

FS System Gen 6

The ground-mounted system

- No soil sealing
- Extremely short assembly time
- Highest level of pre-assembly
- Perfectly synchronized system components
- Long service life due to optimal combination of materials
- Optimum accessibility for terrain maintenance (central support)
- 10 year guarantee



Our ground-mounted systems have proven themselves for many years in countless projects almost all over the world. Opting for a substructure made by Schletter - such as FS Gen6, for example - safeguards structural safety, maximum economic efficiency and long durability of ground-mounted solar plants.

The FS system is ideal for quick and economically efficient realization of big solar projects with any desired solar modules and horizontal or vertical module arrangement. Pile-driven steel foundation posts with a special profile shape are the basis of all systems of this series. This central support safeguards the best possible anchoring in the soil, minimum soil sealing as well as optimum accessibility and usability of the terrain for agricultural purposes.

Unfold it . Position it. Fasten it. That's it!

The module-bearing structure is made of aluminium, pre-assembled by almost 100% in our plant and delivered just-in-time to the installation site in any desired quantity. It only takes a few work steps to fasten the girder assembly groups to the pile-driven foundations.

Thanks to an individual system structural analysis and maximum material utilization, you will get an economically and technologically efficient solar system. Special focus has been put on the shortening of assembly times, fewer bolted connections, stable profile geometries, better adjustment options and a maximum level of pre-fabrication speed up the assembly on the construction site.

Everything from one source!

We manufacture all components ourselves in our factory. Thus, we can avoid shortages and can offer you high quality products at the same time. We supply modular systems for any kind of foundation, any subsoil and any kind of mounting.

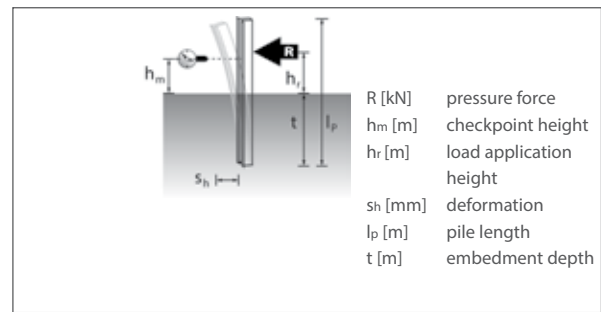


*The terms of guarantee can be referenced at www.schletter.de/AGB_en

Structural safety first

The detailed and individual project planning on the basis of currently valid standards safeguards the structural safety of the solar plant for many years. But of course that is not all. A geological survey of the building ground is created on location. The load-bearing capacity of the soil is determined by means of load tests.

- Inclined pull tests
- Horizontal pressure tests
- Creation of soil profiles
- Chemical analysis in a laboratory



Mechanical background of inclined pull-out tests

The basic idea of inclined pull tests is that the wind impacts the inclined module area almost vertically. Thus, a surface pressure is created from the application of the bending moment in the form of a pair of forces. With inclinations higher than 15°, the frictional resistance between the pile and the surrounding ground is generally higher than the jacket friction which results in a greater pull resistance.

Built to last

Hot-dip galvanized foundation posts in different size categories are used for the foundation in order for the anchoring forces to be transmitted up to the upper connection point, thus ensuring optimal structural safety of the plant against wind and snow loads. The profile designs we have developed safeguard optimum anchoring in the ground combined with maximum bending stiffness.



Great performance: Up to 250 pile-driven supports per day

Special terrain-friendly hydraulic pile-drivers are used for the pile-driving of the foundation posts into the soil. This pile-driving technique is very suitable for large ground-mounted solar plants. Depending on the condition of the soil, one pile-driver can pile-drive up to 250 posts a day. Mounting on steep slopes is also possible. If the subsoil is rocky, the machine can be equipped with a boring unit.



Everything just fits

The support geometry is the skeletal structure of each FS plant. After all, the individual support base is the crucial factor because it must optimally utilize the structural characteristics of the ground anchoring and the good load-bearing capacity under moment loading. By deploying a continuous profile up to the attachment head, additional joints (extra mechanical strain and / or risk of corrosion) is avoided.

The reduced number of components as well as the almost 100% prefabrication of the girder assembly group in the factory reduce the assembly time to a minimum. The systems facilitates quick and economically efficient solar plant construction.



Versatile rail profiles

The module-bearing rail always has a profile geometry that is aligned to the flow of forces. Thus, the required structural characteristics are achieved with minimum utilization of materials. Mounting grooves are incorporated into all rails to facilitate assembly. The module-bearing rails are fastened to the support units by means of special mounting clamps.



The solar modules are fastened to the rack using suitable tools. The arrangement of the modules is project-specific: They can either be arranged vertically, horizontally or with the combined clamping system by Schletter.



Technical data

Material	<ul style="list-style-type: none"> • Pile-driven foundation posts: Steel, hot-dip galvanized • Rails: Aluminum MgSi05 /EN AW 6063, EN AW 6005 • Fastening elements, screws/bolts: Stainless steel 1.4301
Design	<ul style="list-style-type: none"> • Fine adjustment option to align the pile after pile-driving • Cost-optimized complete construction due to structural optimization • Components designed for quick and easy mounting
Module clamping¹	<ul style="list-style-type: none"> • Framed and unframed modules • Combined module clamping possible • With standard clamps or Rapid 2+ clamps • Fastening systems for large-surface laminate modules (OptiBond)
Accessories¹	<ul style="list-style-type: none"> • Cable channels, cable ducts • Lightning protection system (FS Protect system) • Components for internal potential equalization
Logistics	<ul style="list-style-type: none"> • Highest level of pre-assembly • Quick transport to the installation site
Delivery and services	<ul style="list-style-type: none"> • Site-specific structural analysis based on local wind and snow load data • Delivery of the complete mounting material • Optional: Soil examination and soil statics • Optional: Pile-driving of the foundations, rack and/or module mounting
Design calculations	<ul style="list-style-type: none"> • Structural analysis of the respective terrain based upon a geological survey • Individual system statics based on regional load values • Load assumptions according to DIN EN 1990 (Eurocode 0), DIN EN 1991 (Eurocode 1), DIN EN 1993 (Eurocode 3), DIN EN 1999 (Eurocode 9) and further respectively corresponding country-specific technical standards • Rail geometries with highly efficient material utilization • Structural verification of all construction components based on FEM-calculation • Optional: Wind load vibration simulation • Optional: Earthquake simulation
Terrain maintenance	<ul style="list-style-type: none"> • A central support allows optimum terrain maintenance • Sheep grazing

¹ module clamps and accessories are listed in our component overview. You will also find them in the download area of our website at: <http://www.schletter.eu>