



**Special screw - fastening set for
sunWin 24**

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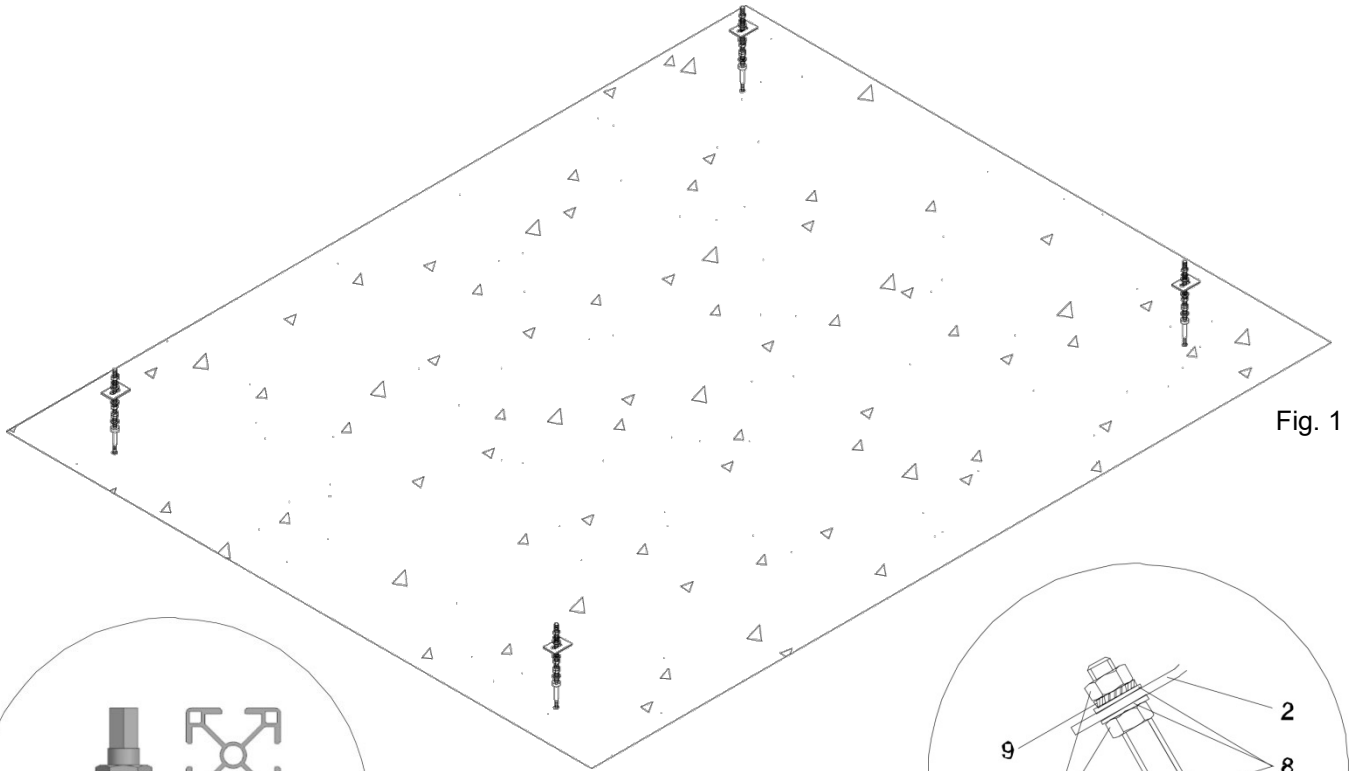


Fig. 1

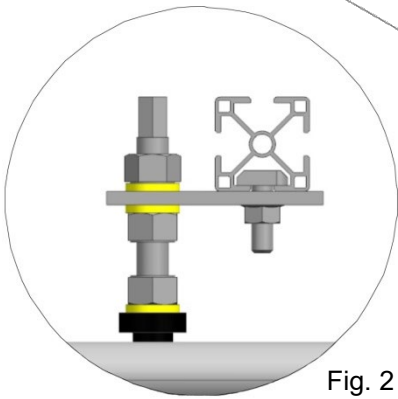


Fig. 2

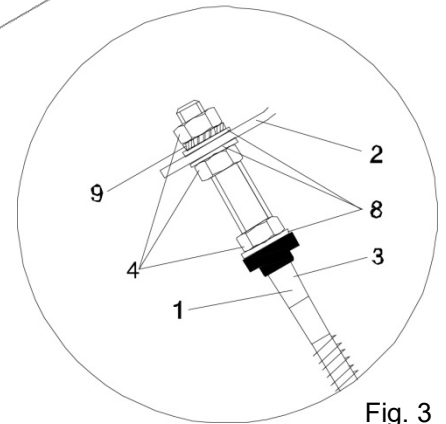


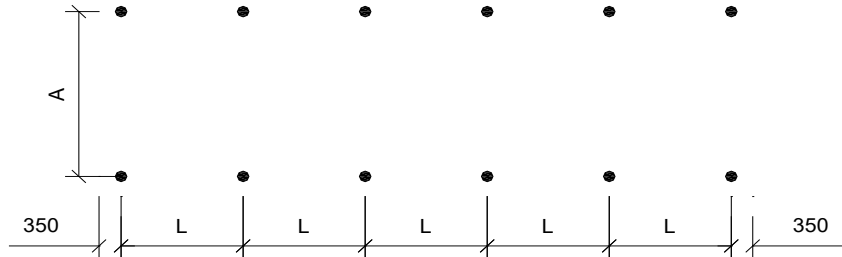
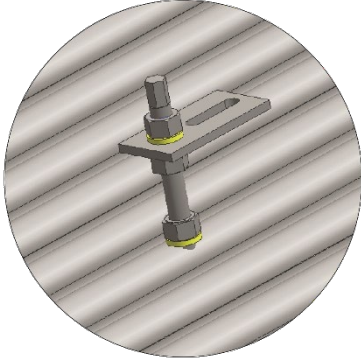
Fig. 3

Pos.	Description	Fixing rows		
		2	3	
1	Special screw M12 x 350 mm	4	6	
2	Mounting angle for special screws	4	6	
3	Sealing	4	6	
4	Nyloc nut M12	16	24	
5	Nyloc nut M8_V2A	4	6	
7	Carriage bolt M8 x 25 mm_V2A	4	6	
8	Disk for M12	12	18	
Required accessories		Number of collectors		
		1	2	3
10	Mounting rail 35x35 mm	Depending on the type of collector / assembling		
11	Self tapping screw 4,8 x 16 mm			
12	anti-slip devices	2	3 (*)	4 (*)
13	Connecting piece for mounting rail	-	2	2
(*) for horizontally assembling 1 pc. anti-slip device per collector additional				

Mounting clamps		
11a	sunWin 24 ... horizontal	1000235702
11b	sunWin 24 ... vertical small	1000235702
	sunWin 24 ... vertical wide	1000230261

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- For finding the perfect position of the collectors, you have to measure the distance (A) between the highest and the lowest special screw (1, see sketch below) on the roof. The holes should be settled in the middle of the tiles, in order to only one tile has to be drilled.



Number of fixing points sunWin 24

Typ vertical												
Number of collectors sunWin 24 / 24M	1	2	3	4	5	6	7	8	9	10	11	12
Fixing rows	2	3	4	5	7	8	9	11	12	13	14	15
A (mm)	min. 1705 mm / max. 1850 mm											
L (mm)	750	839	967	1032	892	939	975	902	932	956	977	994
Typ horizontal												
Number of collectors sunWin 24 / 24M	1	2	3	4	5	6	7	8	9	10	11	12
Fixing rows	2	4	6	8	10	12	14	16	18	20	22	24
A (mm)	min. 815 mm / max. 930 mm											
L (mm)	1400	1148	1106	1087	1077	1070	1066	1063	1060	1058	1056	1055

- Mark the lowest row with impact cord and a spirit level and determine so the right positions of the lowest screws. The distance between the screws depends on the rafter distance of the roof. Please note, to fix the special screws on the wave mountain on a firm underground (rafter) in Fig. 1.
- Drill a hole with $\varnothing 14$ mm for the special screw (1) and sealing (3) into the tile (do always drill in the wave mountain, Fig. 1), then drill a hole of $\varnothing 7$ mm (at firm undergrounds like e.g. concrete, drills and pegs with $\varnothing 14$ mm are needed). To achieve the necessary firmness, the hole should have at least 120 mm, that the screw can be screwed in with the whole shank (min 110 mm).
- Screw the special screws (1) into the hole by screwing a nut (4) against the special screw. Use this nut (4) as flat. Subsequently take apart the nuts. Pull the seal and the disk into hole with $\varnothing 14$ mm and fix it with a nut (**But do not tighten it too much, otherwise the tile could break**) and place a second nut against. Then install the next nut and disk, that serve as surface for the assembly angle (Fig. 3). The distance between the two nuts depends on the type of tile (recommondation about 30 mm).
- Place the assembly angle (2) at the special screws (1) on the backside of the collector and bolt it with the nut (4), the disk (8) and the fan disk (9) on. With the slotted hole eventual disalignments of the screws can be adjusted (Fig. 3).
- Install the support profile (10) with the carriage bolt (7) and self fixing nut (5) on the assembly angle (Fig. 4).

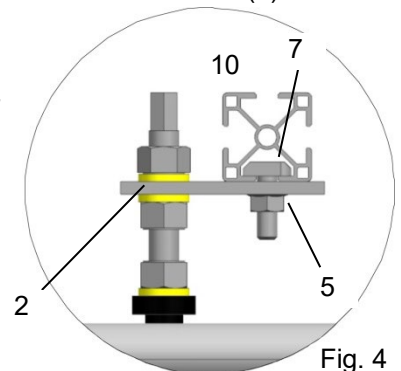


Fig. 4



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7. Hook the prescribed amount of anti-slip devices (12) into the mounting rail (10) at the bottom (see Fig. 5).

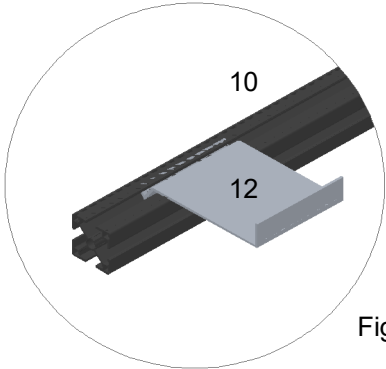


Fig. 5

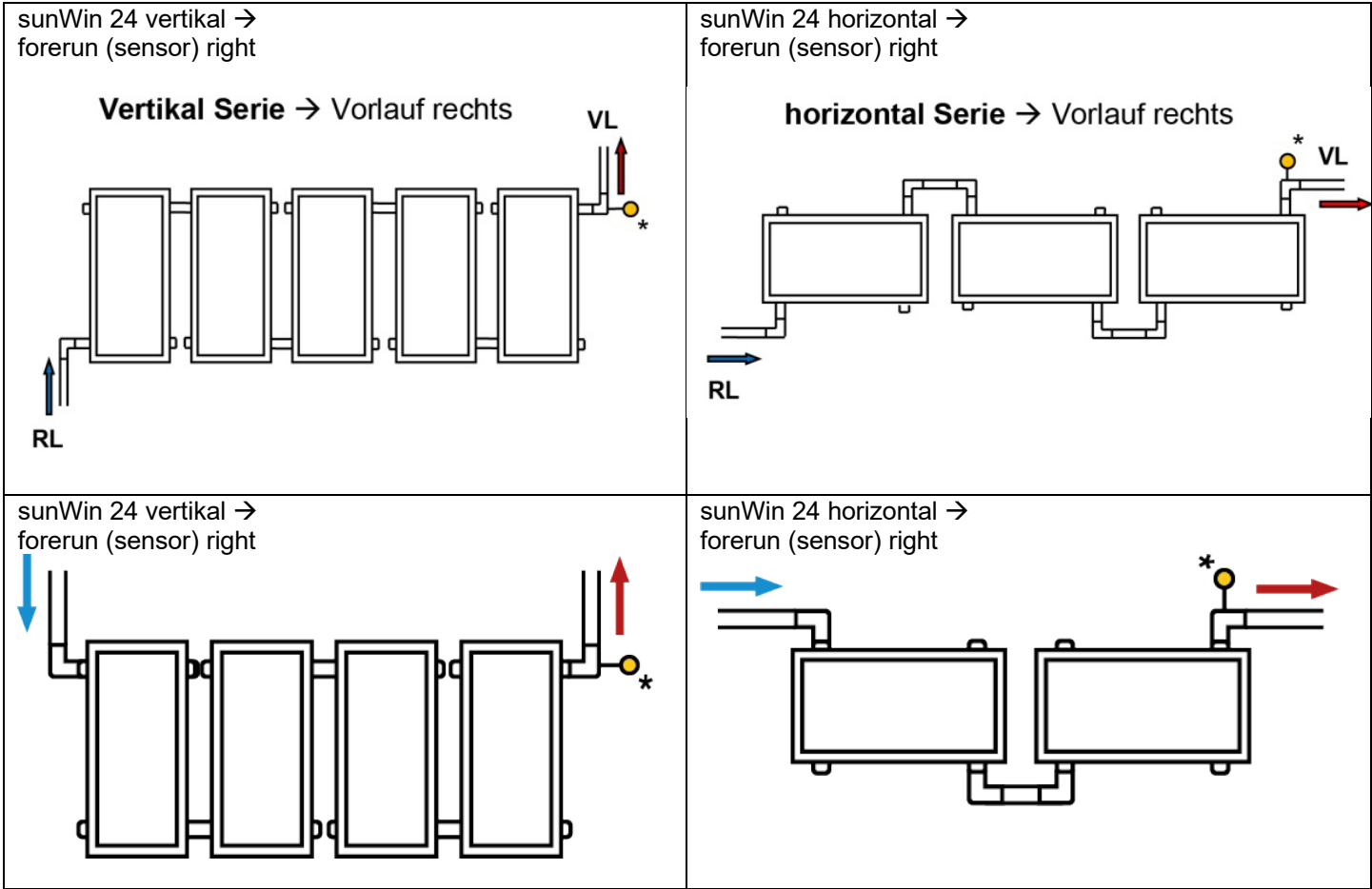
8. Installation of the collectors:

Put the collectors on the lowest support profile (10). Pull the upper support profile into the planned nut on the collector.

The hydraulic connection between the collectors is done by the union fittings. First of all tighten the union fittings (with spanners) at the collectors 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!

recommended interconnection-schemes:

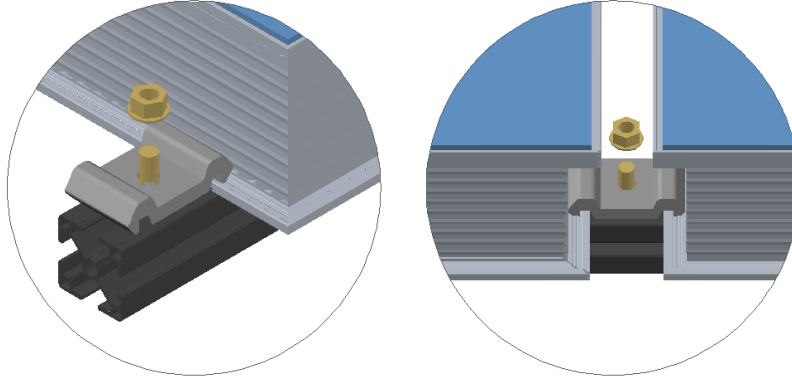




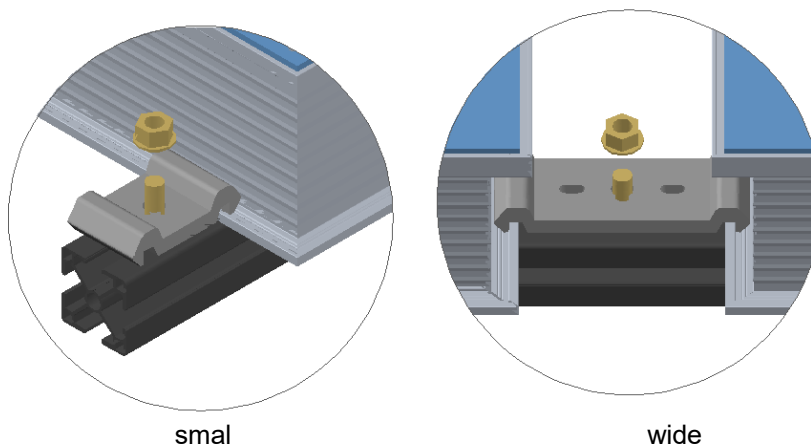
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The mounting clamps (11) are defined for each collector type as following:

a.) sunWin 24 ... horizontal

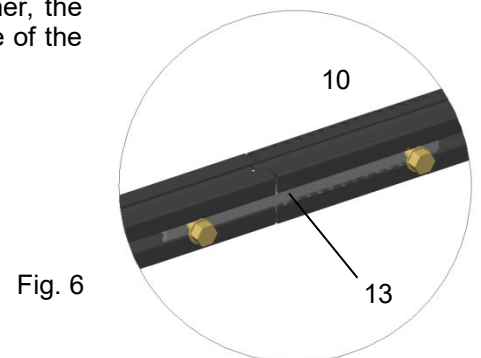


b.) sunWin 24 ... vertical



9. In case of a plurality of fastening profiles (10) are connected to each other, the connecting piece (13) is inserted and screwed into the corresponding guide of the profile (see Fig. 6).

10. Finally check the tightness of all screws (7) and nuts (5).



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“.