

## Flat plate collector KA88/2002 and KA88/2002G

**The future belongs to the renewable energy**

**Our motto:**

*independence through renewable local energy sources and intelligent heating solutions.*

We are the distributor of clean non-polluting wood stoves/wood boilers and solar or wind generated power solutions for all your energy needs placed in Nova Scotia for customers all over Canada.

In our product range you will find wood stoves – wood boilers, solar space heating systems, solar domestic hot water systems, individual solutions and requirements, storage tanks, pump stations, controlling systems, corrugated insulated pipes and pipe insulation as well as power producing PV Systems and wind turbines.

We are a system provider for renewable heating and power solutions.

The KA88/2002 is one of the most powerful flat plate collectors in the world.

You can use it for solar domestic hot water and/or for solar space heating and/or solar pool heating.



## Technical Data Manual KA88/2002



### KA88/2002 - Model KA88/2002 and KA88/2002G

Flat plat collectors for vertical or horizontal installation on roofs or at the ground.

Field of application:

- Domestic hot water systems
- Space heating support
- Swimming pools

KA88/2002 and KA88/2002G are listed by CSA international  
no.: 2439632



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## Technical Data

Model		KA88/2002	KA88/2002G
<b>Total surface area</b>	ft <sup>2</sup> / (m <sup>2</sup> )	19.40 / (1,80)	27.0 / (2,51)
<b>Absorber surface area</b>	ft <sup>2</sup> / (m <sup>2</sup> )	17.76 / (1,65)	24.8 / (2,30)
<b>Dimensions</b> rounded to the nearest inch			
Width	inches	36 ¼	41 ¼
	mm	920	1050
Height	inches	76 ½	92 ½
	mm	1940	2350
Depth	inches	3 ½	3 ½
	mm	88	88
<b>Optical efficiency</b> based on absorber surface area		86%	86%
<b>Weight</b>	lbs	77.16	105.82
	kg	35	48
<b>Fluid capacity</b>	USG	0,262	0,37
	L	0,99	1,4
<b>Maximum working pressure</b>	psi	29 – 58	29 – 58
	bar	2 – 4	2 – 4
<b>Max. stagnation temperature</b>	°F	482°	482°
	°C	250°	250°
<b>Connection</b>	inches	¾	¾
	mm	22	22
<b>Requirements for installation</b>	Roof construction with adequate load capacity for prevailing wind forces		
<b>Performance Factor</b>		0.82	0.89

## Material Info

Two different materials: aluminum and stainless steel

Connection	Collecting pipes 22 mm (¾ "); compression type fitting
Glass	special solar glass with 92% transparency
Insulation	55 mm (2.17 ") ceramic wool
Heat loss	ca. 3,7 W/mK
Absorber coating	sun-select: $\alpha = 0,95$ $\xi = 0,05$
Flow stream	High flow = 50 l/min (13.2 USGpm) / low flow = 30 l/min(6.6 USGpm)
Medium	glycol 40 : 60 water; depends on the material

## Heat transfer medium

Use tyfocor or similar product.

Frost protection	$\leq -31^{\circ}\text{F} / (-35^{\circ}\text{C})$
Specific gravity at $68^{\circ}\text{F} / 20^{\circ}\text{C}$	1,032 – 1,035 $\text{g}/\text{cm}^3$
Viscosity at $68^{\circ}\text{F} / 20^{\circ}\text{C}$	about 8 $\text{mm}^2/\text{s}$
pH-value	7.5 – 8.5

## Mounting hardware

The mounting hardware depends on the individual demand.

Preassembled units will be delivered as ordered including screws and nuts.

Before the units are installed make sure that the roof fixing is save (especially in windy regions) and the roof itself fulfills the requirements for additional weight and wind power.

## Collector installation

- Fix the mounting bracket on the roof or ground
- Insert the first collector on the right or left side
- Fix it with the mounting rail
- Use the inserts and the compressing ring to prepare for the next collector

## Collector connection

First put in the insert than use the compression ring

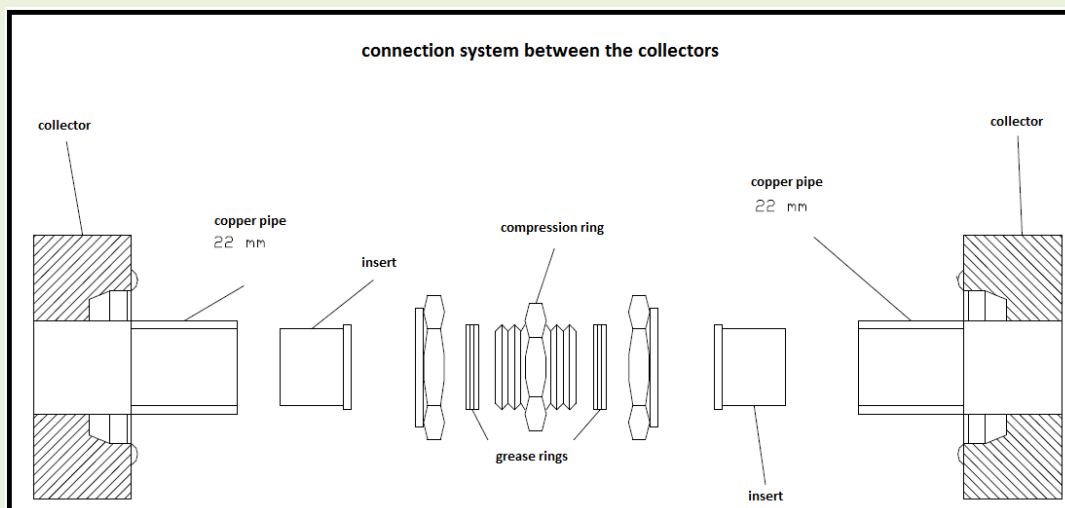


### !!! Attention !!!

Don't drill the pipe in the collector. Always use two screw-spanners.

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We don't give warranty for damages by wrong handling.





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## Miscellaneous

- Maximum snow load 250 kg/m<sup>2</sup> // 23 lbs/ft<sup>2</sup>
- Collector slope 18° - 90°
- Proof frost protection every two years
- Grease the ferrules
- Every collector has a white protection foil; don't move this foil before finishing the whole system
- After finishing the pipe system flush the pipes with water (min 15 min)
- Proof the capacity of the expansion tank
- Before filling the system proof the pressure of the expansion tank. The pressure should be 0,5 bar more than the system pressure not more than 1,5 bar
- Proof the relieve valve. It may open by 4,5 bar or little more
- Mix the heat transfer medium
- Fill and exhaust the air from the system. After exhausting close all bleeders.
- Proof the temperature differences  
T-max = 95°C / 203°F  
 $\Delta T = 7^{\circ}\text{C} - 10^{\circ}\text{C} / 44^{\circ}\text{F} - 50^{\circ}\text{F}$
- proof the contacts for temperature measurement
- Proof the flow meter  
high flow = 50 l/m<sup>2</sup>,h  
low flow = 30 l/m<sup>2</sup>, h
- Proof all filters
- Are all flow and return pipes correctly connected ?

## Pipe dimension

Solar surface	High flow	Low flow
up to 7,5 m <sup>2</sup>	Copper 18 mm	Copper 15 mm
up to 15 m <sup>2</sup>	Copper 22 mm	Copper 18 mm
up to 30 m <sup>2</sup>	Copper 28 mm	Copper 22 mm
up to 65 m <sup>2</sup>	Copper 35 mm	Copper 28 mm
more than 65 m <sup>2</sup>	Copper 42 mm	Copper 35 mm



2 \* 6 \* KA88/2002 (two rows) for solar domestic hot water and space heating

