

SELF BALLASTED MODULAR STRUCTURE IN REINFORCED CONCRETE IDEAL FOR THE CONSTRUCTION OF SOLAR FARMS ON DUMPING SITES AND LOOSE RUGGED TERRAIN AND ON STEEP GROUND WHERE TRADITIONAL SYSTEMS ARE NOT APPLICABLE.

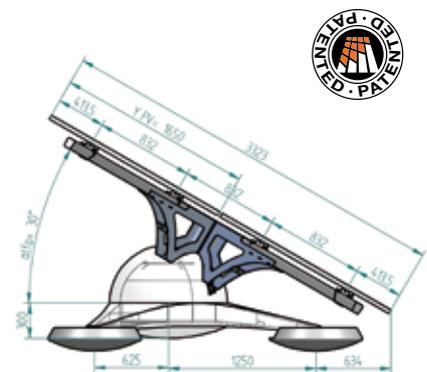
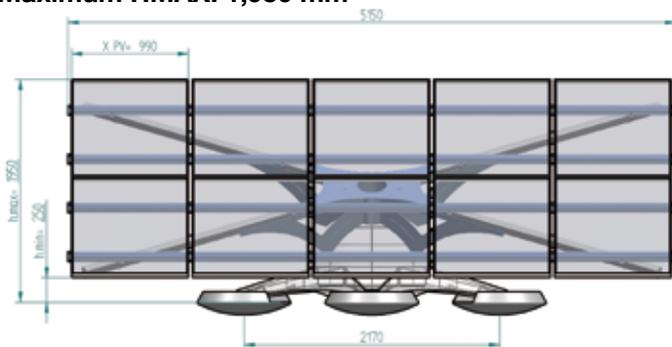
MODULAR ELEMENT CONFIGURATION FOR GEKO STANDARD:

2 VERTICAL MODULES

5 HORIZONTAL MODULES

Maximum HMIN: 250 mm

Maximum HMAX: 1,950 mm



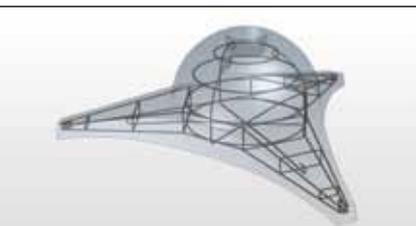
Rows	Columns	Alpha	X	Y	LI	H.min	H.max	Module
No.	No.	°	mm	mm	mm	mm	mm	No.
2	5	30	990	1650	5150	250	1950	10

Alpha Module tilt angle to horizontal plane;
 LI Overall length of beam;
 Hmin Minimum installation height from ground;
 Hmax Maximum installation height from ground;

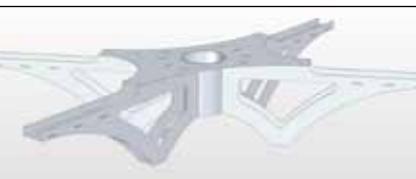
ADVANTAGES:

- ▀ No foundations or anchors: self ballasted base;
- ▀ Total resistance against corrosive elements, including acidic terrains or characterized by free currents;
- ▀ Can be positioned on loose ground that is dig resistant, with tilts up to 50%;
- ▀ Reliability during variable solicitations (wind) thanks to high inertia properties of the system;
- ▀ Direction easily adjusted and can be corrected in case of partial failure of the base placed on loose ground;
- ▀ Rapid positioning thanks to its modularity and factory pre-assembly of the photovoltaic modules;
- ▀ Use of non-corrosive and fully-recyclable materials;
- ▀ Broad system versatility thanks to the modularity and adjustability of each component.

COMPONENTS



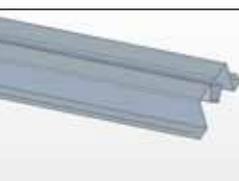
BASE: is built in Stressed Reinforced Concrete through the experience of Valente SpA. The particular form of the self ballasted base ensures proper load distribution, ground anchoring and plant stability. The rounded configuration of the top part allows solar module orientation.



KULLA: built in galvanized steel pursuant of UNI-EN-ISO 1461 with connection screws in flame galvanized steel acts as the longitudinal structure for mounting and adjusting the support cross member. The joint is realized through a series of high-resistance cables and ties that allow adjustment from -45° to $+45^{\circ}$ in opposition to the flat surface, both longitudinally and laterally.



BEAMS: the beams are made with the technique of prestressing that provides greater strength and durability, according to the experience of Valente SpA, a market leader in the production of reinforced vibrato and prestressed poles. Characteristics: lack of corrosion over time even if driven in acid soils and in the presence of salt; frost resistance; resistance to stray eddy currents, as the concrete is not electrically conductive; elasticity and flexibility in case of shock and vibration; structural stability due to the high inertia of the product. Concrete poles quality is guaranteed through a special certificate from DNV Product Quality, which certifies durability, frost resistance and outstanding mechanical strength.



CROSS-MEMBER: The cross-members are made from profiled stress-resistant steel belts. The profile contains a continuous groove for fastening the modules and a continuous place for cross-member attachment in order to provide maximum flexibility in mounting. The choice of the "omega" open profile is aimed at optimizing load distribution, to avoid the stagnation of rain water and provide support for the passage of the cable sheaths. To solve the problem of oxidation and galvanic corrosion of rails in contact with the photovoltaic panels, the steel surface is protected through the innovative Teknocover coating.



FLEXI: The cross-members are secured to the beams through the universal "Flexi" attachment, patented by Valente SpA.



MODULE BRACKETS: The photovoltaic modules are fixed to the frame with brackets made of anodized aluminum, according to current market standards. This solution ensures the fair distribution of the spaces between the modules and allows free thermal expansion without burdening the structures or triggering dangerous residual stress on the modules themselves. It also allows assembly time optimization. In alternative, custom made framework is built in Teknocover steel in function of the modules employed. These frames are pre-assembled and then directly installed and attached on-site to the load bearing structure. This solution ensures greater on-site protection and better installation time.



EXTENSION AND SHIM PLATE: to further increase the bearing surface and / or ensure the correct level in the presence of loose and rough terrains, additional staking plates that are self-supporting and self-aligning can be applied.

Each plant is sized to withstand wind push and snow encumbrance according to the specific conditions of the installation site.

Each plant comes with a 20-year Guarantee Certificate and the plant disposal declaration once it has reached end of life.

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