

Assembly introductions



The flat roof mounting system VarioTwin Large is a new patentpending system, developed by SOLAR-DIREKT, which impresses with its variable shape and stability.

An absolute highlight of the product is the fact that it can be extended indefinitely and is only limited by the amount of space available. Thanks to the variability of the installation it can be positioned without gaps between the individual elements and is therefore not susceptible to wind damage. Owing to the VarioTwin Large's design virtually all standard solar modules can be fitted horizontally. The individual elements are connected using the VarioTwin Large stacking system. The universal construction and resulting flexible installation also ensure that it is easy to determine the optimal amount of ballast required.

The side opening on the VarioTwin Large prevents heat accumulation and subsequent reduction in efficiency of the solar panels. Additional holes drilled into the stand have a dual function allowing water to run off and cable clips to be secured.



VarioTwin Large

The (r)evolution in mounting systems

- ✓ Quick and easy installation, minimal ballast requirements
- ✓ Suitable for virtually all standard solar panels
- ✓ Optimal cooling effect thanks to built-in side openings
- ✓ Installation without roof penetration
- ✓ Permits installations of any length
- ✓ tt material / non-conductive

SOLARDIREKT

Dear Customer,

Many thanks for deciding in favour of the mounting system VarioTwin Large for the installation of PV modules on your roof!

You have purchased a product which is manufactured to the highest quality standards.

- Before installing please read these safety instructions and check that the installation area (flat roof) is designed for the additional roof load
- The roof load depends on various factors.
Ask about the factors on site.
- Instruction sheet for specialists (not end consumer)!

We wish you all the best with our mounting system!

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Overview of system components:

- **Included in delivery:**

1 SDT VarioTwin Large

Material: HDPE

Colour: black

- **Accessories:**

- Building protection mat

- Anti slip mat

- Protection fleece

- Separation fleece

- SDM rail 40/40

- Bolt kits for SDM rails

- Module end clamp and fixings

- **Ballast weight:**

- for example gravel, stones or concrete slabs

Updated: June 2012

We would like to point out that our product corresponds to technological advances. However, we are not obligated to make changes to your system if it no longer corresponds to the condition depicted here.



Safety instructions

Safety-conscious working

- Keep in mind:
 - Safety instructions on this instruction sheet
 - Internal operation and safety procedures
 - Existing national regulations for accident prevention
 - Safety and accident prevention regulations of the relevant government safety organization

Preparation

Make yourself familiar with all the components and their functions before starting work.

Determine the allowable loads, weight, the wind and snow loads according to current standards and regulations.

Secure the work area prior to installation.

During installation

The mounting system itself must not be changed or modified.

You have to consider the environmental conditions (wind, rain, etc.).

Check that it is set up and secured properly.

General

Usage

SDT VarioTwin Large is made for easy flat roof installation. The redeveloped shape provides for optimum use of the space due to the variable adjustable range.

The VarioTwin Large flat roof system is suitable for longitudinal bracing.

Intended use

You may only install the SDT VarioTwin Large:

- if you have read and understood the instruction sheet and the safety instructions
- if you are a specialist
- if you have considered all circumstances on site and your specifications match the requirements.

If you are not sure, we recommend a statical calculation in accordance with the current standards and instructions on the installation site. If the mounting system should be in use for a purpose other than the one mentioned above, we as the manufacturer will not bear responsibility or liability for safety and warranty. In this case only the operator bears the risk.

Technical Data Sheet:

SD VarioTwin Large 27

Length:	1.600 mm	Material:	HDPE
Height:	480 mm	Colour:	schwarz
Width:	610 mm	Angle:	27° Grad
Flange dimension/depth:	470 mm	Weight:	5,46 kg

SD VarioTwin Large 15

Length:	1.700 mm	Material:	HDPE
Height:	261 mm	Colour:	schwarz
Width:	1.045 mm	Angle:	15° Grad
Flange dimension/depth:	470 mm	Weight:	6,06 kg

We reserve any changes in the course of technical development.

Assembly introductions

Before installation

Did you check the load bearing capacity of the installation area?

You can find some calculation examples at www.solardirekt.com.

- Check that the mounting surface is not damaged
- Determine the alignment of the system (south-facing)
- Transport the flat roof mounting system and tools to the installation area

Please heed the safety instructions while working on the installation area.

If needed, use separating fleece or a building protection mat as a base for the VarioTwin Large.

Use separating fleece on roofs with synthetic film

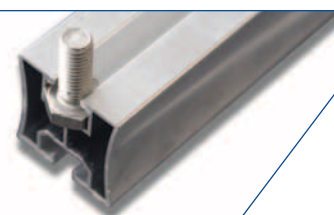
(serves as a separation between the granulated rubber mat and the plastic roof foil to prevent softening).

The use of building protection mats prevents the VarioTwin Large from slipping and protects the roof panel.

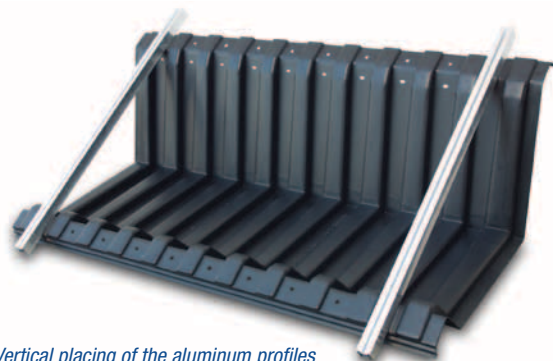
- Place the aluminum profiles on the VarioTwin Large mounting system either horizontally or vertically



M 10 hex head screw



- Mounting rails are not included. Enquire separately with SOLARDIREKT ENERGY or use rails provided by the client (up to a width of 50mm)
- Fit the screw set into the mounting rails.
- Slide the screws to the level of the fixing holes in the VarioTwin Large mounting rails.
- Turn the profiles. The screws are now in the fixing hole.
- Secure the bolts from below with M 10 flange nuts
- Slide SD nut into the groove at the top of the rail ready to receive the SDM end clamp
- Fill the appropriate amount of ballast into the VarioTwin Large flat roof mounting system, according to the calculation for ballast on your datasheet VarioTwin Large.
- The load depends on several factors. You will find some examples for the calculation of load on www.solardirekt.com



Vertical placing of the aluminum profiles



Horizontal placing of the aluminum profiles