Clean Cap

Wireless bin fill-level sensor
The Clean Cap measures the bin fill-level in real-time. It can be attached to any type of bin to monitor any type of waste.

**Easy to Install**
- Attachable to any type of bin or container
- Flexible bracket options for different container types
- Available in both solar and battery-powered models

**SMART Communication System**
- Wireless transmission of bin fill-level and bin status information
- Telecommunication through WCDMA and GSM networks
- Locational information provided by GPS module

**Clean City Networks (CCN)**
Real-time monitoring and data management platform
CCN receives real-time data from Clean Cubes and Clean Caps to improve waste collection efficiency by informing users when and which bins need to be collected, and provides smart collection schedules with route optimization.

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**Basic Specifications**

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<thead>
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<th>Clean Cap B</th>
<th>Clean Cap S</th>
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<td><strong>Power</strong></td>
<td>Battery-powered</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>95 x 096 mm</td>
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<tr>
<td><strong>Net Weight</strong></td>
<td>470 g</td>
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<td><strong>Battery Life</strong></td>
<td>Up to 10 years</td>
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**Technical Features**

- Measuring Technology: Ultrasonic
- Measuring Range: 30 – 400 cm
- Material: High impact ABS / Polycarbonate
- Battery: Clean Cap B — High performance lithium battery
- Clean Cap S — Rechargeable lithium battery

**Clean Cap B**
(Battery Model)

**Clean Cap S**
(Solar Model)

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(Battery Model)

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(Solar Model)
Clean City Networks

Environmental Benefits
- Eliminates overflowing bins
- Reduces CO2 emissions
- Utilizes renewable energy

Social Benefits
- Improves public cleanliness/sanitation
- Contributes to a green technology industry and the use of renewable energy products
- Increases recycling diversion rates

The Intelligent Waste Collection Solution
Dramatically reduces waste collection costs by up to 80%.

Clean Cube
Smart solar-powered waste compacting bin
100% powered by solar energy, the Clean Cube compacts waste, allowing it to hold up to eight times more waste than traditional bins.

Possible installation sites:
- Shopping Malls
- Airports, Hotels, Tourist Attractions, Sports/Event Halls
- Educational Institutions
- Recreational Parks/Resorts
- Offices, Industrial Areas
- Residential Houses/APartments

Product Dimensions
<table>
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<tr>
<th>MODEL</th>
<th>SIZE (H x W x L)</th>
<th>NET WEIGHT</th>
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<tr>
<td>120L</td>
<td>144.9 x 61.3 x 77.5 cm</td>
<td>198 kg</td>
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<tr>
<td>240L</td>
<td>157.4 x 72 x 86.1 cm</td>
<td>208 kg</td>
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Technical Features
- RoHS compliant
- Galvanized steel sheet construction
- TGIC-free polymer powder coating finish for optimal durability and weatherability
- Compaction Force: Up to 720 kg of force
- System Voltage: 12 Volts DC
- Power Consumption: 15 Wh/day
- Battery: Spill-proof, sealed lead-acid storage
- Polycarbonate protective cover for PV panels
- Control System: Microcontroller-based automation
- Embedded LED backlight advertisement panels

Safety Features
- CE approved
- Hand detection safety sensor
- Fire detection temperature sensor
- Independent locking mechanism for all access points

Powerful Waste Compaction
- Compacts waste with up to 720kg of force
- Increases bin capacity by up to eight times
- Prevents waste overflow

Options
- Different door apertures for different waste streams
- Different power options (solar-powered / hybrid) covering both outdoor and indoor applications
- Customizable wrap design for marketing purposes
- Wi-Fi hotspot
- Embedded LED backlight advertisement panels

The Waste collection gets smarter, greener, and more efficient than ever.

Our integrated waste management solution results in direct cost savings, a greener environment, and cleaner cities.

Economic Benefits
- Reduces collection frequency by effectively increasing bin capacity by up to 8 times
- Smart waste collection planning using real-time data to optimize resource allocation
- Lowers operational costs by up to 80%

Patents
- "Module Apparatus for Refuse Collection and Method"
- "Apparatus for Refuse Collection"
- "Rubbish Can and Method for Manufacturing Same"
- "Abfallfahnen und Verfahren zur Herstellung desselben"
- "M2M topology based on parameters"
- "Device determination method for device to device communication"
- "Storing Apparatus for Compressing Waste"

Certifications
- CE Markings (LVD, EMC)
- Greent Certification
- RoHS Certification
- ISO 9001 Certification
- ISO 14001 Certification
- IP Rating Certificate
- KC (Korea Certification) Mark
- K (Korea Testing Laboratory) Mark