

# GS-ENERGY

## ROOF MOUNTING SYSTEM

PV Mounting System Solution

**SELF-SUFFICIENCY,  
SURPLUS POWER GRID CONNECTED  
TO GENERATE INCOME**



Easy to assemble



Convenient  
maintenance



Safe and reliable



High durability



## Tile Roof Mounting System

### Solar Roof Mounting System

The GS Tile Roof Mounting System Solution is designed for a wide range of roofs, including asphalt shingle, slate tiles and Roman concrete roof tile. Grace designs different types of hooks for different styles of roof tiles. When installing the system, the hooks are fixed on the purlins by bolting (drilling) or clamping (no drilling), and then rails are installed to support the solar panels to form a photovoltaic roof system. By adjusting the span of the hook, it can resist different wind and snow loads and has great flexibility. Moreover, the overall construction is easy and low maintenance costs.

Installation site	Residential Roof		
Angle	Parallel roof ( 10-60deg )	Material	High-strength aluminum alloy & Stainless steel
Building height	Below 20m	Color	Silver or customized
Maximum wind speed	<60m/s	Surface treatment	Anodizing & Stainless steel
Maximum snow cover	<1.4KN/m <sup>2</sup>	Quality assurance	10-year quality assurance
Reference standards	AS/NZS 1170 & EN1991 & Other	Usage time	More than 20 years

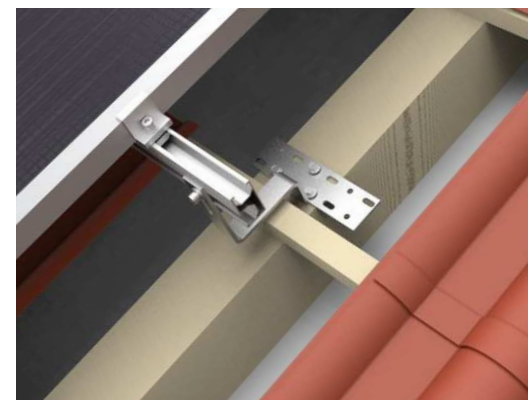


### ● Pitched Roof ( Residential Roof )



The GS Tile Roof hook series are suitable for building roofs with different tile types (asphalt shingle, slate and Roman concrete roof etc), thicknesses, shapes and purlin structures, and are easy to install.

Note: Products can be customized according to the project needs.



GS-IK-01

Item No.	Description	Size(mm)	Package
GS-IK-01	Stainless Steel Hook 1# Kit	166*105*30*5	10 kits/box 4 boxes/CTN
GS-IK-01-ND	Stainless Steel Hook 1# Kit (without tilt module)	166*105*30*5	10 kits/box 4 boxes/CTN



GS-AIK-01

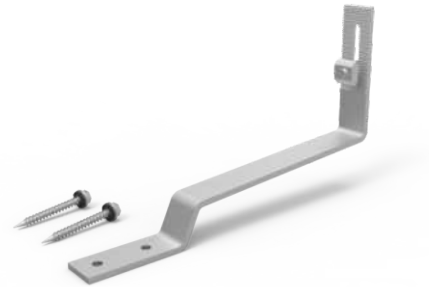
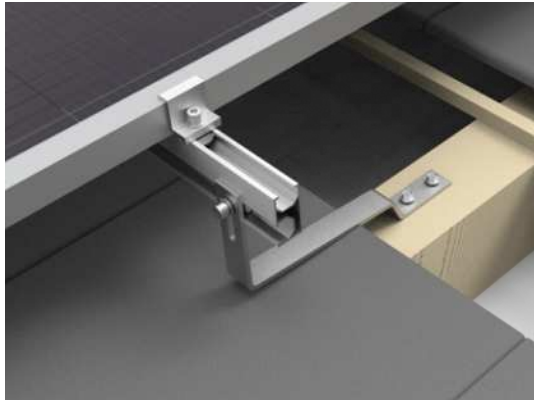
Item No.	Description	Size(mm)	Package
GS-AIK-01	Aluminum Roof Hook 1# Kit	188*150*173	12 kits/box 4 boxes/CTN

● **Pitched Roof ( Residential Roof )**



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GS-IK-02

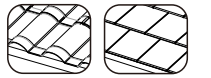
Item No.	Description	Size(mm)	Package
GS-IK-02	Stainless Steel Hook 2# Kit	286*166*30*5	30 kits/box 2# 2 boxes 2#/CTN
GS-IK-02-ND	Stainless Steel Hook 2# Kit (without tilt module)	286*166*30*5	30 kits/box 2# 2 boxes 2#/CTN



GS-IK-02-A

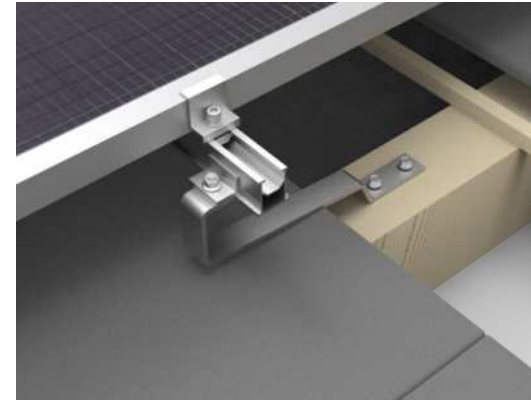
Item No.	Description	Size(mm)	Package
GS-IK-02-A	Stainless Steel Hook 2# A type	317.5*167*30*5	10 kits/box 2# 2 boxes 2#/CTN

● **Pitched Roof ( Residential Roof )**



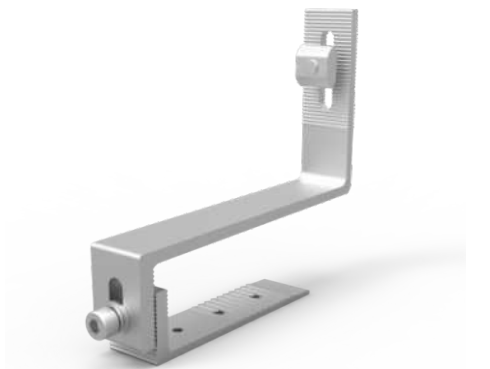
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GS-IK-02-C

Item No.	Description	Size(mm)	Package
GS-IK-02-C	Stainless Steel Hook 2# C type	286*166*30*5	30 kits/box 2# 2 boxes 2#/CTN



GS-AIK-02

Item No.	Description	Size(mm)	Package
GS-AIK-02-ST	Aluminum Roof Hook 2# Kit (with self tapping screw)	168*40	10 kits/box 4 boxes/CTN
GS-AIK-02	Aluminum Roof Hook 2# Kit	168*40	10 kits/box 4 boxes/CTN

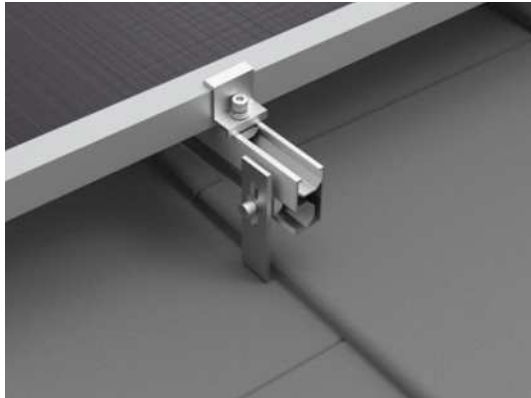


● **Pitched Roof ( Residential Roof )**



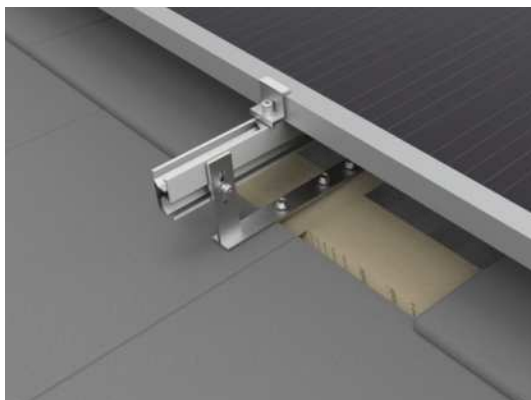
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GS-IK-04

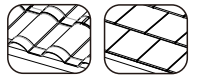
Item No.	Description	Size(mm)	Package
GS-IK-04	Stainless Steel Hook 4# Kit	200*120*30	20 kits/box 4 boxes/CTN



GS-IK-04-A

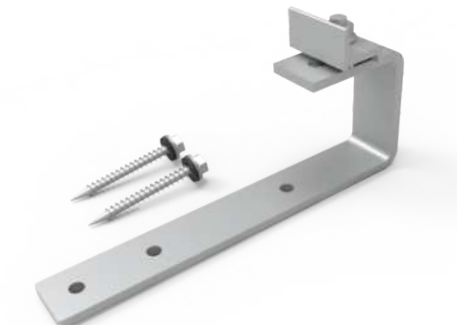
Item No.	Description	Size(mm)	Package
GS-IK-04-A	Stainless Steel Hook 4# A type	225*115*30*5	10 kits/box 4 boxes/CTN

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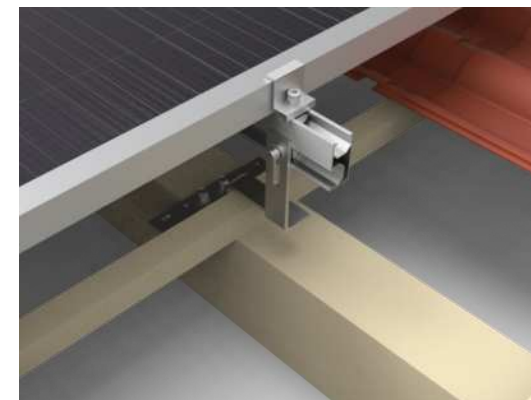
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GS-IK-04-C

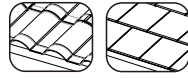
Item No.	Description	Size(mm)	Package
GS-IK-04-C	Stainless Steel Hook 4# B type	200*120*30	10 kits/box 4 boxes/CTN



GS-IK-06

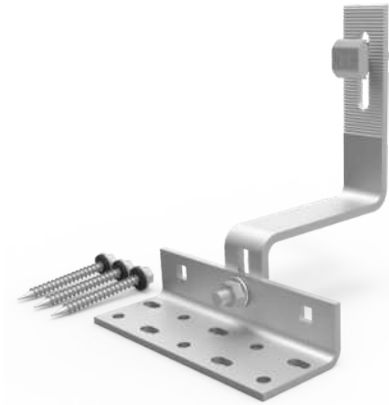
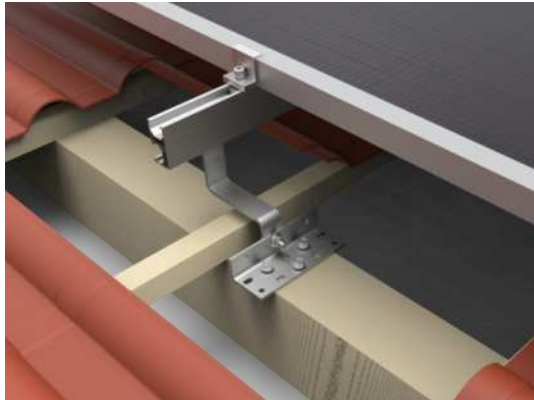
Item No.	Description	Size(mm)	Package
GS-IK-06	Stainless Steel Hook 6# Kit	166*105*30*5	10 kits/box 4 boxes/CTN

● **Pitched Roof ( Residential Roof )**



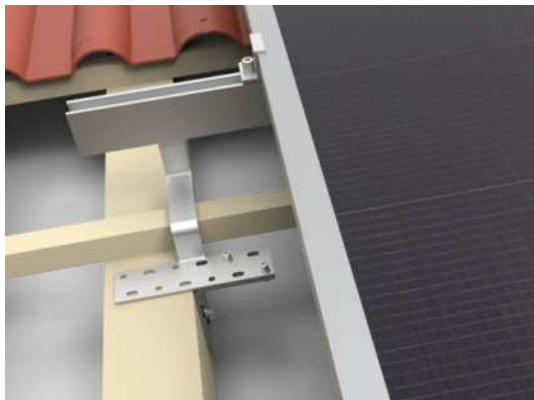
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GS-IK-12

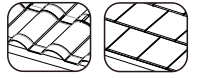
Item No.	Description	Size(mm)	Package
GS-IK-12	Stainless Steel Hook 12# Kit	166*105*30*5	10 kits/box 4 boxes/CTN



GS-IK-14

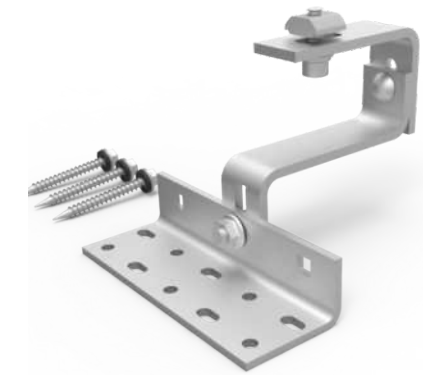
Item No.	Description	Size(mm)	Package
GS-IK-14	Stainless Steel Hook 14# Kit	259*105*30*5	10 kits/box 4 boxes/CTN

● **Pitched Roof ( Residential Roof )**



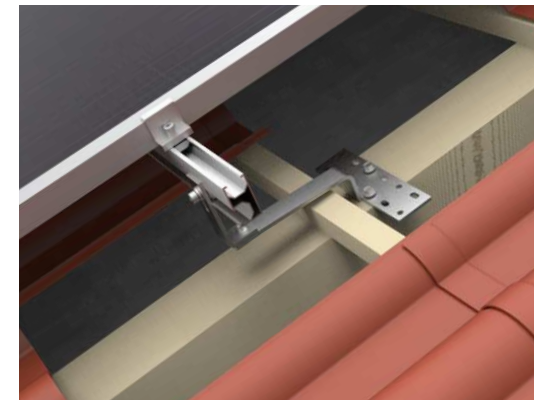
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GS-IK-15

Item No.	Description	Size(mm)	Package
GS-IK-15	Adjustable Stainless Steel Hook 15# Kit	165.5*147*140	10 kits/box 4 boxes/CTN



GS-IK-16

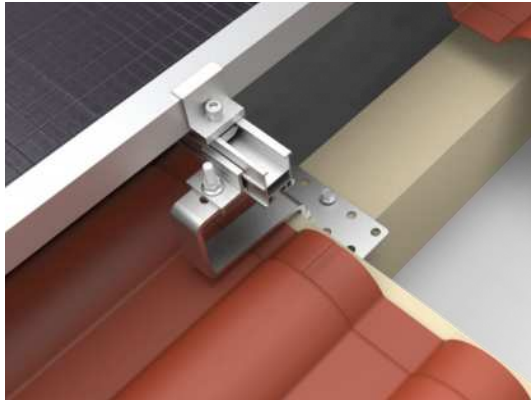
Item No.	Description	Size(mm)	Package
GS-IK-16	Stainless Steel Hook 16# Kit	220*180*153	8 kits/box 4 boxes/CTN

● **Pitched Roof ( Residential Roof )**



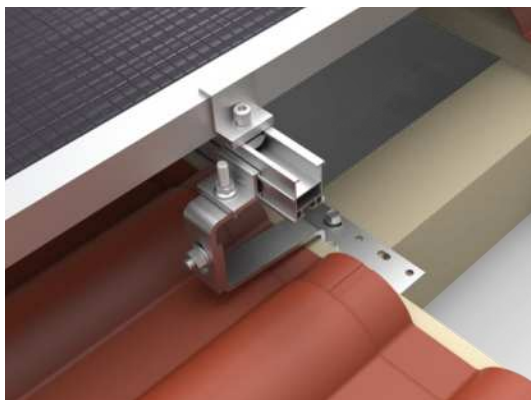
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GS-ER-S01

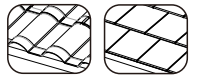
Item No.	Description	Size(mm)	Package
GS-ER-S01	ER Stainless Hook 1# Kit	140*165*132	5 kits/box 4 boxes/CTN



GS-ER-S02

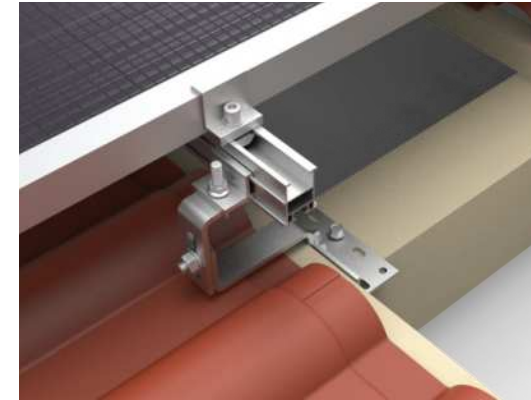
Item No.	Description	Size(mm)	Package
GS-ER-S02	ER Stainless Hook 2# Kit	170*158	5 kits/box 4 boxes/CTN

● **Pitched Roof ( Residential Roof )**



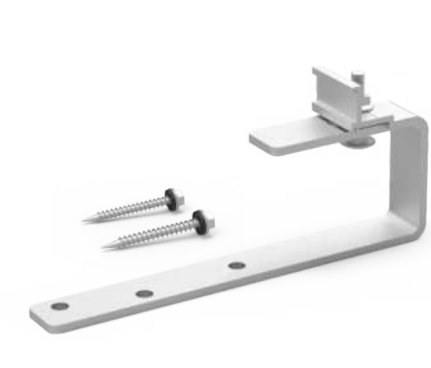
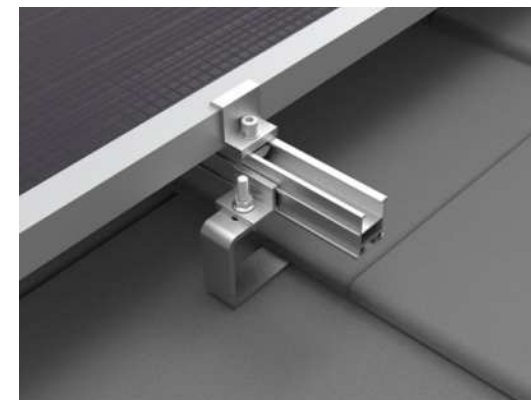
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GS-ER-S03

Item No.	Description	Size(mm)	Package
GS-ER-S03	ER Stainless Hook 3# Kit	139.5*162.5	10 kits/box 4 boxes/CTN



GS-ER-S04

Item No.	Description	Size(mm)	Package
GS-ER-S04	ER Stainless Hook 4# Kit	30*235*75	15 kits/box 4 boxes/CTN

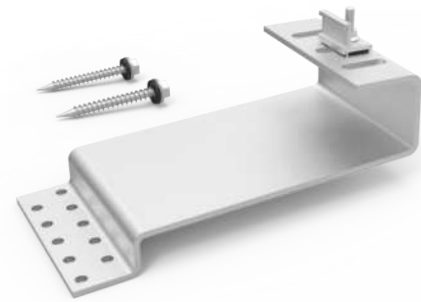
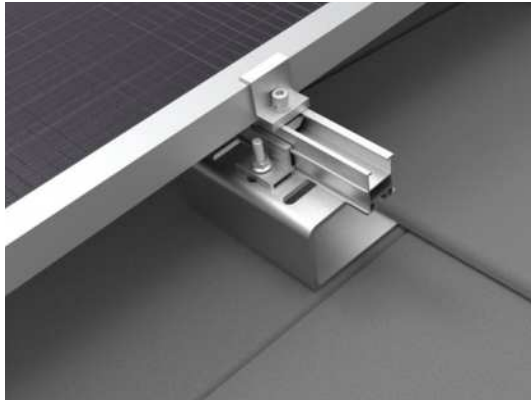


● **Pitched Roof ( Residential Roof )**



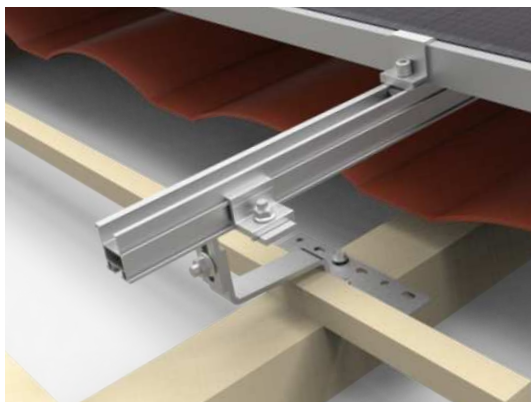
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GS-ER-S05

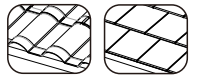
Item No.	Description	Size(mm)	Package
GS-ER-S05	ER Stainless Hook 5# Kit	136*290	5 kits/box 2# 2 boxes 2#/CTN



GS-ER-S06

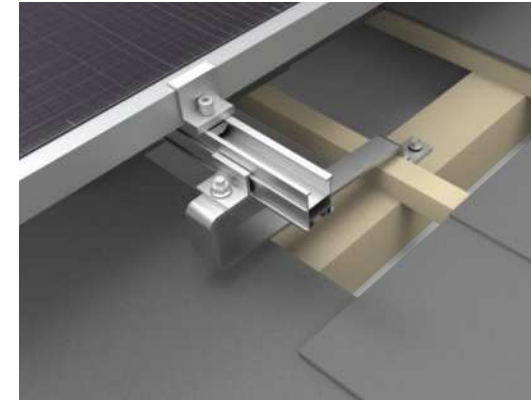
Item No.	Description	Size(mm)	Package
GS-ER-S06	ER Stainless Hook 6# Kit	30*60*135	5 kits/box 2# 2 boxes 2#/CTN

● **Pitched Roof ( Residential Roof )**



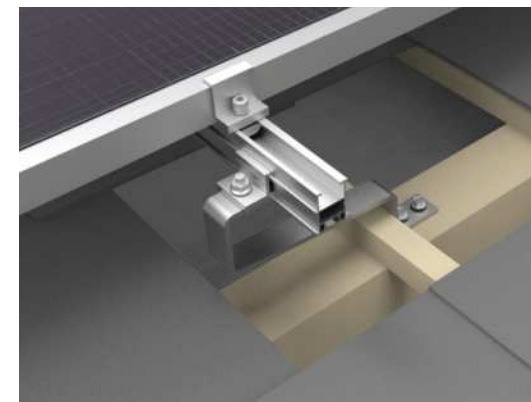
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GS-ER-S07

Item No.	Description	Size(mm)	Package
GS-ER-S07	ER Stainless Hook 7# Kit	30*315*125	18 kits/box 2# 2 boxes 2#/CTN



GS-ER-S08

Item No.	Description	Size(mm)	Package
GS-ER-S08	ER Stainless Hook 8# Kit	30*240*132	24 kits/box 2# 2 boxes 2#/CTN

## Tin Roof Mounting System

### Solar Roof Mounting System

The GS Metal Roof Mounting System is suitable for trapezoidal, corrugated and other metal roofs. Grace can provide different types of clamping solutions according to project requirements. The brackets are installed by fixing the clamps on the purlins or fixing the clamps with metal. Rail and Rail-less solutions are available for different loads, and spans are adjusted by metal type to meet different project requirements. Applied to common aluminium framed and frameless solar panels, parallel mounted on sloping roofs. Raise and angle adjustments are available for special demands. Construction is economical and convenient for the design and planning of commercial and industrial rooftop solar systems.

Installation site	Commercial roof		
Angle	Parallel roof ( 10-60deg )	Material	High-strength aluminum alloy & Stainless steel
Building height	Below 20m	Color	Silver or customized
Maximum wind speed	<60m/s	Surface treatment	Anodizing & Stainless steel
Maximum snow cover	<1.4KN/m <sup>2</sup>	Quality assurance	10-year quality assurance
Reference standards	AS/NZS 1170 & EN1991 & Other	Usage time	More than 20 years



### • Pitched Roof ( Industry · Commercial Roof )



The GS Metal Roof clamp series are suitable for various trapezoidal, corrugated and other metal roofs, and are easy to install.

Note: Products can be customized according to the project needs.



GS-IK-05-ST

Item No.	Description	Size(mm)	Package
GS-IK-05-ST	Aluminum Tin interface Kit 5#	80*40*40*7	50 kits/box 4 boxes/CTN
GS-IK-05-ST-AR	Aluminum Tin interface Kit 5# (with Arc rubber pad)	80*40*40*7	50 kits/box 4 boxes/CTN



GS-IK-05-ST-GD

Item No.	Description	Size(mm)	Package
GS-IK-05-ST-GD	Aluminum Tin interface Kit 5# (with D-module)	40*80	36 kits/box 4 boxes/CTN



● Pitched Roof ( Industry · Commercial Roof )



The GS Metal Roof clamp series are suitable for various trapezoidal, corrugated and other metal roofs, and are easy to install.

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GS-IK-H01-AL

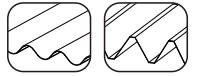
Item No.	Description	Size(mm)	Package
GS-IK-H01-AL	Hanger Bolt Hook 1#	M10*200	20 kits/box 4 boxes/CTN



GS-IK-H04

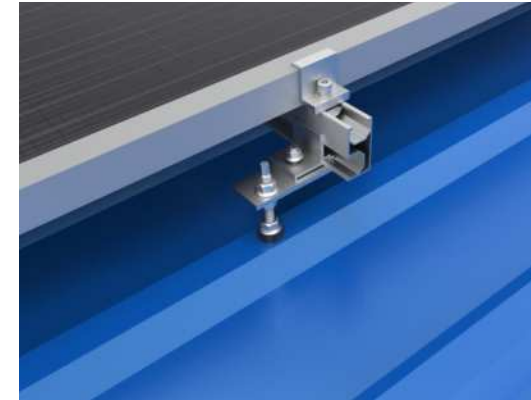
Item No.	Description	Size(mm)	Package
GS-IK-H04	Hanger Bolt Hook 4#	M10*200	20 kits/box 4 boxes/CTN

● Pitched Roof ( Industry · Commercial Roof )



The GS Metal Roof clamp series are suitable for various trapezoidal, corrugated and other metal roofs, and are easy to install.

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GS-IK-H06

Item No.	Description	Size(mm)	Package
GS-IK-H06	Hanger Bolt Hook 6#	M12*200	20 kits/box 4 boxes/CTN



GS-IK-L155-ST

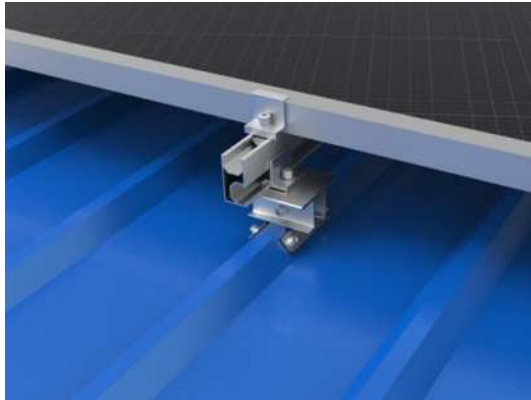
Item No.	Description	Size(mm)	Package
GS-IK-L155-ST	Aluminum Tin interface Kit 5# (155mm)	155*40*40*8	50 kits/box 4 boxes/CTN

● Pitched Roof ( Industry · Commercial Roof )



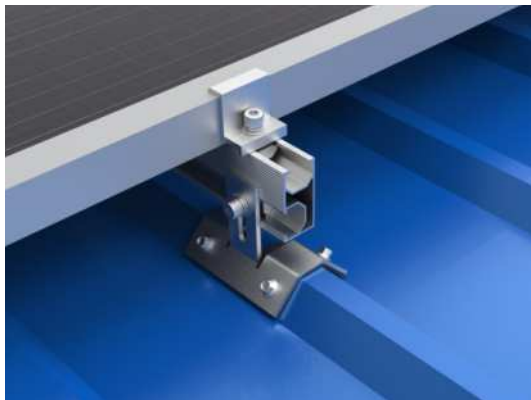
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GS-UTK-01

Item No.	Description	Size(mm)	Package
GS-UTK-01	Universal Trapezoid Metal Roof Hook 1#	80*80*41	25 kits/box 4 boxes/CTN



GS-IK-07

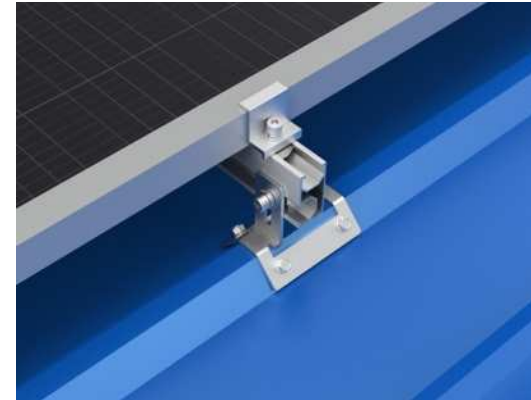
Item No.	Description	Size(mm)	Package
GS-IK-07	Stainless Steel Hook 7#	100*66*4	40 kits/box 2 boxes/CTN 2#

● Pitched Roof ( Industry · Commercial Roof )



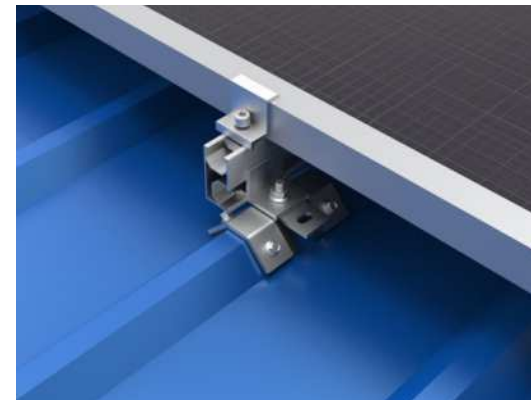
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GS-IK-07-A

Item No.	Description	Size(mm)	Package
GS-IK-07-A	Stainless Steel Hook 7# A	100*66*4	40 kits/box 2 boxes/CTN 2#



GS-IK-07-B

Item No.	Description	Size(mm)	Package
GS-IK-07-B	Stainless Steel Hook 7# B	100*66*4	40 kits/box 2 boxes/CTN 2#



● **Pitched Roof ( Industry · Commercial Roof )**



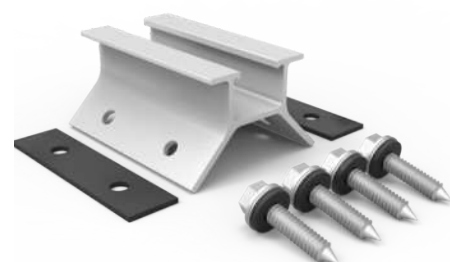
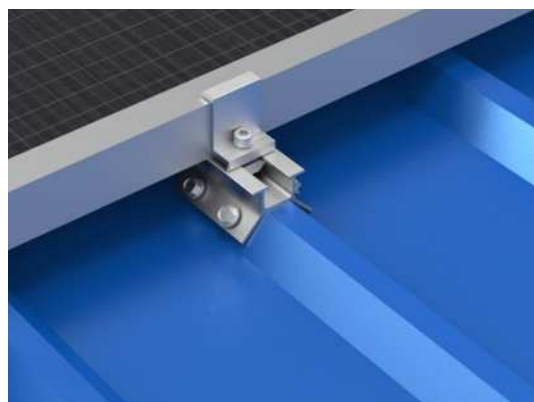
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Note: Products can be customized according to the project needs.



GS01-IK-A07

Item No.	Description	Size(mm)	Package
GS01-IK-A07-G024	7# AL-Hook 90	90	30 kits/box 4 boxes/CTN
GS02-IK-A07-G024	7# AL-Hook 90	90	30 kits/box 4 boxes/CTN



GS-IK-A07

Item No.	Description	Size(mm)	Package
GS-IK-A07	7# AL-Hook	90	30 kits/box 4 boxes/CTN

● **Pitched Roof ( Industry · Commercial Roof )**



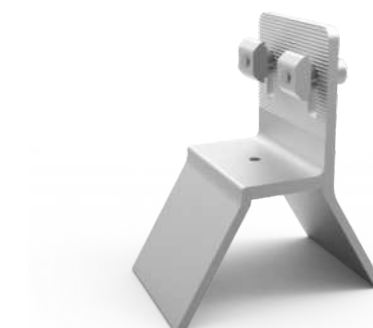
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GS-TIK-A01

Item No.	Description	Size(mm)	Package
GS-TIK-A01	Trapezoid Metal Roof Hook	100*100*49	16 kits/box 4 boxes/CTN



GS-TIK-08

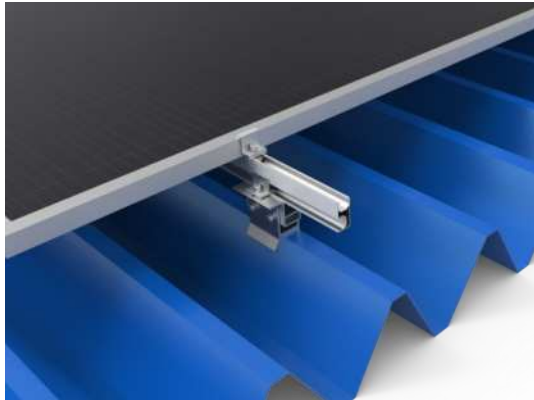
Item No.	Description	Size(mm)	Package
GS-TIK-08	Trapezoid Metal Roof Hook	80*122*147*5	6 kits/box 4 boxes/CTN

● Pitched Roof ( Industry · Commercial Roof )



The GS Metal Roof clamp series are suitable for various trapezoidal, corrugated and other metal roofs, and are easy to install.

Note: Products can be customized according to the project needs.



GS-JIK-WG19

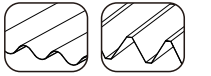
Item No.	Description	Size(mm)	Package
GS-JIK-WG19	Colar Plate Hook	100*100	4 kits/box 4 boxes/CTN



GS-TIK-09

Item No.	Description	Size(mm)	Package
GS-TIK-09	Trapezoid Metal Roof Hook #9	60*200*5	12 kits/box 4 boxes/CTN
GS-TIK-10	Trapezoid Metal Roof Hook #10	78*200*5	12 kits/box 4 boxes/CTN
GS-TIK-11	Trapezoid Metal Roof Hook #11	88*200*5	12 kits/box 4 boxes/CTN

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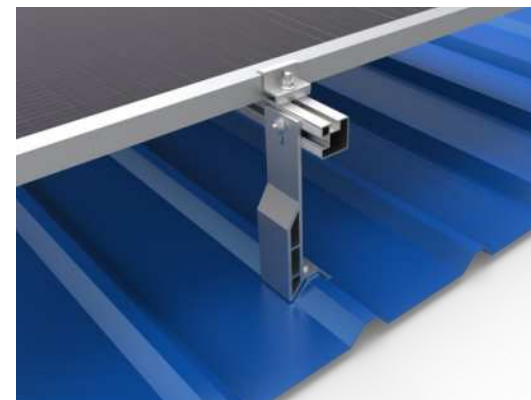
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GS-TIK-L01-20HA2

Item No.	Description	Size(mm)	Package
GS-TIK-L01-20HA2	Trapezoid Metal Roof L-type Hook (with 20µm Composite film thickness +sus304 bolt)	60	12 kits/box 4 boxes/CTN



GS-TIK-L02-20HA2

Item No.	Description	Size(mm)	Package
GS-TIK-L02-20HA2	Trapezoid Metal Roof L-type+ Concave shape Hook (with 20µm Composite coating +sus304 bolt)	60	12 kits/box 4 boxes/CTN

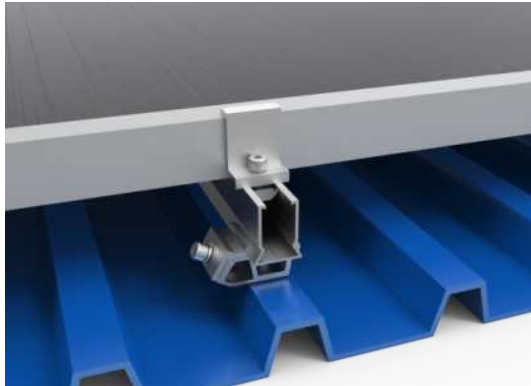


● Pitched Roof ( Industry · Commercial Roof )



The GS Metal Roof clamp series are suitable for various trapezoidal, corrugated and other metal roofs, and are easy to install.

Note: Products can be customized according to the project needs.



GS-UIK-A01

Item No.	Description	Size(mm)	Package
GS-UIK-A01	R Flat Hook 800mm	40	76 kits/box 4 boxes/CTN



GS-TKT-01

Item No.	Description	Size(mm)	Package
GS-TKT-01	Adjustable Trapezoidal Hook	50	90 kits/box 4 boxes/CTN
GS-TKT-L-50	Trapezoidal Adjustable Hook 50mm + L feet	39	18 kits/box 4 boxes/CTN

● Pitched Roof ( Industry · Commercial Roof )



The GS Metal Roof clamp series are suitable for various trapezoidal, corrugated and other metal roofs, and are easy to install.

Note: Products can be customized according to the project needs.



GS-WIK-A01

Item No.	Description	Size(mm)	Package
GS-WIK-A01	Corrugated roof Hook 1# (AL)	45	40 kits/box 4 boxes/CTN



GS-IK-UR-01

Item No.	Description	Size(mm)	Package
GS-IK-UR-01	UR Flat Hook	200*28*30	50 kits/box 4 boxes/CTN
GS-IK-UR-02	R Flat Hook 400mm(with 4 self-tapping screw and pads)	400*28*30	50 kits/box 2# 2 boxes 2#/CTN

● **Pitched Roof ( Industry · Commercial Roof )**



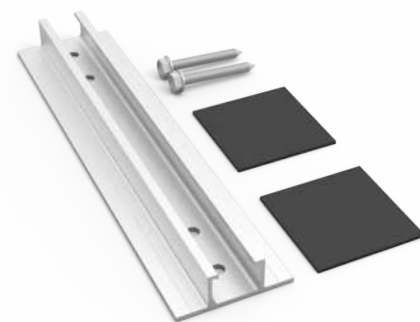
The GS Metal Roof clamp series are suitable for various trapezoidal, corrugated and other metal roofs, and are easy to install.

Note: Products can be customized according to the project needs.



GS-IK-FR-ST

Item No.	Description	Size(mm)	Package
GS-IK-FR-ST	FB Rail Hook	120*60*21.2	40 kits/box 4 boxes/CTN



GS-IK-FR-02-60RP

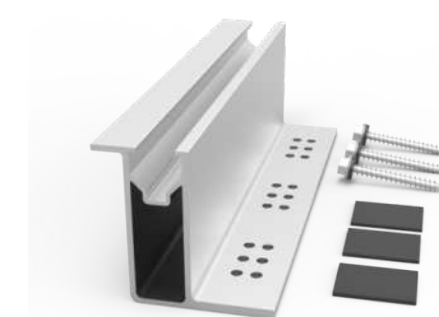
Item No.	Description	Size(mm)	Package
GS-IK-FR-02-60RP	FB Rail Hook Kit 2#	250*60*21.2	25 kits/box 4 boxes/CTN

● **Pitched Roof ( Industry · Commercial Roof )**



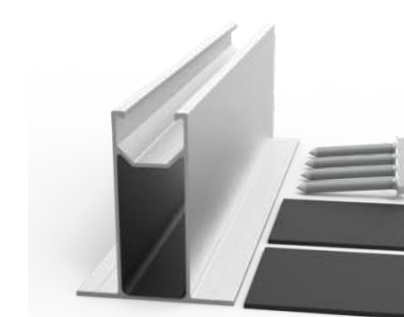
The GS Metal Roof clamp series are suitable for various trapezoidal, corrugated and other metal roofs, and are easy to install.

Note: Products can be customized according to the project needs.



GS-IK-FR2-A

Item No.	Description	Size(mm)	Package
GS-IK-FR2-A	Rail Bracket	250*80*70	4 kits/box 4 boxes/CTN



GS-IK-FR-03-60RP

Item No.	Description	Size(mm)	Package
GS-IK-FR-03-60RP	FB Rail Hook Kit 3#	250*60*71.2	10 kits/box 4 boxes/CTN



## Standing Seam Roof Mounting System

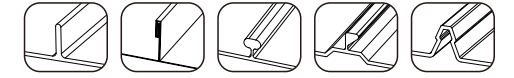
### Solar Roof Mounting System

The GS Metal Roof Mounting System (no drilling) is suitable for metal roofs such as standing seam roofs, and Grace can provide different types of fixture solutions based on project needs, allowing great flexibility in selection. The brackets are installed by fixing the clamps with metal. In addition, for different loads, Grace provides two solutions - rail and rail-less to choose from. During installation, the span can be adjusted according to the metal type to adapt to different project requirements. This system applies common aluminum frame and frameless solar panels, mounted parallel to pitched roofs. Elevation and angle adjustments can also be accepted under special needs. The construction is economical and convenient, and it is suitable for the design and planning of industrial and commercial rooftop solar systems.

Installation site	Commercial roof		
Angle	Parallel roof ( 10-60deg )	Material	High-strength aluminum alloy & Stainless steel
Building height	Below 20m	Color	Silver or customized
Maximum wind speed	<60m/s	Surface treatment	Anodizing & Stainless steel
Maximum snow cover	<1.4KN/m <sup>2</sup>	Quality assurance	10-year quality assurance
Reference standards	AS/NZS 1170 & EN1991 & Other	Usage time	More than 20 years

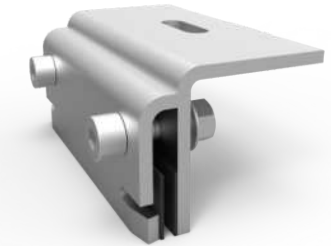


### • Pitched Roof ( Industry · Commercial Roof )



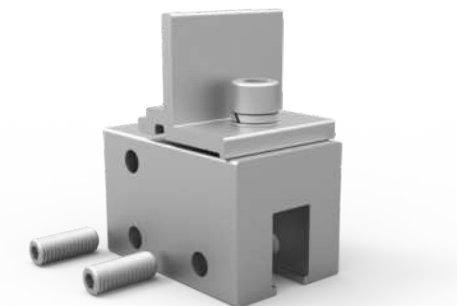
The GS Metal Roof clamp series metal roofs such as standing seam roofs, and are easy to install.

Note: Products can be customized according to the project needs.



GS-IK-S01

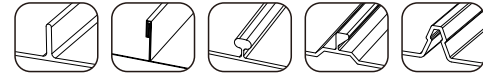
Item No.	Description	Size(mm)	Package
GS-IK-S01	Stand Seam Roof Hook 1#	110	15 kits/box 4 boxes/CTN



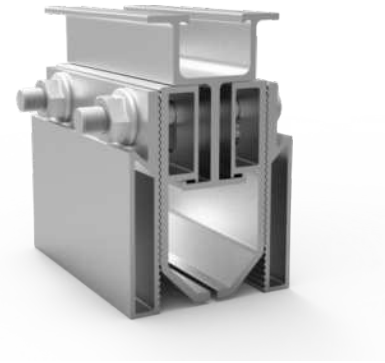
GS-SIK-A01

Item No.	Description	Size(mm)	Package
GS-SIK-A01	Stand Seam Universal Tin roof Hook #1	38.2*38.2*60	30 kits/box 4 boxes/CTN

● Pitched Roof ( Industry · Commercial Roof )

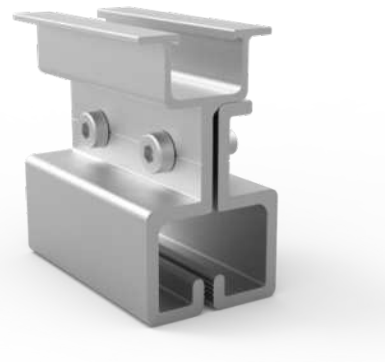


The GS Metal Roof clamp series metal roofs such as standing seam roofs, and are easy to install.  
 Note: Products can be customized according to the project needs.



GS-JIK-L01

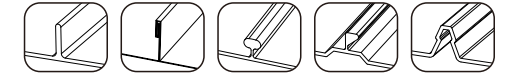
Item No.	Description	Size(mm)	Package
GS-JIK-L01	JIK#1 Roof Hook	80*86.5*45	15 kits/box 4 boxes/CTN



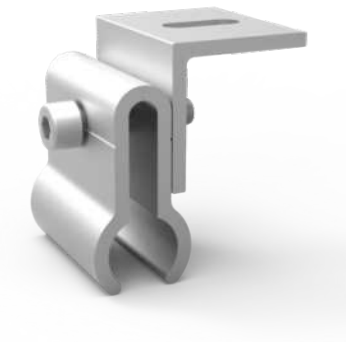
GS-JIK-S01

Item No.	Description	Size(mm)	Package
GS-JIK-S01	Stand Seam Roof Hook	80	15 kits/box

● Pitched Roof ( Industry · Commercial Roof )

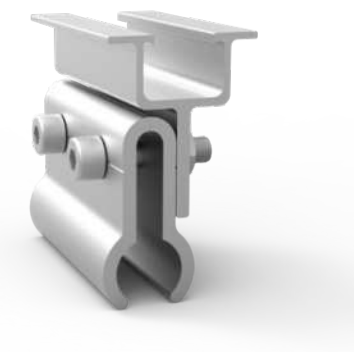


The GS Metal Roof clamp series metal roofs such as standing seam roofs, and are easy to install.  
 Note: Products can be customized according to the project needs.



GS-IK-S02

Item No.	Description	Size(mm)	Package
GS-IK-S02	Stand Seam Roof Hook 2#	50	20 kits/box 4 boxes/CTN

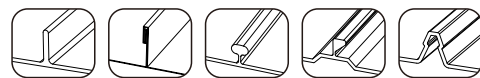


GS-IK-S02-A

Item No.	Description	Size(mm)	Package
GS-IK-S02-A	Stand Seam Roof Hook 2# A type	80	15 kits/box 4 boxes/CTN



● Pitched Roof ( Industry · Commercial Roof )



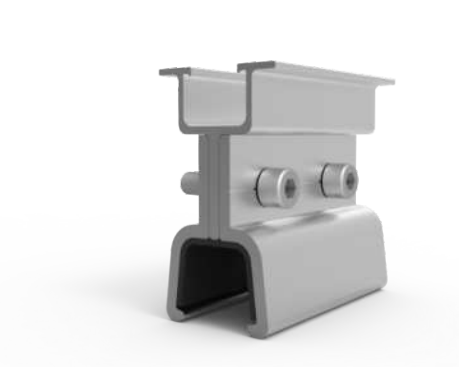
The GS Metal Roof clamp series metal roofs such as standing seam roofs, and are easy to install.

Note: Products can be customized according to the project needs.



GS-IK-S04

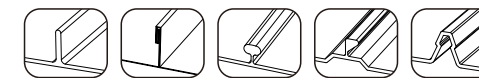
Item No.	Description	Size(mm)	Package
GS-IK-S04	Stand Seam Roof Hook 4#	110	15 kits/box 4 boxes/CTN



GS01-IK-S07-A

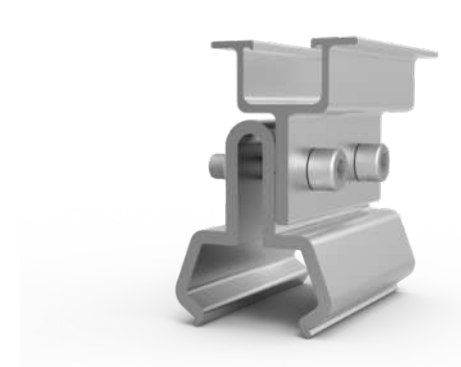
Item No.	Description	Size(mm)	Package
GS01-IK-S07-A	Standing Seam Roof Hook S07-A	45*53*80	20 kits/box 4 boxes/CTN

● Pitched Roof ( Industry · Commercial Roof )



The GS Metal Roof clamp series metal roofs such as standing seam roofs, and are easy to install.

Note: Products can be customized according to the project needs.



GS01-IK-S11-A

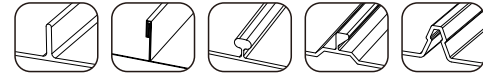
Item No.	Description	Size(mm)	Package
GS01-IK-S11-A	Kliplock clamp (35mm width, 80mm length + smaller rail)	35*80	18 kits/box 4 boxes/CTN



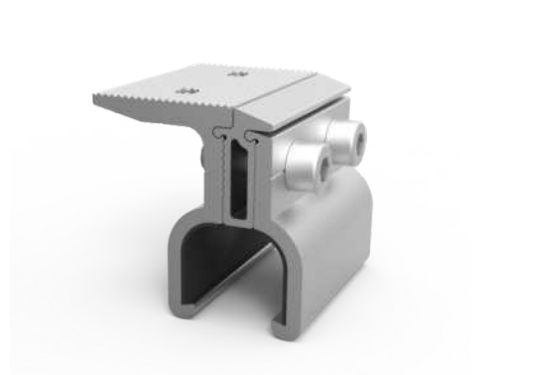
GS-IK-SK7-110

Item No.	Description	Size(mm)	Package
GS-IK-SK7-110	Stand Seam Roof Hook K7 (with bolt kits)	110	10 kits/box 4 boxes/CTN

● Pitched Roof ( Industry · Commercial Roof )

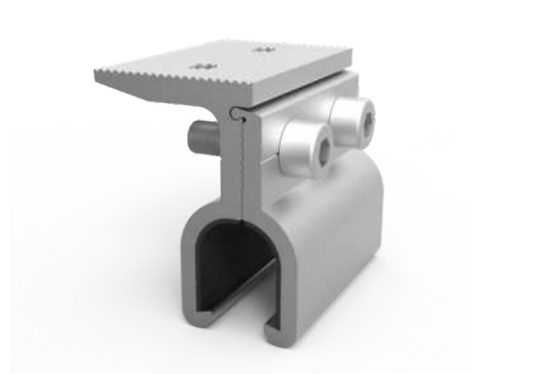


The GS Metal Roof clamp series metal roofs such as standing seam roofs, and are easy to install.  
 Note: Products can be customized according to the project needs.



GS-IK-S08

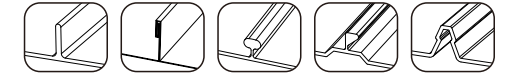
Item No.	Description	Size(mm)	Package
GS-IK-S08	New Kliplok700 Roof Hook	60	30 kits/box 4 boxes/CTN



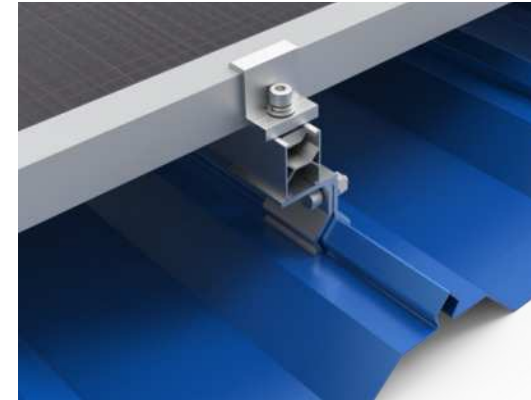
GS-IK-S09

Item No.	Description	Size(mm)	Package
GS-IK-S09	New Kliplok 406Roof Hook406	60	30 kits/box 4 boxes/CTN

● Pitched Roof ( Industry · Commercial Roof )

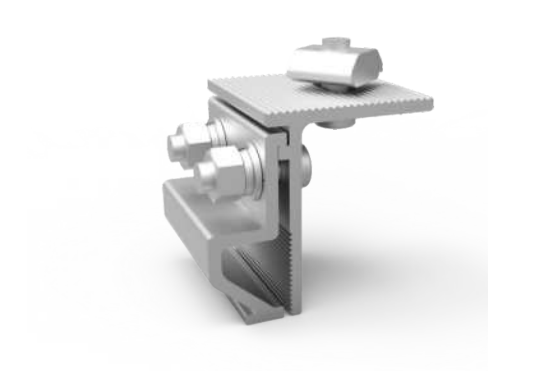


The GS Metal Roof clamp series metal roofs such as standing seam roofs, and are easy to install.  
 Note: Products can be customized according to the project needs.



GS-TRB-VRC-15AO

Item No.	Description	Size(mm)	Package
GS-TRB-VRC-15AO	Metal roof Clamp (with D-module+ 20bolts and 15µm oxide coating)	50	40 kits/box 4 boxes/CTN



GS-VSW-VRC

Item No.	Description	Size(mm)	Package
GS-VSW-VRC	Stand Seam Roof Hook (with D module)	50	45 kits/box 4 boxes/CTN



## Adjustable Tilt Mounting System

### Solar Roof Mounting System

The GS adjustable roof mounting system is suitable for fixing various common framed solar panels at a specific angle of the roof. The system can be used for a fixed angle or an adjustable angle such as 10~15 degrees, 15~30 degrees or 30~60 degrees. Reliable high corrosion resistance, structural strength and aesthetics. The pre-assembly makes installation easy and fast, saving you labor costs and installation time.

Installation site	Commercial roof		
Angle	Parallel roof ( 10-60deg )	Material	High-strength aluminum alloy & Stainless steel
Building height	Below 20m	Color	Silver or customized
Maximum wind speed	<60m/s	Surface treatment	Anodizing & Stainless steel
Maximum snow cover	<1.4KN/m <sup>2</sup>	Quality assurance	10-year quality assurance
Reference standards	AS/NZS 1170 & EN1991 & Other	Usage time	More than 20 years



### • Pitched Roof ( Industry · Commercial Roof )

#### Adjustable Tilt System

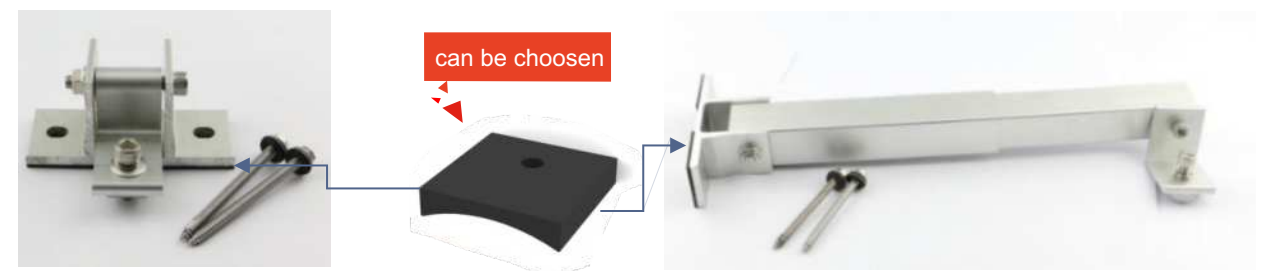


Solar Panels Size	Rail	Front Leg	Rear Leg	Inter Clamp	End Clamp	Rail Splice
1722*1134*35	GS-DR-L	GS-AD-FL	GS-AD-RL_	GS-IC-F35	GS-EC-F35	GS-DR-SP
Adjustable 10/15 4Panels installation	2 pcs	4	4	6	4	2
Adjustable 15/30 4Panels installation	2 pcs	4	4	6	4	2
Adjustable 30/60 4Panels installation	2 pcs	4	4	6	4	2

#### Feature

- Main Material: Anodized Al6005-T5
- Fasten Material: SUS A2-70
- Wood Screw: 2pcs M6x80

- Patent Telescope solution can adjust the angle
- Anti-Slip and Anti-out design



GS-AD-FL-LD

GS-AD-RL\_

Item No.	Description	Leg Length	Package
GS-AD-FL-LD	AD Front Leg	-----	50pcs/box, 4 boxes/CTN
GS-AD-RL10/15-LD	AD Rear Leg 10/15 deg	240~360mm	30pcs/CTN
GS-AD-RL15/30-LD	AD Rear Leg 15/30 deg	340~680mm	25pcs/CTN
GS-AD-RL30/60-LD	AD Rear Leg 30/60 deg	700~1200mm	25pcs/CTN III



## Triangle Bracket Mounting System

### Solar Roof Mounting System

GS's latest triangle system is suitable for Roof and Ground with certain angles. This latest triangle system is light, flexible and strong. It is easy to assemble and can be done with one tool. It can also be folded during packaging, and can be used together with other products of our company.

Installation site	Commercial and Residential Roof		
Angle	Parallel roof ( 10-60deg )	Material	High-strength aluminum alloy & Stainless steel
Building height	Below 20m	Color	Silver or customized
Maximum wind speed	<60m/s	Surface treatment	Anodizing & Stainless steel
Maximum snow cover	<1.4KN/m <sup>2</sup>	Quality assurance	10-year quality assurance
Reference standards	AS/NZS 1170 & EN1991 & Other	Usage time	More than 20 years



### • Flat Roof ( Industry · Commercial · Residential Roof )

#### NT Triangle Bracket



Solar Panels Size	Rail	Bracket	Rail Clamp	Inter Clamp	End Clamp
1722*1134*35	GS-DR-L	GS-NT01-C10	GS-RC-D	GS-IC-F35	GS-EC-F35
Angle: 10 deg Array: 1x4	2 pcs	3 pcs	6 pcs	6 pcs	4 pcs
Solar Panels Size	Rail	Bracket	Rail Clamp	Inter Clamp	End Clamp
2278*1134*35	GS-DR-L	GS-NT03-C10	GS-RC-D	GS-IC-F35	GS-EC-F35
Angle: 10 deg Array: 1x4	2 pcs	3 pcs	6 pcs	6 pcs	4 pcs

#### KNT Triangle Bracket

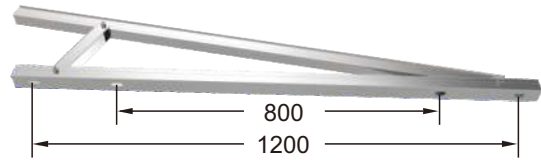


Solar Panels Size	Bracket	Inter Clamp	End Clamp
1722*1134*35	GS-KNT2000-C10	GS-KIC-F35	GS-KEC-F35
Angle: 10 deg Array: 2x2	3 pcs	4 pcs	8 pcs



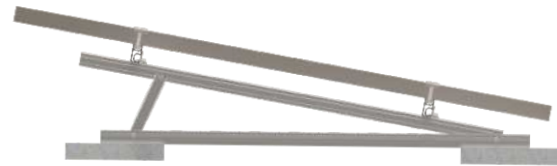
• Flat Roof ( Industry · Commercial · Residential Roof )

NT Triangle Bracket



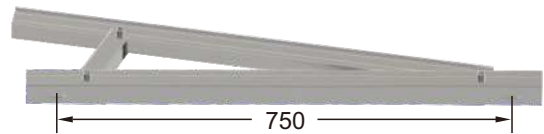
GS-NT01-XX

- For module length less than 1700mm



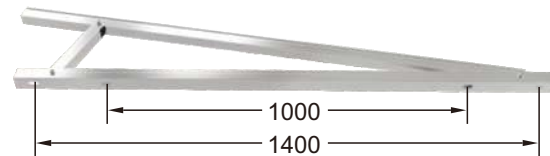
Feature

- Main material: Anodized Al6005-T5
- Fasten material: SUS A2-70
- Fixed angle from 5~60deg



GS-NT02-XX

- For module length less than 1200mm



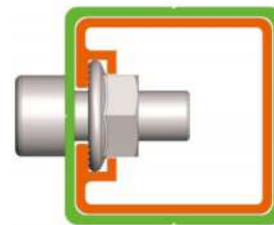
GS-NT03-XX

- For module length less than 2300mm



GS-NT03-C12/20

- For module length less than 2300mm  
- Angle is adjustable from 12 to 20deg



Telescope Solution

GS-NT03-C15/30

- For module length less than 2300mm  
- Angle is adjustable from 15 to 30deg

Item No.	Description	Angle
GS-NT01-C10	NT Tri-angle Bracket 01, 10deg	10deg
GS-NT02-C10	NT Tri-angle Bracket 02, 10deg	10deg
GS-NT03-C12/20	AD NT Tri-angle Bracket 03, 12-20deg	12-20deg
GS-NT03-C15/30	AD NT Tri-angle Bracket 03, 15-30deg	15-30deg

GS-RC-D GD Rail Clamp



GS-RC-D

- Clamp the GD Rail on the NT Tri-angle bracket

• Flat Roof ( Industry · Commercial · Residential Roof )

KNT Triangle Bracket



Solar Panels Size	Bracket	Inter Clamp	End Clamp
1722*1134*35	GS-KNT800-C10	GS-KIC-F35	GS-KEC-F35
Angle: 10 deg Array: 1x2	3 pcs	2 pcs	4 pcs

Installation Guide



a. Fixed the bottom base with concrete foundation

b. Place the modules

c. Fasten the module

Item No.	Description	Placement	Angle
GS-KNT2000-C10	KNT Bracket 2000-10deg	2x2, landscape	Fixed 10deg

## Ballast Bracket Mounting System

### Solar Roof Mounting System

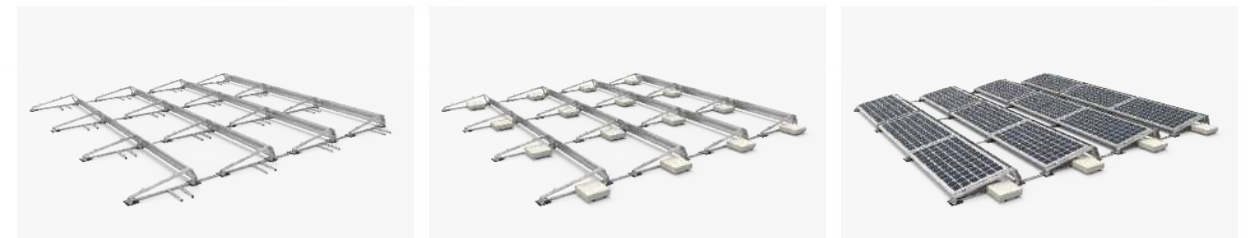
The GS Ballast Bracket is an excellent engineering solution to secure the array of solar panels on flat roofs without damaging the roof. It is compatible with most types of solar panels on the market and requires virtually no drilling on the roof.

Installation site	Commercial and Residential Roof	Material	High-strength aluminum alloy & Stainless steel
Angle	Parallel roof ( 5,10,15,20 deg )	Color	Silver or customized
Building height	Below 20m	Surface treatment	Anodizing & Stainless steel
Maximum wind speed	<60m/s	Quality assurance	10-year quality assurance
Maximum snow cover	<1.4KN/m <sup>2</sup>	Usage time	More than 20 years
Reference standards	AS/NZS 1170 & EN1991 & Other		

### • Flat Roof ( Industry · Commercial · Residential Roof )

#### BM3 Ballast System ( One-way Design )

The BM3 ballast system is suitable for flat roofs with a certain angle installation required which is flexible and easy to install. And the wind-shielding structure improves the wind resistance of the entire system.



#### Component List

Item No.	Description	QTY	Material
GS-BM3-T10	BM3 Bracket, 10deg	12 pcs	AL6005-T5
GS-KIC-F35/40	Inter Clamp 35-40	12 pcs	AL6005-T5
GS-KEC-F40	End Clamp 40	12 pcs	AL6005-T5
GS-BM-CT-400	Landscape Link tube, 400	12 pcs	AL6005-T5
GS-BM2-V450	Portrait Link tube, 450	12 pcs	AL6005-T5
GS-BM2-WA 1720	Wind Deflection, 1720mm	12 pcs	Q235
GS-BM2-A01	Accessories	12 pcs	A2-70



• Flat Roof ( Industry · Commercial · Residential Roof )

• Flat Roof ( Industry · Commercial · Residential Roof )

BM4 Ballast System ( One-way Design )

BM4 Ballast System ( East-west Design )

The BM4 ballast system is suitable for flat roofs with certain angle requirements. The system adopts a front and rear support foot structure, which makes installation more convenient and effectively reduces material and installation costs.



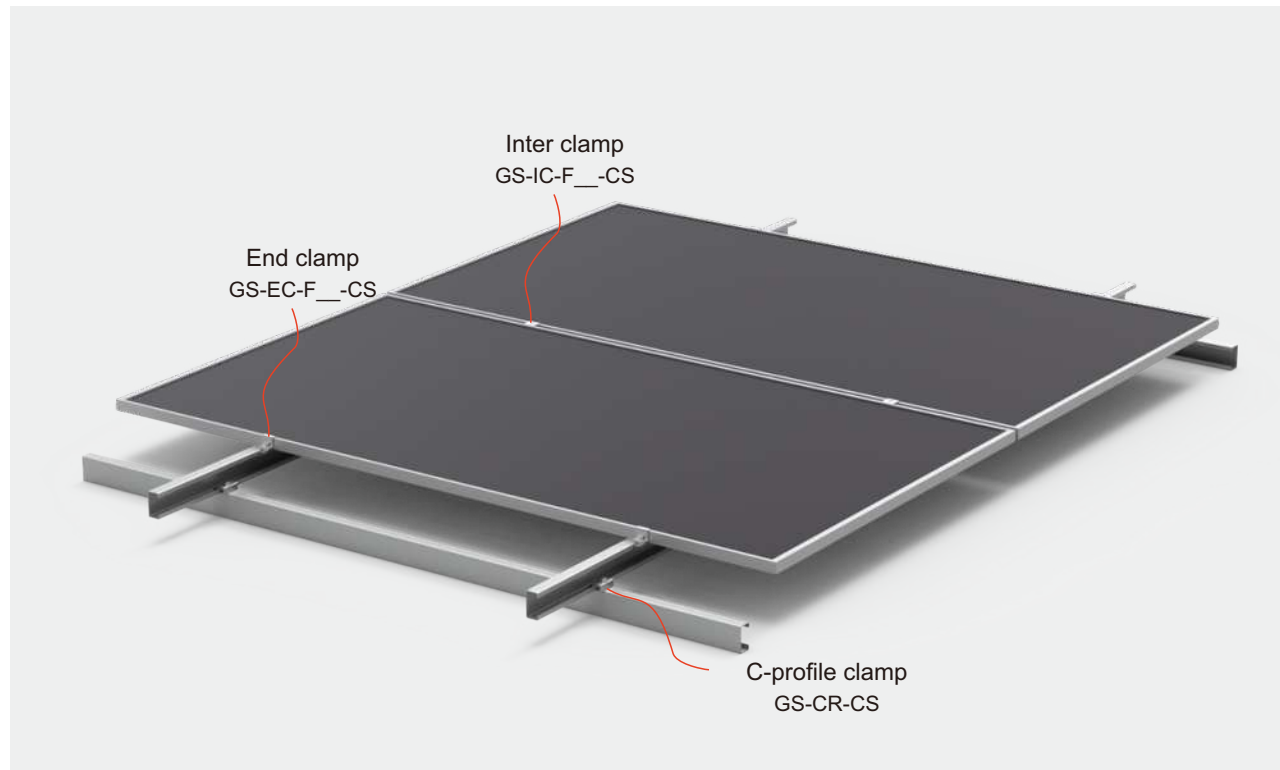
Component List (2\*4)

Component List (2\*4)

Item No.	Description	QTY	Material
GS-BM4-FL-10-Q01	BM4 ballasted 10deg front support kit	12 pcs	AL6005-T5
GS-BM4-RL-10-Q01	BM4 ballasted 10deg rear support kit	12 pcs	AL6005-T5
GS-AC-TH-G-Q01	Inter-end integrated clamp 30/46 assembly (with spring + ground clip)	12 pcs	AL6005-T5
GS-AC-Q01	Inter-end integrated clamp kit 30/46 kit	12 pcs	AL6005-T5
GS-BM4-MB-1200-Q01	BM4 ballast bottom beam 132*1200	12 pcs	AL6005-T5
GS-BM4-MB-SP-500-Q01	BM4 ballast bottom beam connector L500	9 pcs	AL6005-T5
GS-BM4-MB-SP-90-Q01	BM4 ballast bottom beam connector L90	6 pcs	AL6005-T5
GS-BM4-WD-10-2350-Q01	BM4 Ballast Wind Deflection 10deg	8 pcs	Q235
GS-KYR-GL-Q01	KYR copper wire connector kit (with self-tapping screws)	4 pcs	AL6005-T5
GS-A502-B8-2350-Q01	BM4 ballast bar 50*2.5*2350	16 pcs	AL6005-T5
GS-FA-T825-H18	T-bolt M8*25 (head length 18) + M8 flange nut assembly	32 pcs	SUS304
GS-BM4-SWD-10-Q01	BM4 ballast side wind deflection 10 deg	8 pcs	Q235
GS-F-T625-Q01	Self-tapping bolt 410 St6.3*25 (passivated)	24 pcs	SUS410

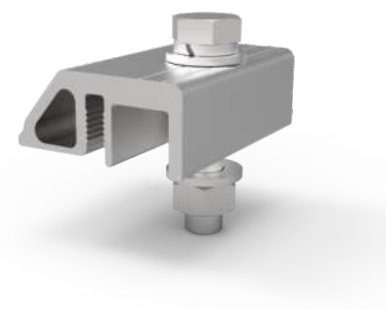
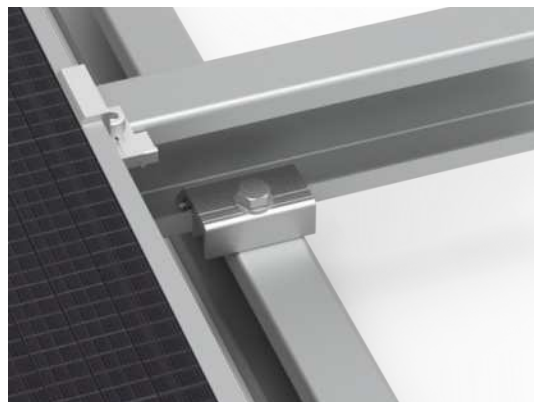
Item No.	Description	QTY	Material
GS-BM4-FL-10-Q01	BM4 ballasted 10deg front support kit	12 pcs	AL6005-T5
GS-BM4-RL-10-Q01	BM4 ballasted 10deg rear support kit	12 pcs	AL6005-T5
GS-AC-TH-G-Q01	Inter-end integrated clamp 30/46 assembly (with spring + ground clip)	12 pcs	AL6005-T5
GS-AC-Q01	Inter-end integrated clamp kit 30/46 kit	12 pcs	AL6005-T5
GS-BM4-MB-1200-Q01	BM4 ballast bottom beam 132*1200	12 pcs	AL6005-T5
GS-BM4-MB-SP-180-Q01	BM4 ballast bottom beam connector L180	9 pcs	AL6005-T5
GS-BM4-MB-SP-90-Q01	BM4 ballast bottom beam connector L90	6 pcs	AL6005-T5
GS-KYR-GL-Q01	KYR copper wire connector kit (with self-tapping screws)	4 pcs	AL6005-T5
GS-A502-B8-2350-Q01	BM4 ballast bar 50*2.5*2350	16 pcs	AL6005-T5
GS-FA-T825-H18	T-bolt M8*25 (head length 18) + M8 flange nut assembly	32 pcs	SUS304
GS-BM4-SWD-10-Q01	BM4 ballast side wind deflection 10 deg	8 pcs	Q235
GS-F-T625-Q01	Self-tapping bolt 410 St6.3*25 (passivated)	24 pcs	SUS 410

C-Profile Fixing Components



Fixing Clamps

C-profile Clamp Kit

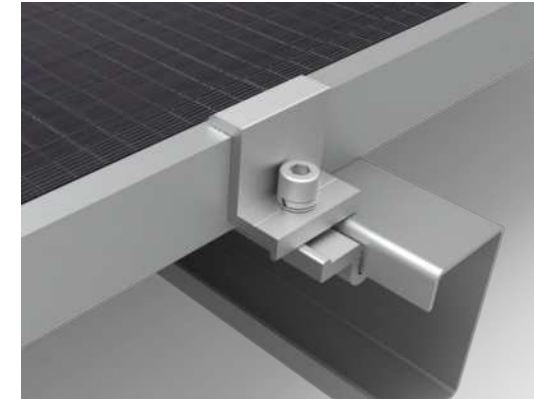


GS-CR-CS

Item No.	Description	Size(mm)	Package
GS-CR-CS	C-profile clamp	60	36 kits/box 4 boxes/CTN

Fixing Clamps

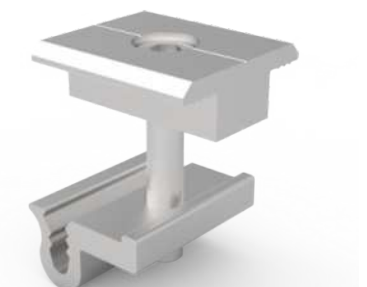
End Clamp



GS-EC-F\_\_-CS

Item No.	Description	Size(mm)	Package
GS-EC-F30-CS	30mm End clamp	40	48 kits/box 4 boxes/CTN
GS-EC-F35-CS	35mm End clamp	40	48 kits/box 4 boxes/CTN
GS-EC-F40-CS	40mm End clamp	40	48 kits/box 4 boxes/CTN

Inter Clamp



GS-IC-F\_\_-CS

Item No.	Description	Size(mm)	Package
GS-IC-F30-CS	30mm Inter clamp	40	90 kits/box 4 boxes/CTN
GS-IC-F35-CS	35mm Inter clamp	40	90 kits/box 4 boxes/CTN
GS-IC-F40-CS	40mm Inter clamp	40	90 kits/box 4 boxes/CTN









Rail

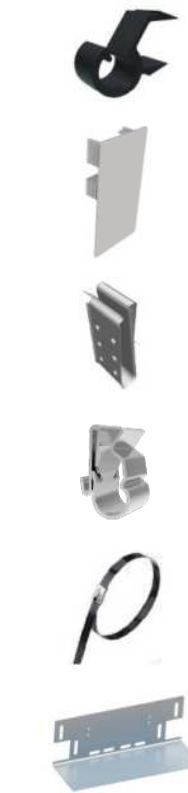
Item No.	Name	Description	Package
	GS-DR-(length) Classical	DR Rail Spec: 55*28mm Customized length	8pcs/bundle, 512pcs/pallet
	GS-SR-(length) Classical	SR Rail Spec: 50*28mm Customized length	8pcs/bundle
	GS-10R-(length) Economy	GS 10# Rail Spec: 46*28mm Customized length	8pcs/bundle, 512pcs/pallet
	GS-DR4-(length)	DR 4# Rail Spec: 57*33mm Customized length	8pcs/bundle, 336pcs/pallet
	GS-DR5-(length)	DR 5# Rail Spec: 55*49mm Customized length Cable Rail	8pcs/bundle, 336pcs/pallet
	GS-7R-(length)	GS 7# Rail Spec: 38*36mm Customized length	8pcs/bundle, 560pcs/pallet
	GS-16R-(length)	GS 16# Rail Spec: 42*27.4mm Customized length	8pcs/bundle
	GS-DWR-(length)	DWR Rail Spec: 40*40mm Customized length	4pcs/bundle
	GS-ER-(length)	ER Rail Spec: 39*33.2mm Customized length	8pcs/bundle
	GS-UR-(length)	UR Rail Spec: 36*45mm Customized length	8pcs/bundle
	GS-HR-(length)	HR Rail Spec: 55*28mm Customized length	8pcs/bundle, 340pcs/pallet
	GS-HR01-(length)	HR01 Rail Spec: 37.6*27mm Customized length	8pcs/bundle
	GS01-IHR-(length)	IDH Rail Spec: 38*29.4mm Customized length	8pcs/bundle
	GS-CRC-(length)	Cable Rail Cap Customized length Cap of Cable Rail	8pcs/bundle





Rail Splice





	GS-DR-SP	DR Rail Splice Kit	Connect two pcs DR Rail Pre-assembly	50 kits/box 4 boxes/CTN
	GS-DR-SP-GW	DR Rail Splice with Ground Washer	Connect two pcs DR Rail with ground washer Pre-assembly	50 kits/box 4 boxes/CTN
	GS-DR4-SP	GS 4# Rail Splice Kit	Connect two pcs DR 4# Rail Pre-assembly	15 kits/box 4 boxes/CTN
	GS-7R-SP	GS 7# Rail Splice Kit	Connect two pcs GS 7# Rail Pre-assembly	50 kits/box 4 boxes/CTN
	GS-ER-SP	ER Rail Splice Kit	Connect two pcs ER Rail	55 kits/box 4 boxes/CTN
	GS-UR-SP	UR Rail Splice Kit	Connect two pcs UR Rail	100 kits/box 4 boxes/CTN

Accessories



Item No.	Name	Description	Package	
	GS-A-PC01	Plastic Cable Clip	Nylon 66, black connection 2 wires with GS Rail by side	1000 kits/box 4 boxes/CTN
	GS-A-DRC-SG	GS Rail Cap	Nylon 66, Silver Gray End Cap for GD Rail	1000 kits/box 4 boxes/CTN
	GS-SSCC-03	SS Cable Clip 3#	Stainless Steel connection 4 wires with the bottom of Frame Module	2000 kits/box 4 boxes/CTN
	GS-SSCC-05	SS Cable Clip 5#	Stainless Steel connection 2 wires with the bottom of Frame Module	1000 kits/box 4 boxes/CTN
	GS-CT-01	Cable Tie 1# 4.6x300	SUS304 with PVC Coat Tie the cable with Rail	1000 kits/box 4 boxes/CTN
	GS-DC-330-240	GS DC Isolator Box	AL5052,330x240mm With 2x D module Kits Enclosure for fixing the DC Isolator onto GS rail	20 kits/box 4 boxes/CTN

Module Clamp

Item No.	Name	Description	Package
<b>Mid Clamp Kit</b>			
	GS-IC-F30	Inter Clamp Kit 30-32mm	100 kits/box 4 boxes/CTN
	GS-IC-F35	Inter Clamp Kit 35mm	
	GS-IC-F40	Inter Clamp Kit 40mm	
	GS-IC-F46	Inter Clamp Kit 46mm	
	GS-IC-F50	Inter Clamp Kit 50mm	
		Inter Clamp D- Module Socket Head Screw M8 Pre-assembly	
	GS-IC-F30-TH-G01	Inter Clamp Kit 30-32mm	100 kits/box 4 boxes/CTN
	GS-IC-F35-TH-G01	Inter Clamp Kit 35mm	
	GS-IC-F40-TH-G01	Inter Clamp Kit 40mm	
	GS-IC-F46-TH-G01	Inter Clamp Kit 46mm	
	GS-IC-F50-TH-G01	Inter Clamp Kit 50mm	
		Inter Clamp D- Module Socket Head Screw M8 Grounding Clip Spring Pre-assembly	
	GS-IC-F30-TH-G02	Inter Clamp Kit 30-32mm	100 kits/box 4 boxes/CTN
	GS-IC-F35-TH-G02	Inter Clamp Kit 35mm	
	GS-IC-F40-TH-G02	Inter Clamp Kit 40mm	
	GS-IC-F46-TH-G02	Inter Clamp Kit 46mm	
	GS-IC-F50-TH-G02	Inter Clamp Kit 50mm	
		Inter Clamp D- Module Socket Head Screw M8 Grounding Clip Spring Pre-assembly	
<b>End Clamp Kit</b>			
	GS-EC-F30	End Clamp Kit 30mm	100 kits/box 4 boxes/CTN
	GS-EC-F35	End Clamp Kit 35mm	
	GS-EC-F40	End Clamp Kit 40mm	
	GS-EC-F46	End Clamp Kit 46mm	
	GS-EC-F50	End Clamp Kit 50mm	
		End Clamp D- Module Socket Head Screw M8 Washer Pre-assembly	
	GS-IC-L80	Thin Film Inter Clamp Kit	40 kits/box 4 boxes/CTN
	GS-EC-L80	Thin Film End Clamp Kit	50 kits/box 4 boxes/CTN
		Top and Bottom Clamp D- Module Socket Head Screw M8 Pre-assembly	

Module Clamp

Item No.	Name	Description	Package
<b>Adjustable Clamp Kit</b>			
	GS-EC-A02	GS Adjustable End Clamp 2#, 30~46mm	100 kits/box 4 boxes/CTN
	GS01-EC-F35/F40	GS End Clamp Kit for 35 or 40mm	100 kits/box 4 boxes/CTN
	GS-AC	GS Universal modules Clamp Kit, 30~46mm	50 kits/box 4 boxes/CTN
		Clamp T- Module Socket Head Screw M8 Washer Pre-assembly can be as the inter or end clamp	
	GS-DEC	GS New End Clamp Kit 30~46mm	50 kits/box 4 boxes/CTN
	GS-DIC	GS New Inter Clamp Kit 30~46mm	50 kits/box 4 boxes/CTN
		Clamp T- Module Socket Head Screw M8 Washer Pre-assembly	
<b>Rail Clamp Kit</b>			
	GS-RC-D	GD Rail Clamp Kit	100 kits/box 4 boxes/CTN
	GS-7RC-D	7# Rail Clamp Kit	100 kits/box 4 boxes/CTN
	GS-2RC-01	Adjustable-Rail Clamp Kit	100 kits/box 4 boxes/CTN
		Clamp Socket Head Screw M8*25 Spring Washer, M8 Lock Washer, M8 Hexagon Nut, M8 Pre-assembly	
	GS-ER-RC	ER Rail Clamp Kit	100 kits/box 4 boxes/CTN
		Clamp Semi-round head square diameter bolt M8*25 Hexagonal flange nut M8 Pre-assembly	
	GS-ER-GD	Rail fixing module kit	100 kits/box 4 boxes/CTN
		Left fixing module, Right fixing module, Hexagon bolt M8*40, Spring washer M8, Disc springs M8, Spring 0.8*D10*H25 Pre-assembled	



Fasten

Item No.	Name	Description	Package
GS-F-S820	Socket Head Screw	Stainless Steel A2-70, M8*20	Package on request
GS-F-S825	Socket Head Screw	Stainless Steel A2-70, M8*25	
GS-F-S828	Socket Head Screw	Stainless Steel A2-70, M8*28	
GS-F-S830	Socket Head Screw	Stainless Steel A2-70, M8*30	
GS-F-S835	Socket Head Screw	Stainless Steel A2-70, M8*35	
GS-F-S840	Socket Head Screw	Stainless Steel A2-70, M8*40	
GS-F-S845	Socket Head Screw	Stainless Steel A2-70, M8*45	
GS-F-S850	Socket Head Screw	Stainless Steel A2-70, M8*50	
GS-F-S855	Socket Head Screw	Stainless Steel A2-70, M8*55	
GS-F-S860	Socket Head Screw	Stainless Steel A2-70, M8*60	
GS-F-S865	Socket Head Screw	Stainless Steel A2-70, M8*65	
GS-F-AS820	Anti-Theft Screw	Stainless Steel A2-70, M8*20	
GS-F-AS825	Anti-Theft Screw	Stainless Steel A2-70, M8*25	
GS-F-AS828	Anti-Theft Screw	Stainless Steel A2-70, M8*28	
GS-F-AS830	Anti-Theft Screw	Stainless Steel A2-70, M8*30	
GS-F-AS835	Anti-Theft Screw	Stainless Steel A2-70, M8*35	
GS-F-AS840	Anti-Theft Screw	Stainless Steel A2-70, M8*40	
GS-F-AS845	Anti-Theft Screw	Stainless Steel A2-70, M8*45	
GS-F-AS850	Anti-Theft Screw	Stainless Steel A2-70, M8*50	
GS-F-AS855	Anti-Theft Screw	Stainless Steel A2-70, M8*55	
GS-F-AS860	Anti-Theft Screw	Stainless Steel A2-70, M8*60	
GS-F-AS865	Anti-Theft Screw	Stainless Steel A2-70, M8*65	
GS-F-AB08	Anti-Theft Screw Bit	Tool for the anti-thief screw M8	
GS-F-N108	Hexagon Nut, M8	Stainless Steel A2-70, M8	
GS-F-N208	Serrated flange nut, M8	Stainless Steel A2-70, M8	
GS-F-N210	Serrated flange nut, M10	Stainless Steel A2-70, M10	
GS-F-N212	Serrated flange nut, M12	Stainless Steel A2-70, M12	

Fasten

Item No.	Name	Description	Package	
GS-F-W108	Spring Washer, M8	Stainless Steel A2-70 M8	Package on request	
GS-F-W208	Lock Washer, M8 OD13	Stainless Steel A2-70, M8, OD13		
GS-F-W308	Lock Washer, M8 OD18	Stainless Steel A2-70, M8, OD18		
GS-F-T625	Self-tapping Screw	Stainless Steel 410 St6.3x25		
GS-FS-W660	Wood Screw	Stainless Steel 410 St6.3x60 With Pad		
GS-FS-W680	Wood Screw	Stainless Steel 410 St6.3x80 With Pad		
GS-F-H020	Hanger Bolt	Stainless Steel A2-70 M10x200		60 kits/box 4 boxes/CTN
GS-FA-H020	Hanger Bolt Assembly	Stainless Steel Hanger Bolt & 3xFlange Nuts & Rubber Pad M10x200		60 kits/box 4 boxes/CTN

Grounding System

Item No.	Name	Description	Package
GS-G-GC	Grounding Clip	Stainless Steel Plate	1000 kits/box 4 boxes/CTN
GS-G-GL	Grounding Lug	Stainless Steel Plate Aluminum Lay-in Lug Fastens Pre-assembly	200 kits/box 2 boxes/CTN II
GS-G-BJ-A	Bonding Jumper	Braider copper wire Stainless Steel Plate Socket Head Screw Pre-assembly	100 kits/box 2 boxes/CTN II