Building Integrated PV System (BIPV)

- Tile-in Roof PV Mounting System
- Integrated Roof
- Carport
- Façade
- PV Greenhouse
Perfect Integration of PV System & Architecture

We pursue user-friendly design, focusing on superior quality, easy installation & high cost-performance.

We aim to change every building into a cost-effective, efficient & environmental friendly energy generation plant.

Our own designed BIPV systems can be applied to different architectural needs. The turnkey solution of architectural power generation is equipped for network connection, power storage and self-power generation.

These systems have been applied in various projects in China.

BIPV Mounting System

6 series full-fledged VRTI systems, well-equipped for crystalline & thin film modules, meeting the requirements for various installation conditions. The models all focus on functionality and aesthetics. All components are designed under the principle of easy installation, water proof and seamless building integration.
Tile-in Roof System: VRTI1

- Designed for thin film module roof installation
- Perfect fit-in: equal inclination in between module upper surface and tile upper surface
- 100% leak-proof
- With anti-skidding hook, air flow panel
- Aesthetical appeal

The upper waterproof panel will avoid the leakage between tiles and modules.
End clamp with drilling screws & middle clamp with bolt for the installation of module.
Both sides of module use rubber sealing strip for sealment, ensuring 100% waterproof.
Anti-skidding hook for easy installation.
Drilling screws used for fixation between rails & wood beam

Tile-in Roof System: VRTI2

- Designed for crystalline module installation
- Anti-leakage design
- Water chute on the aluminum rail
- EPDM sealing rubber between modules, etc
- Easy Installation
- Aesthetical appeal

The upper waterproof panel will avoid the leakage between tiles and modules.
EPDM sealing rubber between modules for excellent sealing protection.
Clamps are used for integration of module, rail, air flow panel and water tube
Both sides of module use rubber sealing strip for sealment, ensuring 100% waterproof.
Drilling screws used for fixation between rails & wood beam
PV Carport

PV carport offers multiple benefits. It uses solar power to provide clean energy for charging electric-motor car, lighting, connected to the grid while shielding cars against rain, hail and snow.

Product Features

- No location limitation
- Simple structure, easy & quick installation
- Use standard components, low-maintenance cost
- Easy to be packaged, minimized transportation cost
- Removable & reusable
- With waterproof & non-water proof solutions for choice
- Customization available

Integrated Roof: VBR-1

VBP-1 system uses crystalline module as rooftop. The good appearance roof generates power while saving construction cost.

Product Features

- Excellent ventilation cooling performance with high power output
- Rigorous structural calculation & simulation, ensuring system reliability
- Fire & lightning-proof
- High inclination adjustability, maximizing light absorption & drainage performance

Technical Data

<table>
<thead>
<tr>
<th>Site requirements</th>
<th>Replace the original roof</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grade of waterproof</td>
<td>Level III (general)</td>
</tr>
<tr>
<td>Module type</td>
<td>Module including frames</td>
</tr>
<tr>
<td>Installation</td>
<td>Any inclination</td>
</tr>
<tr>
<td>Module array</td>
<td>Portrait or landscape</td>
</tr>
<tr>
<td>Module size</td>
<td>Any</td>
</tr>
<tr>
<td>Module location</td>
<td>Any</td>
</tr>
<tr>
<td>Base frame</td>
<td>Al 6063 T5</td>
</tr>
<tr>
<td>Base fixation</td>
<td>Drilling screw</td>
</tr>
</tbody>
</table>

- Excellent ventilation
- Ridge air vent ensures system stability

- Multi waterproof securities
  - Set rubber sealing strip between modules
  - Diversion AI-rail with end cap at top & slots at both side, to ensure waterproof & dust free
  - Rubber sealing strip attached on the top of diversion AI-rail and has slots for cold water drainage at both sides.
VBP-A1 is a N-shape PV carport, which is our most compact design, stylish and functional.

VBP-B1 is an upgraded version of VBP-A1. It possesses A's compact design and extends to two sides parking, therefore maximizing effective land usage.

VBP-C1 is designed with double-pile structure which enables large span, therefore being able to host large size vehicles. This structure is cost competitive & higher stability, comparing to other same scale carports.

VBP-D1 is unrestricted to the size of the parking lot. It is scratch-free and therefore the most convenient PV carport.
Façade BIPV Mounting System

Product Features

- Widely used in building elevation, sunshade, rain shed, sunroof etc.
- Designed for crystalline module installation
- Hillshade technique, maximizing light absorption
- Open-structure, enhancing ventilation cooling
- High installation capacity, cost effective
- Easy installation due to curtain-hanging design
- Fire & lightning-proof

Façade VBF-1

- VBF-1 is a suitable system for crystalline PV module
- High installed capacity & cost performance.
- The unique curtain installation makes installation & maintenance convenient and cost effective.
- Open architecture improves ventilation cooling.
- Only 5mm decorative rib - avoid shadow on the module

Technical Data

<table>
<thead>
<tr>
<th>Module type</th>
<th>Crystalline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Module arrangement</td>
<td>Landscape or portrait</td>
</tr>
<tr>
<td>Cooling method</td>
<td>Open or shutter</td>
</tr>
<tr>
<td>Installation</td>
<td>Curtain</td>
</tr>
<tr>
<td>Main structure</td>
<td>Hot-dip galvanized steel</td>
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<tr>
<td>Other components</td>
<td>Al</td>
</tr>
<tr>
<td>Maximum win load</td>
<td>5400Pa</td>
</tr>
<tr>
<td>Connection edging</td>
<td>Al, stone, glass</td>
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</table>
PV Green House System

- Advanced traditional greenhouse with high output PV power generation
- Provides an enhanced growing environment for plants
- Automated temperature adjustment, energy & water refill
- Maximized resource saving
- Single & multi-span designs are suitable for different plantation & space requirements.

Product Features

- High power output
- Light transmission is free to adjust
  By adjusting the density between modules and lighting glass, you can meet the lighting requirements of different crops
- Water recycle
  Use built-in drainage system, enhancing reliability & saving water usage
- Control automation
  Panel power generation ensures auto light & water supply as well as temperature adjustment

Multi-span PV Green House: VBG-M1

VBG-M1 is designed as multi-span structure, which realizes low construction cost; it provides perfect growth condition & easy management for large-scale plantation.

Technical Data

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<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>Module type</td>
<td>Crystalline</td>
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<tr>
<td>Inclination</td>
<td>25°</td>
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<tr>
<td>Eaves height</td>
<td>4m</td>
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<tr>
<td>Span distance</td>
<td>9.6 m</td>
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<tr>
<td>Width</td>
<td>4 m</td>
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<tr>
<td>Covering</td>
<td>Glass</td>
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<tr>
<td>Structure</td>
<td>Lightweight steel</td>
</tr>
<tr>
<td>Anti-corrosion</td>
<td>Hot-dip galvanized</td>
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</tbody>
</table>
VBG-S1 is designed as single-span structure, which requires small land use and achieves efficient construction. The system is flexible and easy to control.

<table>
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<tr>
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<tr>
<td>Module type</td>
<td>Crystalline</td>
</tr>
<tr>
<td>Inclination</td>
<td>25°</td>
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<tr>
<td>Lowest height</td>
<td>1.5m</td>
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<tr>
<td>Span distance</td>
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<tr>
<td>Width</td>
<td>6 m</td>
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<tr>
<td>Covering</td>
<td>Glass</td>
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<tr>
<td>Structure</td>
<td>Lightweight steel</td>
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<tr>
<td>Anti-corrosion</td>
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