



Installation Manual Rooftop Collector Mounting Set for df and hp Collectors





Rooftop Collector Mounting Set

General Safety Remarks

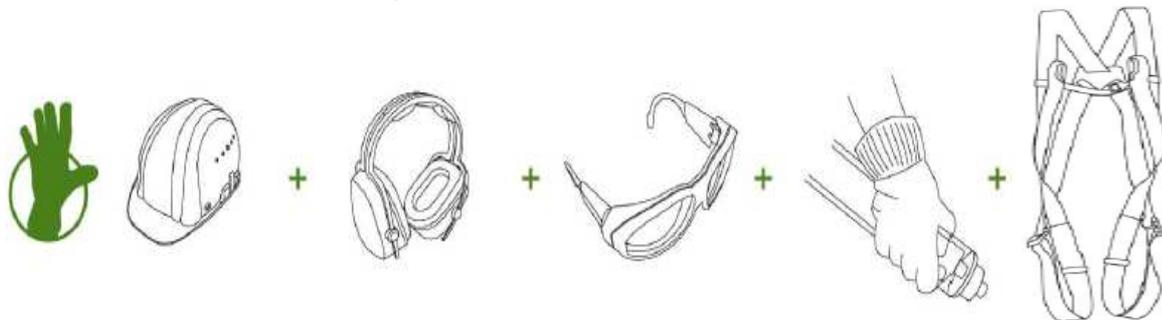
Solar thermal collectors produce heat with sun exposure. All components like tubing, connector, sensor pocket etc. carry the risk of injuries through hot surfaces. Moreover solar thermal systems are operated with overpressure. When opening a solar system, it can lead to leakage of steam and hot water. People, who work on solar thermal systems have to mind this, to wear protective clothes and to apply safe procedures.



The tube cartons have to be transported horizontally. It may be piled maximum seven boxes on top of one another. Our assembly kits are suitable for snow load zones 1 and 2. In roof edge areas of one meter, collectors may not be assembled because of intensified turbulence. In stormy areas, it is necessary to conduct static calculations.

Occupational Safety Remarks

It is recommended to wear helmet, ear protection, and goggles! Put on a fall protection! Do only touch the vacuum tubes with gloves!



Essential Tools:

drilling machine, measuring tape (folding yardstick), bubble level, jaw spanner SW 13, box spanner SW 13, blockbuster



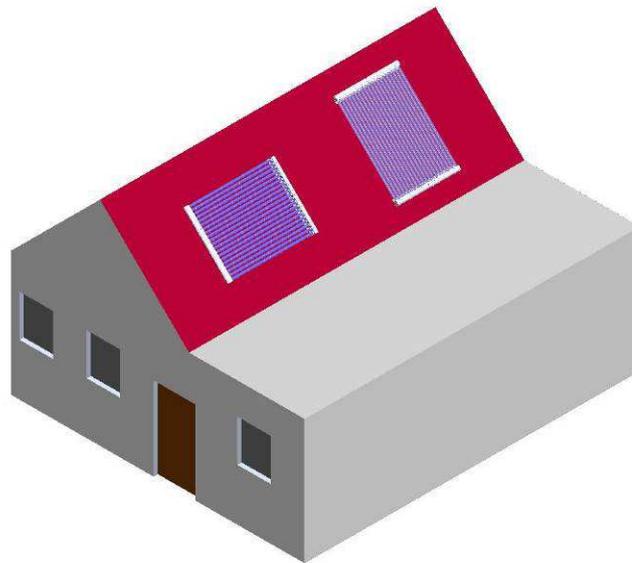


Mounting Methods:

tiled roof: mounting with roof hooks

Remark!

The collectors should be installed so that the manifold is either on top, on the right side or on the left side in position. In case of horizontal installation, the tubes should be protected through an arranged snow guard above. Please note that the tubes have to be adjustable to the sun.



Working on the roof

When working on the roof, it is necessary to ensure suitable measures towards accident prevention. Before you begin with the installation work, acquaint yourself with the accident prevention regulations of your confraternity or get an introduction of a qualified person. The following points must be noted.

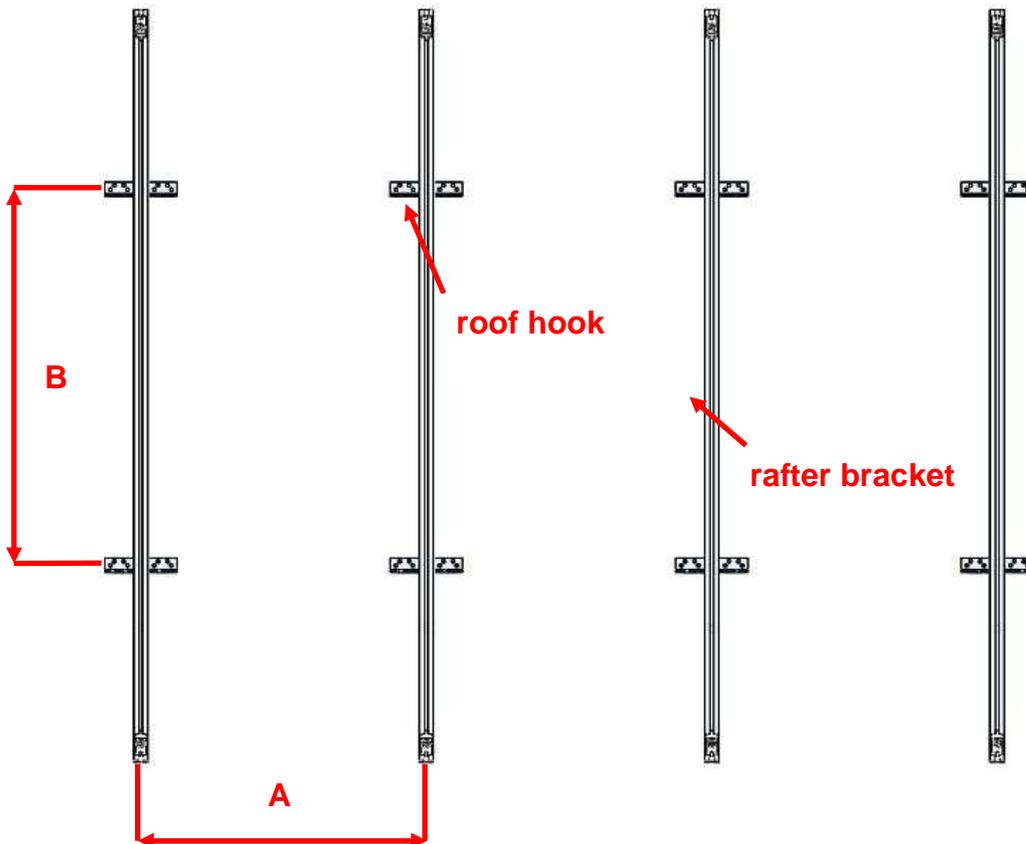
- Use a fall protection for the installation of the collector.
- Keep the safety regulations when using a single ladder.
- Work places on a steep roof need to be secured.
- Wear goggles and gloves while working with the angle grinder!
- Collectors may reach a stagnation temperature up to 200 °C through direct sunlight while installation. The closures of forward and reverse may carry risk to be burnt.



Mounting Dimensions:

Minimum space between collector and roof edge: 1 meter

Minimum space between collector and lightning protecting systems: 1 meter

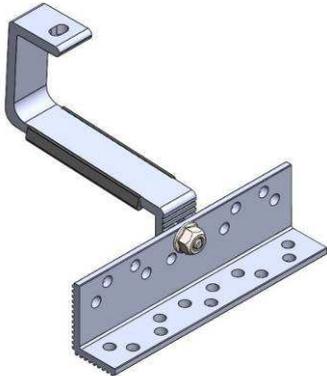


distance between roof hooks	OEM Vario 1000, OEM Vario 1000 – 10 hp	OEM Vario 2000, OEM Vario 2000 – 20 hp	OEM Vario 3000, OEM Vario 3000 – 30 hp
A = distance (min. – max.)	300 - 600	600 - 900	1050 – 1300
B = distance (min. – max.)	1200 - 1900	1200 - 1900	1200 - 1900

The installation dimensions are equal at horizontal and vertical installation!



In Scope of Delivery included:



4 x height adjustable quality roof hook consists of:

roof hanger bracket, roof anchor, carriage bolt
M8 x 25, locking nut M8



16 x Spax screws 6 x 60

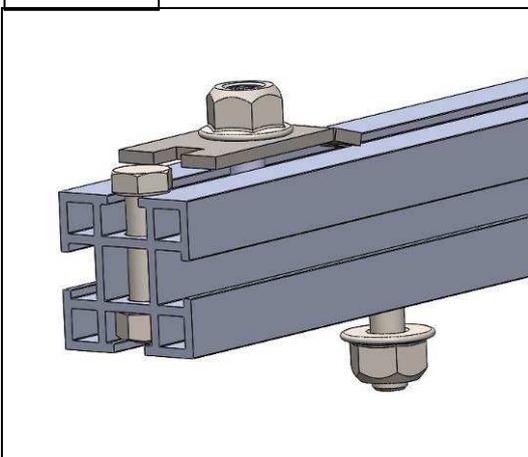
for installation of roof hooks onto rafter



2 x collector rafter bracket (top and bottom constructed identically)

pre-installed consists of:

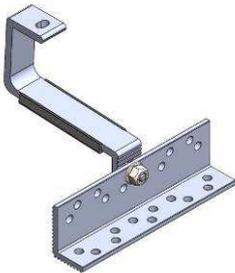
1 x mounting rail,
2 x beam clamp,
2 x hexagon screw M8 x 16,
2 x hexagon screw M8 x 25,
4 x locking nut M8,
2 x hexagon screw M8 x 35,
2 x hexagon nut M8





Mounting of the Roof Hooks onto Standard Tiled Roof

These parts are needed:



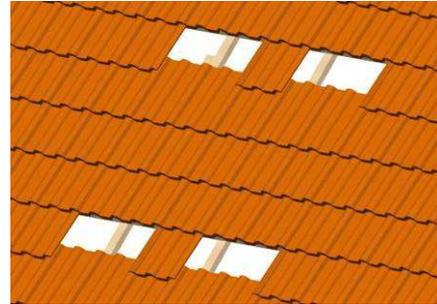
**height adjustable quality
roof hook**

roof hanger bracket,
roof anchor,
carriage bolt M8 x 25,
locking nut M8



Spax 6 x 60 mm

1. Measure the installation points (see page 3). Expose the rafter.

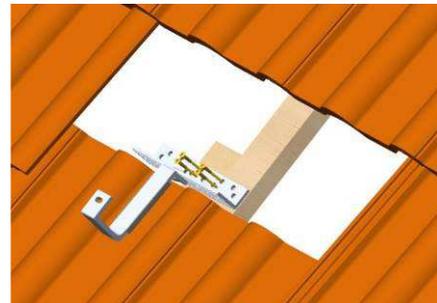


Expose of rafter

2. Pre-install the roof hanger bracket and the roof anchor. Do not tighten the screws yet.

Screw the roof hanger bracket with Spax 6 x 60 onto the rafter.

When the bearing surface is problematic, strengthen the roof hanger bracket additionally.



Installation of roof hooks

Adjust the roof hanger bracket and tighten the locking nut M8 with a jaw spanner SW 13.

3. Adapt the roof tile with a blockbuster or an angle grinder so that the roof tile lays without problems onto the roof hook.



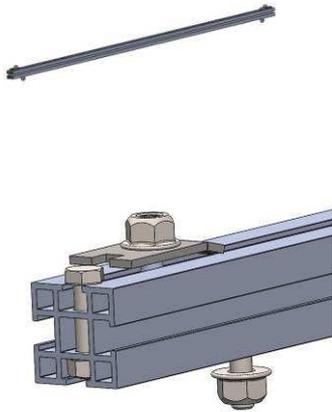
Adapting of roof tile

4. Now tile the roof again.



Mounting of the Collector – Rafter Racket

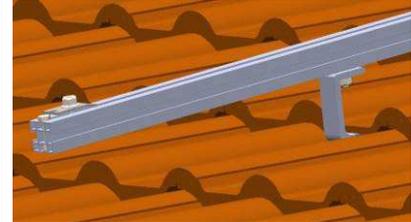
This parts are needed:



**collector rafter bracket
(bottom and top
constructed identically)**
Pre-installed consists of:

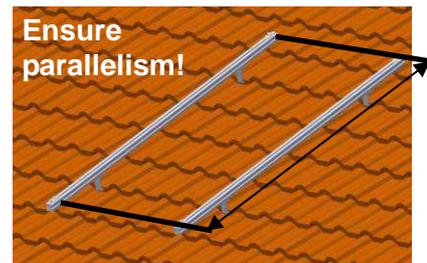
- 1 x support rail,
- 2 x beam clamp,
- 2 x hexagon screw M8 x 16,
- 2 x hexagon screw M8 x 25,
- 4 x locking nut M8,
- 2 x hexagon screw M8 x 35,
- 2 x hexagon screw M8 x 35
- 2 x hexagon nut M8

1. Loosen the locking nut of the hexagon bolt M8 x 25. Install the collector rafter bracket onto the roof hooks. Do not tighten the M8 locking nut yet.



Rafter racket on roof hook

2. Adjust the collector rafter bracket. This means they have to be parallel. Now tighten the M8 locking nut.



Adjustment of collector rafter bracket

3. **Tip: If you want to install several collectors, tighten a string to adjust them.**



Mounting of the Collector

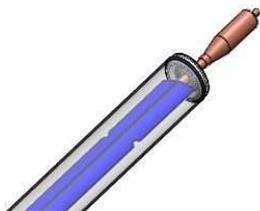
This parts are needed:



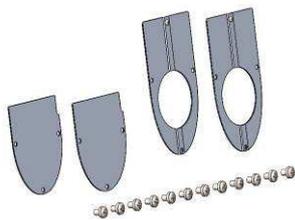
manifold



foot part

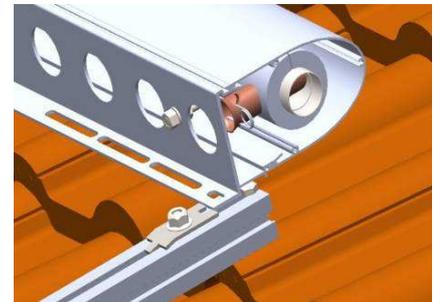


vacuum tubes



side cover set

1. Press the manifold on the nut of the hexagon screw M8 x 35. Now push the beam clamp on the support bracket and tighten it hand-tight.



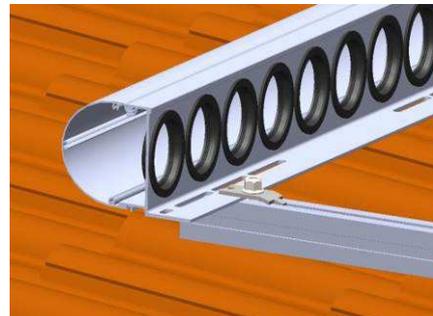
Installation of the manifold

2. Adjust the manifold individually so, that all connections and eventual stringing together of several collectors fit.



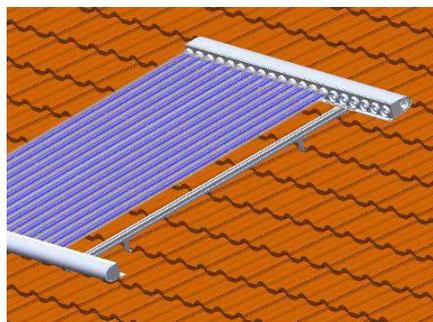
Installation of the manifold

3. Install and adjust the foot part in the same way like the manifold.



Installation of the foot part

4. Afterwards install the tubes and the side cover.



Installation of the tubes and side cover

IMPORTANT: Please pay attention to all planning, installation and commissioning manuals. These documents are available at all times on <http://akotec.eu/downloads/>.