THERMIC

Quality and **Efficiency**
Free energy and **Cost savings**
Innovation and **Design**

Solar Thermal Systems

Collector frame installation manual

THERMIC

1. general installation instructions

Before installation of the solar collectors please read all the information and instructions in the present manual.

In accordance with designer of system and/or end-user of the system please consider all details that will ensure safe and proper installation. Such details are the selection of position, the orientation, the layout of the pipes, suitable surface etc.

The installation position should not be shaded during the whole year by trees or other obstacles.

The installation should comply with the local electrical and plumbing regulations.

For optimal efficiency the collector/s should face South (180º) in the North hemisphere and vice versa for the South Hemisphere. In case this is not absolutely possible they can be positioned 30º to the East if DHW demand is before 14:00 or it can be positioned 30º to the West if DHW demand is after 14:00.
In both cases the loss of thermal gain will not be greater than 6% annually.

If the collector/s are to be placed on a roof with inclination angle less than 15º or more than 30º then a special equipment other than the standard support frame must be used. This special equipment is similar to the one used in areas that suffer storms extremely strong wind and hurricanes (Windy Set)

For tilted roof installation it is absolutely essential that the frame should be positioned ensuring that weight load is exactly over a horizontal post and never between two posts.

If the surface on which the collector/s will be installed is not compatible with the standard equipment provided then a different equipment should be used.

This equipment should be suggested, chosen and installed by the installer in accordance with the final user.

When the collector/s are to be installed on a tilted roof the brackets must be tighten down with suitable bolts that ensure a proper and safe installation.

In areas of high snowfall extra care must be shown that the snow is not trapped behind the assembly and that the standard frame is capable withstanding the expected weight of snow.

The same care must apply to areas that suffer heavy storms, extremely strong wind and hurricanes. In such areas use the Windy Set.

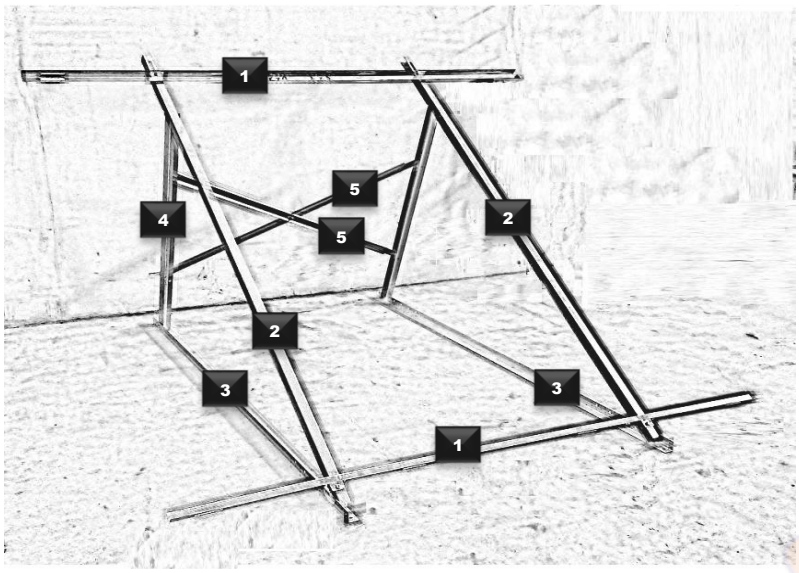
Both the pipes of the solar unit and the pipes of cold and hot water to the building must be properly insulated.

Only skilled technicians must perform the filling and connecting of the closed circuit. Before the filling of the closed circuit with thermal fluid the water tank/s must be completely filled with water.

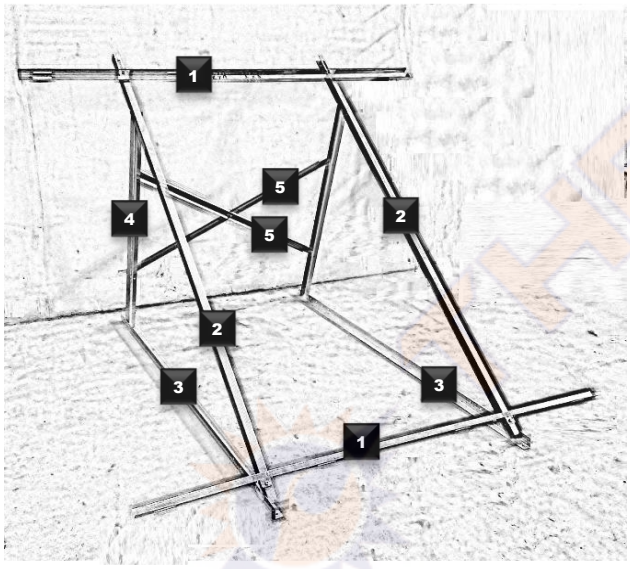
After the installation of the unit please clean-up the surrounding area. Fill the guarantee form and mail it to the manufacturer or the local distributor.

The manufacturer is not responsible in any way for damages caused to the product or others due to wrong installation.

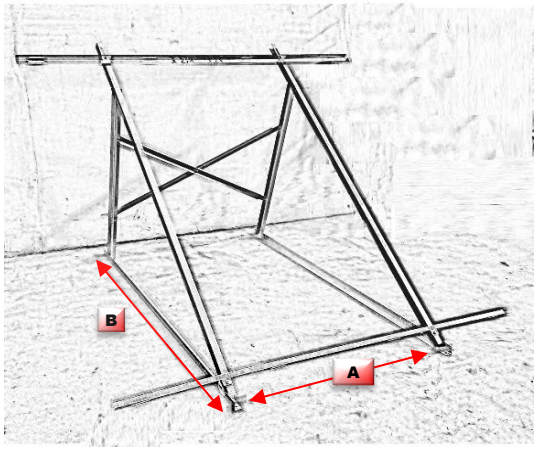
2. Dimensions of frame members



Two collector frame		
Member number	Length	Quantity
1	200 cm	2
2	220 cm	2
3	200 cm	2
4	125 cm	2
5	125 cm	2

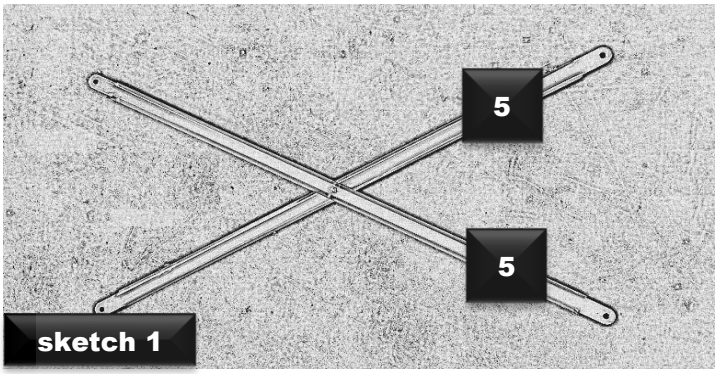


One collector frame		
Member number	Length	Quantity
1	98 cm	2
2	220 cm	2
3	200 cm	2
4	125 cm	2
5	125 cm	2



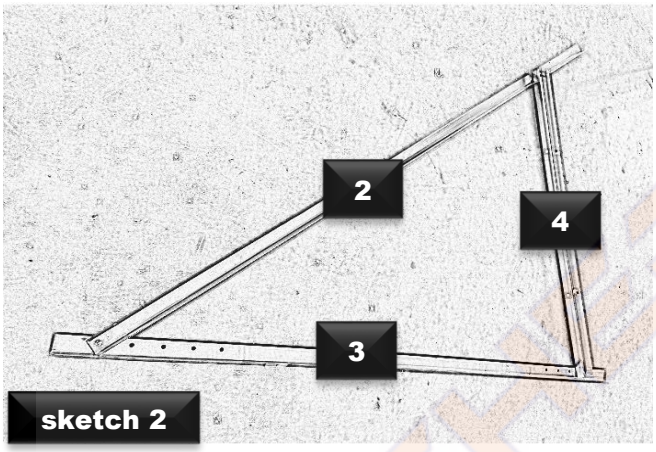
Distance between anchoring points (hole center to hole center)		
Two collectors frame	A	108 cm
	B	198 cm
One collector frame	A	88 cm
	B	198 cm

3. installation procedure



sketch 1

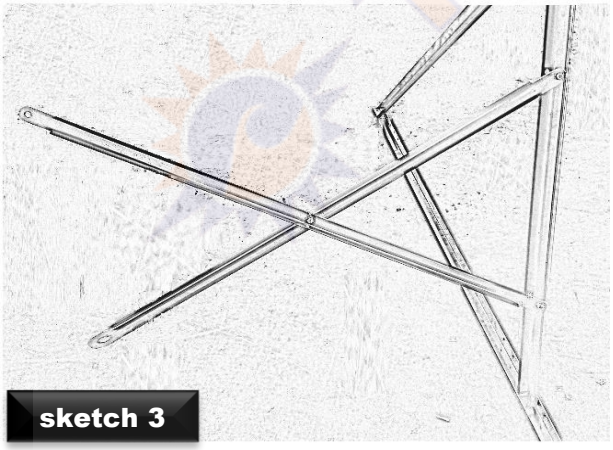
Assemble the two brackets number 5 as an X using the bolt and nut provided through the middle hole. Don't tighten the bolt for the moment (sketch 1).



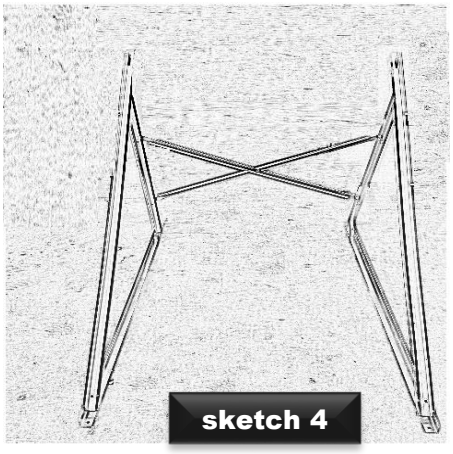
sketch 2

Assemble brackets 2, 3 and 4, formatting a triangle as shown on sketch 2.

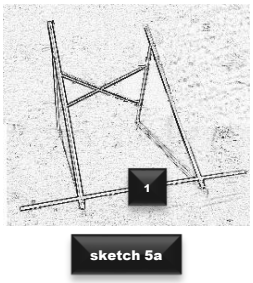
Use different holes on lower bracket 3 to adjust inclination angle according to requirement.

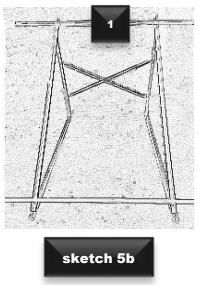

sketch 3

attach the "x-formatted" brackets on triangle so it can stand upright. (sketch 3)



Assemble another triangle using the brackets 2, 3 and 4 symmetrical to the other side and attach to the "x-formatted".
Should stand like in sketch 4





Attach first the lower horizontal and after the upper horizontal brackets. sketches 5a and 5b

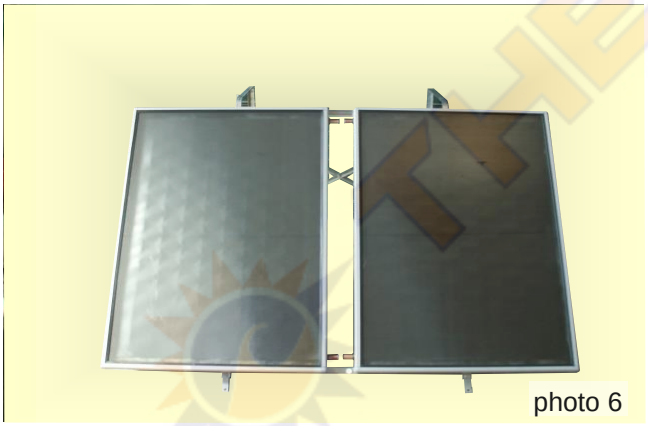


photo 6

Place the collectors on the supporting frame as shown (photo 6).

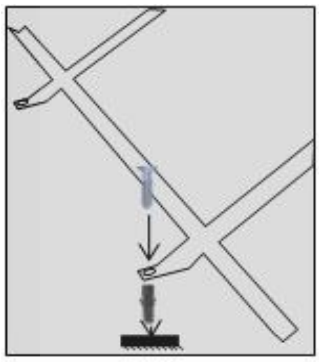

photo 7

Secure the collectors on the frame using the bolts,
Do not tighten at this stage so you can adjust them on the frame and move them to connect each other (photo 7).


photo 8

Make a final check that the collectors are aligned and evenly positioned on the frame.
ONLY AT THIS FINAL STAGE
TIGHTEN ALL BOLTS OF THE FRAME
(photo 8).

ALWAYS USE A BUBBLE-LEVEL INSTRUMENT TO MAKE SURE THE UNIT IS HORIZONTAL



CAUTION

ALWAYS ANCHOR THE FRAME/S DIRECTLY TO BUILDING'S ROOF or SUFFICIENT PLINTH ACCORDING to EXPECTED WIND and WEIGHT LOADS

Lightning protection

The collectors should always be connected (the metallic parts) through a copper ground connection conductor 16mm with the lightning conductor system, if there is any. If not the collectors should be connected with any conductor system using the same copper conductor as the collectors.
The conductor shouldn't pass through the inner space of the building and it should be Installed by a certified electrician.
Collectors are installed on a metallic support frame and installer should check if the collector is attached in a secure way, checking all the bolts and nuts if they are safely placed and tightened.

Always call a certified technician to perform proper maintenance of the system, in case an electrical issue occurs please call a certified electrician.

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