

VAN DER VALK



Solar mounting systems for flat roofs



Modular design • **Rapid and simple installation**

Every required angle of inclination • Innovative, high-quality and durable

Developed in accordance with the Eurocode standard • **Reliable**

Suitable for every type of solar panel • Rapid, reliable delivery

We support your investment

Customised power station

As the efficiency of solar systems is largely dependent on the mounting system in which they are fitted, Van der Valk Solar Systems decided to specialise in mounting systems. The results are evident in systems that distinguish themselves in terms of their durability, reliability and ease of assembly, as well as their range of applications. Van der Valk Solar Systems has developed a complete range of fixed and tracking systems suitable for virtually every conceivable base, such as open fields, roofs and water features. Moreover, Van der Valk is, above all, a consultant who can carry out the calculations and prepare the drawings required to offer you the most efficient system in every unique situation – a customised power station wherever the sun shines. We are pleased to offer you this brochure with more information about our fixed mounting systems for flat roofs.



Reliable and safe to operate

In collaboration with TNO (the independent research agency in the Netherlands), the SolarTop calculation programme was developed. The different variables available (geometry, maximal local wind load, type of foundation, etc.) are used to calculate all of the factors that influence the reliability of the system, such as the necessary construction strength, the optimal number of points of support and the most economic type of foundation. Our systems are extensively tested in Computational Fluid Dynamics simulations (CFD), in which they are exposed to air flows and turbulence corresponding to wind force Beaufort 12. Our mounting systems have also been tested by TÜV Rheinland.



OUR UNIQUE DESIGN TOOL MAKES EVERYTHING CLEAR IN JUST 3 SIMPLE STEPS!

Van der Valk Solar Systems developed a unique software tool, the 1-2-3 PV Planner, that enables dealers, installation companies and project organizations to carry out rapid project calculations and provide you substantiated advice on the foundation method that will be required for your specific project. This software can be used to prepare complete projects in just 3 simple steps:

Step 1

Project information

Enter the standard project information, such as the reference number, location and the discount.

Step 2

Design center

Make the drawings for the project. The drawings are then used to generate the complete calculations.

Step 3

Foundation center

Determine the foundation that will be required on the basis of the location's dimensions. This calculation is based on the prevailing standards integrated in the design tool in consultation with TNO.

The installer's assembly instructions for the each project can also be printed. For certain systems the 1-2-3 PV Planner is still under construction. Please ask for the possibilities.

Van der Valk Flat Roof Clamp

Free space for a profitable additional function

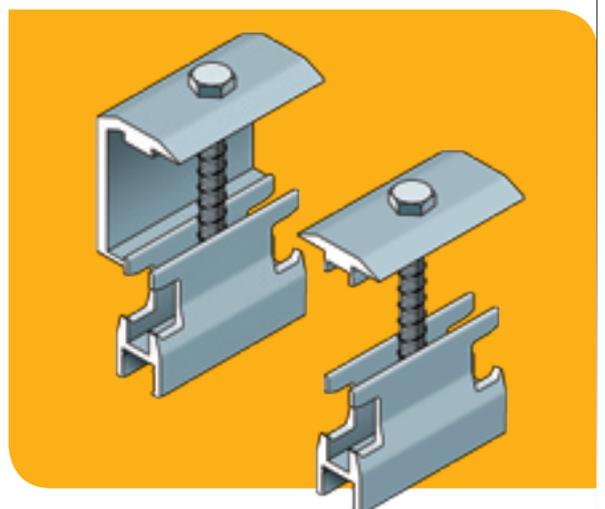
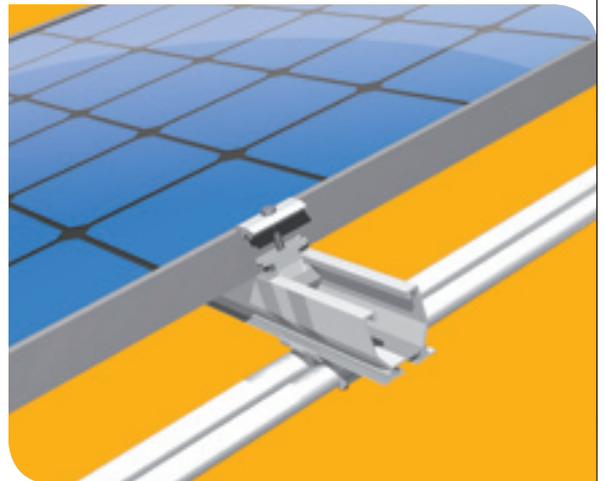


Installing solar panels on (utility) buildings is a logical development, as the roof offers free space and often offers a surface large enough for a profitable additional function. Van der Valk's solar mounting system for flat roofs was developed with full attention to roof and wind loads and, consequently, complies with the most stringent safety requirements.

Since a flexible mounting system is required to make maximum use of the roof area, Van der Valk's flat roof systems have a lightweight adjustable frame that can be set to every required angle of inclination. The optional mounting of the solar panels in either landscape or portrait configurations contributes to the ability to configure the optimum dimensioning of the system to the available area – which is beneficial to the achievement of the highest possible efficiency.

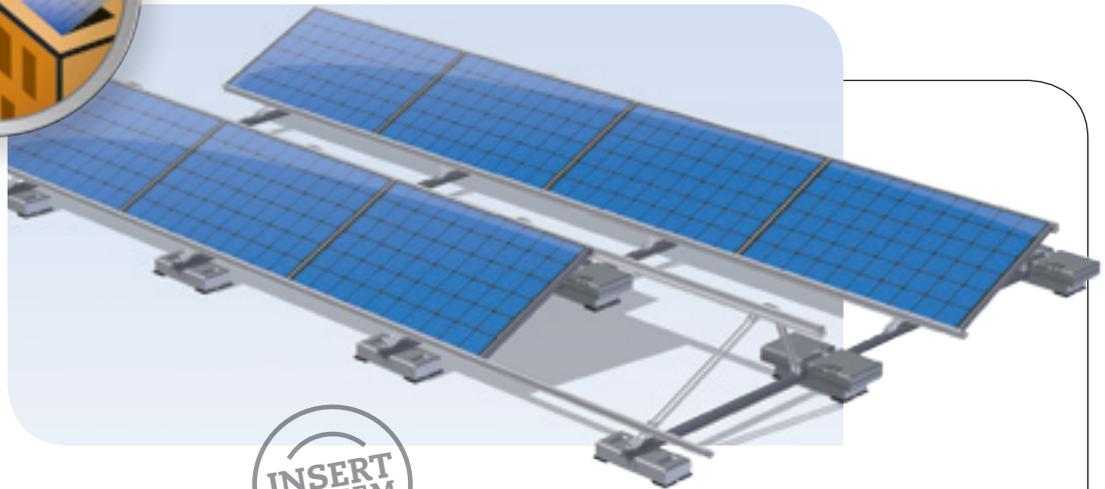
The use of preassembled A-frames contributes to the rapid and easy assembly of the system. Coupling the rows together creates a sleek, stable structure that can withstand fierce gusts of wind. Nevertheless, the system is weighted with a usually minimal amount of ballast to achieve an even higher safety level. The amount of ballast required can be calculated using the special design tool, the 1-2-3 PV Planner.

Panel clamps are used to mount the panels onto the Flat Roof Clamp system. Clamps with a special finish are used on the edges of the assembly. Both types of clamp are supplied with captive bolts and nuts, so all you need to do is hook the clamps into the profile and tighten them. These multi-profiles can also be used with the Van der Valk Pitched Roof Insert system. The Flat Roof Clamp system is suitable for use with every type of panel.



Van der Valk Flat Roof Insert

A sleeker appearance and the fastest installation procedure

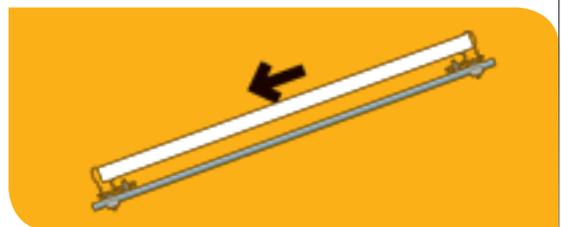
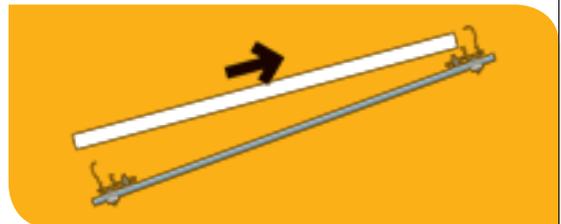


The Van der Valk Flat Roof Insert system offers the fastest installation of solar panels on flat roofs. The special insert profiles enable installers to mount large numbers of solar panels on flat roofs at an extremely rapid pace.

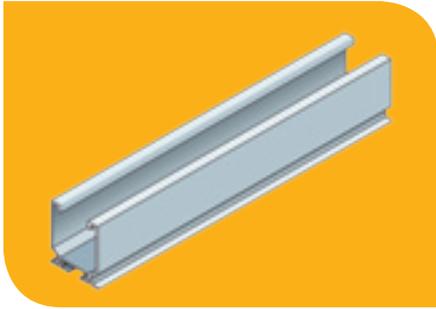
The Flat Roof Insert system uses the same adjustable base frame used for the Flat Roof Clamp system, which contributes to the optimum dimensioning of the assembly to the available space. The rows are also coupled in this system, which results in an extremely stable assembly that can withstand high wind loads. See the box for the special design program, the 1-2-3 PV Planner.

The use of preassembled A-frames contributes to the rapid and easy assembly of the system. The system is mounted on mass blocks (3 types) for optimum drainage of the roof surface. Large installations incorporate expansion joints to absorb the expansion and contraction of the assembly.

The greatest difference from the Flat Roof Clamp system lies in the method used to mount the solar panels. The Flat Roof Insert system uses solely insert profiles, without multi-profiles and panel clamps. These profiles are mounted on the top and the bottom of the A-frame, after which the panels can simply be slid into place. As panel clamps are not needed with the Insert system the panels can be slid even closer together, which results in an even sleeker appearance. Moreover the outer profiles create an attractive frame around the panels. The insert profiles can also be used with the Van der Valk Pitched Roof Clamp system. The Flat Roof Insert system is suitable for use with every type of panel.



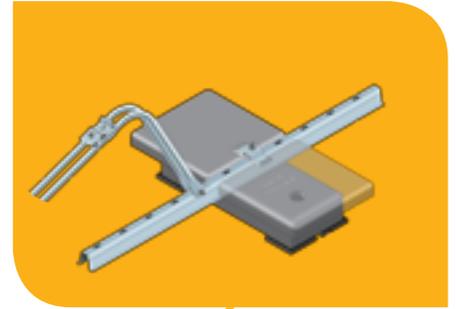
Our unique components



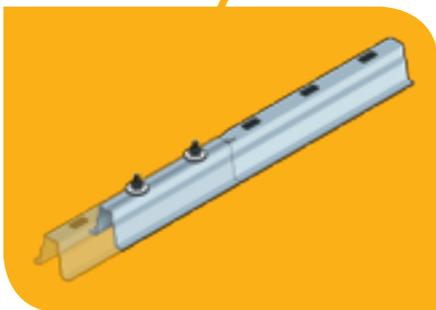
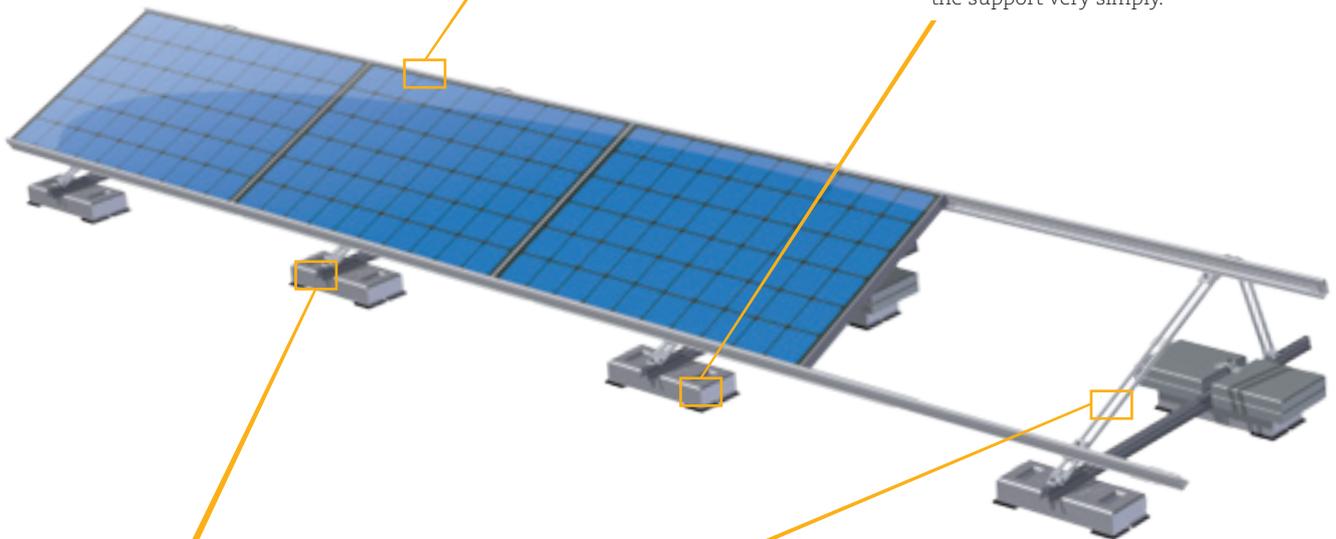
The **multi base profile** is multifunctional in every sense. The unique design combines an optimum strength with maximum functionality.



With the **insert profiles** mounting the panels is even easier and results in a sleek assembly.



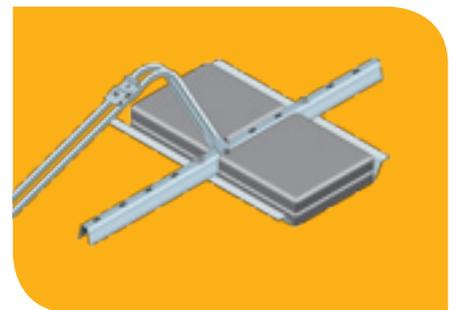
The Van der Valk Solar Systems **mass block** provides the optimum ballast for installations mounted on flat roofs. As the roof support's base weighs 20 kg, this weight of slabs is no longer required. Any additional tiles that are required can be placed on the support very simply.



The strong design and ingenious slots in the **steel roof supports** create a sturdy base for every flat roof system. The rows of panels can be coupled very easily via the roof supports to create a strong assembly.



The **A-frames** can be delivered with every required angle of inclination. They are delivered preassembled, with the handy mounting clamps fitted at precisely the right dimensions for the relevant panels. This greatly reduces the assembly time required on site.



The handy **foundation trays** can be used for the ballast required for the flat roof system. The required weight of ballast (30 x 30 cm concrete tiles) can be stacked in the trays. The trays are delivered with preassembled rubber tiles.

Van der Valk Solar Systems

Van der Valk Solar Systems is a specialist company that is fully focused on developing and producing mounting systems for use with solar panels. To this end we work in close collaboration with Van der Valk Systemen, our sister company. Van der Valk Systemen has been a well-known name in the field of moving systems and stationary components for the greenhouse horticultural sector and industry throughout the world since 1963. Van der Valk Systemen's high quality products have been individually developed from a scientific approach and produced with mathematical precision. They are made to be low-maintenance and to stand out thanks to their durability, reliability, functionality and ease of assembly. Both Van der Valk Systemen and Van der Valk Solar Systems only introduce innovative products to the market. Our shared business complex consists of 20,000 m² of offices and production facilities, in which modern machinery and the latest technologies facilitate development, manufacturing and testing that is fast, flexible and precise.

VAN DER VALK SOLAR SYSTEMS OFFERS YOU:

- **Innovative systems of European quality**
- **Rapid, reliable deliveries**
- **Maximum technical support**
- **Tracking and fixed mounting systems for:**



Open fields Pitched roofs Flat roofs Greenhouses Water features

VAN DER VALK



The mounting systems of Van der Valk Solar Systems are delivered and installed by an extensive network of dealers (installation companies and project organizations). We are happy to help you look for the correct point of contact in your area.

New for flat roofs!

An East West system for maximal yield per m², the **Van der Valk Flat Roof East West**. Please contact us for more information or download the brochure at www.valksolarsystems.nl.

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PLEASE CONTACT VAN DER VALK SOLAR SYSTEMS, YOUR INSTALLATION COMPANY OR PROJECT ORGANIZATION FOR FULL INFORMATION.