



# MOUNTING

## TILE ROOF



[www.FDA-SOLAR.at](http://www.FDA-SOLAR.at)

INTELLIGENT  
MOUNTING  
SOLUTION



## Various Types Hooks / Easy Installation / Rust Resistance



Various Types



Easy Installation



Rust Resistance



# RP-1

### TECHNICAL DATA

#### Tile Roof System RP-1

<b>Application</b>	<b>Fastening Type</b>
Pantile Roof / Plain tile / Slate tile	Wood Screw 6.3x80mm / 8x80mm
<b>Module Frame Height</b>	<b>Module Orientation</b>
25-50mm	Portrait, Landscape
<b>Snow Load</b>	<b>Wind Speed</b>
1,4kN / m <sup>2</sup>	60m/s
<b>Material</b>	Aluminium EN AW-6005 T5 With 12-15um Anodization For Anti-Corrosion Fasteners A2 Quality Stainless Steel 304
<b>Standard</b>	Japan JIS C 8955:2011 ASCE 7-10 Malaysian Standard 1553-2002 BS EN 1991-1-4:2005

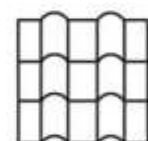


YEARS  
12  
WARRANTY

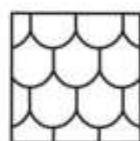


YEARS  
25  
SERVICE LIFE

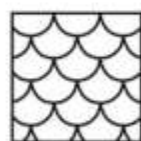
### Application:



Pantile



Plain Tile



Slate Tile

### GROUNDING PARTS

#### Grounding Lug

YS-GL-Z : For electricity conductive.



#### Grounding Washer

YS-GW-01: Pierce anodization coating through its teeth for electricity conductive.



TOOLS



#### End Clamp Kit

YS-EC1-35Z

For different module frame heights  
Mill finished or black  
Pre-assembled



#### Mid Clamp Kit

YS-MC1-35Z

For different module frame heights  
Mill finished or black  
Pre-assembled



#### Rail

YS-147

Rail in various lengths



#### Rail Splice Kit

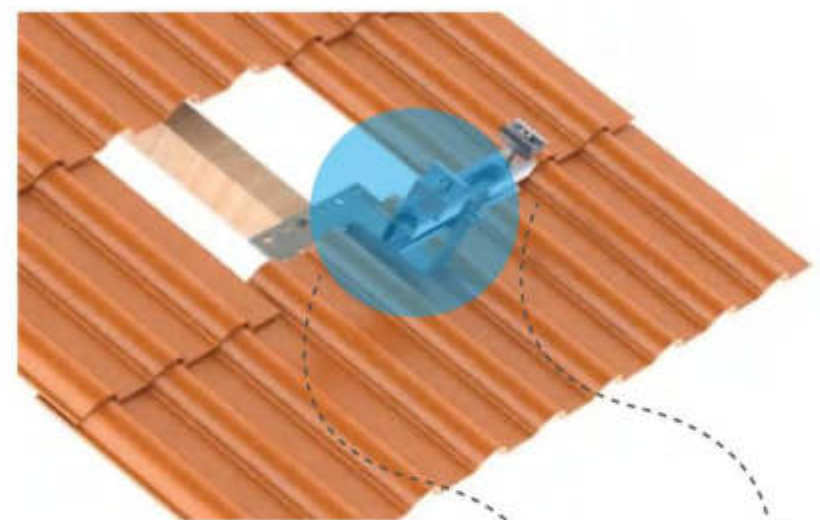
YS-06-Z

Internal connectors

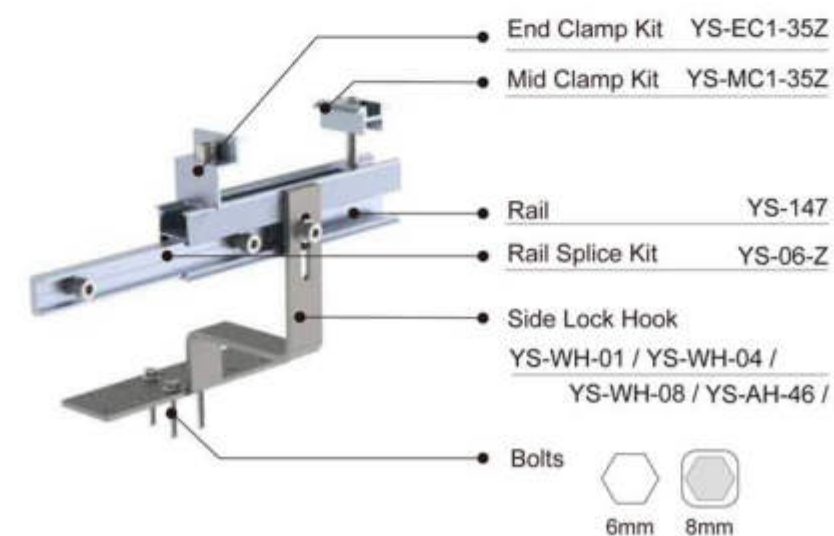


### Side Lock Hook

High-quality, thin stainless steel outriggers and partly direct connection to rail.



### Structure Details



YS-WH-01  
( Portrait )



YS-WH-04  
( Landscape )

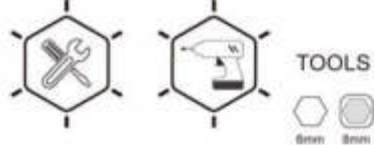


YS-AH-46  
( Adjustable )



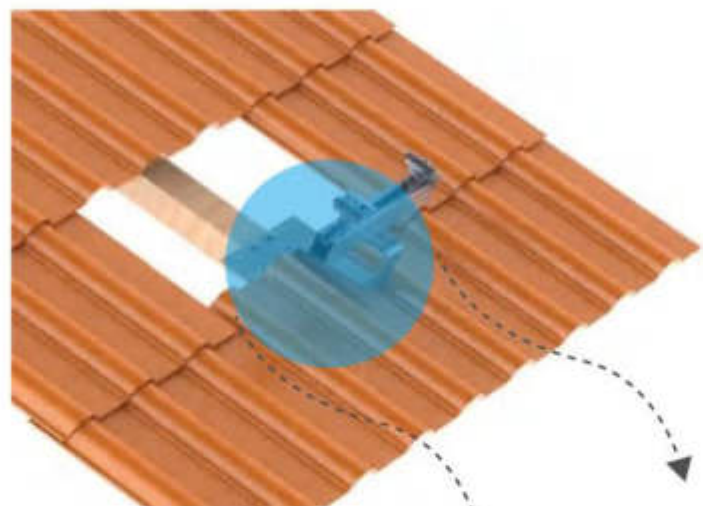
YS-WH-08





## Bottom Lock Hook

Height adjustable and many precisely fitting roof hooks.



YS-AH-24  
( 3x Adjustments )



YS-AH-30



YS-WH-09



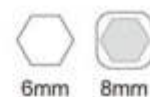
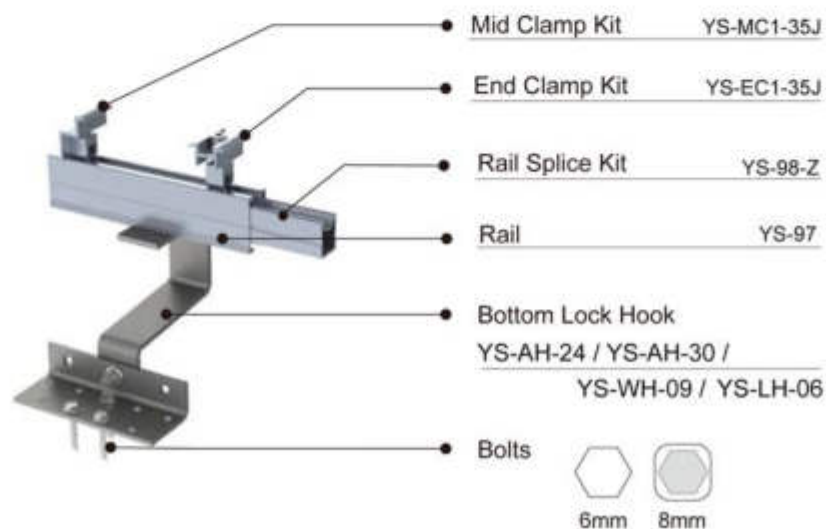
YS-LH-06



## PROJECT FOR TILE ROOF



## Structure Details



### End Clamp Kit

YS-EC1-35J  
For different module frame heights  
Mill finished or black  
Pre-assembled



### Mid Clamp Kit

YS-MC1-35J  
For different module frame heights  
Mill finished or black  
Pre-assembled



### Rail

YS-97  
Rail in various lengths



### Rail Splice Kit

YS-98-Z  
Internal connectors



## Good Waterproof Function / Easy Installation / Great Flexibility



Easy Installation



Good Waterproof  
Function



Great Flexibility

# AS-1



## TECHNICAL DATA

### Asphalt Shingle Roof System AS-1

Application	Fastening Type
Asphalt & Shingle Roof	Wood Screw 6.3x80mm

Module Frame Height	Module Orientation
25-50mm	Portrait, Landscape

Color	Wind Speed	Snow Load
Mill finished or black	60m/s	1,4KN / m <sup>2</sup>

Material
Flashing: Aluminium EN AW 5052 L foot: Aluminium EN AW-6005 T5 With 12-15um Anodization For Anti-Corrosion Fasteners A2 Quality Stainless Steel 304

Standard
Japan JIS C 8955:2011 ASCE 7-10 Malaysian Standard 1553-2002 BS EN 1991-1-4:2005



### Application:



Asphalt Roof



Shingle Roof

## GROUNDING PARTS

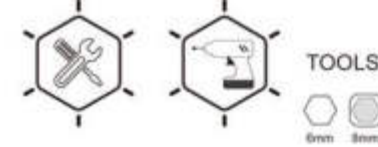
### Grounding Lug

YS-GL-Z : For electricity conductive.



### Grounding Washer

YS-GW-01: Pierce anodization coating through its teeth for electricity conductive.



### End Clamp Kit

YS-EC1-35Z  
For different module frame heights  
Mill finished or black  
Pre-assembled



### Mid Clamp Kit

YS-MC1-35Z  
For different module frame heights  
Mill finished or black  
Pre-assembled



### Rail

YS-147  
Rail in various lengths



### Rail Splice Kit

YS-06-Z  
Internal connectors



### L-Foot

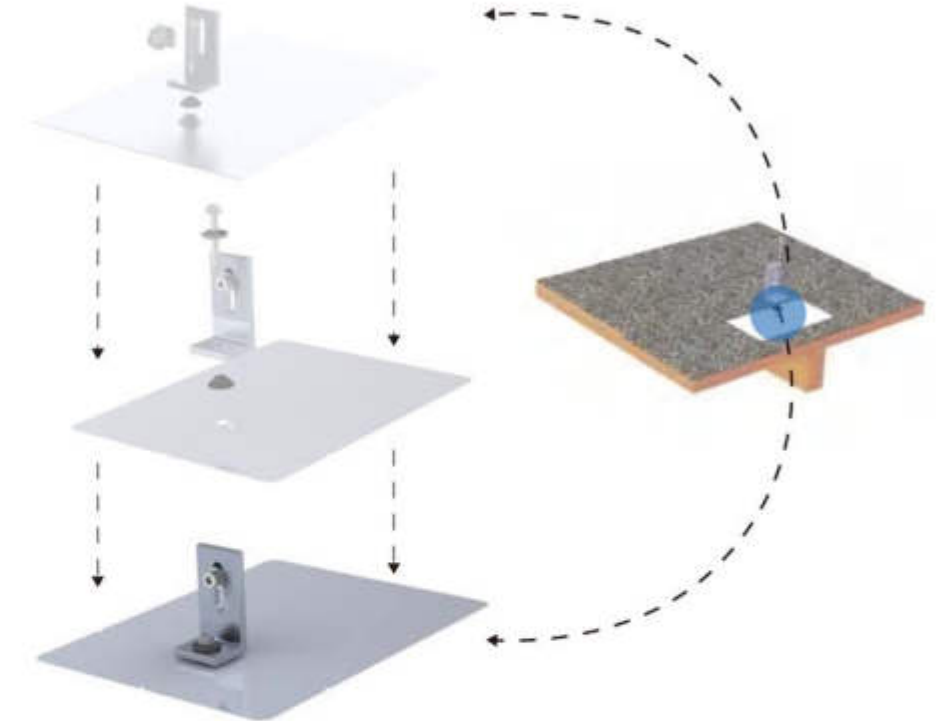
YS-LF-S80  
Fix the L foot to the wood purlin or wooden board.  
(Thickness of Wooden Board Min≥5mm)



## Structure Details

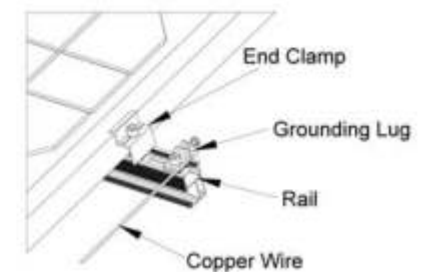
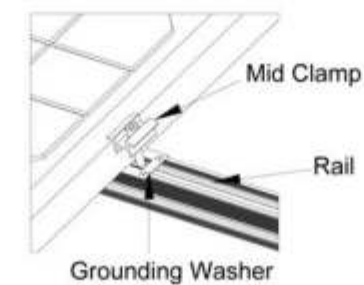
### AS-1 Flashing Kit

Connecting rail and fixing flashing on purlin with wood screw.  
Flashing can be mill finished or black.

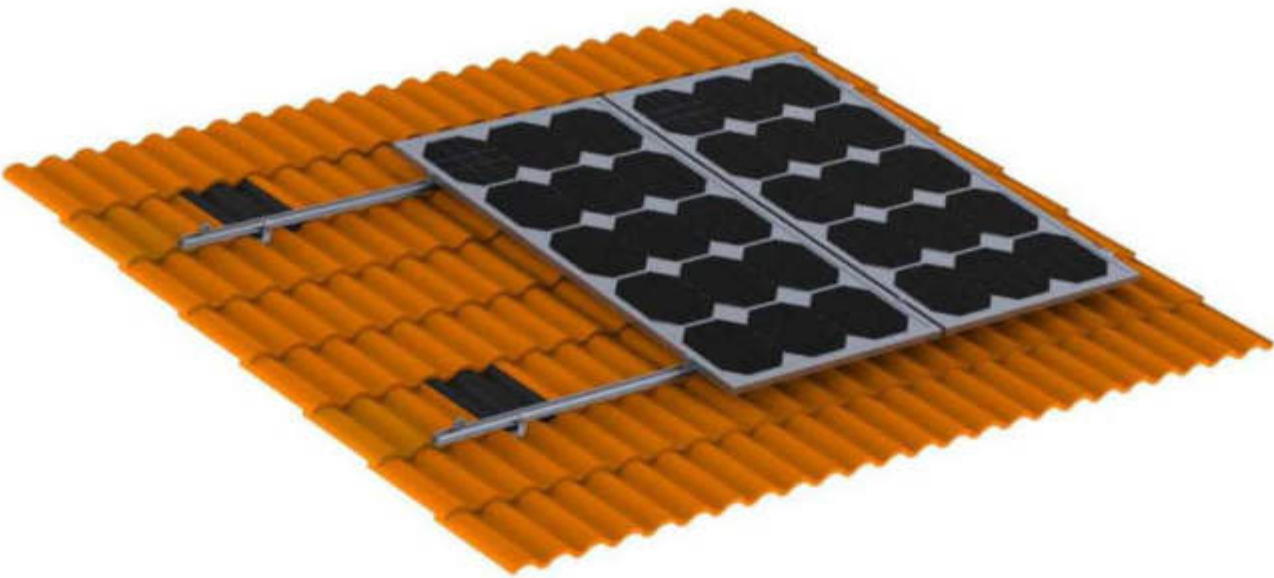


- / The sufficient holding force of the roof covering at the support or substructure must be ensured on site.
- / Roof pitch 5° - 40°
- / Sufficient load reserves to support the PV system.

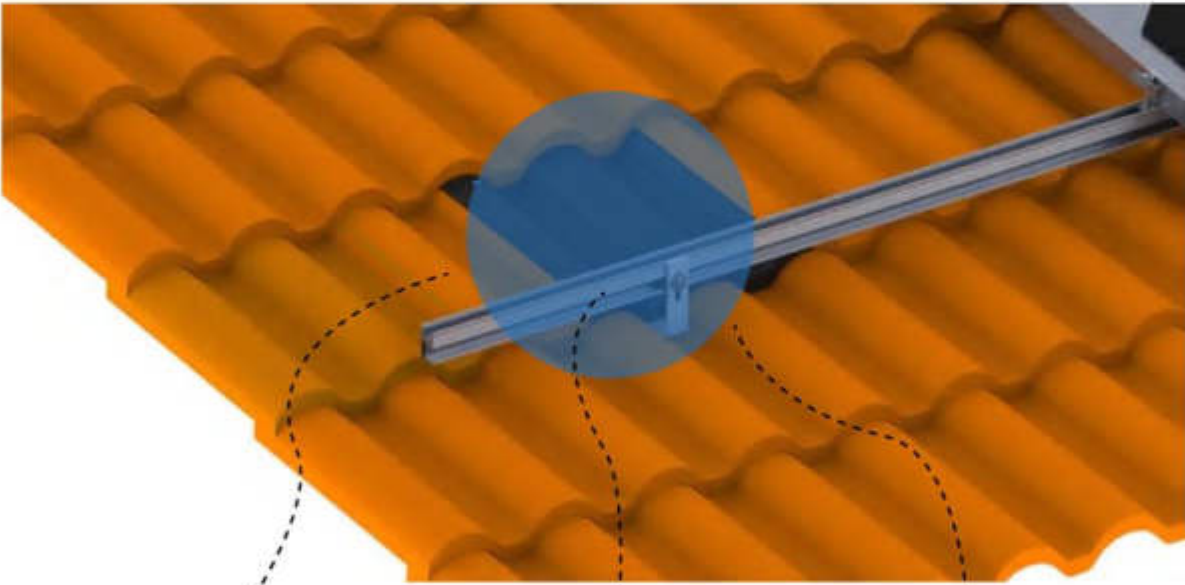
Equipotential bonding / grounding / earthing between individual parts is to be performed according to country specific standards, as well as national laws and regulations.



AS-1 For Tile Roof



Tile Replacement



Which roof type do you need?

A



Flat Tile Replacement

B



W Type Tile Replacement

C



S Type Tile Replacement

PROJECT FOR  
TILE ROOF





# MOUNTING

## ■ METAL ROOF

Widely Application / Faster Installation  
Rust Resistance / Customizable



Widely Application



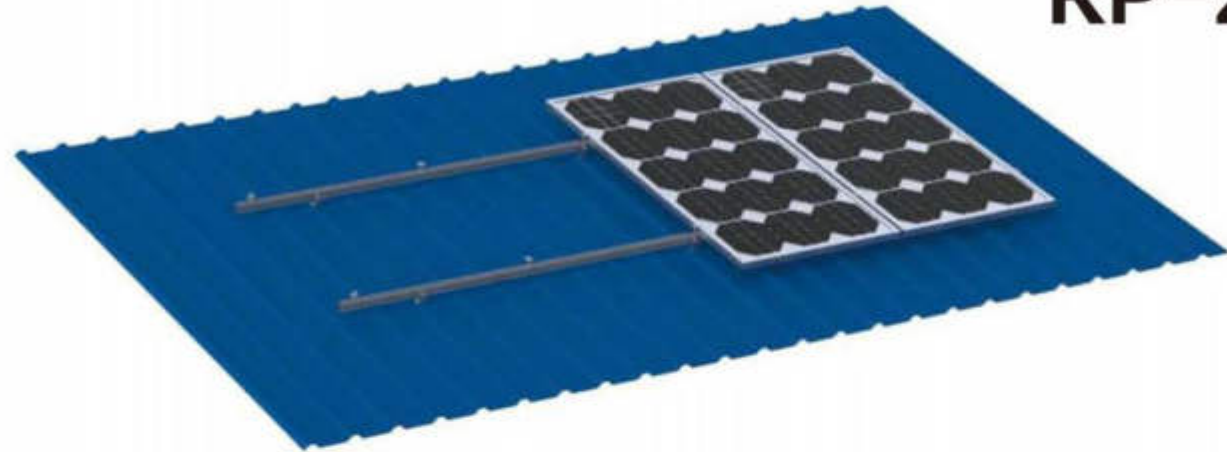
Easy Installation



Rust Resistance



Customizable



# RP-2

## TECHNICAL DATA

### Metal Roof System RP-2

#### Application

Metal / Corrugated Roof

#### Fastening Type

- a. Self-Taping Screw 6.3x25mm
- b. Self-Taping Screw 6.3x80mm
- c. Hanger Bolt M10x200 / 250 / 300mm

#### Module Frame Height

25-50mm

#### Module Orientation

Portrait, Landscape

#### Requirements

Sheet thickness:  $\geq 0.4$ mm steel or  
 $\geq 0.5$ mm aluminium  
Trapezoidal sheet crest width:  $\geq 20$ mm  
Corrugated sheet radiuses: 22-45mm

#### Material

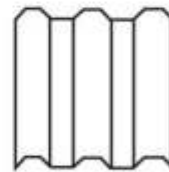
Aluminium EN AW-6005 T5  
With 12-15um Anodization For Anti-Corrosion  
SUS410 Tapping Screw  
SUS304 Hanger Bolt

#### Standard

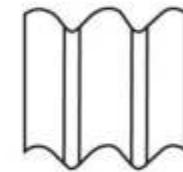
Japan JIS C 8955:2011  
ASCE 7-10  
Malaysian Standard 1553-2002  
BS EN 1991-1-4:2005



Application:



Metal Roof



Corrugated Roof

## GROUNDING PARTS

### Grounding Lug

YS-GL-Z : For electricity conductive.



### Grounding Washer

YS-GW-01: Pierce anodization coating through its teeth for electricity conductive.



# LF-S80



End Clamp Kit YS-EC1-35Z

Mid Clamp Kit YS-MC1-35Z

Rail YS-147

Rail Splice Kit YS-06-Z

L Foot Kit

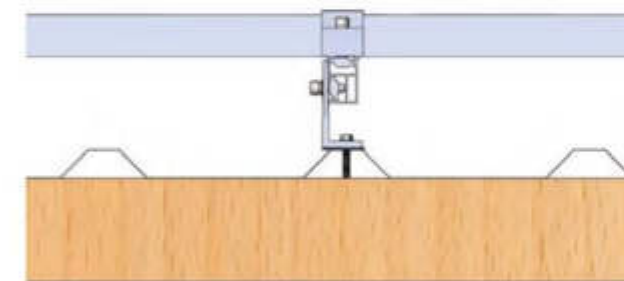
YS-LF-S80 / YS-LH-13K /

YS-LH-15K / YS-CL-13 /



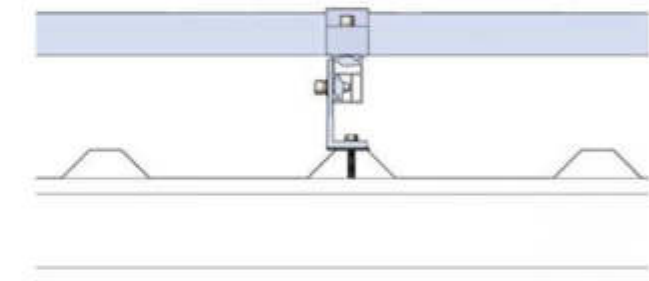
## Various Solutions

### (1) Wooden Purlin

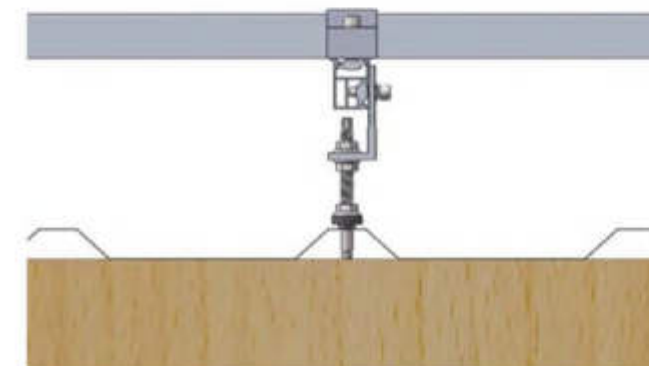


L Foot + Wooden Screw 6.3x80mm / 8x80mm

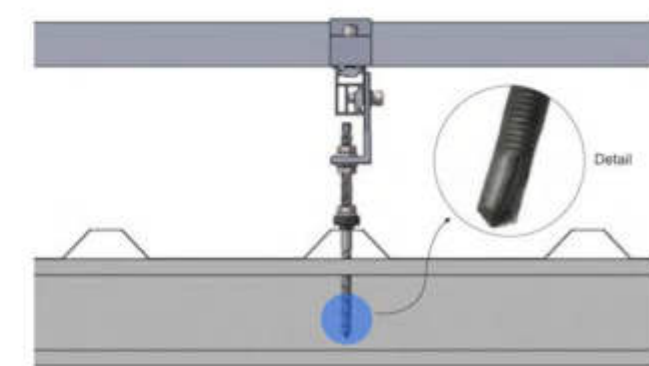
### (2) Steel Beam



L Foot + Self Tapping Screw 6.3x80mm



L Foot + Hanger Bolt M10x200mm / 250mm / 300mm  
M12x200mm / 250mm



L Foot + Alloy Steel Hanger Bolt With Tapping Head  
M10x200mm / 250mm / 300mm

**End Clamp Kit**  
 YS-EC1-35Z  
 For different module frame heights  
 Mill finished or black  
 Pre-assembled



**Mid Clamp Kit**  
 YS-MC1-35Z  
 For different module frame heights  
 Mill finished or black  
 Pre-assembled



**Rail**  
 YS-147  
 Rail in various lengths.



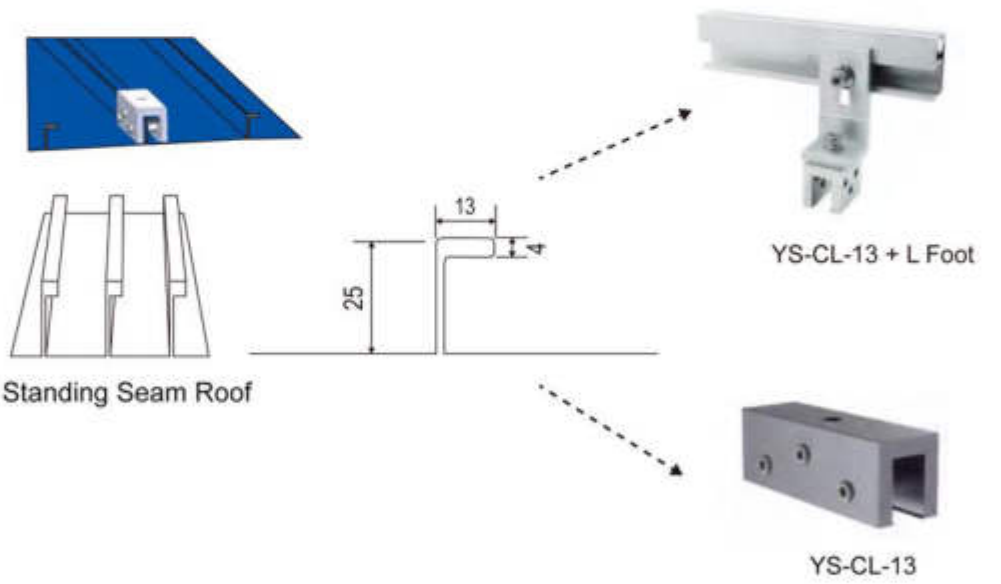
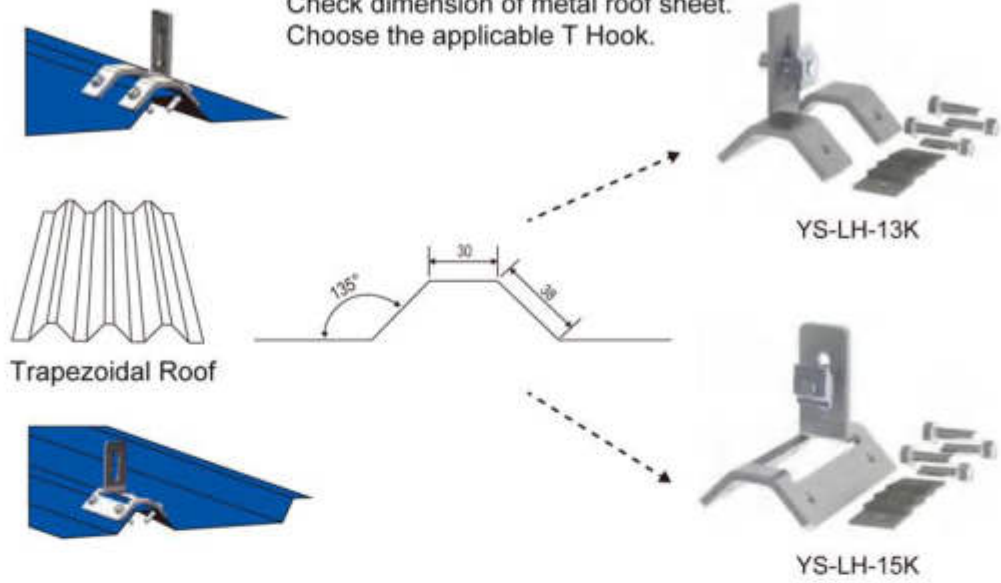
**Rail Splice Kit**  
 YS-06-Z  
 Internal connectors.



**L-Foot**  
 YS-LF-S80  
 Fix the L foot to the wood /  
 steel purlin.



**T Hook Kit**  
 Check dimension of metal roof sheet.  
 Choose the applicable T Hook.



## PROJECT FOR METAL ROOF



# Variety / Easy Installation

## Non-Penetration Design / Water Leakage Protection



# RP-4

## TECHNICAL DATA

### Tin Roof Mount RP-4

#### Application

Standing Seam / Trapezoidal Metal Roof Sheet

#### Module Frame Height

25-50mm

#### Module Orientation

Portrait, Landscape

#### Requirements

Sheet thickness:  $\geq 0.4\text{mm}$  steel or  
 $\geq 0.5\text{mm}$  aluminium  
 Trapezoidal sheet crest width:  $\geq 20\text{mm}$

#### Material

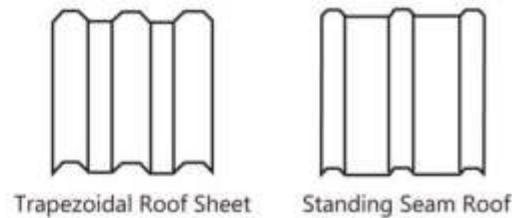
Aluminium EN AW-6005 T5  
 With 12-15um Anodization.  
 SUS410 Self-Tapping Screw.  
 SUS304 Fastener Bolt.  
 EPDM Rubber.

#### Standard

Japan JIS C 8955:2011  
 ASCE 7-10  
 Malaysian Standard 1553:2002  
 BS EN 1991-1-4:2005



### Application:



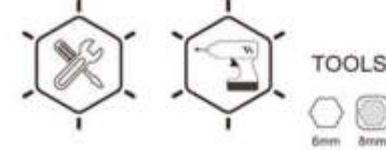
## GROUNDING PARTS

#### Grounding Lug

YS-GL-Z : For electricity conductive.

#### Grounding Washer

YS-GW-01: Pierce anodization coating through its teeth for electricity conductive.



## Clip Lock Kit

Check dimension of metal roof sheet.  
 Choose the applicable clip lock.

### End Clamp Kit

YS-EC1-35J

For different module frame heights  
 Mill finished or black  
 Pre-assembled



### Mid Clamp Kit

YS-MC1-35J

For different module frame heights  
 Mill finished or black  
 Pre-assembled



### Rail

YS-97

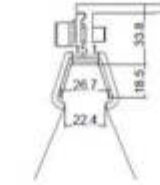
Rail in various lengths



### Rail Splice Kit

YS-98-Z

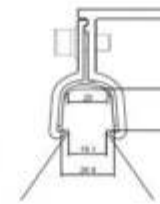
Internal connectors



Rib Standing Seam



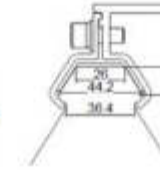
YS-CL-01



Rib Standing Seam



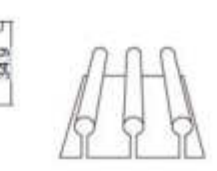
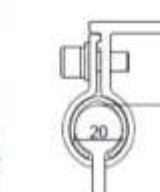
YS-CL-02



Rib Standing Seam



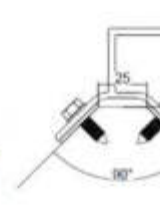
YS-CL-24



Round Standing Seam



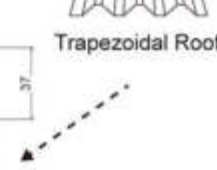
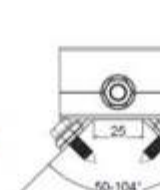
YS-CL-05



Round Standing Seam



YS-CL-06

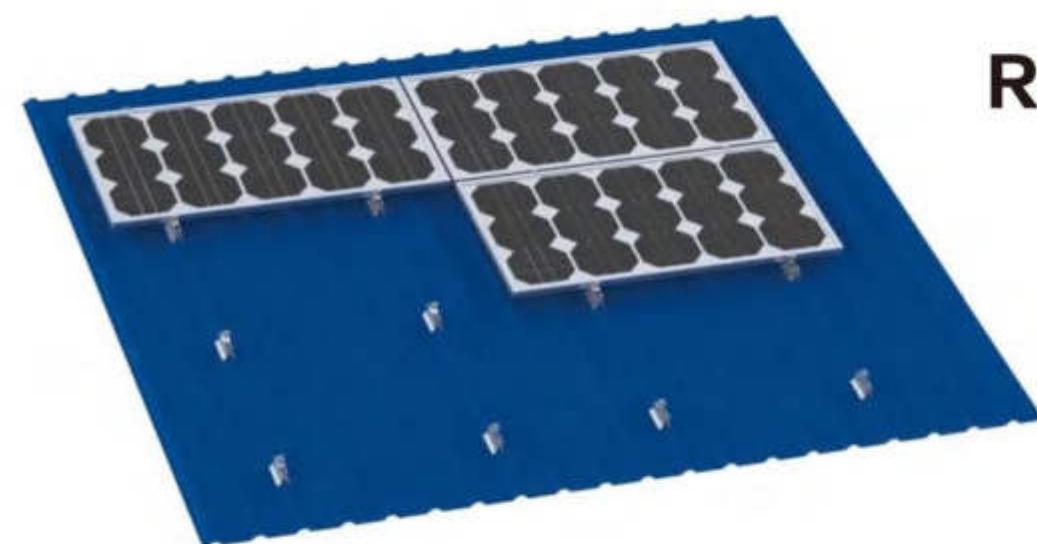
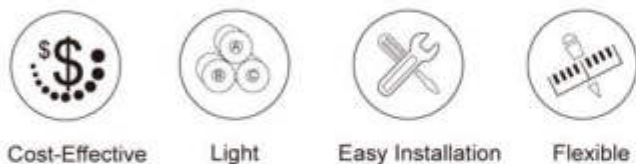


Trapezoidal Roof



YS-CL-23

Cost-Effective / Light / Easy Installation  
Flexible For Vertical & Horizontal Mounted



RP-5

## TECHNICAL DATA

### Mini Rail Roof System RP-5

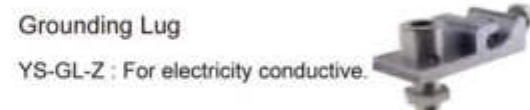
<b>Application</b>	<b>Length</b>
All Types of Metal Roof	100mm - 400mm Depending on Ridge / Crest Width / Roof Sheet
<b>Module Frame Height</b>	<b>Module Orientation</b>
25-50mm	Portrait, Landscape
<b>Requirements</b>	Sheet thickness: $\geq 0.4\text{mm}$ steel or $\geq 0.5\text{mm}$ aluminium Trapezoidal sheet crest width: $\geq 20\text{mm}$ Corrugated sheet radiuses: 22-45mm
<b>Material</b>	Aluminium EN AW-6005 T5 With 12-15um Anodization SUS410 Self-Tapping Screw SUS304 Fastener Bolt EPDM Rubber
<b>Standard</b>	Japan JIS C 8955:2011 ASCE 7-10 Malaysian Standard 1553-2002 BS EN 1991-1-4:2005



### Application:

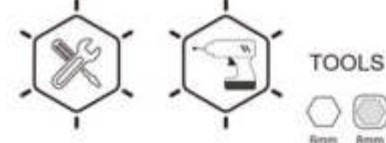


## GROUNDING PARTS



### Grounding Washer

YS-GW-01: Pierce anodization coating through its teeth for electricity conductive.



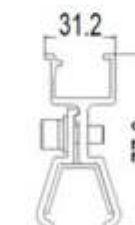
## Mini Rail Clip Lock Type

Various lengths available

### End Clamp Kit

YS-EC1-35Z

For different module frame heights  
Mill finished or black  
Pre-assembled



Rib Standing Seam

YS-CL-03



YS-CL-04



Rib Standing Seam

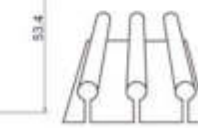
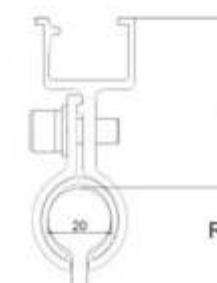
YS-CL-12



### Mid Clamp Kit

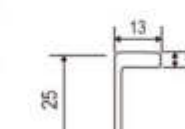
YS-MC1-35Z

For different module frame heights  
Mill finished or black  
Pre-assembled



Round Standing Seam

YS-CL-13



Angled and Snaplock Standing Seam



Cost-Effective



Light



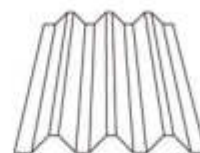
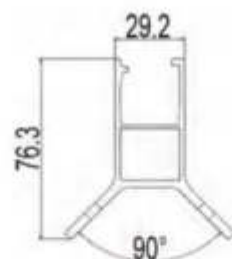
Easy Installation



Flexible

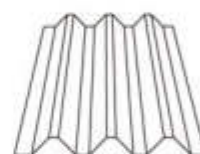
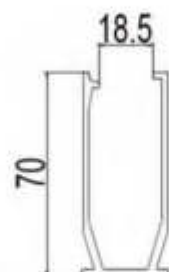
## Mini Rail Trapezoidal Type

Various lengths available



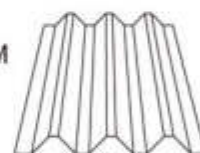
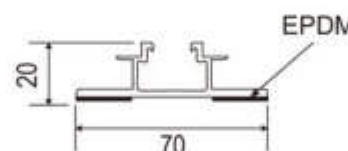
Trapezoidal Roof

YS-CL-08



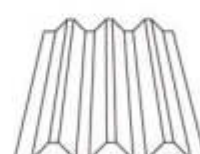
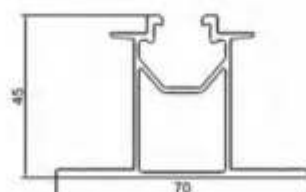
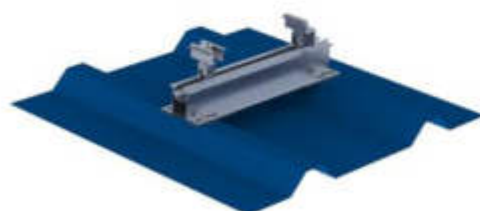
Trapezoidal Roof

YS-CL-09



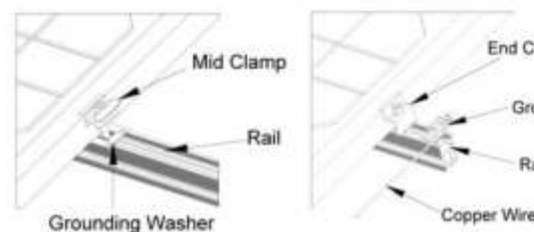
Trapezoidal Roof

YS-CL-21



Trapezoidal Roof

YS-CL-32



/ The sufficient holding force of the roof covering at the support or substructure must be ensured on site.

/ Roof pitch 5° - 40°

/ Sufficient load reserves to support the PV system.

Equipotential bonding / grounding / earthing between individual parts is to be performed according to country specific standards, as well as national laws and regulations.

## PROJECT FOR METAL ROOF





# MOUNTING

## FLAT ROOF



Highly Pre-assembly / Static Reliability /  
Available for Severe Weather Area



Flat Roof &  
Sloping Metal Roof



Pre-assembly



Easy Installation



Severe Weather  
Available

## TP-1 (Flat Roof)



### TECHNICAL DATA

#### Adjustable Triangle System TP-1

<b>Application</b> Flat Roofs ≤ 5° On Concrete, Gravelled, Green Roofs Or Metal Roof	<b>Fastening Type</b> Expansion Bolt M8x80mm Self-Tapping Screw 6.3x80mm
<b>Module Frame Height</b> 25-50mm	<b>Module Orientation</b> Portrait, Landscape
<b>Snow Load</b> 1,4KN / m <sup>2</sup>	<b>Wind Speed</b> 60m/s
<b>Inclination</b>	10-15deg, 15-30deg, 25-45deg or Customized
<b>Material</b>	Aluminium EN AW-6005 T5 With 12-15um Anodization For Anti-Corrosion Fasteners A2 Quality Stainless Steel 304/410
<b>Standard</b>	Japan JIS C 8955:2011 ASCE 7-10 Malaysian Standard 1553-2002 BS EN 1991-1-4:2005

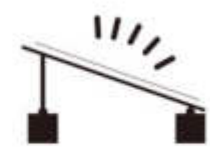


YEARS  
12  
WARRANTY

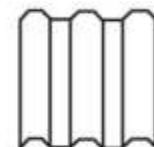


YEARS  
25  
SERVICE LIFE

Application:



Flat Roof



Metal Roof

### GROUNDING PARTS

Grounding Lug

YS-GL-Z : For electricity conductive.

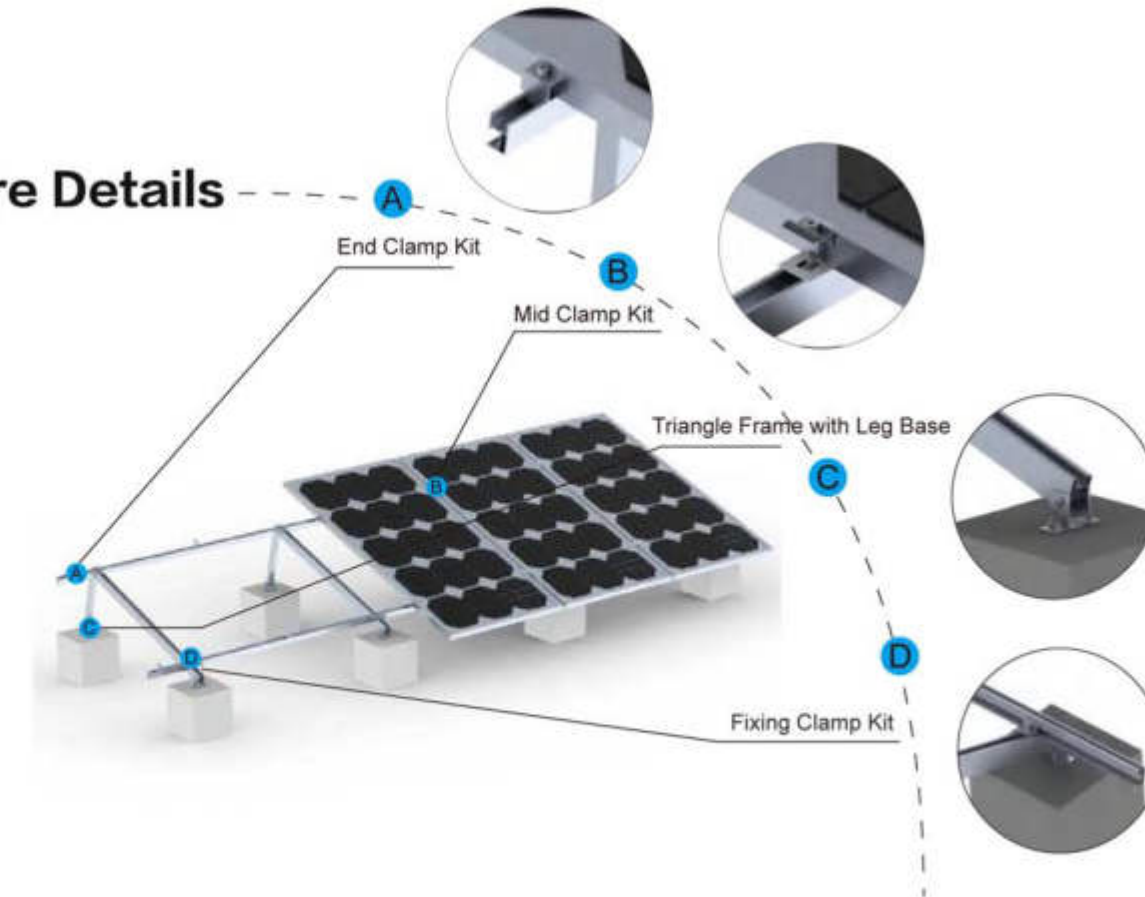


Grounding Washer

YS-GW-01: Pierce anodization  
coating through its teeth for  
electricity conductive.



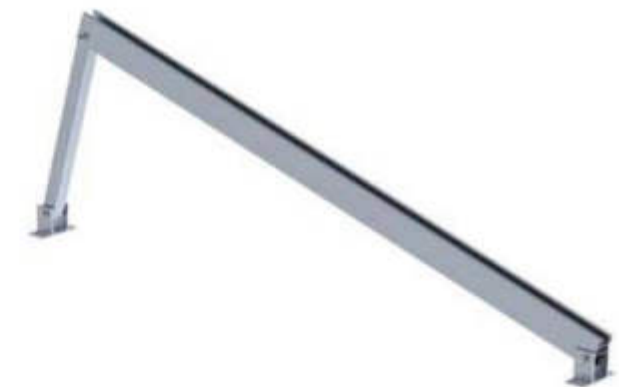
### Structure Details



### TRIANGLE BRACKET PARTS

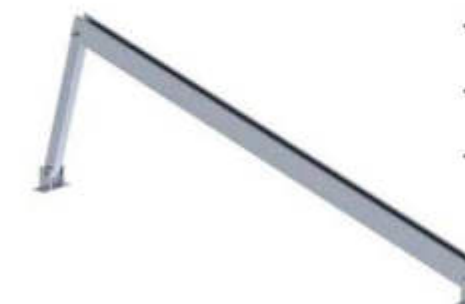
YS-HTF

Refined system with well thought-out  
connections.  
Enables systemic storage and flexible  
application possibilities.



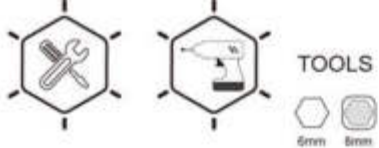
Fixed Semi-Triangle Frame with Leg Base

Pre-assembled Bracket



Package





#### End Clamp Kit

YS-EC1-35Z

For different module frame heights  
Mill finished or black  
Pre-assembled



#### Mid Clamp Kit

YS-MC1-35Z

For different module frame heights  
Mill finished or black  
Pre-assembled



#### Rail

YS-147

Rail in various lengths



#### Rail Splice Kit

YS-06-Z

Internal connectors



#### Fixing Clamp Kit

YS-FC-05Z

Fix rail to the support frame.



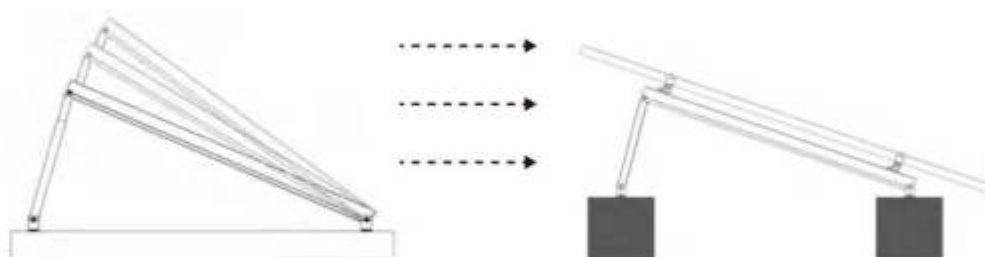
#### YS-HAF

Various elevations allow flexible use by adjusting the inner and outer support frames.

Adjust an optimal inclination to gain up power capacity in different seasons.



#### Adjustable Semi-Triangle Frame with Leg Base



**Features** Adjust the tilt angle to reach optimal degrees in different seasons.  
Tilt Range: 10-15deg, 15-30deg, 25-45deg, Or Customized.

#### Leg Base

YS-136

Leg base for anchoring directly into the concrete roof.



## PROJECT FOR FLAT ROOF



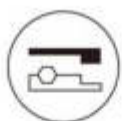
Non-Penetration / Ballast-Optimized System /  
Easy Installation / Simple Components



Pre-assembly



Easy Installation



Simple Components

## TP-2 (Flat Roof)



### TECHNICAL DATA

#### Ballast System TP-2

##### Application

Flat Roofs 5° Concrete,  
Gravelled or Green Roofs.  
Trapezoidal Sheet Metal Roofs

##### Fastening Type

Ballasted With Concrete Blocks  
Fastened Directly Into The  
Metal Roof

##### Module Frame Height

25-50mm

##### Module Orientation

Portrait, Landscape

##### Snow Load

1,4KN / m<sup>2</sup>

##### Wind Speed

60m/s

##### Inclination

10-15deg, 15-30deg, 25-45deg or Customized

##### Material

Aluminium EN AW-6005 T5  
With 12-15um Anodization For Anti-Corrosion  
Fasteners A2 Quality Stainless Steel 304/410

##### Standard

Japan JIS C 8955:2011  
ASCE 7-10  
Malaysian Standard 1553-2002  
BS EN 1991-1-4:2005



Application:



Flat Roof



Metal Roof

### GROUNDING PARTS

#### Grounding Lug

YS-GL-Z : For electricity conductive.

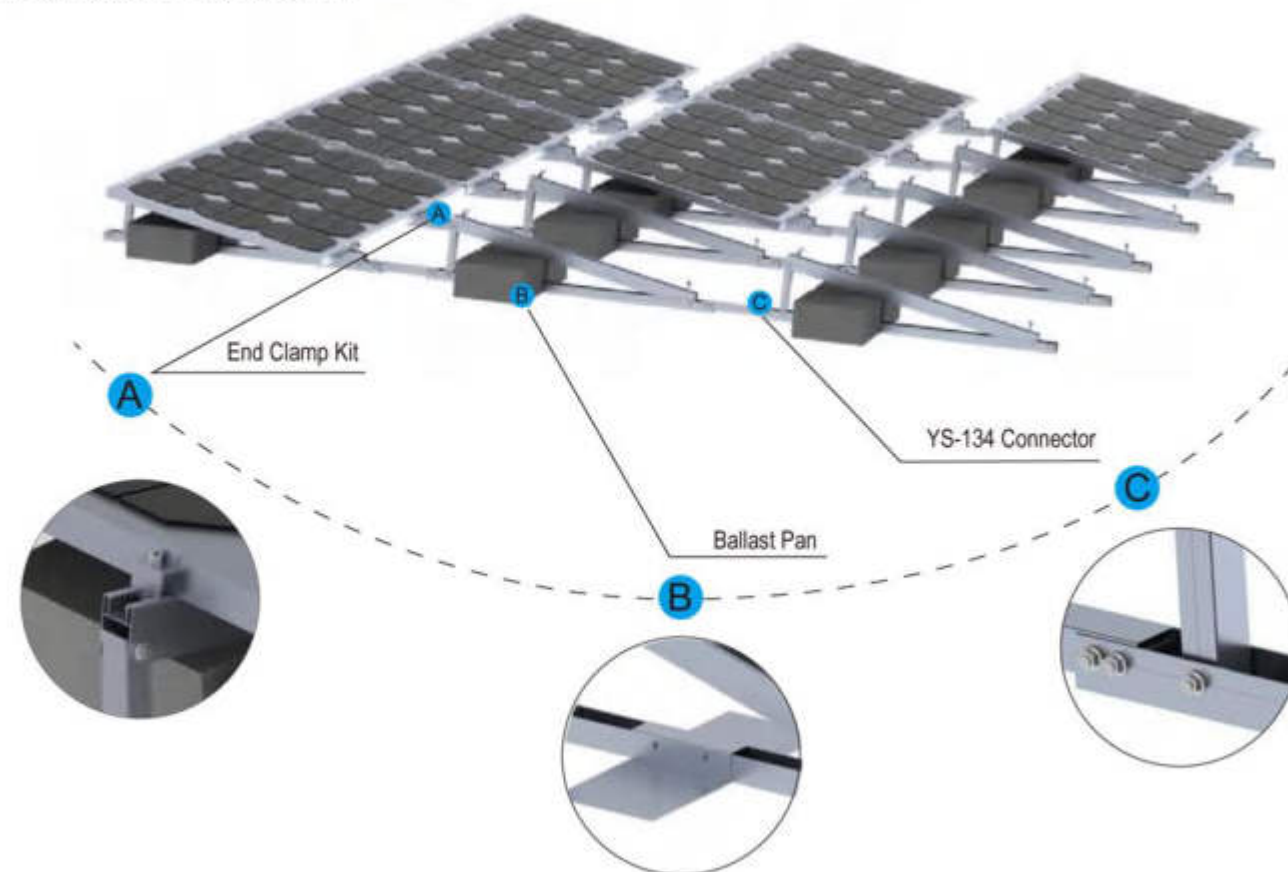


#### Grounding Washer

YS-GW-01: Pierce anodization  
coating through its teeth for  
electricity conductive.



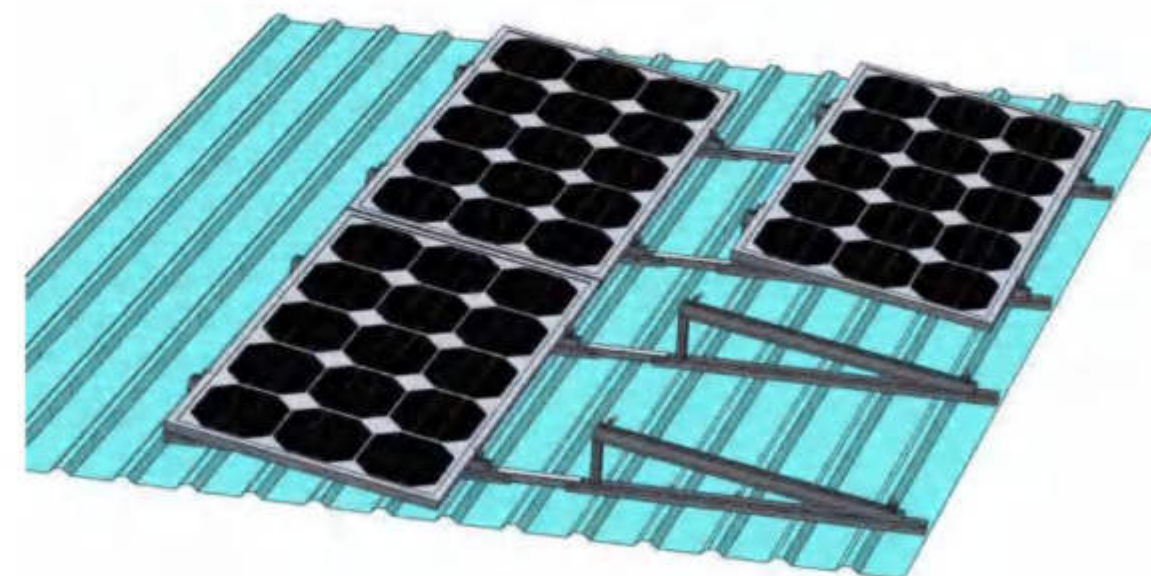
## Structure Details



Side View



## Metal Roof Application



End Clamp Kit  
YS-EC1-35Z  
For different module frame heights  
Mill finished or black  
Pre-assembled



Ballast Pan  
YS-53-TP  
User-friendly installation.



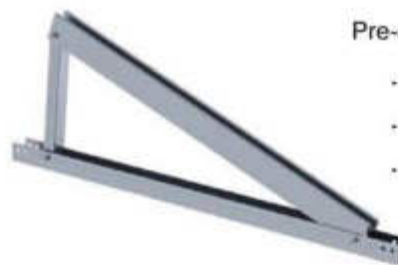
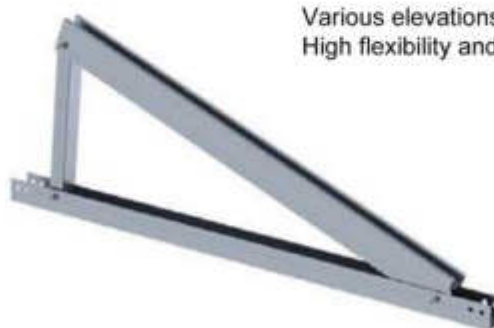
Connector  
YS-134  
External connector in various lengths.



Ballast system has fixed angle and adjustable angle options:

### 1. Fixed Angle System

Various elevations allow flexible use by cutting support frame.  
High flexibility and customized solutions.



Pre-assembled Bracket



Package



### 2. Adjustable Angle System

Various elevations allow flexible use by adjusting the inner and outer support frames.

Adjust an optimal inclination to gain up power capacity in different seasons.



PROJECT FOR  
FLAT ROOF



Available For Flat Roof & Sloping Metal Roof/  
Highly Pre-Assembly / Simple & Quick Installation /  
Adjustable Tilt Angle /



Flat Roof &  
Sloping Metal Roof



Pre-Assembly



Quick Installation



Adjustable Tilt Angle

## TP-4 (Flat Roof)



### TECHNICAL DATA

#### RCC Flat Roof System TP-4

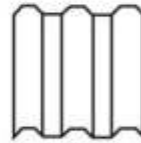
<b>Application</b> Flat roofs≤5°Concrete, Gravelled or Green Roofs Trapezoidal Sheet Metal Roofs	<b>Fastening Type</b> Expansion Bolt M8x80mm Self-tapping Screw 6.3x80mm
<b>Module Frame Height</b> 25-50mm	<b>Module Orientation</b> Portrait, Landscape
<b>Snow Load</b> 1.4kN / m <sup>2</sup>	<b>Wind Speed</b> 60m/s
<b>Inclination</b>	10-15deg, 15-30deg, 25-45deg or Customized
<b>Material</b>	Aluminium EN AW-6005 T5 With 12-15um Anodization For Anti-Corrosion Fasteners A2 Quality Stainless Steel 304/410
<b>Standard</b>	Japan JIS C 8955:2011 ASCE 7-10 Malaysian Standard 1553-2002 BS EN 1991-1-4:2005



Application:



Flat Roof



Metal Roof

### GROUNDING PARTS

Grounding Lug

YS-GL-Z : For electricity conductive.

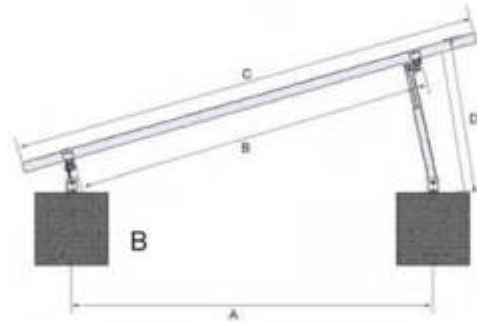
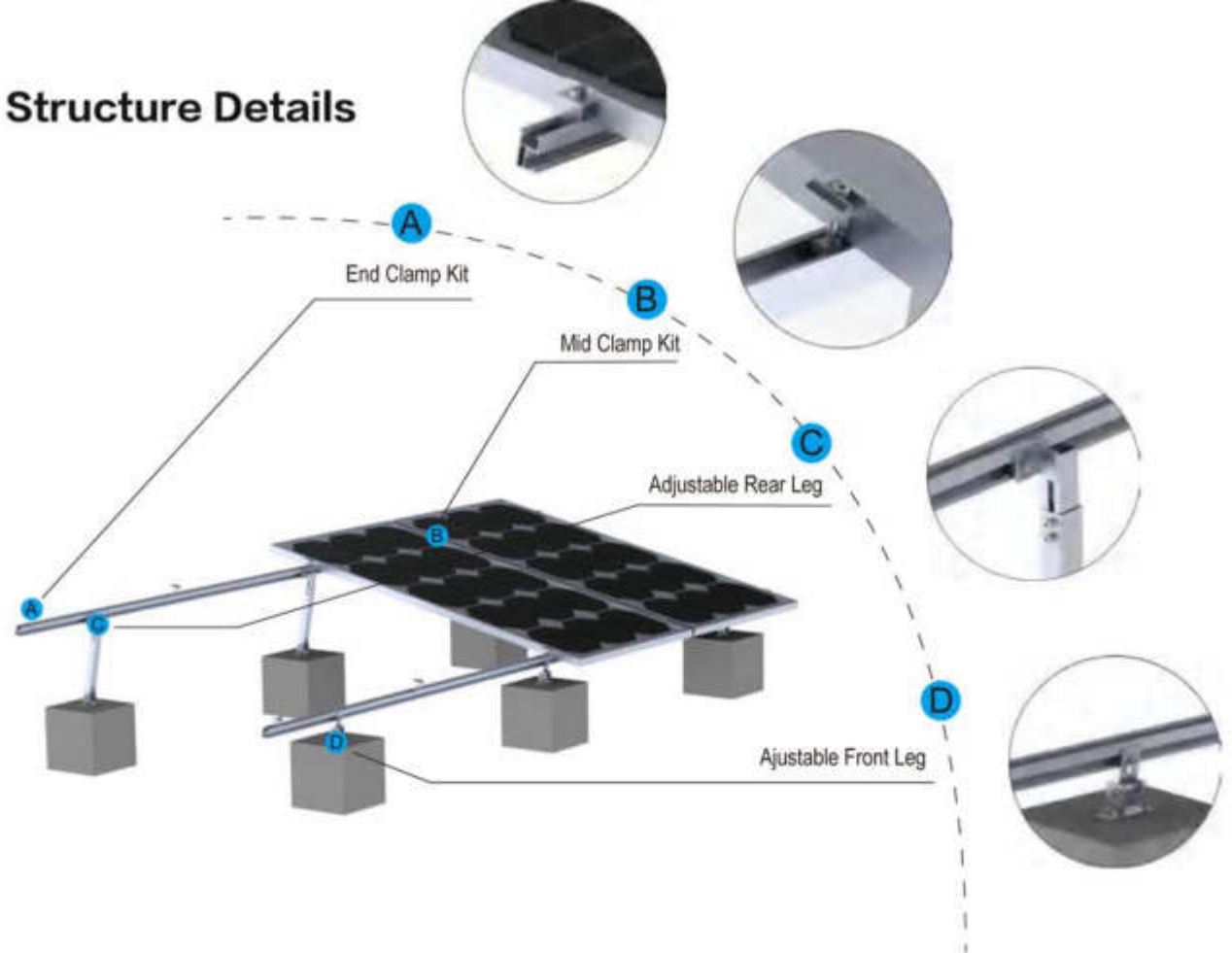


Grounding Washer

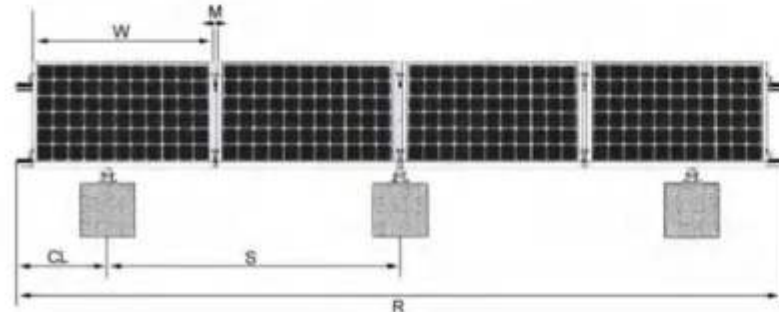
YS-GW-01: Pierce anodization  
coating through its teeth for  
electricity conductive.



### Structure Details



Side View



Front View

### Structure Introduction

- A. Front and Rear space: 1200-1500mm
- B. Similar as "A"
- C. Module Length
- D. Adjustable Rea Leg: 10-15deg, 15-30deg, 25-45deg or Customized
- W. Width of Module
- M. Gaps of Mid Clamp
- S. Spacing of adjacent legs depends on static requirements like wind load and snow load
- R. Rail Total Length
- CL. Cantilever Length

End Clamp Kit  
YS-EC1-35Z  
For different module frame heights  
Mill finished or black  
Pre-assembled



Mid Clamp Kit  
YS-MC1-35Z  
For different module frame heights  
Mill finished or black  
Pre-assembled



Rail  
YS-147  
Rail in various lengths



Rail Splice Kit:  
YS-06-Z  
Internal connectors



TP-4 (Sloping Metal Roof)



Fixed Rear Leg  
YS-RL

Anchoring the leg base on flat concrete block or floor directly.  
Or fixing it on the trapezoidal roof.



Adjustable Rear Leg  
YS-ARL

Various elevations allow flexible use by adjusting the inner and outer support frames.



Ajustable Front Leg  
YS-AFL

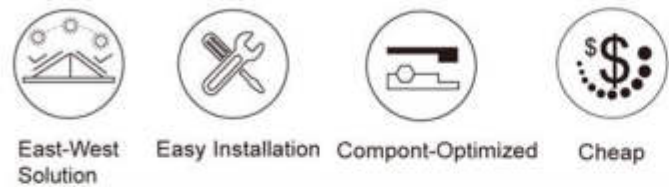
Anchoring the leg base on flat concrete block or floor directly.  
Or fixing it on the trapezoidal roof.



PROJECT FOR  
FLAT ROOF



East-West Solution / Easy Installation /  
Component-Optimized / Cheap



# TP-7



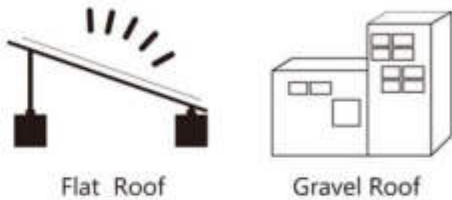
## TECHNICAL DATA

### Flat Roof Ballast System TP-7

<b>Application</b> Flat roofs≤5°Concrete, Gravelled or Green Roofs Trapezoidal Sheet Metal Roofs With Continuous Mounting Rails	<b>Fastening Type</b> Concrete Ballasted And No Roof Penetration
<b>Module Frame Height</b> 25-50mm	<b>Module Orientation</b> Landscape
<b>Snow Load</b> 1,4KN / m²	<b>Wind Speed</b> 60m/s
<b>Inclination</b> 5deg, 10deg, 15deg or Customized	
<b>Material</b>	Aluminium EN AW-6005 T5 With 12-15um Anodization For Anti-Corrosion Fasteners A2 Quality Stainless Steel 304/410
<b>Standard</b>	Japan JIS C 8955:2011 ASCE 7-10 Malaysian Standard 1553-2002 BS EN 1991-1-4-2005



Application:

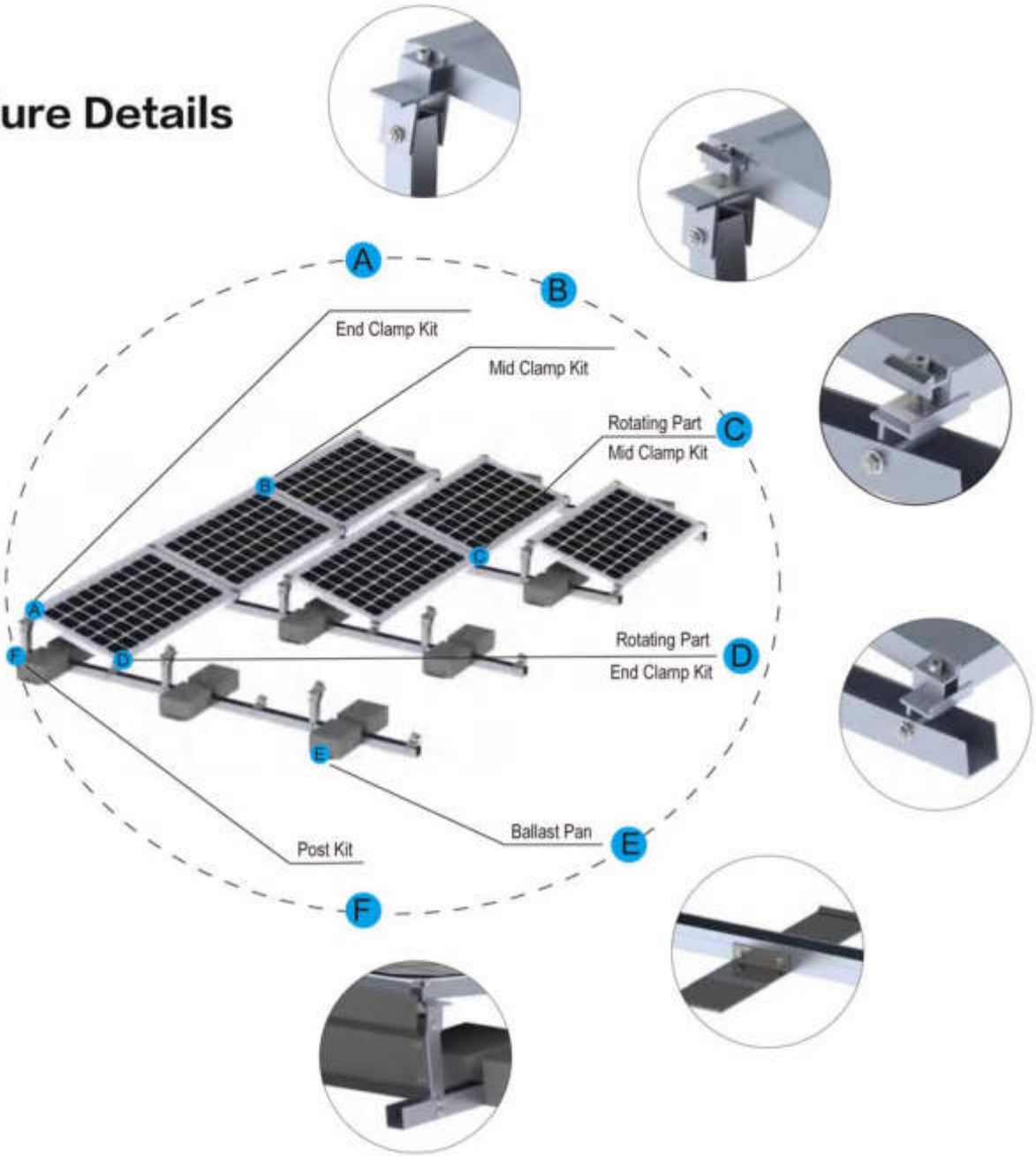


## GROUNDING PARTS

Grounding Lug  
YS-GL-N : For electricity conductive.

Grounding Washer  
YS-GW-01: Pierce anodization  
coatingthrough its teeth for  
electricity conductive.

## Structure Details



## South-Oriented Solution

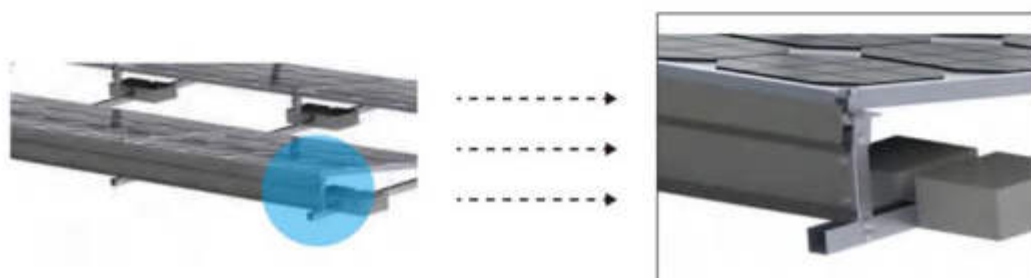


## East / West-Oriented Solution

Double alignment for maximum surface use.



## Wind Deflector for Severe Weather Area



## Base Rail

YS-30

Rail in various lengths.



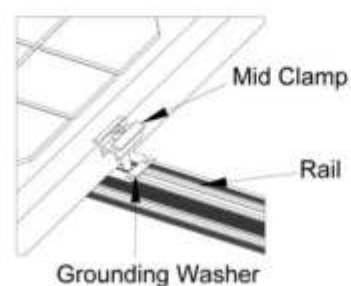
## Post Kit

YS-134

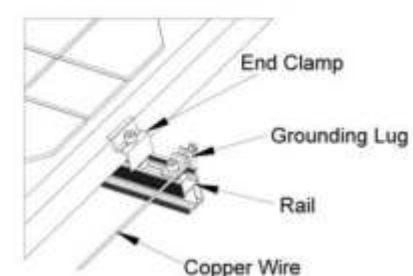
Clamping at the short module side permitted.  
No roof penetration.



/ The sufficient holding force of the roof covering at the support or substructure must be ensured on site.  
/ Sufficient load reserves to support the PV system.



Equipotential bonding / grounding / earthing between individual parts is to be performed according to country specific standards, as well as national laws and regulations.



## PROJECT FOR FLAT ROOF





# MOUNTING

## | GROUND

Available For Severe Weather Area/  
Corrosion Resistance / Easy Installation



Available For Severe



Anti-Corrosion  
Performance



Easy Installation

## GP-2S



### TECHNICAL DATA

#### Aluminum Ground System GP-2S

##### Application

Ground / Open Field

##### Foundation Type

Fastened with Ground Screw  
Anchored into Concrete Block

##### Module Frame Height

25-50mm

##### Module Orientation

Portrait, Landscape

##### Snow Load

1,4KN / m<sup>2</sup>

##### Wind Speed

60m/s

##### Tilt Angles

0 - 60deg

##### Ground Clearance

≤3000mm

##### Material

Aluminium EN AW-6005 T5  
With 12-15um Anodization For Anti-Corrosion  
Fasteners A2 Quality Stainless Steel 304/410  
Q235 Hot dip galvanized

##### Standard

Japan JIS C 8955:2011  
ASCE 7-10  
Malaysian Standard 1553-2002  
BS EN 1991-1-4:2005

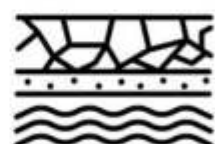


YEARS  
12  
WARRANTY

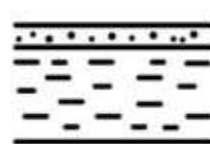


YEARS  
25  
SERVICE LIFE

#### Application:



Ground



Open Field

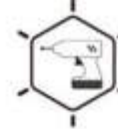
### GROUNDING PARTS

#### Grounding Lug

YS-GL-Y : For electricity conductive.

#### Grounding Washer

YS-GW-01: Pierce anodization  
coating through its teeth for  
electricity conductive.



TOOLS



#### End Clamp Kit

YS-EC1-35Y

For different module frame heights  
Mill finished or black  
Pre-assembled



#### Mid Clamp Kit

YS-MC1-35Y

For different module frame heights  
Mill finished or black  
Pre-assembled



#### Rail

YS-19

Rail in various lengths



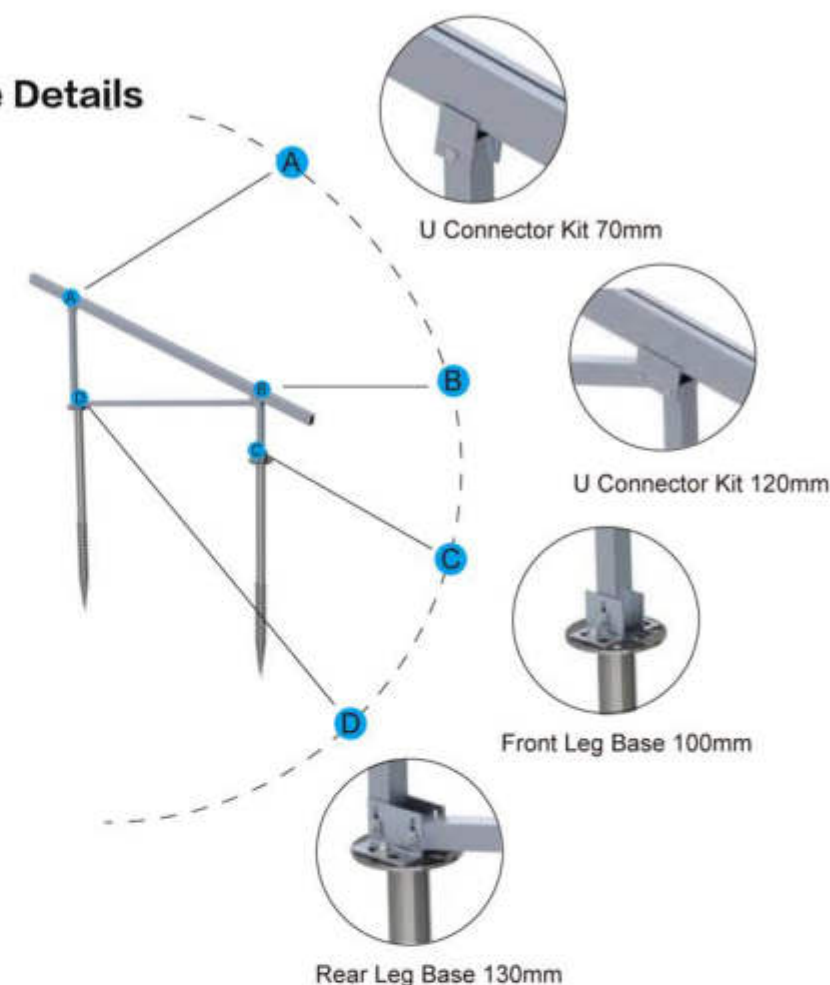
#### Fixing Clamp Kit

YS-FC-01Y

Fix rail to the support frame.



### Structure Details



### Features



A Type: Ground Clearance ≤ 300mm



N Type: Ground Clearance ≥ 600mm



W Type: Severe Weather Area

### Configuration

### Array

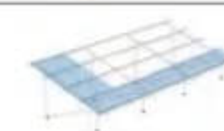
2 Portrait



3 Landscape



4 Landscape



Rail Splice Kit  
YS-20-Z  
Internal connectors.



Fixing Component  
YS-17  
Fix across bar on the back of leg for severe weather condition.



Diagonal Brace  
YS-08  
Use as front/rear leg in various lengths.

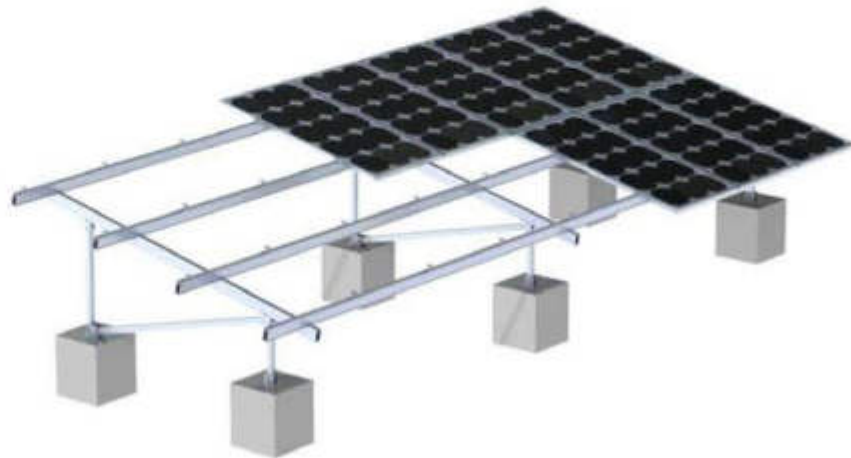


Ground Screw  
YS-GS  
Ground Screw in various types and lengths for different kinds of soil.



Foundation Type

The ground screws can be replaced by concrete block with anchor bolts.



Support Rack Kit  
YS-12  
Pre-assembled support rack can be built quickly and efficiently.



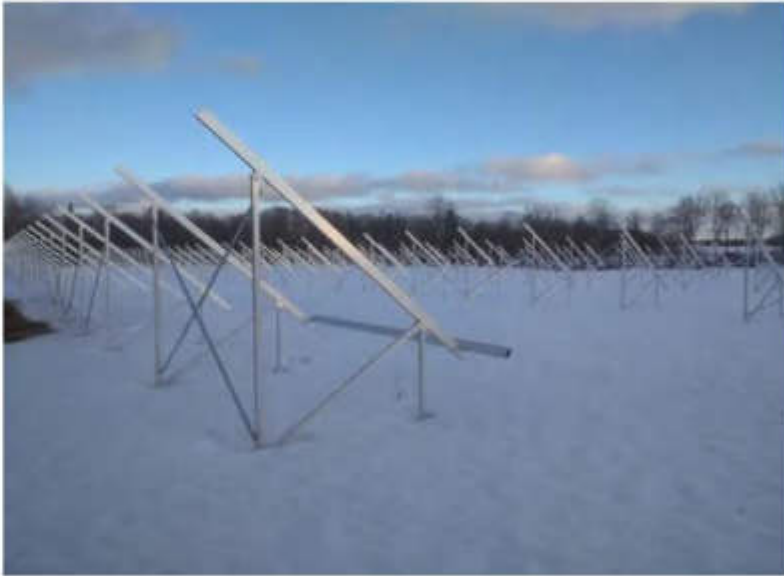
Leg Base

Fixing legs on ground screws or concrete blocks.

Base-Front  
YS-11  
Base-Rear



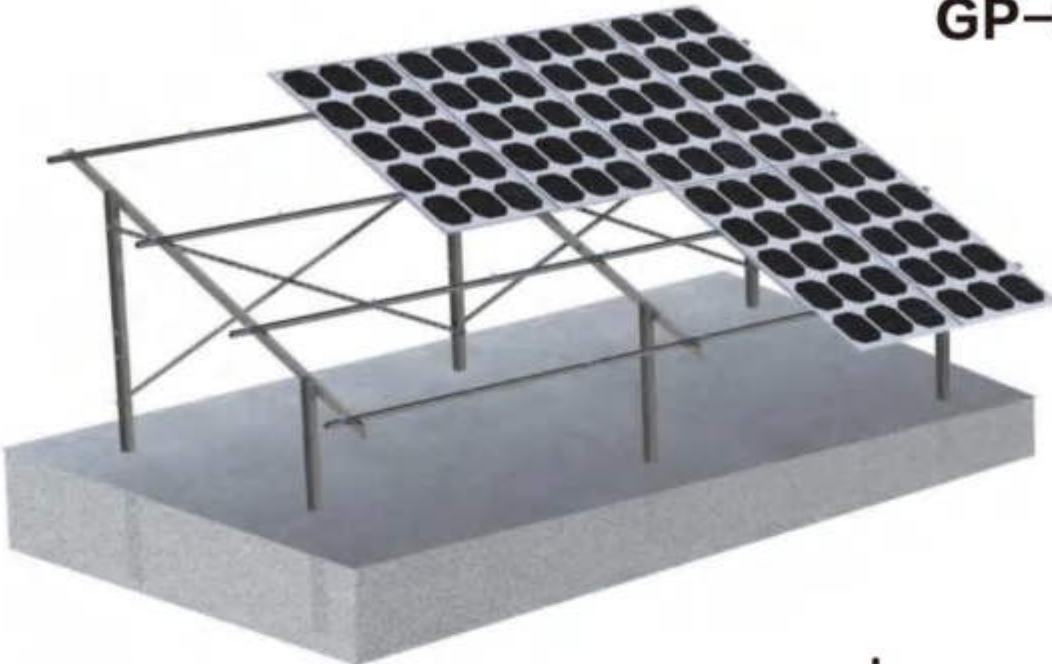
PROJECT FOR  
GROUND



Easy Installation /  
Components-Optimized / Cost-Effective

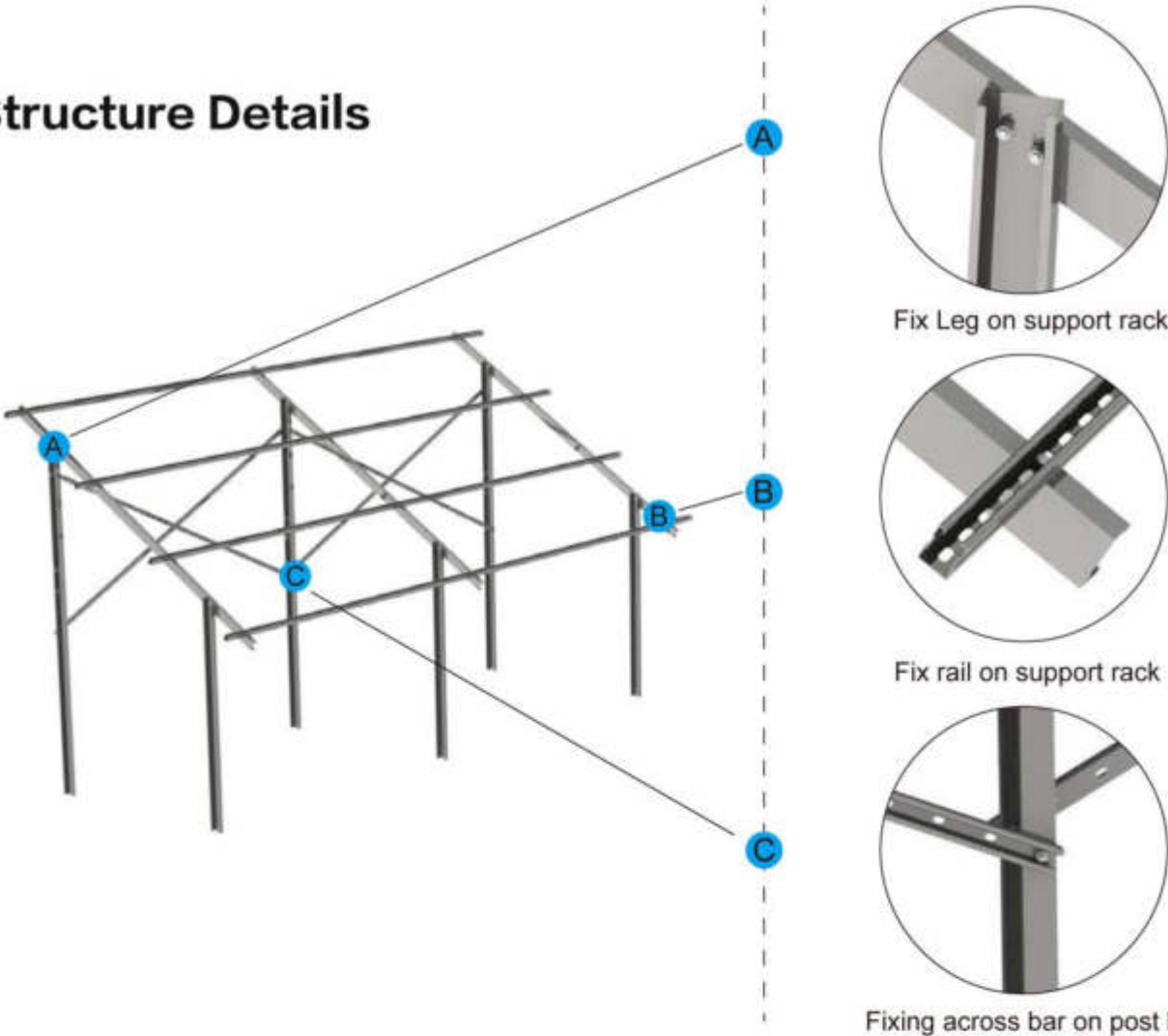


Easy Installation    Component-Optimized    Cost-Effective



GP-3C

Structure Details



Fix Leg on support rack

Fix rail on support rack

Fixing across bar on post leg

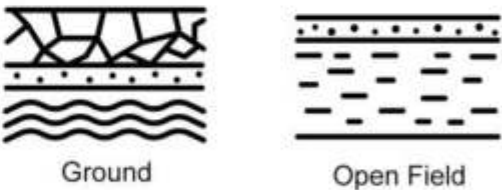
TECHNICAL DATA

Steel Pile Hammer Ground Mount System GP-3C

<b>Application</b> Ground / Open Field	<b>Foundation Type</b> Hammer Post / Pile Post
<b>Module Frame Height</b> 25-50mm	<b>Module Orientation</b> Portrait, Landscape
<b>Snow Load</b> 1,4KN / m <sup>2</sup>	<b>Wind Speed</b> 60m/s
<b>Tilt Angles</b> 0 – 60deg	<b>Ground Clearance</b> ≤3000mm
<b>Material</b>	Q235 Steel Hot dip Galvanized 80+μm Thickness Fasteners A2 Quality Stainless Steel 304
<b>Standard</b>	Japan JIS C 8955:2011 ASCE 7-10 Malaysian Standard 1553-2002 BS EN 1991-1-4:2005



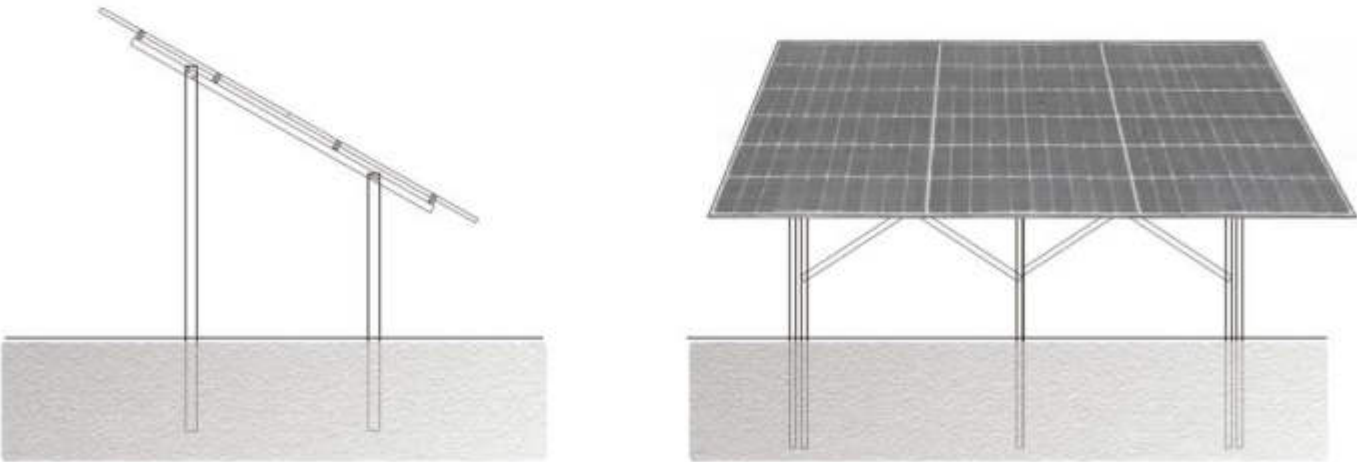
Application:

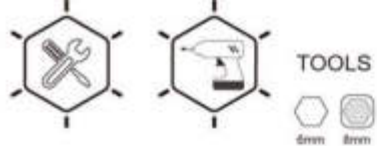


<b>Configuration</b>	<b>Array</b>
2 Portrait	
3 Landscape	
4 Landscape	

Advantages

The use of ramming post eliminates the need for additional excavation works. The pile driven machine reduces labour and time remarkably on site.





**End Clamp Kit**  
 YS-EC1-35S  
 For different module frame heights  
 Mill finished or black  
 Pre-assembled



**Mid Clamp Kit**  
 YS-MC1-35S  
 For different module frame heights  
 Mill finished or black  
 Pre-assembled

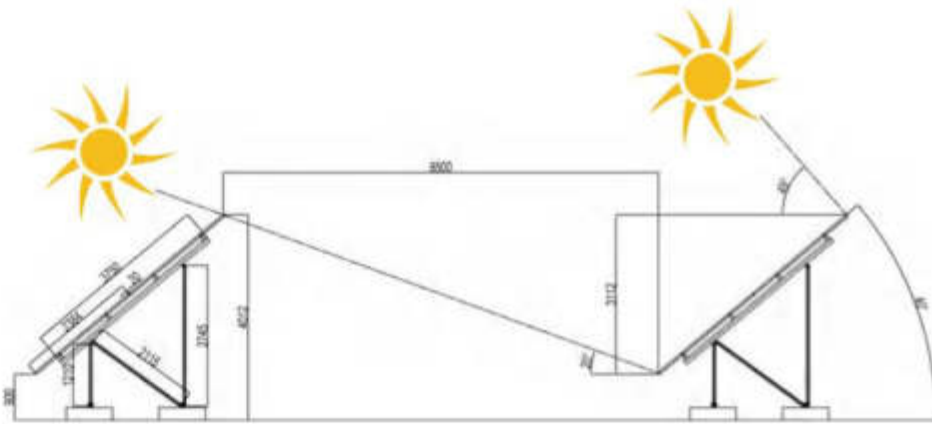
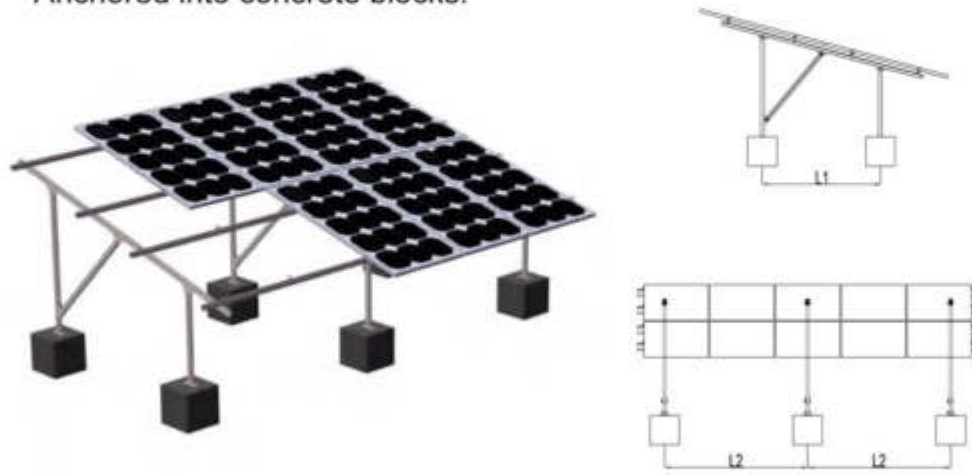


**Post**  
 YS-TG-P  
 Drill into ground and fix support rack  
 Or anchored into concrete blocks.



## GP-3C Foundation Type

Anchored into concrete blocks.



When installing a photovoltaic system, it is necessary to correctly position the successive rows of the photovoltaic system. Each of the modules placed at an optimal angle to the incidence of sunlight casts a shadow. In order to maximize the efficiency of solar panels, it is necessary to keep spacing in such a way that there is no mutual shading of successive rows of modules.

**HDG Rail Splice**  
 YS-TG-S  
 External connector.



**HDG Rail**  
 YS-TG-01  
 Rail in various lengths.



**Fixing Component**  
 YS-TG-C  
 Fix across bar on the back of leg for severe weather condition.



## PROJECT FOR GROUND





# MOUNTING

## CARPORT

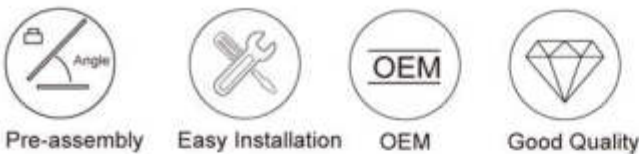
INTELLIGENT  
**MOUNTING**  
SOLUTION



**SGS**

**FDA SOLAR**  
[www.FDA-SOLAR.at](http://www.FDA-SOLAR.at)

Highly Pre-Assembly / Easy Installation /  
OEM Services / Good Quality



CL-01



TECHNICAL DATA

Aluminum BIPV Waterproof Carport System CL-1

<b>Application</b> Parking Lot, Walkway, Entrance	<b>Foundation</b> Anchored into Concrete Block
<b>Tilt Angles</b> 5°-15°	<b>Module Orientation</b> Portrait, Landscape
<b>Wind Load</b> 1.4KN / m²	<b>Snow Load</b> 60m/s
<b>Ground Clearance</b> 2000mm - 4000mm	<b>Span Length</b> 2500mm~5500mm
<b>Material</b>	Aluminium EN AW-6005 T5 Fasteners A2 Quality Stainless Steel 304
<b>Standard</b>	Japan JIS C 8955:2011 ASCE 7-10 Malaysian Standard 1553-2002 BS EN 1991-1-4:2005



Application:

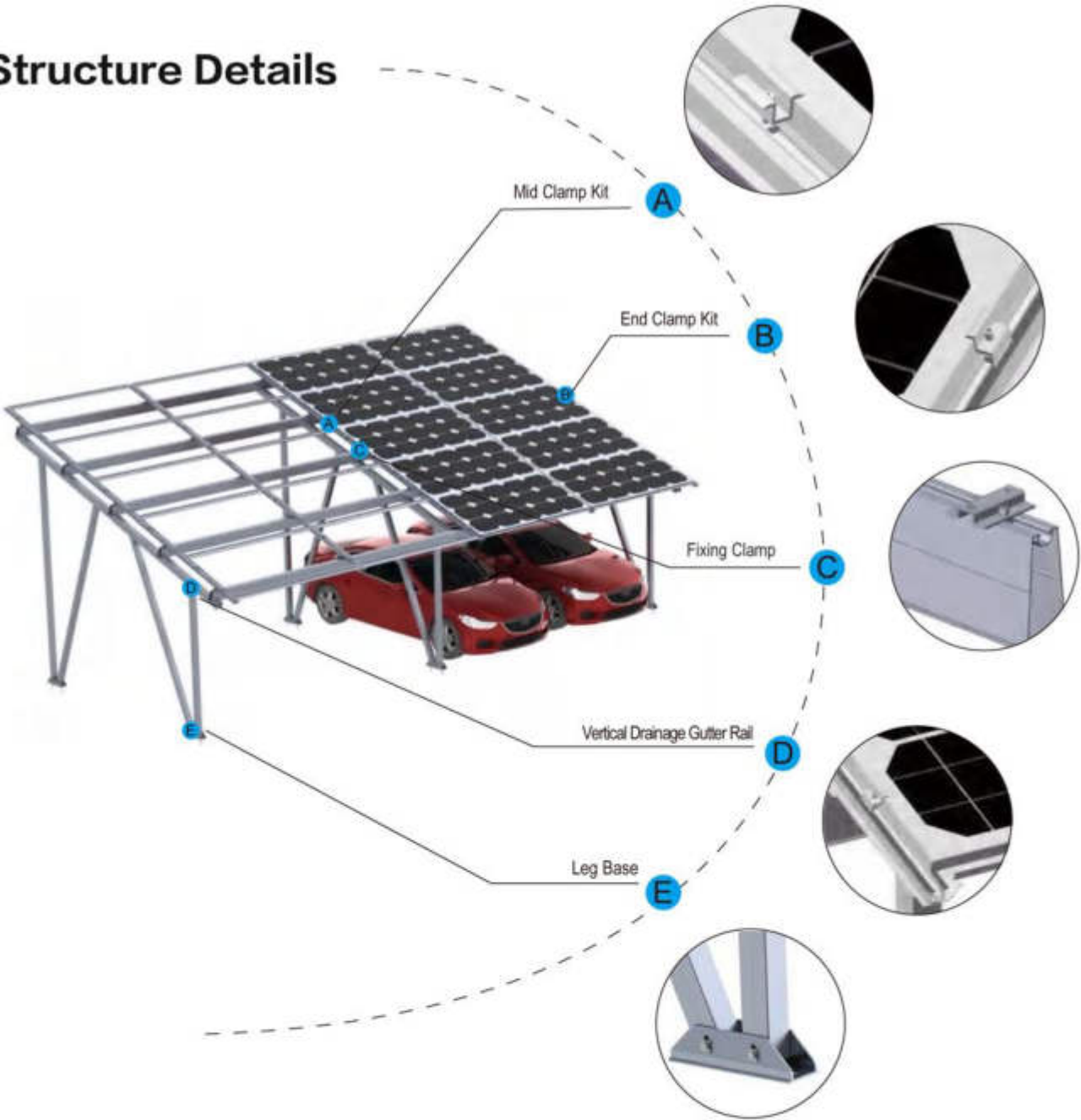


GROUNDING PARTS

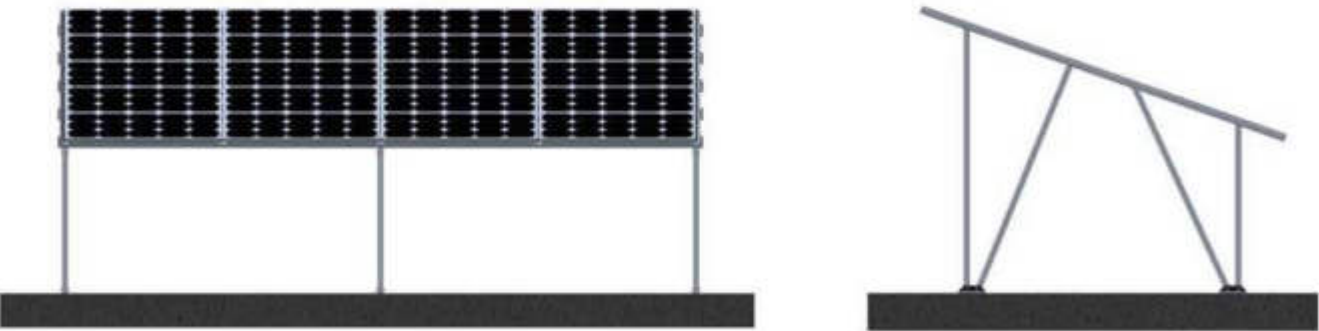
Grounding Lug  
YS-GL-Y : For electricity conductive.

Grounding Washer  
YS-GW-08: Pierce anodization coating through its teeth for electricity conductive.

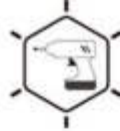
Structure Details



Features



Stylish car parking and electric charging station in front of your door. Effectively using existing parking space to protect your car from the influence of weather. It's streamlined design makes it the ideal choice for presenting environmentally friendly images or acting as a charging station for electric vehicles.



TOOLS



### End Clamp Kit

YS-EC1-35Y

Fix panel on vertical drainage gutter rail.  
Clamping at the long or short module side permitted.



### Mid Clamp Kit

YS-MC5-35Y

Clamping at the long or short module side permitted.



### Rail

YS-26

Support the vertical drainage gutter rail.



### Support Rack

YS-24

Support the rail YS-26.



### Fixing Clamp Kit

YS-FC-01Y

Fix rail to the support rack.



### Gutter Rail Fixing Clamp

YS-LC

For fixing the vertical drainage gutter rail on YS-26 rail.



### Vertical Drainage Gutter Rail

YS-WDT

For drainage & waterproof.



### Landscape Drainage Gutter Rail

YS-CDT

For drainage & waterproof.



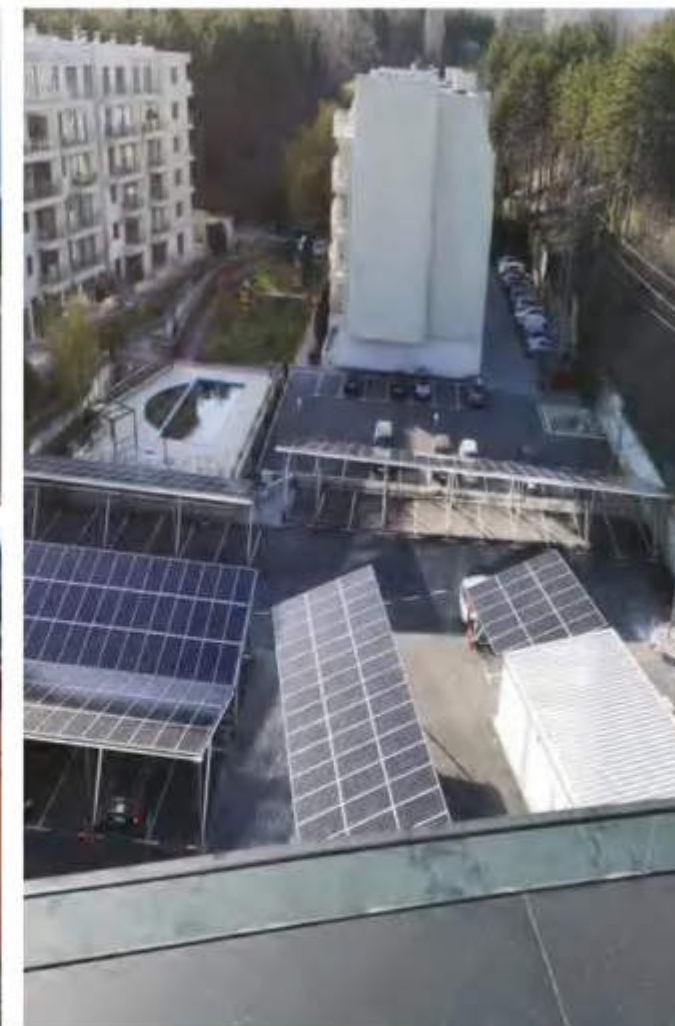
### Leg Base

YS-25

Fix front / rear leg on the base.  
Anchor it on concrete block by anchor bolt.



## PROJECT FOR CARPORT



Good Strength / Easy Installation /  
OEM / Steady and Safety



Good strength



Easy Installation



OEM



Steady and Safety

## CL-03



### TECHNICAL DATA

#### Steel BIPV Waterproof Carport System CL-03

<b>Application</b>	<b>Foundation</b>
Parking Lot, Walkway, Entrance	Anchored into Concrete Block

<b>Tilt Angles</b>	<b>Module Orientation</b>
5°-15°	Portrait, Landscape

<b>Wind Load</b>	<b>Snow Load</b>
1.4KN / m <sup>2</sup>	60m/s

<b>Ground Clearance</b>	<b>Span Length</b>
2000mm - 4000mm	2500mm~5500mm

<b>Material</b>	Aluminium EN AW-6005 T5 Q235 Steel Galvanized With 80μ Thickness Fasteners A2 Quality Stainless Steel 304
-----------------	---

<b>Standard</b>	Japan JIS C 8955:2011 ASCE 7-10 Malaysian Standard 1553-2002 BS EN 1991-1-4-2005
-----------------	---



Application:



Parking Lot



Walkway



Entrance

### GROUNDING PARTS

Grounding Lug

YS-GL-Y : For electricity conductive.



Grounding Washer

YS-GW-08: Pierce anodization coating through its teeth for electricity conductive.



## Structure Details

Support Rack

YS-CB-1

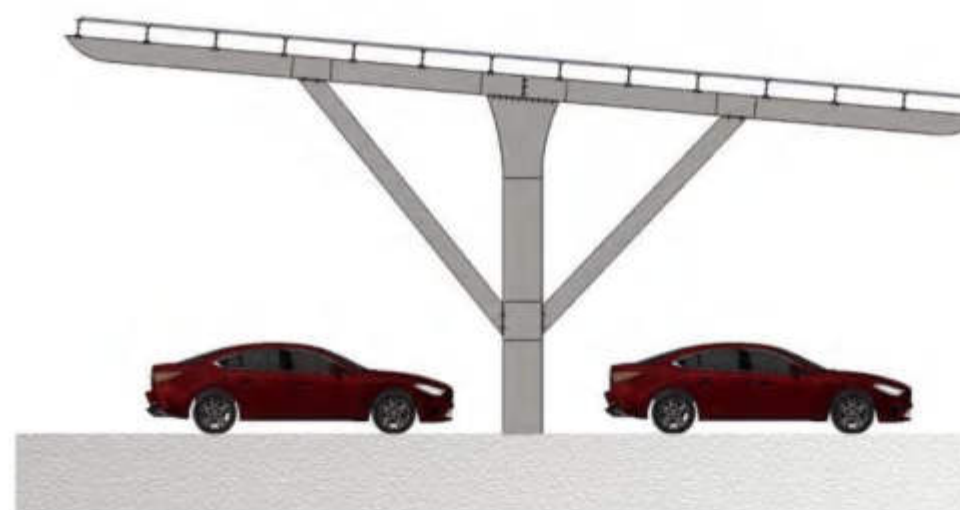
Support the rail.

Support rack in various lengths up to 6500mm.

Support Post

YS-CB-2

Single standing post.



Type A

Support rack in various lengths up to 7000mm each side.



Type B

Support rack in various lengths up to 7000mm each side.

End Clamp Kit  
YS-EC1-35Y  
Fix panel on vertical drainage gutter rail.  
Clamping at the the long or short module side permitte



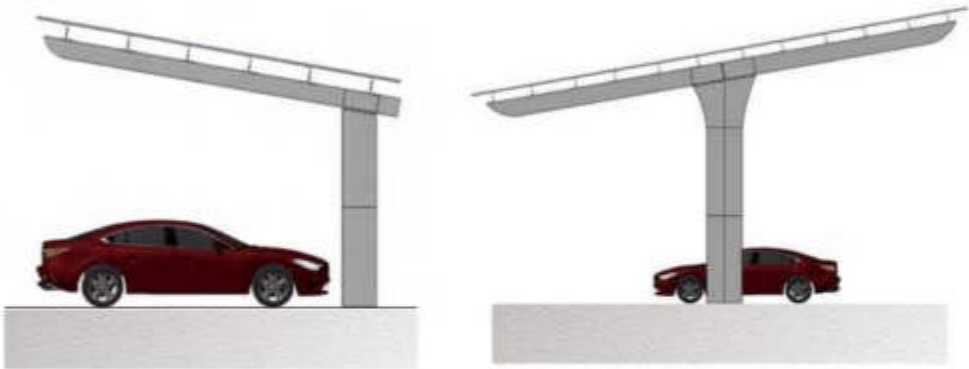
Mid Clamp Kit  
YS-MC5-35Y  
Clamping at the long or short module side permitted.



Fixing Clamp Kit  
YS-FC-01Y  
Fix rail to the support rack.



Rail  
YS-26  
Support the vertical drainage gutter rail.



Type C

Type D

Gutter Rail Fixing Clamp  
YS-LC  
For fixing the vertical drainage gutter rail on YS-26 rail.



Vertical Drainage Gutter Rail  
YS-WDT  
For drainage & waterproof.



Landscape Drainage Gutter Rail  
YS-CDT  
For drainage & waterproof.



# PROJECT FOR CARPORT





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# MOUNTING | PARTS



INTELLIGENT  
MOUNTING  
SOLUTION





# Ground Screw

### TECHNICAL DATA

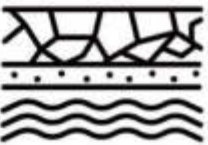
#### Ground Screw

<b>Application</b> All types of Soil	<b>Pipe Material</b> Q235 Steel
<b>Pipe Thickness</b> 2-4mm	<b>Pipe Diameter</b> 60-89mm
<b>Surface Treatment</b> Hot Dip Galvanized 80+µm Thickness	<b>Pipe Length</b> 1000-3500mm, Or Customized

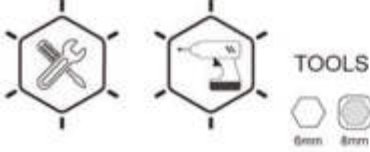


5 Years Limited Finish Warranty.  
25 Years Service Life.

#### Application



Soil Ground

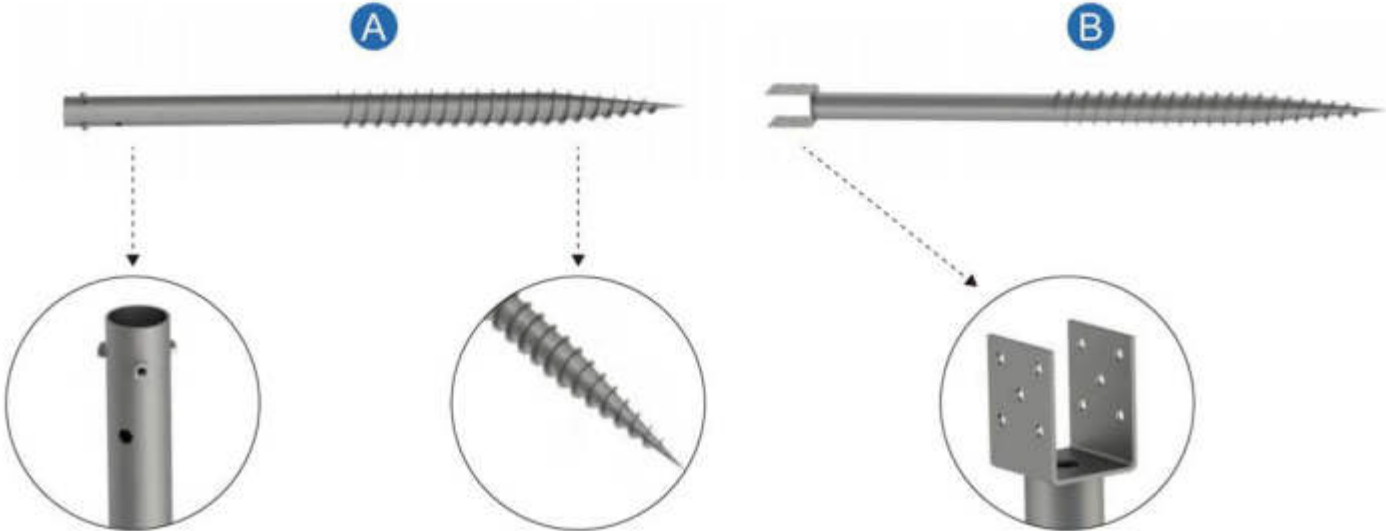


### Technical Data

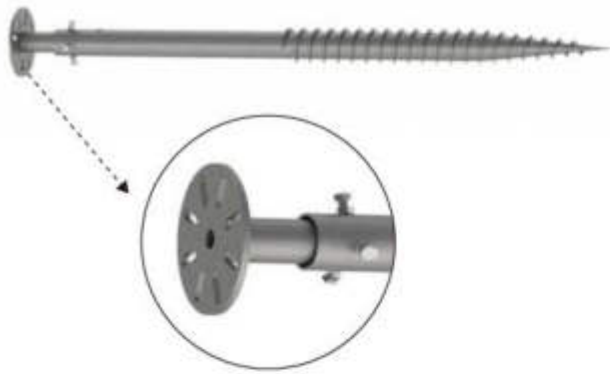
Solar Panel Spec			Array			WS m/s	Tilt°	QTY of piles	Result	
2279	1134	35	2	X	20	30	5	14	4153.4775	
Soil  Load qpk (KPa)	Clay & Silt	Mucky Soil	Viscidty Loess	Silt	Fine-Silty Sand	medium sand	Coarse sand	Gravelly sand	Pudding stone	Gravel-cobblestone
	100	200	300	250	550	850	1400	1500	1800	2000
	End Point Resistance Force Qpk (N)									
	453	907	1360	1134	2494	3854	6348	6801	8161	9068
Soil  Load qpk (KPa)	Clay & Silt	Mucky Soil	Viscidty Loess	Silt	Fine-Silty Sand	medium sand	Coarse sand	Gravelly sand	Pudding stone	Gravel-cobblestone
	12	20	21	24	22	53	76	60	58	92
Depth(mm)	Side ResistanceQsk at Different Depth (N)									
1600	3866	6443	6765	7731	7087	17073	24482	19328	18684	29636
1800	4129	7248	7610	8698	7973	19207	27542	21744	21019	33341
2000	4832	8053	8456	9664	8859	21341	30603	24160	23355	37045
2600	6282	10469	10993	12563	11516	27744	39783	31408	30361	48159
Depth(mm)	Ultimate Vertical Bearing Capacity of Ground Screw at Different Depth Quk (N)									
1600	5210	8809	9590	10609	10937	24553	35893	29828	30156	44602
1800	5539	9816	10647	11817	12044	27221	39718	32848	33075	49233
2000	6418	10822	11704	13025	13151	29888	43543	35868	35995	53864
2600	8230	13842	14875	16649	16473	37891	55019	44928	44753	67756

Remarks: «Technical Code for Building Pile Foundations JGJ 94-2008» Unit: mm N Kpa

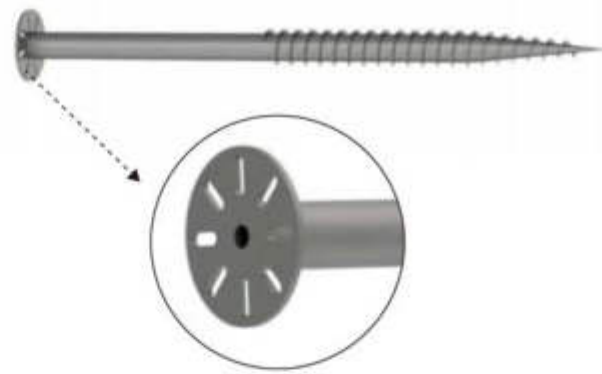
### Structure Details



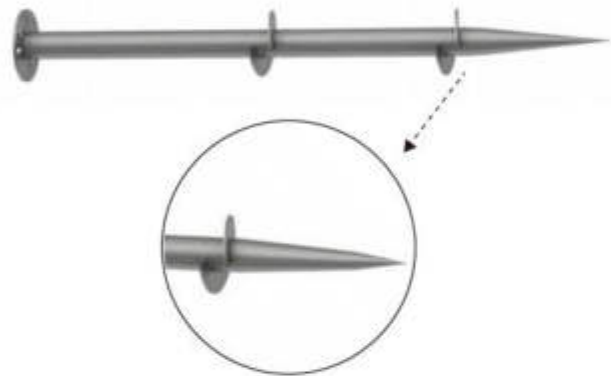
C



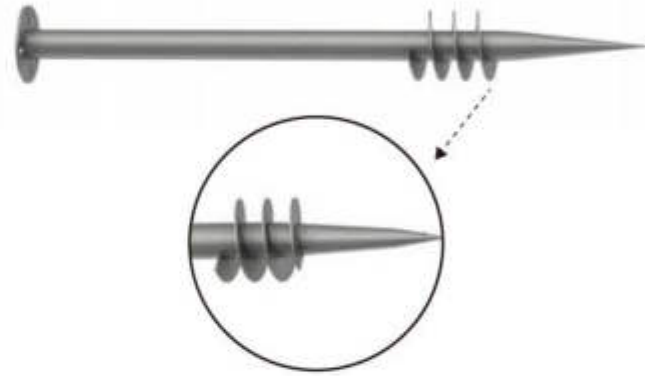
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E

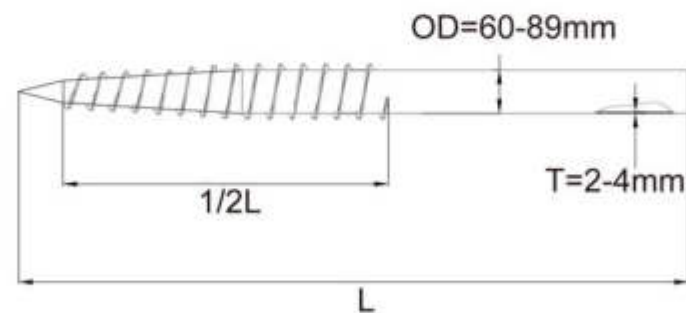


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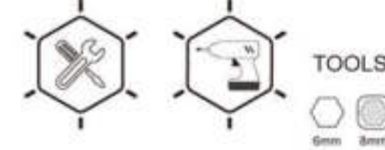
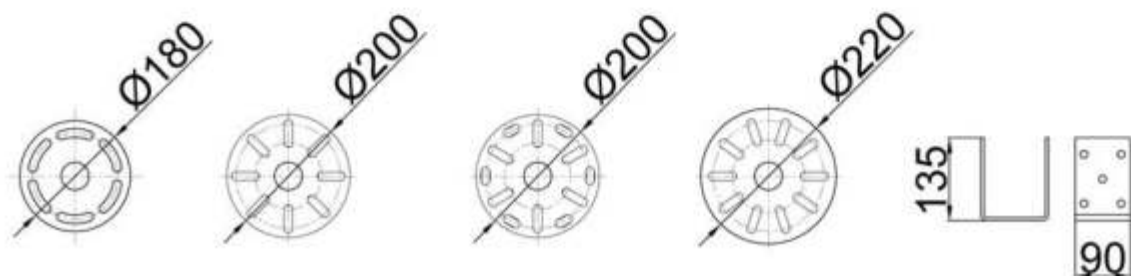


## Structure Introduction

Tube Type



Flange Type



## Advantages



### Easy Installation, Removal and Relocation:

It is effective and cost-savings as available for installation machines. It can be installed, removed and relocated than other foundation solutions easier and faster.



### Steady and Safety:

Many kinds of types can be selected comply with the static load analysis and test to make sure the foundation is safe.



### Widely Application:

Different heads of screw piles will be adapted to meet the various needs of different customers.



### Environmentally Friendly:

The surrounding areas will not be spoiled because no need of concrete base and without performing land preparation works during the insertion.

## Portable Screwing Machine Set



Voltage (V)	Max current (A)	Max power (W)
230V	18A	4000W
Package	Frequency (HZ)	Max. torque (Nm)
Two Cartons	50HZ-60HZ	2000Nm / 4800Nm