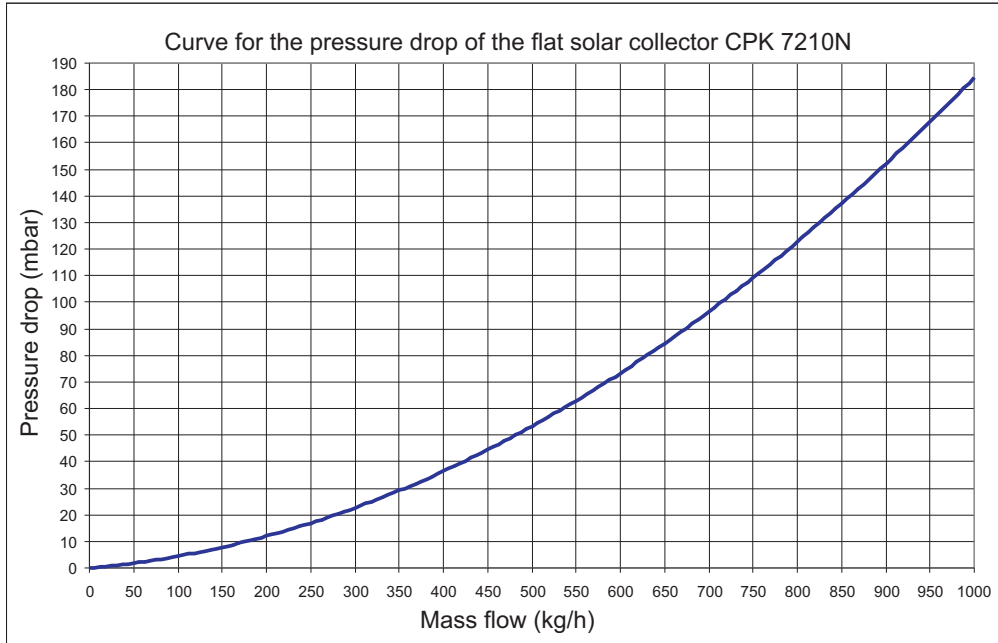


Curve for the pressure drop

Curve for the pressure drop of the flat solar collector CPK 7210N:



## TECHNICAL MANUAL

For assembling, use and maintenance of the flat solar collector



# CPK 7210N

**FLAT SOLAR COLLECTOR CPK 7210N**

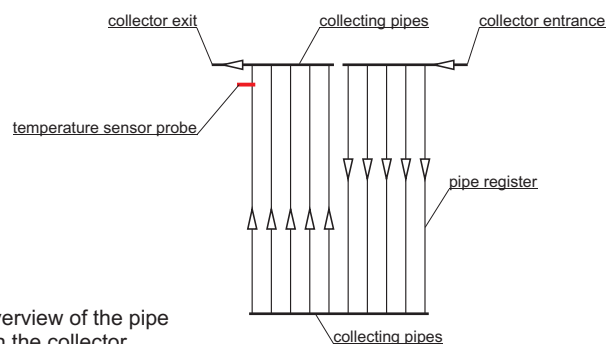
The collector is designed for mounting only in vertical position (both connection is obligatory to be on the upper side of the collector).

The collector has two connections (R 1") on its upper side (connecting by the special union wing).

Pipe register has the shape of the harp, upper transfer pipe is blocked in the middle of its length, which prolong the fluid flow through the collector.

The collector is not designed for operating like thermal siphon system (solar system can not operate without pump).

The collector exit towards the water heater is always located on that side where the temperature sensor is connected.



**DRAFT:** Scheme overview of the pipe formation in the collector.

The collector is suitable for inclination from min. 15° to max. 75° of the horizontal surface.

Collectors can be mounted on the sloping roof (mounting sets for the sloping roof for 1,2 or 3 collectors) or on the flat roof under the angle of 45° (mounting sets for the flat roof for 1,2 or 3 collectors). Collector declination angle from 0° to 45° is adjusted by setting the mounting set for the flat roof. The detail manual for the mounting of the collector on the roof is placed in the mounting sets.

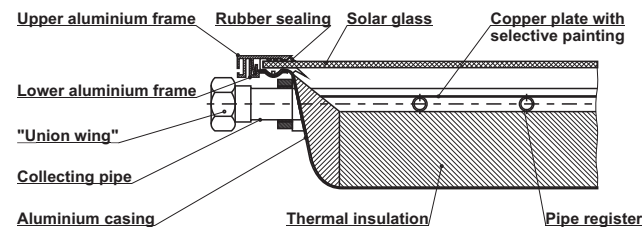
Max. 6 collectors can be connected in one line. For bigger collector systems connecting is parallel in more lines with up to 6 collectors.



**DRAFT:** Possible connection for more than one line with 6 collectors

**IMPORTANT!**

It is forbidden to carry or lift the collector for its connection or with the screw for the mounting the collector for the mounting sets. It is obligatory to fill the collector system with water glycole mixture (not only with water).

**Collector section:****Technical data:**

## Flat collector CPK 7210N

Brutto surface	(m <sup>2</sup> )	2,11
Insolation surface	(m <sup>2</sup> )	2,0
Absorber surface	(m <sup>2</sup> )	1,9
Absorber material		Coated copper sheet
Absorption coefficient	(%)	95 ± 2
Emission coefficient	(%)	5 ± 3
Optical efficiency rate	(%)	81,8
Heat loss rate k <sub>1</sub>	W/(m <sup>2</sup> K)	3,29
Heat loss rate k <sub>2</sub>	W/(m <sup>2</sup> K <sup>2</sup> )	0,0134
Pipe register	(mm)	f8 x 0,5
Collecting pipes	(mm)	f22 x 0,8
Absorber content	(l)	1,4
Transparent coating		4 mm tempered solar glass
Light transmission in the glass	(%)	90,8 ± 2
Energy transmission through glass	(%)	90 ± 2
Number of connections		2
Dimension of connections	(R)	1"
Max. Operating pressure	(bar)	10
Stagnation temperature	(°C)	180
Insulation		Stone wool
Height of the collector	(mm)	2036
Width of the collector	(mm)	1035
Collector thickness	(mm)	98
Collector mass	(kg)	39
System liquid		Glycole / water mixture