Parking Brake
- 4 Electronic Mini-Levers
- Graphical User Interface
- Doosan Keypad Entry
- Load Weight Indicator
- Forks Up to 1200mm
- Battery Tray (Static)
- Flashing Beacon
- Load Backrest
- Full Vinyl Suspension Seat

### Optional Equipment:

- Height Indicator with Height Pre-Selector
- Lateral Battery Rollers for Side Extraction
- Waterproof Camera and 7" LCD Screen
- Working Lights
- Mirrors
- Rubber Drive Wheel for Wet Areas
- Cold Storage Protection to minus 40-degrees
- High Frequency Chargers
- Battery Automatic Filling & Air Options
- Battery Change Rollers Beds and Change Cars





# Electric Reach Truck

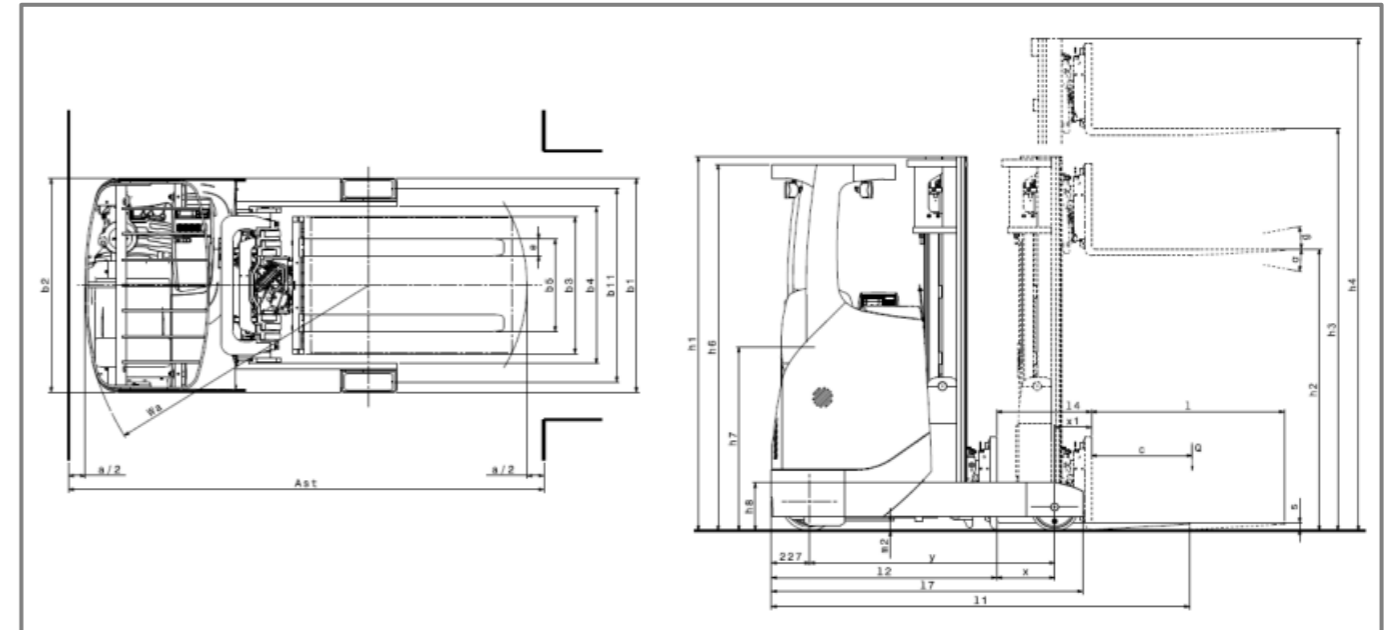
1,400kg to 1,600kg Capacity  
BR14JW-7 / BR16JW-7

## Main Vehicle Specification

|   |  | Doosan                                     | Doosan                         | Doosan                         | Doosan                         | Doosan                         | Doosan                         |                                |
|---|--|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
|   |  | BR14JW-7<br>420AH                          | BR14JW-7<br>560AH              | BR14JW-7<br>700AH              | BR16JW-7<br>420AH              | BR16JW-7<br>560AH              | BR16JW-7<br>700AH              |                                |
| Identification                                    | 1.1 Manufacturer                                       | Doosan                                     | Doosan                         | Doosan                         | Doosan                         | Doosan                         | Doosan                         |                                |
|   | 1.2 Model designation                                  | BR14JW-7<br>420AH                          | BR14JW-7<br>560AH              | BR14JW-7<br>700AH              | BR16JW-7<br>420AH              | BR16JW-7<br>560AH              | BR16JW-7<br>700AH              |                                |
|   | 1.3 Drive  | Electric                                   | Electric                       | Electric                       | Electric                       | Electric                       | Electric                       |                                |
| Weights   | 1.4 Operator type                                      | Seat                                       | Seat                           | Seat                           | Seat                           | Seat                           | Seat                           |                                |
|   | 1.5 Load capacity                                      | Q (kg)                                     | 1400                           | 1400                           | 1400                           | 1600                           | 1600                           |                                |
|   | 1.6 Load centre  | c (mm)                                     | 600                            | 600                            | 600                            | 600                            | 600                            |                                |
|   | 1.8 Load distance                                      | x (mm)                                     | 296                            | 230                            | 159                            | 346                            | 280                            | 209                            |
|   | Mast pushed forward                                    | x1 (mm)                                    | 219                            | 219                            | 229                            | 219                            | 219                            | 219                            |
|   | 1.9 Wheelbase  | y (mm)                                     | 1410                           | 1410                           | 1410                           | 1460                           | 1460                           | 1460                           |
|   | 2.1 Unladen weight                                     | kg   | 3080                           | 3080                           | 3080                           | 3087                           | 3087                           | 3087                           |
|   | 2.3 Axle loading, unladen, front/rear                  | kg   | 1980/1100                      | 1980/1100                      | 1980/1100                      | 1985/1102                      | 1985/1102                      | 1985/1102                      |
|   | 2.4 Axle loading, fork advanced, laden, front/rear     | kg   | 770/3710                       | 770/3710                       | 770/3710                       | 807/3880                       | 807/3880                       | 807/3880                       |
|   | 2.5 Axle loading, fork retracted, laden, front/rear    | kg   | 1708/2772                      | 1708/2772                      | 1708/2772                      | 1787/2900                      | 1787/2900                      | 1787/2900                      |
| Chassis   | 3.1 Tyres  | Vulkollan®                                 | Vulkollan®                     | Vulkollan®                     | Vulkollan®                     | Vulkollan®                     | Vulkollan®                     |                                |
|   | 3.2 Tyres size, front                                  | dia. x width(mm)                           | 343 x 140                      | 343 x 140                      | 343 x 140                      | 343 x 140                      | 343 x 140                      |                                |
|   | 3.3 Tyres size, rear                                   | dia. x width(mm)                           | 285 x 100                      | 285 x 100                      | 285 x 100                      | 285 x 100                      | 285 x 100                      |                                |
|   | 3.5 Wheels, number front/rear (x=driven)               |  | 1x/2                           | 1x/2                           | 1x/2                           | 1x/2                           | 1x/2                           |                                |
|   | 3.7 Track width, rear                                  | b11 (mm)                                   | 1149                           | 1149                           | 1149                           | 1149                           | 1149                           |                                |
|   | Basic Dimensions                                       | 4.1 Tilt of fork carriage forward/backward | α/β (°)                        | 2/5                            | 2/5                            | 2/5                            | 2/5                            | 2/5                            |
|   |  | 4.2 Closed mast height                     | h1 (mm)                        | 2530*                          | 2530*                          | 2530*                          | 2530*                          | 2530*                          |
|   |  | 4.3 Free lift                              | h2 (mm)                        | 1967*                          | 1967*                          | 1967*                          | 1967*                          | 1967*                          |
|   |  | 4.4 Maximum Lift height*                   | h3 (mm)                        | 5900*                          | 5900*                          | 5900*                          | 5900*                          | 5900*                          |
|   |  | 4.5 Height of mast, extended               | h4 (mm)                        | 6410*                          | 6410*                          | 6410*                          | 6410*                          | 6410*                          |
| 4.7 Height of overhead guard                      |  | h6 (mm)                                    | 2185                           | 2185                           | 2185                           | 2185                           | 2185                           |                                |
| 4.8 Seat height                                   |  | h7 (mm)                                    | 1095                           | 1095                           | 1095                           | 1095                           | 1095                           |                                |
| 4.10 Height of wheel arms                         |  | h8 (mm)                                    | 287                            | 287                            | 287                            | 287                            | 287                            |                                |
| 4.19 Overall length                               |  | l1 (mm)                                    | 2491                           | 2557                           | 2628                           | 2491                           | 2557                           | 2628                           |
| 4.20 Length to face of forks                      |  | l2 (mm)                                    | 1341                           | 1407                           | 1478                           | 1341                           | 1407                           | 1478                           |
| 4.21 Overall width                                |  | b1/b2 (mm)                                 | 1274/1270                      | 1274/1270                      | 1274/1270                      | 1274/1270                      | 1274/1270                      | 1274/1270                      |
| 4.22 Fork dimensions                              |  | s/e/l (mm)                                 | 40/100/1150                    | 40/100/1150                    | 40/100/1150                    | 40/100/1150                    | 40/100/1150                    | 40/100/1150                    |
| 4.23 Fork carriage ISO 2328, class/type A,B       |  |  | 2A                             | 2A                             | 2A                             | 2A                             | 2A                             | 2A                             |
| 4.24 Fork carriage width                          |  | b3 (mm)                                    | 813                            | 813                            | 813                            | 813                            | 813                            | 813                            |
| 4.25 Width across forks                           |  | b5 (mm)                                    | 245/753                        | 245/753                        | 245/753                        | 245/753                        | 245/753                        | 245/753                        |
| 4.26 Distance between wheel arms/loading surfaces |  | b4 (mm)                                    | 932                            | 932                            | 932                            | 932                            | 932                            | 932                            |
| 4.28 Reach distance                               |  | l4 (mm)                                    | 515                            | 449                            | 388                            | 565                            | 499                            | 428                            |
| 4.32 Ground clearance, centre of wheelbase        | m2 (mm)  | 58   | 58                             | 58                             | 58                             | 58                             | 58                             |                                |
| 4.33 Aisle width for pallets 1000x1200 wide       | Ast (mm)   | 2786                                       | 2837                           | 2894                           | 2796                           | 2845                           | 2901                           |                                |
| Aisle width for pallets 1000x1200 long            | Ast (mm)   | 2894                                       | 2952                           | 3016                           | 2898                           | 2955                           | 3018                           |                                |
| 4.34 Aisle width for pallets 800x1200 wide        | Ast (mm)   | 2644                                       | 2689                           | 2739                           | 2660                           | 2702                           | 2750                           |                                |
| Aisle width for pallets 800x1200 long             | Ast (mm)   | 2849                                       | 2910                           | 2976                           | 2851                           | 2911                           | 2977                           |                                |
| 4.35 Turning radius                               | Wa (mm)  | 1661                                       | 1661                           | 1661                           | 1708                           | 1708                           | 1708                           |                                |
| 4.37 Length across wheel arms                     | l7 (mm)  | 1805                                       | 1805                           | 1805                           | 1855                           | 1855                           | 1855                           |                                |
| Performance Data                                  | 5.1 Travel speed, laden/unladen                        | km/h                                       | 12                             | 12                             | 12                             | 12                             | 12                             |                                |
|   | 5.2 Lift speed, laden/unladen                          | m/s  | 0.42/0.6                       | 0.42/0.6                       | 0.42/0.6                       | 0.42/0.6                       | 0.42/0.6                       |                                |
|   | 5.3 Lowering speed, laden/unladen                      | m/s  | 0.5                            | 0.5                            | 0.5                            | 0.5                            | 0.5                            |                                |
|   | 5.4 Reaching speed, laden/unladen                      | m/s  | 0.2                            | 0.2                            | 0.2                            | 0.2                            | 0.2                            |                                |
|   | 5.8 Max. gradeability, laden/unladen                   | %  | 10/15                          | 10/15                          | 10/15                          | 10/15                          | 10/15                          | 10/15                          |
| E-Motor   | 5.10 Service brake                                     |  | Electromagnetic                | Electromagnetic                | Electromagnetic                | Electromagnetic                | Electromagnetic                |                                |
|   | 6.1 Drive motor rating S2 60 min.                      | kW   | 5.3                            | 5.3                            | 5.3                            | 5.3                            | 5.3                            |                                |
|   | 6.2 Lift motor rating S3 15%                           | kW   | 13.2                           | 13.2                           | 13.2                           | 13.2                           | 13.2                           |                                |
|   | 6.4 Battery voltage/capacity at 5 hours rate           | V/Ah                                       | 48/420                         | 48/560                         | 48/700                         | 48/420                         | 48/560                         | 48/700                         |
|   | 6.5 Battery weight                                     | kg   | 730                            | 923                            | 1135                           | 730                            | 923                            | 1135                           |
|   | Battery dimensions                                     | l/w/h (mm)                                 | 1220/290/780<br>(1223/290/784) | 1220/355/780<br>(1223/355/784) | 1220/425/780<br>(1223/425/784) | 1220/290/780<br>(1223/290/784) | 1220/355/780<br>(1223/355/784) | 1220/425/780<br>(1223/425/784) |
|   | 8.1 Type of drive control                              |  | AC-MOSFET                      | AC-MOSFET                      | AC-MOSFET                      | AC-MOSFET                      | AC-MOSFET                      | AC-MOSFET                      |
|   | 8.2 Operating pressure for attachments                 | bar  | 200                            | 200                            | 200                            | 200                            | 200                            | 200                            |
|   | 8.3 Oil volume for attachments                         | l/min                                      | 20                             | 20                             | 20                             | 20                             | 20                             | 20                             |
|   | 8.4 Sound level at operator's ear according to EN12053 | dB(A)                                      | 70                             | 70                             | 70                             | 70                             | 70                             | 70                             |

\* Varies according to mast specifications

## Dimensional Drawings



## Mast Details

| Lift height (h3) | Closed mast height (h1) | Free lift without Load backrest (h2) | Free lift with Load backrest |
|------------------|-------------------------|--------------------------------------|------------------------------|
| 5000             | 2230                    | 1666.5                               | 1336                         |
| 5600             | 2430                    | 1866.5                               | 1536                         |
| 5900             | 2530                    | 1966.5                               | 1636                         |
| 6200             | 2630                    | 2066.5                               | 1736                         |
| 6500             | 2730                    | 2166.5                               | 1836                         |
| 6800             | 2830                    | 2266.5                               | 1936                         |
| 7100             | 2930                    | 2366.5                               | 2036                         |
| 7400             | 3030                    | 2466.5                               | 2136                         |
| 7700             | 3130                    | 2566.5                               | 2236                         |
| 8000             | 3230                    | 2666.5                               | 2336                         |
| 8420             | 3370                    | 2806.5                               | 2476                         |
| 8720             | 3470                    | 2906.5                               | 2576                         |
| 9020             | 3570                    | 3006.5                               | 2676                         |
| 9410             | 3700                    | 3136.5                               | 2806                         |

Height of Overhead Guard (without beacon / with beacon): 2185mm / 2313mm

## Battery Size

| BR14/16JW-7     | 420AH                          | 560AH                          | 700AH                          |
|-----------------|--------------------------------|--------------------------------|--------------------------------|
| L / W / H (MAX) | 1220/290/780<br>(1223/290/784) | 1220/355/780<br>(1223/290/784) | 1220/425/780<br>(1223/425/784) |



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AUTHORIZED DEALER

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