K-500

KONSTRUKCJE FOTOWOLTAIKA

TÜVRheinland CERTIFIED

Factory Production Control EN 1090-1

www.tuv.com ID 9000016644

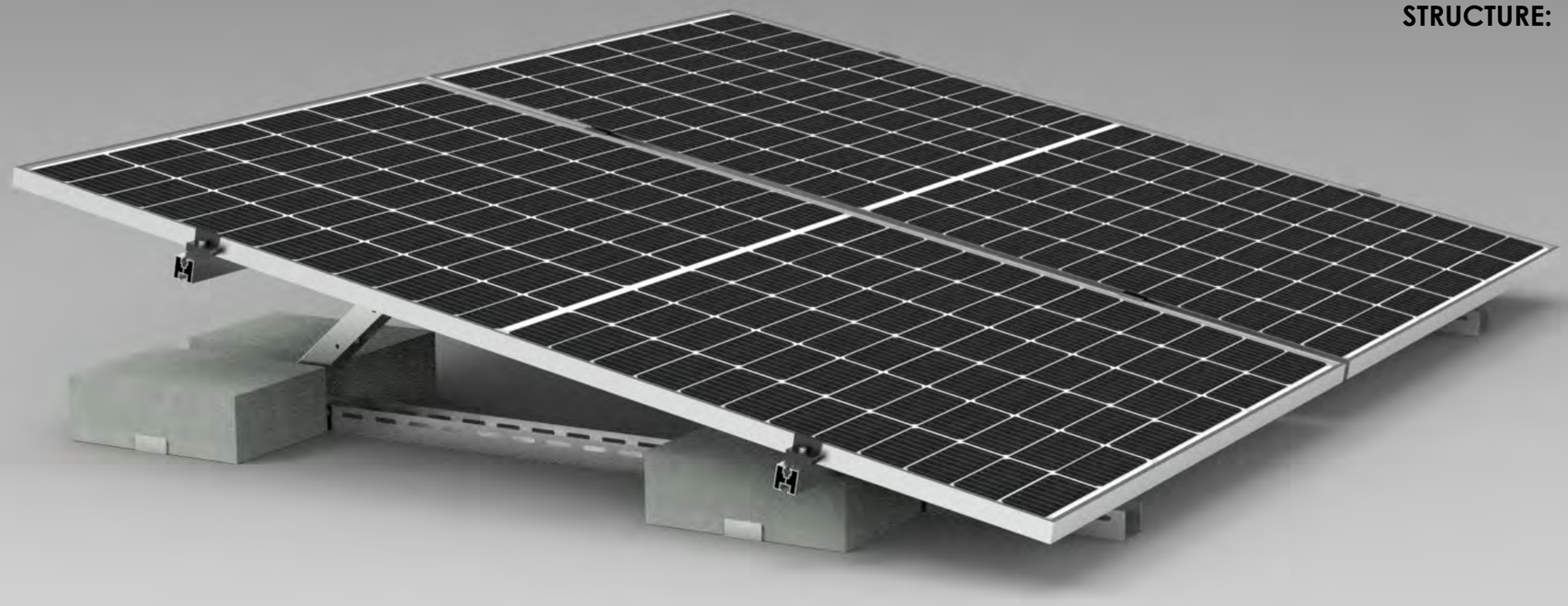
CE

K8000

INSTALLATION MANUAL

TECHNICAL SPECIFICATION

SYSTEM TYPE:	**FLAT ROOF**
MODULES LAYOUT:	**PORTRAIT**
PER ROW:	**1 (2 - 8 MODULES)**
ANGLE OF THE STRUCTURE:	**10° - 20°**



HELTH AND SAFETY INSTRUCTION

Before starting PV system installation works, **the installer should be equipped with individual protective measures** such as:

- Personal fall protection equipment consisting of a full-body harness with an attached internal shock lanyard;
- A ladder, scaffolding, or lift;
- put on work clothes, footwear, and protective gloves;
- remove all unnecessary items from a workplace;
- prepare equipment and check its efficiency (ladders, power tools needed during the work, etc.);
- make sure, the commencement of work does not any threats to people present near the workplace or its immediate vicinity;
- allowed to start performing the tasks if there are no signs of danger in a workplace
- make sure there are no collisions in the place of installation (cables in the ground) before structure installation

Additional notes

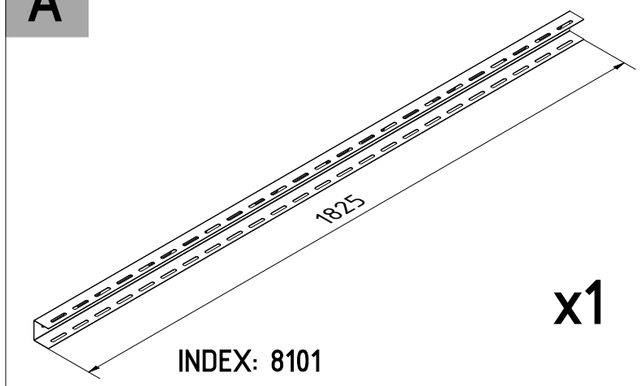
In the event of being in immediate danger because of non-compliance with health & safety regulations and rules by people staying near a workplace or in its immediate vicinity, the person who installs PV systems has the right to suspend performing work.

TOOLS NEEDED FOR INSTALLATION

SCREWDRIVER, SCREWDRIVER BITS, SIZE6	SIZE 13, 17	SET SQUARE,CORD,RODS (TO DESIGNATE OF TABLE)	TORQUE WRENCH
			

LIST OF PARTS PER SUPPORTING COLUMN OF SUPPORTING STRUCTURE

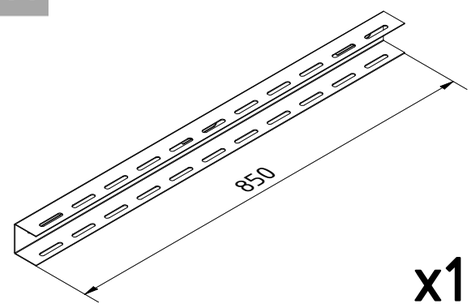
A



x1

INDEX: 8101
Belka dolna

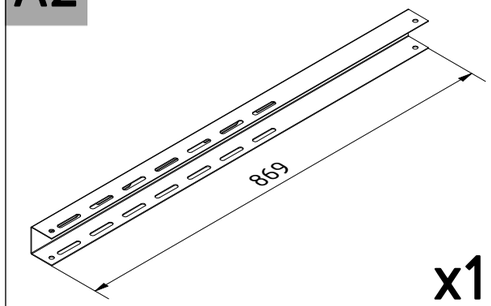
A1



x1

INDEX: 8109
Belka modułowa 1

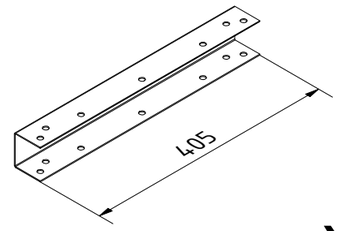
A2



x1

INDEX: 8105
Belka modułowa 2

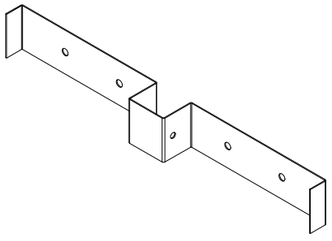
A3



x1

INDEX: 8102
Dostawiana noga

A4



x2

INDEX: 8114
Obejma wąska oporowa

B

x14

INDEX: 2201
Śruba M8x20 ISO 7380

C

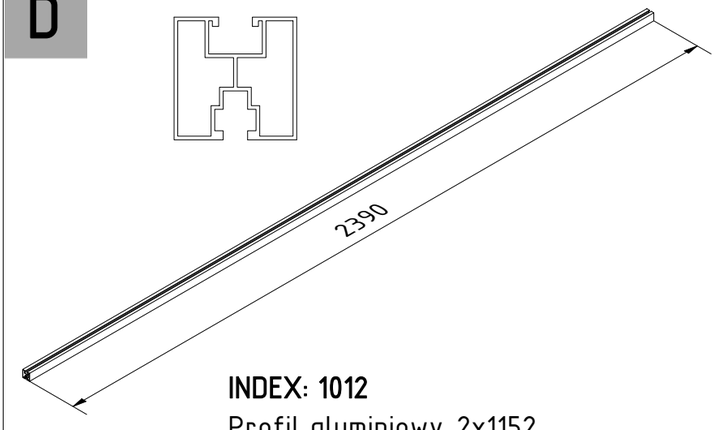
x14

INDEX: 2611
Nakrętka kołnierzowa M8
DIN 6923

Fig. 1 Supporting column – Assembly

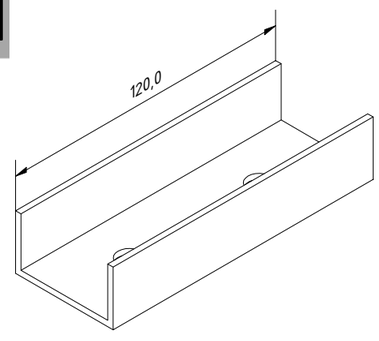
LIST OF PARTS /OTHER

D



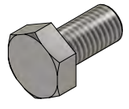
INDEX: 1012
Profil aluminiowy 2x1152

D1



INDEX: 1024
Łącznik profili aluminiowych

E



INDEX: 2004
Śruba M10x20 kl.8,8 DIN 933
Nierdzewna

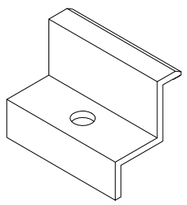
F

INDEX: 2602
Nakrętka kołnierzowa M10
DIN 6923

NOTE

Item **E+F** depending on the number of supporting structures. Two stacks are provided for one

G



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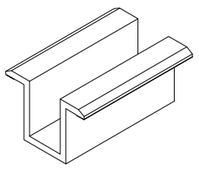
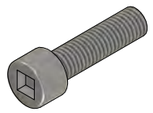
Klema końcowa

H



INDEX: 1522
Klema środkowa h22

I

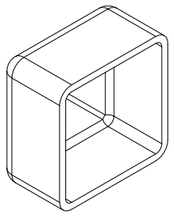


INDEX: 2102
Śruba M8x30 DIN 912

J

INDEX: 2604
Nakrętka kwadratowa M8
DIN 562 Nierdzewna

K



INDEX: 1029
Zaślepka ochronna

NOTE
Not allowed to tighten fasteners with wrenches or screwdrivers impact. Bolt tightening torques during assembly:

- Middle/ End clamps: **9 Nm – 13 Nm**,
- M8 bolts and nuts – **25 Nm**,
- M10 bolts and nuts – **30 Nm**

INSTALLATION

1. Due to its simplicity K8000, allows for quick assembly (up to a few minutes for one support structure), achieving the required angle of inclination of Photovoltaic (PV) modules in the range from 10 ° to 20 °, makes it possible to easily adapt of the arm to the length of Photovoltaic panels. The ISO 7380 M8x20-A2 lens bolt together with the DIN 6923 M8- A2 flange nut (Stack B+C) for bolting the support structure.
2. Move A3 forwards/ backward to get the appropriate angle.
3. You can regulate arm length by sliding in/ out elements A1 and A2. Assembled supporting structure should look like the one shown in Fig. 2-1

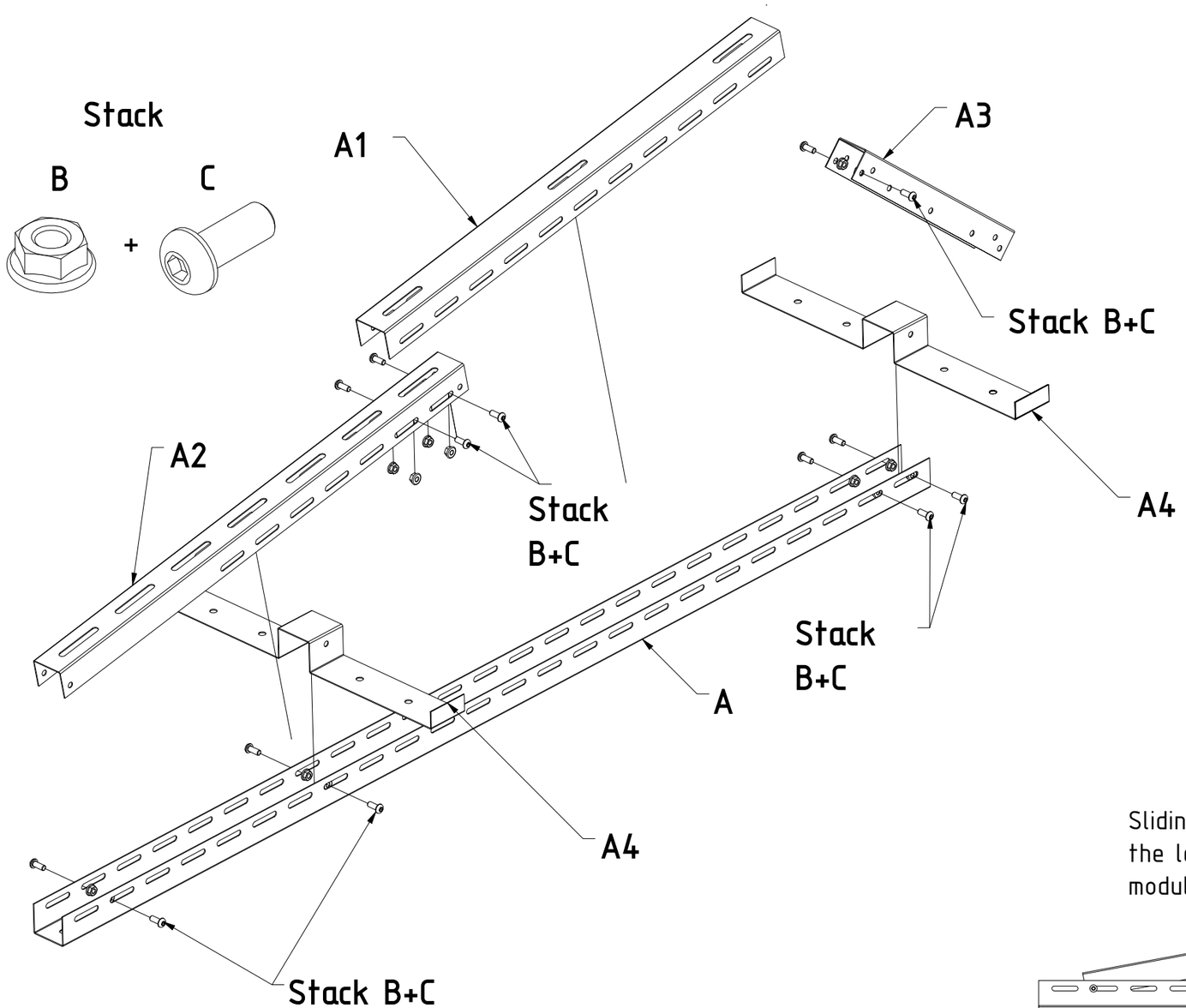


Fig.2 Supporting structure assembling

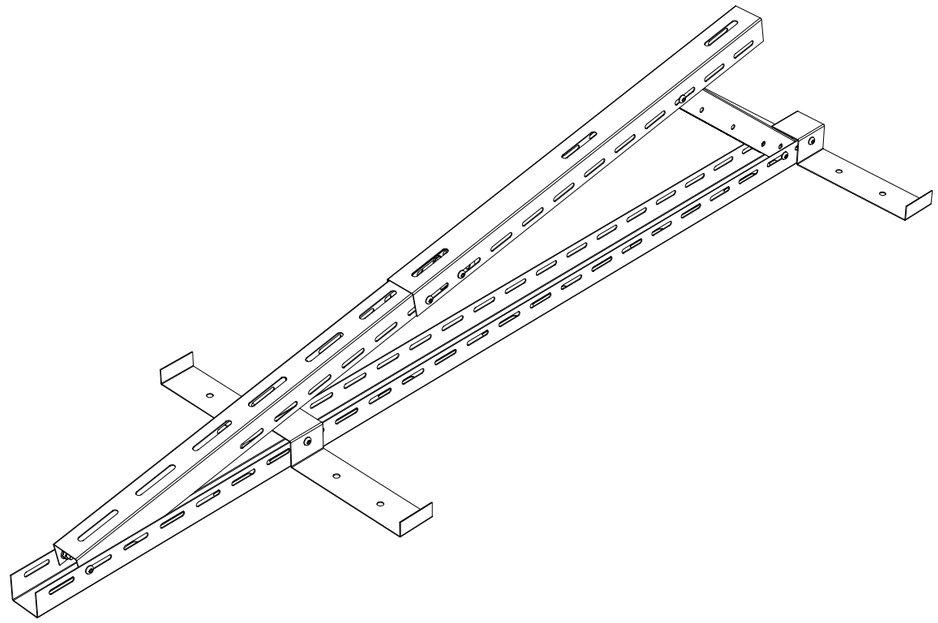
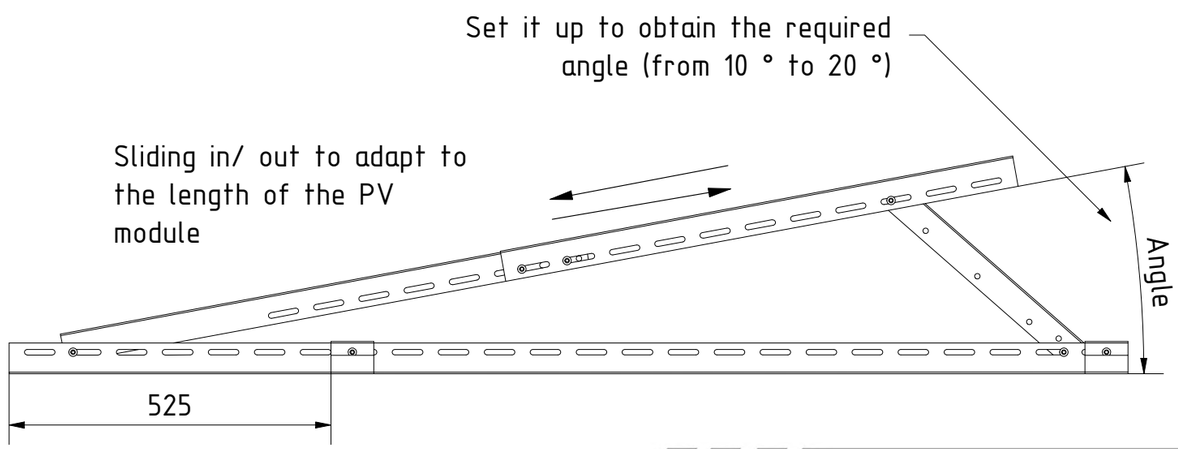


Fig.2-1 View of the completed support structure



Depending on the number of modules mounted on one structure (from 2 to 8 pcs.), the axis spacing (parameter "b") may vary.
Spacing "b" is the resultant. Depending on the number of PV modules (recommended number of supporting structures compared to the number of PV modules is given in Table 1), during the process of placing a support structure, the first and last structure should be positioned in such a way, that when connecting the transverse rail to support structure the distance from the edge of a transverse rail to the outer side of a support structure is 395 mm (see Fig. 3-1, Fig. 3-2). This also allows us to keep a minimum distance of 32 mm between a transverse rail edge and PV module frame when installing it.
Spacing "b" see Table 1

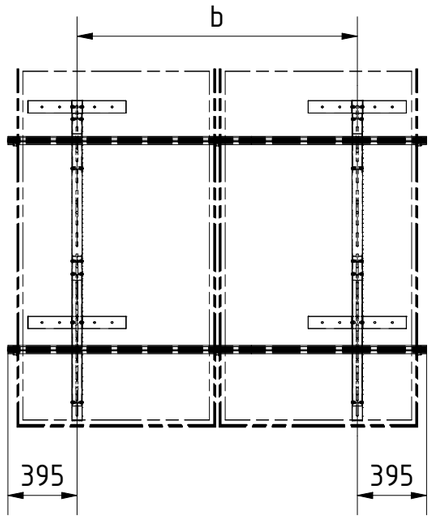


Fig. 3-1 Option for 2 modules

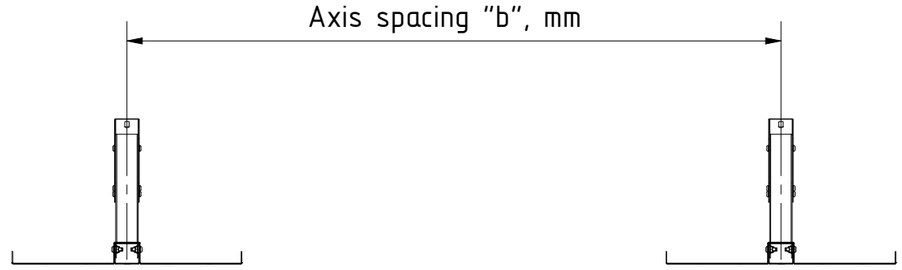


Table 1

PV modules Qty.	Support structure, Qty	Axis spacing "b"
2	2	b=x
3	3	x/2
4	3	x/2
5	4	x/3
6	4	x/3
7	5	x/4
8	6	x/5

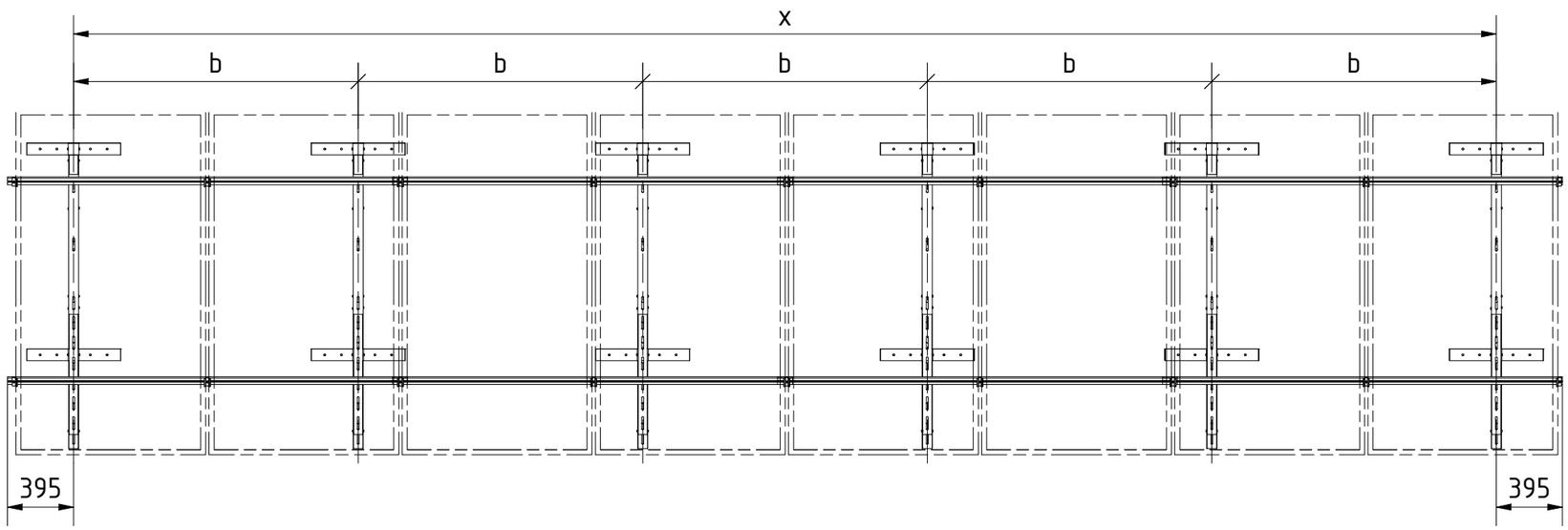


Fig. 3-2 Option for 8 modules

Fig.3 Support structure placing scheme

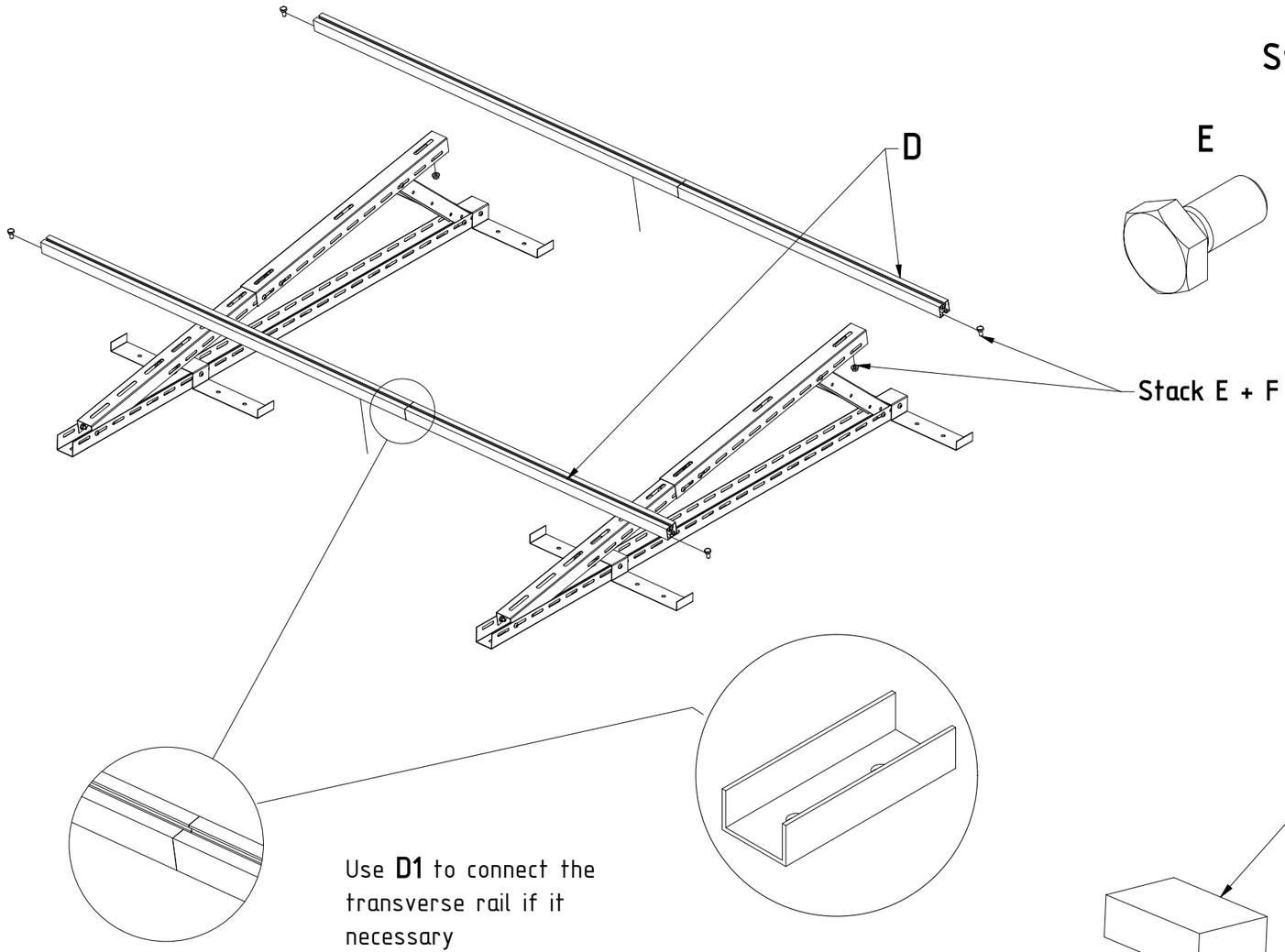
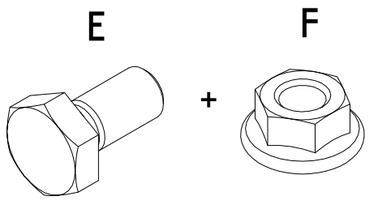


Fig.4 Connecting the transverse rail to the support structure

NOTE
The transverse rail length must be such as to keep it no less than 32mm (50mm is recommended) from the edge of a rail to the PV module edge (see Sheet 9 TOP VIEW)

Stack



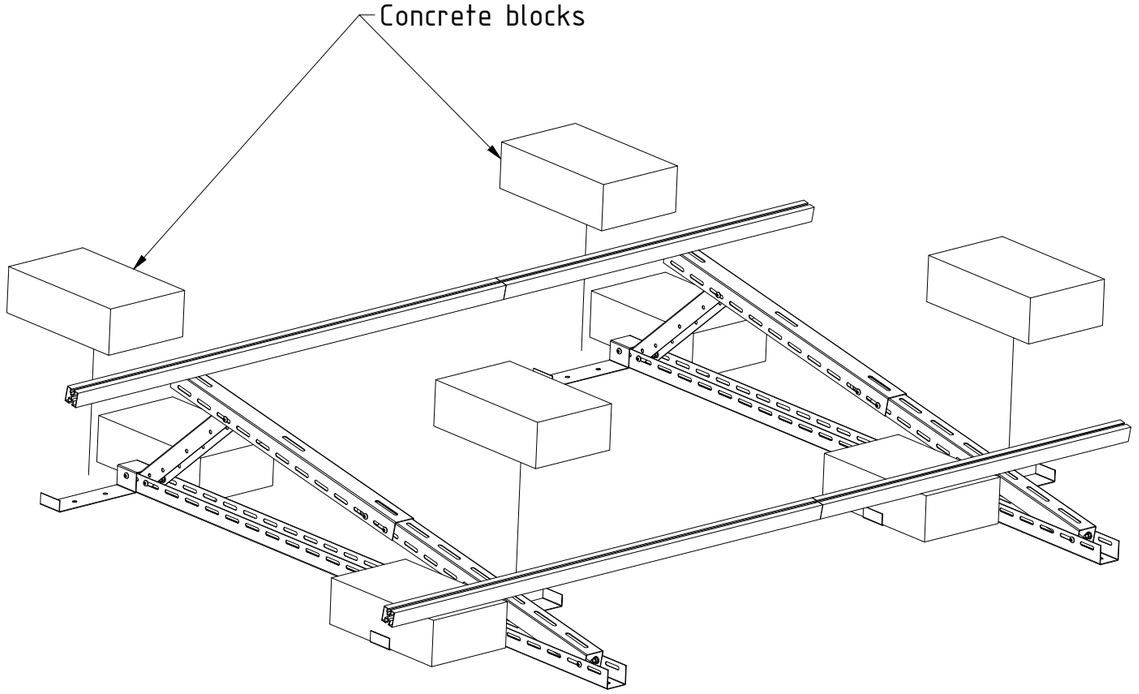
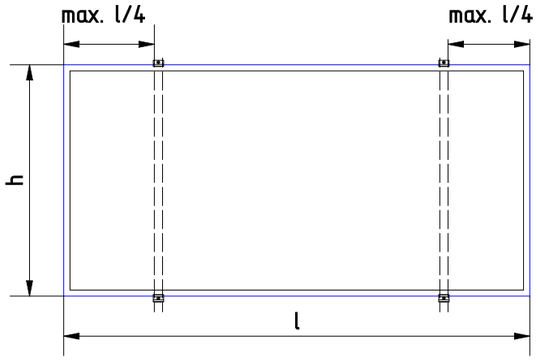
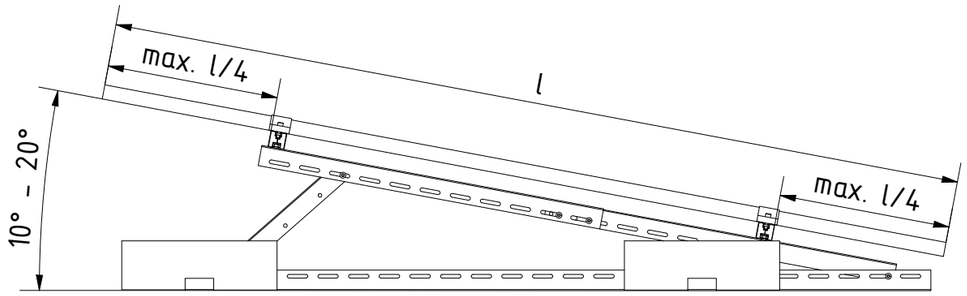


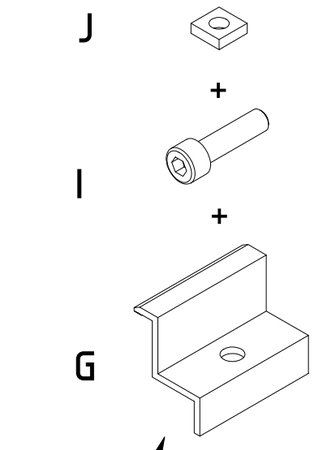
Fig.5 Concrete blocks placing

Scheme of mounting clamps to PV module

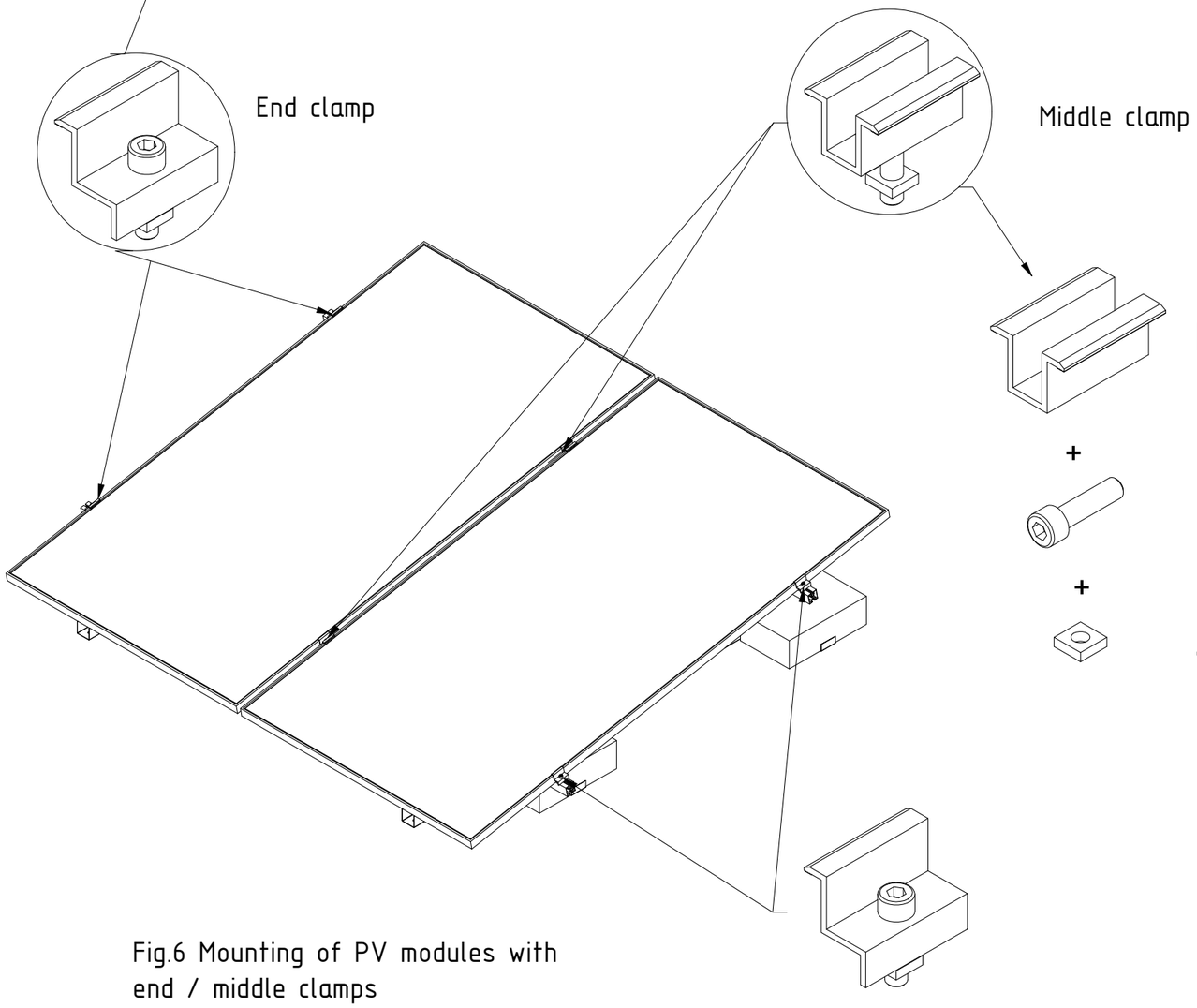


h – module width, mm;
l – module length, mm.





End clamp



Middle clamp

Fig.6 Mounting of PV modules with end / middle clamps

TOP VIEW