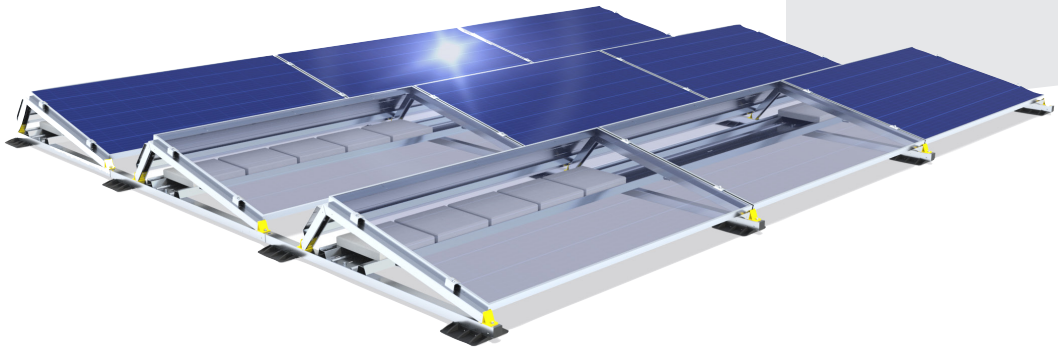
Sunbeam **Nova**

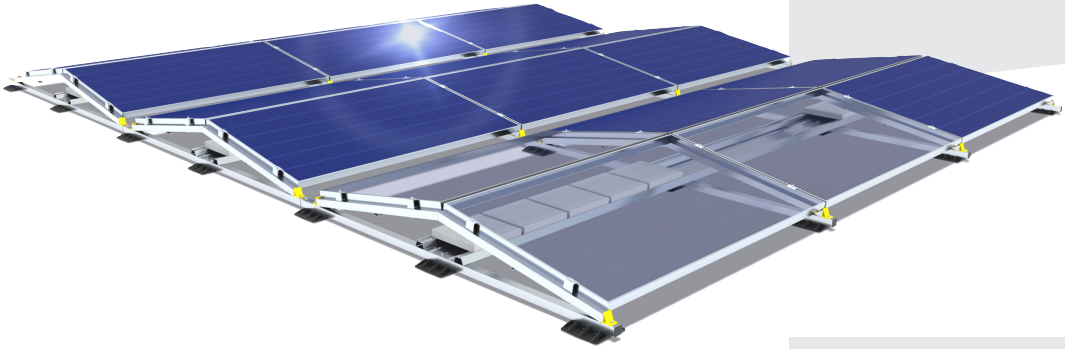
EN

Installation manual

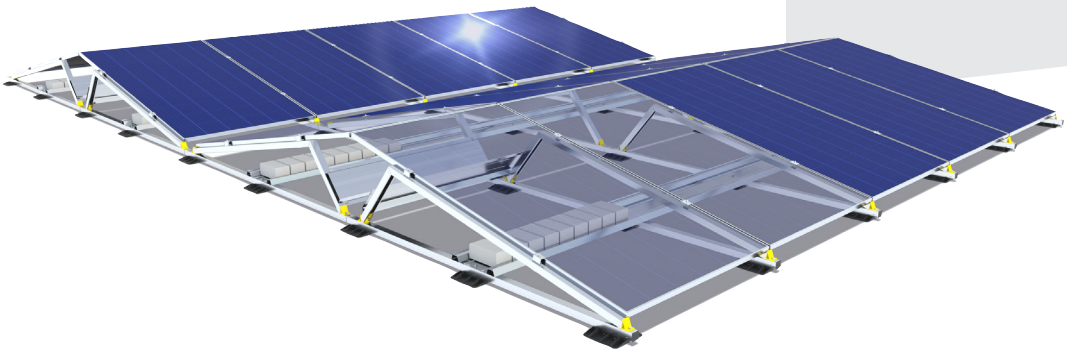
Universal



Symmetrical



Symmetrical Portrait



December 2022 | Version 2.0 | This is the English translation of the original Dutch installation manual

Sunbeam
SOLAR MOUNTING

supporting sustainability

General

Description of the user

This document is intended for the installer. Sunbeam Nova should only be installed by a trained installer who has fully read and understood the contents of this manual.

Intended use and reasonably foreseeable misuse

Sunbeam Nova is a mounting system for installing solar panels on flat roofs. Sunbeam Nova should only be used according to the instructions in this document. Sunbeam Nova must only be used with the original accessories and components supplied by the supplier. Any other use is considered improper use and may lead to injury, damage to the system and void the warranty.

Symbols used

Symbol	Meaning
⚠WARNING	This symbol indicates a hazardous situation which, if not avoided, could result in serious injury or death.
NOTICE	This symbol indicates situations not related to personal injury.
COMMENT	This symbol indicates useful additional information.

Safety equipment

Always wear personal safety equipment and fall protection while installing Sunbeam Nova.

Safety instructions

Read and understand the instructions below before installing Sunbeam Nova.

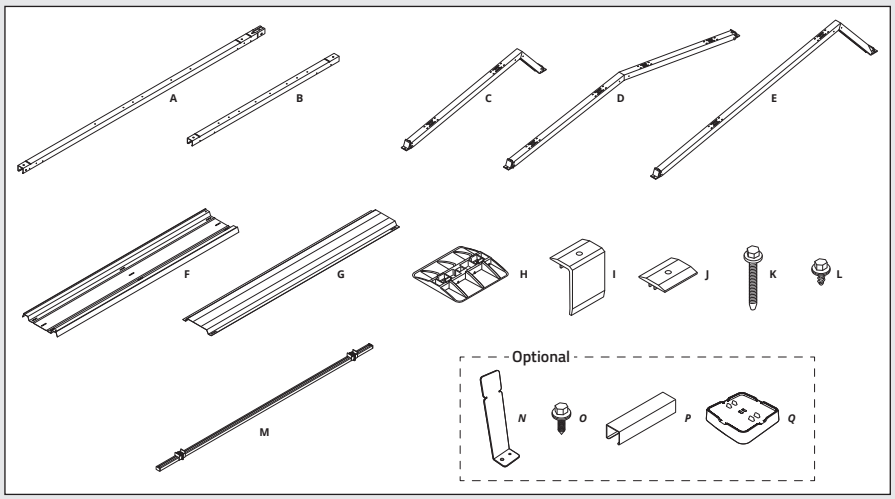
⚠WARNING

- Always follow the national safety regulations in the country of installation.
- Always use the configuration and ballast plan derived from the Sunbeam Calculator software during installation.
- Always employ suitable safety measures on the roof such as fall protection.
- Make sure the roof is free of obstructions and clean before installation.
- Check that the roof covering is in good condition and that the roof structure is strong enough to support the complete solar energy system as an extra load, in addition to the loads caused by wind, water and snow.
- Check that the roof covering can withstand the maximum point load of the feet of the Sunbeam system. If necessary, the point load can be reduced by using additional feet.
- If in doubt about any of the above, consult a structural engineer and/or roofing contractor.
- Always keep a copy of the configuration and ballast plan and this manual with the project documentation.

NOTICE

- Check that the delivery is complete before installation.
- Never place heavy pallets directly on a roof, the localised load can be very high.
- Be careful with packages that can blow away and with sharp parts that can damage the roof covering.

Components



A. Base unit
B. Base unit end Universal
C. Carrier Universal
D. Carrier Symmetrical
E. Carrier Symmetrical Portrait
F. Ballast rack
G. Wind plate
H. Foot
I. End clamp
J. Mid clamp
K. Clamp screw
L. Short screw
M. Sizing tool
N. Carrier reinforcement
O. Self-drilling screw
P. Ballast support
Q. Booster foot

Preparation

Recommended tools

Electric screwdriver

Socket bit 3/8 inch

Phillips screwdriver

Chalk line reel + chalk

Preparing a configuration and ballast plan

⚠WARNING

- Always use the Sunbeam Calculator software with every Sunbeam project, to generate a project-specific configuration and ballast plan.
- Always check that the actual weight of the tiles used matches what is shown in the configuration and ballast plan.
- Only systems installed according to a configuration and ballast plan from the current Sunbeam Calculator at the time of ordering are eligible for the Sunbeam product warranty.

Prepare the configuration and ballast plan.

COMMENT **The configuration and ballast plan contains all the information regarding the installation of ballast in the form of tiles. Calculate the position and quantity of ballast for your specific project using the calculator software.**

Marking the field

Mark two sides of the field with chalk or string on the roof. Follow the configuration plan.

COMMENT

- **Maintain the spacing to the roof edge as described in the configuration plan.**
- **Make sure the field is straight and perpendicular. Do this using a folding square or a laser.**

TIP: If you don't have a folding square or laser, you can also draw a triangle that automatically becomes perpendicular, by drawing out 2 straight sides of 3 and 4 metres and connecting them to a sloping side of 5 metres.

Setting up sizing tools

COMMENT **For large installations, it is recommended to use several sizing tools.**

1. To adjust the sliding block, loosen the screw a few turns.
2. Place the sizing tool over the long side of a solar panel.

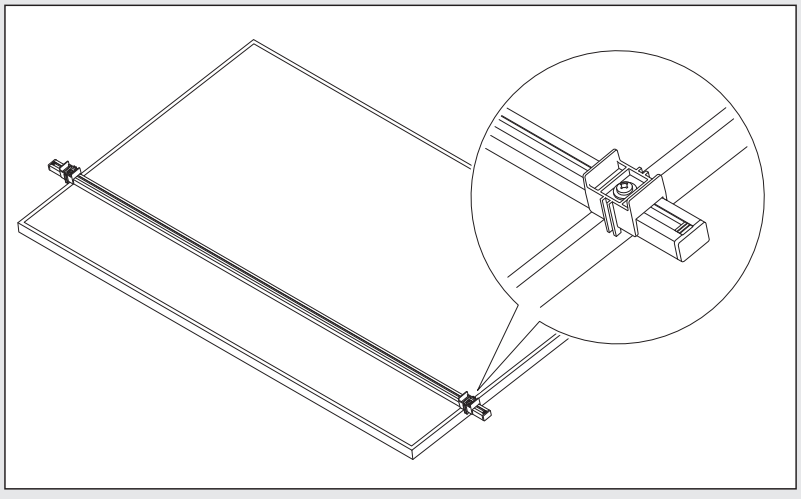
COMMENT

For Symmetrical Portrait, adjust the sizing tool on the short side of the panel.

3. Slide the sliding blocks against the side of the solar panel and screw in place.

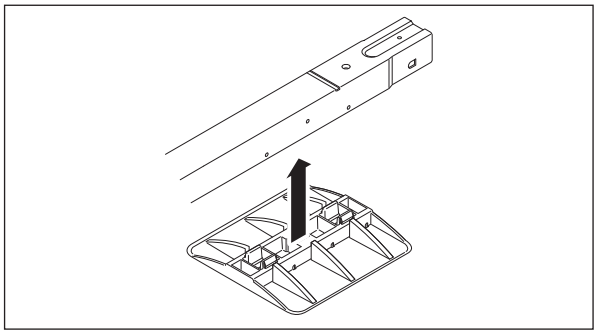
COMMENT

The sizing tool can also be set with a tape measure.



Universal
installation

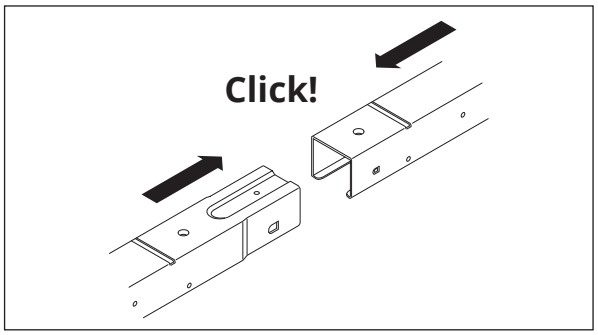
Installing the mounting profiles



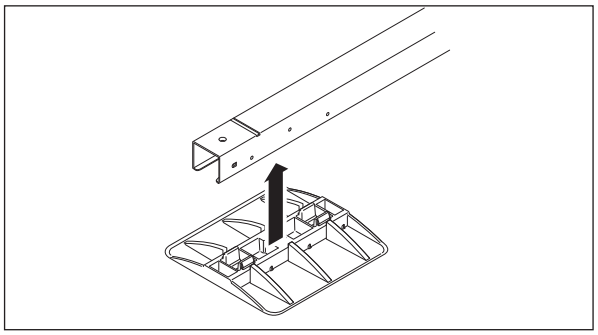
1. Press one foot under each base unit, on the side with the connector.

COMMENT **The feet snap into place at the holes in the side of the base unit.**

2. Also press a foot under each universal base unit end.

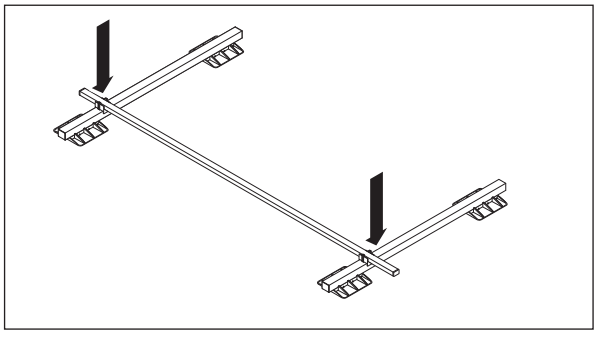


3. Lay the base units on the roof according to the configuration plan and slide them together as far as they will go.



4. Press a foot under the beginning of each row of base units.

Placing the ballast racks and ballast

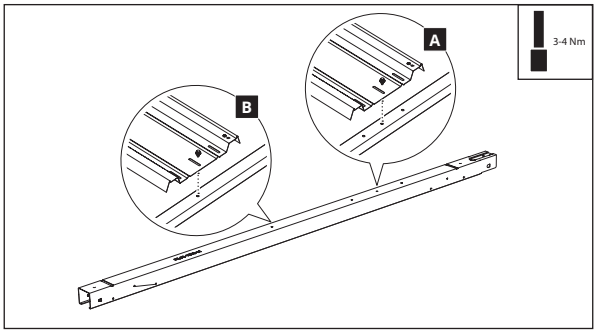


5. Place the sliding blocks of a set sizing tool on two base units lying side by side.

COMMENT **Make sure the outer row of base units remain in their marked position.**

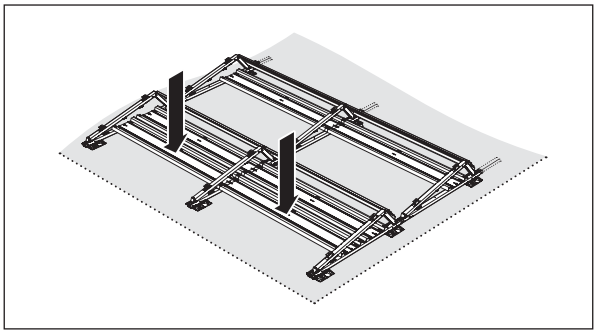
6. Repeat the previous step until all the base units are in place.

COMMENT **Once the first three rows of base units are positioned, the first ballast racks can already be placed.**



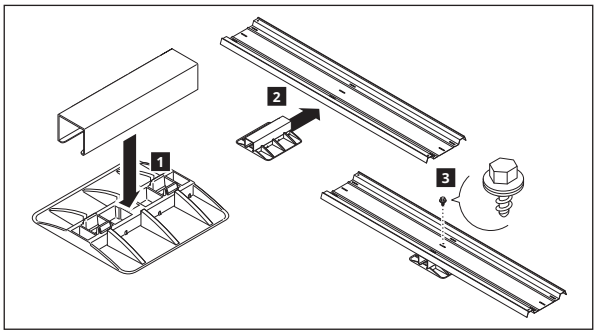
7. Place a ballast rack crosswise on two rows of base units. Align the holes in the base unit with the slots in the ballast racks and fasten with one short screw per side. Tighten the screws with 3 to 4 Nm.

COMMENT **Lay the ballast racks located at the outer edge of the field as far as possible towards the field edge. An extra hole is provided in the base unit at position B for this purpose.**



8. Follow the ballast plan to lay all the ballast racks.

COMMENT **When using double ballast racks, place one ballast rack in position A and one in position B.**



9. Optional: Press the ballast support onto a foot, slide it under the centre of a ballast rack and secure with a short screw.

COMMENT **Follow the configuration and ballast plan to lay all the ballast supports.**

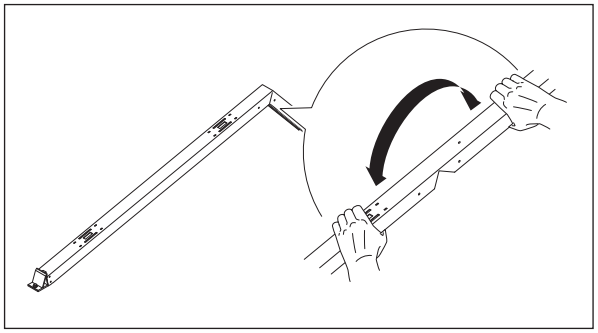
10. Place the ballast on the ballast racks.

COMMENT

- Place the ballast as described in the ballast plan.
- Only use the type of ballast as described in the ballast plan
- Always lay the ballast as far as possible towards the base units.
- Never stack ballast.

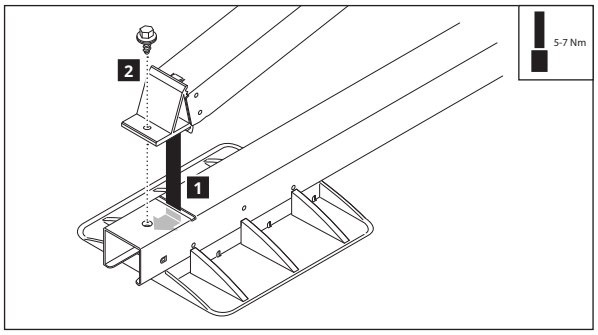
11. Lay out any return cables required.

Placing the carriers and panels



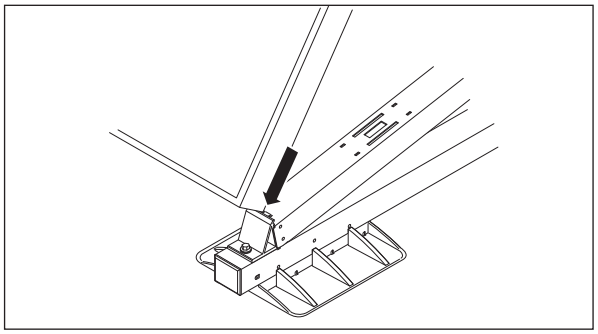
12. Bend the universal carrier with two hands over the knee point and place it directly on the base unit.

COMMENT **Never bend the knee in the wrong direction.**

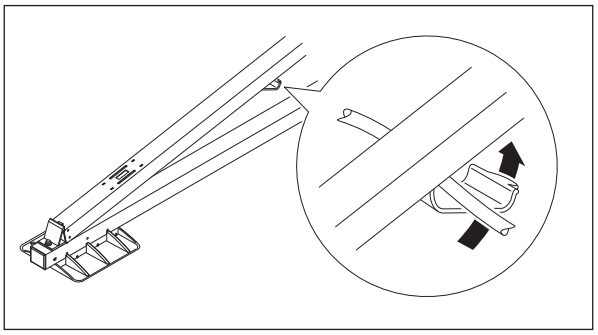


13. Push both yellow end blocks of the universal carrier into the slots of one of the base units and fasten with two short screws. Tighten the screws with 5 to 7 Nm.

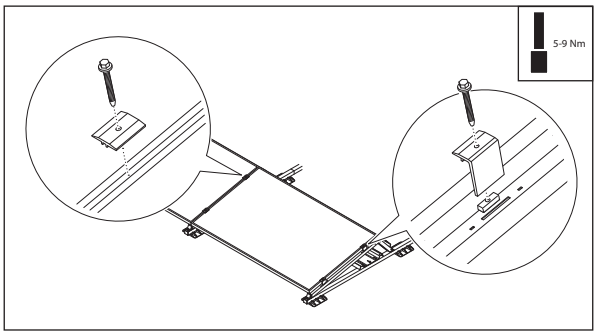
COMMENT **Make sure the holes of the end block and the base unit are directly aligned above each other.**



14. Place a solar panel against the yellow end blocks of the universal carrier and keep it upright.



15. Connect the solar panel to the adjacent solar panel and attach the cables in the cable clips located at the bottom of the universal carrier.

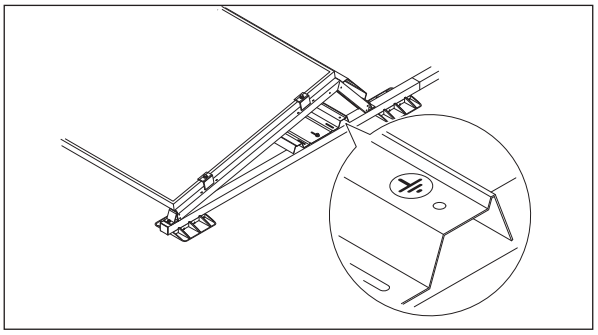


16. Lay the panel down on the universal carrier. Tighten the screws with 5 to 9 Nm.

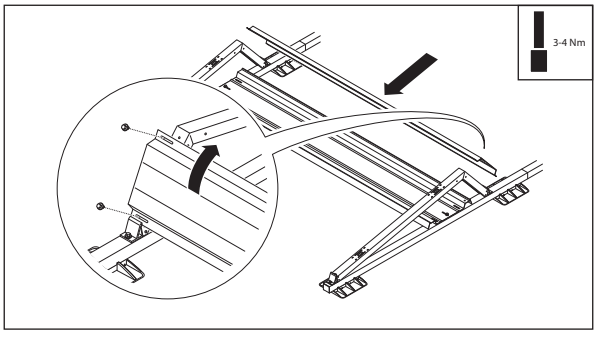
Finishing

17. Attach the end clamps and mid clamps with clamp screws to the universal carriers to clamp the solar panels. Tighten the screws with 5 to 9 Nm.

COMMENT **There is a gap of about 10mm between two panels.**



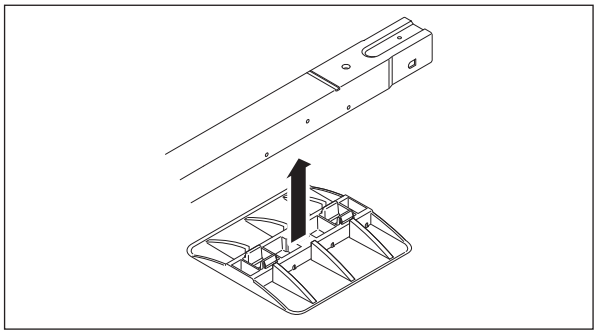
18. If required, level the fields by using the 6mm hole in the ballast rack.



19. Place a wind plate on the back of the carriers and secure with two short screws per side. Tighten the screws with 3 to 4 Nm.

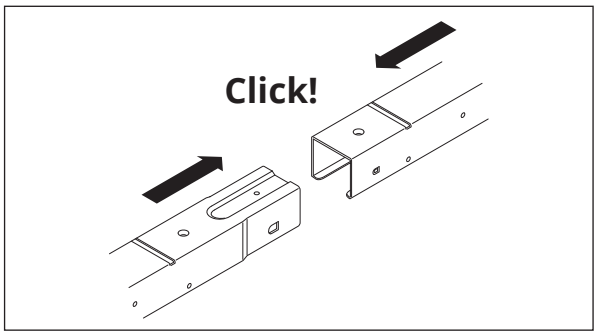
Symmetrical
installation

Placing the feet and base units

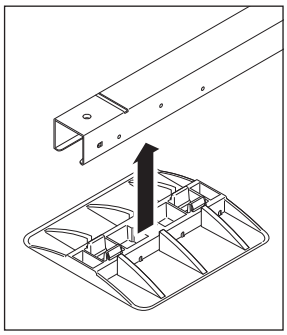


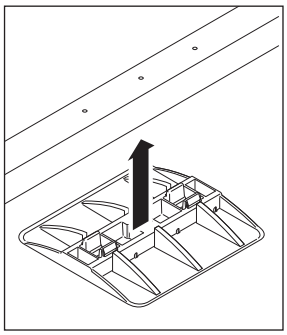
1. Press one foot under each base unit, on the side with the connector.

COMMENT **The feet snap into place at the holes in the side of the base unit.**



2. Lay the base units on the roof according to the configuration plan and slide them together as far as they will go.

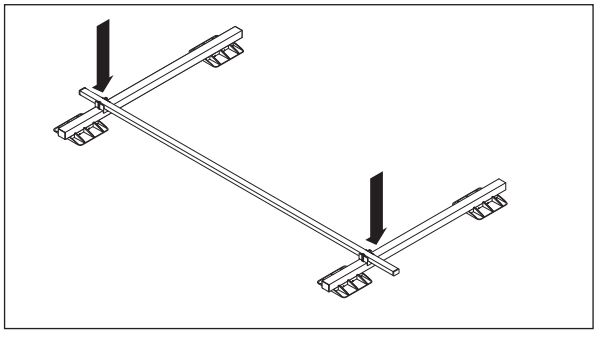




3. Press a foot under the beginning of each row of base units.
4. Press a foot under the centre of the base unit where a ballast rack will lie.

COMMENT **Follow the ballast plan.**

Placing the ballast racks and ballast

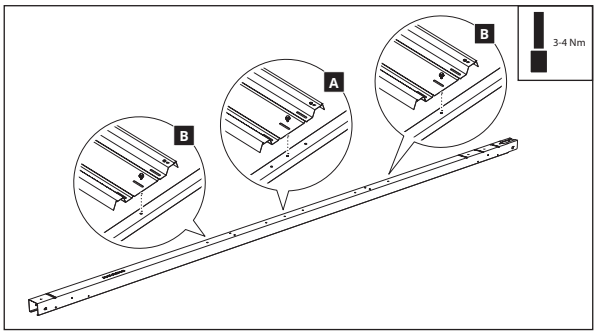


5. Place the sliding blocks of a set sizing tool on two base units lying side by side.

COMMENT **Make sure the outer row of base units remain in their marked position.**

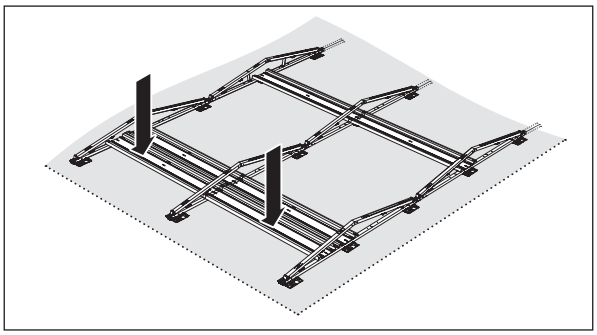
6. Repeat the previous step until all the base units are in place.

COMMENT **Once the first three rows of base units are positioned, the first ballast racks can already be placed.**



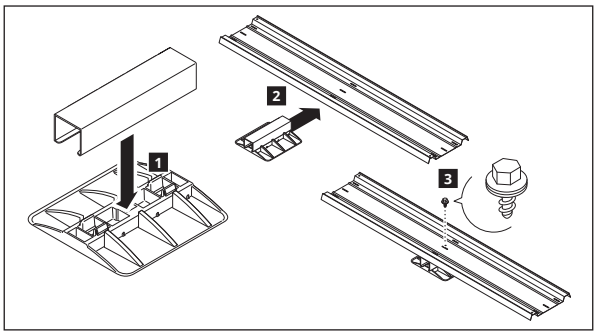
7. Place a ballast rack crosswise on two rows of base units. Align the holes in the base unit with the slots in the ballast racks and fasten with one short screw per side. Tighten the screws with 3 to 4 Nm.

COMMENT **Lay the ballast racks located at the outer edge of the field as far as possible towards the field edge. An extra hole is provided in the base unit at position B for this purpose.**



8. Follow the ballast plan to lay all the ballast racks.

COMMENT **When using double ballast racks, place one ballast rack in position A and one in position B.**



9. Optional: Press the ballast support onto a foot, slide it under the centre of a ballast rack and secure with a short screw.

COMMENT **Follow the configuration and ballast plan to lay all the ballast supports.**

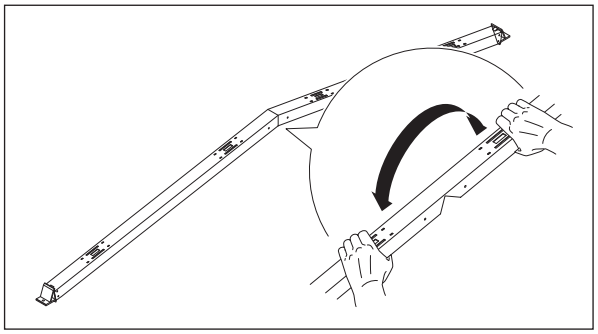
10. Place the ballast on the ballast racks.

COMMENT

- Place the ballast as described in the ballast plan.
- Only use the type of ballast as described in the ballast plan
- Always lay the ballast as far as possible towards the base units.
- Never stack ballast.

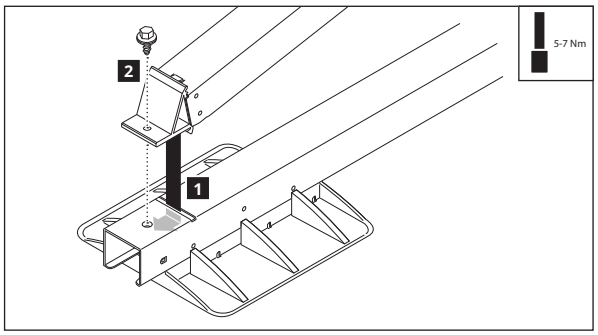
11. Lay out any return cables required.

Placing carriers



12. Bend the symmetrical carrier with two hands over the knee point and place it directly on the base unit.

COMMENT **Never bend the knee in the wrong direction.**

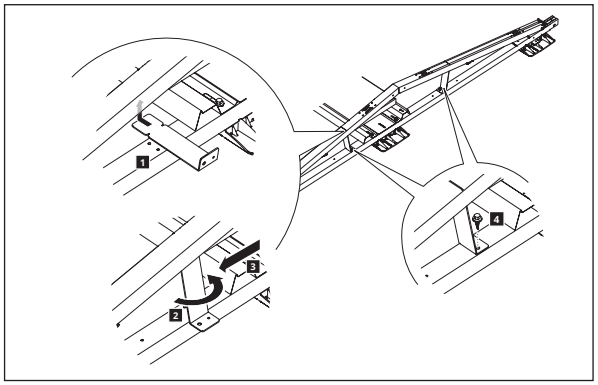


13. Push both yellow end blocks of the symmetrical carrier into the slots of one of the base units and fasten with two short screws. Tighten the screws with 5 to 7 Nm.

COMMENT **Make sure the holes of the end block and the base unit are directly aligned above each other.**

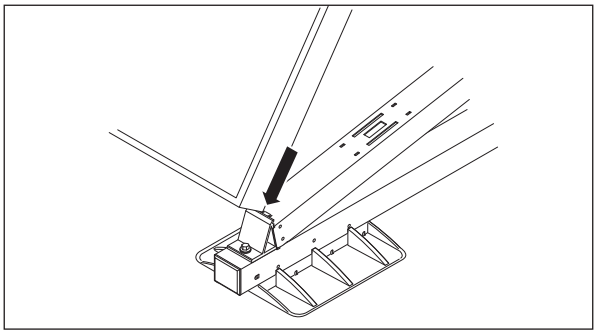
Carrier reinforcement (optional)

COMMENT **The Sunbeam calculator software determines whether the optional carrier reinforcements are required and included. If the carrier reinforcements are not included, proceed to step 17.**

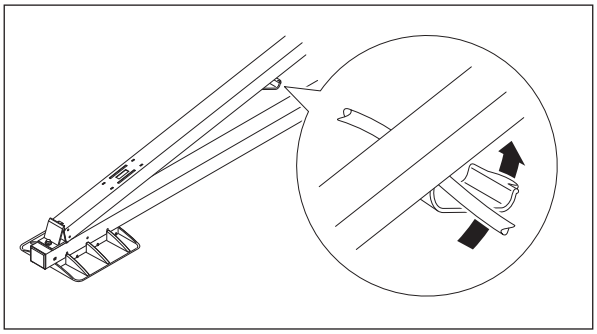


14. Hook the carrier reinforcement into the profile of the symmetrical carrier and rotate a quarter turn. Press through the resistance of the profile to clamp the carrier into the profile.
15. Slide the carrier reinforcement down at an angle until the underside rests on the base unit.
16. Fix the bottom of carrier reinforcement to the base unit with a self-drilling screw. Place two carrier reinforcements per symmetrical carrier.

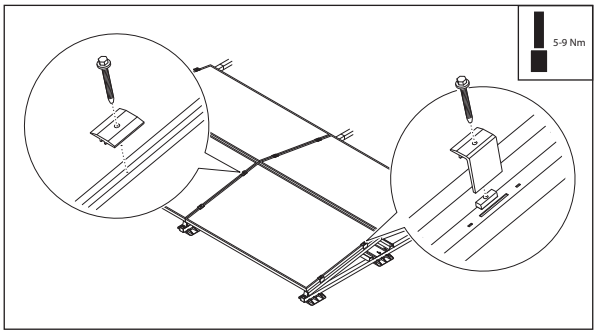
Placing the panels



17. Place a solar panel against the yellow end blocks of the universal carrier and keep it upright.



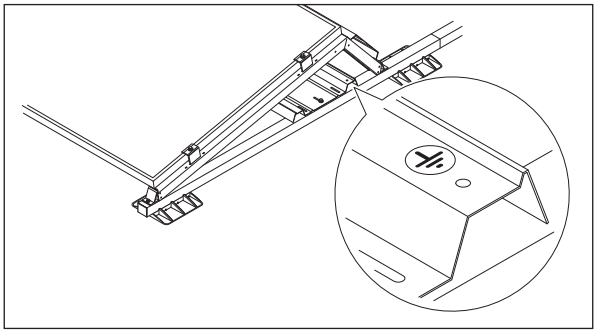
18. Connect the solar panel to the adjacent solar panel and attach the cables in the cable clips located at the bottom of the symmetrical carrier.
19. Lay the panel down on the symmetrical carrier.



20. Attach the end clamps and mid clamps with clamp screws to the universal carriers to clamp the solar panels. Tighten the screws with 5 to 9 Nm.

COMMENT **There is a gap of about 10mm between two panels.**

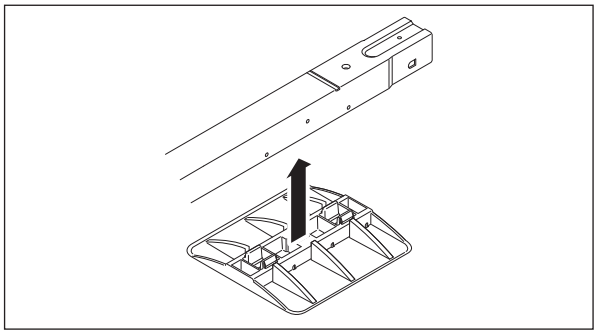
Finishing



21. If required, level the fields by using the 6mm hole in the ballast rack.

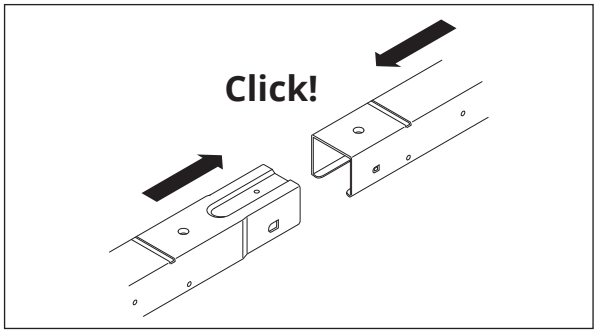
Symmetrical Portrait
installation

Placing the feet and base units



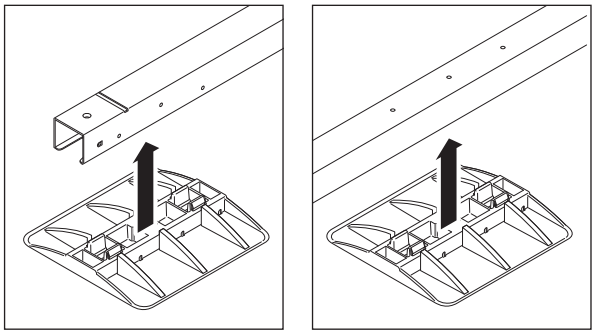
1. Press a foot under the end of each row of base units.

COMMENT **The feet snap into place at the holes in the side of the base unit.**



2. Lay the base units on the roof according to the configuration plan and slide them together as far as they will go.

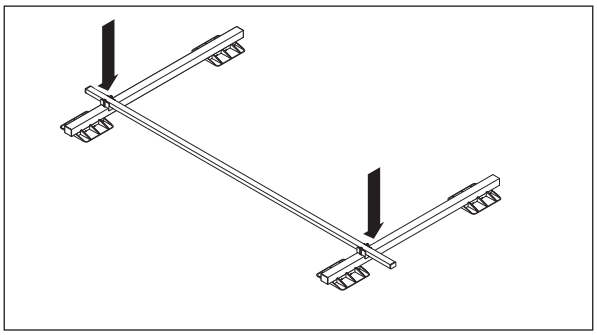
COMMENT **Some configurations use two different sizes of base units. Follow the instruction in the configuration plan for the correct order.**



3. Press a foot under the beginning of each row of base units.
4. Press a foot under the centre of the base unit where a ballast rack will lie.

COMMENT **Follow the ballast plan.**

Placing the ballast racks and ballast

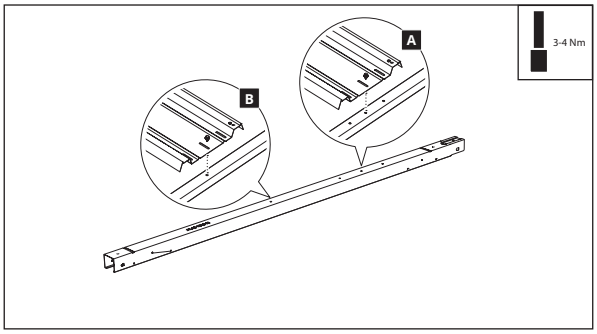


5. Place the sliding blocks of a set sizing tool on two base units lying side by side.

COMMENT **Make sure the outer row of base units remain in their marked position.**

6. Repeat the previous step until all the base units are in place.

COMMENT **Once the first three rows of base units are positioned, the first ballast racks can already be placed.**



7. Place a ballast rack crosswise on two rows of base units. Align the holes in the base unit with the slots in the ballast racks and fasten with one short screw per side. Tighten the screws with 3 to 4 Nm.

COMMENT **Lay the ballast racks located at the outer edge of the field as far as possible towards the field edge. An extra hole is provided in the base unit at position B for this purpose.**

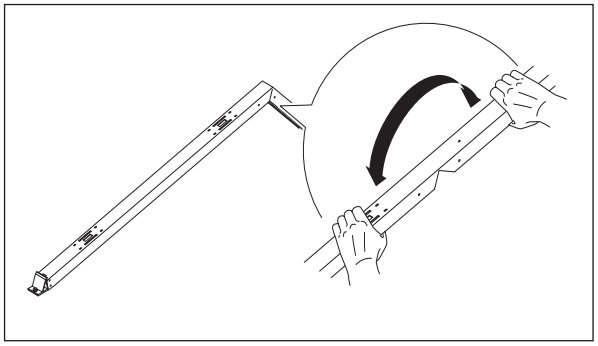
8. Place the ballast on the ballast racks.

COMMENT

- When using double ballast racks, place one ballast rack in position A and one in position B.
- Place the ballast as described in the ballast plan.
- Only use the type of ballast as described in the ballast plan
- Always lay the ballast as far as possible towards the base units.
- Never stack ballast.

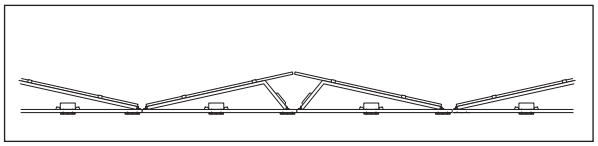
9. Lay out any return cables required.

Placing the carriers and panels



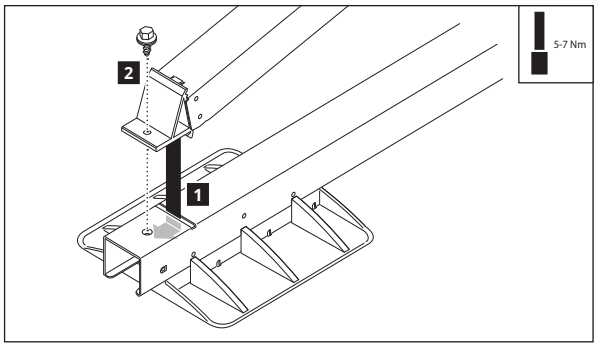
10. Bend the symmetrical portrait carrier with two hands over the knee point and place it directly on the base unit.

COMMENT **Never bend the knee in the wrong direction.**



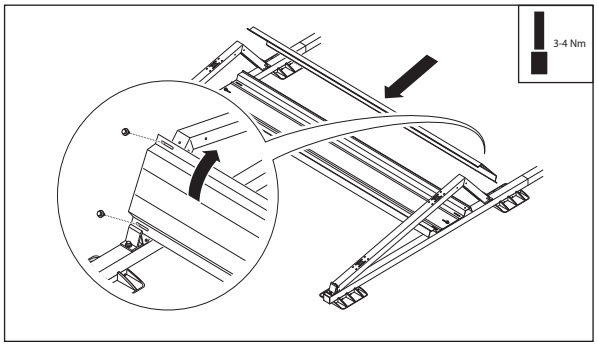
11. Place one bent symmetrical portrait carrier on a base unit.

COMMENT **Place every second carrier backwards.**



12. Push both yellow end blocks of the symmetrical portrait carrier into the slots of one of the base units and secure with two short screws. Tighten the screws with 5 to 7 Nm.

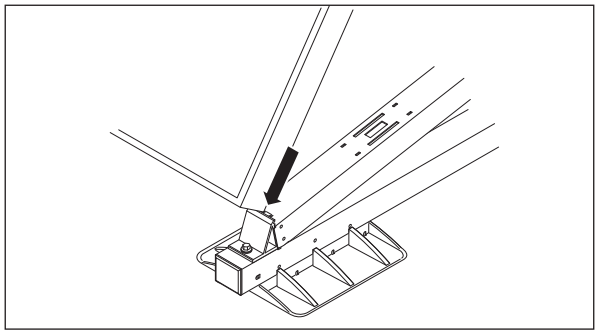
COMMENT **Make sure the holes of the end block and the base unit are directly aligned above each other.**



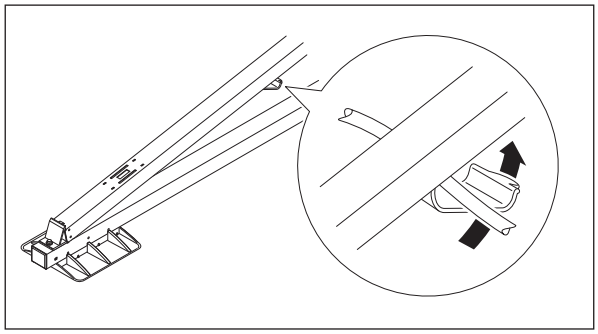
13. Place a wind plate on the back of a symmetrical portrait carrier and secure with two short screws per side. Tighten the screws with 3 to 4 Nm.

COMMENT With Symmetrical Portrait, the wind plates are not required at every position, follow the configuration plan for correct placement.

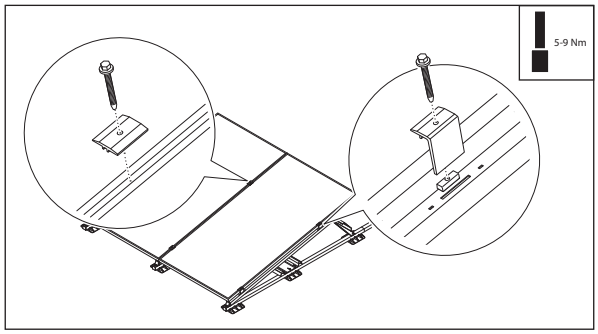
Placing the panels



14. Place a solar panel against the yellow end blocks of the symmetrical portrait carrier and keep it upright.



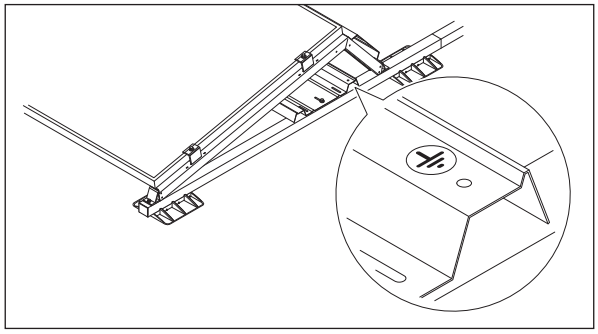
15. Connect the solar panel to the adjacent solar panel and attach the cables in the cable clips located at the bottom of the symmetrical portrait carrier.
16. Lay the panel down on the symmetrical portrait carrier.



17. Attach the end clamps and mid clamps with clamp screws to the universal carriers to clamp the solar panels. Tighten the screws with 5 to 9 Nm.

COMMENT **There is a gap of about 10mm between two panels.**

Finishing



18. If required, level the fields by using the 6mm hole in the ballast rack.

Sunbeam **Nova**

EN

Installation manual

Safety standards

The national regulations in the country of installation must be observed at all times. Make sure you are aware of the safety measures prescribed by Sunbeam or the country of installation. If in doubt, consult your safety officer. Ensure safety or health hazards are shared with the employer, supervisor and executive worker for their information.

General safety

- For the Netherlands: Working Conditions Decree Articles 3.16, 7.23 and 8.1 to 8.3.
- For Belgium: General Regulations for Occupational Health and Safety (ARAB).

Electrical installation

- For the Netherlands:
  - NEN1010 - Chapter 7.12
  - NPR 5310 - Chapter 7.12
  - NEN 3140
- For Belgium: General Regulations on Electrical Installations (AREI).

Roof construction and various loads

- General:
  - EN 1990
  - EN 1991-1-3
  - EN 1991-1-4
- For the Netherlands: NEN 7250

Sustainability

As a manufacturer and supplier of panel mounting systems, we are committed to protecting the environment. In the event of a faulty system, please contact Sunbeam first. It may still be possible to repair the system.
Should you need to dispose the system, please dispose of the system according to the local applicable regulations. By properly disposing of the various materials, you will help prevent potential hazards to the environment and human health. The recycling of materials also contributes to the conservation of natural resources.

Warranty

Please refer to **www.sunbeam.solar/en** for warranty conditions.

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This is the English translation of the original Dutch installation manual