



Assembly and start-up manual
UNIKO M/P 21 and KSF M/P 26 FLAT
SOLAR COLLECTORS
Ver. 2.0 - 02/04/20187

PLEION
SMART SOLAR SYSTEMS



ASSEMBLY AND START-UP MANUAL

FLAT SOLAR COLLECTORS
UNIKO M/P 21 - KSF M/P 26

www.pleion.it



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For roof-mounted installations, implement fall protection or rescue devices in accordance with DIN 18338 (roofing work) and DIN 18451 (work on scaffolding with safety netting), before starting work. Always observe the safety regulations of the respective country!



The safety harness should only be attached to secure elements and if possible above the user!



When there are no fall protection or generic safety devices for technical reasons, safety harnesses must always be used.



Never use ladders or other safety devices that are not perfectly functional!



Only use safety devices that have been inspected and certified by official inspection bodies!



Position ladders safely, with the proper angle of inclination, and secure them so that they cannot slip!



Failure to use safety and fall protection devices may cause serious or even fatal accidents!



Only place ladders where there are safe support points and protect them with barriers in high traffic areas!



Dangerous falls can occur when ladders are not positioned correctly!



Accidental contact with live electrical lines may be fatal!



If installation is near electrical lines, comply with the minimum safety distances!



Failure to comply with safety standards and the information in this manual may lead to serious accidents and/or damage to the product! The manufacturer shall not be responsible!



Wear protective glasses when drilling and handling the collectors!



Wear safety shoes when installing the collectors!



Wear protective gloves when handling and installing the collectors! Caution, the collectors have many sharp angles!



Wear a safety helmet!

PRODUCT SPECIFICATIONS

(compliant with EU Regulations 811/2013 and 812/2013)

Supplier's name or mark	Pleion srl			
Supplier's model identification			KSF M26	KSF P26
Collector aperture area	A_{sol}	m^2	2.62	2.62
Collector efficiency at a 40K temperature difference between the solar collector and the surrounding air and with a total solar irradiation of 1000 W/m ²	η_{col}	%	61	63
Zero loss efficiency	η_0	-	0.753	0.791
First-order coefficient	a_1	W/(m ² K)	3.17	3.34
Second-order coefficient	a_2	W/(m ² K ²)	0.012	0.014

Supplier's name or mark	Pleion srl			
Supplier's model identification			UNIKO M21	UNIKO P26
Collector aperture area	A_{sol}	m^2	2.06	2.06
Collector efficiency at a 40K temperature difference between the solar collector and the surrounding air and with a total solar irradiation of 1000 W/m ²	η_{col}	%	61	63
Zero loss efficiency	η_0	-	0.753	0.731
First-order coefficient	a_1	W/(m ² K)	3.17	3.34
Second-order coefficient	a_2	W/(m ² K ²)	0.012	0.014

General information

The installation must only be performed by qualified personnel, in full compliance with the safety standards and what is specified in this document. We recommend only using original parts, specifically developed for the solar collector. Before installation and commissioning the system, inform yourself about the standards, laws and regulations of the place where the system is located. When transporting the collector, the use of suitable straps is recommended. Do not lift the collector using threaded hydraulic connections. Prevent the collector from being hit or subjected to mechanical actions, pay special attention to protecting the glass tubes which can shatter.

Static

Solar collectors should only be mounted on sufficiently sturdy surfaces. The static capacity of the roof or installation surface must be verified before beginning the installation. If necessary, contact an structural engineer. Carefully assess the suitability of the structure with regard to mounting systems. When installing in areas with heavy snowfall and/or windy conditions, please contact the manufacturer.

Lightning protection / building potential compensation

Based on the current lightning protection standards, EN 62305, it is forbidden to connect the collector array to the building's lightning protection. Any conductor in the vicinity must be set at a safety distance of at least metres. 1. To create the compensation for the building's potential, the metal pipes of the solar circuit, as well as all collector housings and fastening systems, must be connected to the main compensation bar, according to EN 8001-1 or site-specific standards. This operation must be carried out by a qualified electrician.

Connections

Connect the collectors together using only the hydraulic compensators provided, which have been specially developed to limit linear expansion caused by temperature variations in the collector pipes. Failure to use these parts can cause irreparable damage to the collectors themselves.

Refer to:

- **IDRA UNIKO M/P 21 and KSF M/P 26 BASIC SET (item no. 1030907481).**

One piece for each individual string of collectors that can be installed VERTICAL or HORIZONTAL, from 1 to 8 collectors depending on the system;

- **IDRA UNIKO M/P 21 and KSF M/P 26 PLUS SET (item number 1030907491) if installing VERTICALLY;**

One piece is necessary to connect the next panel in series.

- **IDRA H UNIKO M/P 21 and KSF M/P 26 PLUS SET (item number 1030907641) if installing HORIZONTALLY;**

One piece is necessary to connect the next panel in series.



Slope of the collectors / General information

The solar collector and its mounting systems are designed for slopes between 15° and 70°. For other installation conditions, request the manufacturer's authorisation.

Covering the collectors:

At the end of the installation operations cover the entire solar collector immediately and durably, and put it into operation by solar radiation. The collectors must remain covered during the loading and start-up phases and must only be uncovered by the installer when these phases are completed. If the solar collectors are left empty under solar radiation in any season and under any conditions, they could suffer irreparable damage not caused by the product but by the exposure.

Conventional warranty:

The collectors are under a 5-year conventional warranty. This warranty is only valid if the installation is performed according to current standards by qualified personnel and in full compliance with the manufacturer's instructions.

The warranty conditions and validity are reported on the Conventional Warranty Certificate provided by the Manufacturer along with the product.

Rinsing and filling

Rinsing and filling operations must only be carried out when the solar array is cold (see the section above called "Covering the collectors"). Only use the manufacturer-recommended water/antifreeze mixture to fill the system.

Antifreeze recommended by the manufacturer

FAST G28 (pre-mixed, ready-to-use solar fluid) available in 10-20 litre jugs (item no. 1030812510, 10 l jug - item no. 1030812520, 20 l jug). After the first filling, the collectors cannot be completely emptied, therefore, if there is a risk of freezing, use the water/antifreeze mixture to also perform operation and seal tests! Any damages are not covered by the warranty.

Installing the temperature sensor

The temperature sensor must be placed in the side housing provided for this purpose in the IDRA UNIKO M/P 21 and KSF M/P 26 BASIC SET (item no. 1030907481) as shown in fig.1, installed on the outlet side of the collector array (hot side panel outlet). To ensure optimum contact, and therefore an accurate reading, it is recommended that the probe sheathing be filled with conductive paste. The PT1000 temperature sensors used must be made of materials with high thermostability (250°C).

Fig 1 Detail of IDRA UNIKO M/P 21 and KSF M/P 26 BASIC SET (item no. 1030907481).



Operating pressure

Normal operating pressure is 2-3 bars. The maximum test pressure is 10 bars.

Deaeration

Venting may only be performed by qualified staff. Uncontrolled air venting can lead to faults in the solar plant with the reduction in pressure and to a system shutdown. If necessary, refill the solar system with the same antifreeze fluid to bring the plant back under pressure.

Warning: danger of scalding!

During venting, the air and internal solar fluid can reach temperatures of 100°C or higher, with a danger of scalding.

Deaeration of the system must be performed:

- at commissioning;
- 4 weeks after commissioning;
- as needed, e.g., in the event of failures and/or maintenance.

This operation may be performed:

- directly on the roof (solar collector) using the manual vent in the IDRA UNIKO M/P 21 and KSF M/P 26 BASIC SET (item no. 1030907481);
- using the vents present in the PLEION ECO COMPACT 200-300-500 (sanitary line), ECO DUO COMPACT (600-800- 100 integration and sanitary line) and ECO FRESH 350 (integration and sanitary line) boiler series, as all are equipped with the solar station;
- through the large degasser on the hot return line of the PLEION B13-7 and B35-9 solar stations, which are designed to trap the air present inside the solar circuit.

Checking the heat transfer fluid

Periodically check (max every 2 years) the antifreeze properties and the pH value of the heat transfer fluid.

- check the efficiency of the antifreeze and replace it if necessary. Nominal value -20°C
- check the pH value with a measuring instrument. Nominal pH 7.5
- replace the heat transfer fluid if the pH value goes below 7

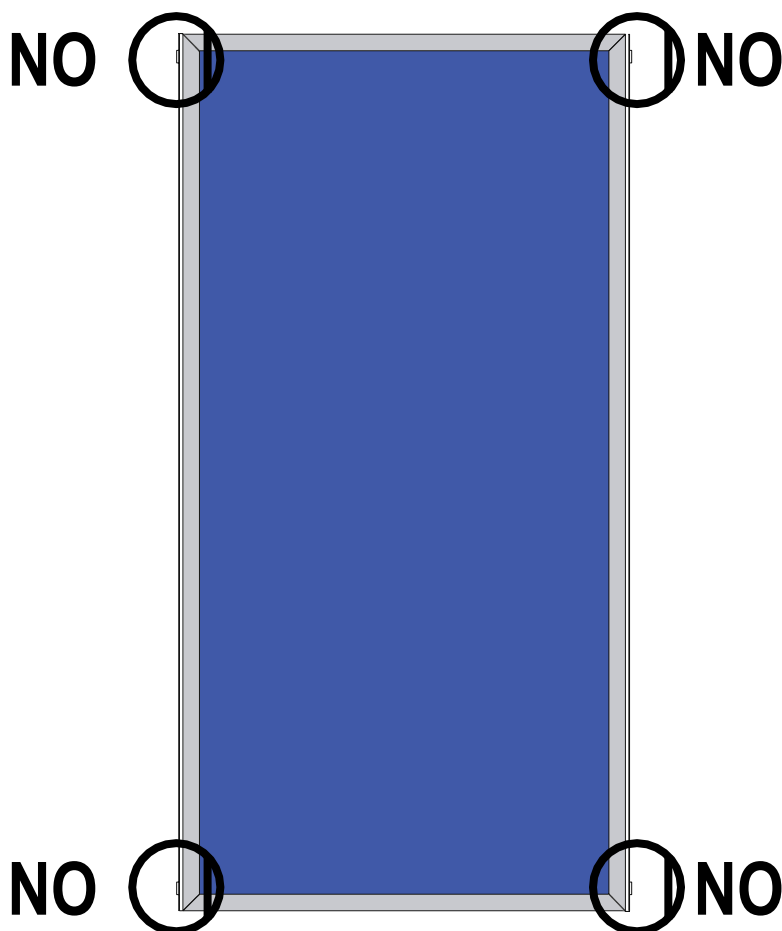
Maintenance of the collector

Periodically perform a visual inspection of the collector array to check for any damage or leaks due to the presence of a high level of humidity under the glass or excessive soiling.

INSTRUCTIONS FOR TRANSPORT

Transport and handle the solar collectors in their original packaging, which must only be removed before placing the collector on the roof or other mounting structure.

At least 2 people are recommended when handling manually (collector weight about 33.7 kg for the UNIKO M/P 21 and about 41.8 kg for the KSF M/P 26). Always wear protective gloves. When transporting the collector, the use of suitable straps is recommended. Do not lift the collector using the threaded hydraulic connections. Do not lift the collector by pushing or pulling the glass tubes. Prevent the collector from being hit or subjected to mechanical actions. Pay special attention to protecting the glass tubes which are particularly fragile. Carefully attach any straps for lifting: Warning, danger of possibly serious accidents!



Do not lift the collector using the threaded hydraulic connections. Do not lift the collector by pushing or pulling the glass tubes.

Prevent the collector from being hit or subjected to mechanical actions.
Pay special attention to protecting the glass sheet which is particularly fragile.

Carefully attach any ropes for lifting: Warning, danger of possibly serious accidents!

Description

The UNIKO M/P 21 and KSF M/P 26 high efficiency flat collectors may be installed vertically or horizontally using the connecting accessories and mounting kit for flat and pitched roofs.

The collectors are made of top-quality materials, starting with the sturdy aluminium frame, a high-performance single-foil aluminium absorber with highly selective PVD coating, ultrasonically welded to the internal single harp copper circuit (10-13 channels for the UNIKO M/P 21 and KSF M/P 26 versions respectively), with low internal load loss values, thus allowing the creation of strings of up to 8 collectors if installed vertically and up to 5 collectors horizontally if connected in series using the IDRA H BASIC SET, increasing to 8 collectors with parallel connection.

The internal harp circuit can be connected externally using 4 - $\frac{3}{4}$ " M fasteners equipped with O-rings.

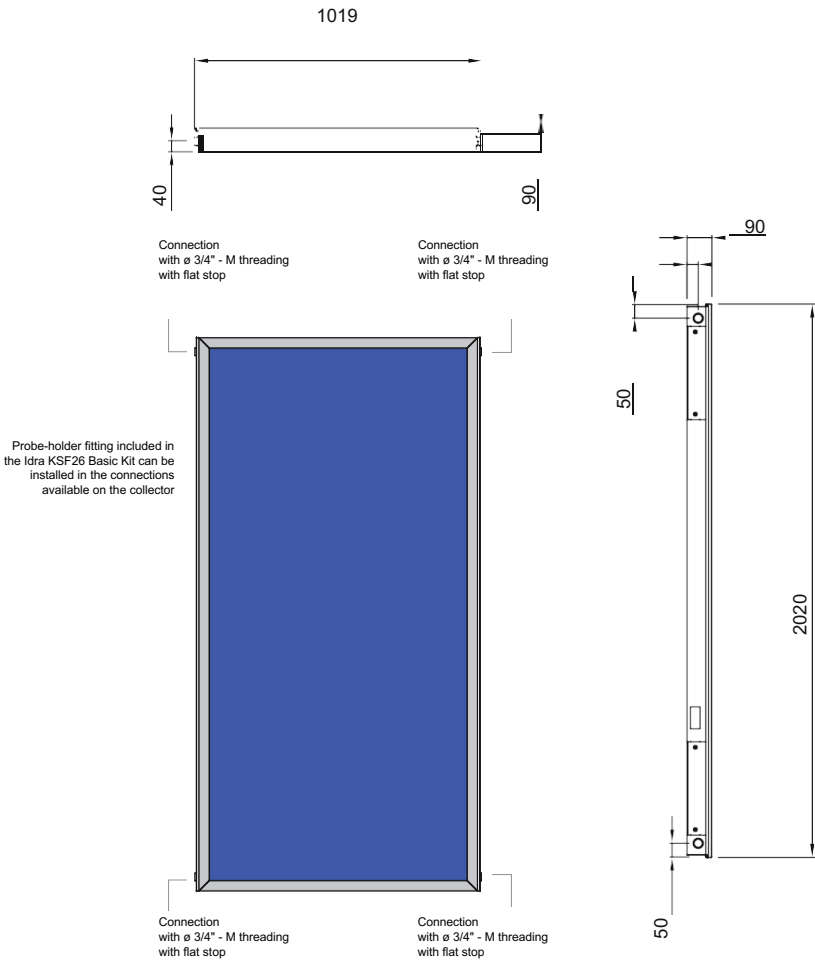
The collectors have high-light transmitting tempered glass to capture the greatest possible amount of energy and are also treated internally to reflect the infrared rays generated by the absorber internally, thus retaining the heat that would otherwise be emitted externally through the heated glass.

The collectors are equipped with rock wool insulation that maintains its insulating characteristics to the side and bottom with respective thicknesses of 10 and 40 mm.

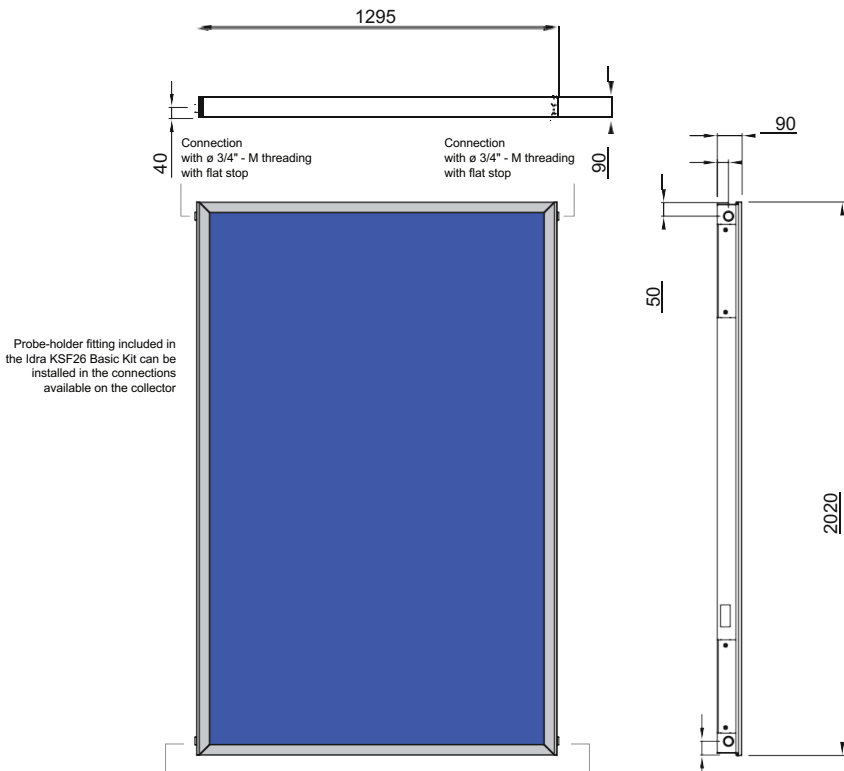
Technical features	UOM	UNIKO M 21	UNIKO P 21	KSF M 26	KSF P 26
Dimensions	[mm]	[2020x1019x90]	[2020x1019x90]	[2020x1295x90]	[2020x1295x90]
Gross surface area	[m ²]	2.06	2.06	2.62	2.62
Aperture surface	[m ²]	1.93	1.93	2.47	2.47
Empty weight	[kg]	33.7	33.7	41.8	41.8
Fluid capacity	[l]	0.87	0.87	1.1	1.1
Max operating pressure	[bar]	10	10	10	10
Mineral wool insulation	[mm]	40 bottom - 10 side	40 bottom - 10 side	40 bottom - 10 side	40 bottom - 10 side
Linear transmission coefficient a1	[W/m ² K]	3.376	3.572	3.357	3.572
Quadratic transmission coefficient a2	[W/m ² K ²]	0.013	0.015	0.013	0.015
Optical efficiency η_0	[-]	80.2	84.6	79.8	84.6
Absorption coefficient - harp type	[%]	95	95	95	95
Emission coefficient	[%]	<5	<5	<5	<5
Transmission coefficient	[%]	91.6	96.7	91.6	96.7
Distribution manifold pipe	[mm]	$\frac{3}{4}$ "M x 4	$\frac{3}{4}$ "M x 4	$\frac{3}{4}$ "M x 4	$\frac{3}{4}$ "M x 4
Glass covering thickness	[mm]	3.2	3.2	3.2	3.2
Maximum stagnation temperature	[°C]	201.2	196.6	201.2	196.6
Minimum pitch	[°]	15	15	15	15
Maximum pitch	[°]	75	75	75	75
Peak collector power	[W]	1453	1632	1980	2089
Angle-of-incidence correction factor	[K50°]	0.94	0.95	0.94	0.95

*PERFORMANCE REFERS TO THE APERTURE SURFACE

UNIKO M 21
UNIKO P 21



KSF M 26
KSF P 26



Connection
with ø 3/4" - M threading
with flat stop

Connection
with ø 3/4" - M threading
with flat stop

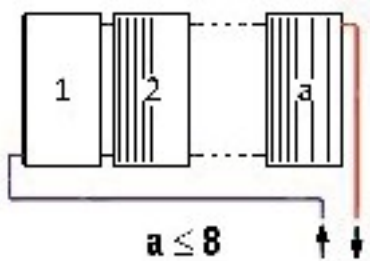
05

Hydraulic connections

Vertically, the UNIKO M/P 21 and KSF M/P 26 collectors may be connected hydraulically up to a maximum of 8 collectors in a single vertical string, while horizontally, if installed in series, up to a maximum of 5 can be connected. If connected horizontally, up to 8 collectors may be installed per string.

VERTICAL INSTALLATION

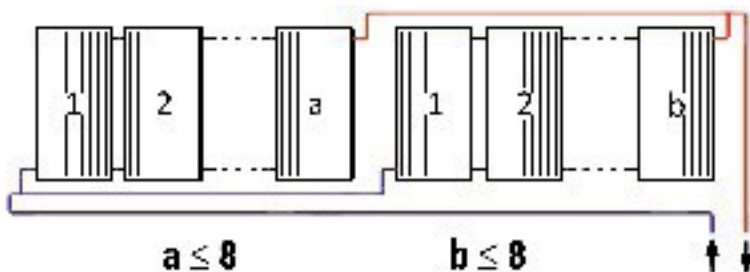
Example of connection of a single string. From 1 to 8 collectors per string.



Example of connection of 2 or more strings from 1 to 8 collectors.

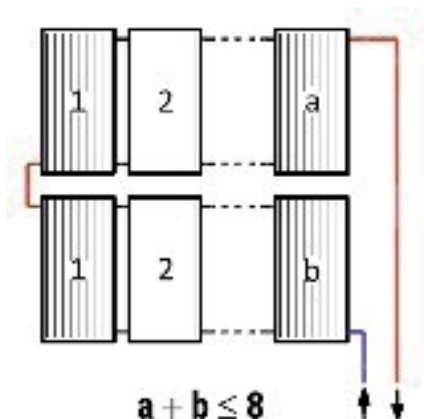
In this case, an inverse external connection must be made to balance the system and obtain the same capacity in each string.

CAUTION: in these cases, each string must have the same number of collectors, otherwise the external connection requires a flow regulator in each string.



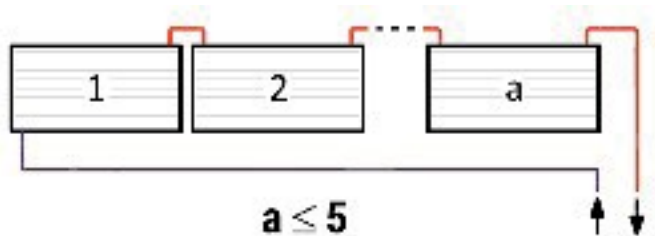
Example of two strings connected in series.

In these cases, the maximum number of collectors is still 8.

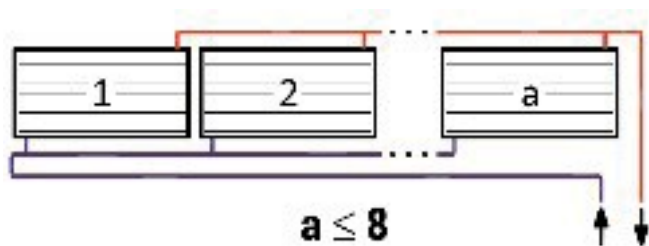


HORIZONTAL INSTALLATION

Example of connection of a single string. Connection in series between each panel with IDRA H PLUS SET. From 1 to 5 panels per string.



Example of connection of a single string. Parallel connection. From 1 to 8 collectors per string.



SIZING

A rough indication is given for the sizing of the hydraulic lines connecting the collectors.

However, correct sizing of the individual system by the designer is always necessary. Use metal pipes and suitable insulation contact with glycol solution and high temperatures. Similarly, hydraulic seals suitable for contact with glycol solution and high temperatures must be implemented

PANELS	CAPACITY - EACH COLLECTOR	NUMBER OF PANELS	ARRANGEME NT ON STRINGS	TOTAL THERMAL SYSTEM CAPACITY	RECOMMENDED DIAMETER OF COPPER PIPES
(-)	l/min coll.	(-)	(-)	l/min	Ø mm
KSF M/P 26	1.5	1	1 X 1	1.5	16/14
		2	1 X 2	3	16/14
		3	1 X 3	4.5	18/16
		4	1 X 4	6	18/16
		5	1 X 5	7.5	22/20
		6	2 X 3	9	22/20
		8	2 X 4	10.5	28/25
		9	3 X 3	12	28/25
		10	2 X 5	13.5	28/25
		12	3 X 4	15	28/25
		15	3 X 5	16.5	35/32
UNIKO M/P 21	1	1	1 X 1	1.0	16/14
		2	1 X 2	2.0	16/14
		3	1 X 3	3.0	18/16
		4	1 X 4	4.0	18/16
		5	1 X 5	5.0	22/20
		6	2 X 3	6.0	22/20
		8	2 X 4	8.0	22/20
		9	3 X 3	9.0	28/25
		10	2 X 5	10.0	28/25
		12	3 X 4	12.0	28/25
		15	3 X 5	15.0	35/32

Table is for guidance only

IT IS RECOMMENDED THAT THE CORRECT PRESSURE DROPS OF THE SOLAR COLLECTOR ARE CHECKED FROM TIME TO TIME AS THE ABOVE HAS NO ENFORCEABLE VALIDITY AND CANNOT BE USED FOR SIZING THE SYSTEM DURING THE DESIGN PHASE.

For technical information, please contact the PLEION technical office.

BRACKET TYPES

Different types of brackets are available for the UNIKO M/P 21 and KSF M/P 26 collectors in order to meet different installation conditions.

Whatever type of bracket is used, follow the instructions for the chosen anchoring system and continue with the instructions inside the package.

For the anchorage point distances, please refer to the relevant manual based on whether the brackets are for pitched or flat roofs.

• Pitched roof:

- fastening system for tiled roofs;
- screw system;

• Flat roof:

- triangular structure system;

• Universal Flush Mount

• On request:

- raised screw or fastener system for low-sloped pitched roofs;
- triangular structure system for mounting on vertical walls.

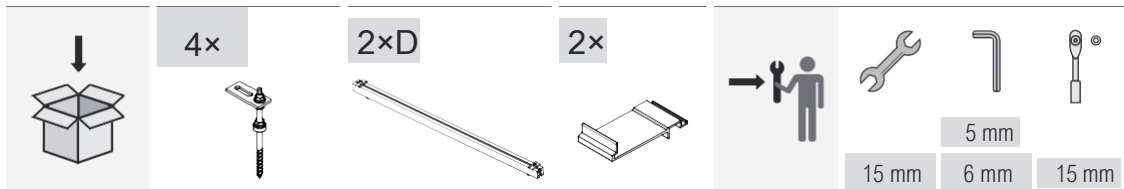
WARNING

The packages do not contain the screws and anchors needed to mount the structure to the underlying surface.

The installer must use the proper screws/anchors depending upon the type of structure, application, or material used to build it.

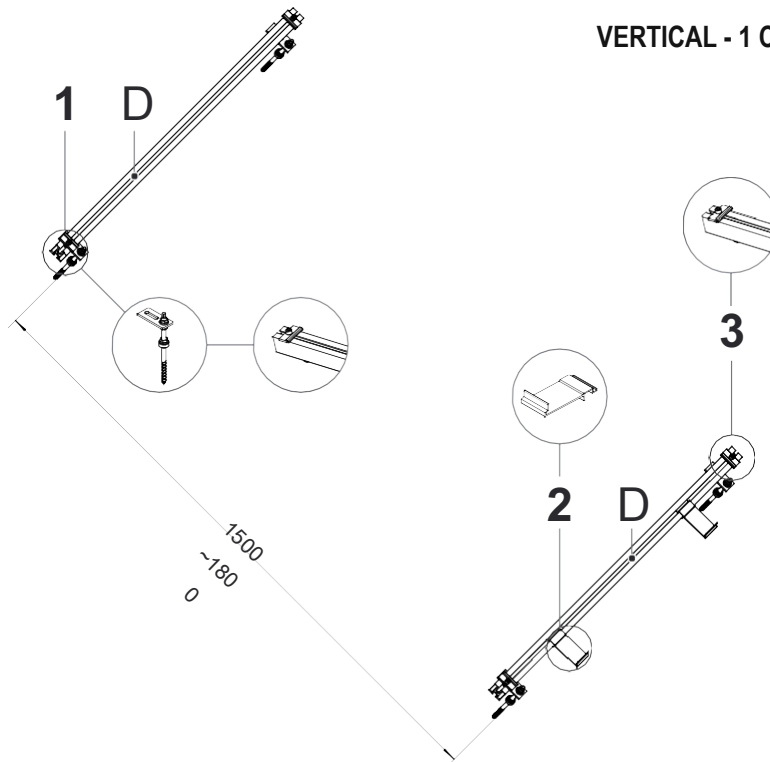
The weights of the panels and any additional weights are supported by the mounts, which in turn rest on the roof, so the load-bearing capacity of the roof must be well assessed.

UNIKO M/P 21 - KSF M/P 26 - ViVi (SCREW) MOUNTING SET



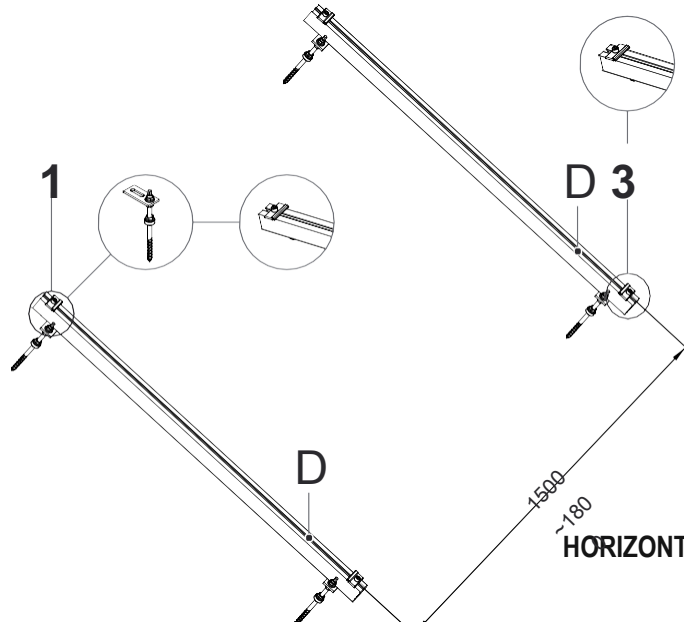
A

VERTICAL - 1 COLLECTOR

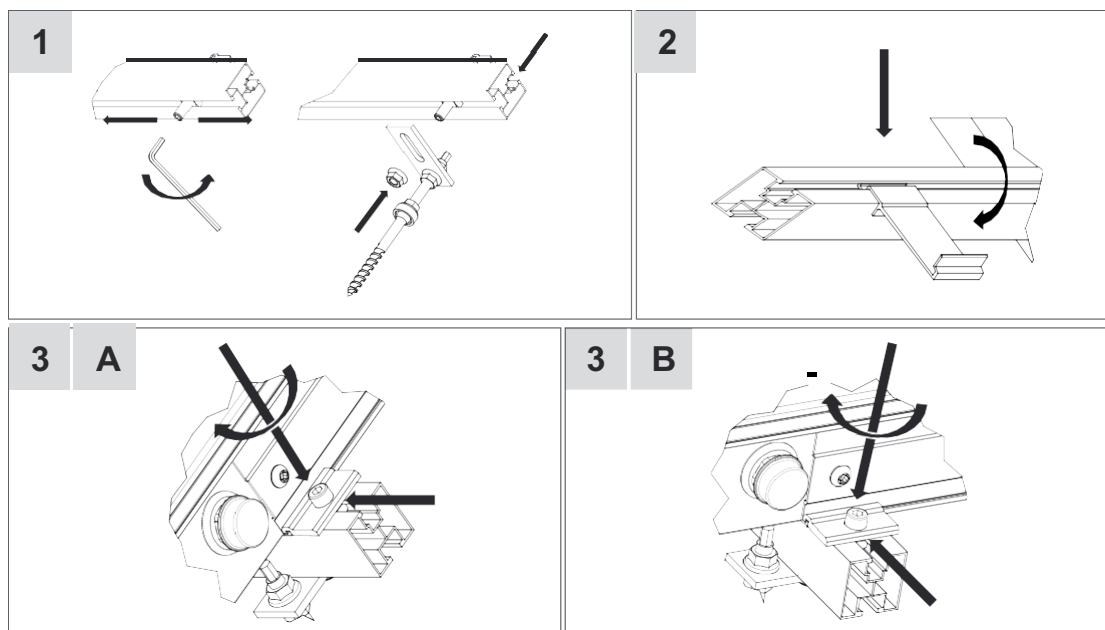


B

HORIZONTAL - 1 COLLECTOR



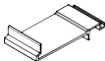
VIVI SCREW

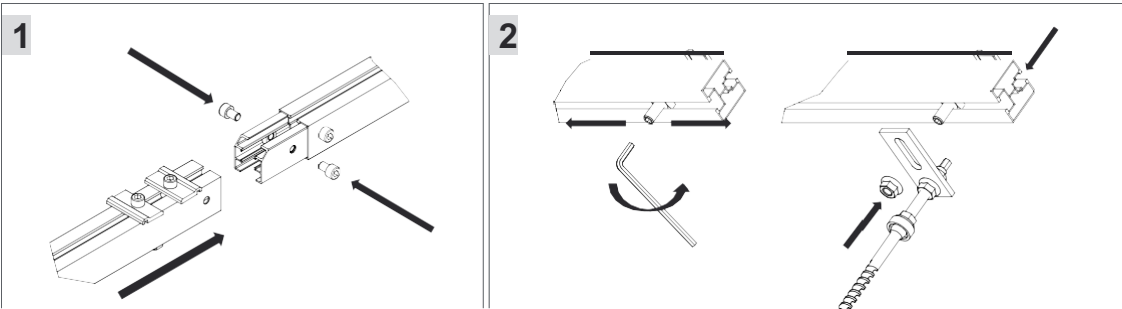
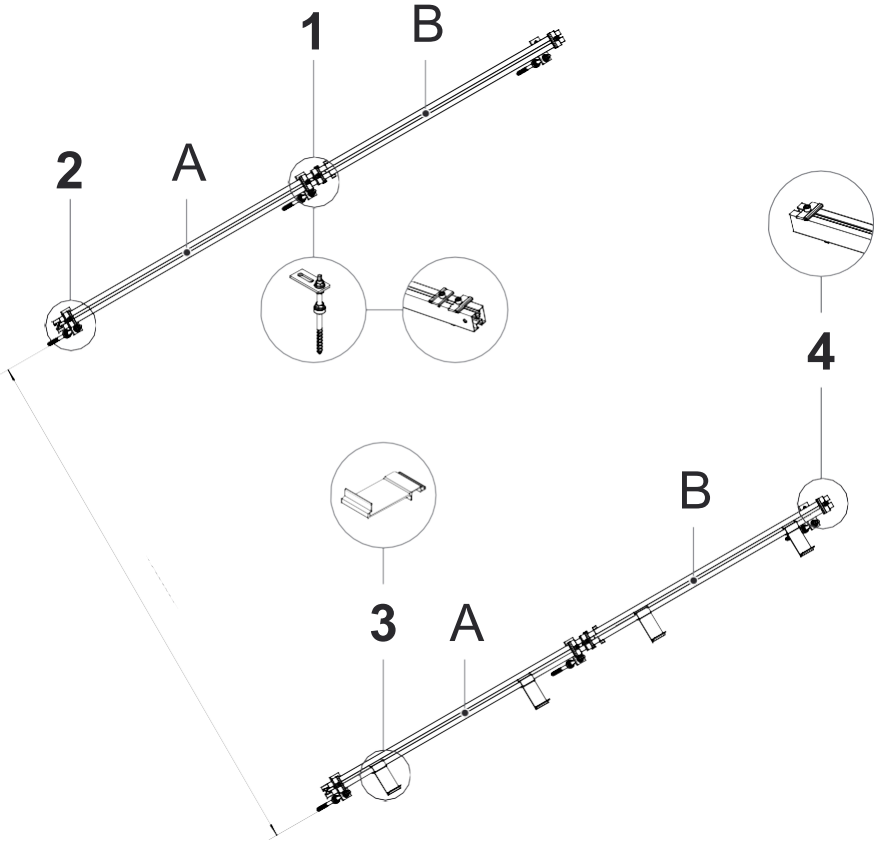


Warning

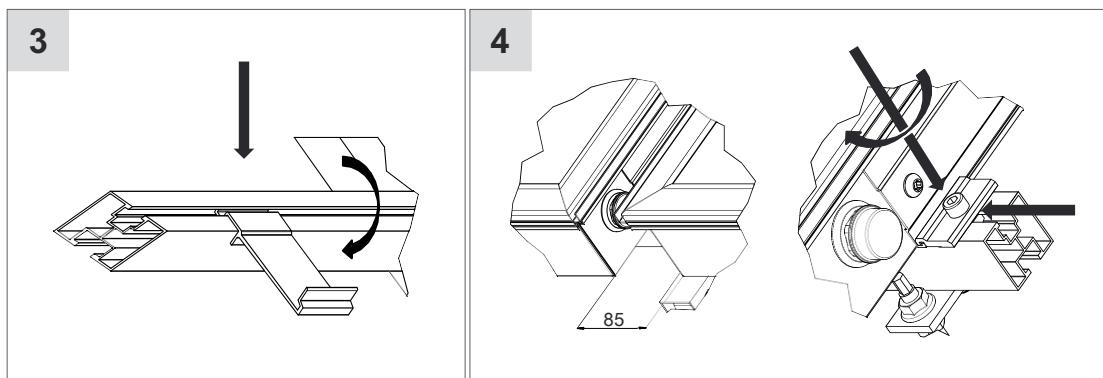
- Installation must be carried out with diligence and care, in compliance with the current standards, respecting the technical rules, and complying with safety regulations.
- Installation must be performed in compliance with the indicated designs.
- The installer is responsible for installation; he must assess the condition of the floor structure and the correct attachment of the mounting system.
- Check and tighten all connections.
- We recommend performing a periodic check of the attachment.

VERTICAL - 2 COLLECTORS

	6× 	2×A 	2×B 	4× 
				
	15 mm	5 mm	6 mm	15 mm



VIVI SCREW

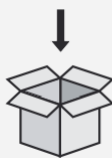
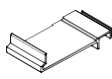


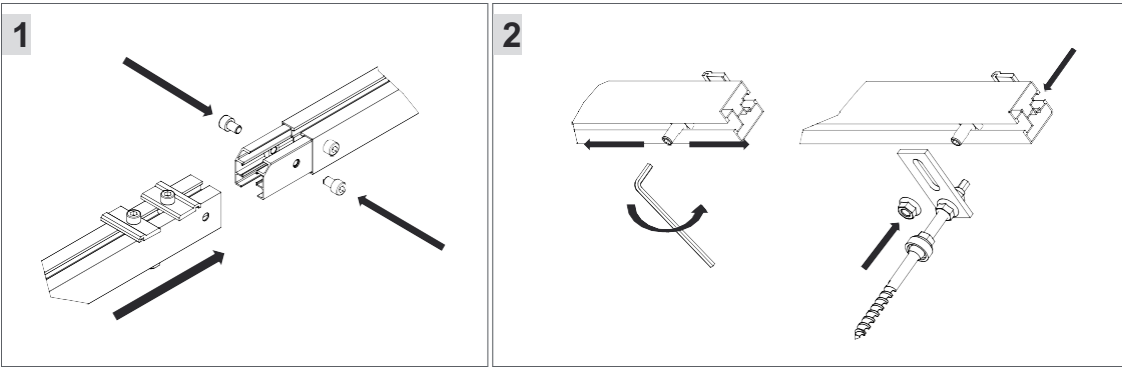
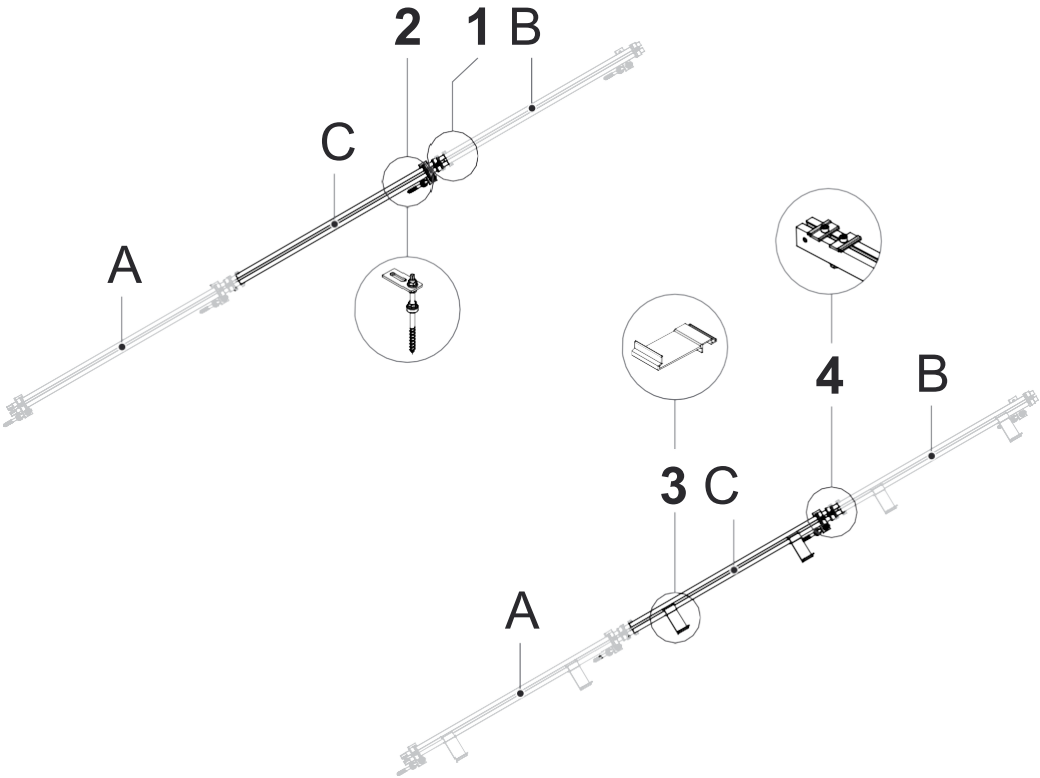
Warning

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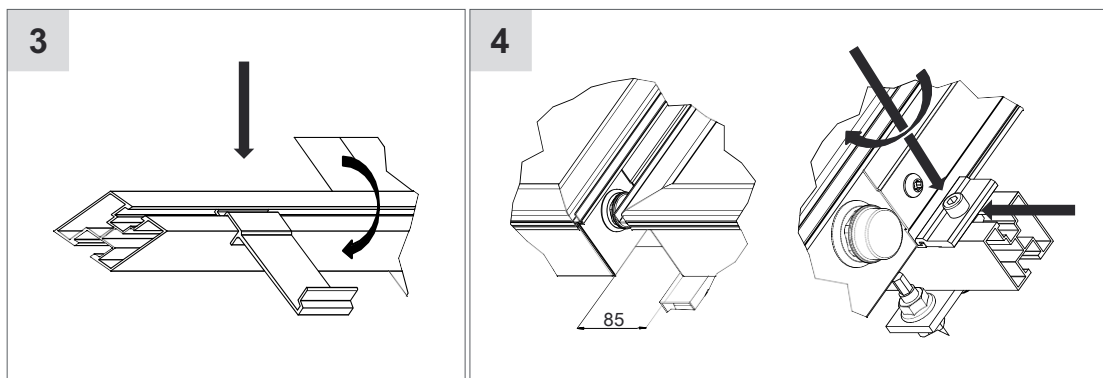
EXTENSION KIT - ViVi (SCREW)

VERTICAL - 1 COLLECTOR

	2× 	2×C 	2× 	
				
	15 mm	5 mm	6 mm	15 mm



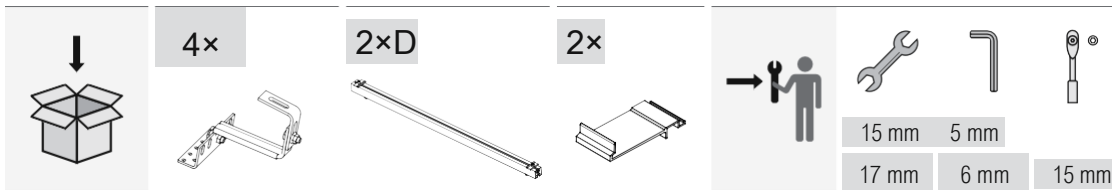
VIR (RAISED SCREW)



Warning

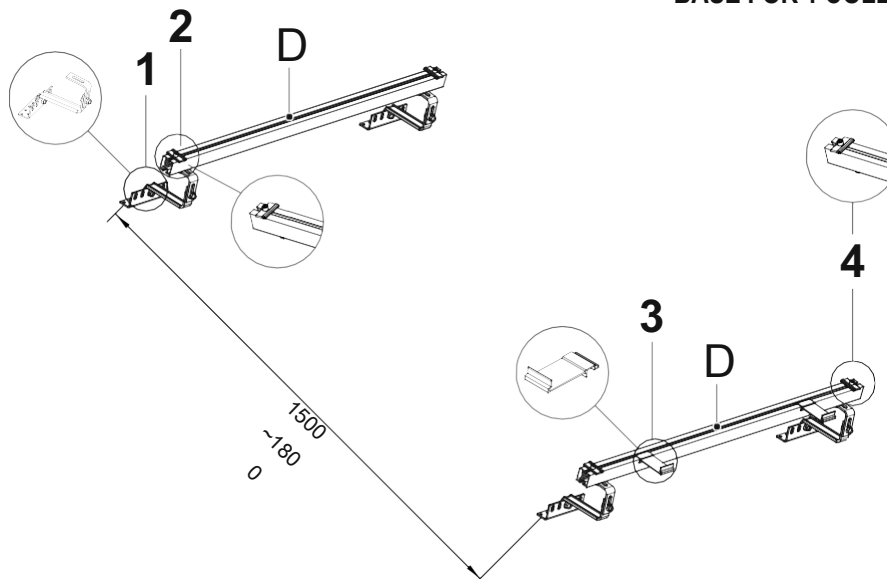
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UNIKO M/P 21 - KSF M/P 26 - Gi (FASTENER) MOUNTING



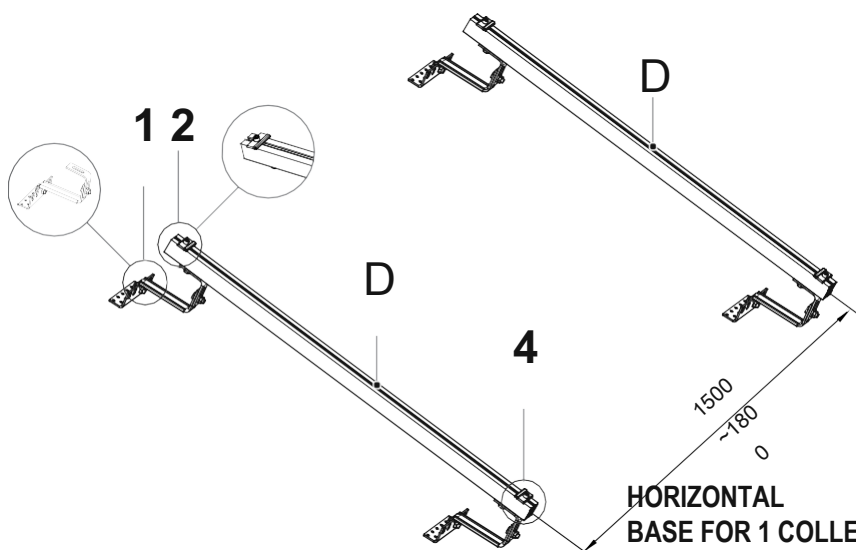
A

**VERTICAL
BASE FOR 1 COLLECTOR**

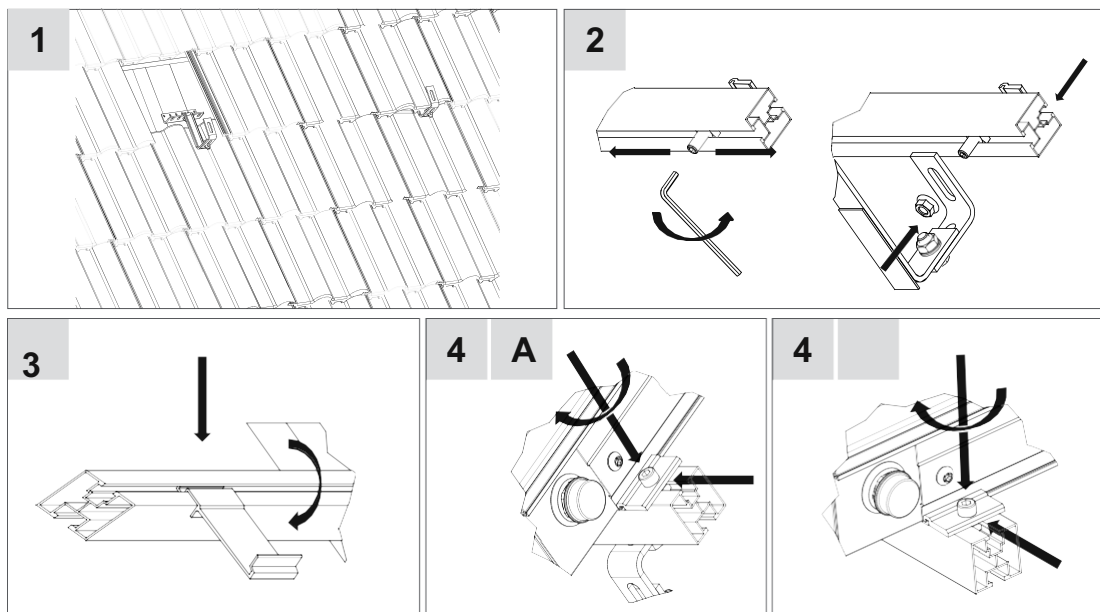


B

**HORIZONTAL
BASE FOR 1 COLLECTOR**



GI (FASTENER)

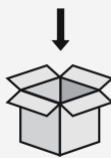
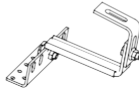
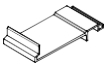


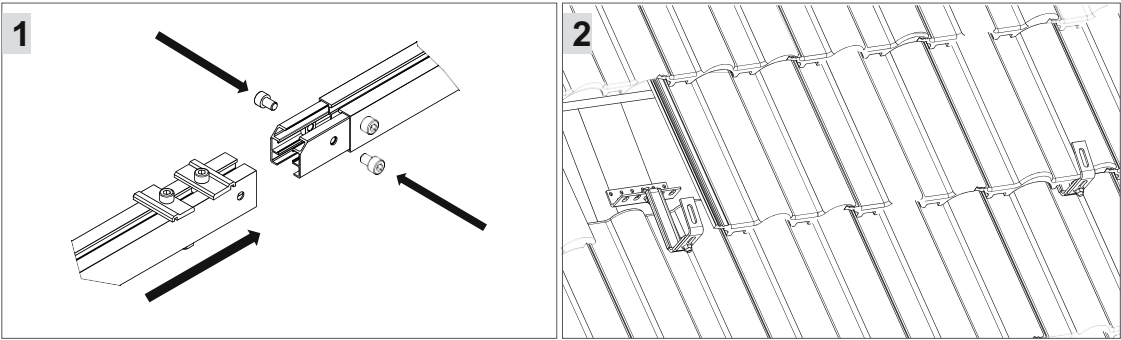
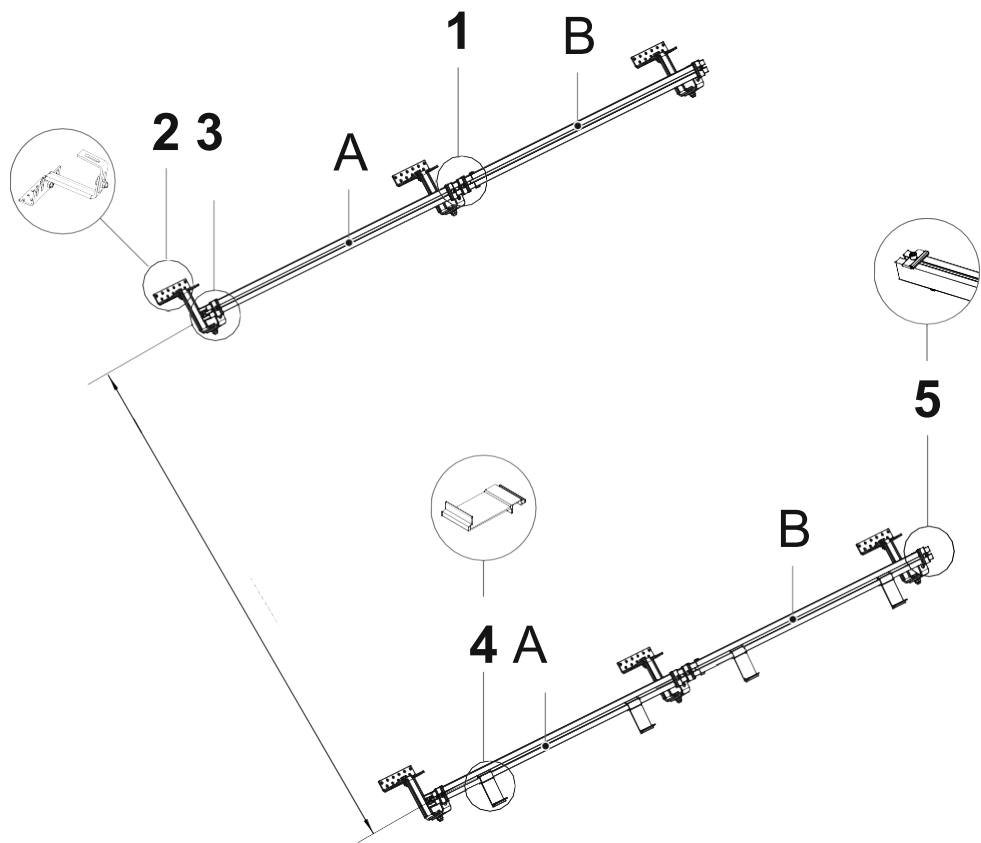
Warning

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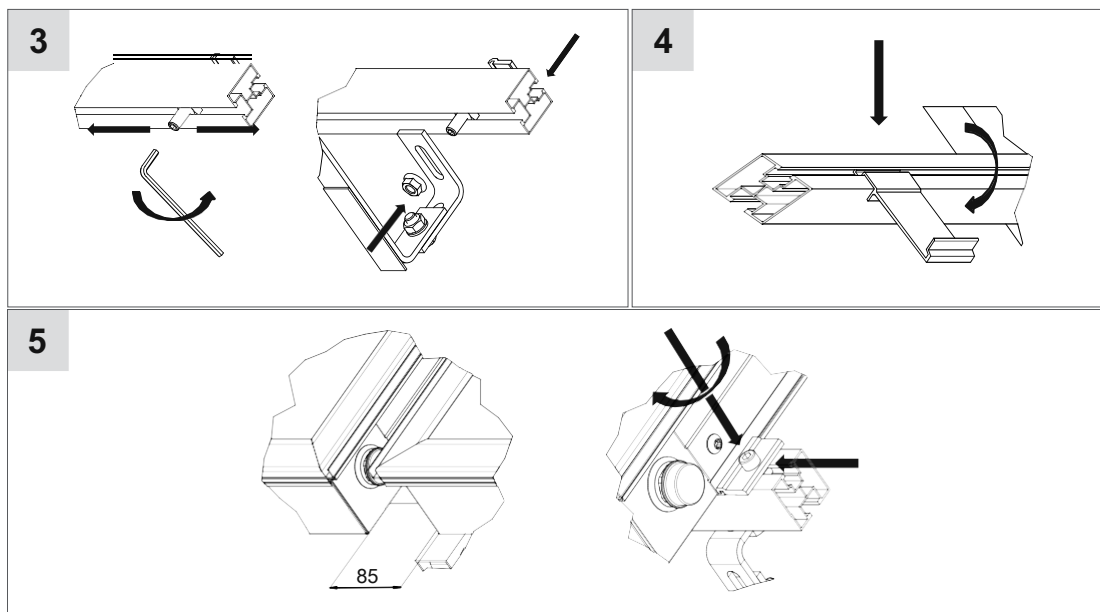
UNIKO M/P 21 - KSF M/P 26 - Gi (FASTENER) MOUNTING

VERTICAL - BASE FOR 2 COLLECTORS

	6×	2×A	2×B	4×	
					
					
	15 mm	17 mm	5 mm	6 mm	15 mm



GI (FASTENER)



Warning

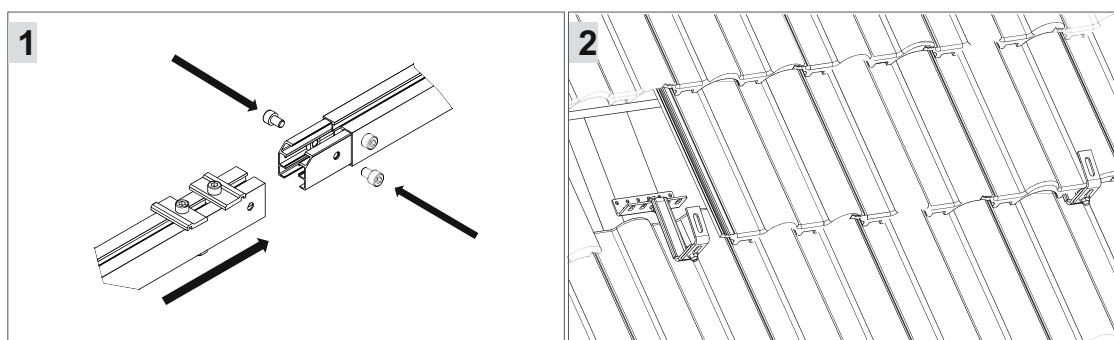
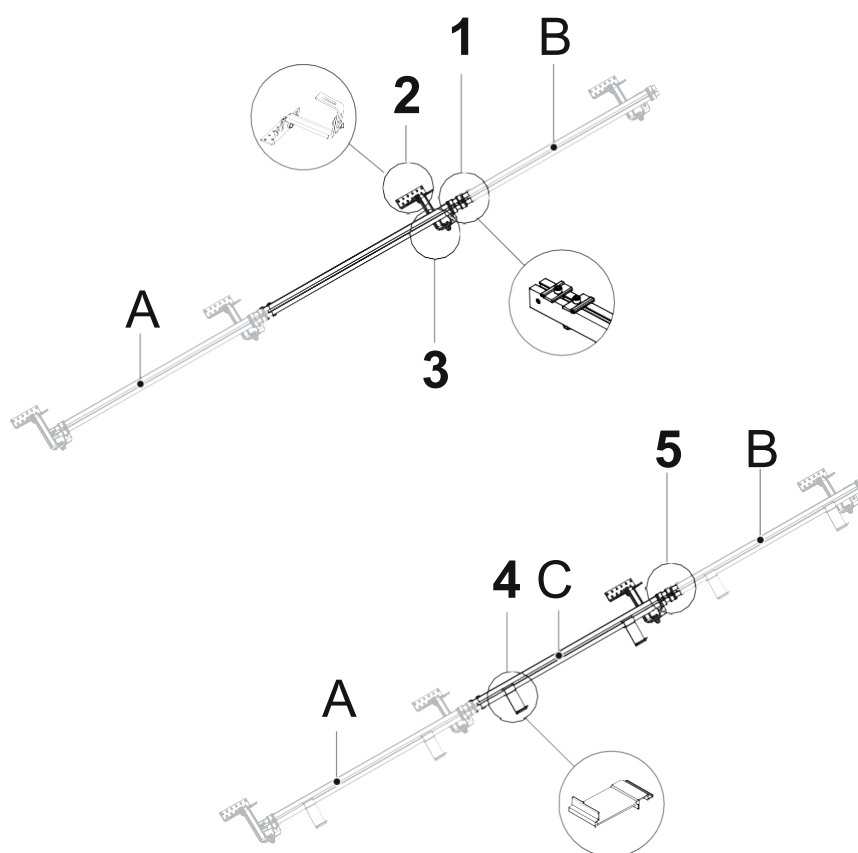
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UNIKO M/P 21 - KSF M/P 26 - Gi (FASTENER) EXTENSION KIT

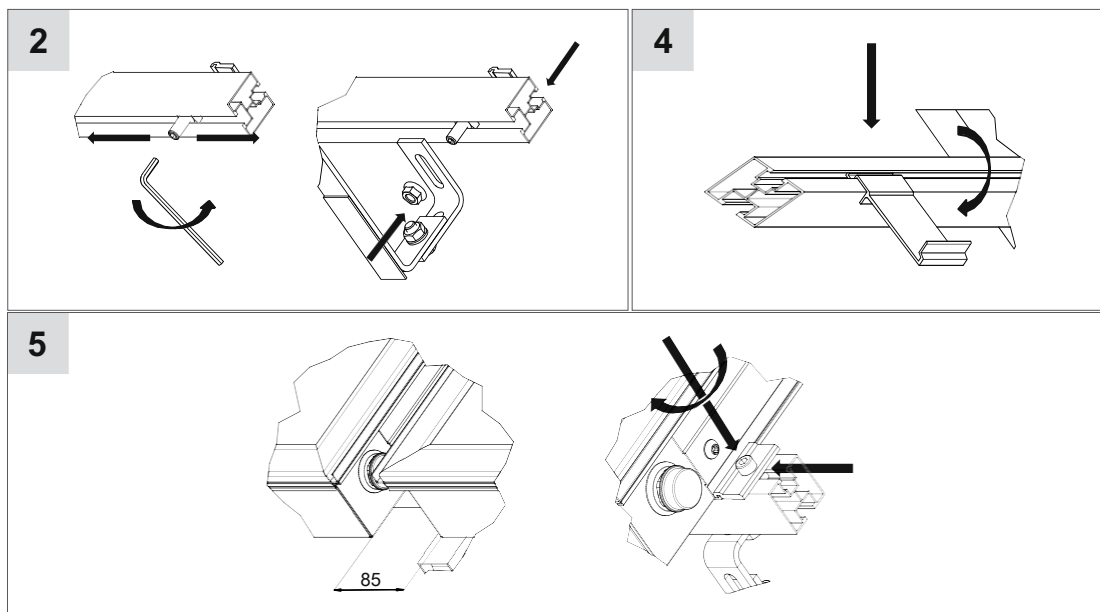


VERTICAL - EXTENSION FOR 1 COLLECTOR

	2×		2×C		2×	
	15 mm	17 mm	5 mm	6 mm	15 mm	



GI (FASTENER)

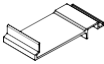


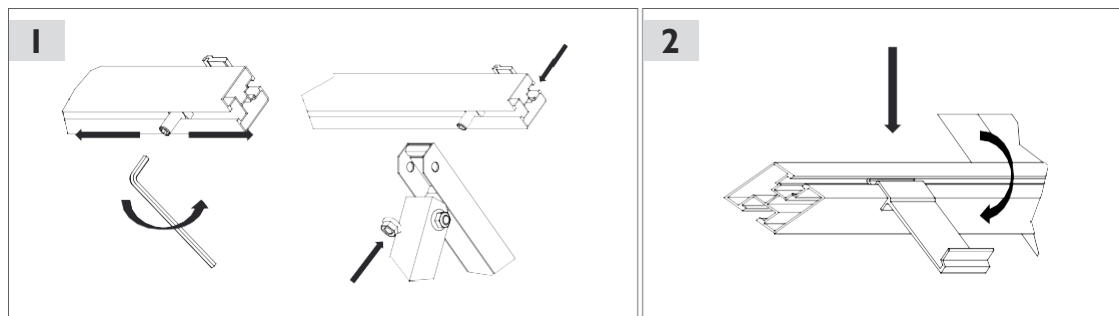
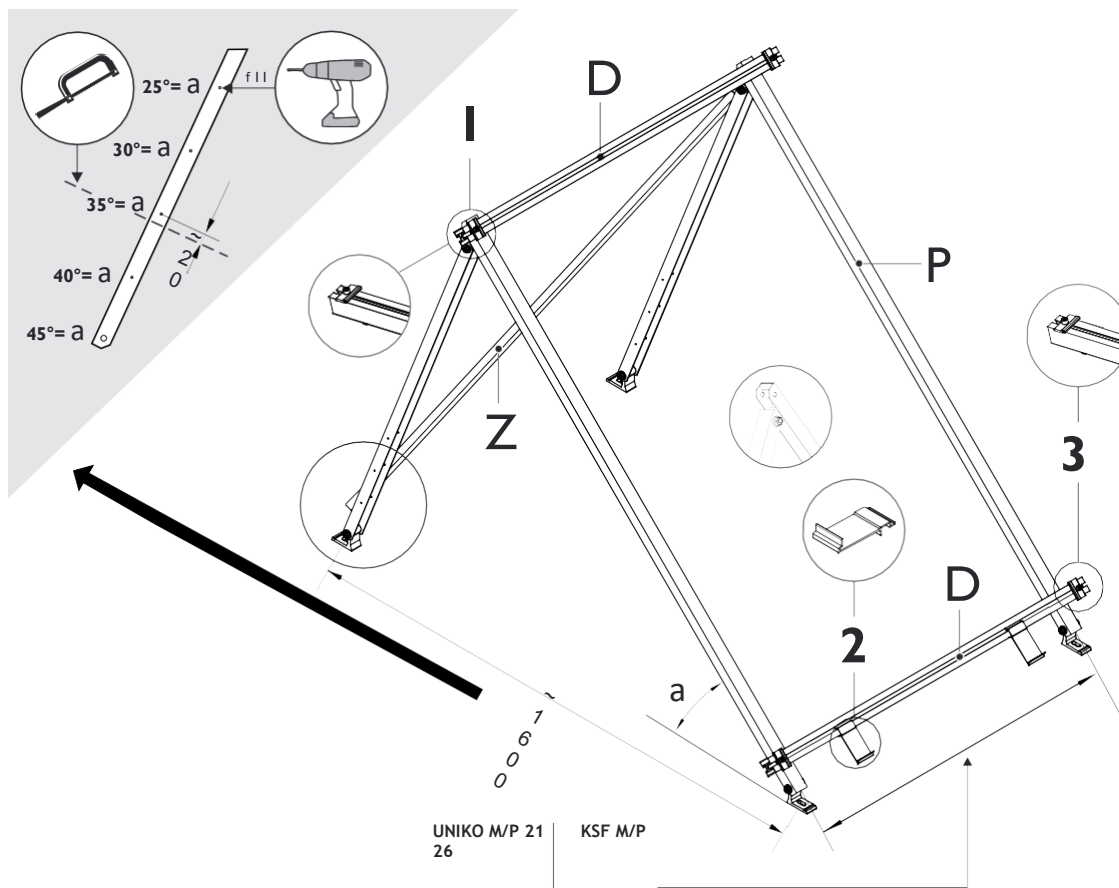
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UNIKO M/P 21 - KSF M/P 26 - Fr (FLAT ROOF) MOUNTING SET

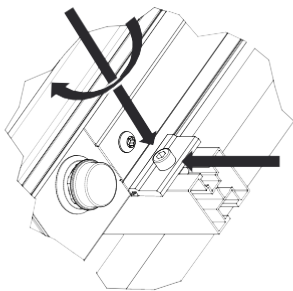
VERTICAL - 1 COLLECTOR

	2×P 	2×D 	2× 	1×Z 		
	 13 mm	 15 mm	 17 mm	 5 mm	 6 mm	 15 mm



FR (FLAT ROOF)

3

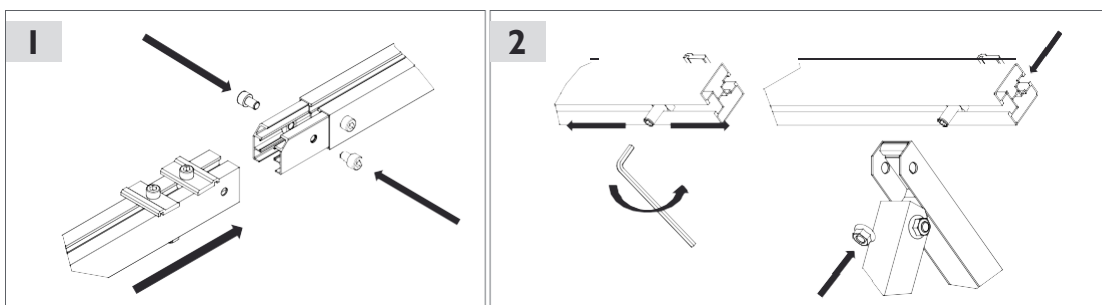
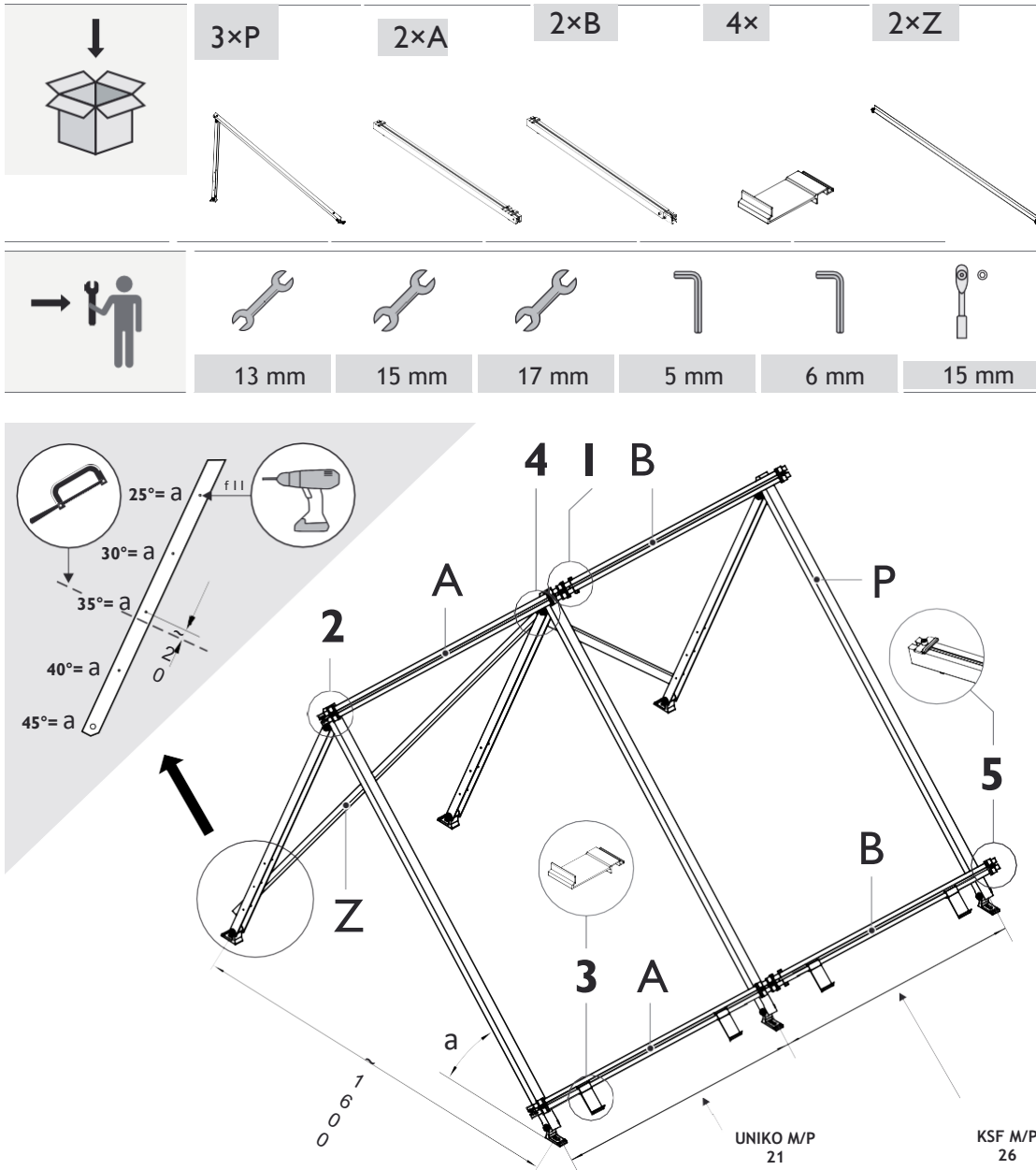


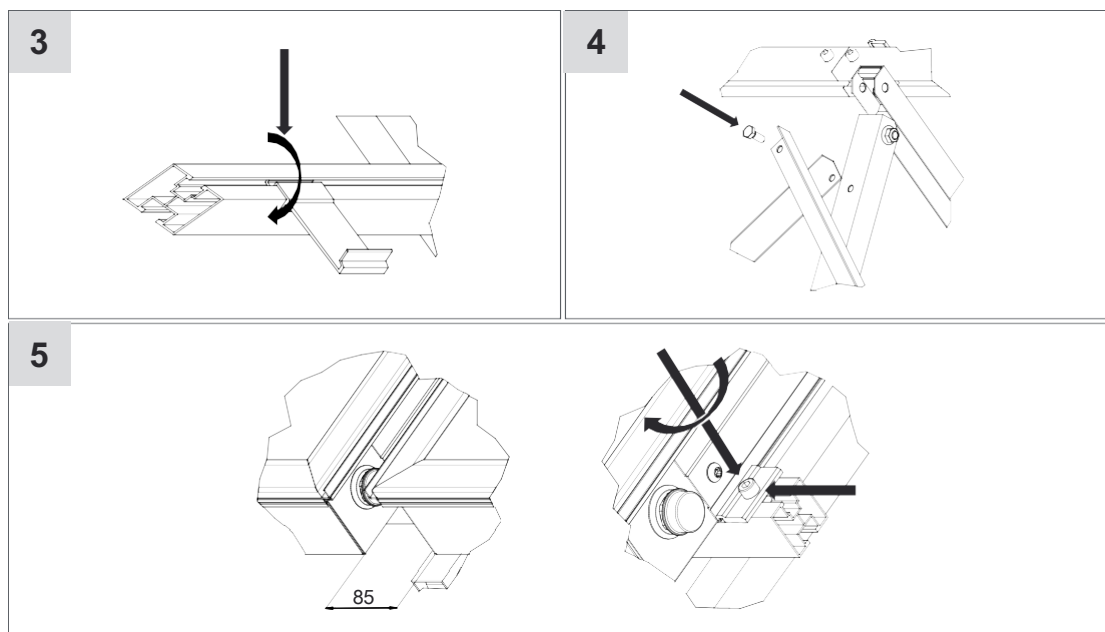
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UNIKO M/P 21 - KSF M/P 26 - Fr (FLAT ROOF) MOUNTING SET

VERTICAL - 2 COLLECTORS



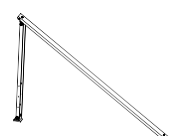
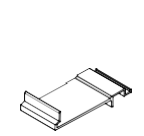


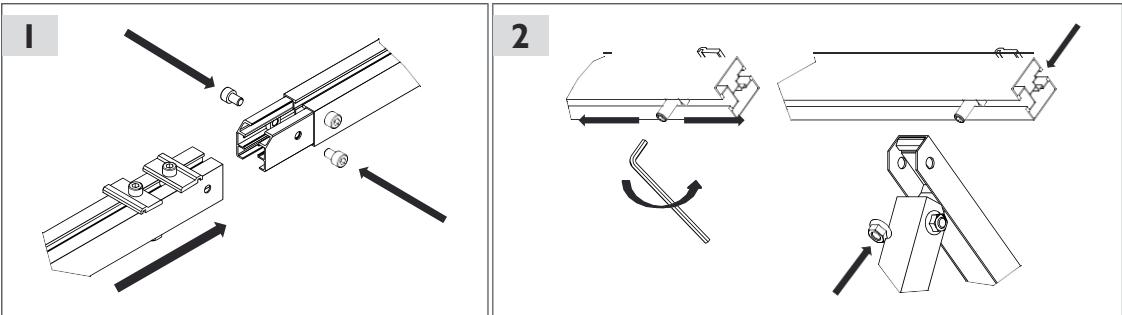
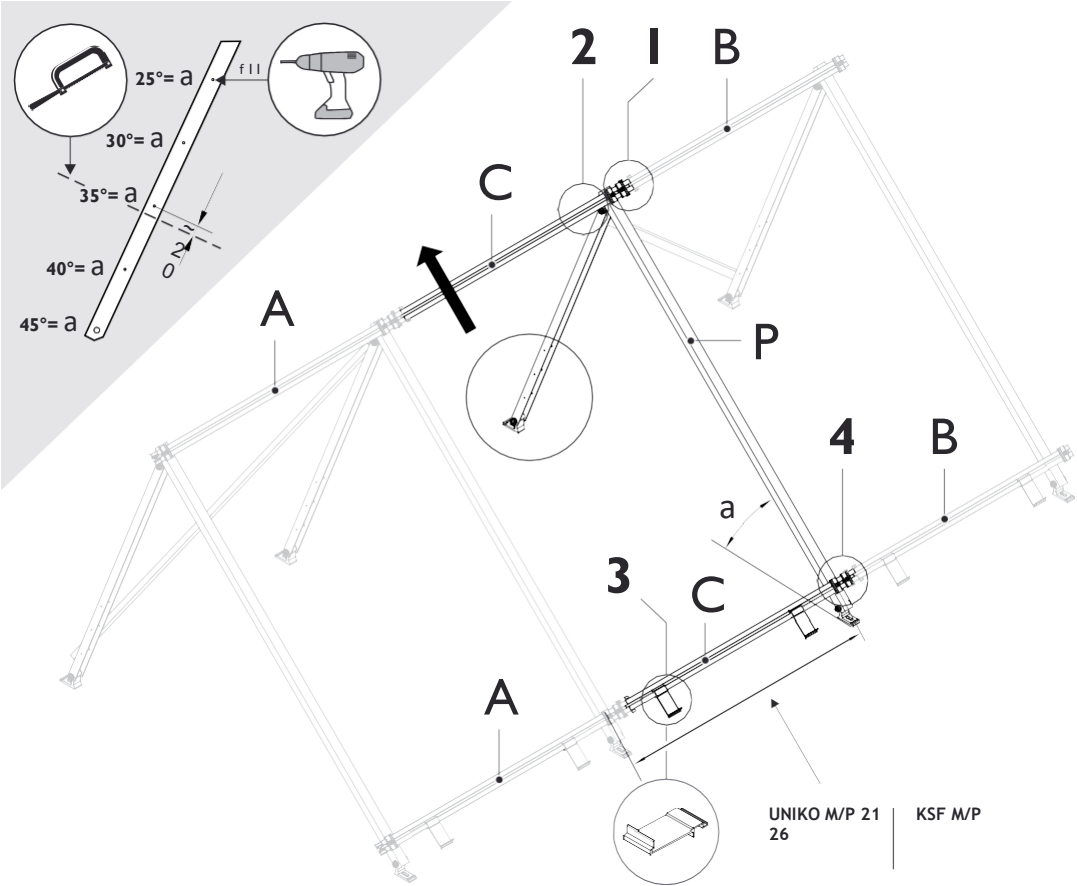
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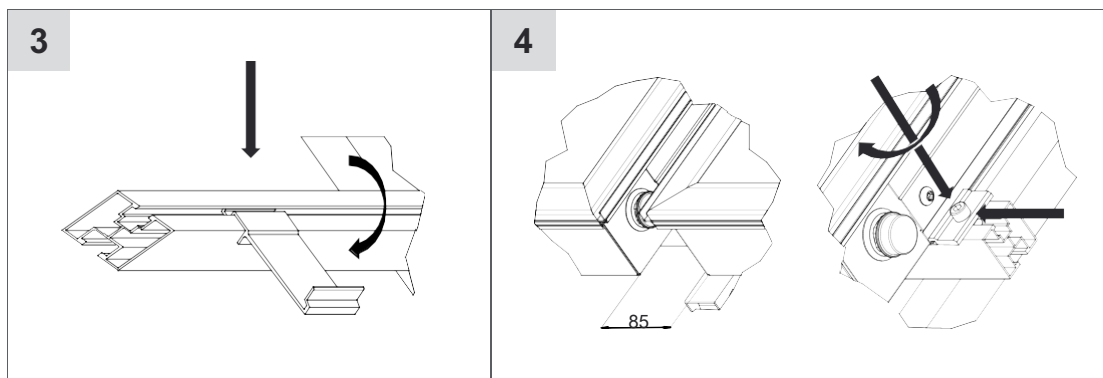
UNIKO M/P 21 - KSF M/P 26 - Fr (FLAT ROOF) EXTENSION KIT

VERTICAL - EXTENSION FOR 1 COLLECTOR

	1×P	2×C		2×		
						
	13 mm	15 mm	17 mm	5 mm	6 mm	15 mm



FR (FLAT ROOF)

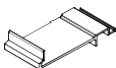
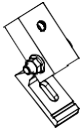
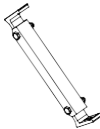


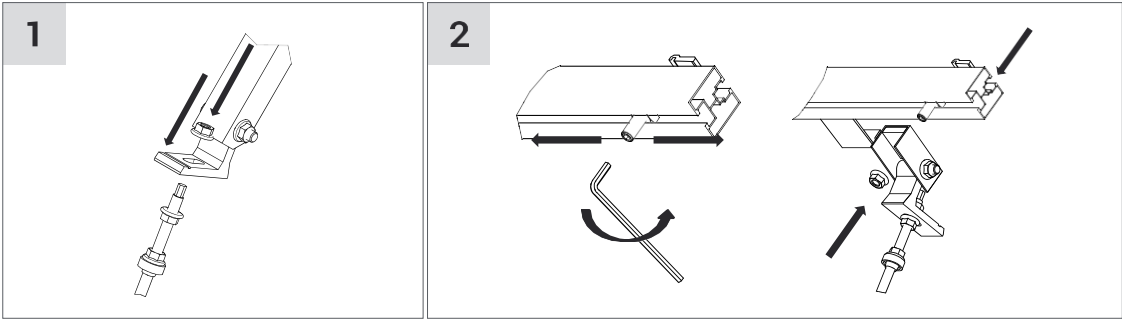
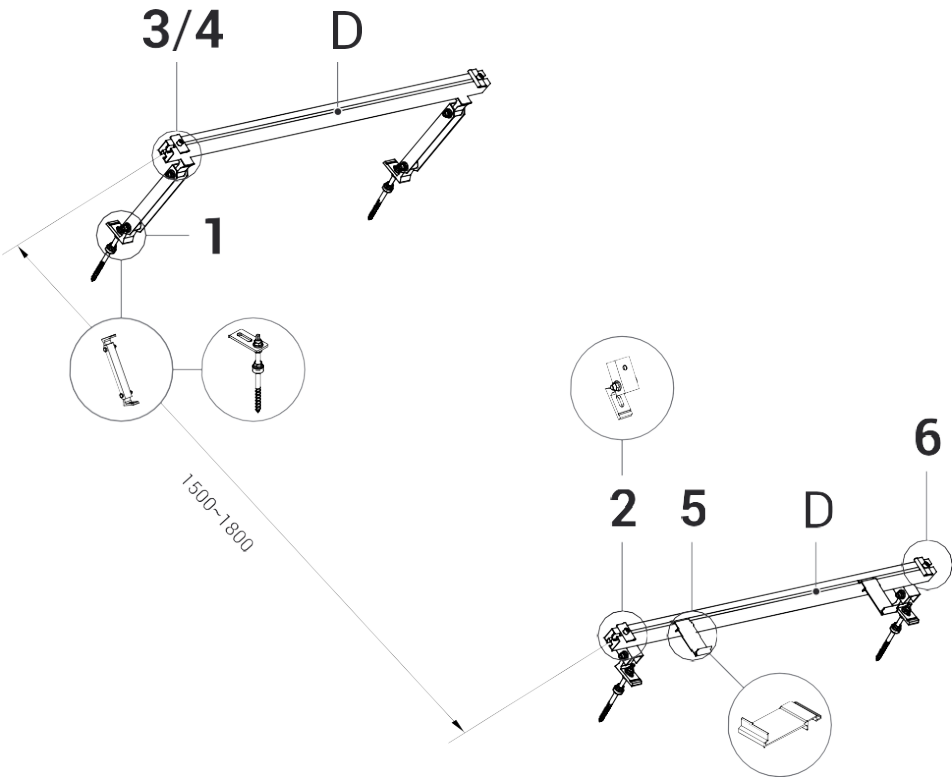
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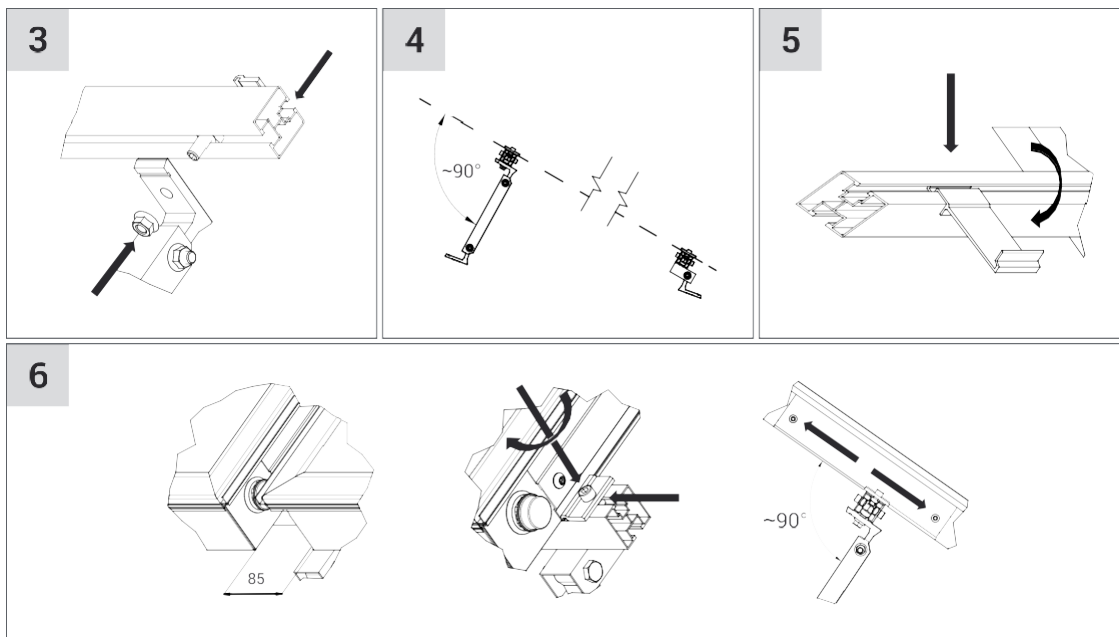
UNIKO M/P 21 - KSF M/P 26 - Vlr (RAISED SCREW) MOUNTING

VERTICAL - 1 COLLECTOR

	4× 	2× 	2× 	2× 	2×D 
	 15 mm	 17 mm	 5 mm	 6 mm	 15 mm



VIR (RAISED SCREW)

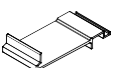
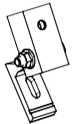


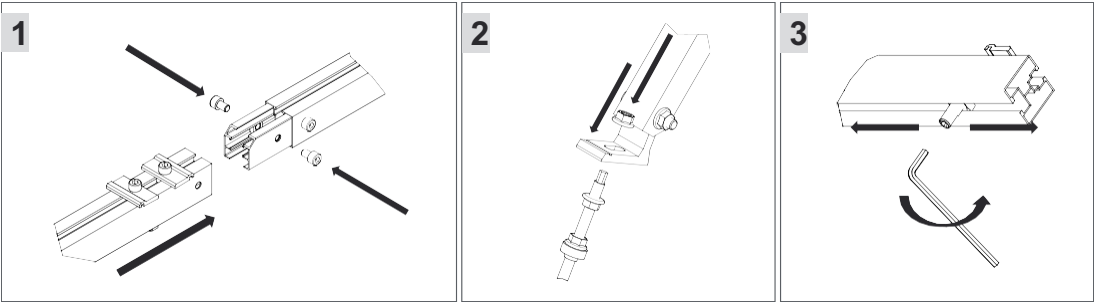
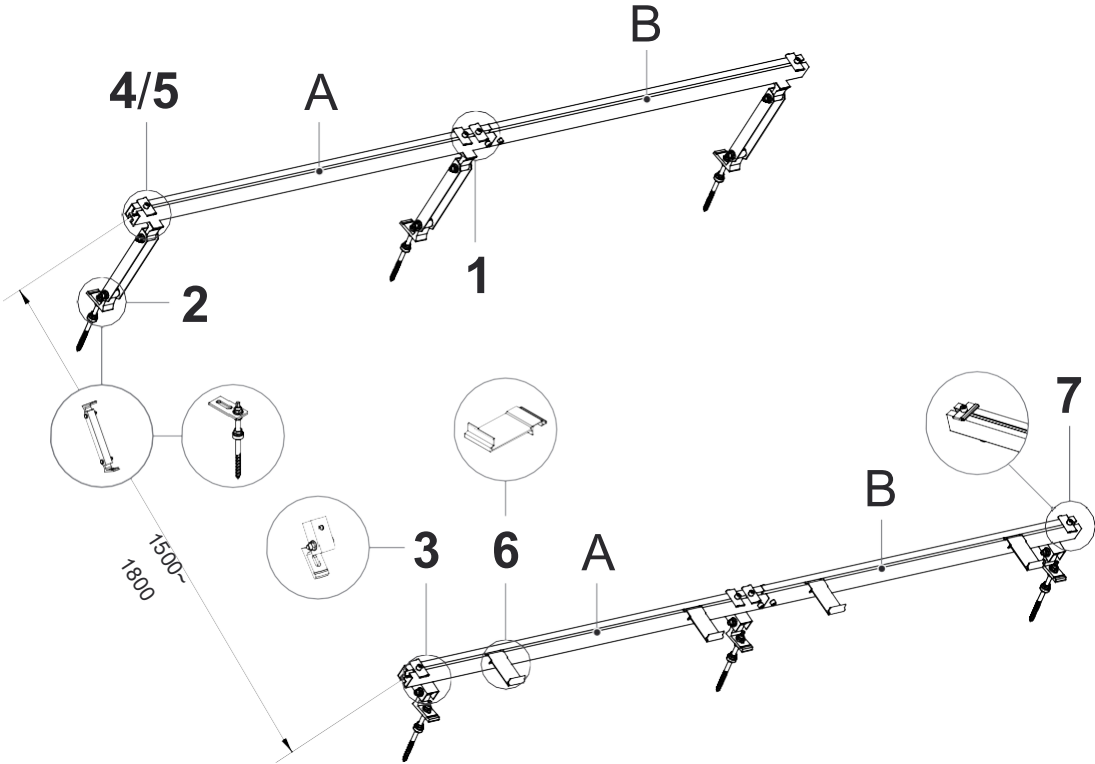
Warning

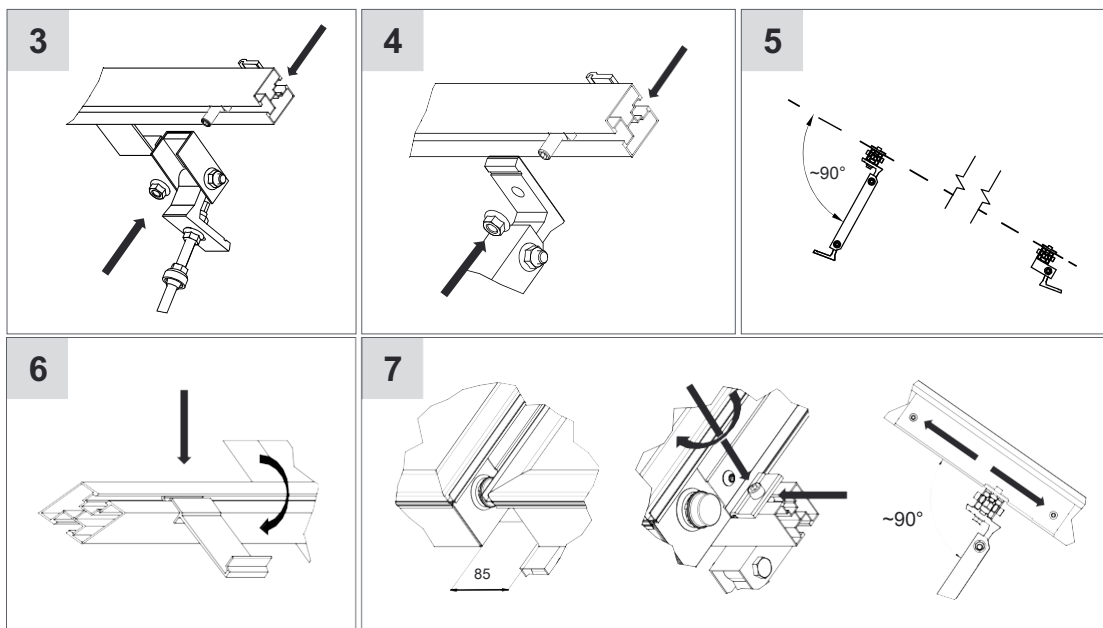
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UNIKO M/P 21 - KSF M/P 26 - Vlr (RAISED SCREW) MOUNTING

VERTICAL - 2 COLLECTORS

	6×	4×	3×	3×	2×A 2×B
					 
	15 mm	17 mm	5 mm	6 mm	15 mm



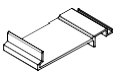


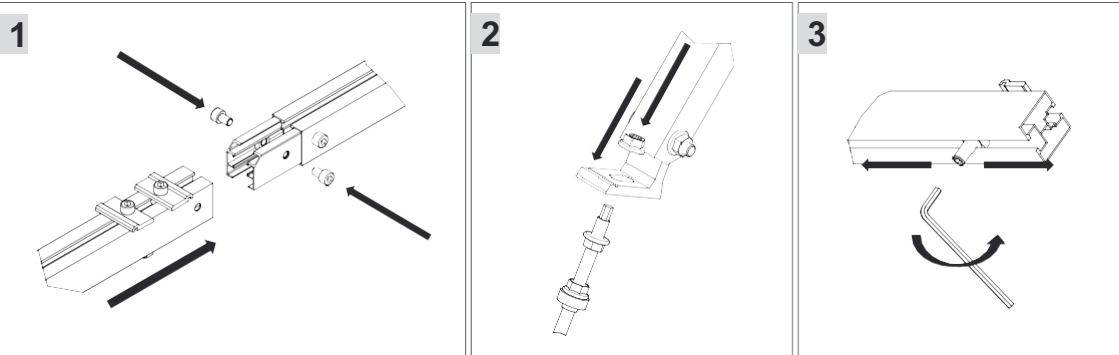
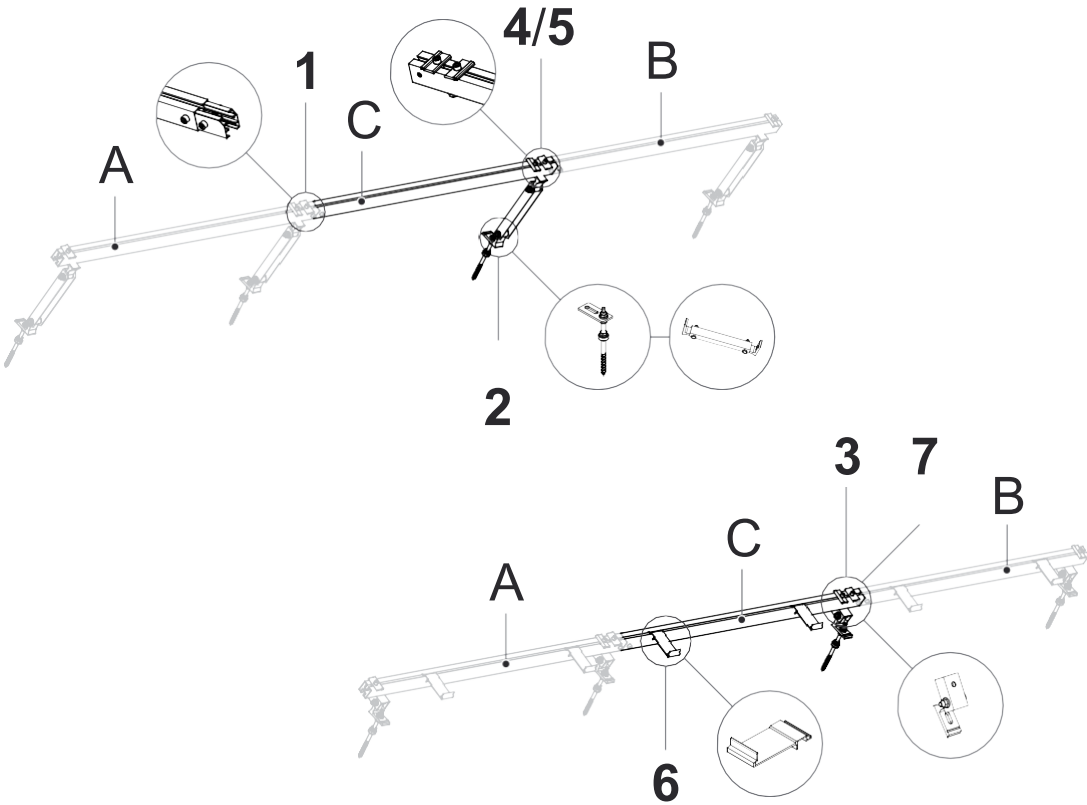
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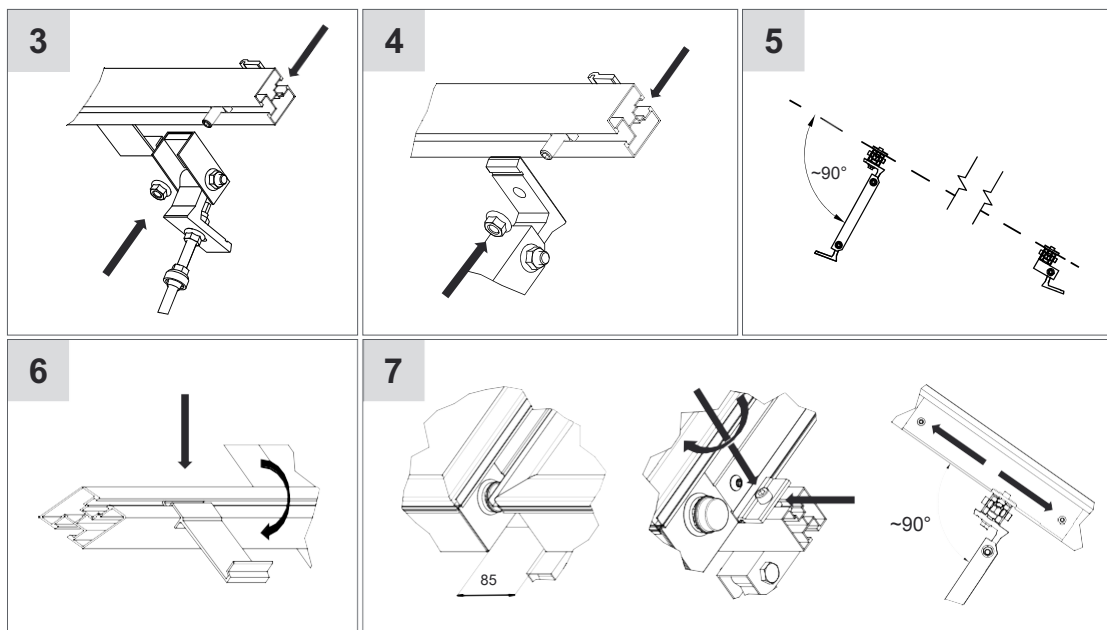
UNIKO M/P 21 - KSF M/P 26 - Vlr (RAISED SCREW) EXTENSION KIT

VERTICAL - EXTENSION FOR 1 COLLECTOR

	2×		2×C		2×		1×		1×	
										
	15 mm	17 mm	5 mm	6 mm	15 mm					



VIR (RAISED SCREW)

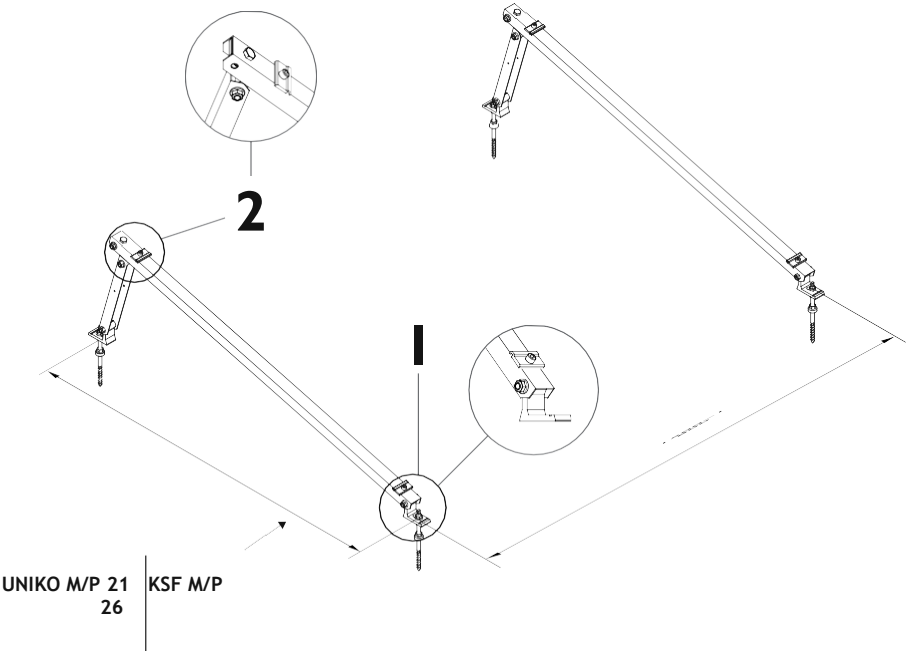
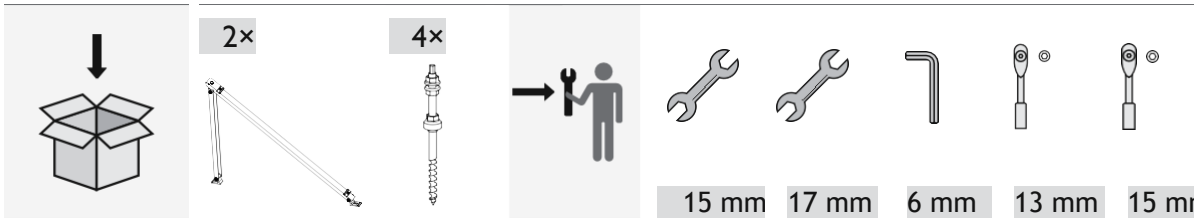


Warning

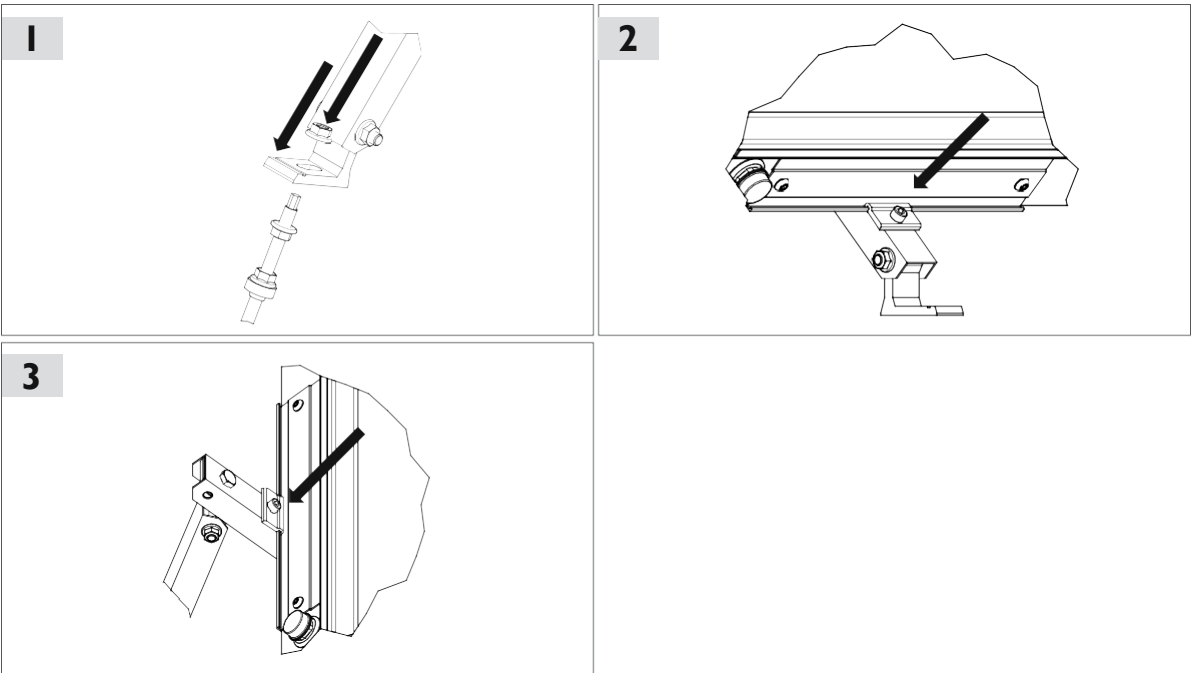
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UNIKO M/P 21 - KSF M/P 26 - VI IR R (RAISED SCREW) MOUNTING SET

HORIZONTAL - 1 COLLECTOR



VI IR R (RAISED SCREW)



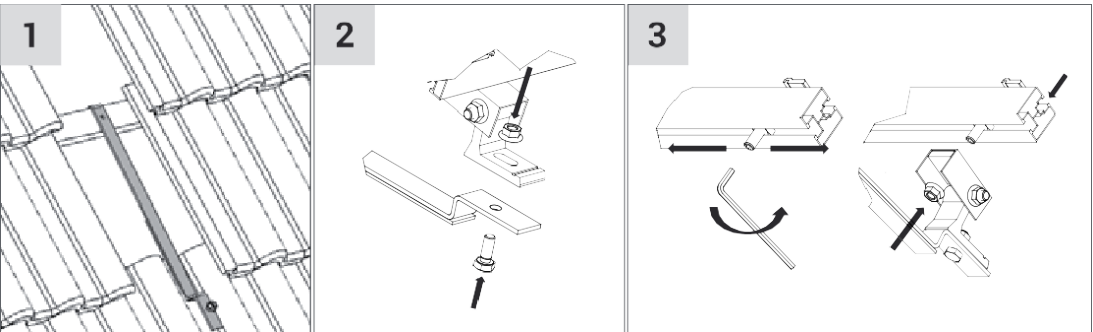
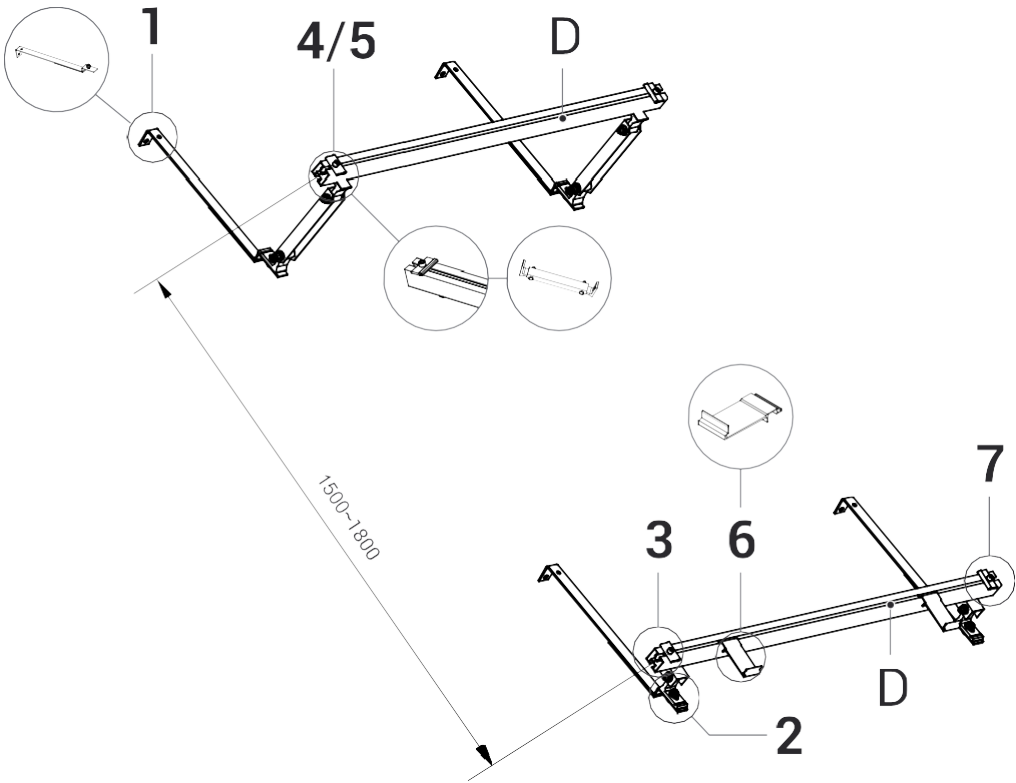
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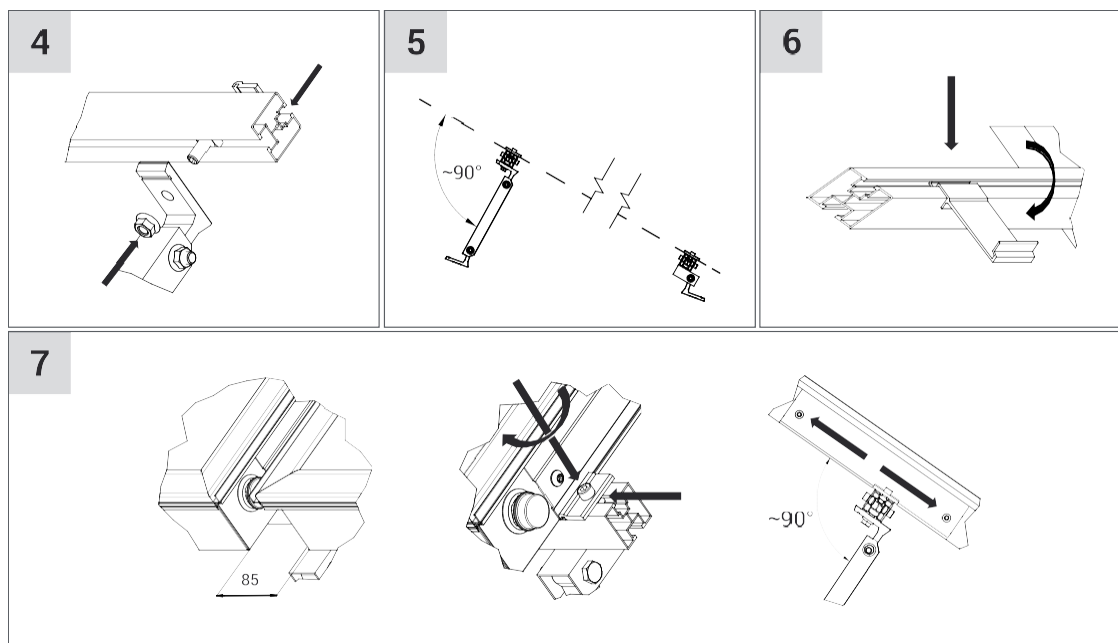
UNIKO M/P 21 - KSF M/P 26 - GIrR (RAISED FASTENER) MOUNTING

VERTICAL - 1 COLLECTOR

	4×	2×D	2×	2×	2×
					
	15 mm	17 mm	5 mm	6 mm	15 mm



GIRR (RAISED FASTENER)



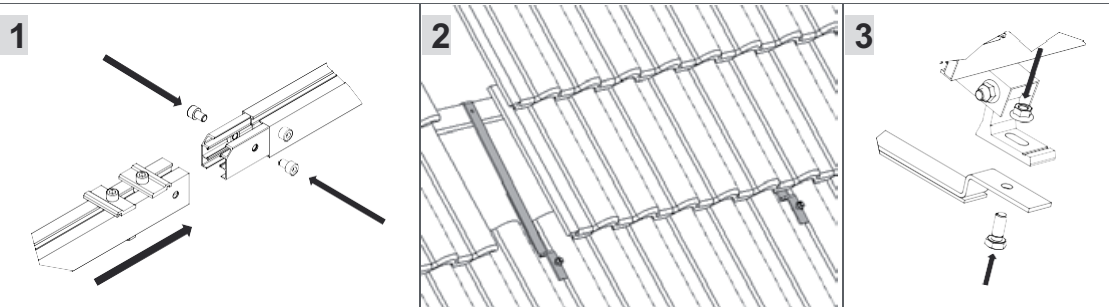
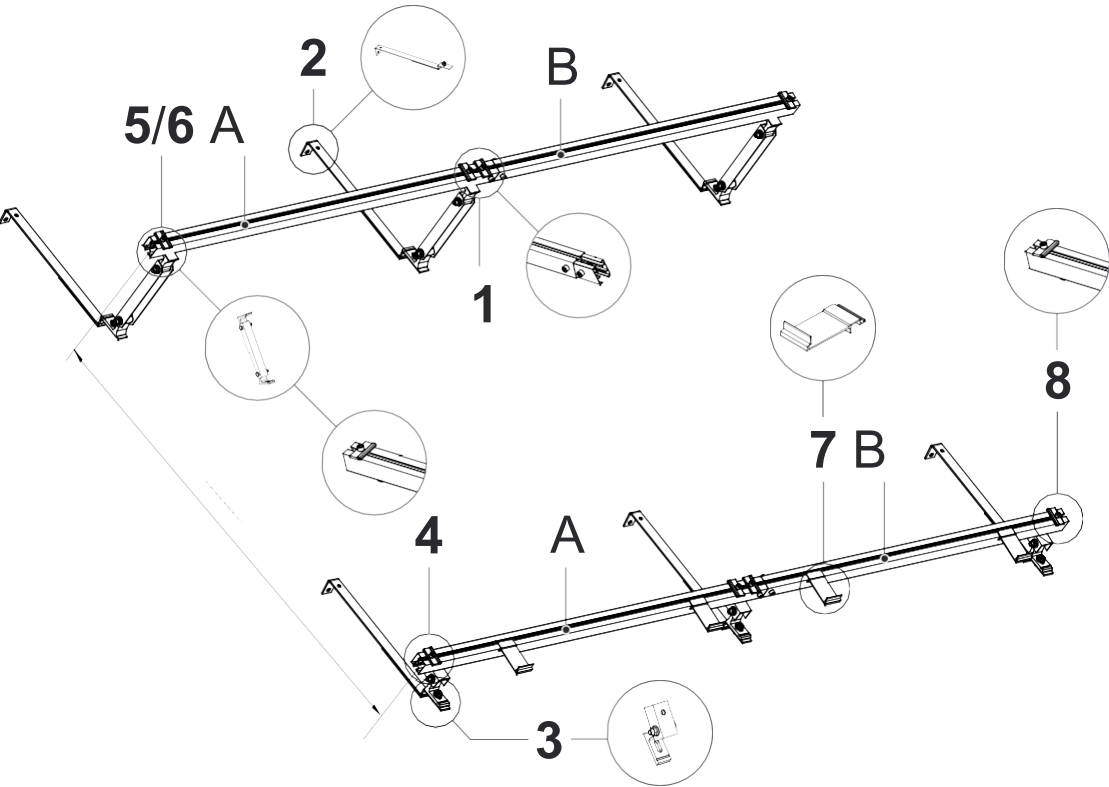
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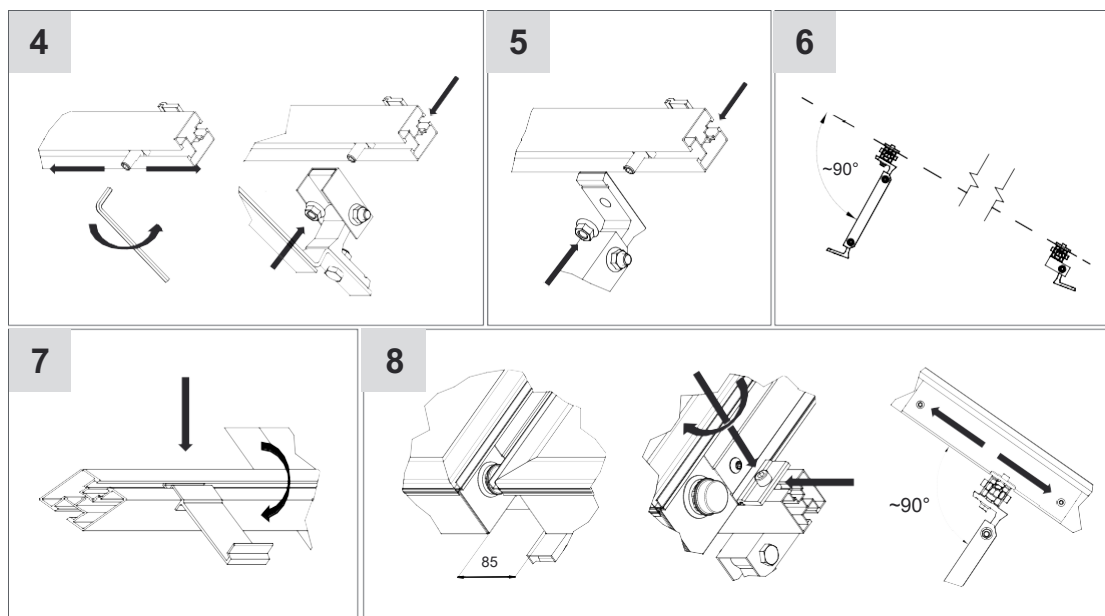
UNIKO M/P 21 - KSF M/P 26 - GIrR (RAISED FASTENER) MOUNTING

VERTICAL - 2 COLLECTORS

	6×	4×	3×	3×	2×A
					
					
	15 mm	17	5 mm	6 mm	15 mm



GIRR (RAISED FASTENER)



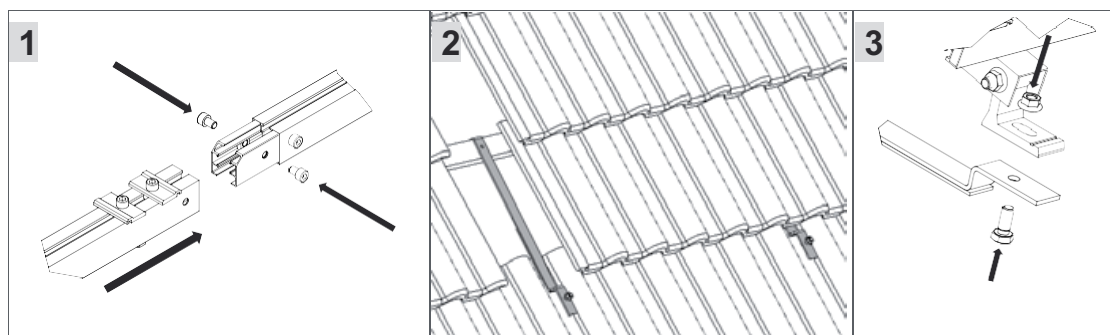
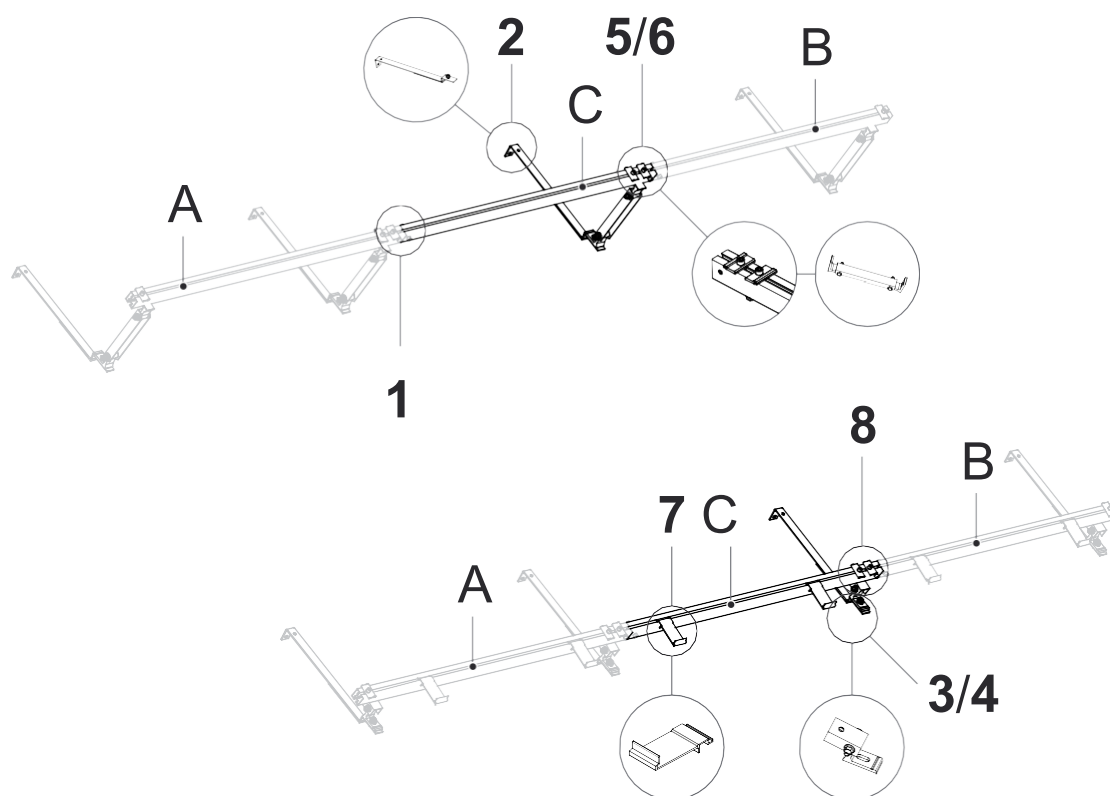
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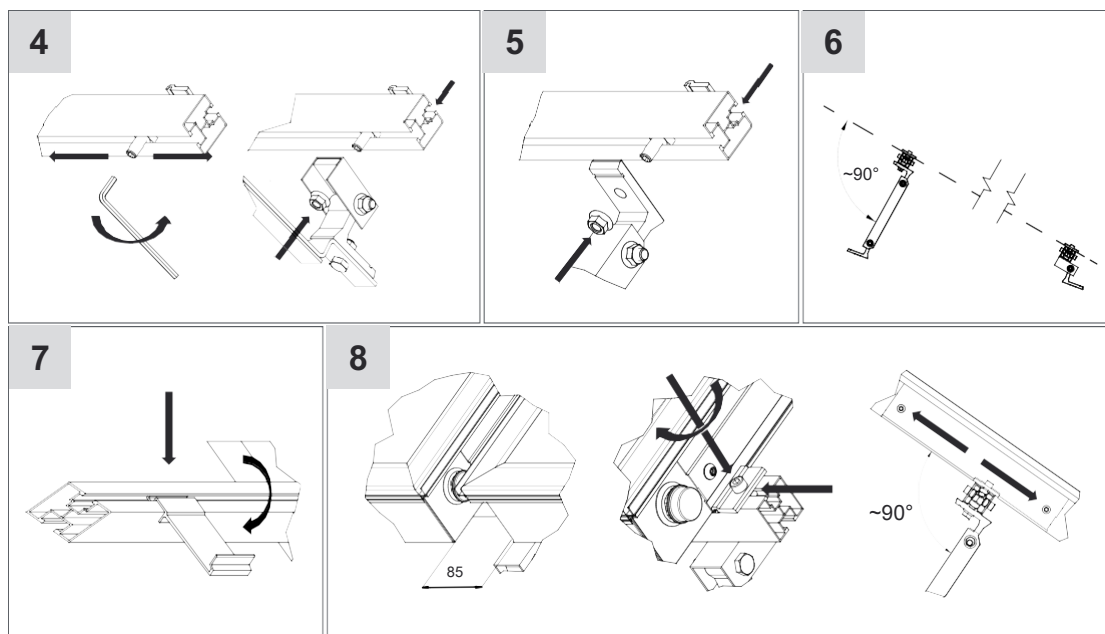
UNIKO M/P 21 - KSF M/P 26 - GIRR (RAISED FASTENER) EXTENSION KIT

VERTICAL - EXTENSION FOR 1 COLLECTOR

	2×	2×	2×	1×	1×
	15 mm	17 mm	5 mm	6 mm	15 mm



GIRR (RAISED FASTENER)

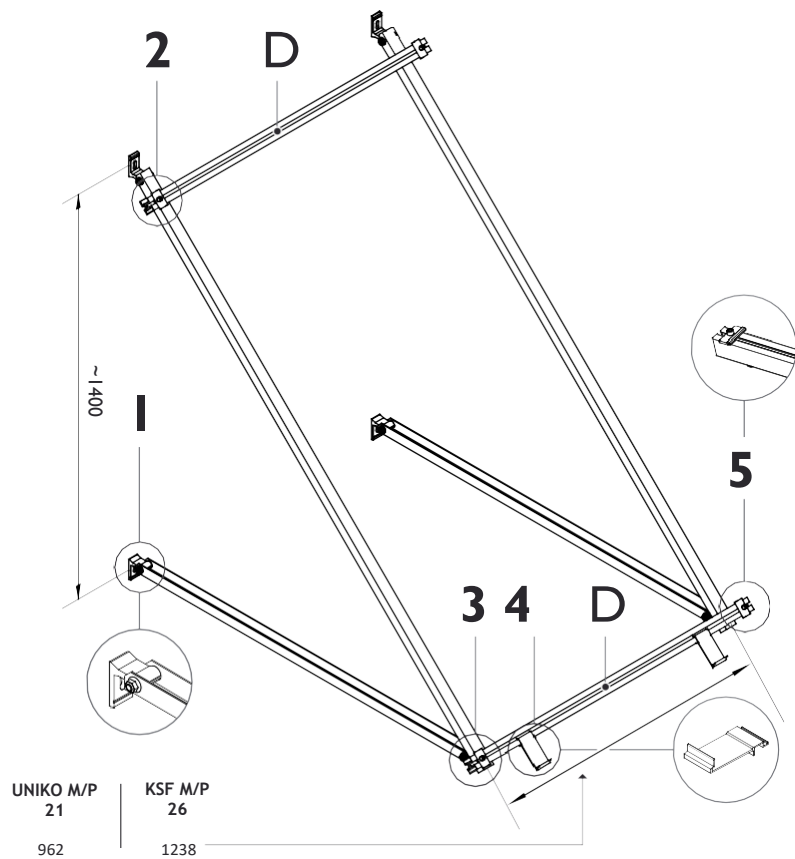
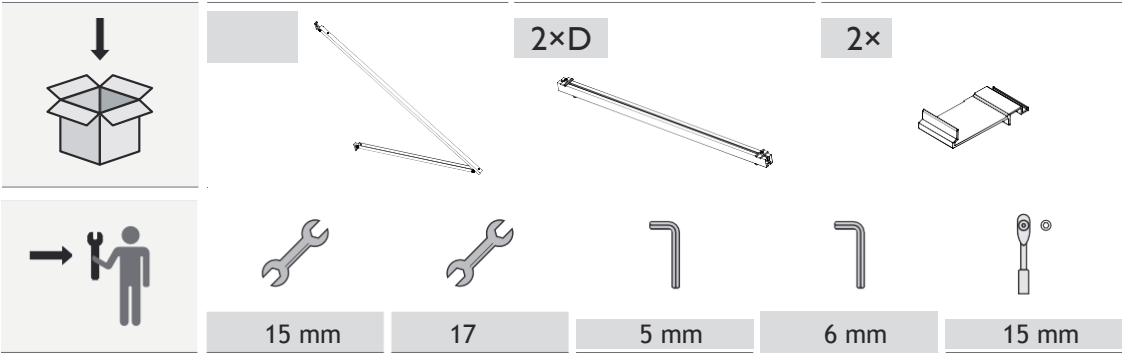


Warning

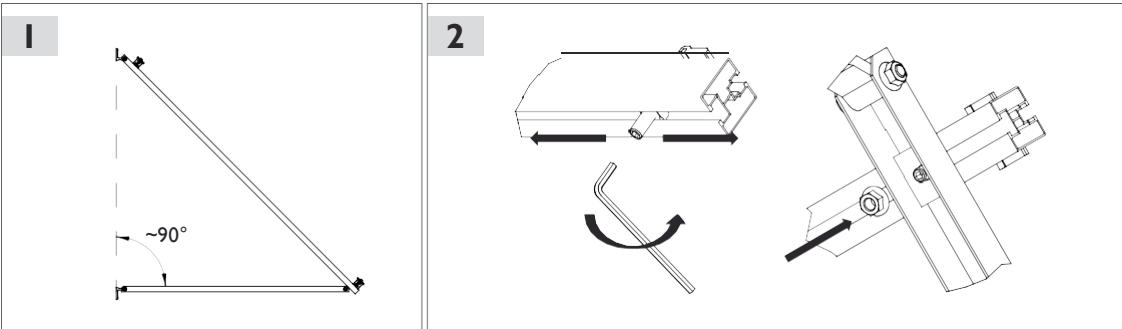
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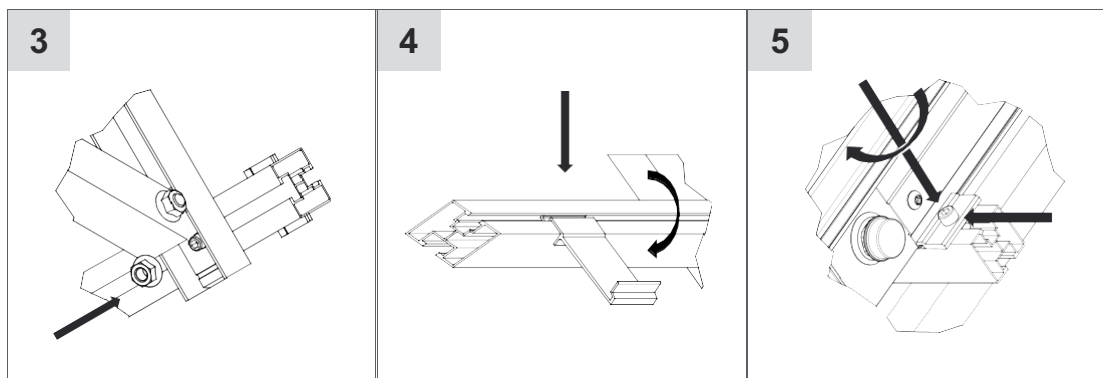
UNIKO M/P 21 - KSF M/P 26 FR-H - VW (VERTICAL WALL) MOUNTING

VERTICAL - 1 COLLECTOR



VW (VERTICAL WALL)



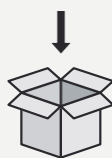


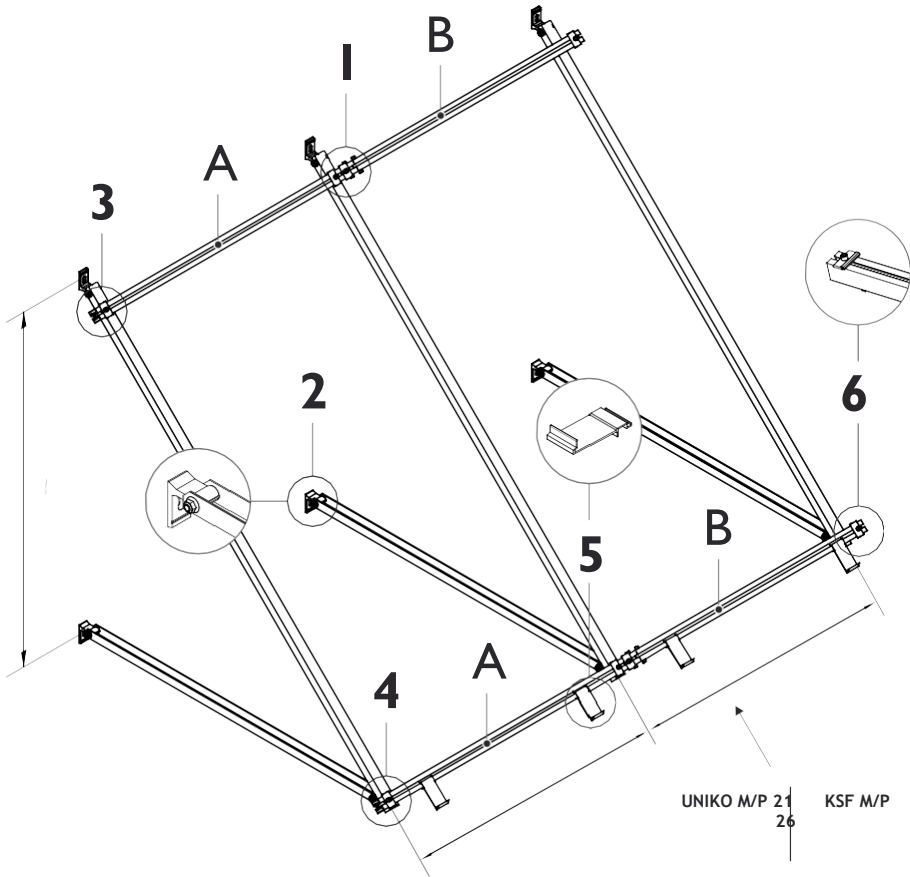
Warning

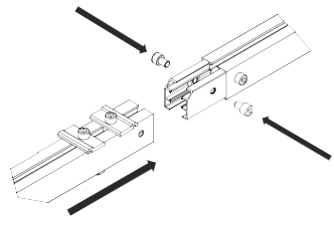
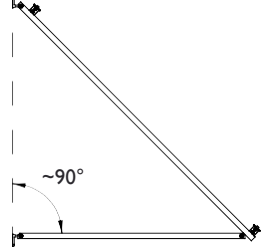
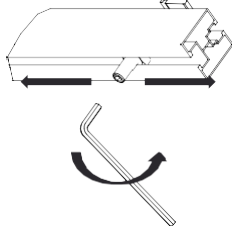
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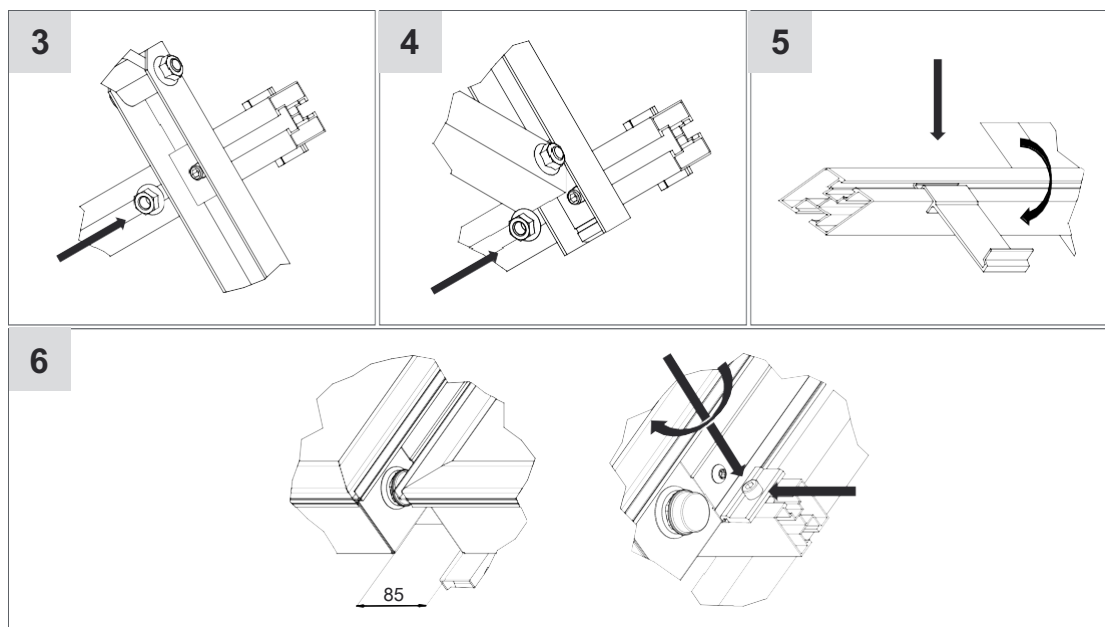
UNIKO M/P 21 - KSF M/P 26 FR-H - VW (VERTICAL WALL) MOUNTING

VERTICAL - 2 COLLECTORS

		2×A	2×B	4×	
					
	15 mm	17	5 mm	6 mm	15 mm



1 	2 	3 
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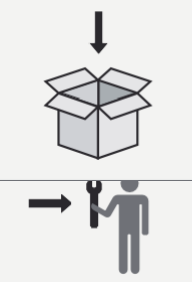
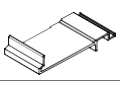


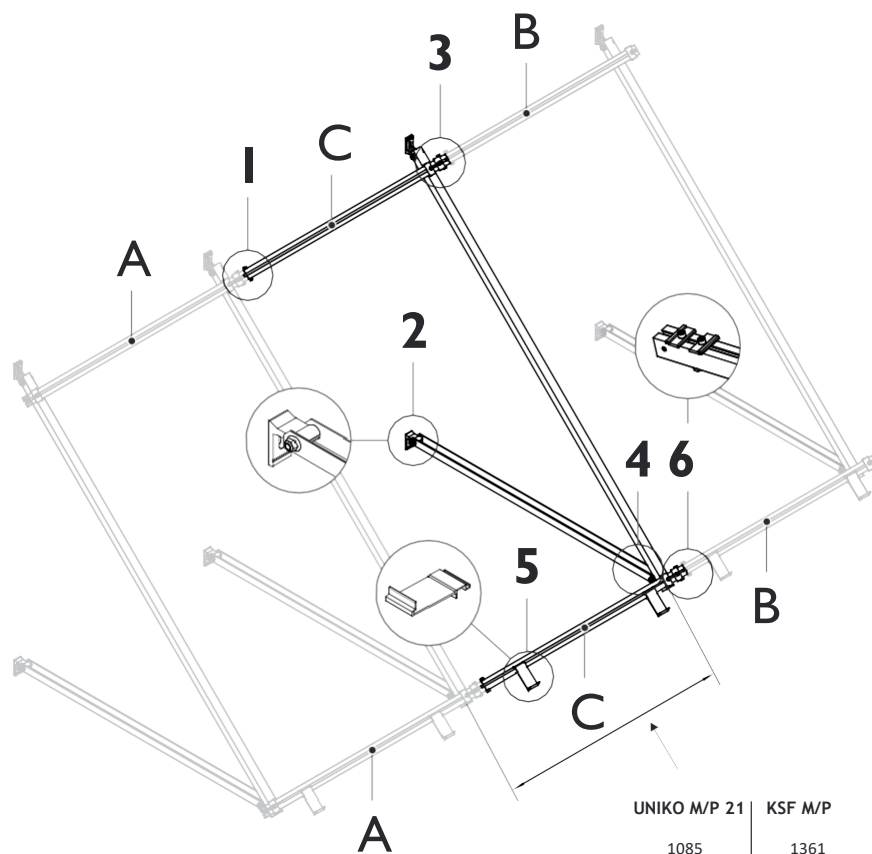
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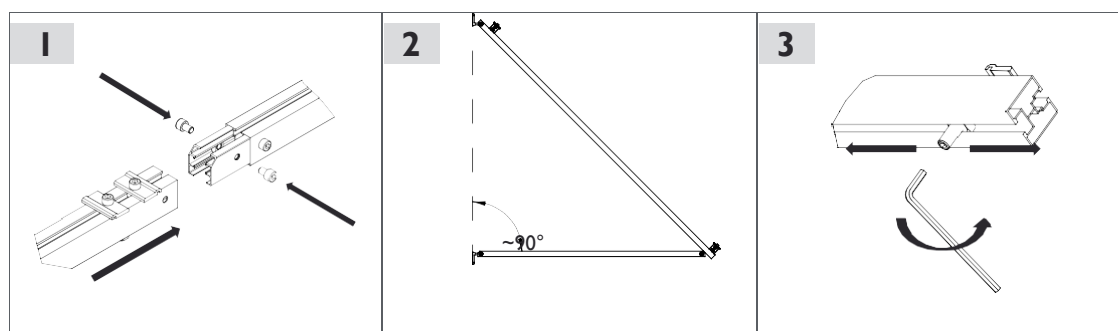
UNIKO M/P 21 - KSF M/P 26 - VW (VERTICAL WALL) EXPANSION KIT

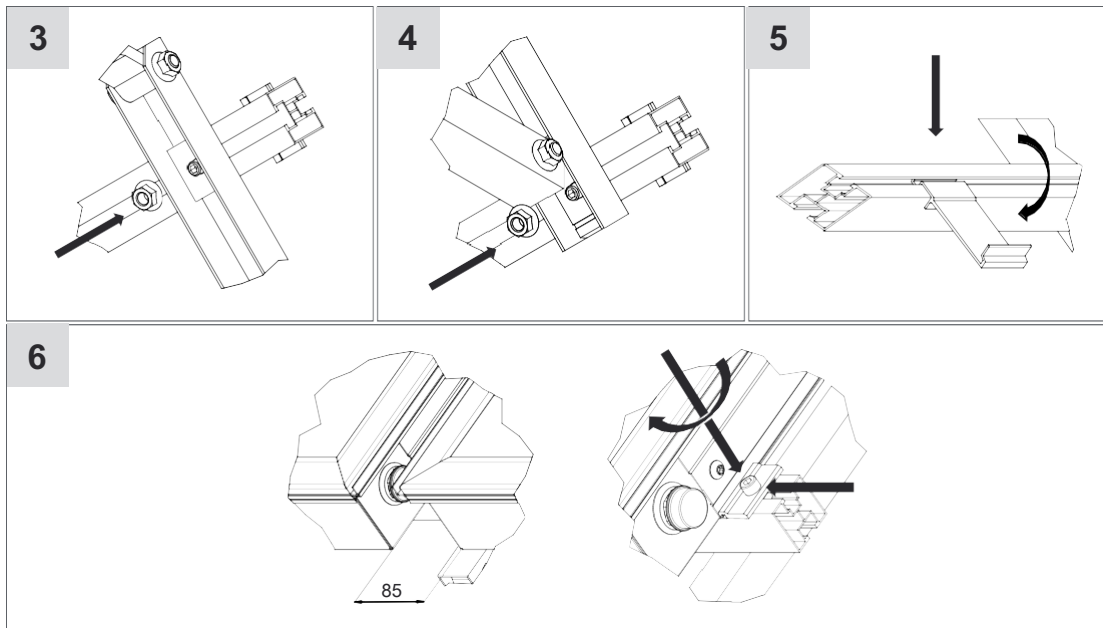
VERTICAL - EXTENSION FOR 1 COLLECTOR

	1×		2×C		2×	
						
		15 mm	17	5 mm	6 mm	15 mm



VW (VERTICAL WALL)

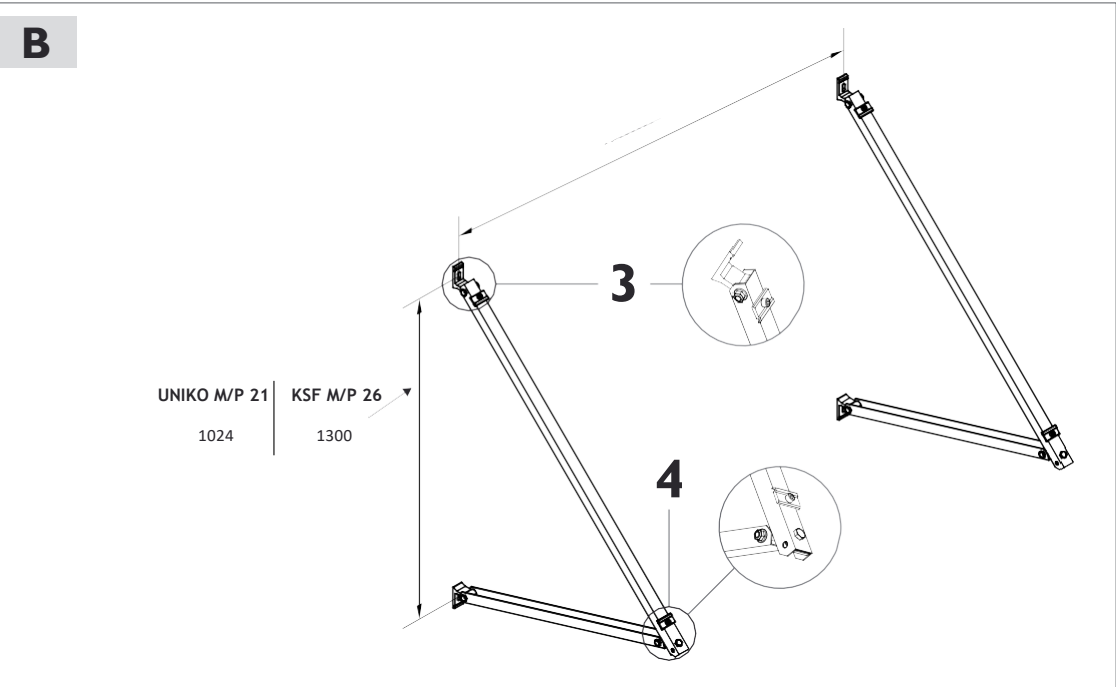
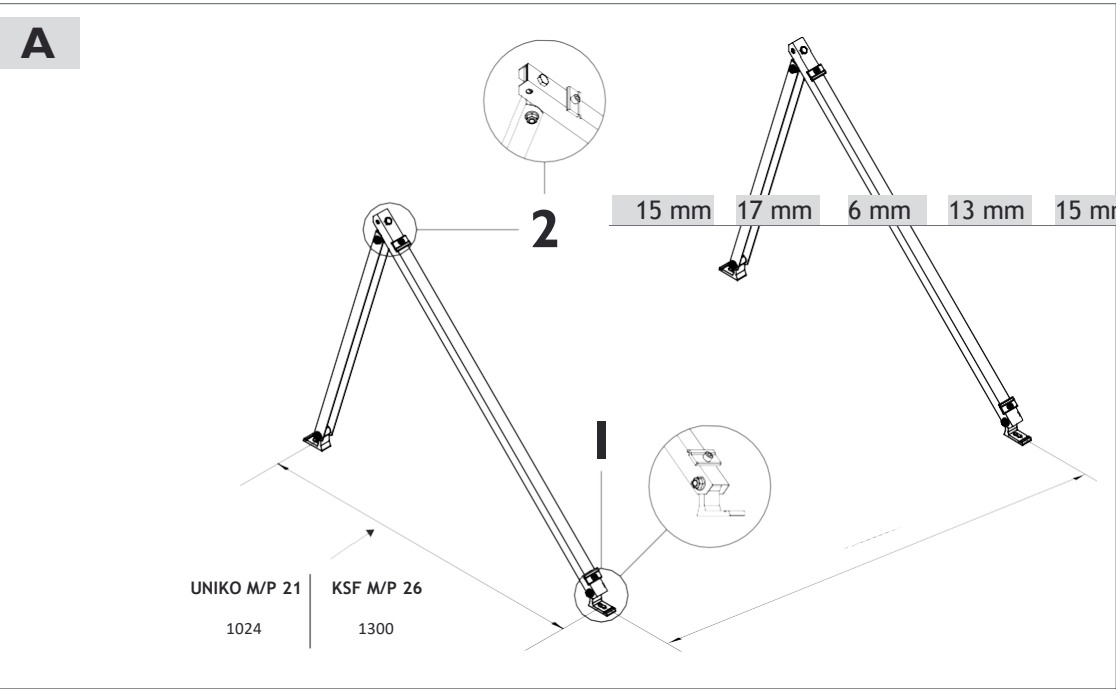
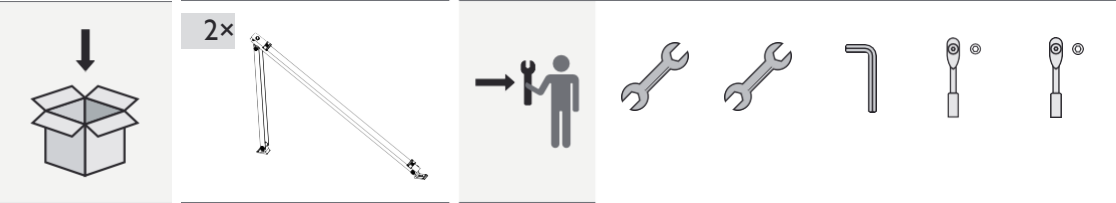




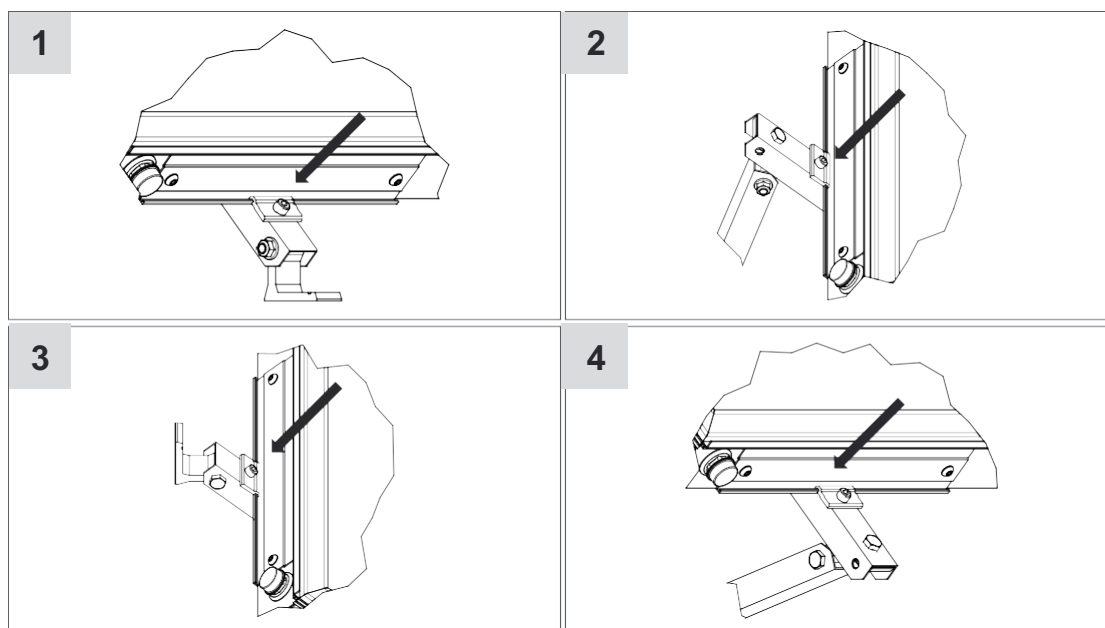
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UNIKO M/P 21 - KSF M/P 26 FR-H and VW-H **(FLAT ROOF VERTICAL WALL HORIZONTAL)** **MOUNTING SET**



FR-H AND VW-H (FLAT ROOF VERTICAL WALL HORIZONTAL)



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PLEION PARTNER



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