

# carport KS/KSS-series Assembling manual

Thank you very much for choosing our company's products.

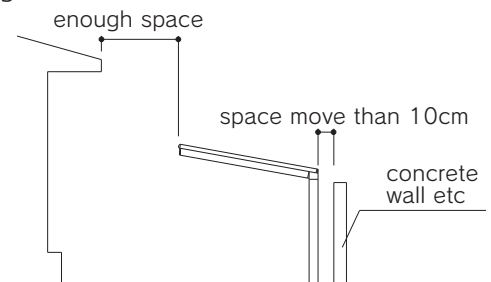
Please be sure to thoroughly read these instructions for assembly in order to properly and smoothly assemble or attach this product.

Construction shall be implemented by professionals. Problems may occur if the product is installed by someone without the proper knowledge.

**Notice** Please be sure to return the instruction manual in its original package to the owner after explaining product operation procedures, maintenance and inspection methods.

## Precautions during installation

- The carport is a simple garage. Do not change or remodel it for storage, recreational or residential purposes.
- This product is for general areas. The snow accumulation strength are 2-post type 600N/m<sup>2</sup>(61.2kg/m<sup>2</sup>) and 3-post type 900N/m<sup>2</sup>(91.8kg/m<sup>2</sup>), which corresponds to 20cm (2-post type) and 30cm (3-post type) of snowfall. Do not install in heavy snow area.
- Do not install it in the place where snow slides down from the building roof directly. When installing it besides concrete wall, etc., leave a 10 cm or larger gap between the post and the wall due to not clash each other during strong wind.
- Be sure to provide extra support post (optional) when installing it in strong wind area.
- When installing it with side panel, be sure to set up support post.
- When installing it with side panel, recommending to installing its front frame face to the building due to reduce the wind effect.
- Positioning the posts so that they do not affect underground objects (water supply, drain pipes, etc.).
- When moving the posts, please follow the company specifications.
- Install it so that the exhaust from burning appliances (hot-water supply, air heating, etc.) or the car exhaust don't hit directly or remain in the products. It may cause the aluminum surface to corrode.



## Precautions during construction

- Follow the instructions and be sure that all the specified screws and bolts for assembly are tightened securely.
- Do not use anything other than the specified parts or optional parts.
- The foundation should comply with or exceed dimension specifications.
- Allow sufficient curing time for the concrete (4 to 7 days) and do not place heavy objects on it or subject it to vibrations during the curing period.
- Be sure to keep the note below to prevent aluminum materials corrode.
  - (1) Do not use sea sand for the foundation since it contains salt and may cause corrosion. Do not use a cement enhancer, water-reducing agent or cryoprotectant. They may cause the posts to corrode.
  - (2) Immediately wipe off any mortar or stains from the surface of aluminum parts since they may cause corrosion.
  - (3) Do not let aluminum parts come in contact with other metals such as copper or iron. Provide insulation with vinyl tape, by painting, etc., if necessary. Otherwise the product may corrode.
  - (4) Be sure to provide gravel for the foundation to allow drainage, insert water drainage holes ( $\phi 5$ ) at the base of the posts and foundation. Failure to do so may lead to water accumulation inside the posts and damage them if the water freezes and expands inside.
- Be sure to put the sealant glue as the following.
  - (1) Wipe off any stains from the sealing part.
  - (2) Be sure to apply a sealant, as specified.
  - (3) After putting the sealant glue on the hole made in its all wall body, fully tighten the screw.
  - (4) Seal completely deep enough and finish the surface with a pallet.
- After construction, check the products to see if the bolts, screws, nuts, etc. loosen or any dangerous places exist.
- Be sure to check if the product has scratches, dents or dint.
- Be sure to explain product operation procedures, maintenance and inspection methods to the owner.

## Necessary tools and materials for installation

- Electric drill, Drill
- Ratchet wrench, Adjustable end wrench
- Electric Screwdriver
- Measure, Level, Plumb bob, Cutter, Pillar, Plastic hammer
- Foundation materials (Cement, Aggregate, etc)
- Sealant, Caulk gun, pallet
- Cropper or Saw
- Please prepare tools and materials as needed

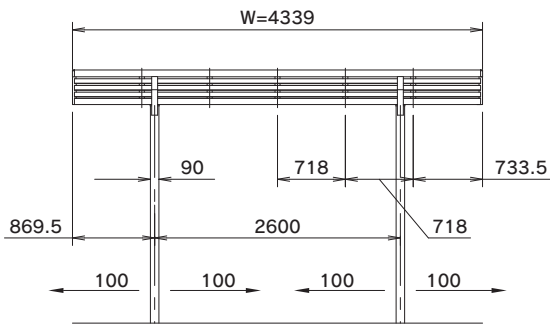
# Dimension, position of posts and base dimension

## Dimension, position of post

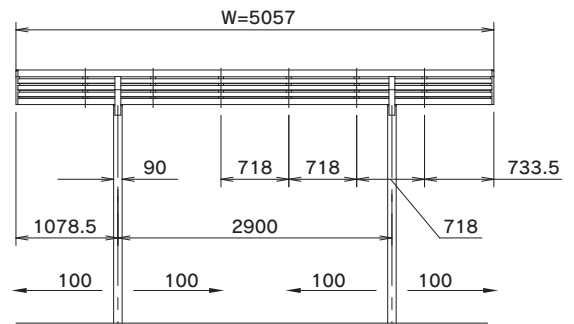
length dimension (W) and post standard position (post could be changed as the dimension of ← →)

### KS-series (2-post type(snowfall 20cm))

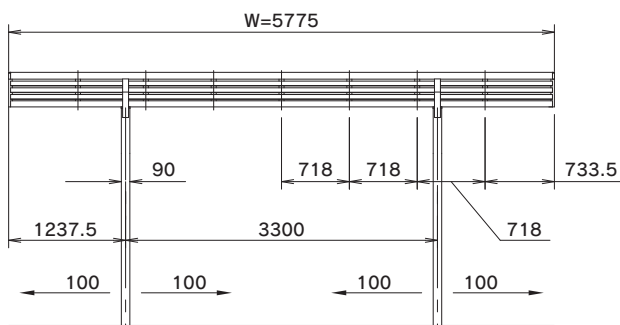
#### ●Length 43 size



#### ●Length 51 size

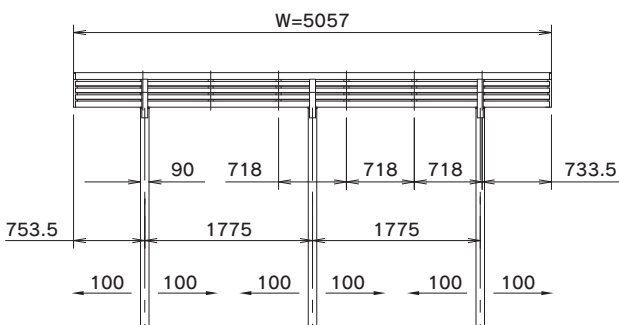


#### ●Length 58 size

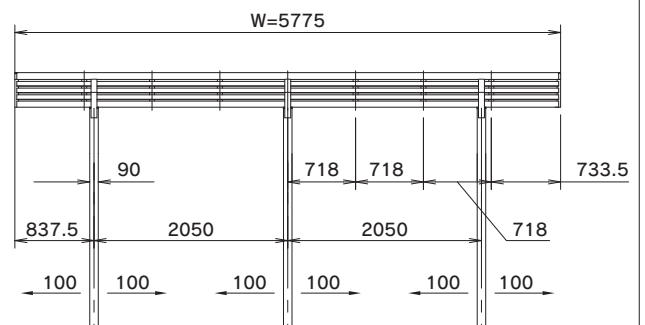


### KSS-series (3-post type(snowfall 30cm))

#### ●Length 51 size

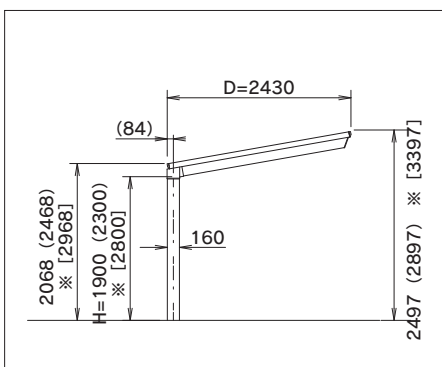


#### ●Length 58 size

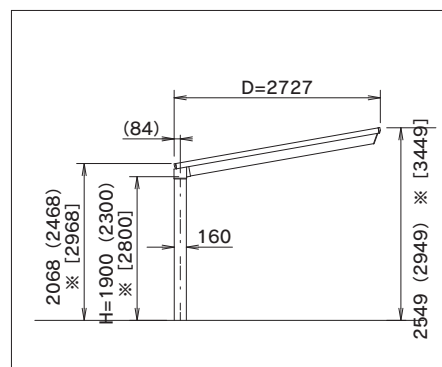


depth dimension (D), height dimension(H) (depth24・27・30size)

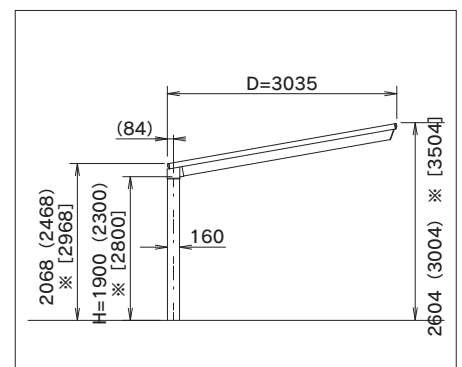
### Depth 24 size



### Depth 27 size



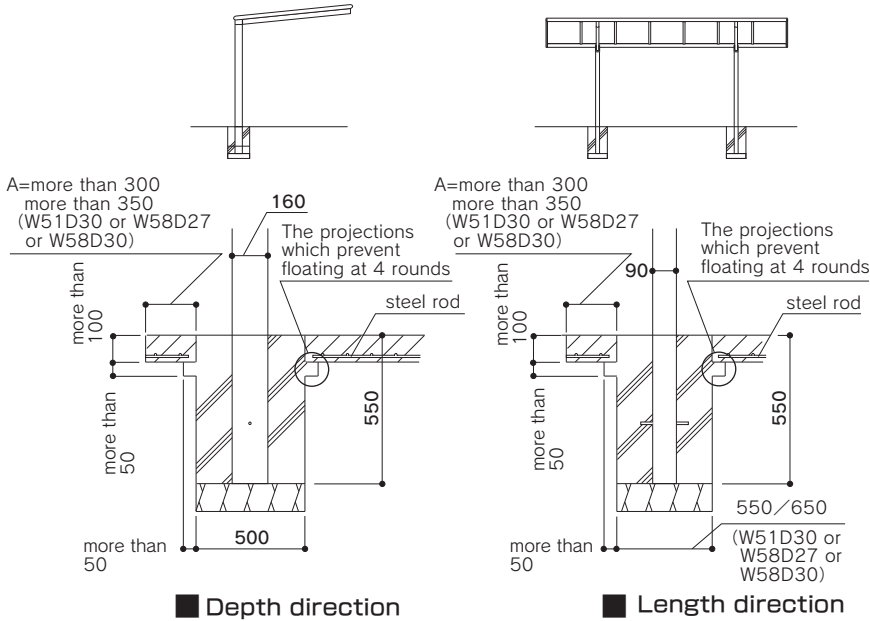
### Depth 30 size



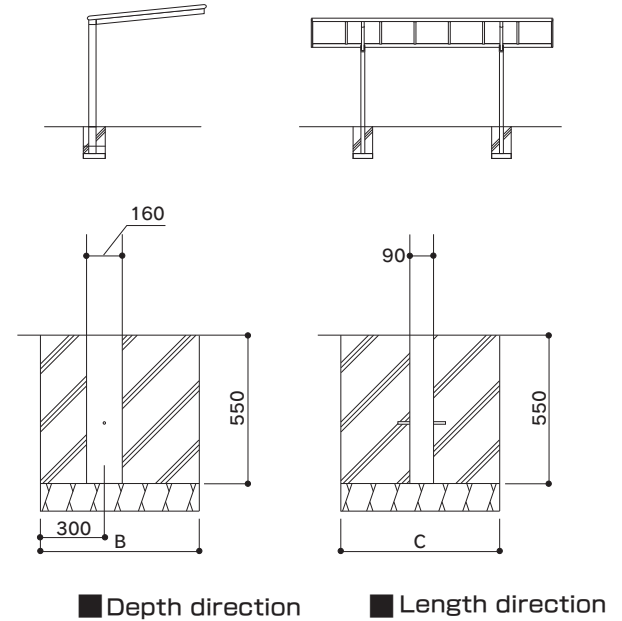
※2-post type only(snowfall 20cm)

## ■ Base dimension

① In case of concrete floor



② In case of no concrete floor or no correspond to above condition



Remarks: In case of using standard size in concrete floor, please install under below condition

- ① Thickness of concrete floor is more than 100mm.
- ② Steel rod and welding wire net are arranged in concrete floor.
- ③ Dimension of projection which prevents floating at 4 rounds is more than 50mm×50mm
- ④ Distance (A) from outside edge of base to around concrete floor is more than 300mm or (350mm)

■ In case of 100KN/m<sup>2</sup> Endurance strength of ground

	W43		W51		W58	
	B	C	B	C	B	C
D24	1100	850	1100	850	1100	850
D27	1100	850	1100	850	1250	850
D30	1250	850	1250	850	1400	850

■ In case of 50KN/m<sup>2</sup> Endurance strength of ground

	W43		W51		W58	
	B	C	B	C	B	C
D24	1250	1000	1250	1000	1250	1000
D27	1250	1000	1250	1000	1350	1000
D30	1350	1000	1350	1000	1500	1000

## Post • beam • main frame list

● Please be noted post, beam and main frame are different according to the size of body.

post type	①	②	③	④	beam type	①	②	main frame type	①	②	③
section					section			section			
Parts ID	KSH-19B-1 KSH-19B-2 KSH-23B-1 KSH-23B-2	KSH-19C-1 KSH-19C-2 KSH-23C-1 KSH-23C-2	KSH-28E-1	KSH-28F-1	Parts ID	KST-4324, KST-4327 KST-5124, KST-5127 KST-5824 KST-24-1, KST-27B-1	KST-4330, KST-5130 KST-5827, KST-5830 KST-5127-4, KST-27C-1 KST-30-1	Parts ID	KSY-W43A-4 KCRY-W51A-4 KSSY-W51A-3 KSSY-W51A-4	KSY-W43B-3 KCRY-W51B-3 KSSY-W58B-3 KSSY-W58B-4	KCRY-W58D-3 KSY-W58D-4 KSY-W51D-4

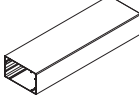
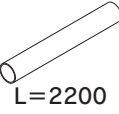

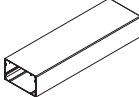
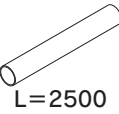

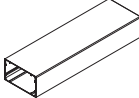

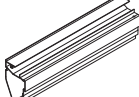
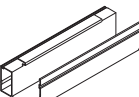

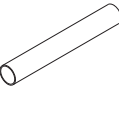
## Parts instruction guide

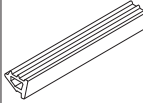
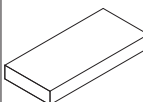

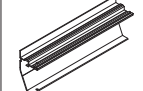
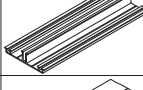
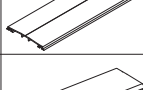
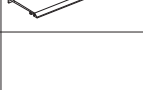


Type	Type		component parts						
	body size Depth D	Length W	post			beam	main frame		
			standard post	long post	extra long post				
2-post type(20cm)	24	43	①	①	③	①	②		
		51					③		
		58					②		
	27	43					②	①	③
		51					③	①	②
		58					③	②	①
3-post type (30cm)	24	51	①	①	④	①	①		
		58					②		
		51					①		
	27	51					②	①	②
		58					②	①	②
		51					②	①	②
30	51	②	②	②	②				
	58	②	②	②	②				

# Parts contents


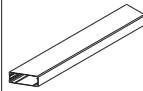

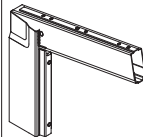
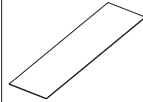
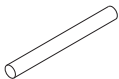





- Please open the captioned carton and check all contents in advance.
- Please check the parts defective or any damage.
- We packed some extra screw in the parts box. (x) number is necessary Q'ty for installation.







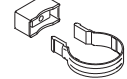

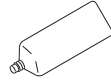






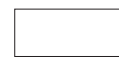

When  mark is P, it is the polycarbonate panel.  
 When  mark is MCP, it is the polycarbonate heat protection mat panel.  
 When  mark is CP, it is the heat protection polycarbonate panel.

Parts ID	content			
	name	shape	quantity	
<b>post set (standard post)</b> KSH-19B-2 KSH-19C-2 KSH-19B-1 KSH-19C-1	post		KSH-19B-2	2
			KSH-19C-2	
			KSH-19B-1	1
			KSH-19C-1	
	round gutter GA4923	 L=2200	KSH-19B-2	1
			KSH-19C-2	
			KSH-19B-1	—
instruction manual		1		
<b>post set (long post)</b> KSH-23B-2 KSH-23C-2 KSH-23B-1 KSH-23C-1	post		KSH-23B-2	2
			KSH-23C-2	
			KSH-23B-1	1
			KSH-23C-1	
	round gutter GA4923	 L=2500	KSH-23B-2	1
			KSH-23C-2	
			KSH-23B-1	—
instruction manual		1		
<b>post set (extra long post)</b> KSH-28E-1 KSH-28F-1	post		1	
	instruction manual		1	
<b>length set</b> KSY-W43B-3 KSY-W43A-4 KCRY-W51B-3 KCRY-W51A-4 KCRY-W58D-3 KSY-W58D-4 KSSY-W51A-3 KSSY-W51A-4 KSSY-W58B-3 KSSY-W58B-4 KSY-W51D-4	front frame		1	
			gutter	
	main frame			
			KCRY-W51B-3	
			KCRY-W58D-3	
			KSSY-W51A-3	
			KSY-W43A-4	4
			KCRY-W51A-4	
			KSY-W58D-4	
			KSSY-W51A-4	
	round gutter GA4923		KSSY-W51A-3	1
			KSSY-W51A-4	
			KSSY-W58B-3	
			KSSY-W58B-4	
			KSY-W43B-3	L=300
			KSY-W43A-4	
			KCRY-W51B-3	1
KCRY-W51A-4				
KSY-W51D-4			L=600	
KCRY-W58D-3			1	
KSY-W58D-4				
L=800				

Parts ID	content					
	name	shape	quantity			
<b>length set</b> KSY-W43B-3 KSY-W43A-4 KCRY-W51B-3 KCRY-W51A-4 KCRY-W58D-3 KSY-W58D-4 KSSY-W51A-3 KSSY-W51A-4 KSSY-W58B-3 KSSY-W58B-4 KCRY-W58D-3 KSY-W58D-4	rubber channel GB2444		KSY-W43B-3	6		
			KSY-W43A-4			
			KSSY-W51A-3	7		
			KSSY-W51A-4			
			KCRY-W51B-3	8		
			KCRY-W51A-4			
			KSY-W51D-4			
	KSSY-W58B-3	8				
	KSSY-W58B-4					
	KCRY-W58D-3	8				
	KSY-W58D-4					
	roof panel cushion GB4084		KSY-W43B-3	18		
			KSY-W43A-4	24		
KSSY-W51A-3			21			
KCRY-W51B-3			28			
KSSY-W51A-4						
KCRY-W51A-4			24			
KSY-W51D-4						
KSSY-W58B-3			24			
KCRY-W58D-3						
KSSY-W58B-4			32			
KSY-W58D-4						
<b>beam depth set</b> KST-4324 KST-4327 KST-4330 KST-5124 KST-5127 KST-5130 KST-5824 KST-5827 KST-5830 KST-5127-4	beam		2			
	side frame		Right Left each 1 pc			
			roof rafter		KST-4300	5
					KST-5100	6
	roof retainer		KST-5800	7		
			end roof retainer		2	
					small truss screw 4×10×7 ES0243	
	KST-4327	89(85)				
	KST-4330	95(90)				
	KST-5124					
	KST-5127	107(102)				
	KST-5127-4					
	KST-5130	113(108)				
KST-5824	110(105)					
KST-5827	125(119)					
KST-5830	132(126)					
small truss screw 5×14×10		KST-4324	13(12)			
		KST-4327				
		KST-5124				
		KST-5127				
		KST-5824	18(16)			
		KST-5827				
		KST-4330				
		KST-5130				
KST-5830	18(16)					
KST-5127-4						

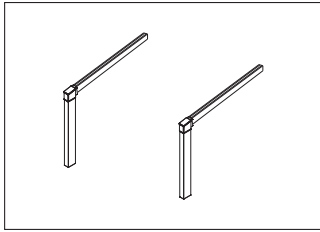
# Parts contents

Parts ID	content			
	name	shape	quantity	
beam depth set KST-4324 KST-4327 KST-4330 KST-5124 KST-5127 KST-5130 KST-5824 KST-5827 KST-5830 KST-5127-4	drilling screw 4×10×8		KST-4324 75(71)	
KST-4327 79(75)				
KST-4330 88(84)				
KST-5124 80(76)				
KST-5127 84(80)				
KST-5130 95(90)				
KST-5824 85(81)				
KST-5827 89(85)				
KST-5830 101(96)				
KST-5127-4 95(90)				
beam set KST-24-1 KST-27B-1 KST-27C-1 KST-30-1			beam	
small truss screw 5×14×10		KST-24-1	7 (6)	
		KST-27B-1		
		KST-27C-1		
		KST-30-1	9 (8)	
corner parts set KS-CBA-2 GB7133 KS-CBA-1 KS-CBC-2 KS-CBC-1	corner bracket GB7133 (A) GB7134 (B)		KS-CBA-2 KS-CBC-2 KS-CBA-1 KS-CBC-1	2 1
roof panel set KCRY-□24-1 KCRY-□27-1 KCRY-□30-1 KCRY-□24-3 KCRY-□27-3 KCRY-□30-3 KCRY-□24-4 KCRY-□27-4 KCRY-□30-4 KSY-MCP24-1 KSY-MCP27-1 KSY-MCP30-1 KSY-MCP24-3 KSY-MCP27-3 KSY-MCP30-3 KSY-MCP24-4 KSY-MCP27-4 KSY-MCP30-4	roof panel when□=P GB4612 (polycarbonate : AO) when□=CP GB4575 (heat protection polycarbonate:AO) when□=MCP GA6254 (heat protection polycarbonate:SI)		KCRY-□24-1 KCRY-□27-1 KCRY-□30-1 KSY-MCP24-1 KSY-MCP27-1 KSY-MCP30-1 KCRY-□24-3 KCRY-□27-3 KCRY-□30-3 KSY-MCP24-3 KSY-MCP27-3 KSY-MCP30-3 KCRY-□24-4 KCRY-□27-4 KCRY-□30-4 KSY-MCP24-4 KSY-MCP27-4 KSY-MCP30-4	1 3 4
parts box KSB-A KSSB-A	anchor rod GA0073		KSB-A KSSB-A	2 3
beam cap GB7137		KSB-A	2	
		KSSB-A	3	
corner cap GB7138		KSB-A	2	
		KSSB-A	3	
front frame, gutter attachment bracket GB1734		KSB-A	4	
		KSSB-A	6	
front frame corner cap GB3020		Right Left each 1 pc		
gutter corner cap GB3021		Right Left each 1 pc		

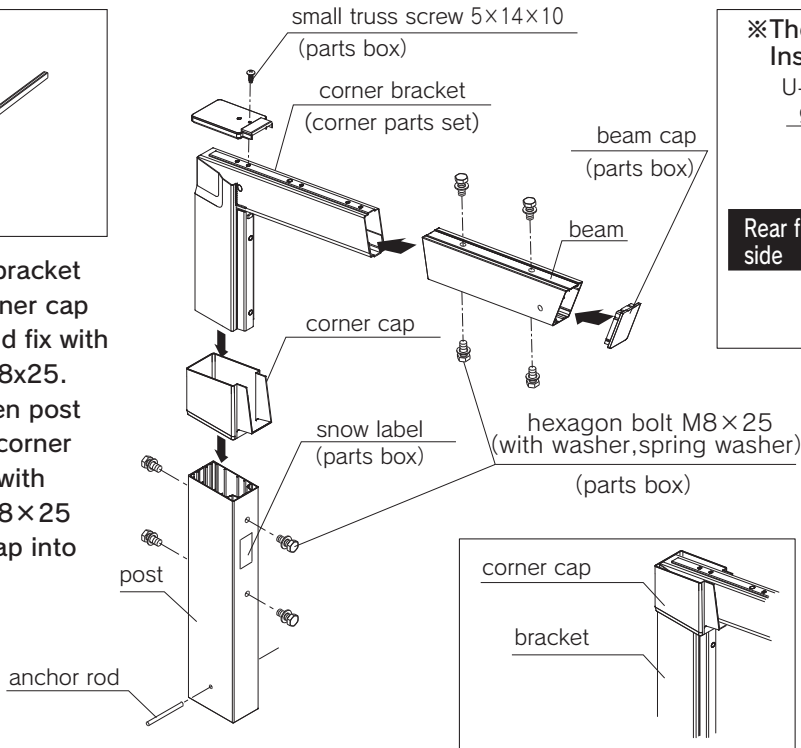
Parts ID	content		
	name	shape	quantity
parts box KSB-A KSSB-A	hexagon bolt (with washer, spring washer) M8×25 ES0249		KSB-A 16
			KSSB-A 24
small truss screw 5×14×10		KSB-A 11(10)	
		KSSB-A 16(15)	
gutter attachment GA4929		1	
gasket GA4930		1	
elbow GA4932		2	
drain elbow GA6461		1	
saddle GA4933		3	
drilling screw 4×19×8		3	
glue GA4934		1	
seal φ 14 GA0150		KSB-A 22	
		KSSB-A 32	
caution label GL-Z20C		1	
snow label GL-PCB		KSB-A 1	
		KSSB-A —	
caution label HY0134		KSB-A —	
		KSSB-A 1	
snow label HY0048		KSB-A 1	
		KSSB-A —	
snow label HY0135		KSB-A —	
		KSSB-A 1	
register label HY0150		1	
assembling manual HZ1457		1	

# Installation procedure

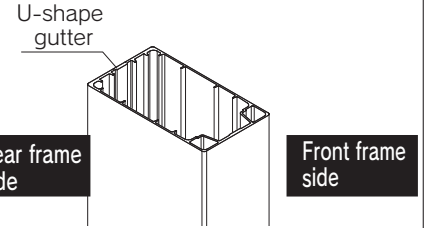
## 1 Installation of post and beam



- ① Put the corner bracket through the corner cap into the post and fix with hexagon bolt M8x25.
- ② Connect between post and beam with corner bracket and fix with hexagon bolt M8x25
- ③ Put the beam cap into the beam.

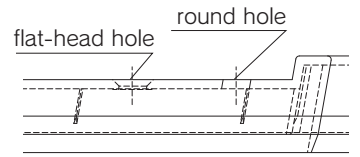


※The post has the direction. Install as below figure.



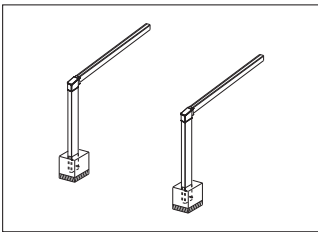
- ④ Put the cap onto the top of corner bracket and fix with small truss screw 5x14x10.

※The cap has a round hole and flat-head hole. Fix the cap with the round hole.

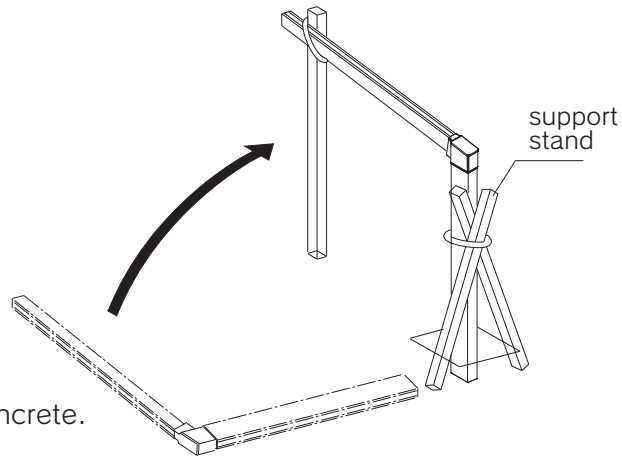


※Be sure to put the corner cap into the corner bracket first when inserting the corner bracket into the post. The corner cap can't be installed after installing the corner bracket.

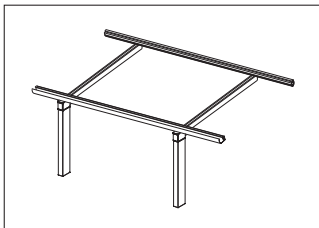
## 2 Installation to base hole



- ① Insert post into the base hole and fix with support stand not to fall down.
- ② Check if it is flat and vertical, and cast concrete.

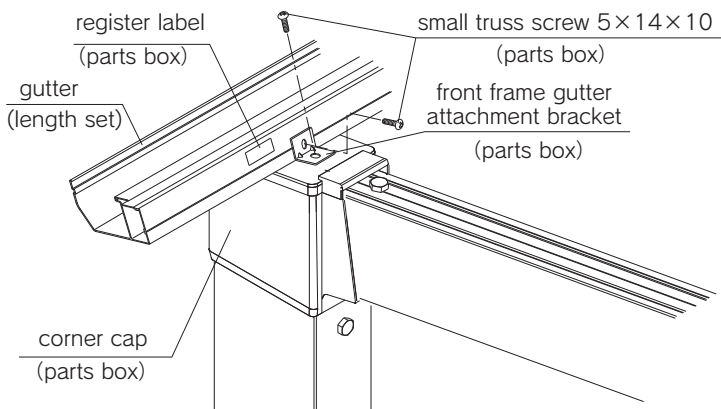


### 3 Installation of gutter and front frame



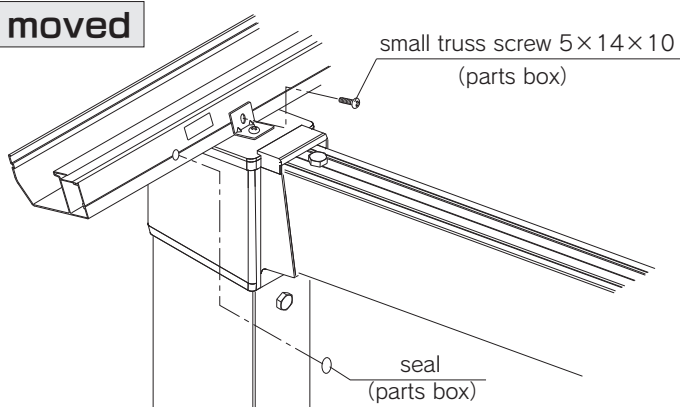
#### Installation of gutter

- Screw the front frame gutter attachment bracket to the corner bracket through the corner cap and fix the gutter using the guide hole. And put the register label on the gutter.



#### Installation of gutter in case post is moved

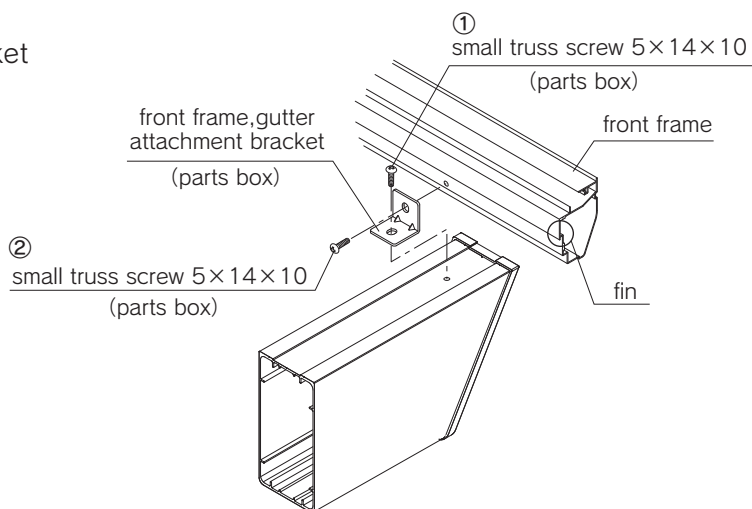
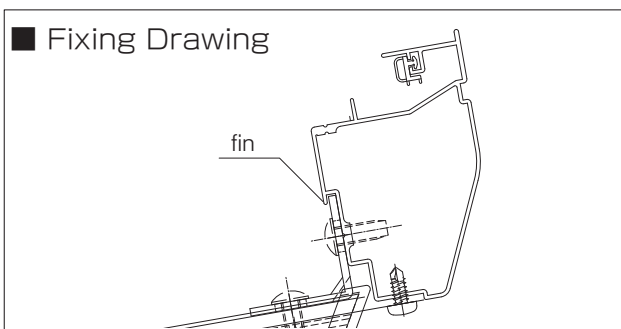
- ① According to the post position, puncture the  $\phi 4.5$  hole on the gutter and screw it.
- ② Put the seal on the unnecessary hole.



#### Installation of front frame

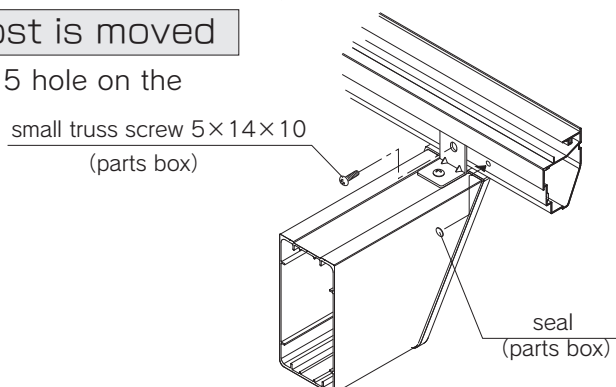
- ① Screw the front frame, gutter attachment bracket on the beam.
- ② Set the front frame on the beam and fix with drilling screw.

##### Fixing Drawing

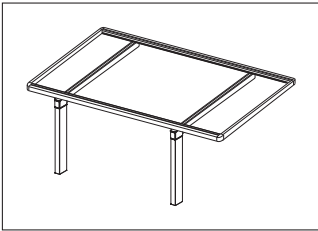


#### Installation of front frame in case post is moved

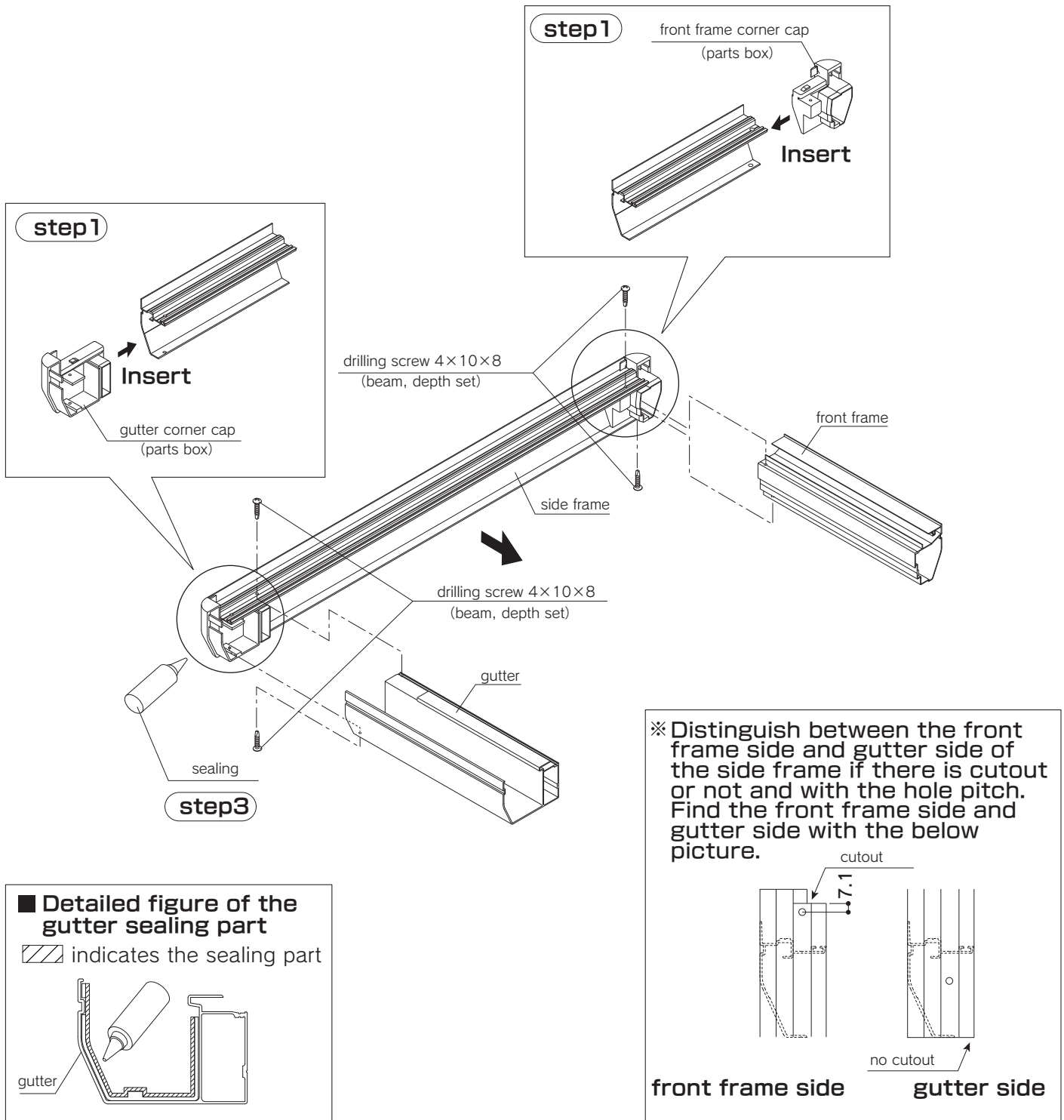
- ① According to the post position, puncture the  $\phi 4.5$  hole on the front frame and screw it.
- ② Put the seal on the unnecessary hole.



## 4 Installation of side frame



- step1** Attach the gutter corner cap and front frame corner cap on the side frame.  
 ※ If it is difficult to insert the caps, please use a hammer with cushion wood appropriately.
- step2** Attach the front frame and gutter on the cap attached on the side frame.
- step3** After attaching in step2, do sealing work at the connecting part of the gutter as shown in the detailed figure of gutter sealing part.



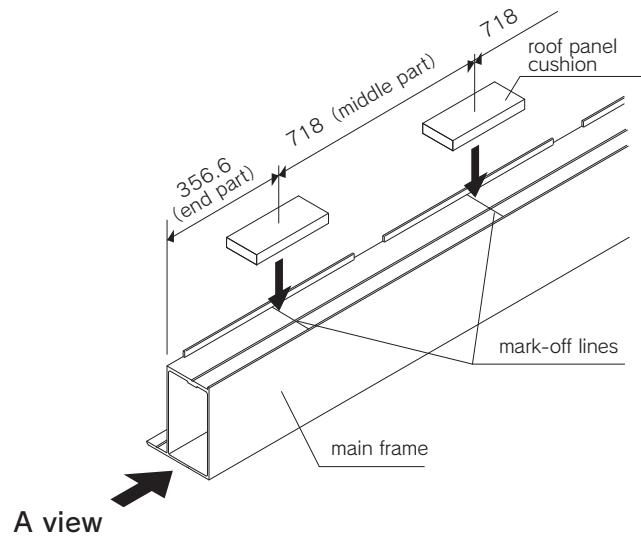
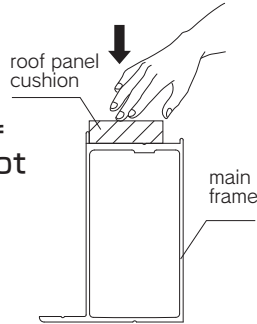


## 5 Installation of roof panel cushion

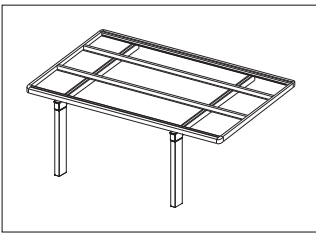
- Attach the roof panel cushions on the mark-off lines of top side of all the main frame material

### ■ A view

- ※ Attach the roof panel cushion on the high fin side.
- ※ When attaching the roof panel cushion, be sure not to be come off.

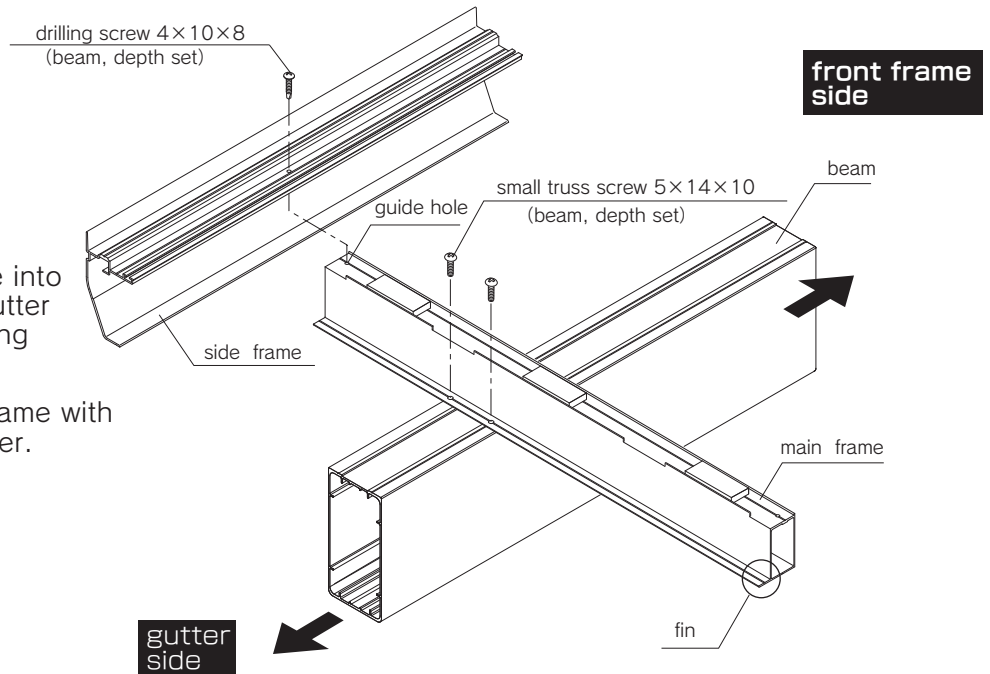


## 6 Installation of main frame



- Put the fin of the main frame into the side frame toward the gutter side and screw on beam using guide hole.

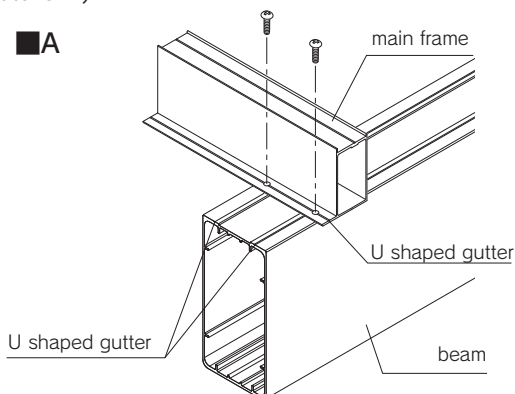
- ※ Be sure to install the main frame with the fin of it faced to the gutter.



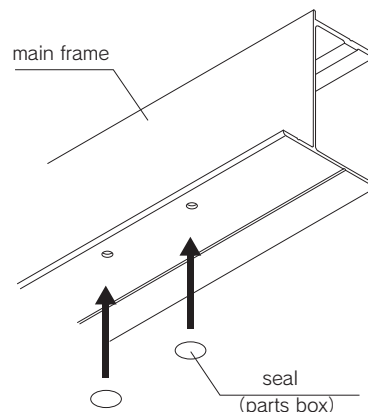
## Installation of main frame in case post is moved

- See the Ushaped gutter of the beam and make the  $\phi 5.2$  hole on the main frame and screw it on the body (picture A).
- In case of installing the main frame other than post standard position, put the seal on the unnecessary hole (picture B).

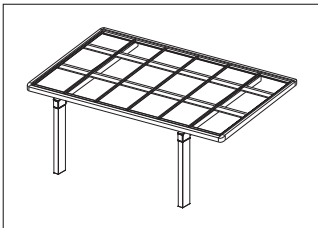
### ■ A



### ■ B



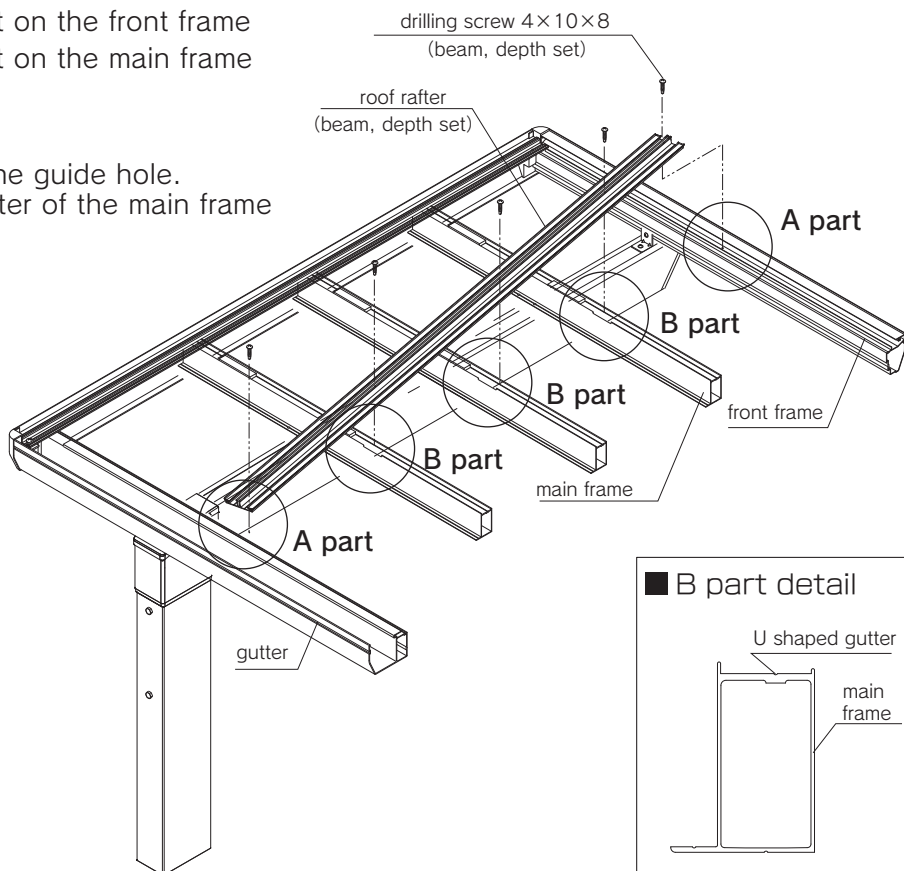
## 7 Installation of roof rafter



Any direction is possible to be installed

- ①Screw the roof rafter on the gutter
- ②Screw it on the front frame
- ③Screw it on the main frame

- ※ ● For A part (①・②), screw using the guide hole.
- For B part (③), see U shaped gutter of the main frame and screw it.

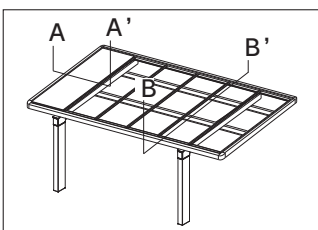


## 8 Installation of panel

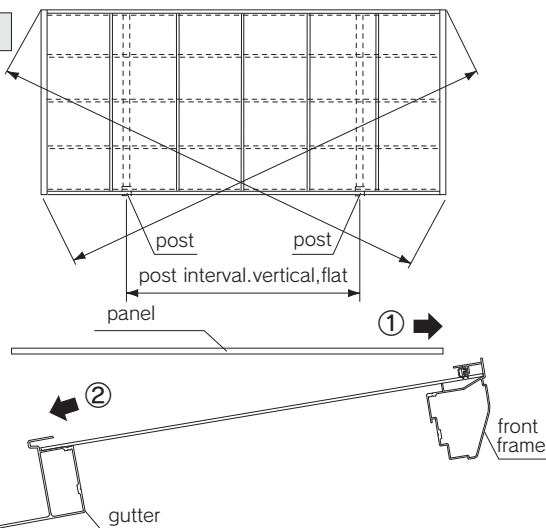
### Before installing panel

- ※ Check post interval, flat, and diagonal dimension of roof (Regarding M-connect type, adjust after connected)

※ In case diagonal dimension of roof does not come out, loose the screw which fix front frame, gutter, main frame and beam and adjust them.



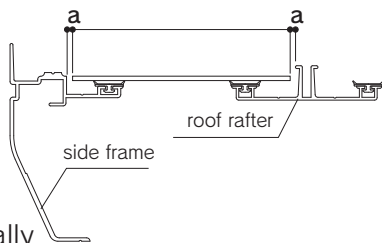
- Insert the panel into the front frame and then into the gutter



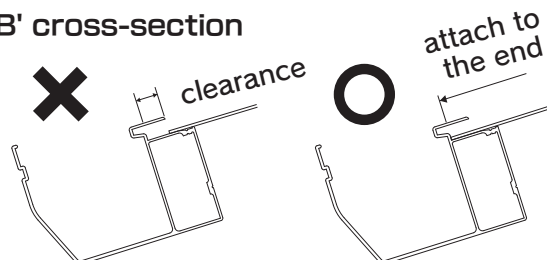
- ※ When using the polycarbonate mat (SI), attach the unevenness side down. Otherwise the panel color is changed by sunlight.

- ※ When installing panel, please be noted as below

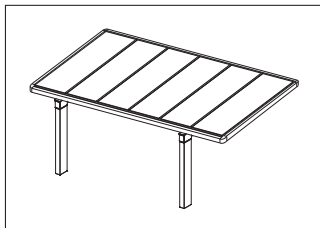
### ■ A-A' cross-section



### ■ B-B' cross-section



## 9 Installation of roof retainer

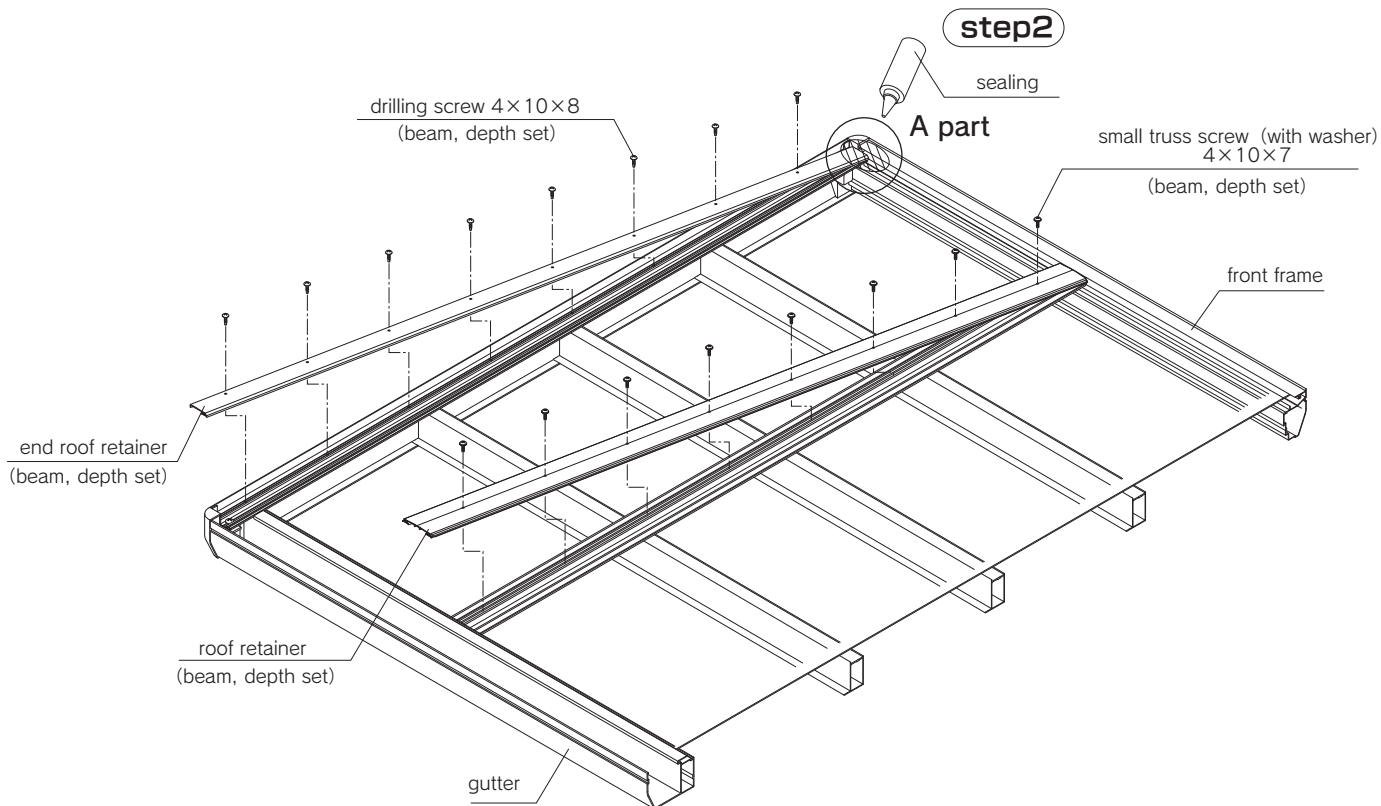
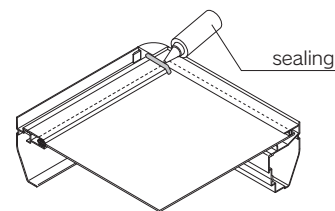


- Put the roof retainer into the front frame and screw it.

**step1** Screw the end roof retainer to the U-shaped gutter of the side frame.

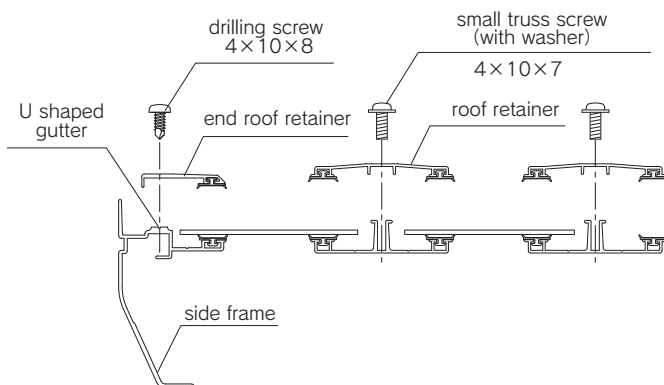
**step2** Do sealing work at the insert part of the end roof retainer.

### ■ A part detail



### Remark

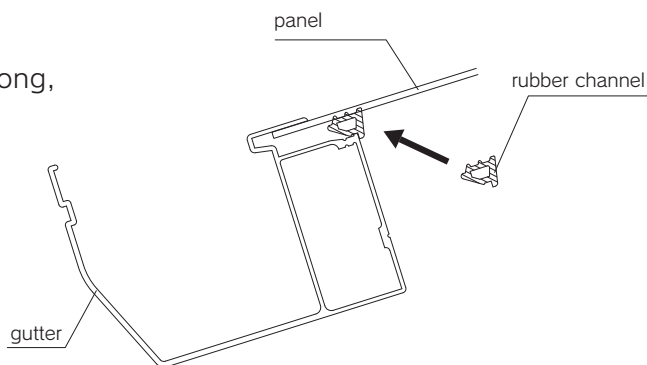
- If the screw of installing the roof retainer (middle part) is tighten too much, the screw will run idle. (tightening torque less than 15kgf.cm)
- If the screw head leans when installing the roof retainer, it will cause water leakage (water will enter from the screw head clearance), So install it not to make clearance.



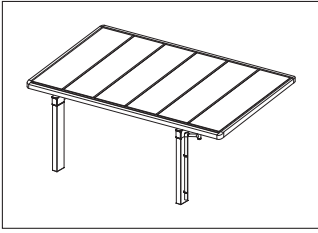
## 10 Insert rubber channel

- Insert the rubber channel.

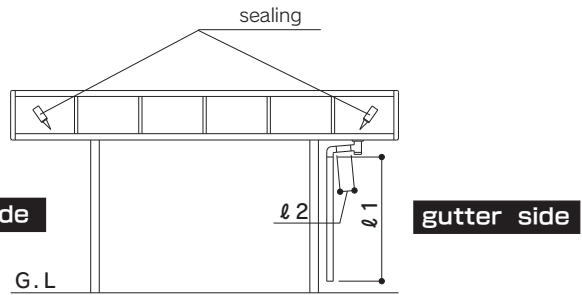
※ In case the length of the rubber channel is long, cut it with proper length.



# 11 Installation of rain gutter

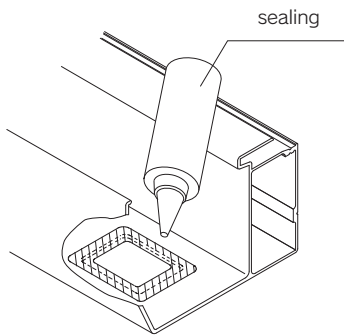


- The length of the round gutter is different according to the post position. Cut to the proper length onsite.



## blinder side

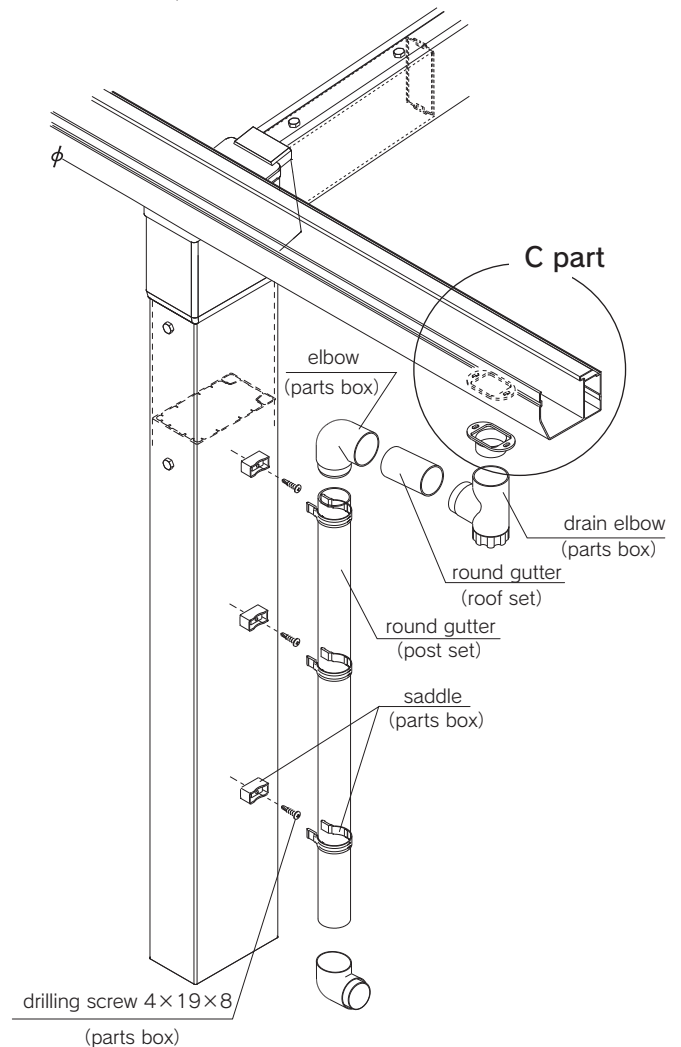
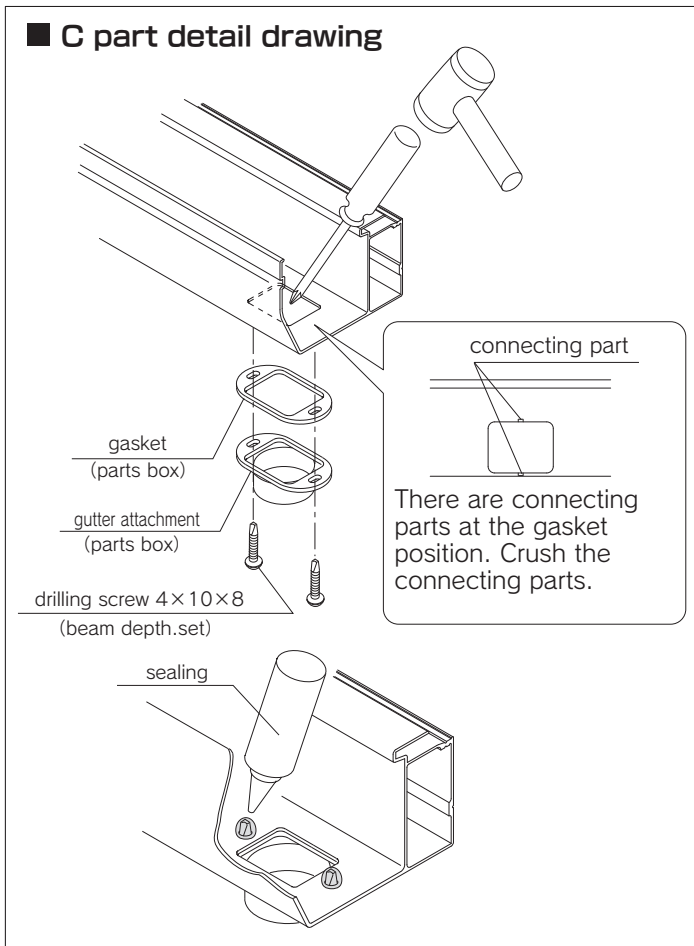
- Do sealing work all around



## gutter side

- ① Crush with wood hammer and driver only at the place for installing gasket.  
※ In case it could not crush, use electric drill.
- ② Screw the gasket on the gutter and do sealing work at the screw part.
- ③ Use the glue for rain gutter parts.  
※ There is the corner bracket inside the top of the post. When installing the saddle at the place, make a hole ( $\phi 3.5$ ) with drill first, and screw it.

## ■ C part detail drawing

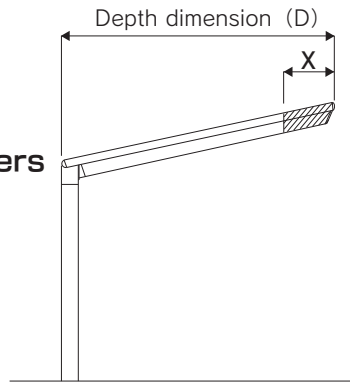


**Remark** → Be sure to do sealing work around screws in order to prevent danger when cleaning as well as for water proof.

## 12 Cutting procedures of depth direction

- In case of cutting depth direction, be sure to cut from the front frame side. According to the cutting length of the roof, cut and process each materials and panels. Be noticed the direction of the materials.

- Cutting the beams
- Cutting the side frames
- Cutting the roof rafters
- Cutting the roof retainers
- Cutting the end roof retainers
- Cutting the roof panels



cut range

X=less than 300mm

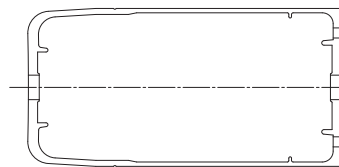
Cutting dimension fomula

$$X_A = \frac{X}{100} \times 101.5$$

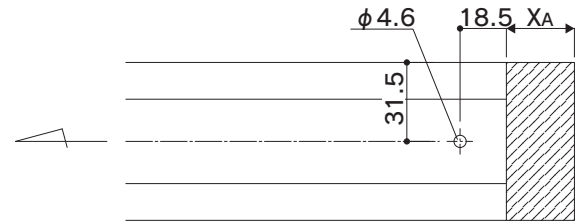
### 1. Beam processing

- The below indicates the cutting dimension (X<sub>A</sub>) in case that the roof cutting dimension (X) is 100mm.

Roof cutting dimension 100mm	
Depth	Cutting dimension(mm)
24	X <sub>A</sub> =101.5
27	
30	



front frame side

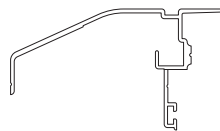


※Decide the cutting dimension (X<sub>A</sub>) by the cutting dimension fomula.

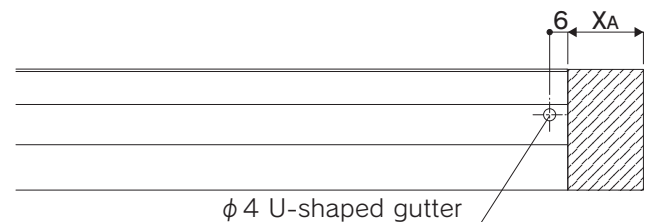
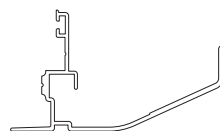
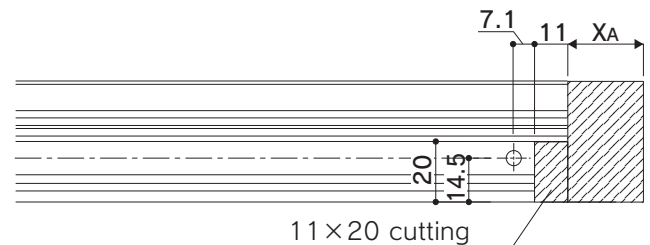
### 2.Side frame processing

- The below indicates the cutting dimension (X<sub>A</sub>) in case that the roof cutting dimension (X) is 100mm.

Roof cutting dimension 100mm	
Depth	Cutting dimension(mm)
24	X <sub>A</sub> =101.5
27	
30	



front frame side

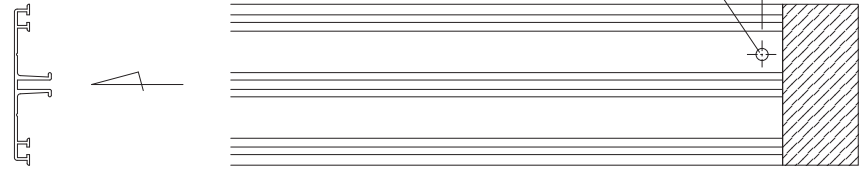


※ Decide the cutting dimension (X<sub>A</sub>) by the cutting dimension fomula.

### 3. Roof rafter processing

- The below indicates the cutting dimension (XA) in case that the roof cutting dimension (X) is 100mm.

Roof cutting dimension 100mm	
Depth	Cutting dimension(mm)
24	XA=101.5
27	
30	

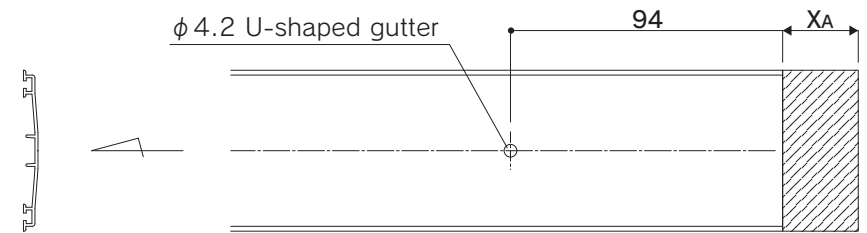


※ Decide the cutting dimension (XA) by the cutting dimension formula.

### 4. Roof retainer processing

- The below indicates the cutting dimension (XA) in case that the roof cutting dimension (X) is 100mm.

Roof cutting dimension 100mm	
Depth	Cutting dimension(mm)
24	XA=101.5
27	
30	

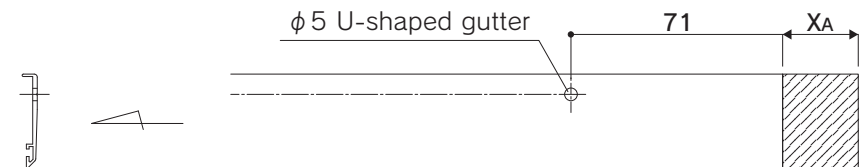


※ Decide the cutting dimension (XA) by the cutting dimension formula.

### 5. End roof retainer processing

- The below indicates the cutting dimension (XA) in case that the roof cutting dimension (X) is 100mm.

Roof cutting dimension 100mm	
Depth	Cutting dimension(mm)
24	XA=101.5
27	
30	



※ Decide the cutting dimension (XA) by the cutting dimension formula.

### 6. Roof panel cutting

- The below indicates the cutting dimension (XA) in case that the roof cutting dimension (X) is 100mm.

Roof cutting dimension 100mm	
Depth	Cutting dimension(mm)
24	XA=101.5
27	
30	



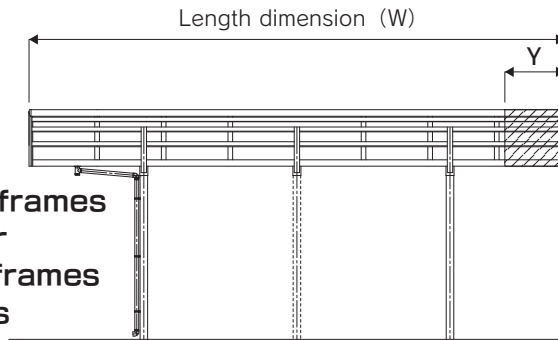
※ Decide the cutting dimension (XA) by the cutting dimension formula.

After processing install the body according to the manual of **1** ~ **11** .

## 13 Cutting procedures of length direction

- The panel span is 718mm. In case of cutting length direction, cutting length of the roof(Y) in multiples of 718mm is recommended.  
Cut the materials from opposite side of the round gutter installation.

- Cutting of the front frames
- Cutting of the gutter
- Cutting of the main frames
- Cutting of the panels



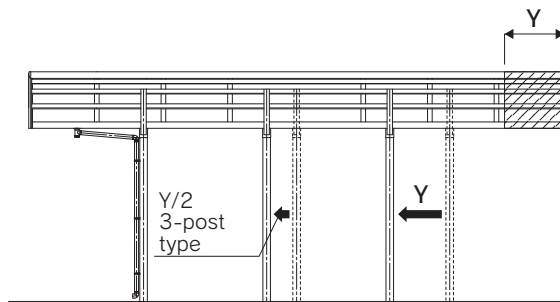
### Cut range

$$Y = 718 \times n + B$$

(n=number of panel pitch)

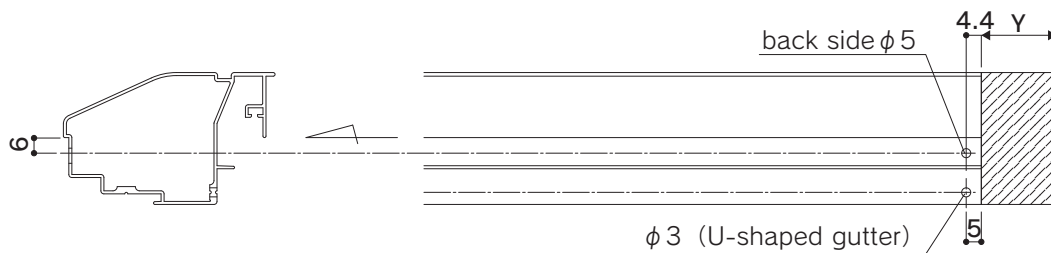
- In case of  $n = 0$   
 $B \leq 650$
- It can't be cut from 465mm to 535mm for installing gasket.
- In case of  $n \geq 1$   
 $16 \leq B \leq 650$

- Move the post as the same length as the cutting length of the roof (Y).  
Move the center post in case of 3-post type.



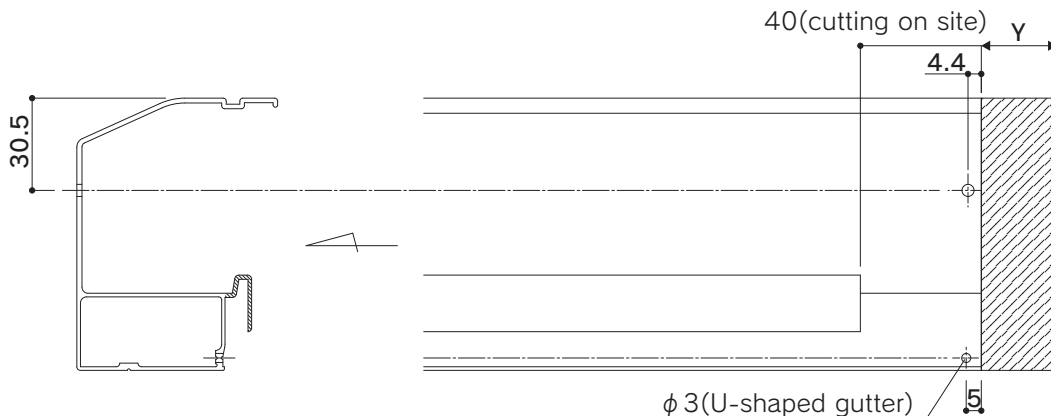
### 1. Front frame processing

- Cut the materials as the same length as the cutting length of the roof (Y).



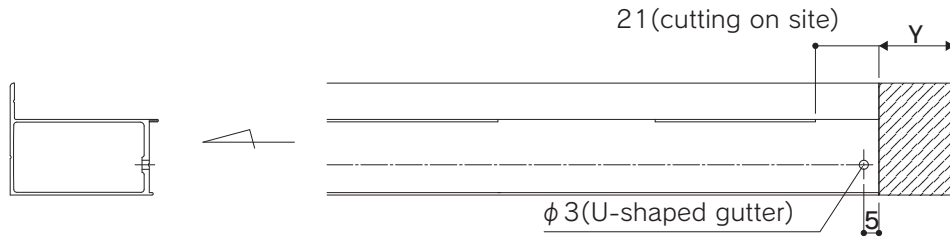
### 2. Gutter processing

- Cut the materials as the same length as the cutting length of the roof (Y).



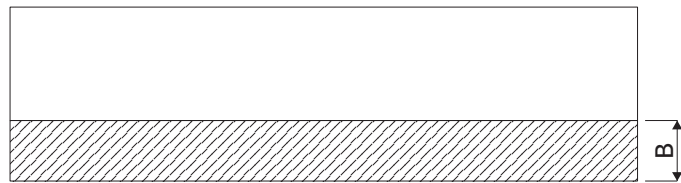
### 3.Main frame processing

- Cut the materials as the same length as the cutting length of the roof (Y) .



### 4.Roof panel processing

- Cut the materials as the same length as the cutting length of the roof (B) .



After processing install the body according to the manual of **1** ~ **11** .