EN

Mounting set for flat roof gravel ballasting for gevoSol / sunnySol

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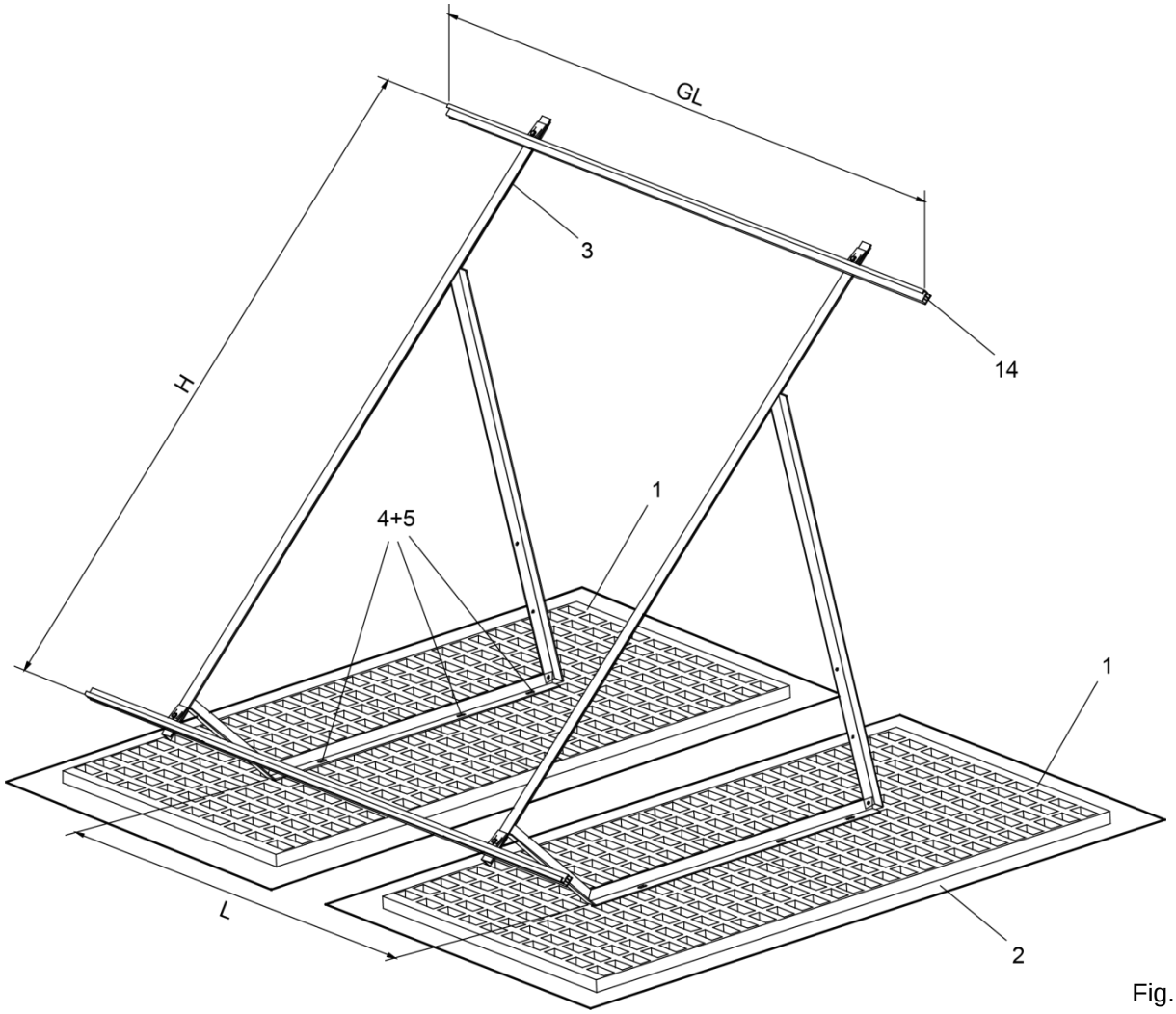

Fig. 1

Pos.	Code	Designation	items per set
1	40044	Base board of polymer with stiffening profiles	1
2	40043	Protective mat	1
3	0331.	Supporting frame vertical / horizontal 40 x 40 x 4 mm	1
4	29223	Disk M10	3
5	29275	Nut M10	3
6	03948	Clamp	2
7	29111	Carriage-bolt M8 x 25 mm_V2A	2
9	29068	Screw M8 x 20 mm_V2A	3
10	1000192047	Nut SS M8_V2A	5

Alu strut			
11	03941	Alu strut l = 2280 mm	1
12	1000192047	Nut SS M8_V2A	2
13	29068	Screw M8 x 20 mm_V2A	2

Required accessories			
14	091..	Mounting profile	2
15	29528	Self drilling screw 4,8 x 16 mm	2
16	09717	Connection piece	2

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1. Determine the position of each single base boards (1) on the roof – considering the given values in the table below (see Fig. 1). Remove the gravel ballasting completely in this area without damaging the roof cladding.

measurements										
Number of collectors vertical, Type 23		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Supporting frames		2	2	3	4	5	6	7	8	9	10
GL (mm) →	see Fig. 1	1070	2200	3330	4460	5590	6720	7850	8980	10110	11240
L (mm) →	see Fig. 1	750	1500	1315	1253	1222	1204	1192	1183	1176	1171
H (mm) →	see Fig. 1	2100									
Number of collectors vertical, Type 26		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Supporting frames		2	3	4	5	6	7	8	9	10	11
GL (mm) →	see Fig. 1	1230	2520	3810	5100	6390	7680	8970	10260	11550	12840
L (mm) →	see Fig. 1	910	910	1037	1100	1138	1163	1181	1195	1206	1214
H (mm) →	see Fig. 1	2100									
Number of collectors horizontal, Type 23		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Supporting frames		2	3	4	5	6	7	8	9	10	11
GL (mm) →	see Fig. 1	2100	4260	6420	8580	10740	12900	15060	17220	19380	21540
L (mm) →	see Fig. 1	1400	1780	1907	1970	2008	2033	2051	2065	2076	2084
H (mm) →	see Fig. 1	1070									
Number of collectors horizontal, Type 26		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Supporting frames		2	3	4	5	6	7	8	9	10	11
GL (mm) →	see Fig. 1	2100	4260	6420	8580	10740	12900	15060	17220	19380	21540
L (mm) →	see Fig. 1	1400	1780	1907	1970	2008	2033	2051	2065	2076	2084
H (mm) →	see Fig. 1	1230									

ATTENTION!

The above mentioned table serves as guideline. The actual required number of rows depends on fixing the structural requirements on site, as well as depending on the application with the applicable standards and regulatory documents, in particular, the standards EN1991-1, DIN1055 and the standard ÖNORM M7778.

2. Place the protective mat (2) below the base boards (1). The base boards have to be adjusted correctly using the three threaded sockets M10 (4 + 5) as illustrated in Fig. 1.

Attention! Take care that no sharp stones remain below the bearing area!

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3. Screw the supporting frames (3) using the screws (9) and nuts (10) as illustrated in Fig. 3.

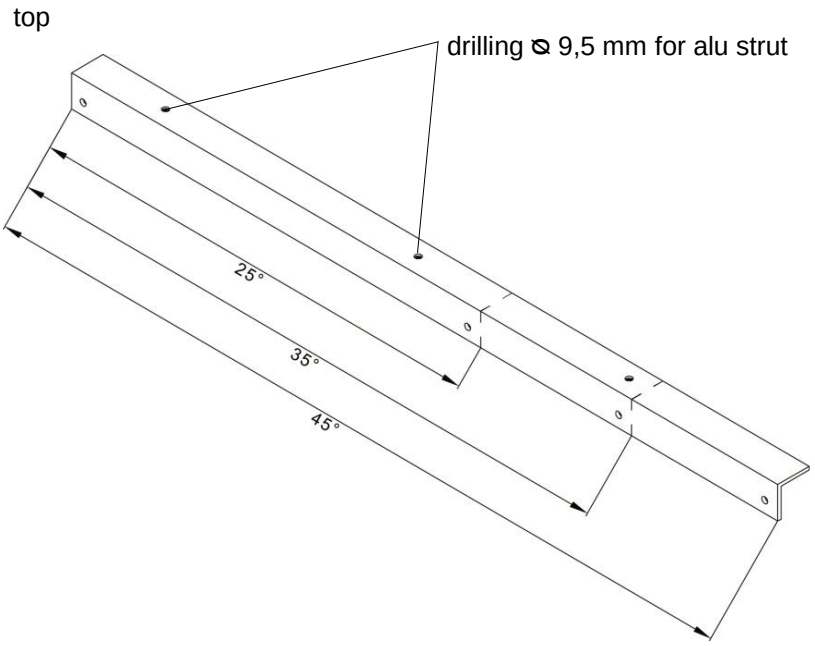

Fig. 2

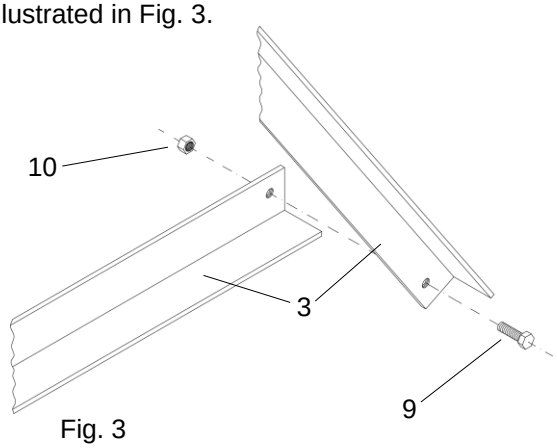

Fig. 3

4. The rear part of the supporting frame is dimensioned for achieving a maximal inclination of 45°. For achieving the inclinations 35° or 25° the profile can be cut according to the length table given below (Fig. 2)!

Length table in mm			
VERTICAL		**HORIZONTAL**	
25°	965	25°	721
30° (optional)	*1070*	*30° (optional)*	*797*
35°	1202	35°	900
40° (optional)	*1303*	*40° (optional)*	*972*
45°	1431	45°	1070

5. The supporting frames (3) have to be mounted in the way that the alu struts (11) can be fixed in the upper part of the supporting frame. It is not allowed to fix the alu struts (11) in the lower part of the supporting frame (Fig. 4)!

Fig. 4: Example with 6 supporting frames and alu struts

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6. Fix the alu struts (11) in the corresponding drillings of the supporting frame using the screws (13) and nuts (12) (Fig. 5). The required drillings of the alu strut have to be made on site. The first alu strut has to be mounted from the lower drilling of the first supporting frame to the upper drilling of the second supporting frame. The second alu strut has to be mounted from top to bottom.

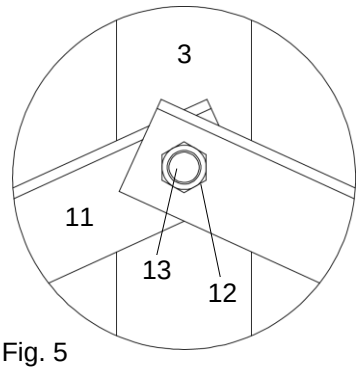

Fig. 5

7. Fix the mounting profile below (14) at the supporting frame in the corresponding drillings using the clamps (6), the screws (7) and nuts (10) (Fig. 6).

8. Now the base board (1) has to be ballasted with a sufficient quantity of gravel. The distance between the mounting profile below (bottom edge of the collector) and the gravel ballasting has to be at least 15 cm for ensuring the perfect ventilation of the collector. The collectors must be loaded with a gravel layer of at least 10 cm or with the statically sufficient value (gravel with grain size 16/32, density 1.800 kg / m³).
In particular, the standards EN 1991-1, DIN 1055 resp. ÖNORM M7778 must be considered (statically calculation).

9. Situate the collectors at the bottom mounting profile (14). Insert the mounting profile (on top) in the corresponding section of the collector (Fig. 6 + 7).
The hydraulic connection between the collectors is done via the screw connections (already fixed on the panel). Tighten the screw connections using 2 spanner wrenches for achieving the correct distance between the collectors.

NOTE! Before screwing of the compounds have the treads and the sealing surface are greased (e.g. silicone milk). It's necessary to pull against while screwing otherwise the collecting pipe could be rotated!!!

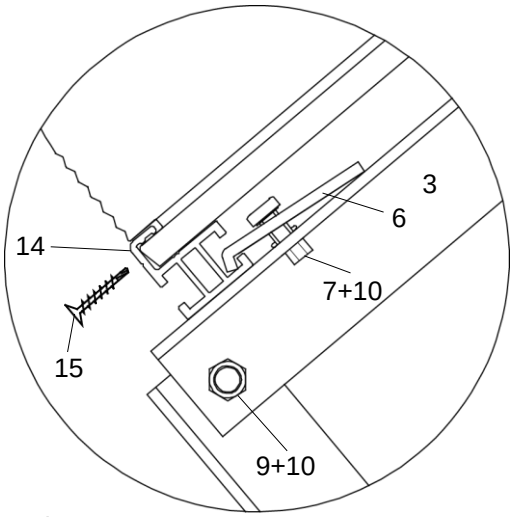

Fig. 6

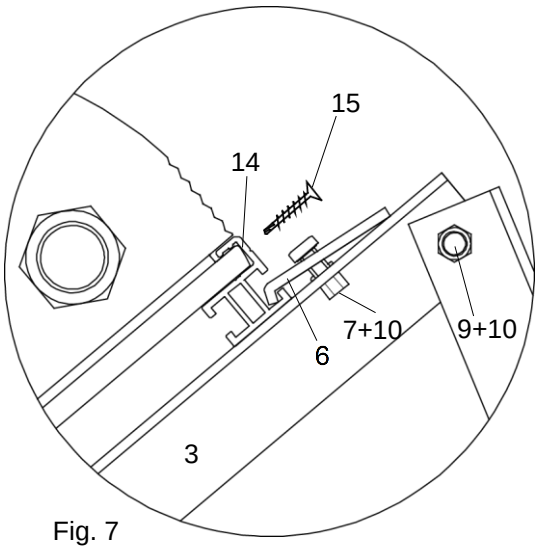

Fig. 7

10. Now fix the upper mounting profile (14) in the provided drillings at the inclined part of the supporting frame using the clamps (6) and the adequate screws and nuts (7, 10), see Fig. 7.

11. Check the tightness of all clamps (6) and screws (7, 9 and 13).

12. If several mounting profiles (14) have to be fixed in a row the alu connecting piece (16) has to be inserted in the corresponding section of the profile (Fig. 8).

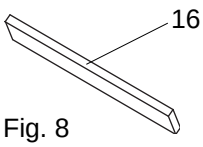

Fig. 8

13. Fix each single collector on the top and on the bottom at the prepared drillings of the mounting profile (14) using the self drilling screws (15).

ATTENTION!
All bolts and nuts for weight-bearing connections have to be tightened with a calibrated torque handle. The torque table can be found in the „Safety and installation manual for flat plate collectors".