

Assembly instructions solar collector FKA 240 / 270

Roof-integrated collectors




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The assembly of the sheet metal edging is described in an additional assembly instructions.

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<h1>2</h1>	<h1>Notes and remarks</h1>		

Responsibilities:

The manufacturer

of the installation is responsible for the integration of the installation according to regulations and for compliance with the safety regulations.

The operator

of the installation is responsible for an operation of the installation according to regulations and for consultation of experts in case of problems.

Concerning manufacture and operation of the installation the following guidelines and regulations are valid (amongst others):

- accident prevention regulations
- guidelines and regulations of professional associations
- regulations of suppliers of assembly parts

Attention:

- The collectors may never be operated or tested under pressure with water.
- Being very careful it's possible to walk onto the collectors, however, the seals mustn't be loaded by that.

For transport and stocking of the collectors the following regulations are valid:

- Never abandon the delivered collectors unprotected at the building site.
- Never lay down the collectors onto a rough surface with overhanging pieces like stones, timbers, etc.
- Stock the collectors always upright leaning against a solid surface.
- The rigidity of the collectors is limited. During transport to the building site always ensure a torsion-free transport type.
- In case of an elevated intermediate storage make sure that the collectors are protected against sliding down.
- Regulations and instructions of transporters in charge have to be observed.

Maintenance:

Service intervals are to be specified system-dependent. A optical check of all system components is recommended once a year. Adequate function of the system must be checked once a year.

Lightning protection:

The regulations concerning lightning protection have to be observed strictly.
In case of doubt an expert or the office in charge must be contacted.

This instruction is not subjected to the control of a service of modifications. It does not absolve the manufacturer and operator of the installation of its responsibility to install and operate all parts of the installation according to utmost professional knowledge.

The manufacturer of the installation is responsible to observe and keep all appropriate regulations and instructions, The copyright of this instruction incl. graphical material remains in any case at the STI GmbH. The instruction can only be duplicated completely or in parts with written authorisation of the STI GmbH.

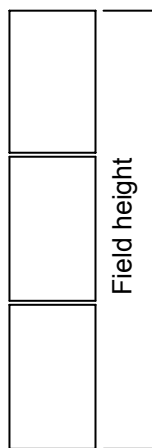
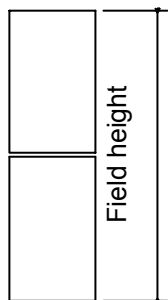
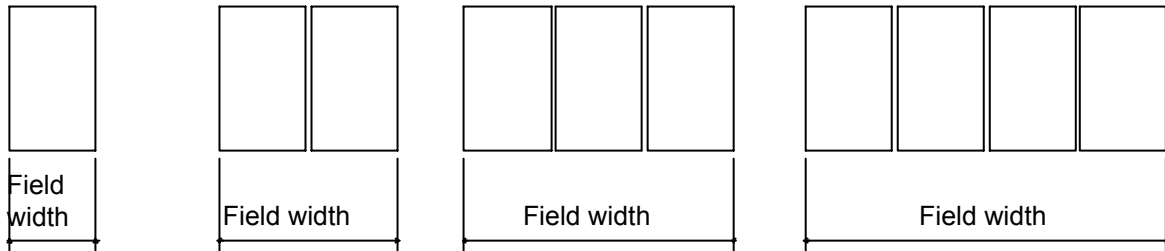
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Collector field dimensions



Collector data:	Collector type	Width	Height	Thickness	Weight	Fluid content
	FKA-240-V	116.7	206.7	11	44 kg	2.2 L
	FKA-240-H	206.7	116.7	11	44 kg	2.3 L
	FKA-270-V	116.7	234.0	11	54 kg	2.5 L
	FKA-270-H	234.0	116.7	11	54 kg	2.6 L

Vertical collectors

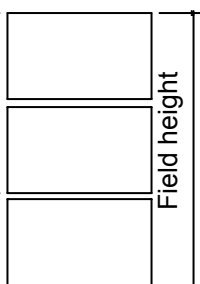
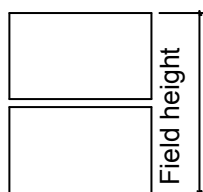
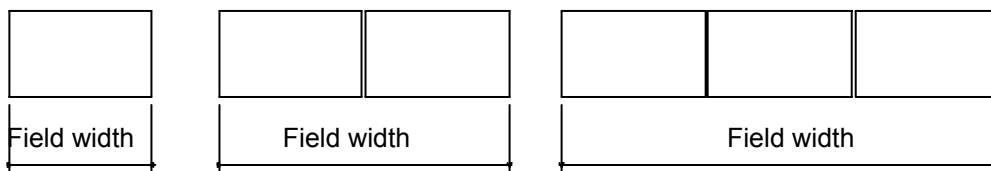


Field width	Number of collectors					per each additional collector
	1	2	3	4	5	
FKA-240-V	116.7	238.7	360.7	482.7	604.7	+122
FKA-270-V	116.7	238.7	360.7	482.7	604.7	+122

Field height	FKA-240-V	FKA-270-V
1	206.7	234
2	413.4	468
3	620.1	702
4	826.8	936
5	1033.5	1170

per each additional collector +206.7 +234 all measures in cm

Horizontal collectors



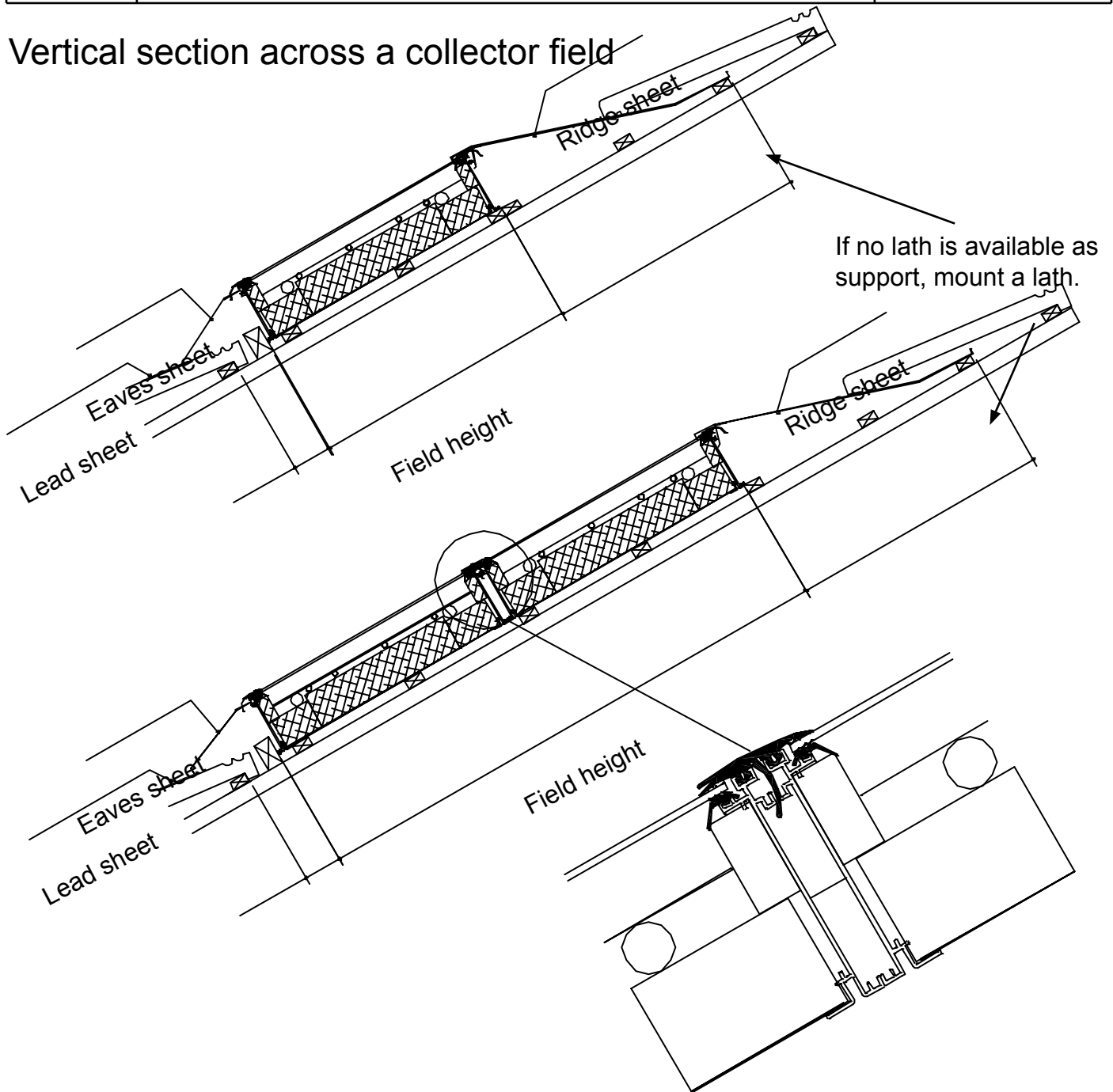
Field width	Number of collectors				per each additional collector
	1	2	3	4	
FKA-240-H	206.7	418.7	630.7	842.7	+212
FKA-270-H	234.0	473.3	712.6	961.9	+239.3

Field height	240-H	270-H
1	116.7	116.7
2	233.4	233.4
3	350.1	350.1
4	466.8	466.8
5	583.5	583.5

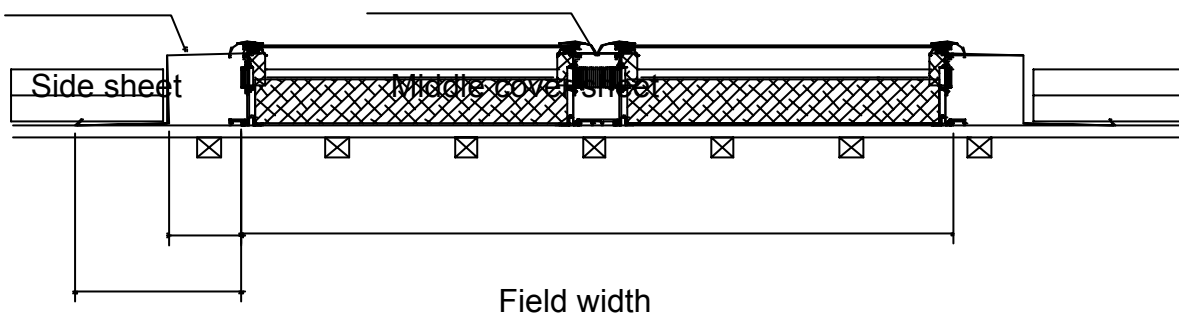
per each additional collector +116.7 +116.7 all measures in cm

Collector field - cross-sectional view

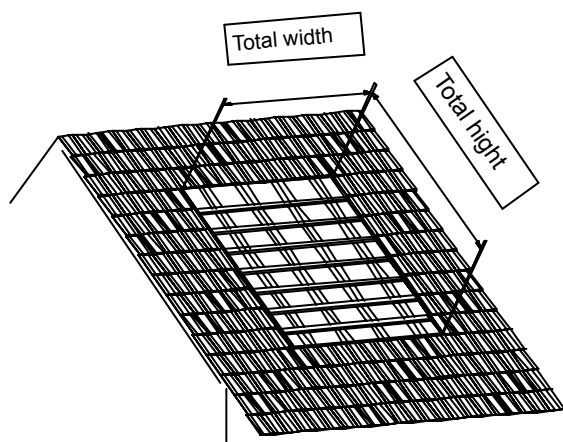
Vertical section across a collector field



Horizontal section across a collector field



Reroofing of the tiles and collector assembly



Uncovering of the tiles

In the drawing on the left the required space of the collectors is drawn in.

The width and the height of the collector field can be seen on page 3.

The total width results from:

Field width (page 3) + 40 cm

The total height results from:

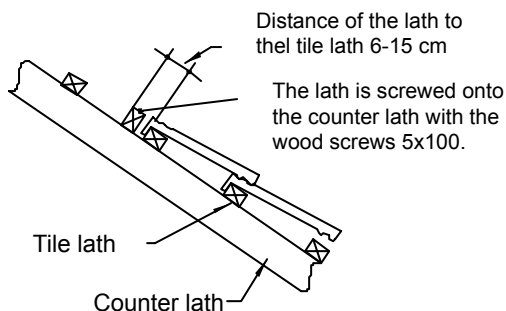
Field height (page 3) + 53 cm bis 62 cm

In this area the tiles have to be reroofed.

Attention:

For covering the border areas tiles are needed! Do not dispose all tiles!

Attention: In case of uneven roofs the collectors need to be straightened.



Placing of the stop lath 40 x 60mm

First the stop lath is screwed onto the counter laths (see picture on the left).

The stop lath must be mounted straight

and absolutely parallel to the tile lath (line mark).

Assembly of the collectors

The assembly of the collectors is always to be made from the bottom to the top i.e. the left or right lower collector must always be mounted first.

The first collector is placed and mounted with a lateral distance to the first vertical tile row, covering the side sheet, of at least 10cm and at most 15cm.

The fastening of the collectors is realised by the fastening plates (aluminium) and the screws 6 x 40 mm (A2).

Between the collectors the fastening plate determines the distance of the collectors (Fastening plate engages into the collector profile to the left and to the right)

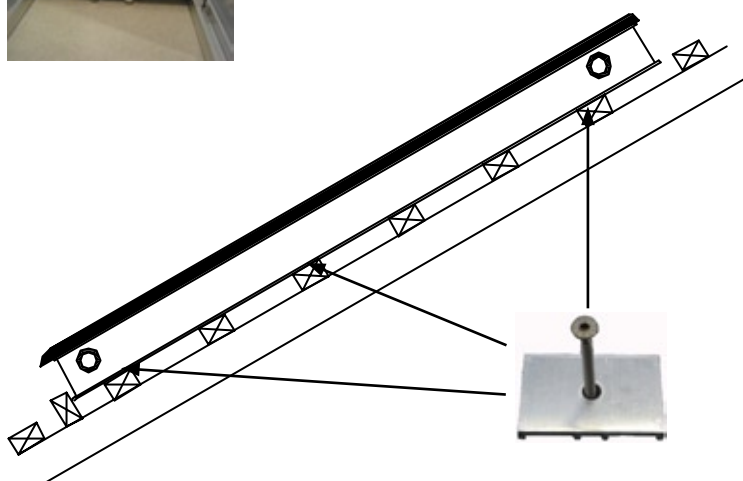
Attention:

Preassemble the compensators!

After the assembly of the first collector the compensators are preassembled (see page 6).



Fastening between the collectors.



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Collector connectors



Compensator with O-ring seal 20x2mm slid on

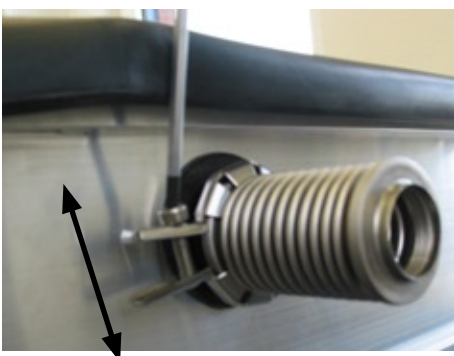


Clamp collector connection bend up for mounting.



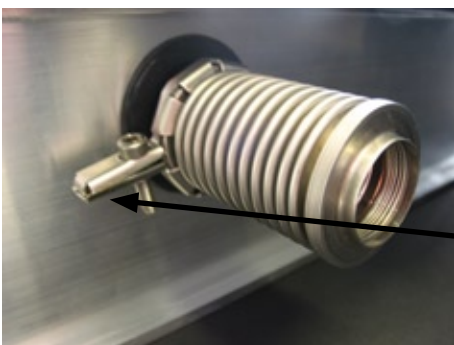
Push compensator with cylindrical end into the collector connection.

Pay attention that the collector connection is clean.



Before tightening of the screw the clamp must be positioned by a rotary motion to the up and down.

Tighten clamp collector connection with cylinder head screw M4x16.



Completely mounted compensator on one side.

After positioning of the second collector the compensator is mounted in the same way.

Attention: Do not forget the O-ring seal

Tightening of the clamp until both nibs lay one upon the other all over the length.

Collector assembly Completion

Single-row fields:

After the assembly of the first collector the second is placed right next to the first with a distance of 10 to 20cm. Now the compensators have to be mounted at the first collector and the O-ring seals have to be slid over the cylindrical end of the compensator at the side of the next collector (see also page 6). Afterwards the collector is pushed carefully until the compensators engage into the collector connection. Then the clamps are mounted.

Upon both compensators are mounted, the fastening plates are mounted between the collectors (see page 5). Therefore push the collector carefully until the fastening plate engages into the collector profile.

All other collectors are mounted similarly.

Multi-row fields:

Basically in case of multi-row fields the collectors lying on top of each other are mounted first. After the assembly of the first collector the second collector is mounted on top of the first. The upper collector rests against the lower collector.

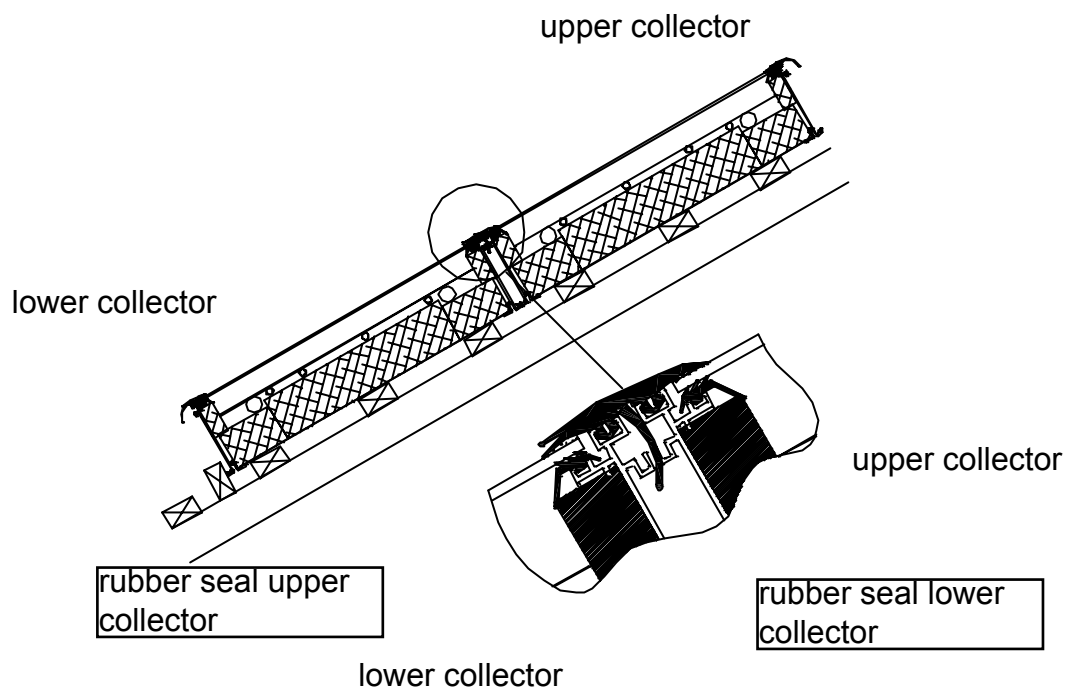
The collectors lying on top of each other have to align exactly.

The rubber seal of the lower collector lies between the collectors (see picture below)

The rubber seal of the upper collector lies on the seal of the lower collector (see picture below).

After the second collector is placed, it is fixed and the compensators are mounted.

The further procedure complies to the assembly of single-row fields.



Collector connections single-row collector fields



Cover

is mounted on all non-used collector connections

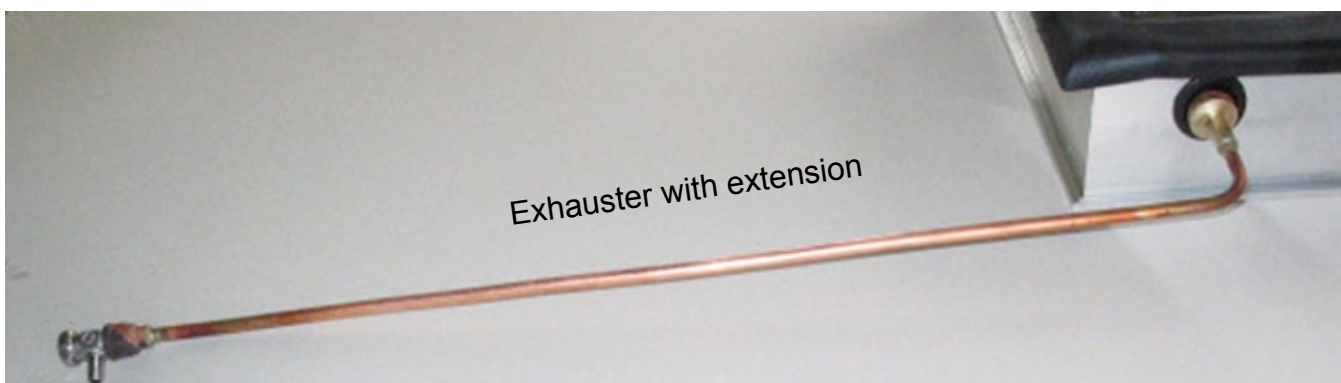


Connection for soldered or clamping ring joints

available dimensions:
12mm, 15mm, 18mm, 22mm



Connection 3/4"



Exhauster without extension completely mounted

All other connections as well as the covers are mounted in the same way.

Overview hydraulic connections



Collector connection 12 mm
for soldered fittings or clamping ring joints



Collector connection 15 mm
for soldered fittings or clamping ring joints



Collector connection 18 mm
for soldered fittings or clamping ring joints



Collector connection 22 mm
for soldered fittings or clamping ring joints



Collector connection 3/4"
for thread fittings



Exhauster connection
for installation at the collector
with extension



Collector connector hydraulic (Compensator)
connects two collectors and compensates the thermal dilations



Clamp collector connection and O-ring seal 20mm
Clamp for connection of the above mentioned hydraulic devices with the flange at the collector