

Installation Instructions

Evacuated tube collectors CPC 6 OEM / INOX CPC 12 OEM / INOX CPC 18 OEM / INOX CPC 6 XL INOX CPC 12 XL INOX

With aluminum/ stainless steel installation system

Subject to technical modifications without notice!

Due to continuous development, the drawings, installation steps and technical data detailed here may change.

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Document no.: TDUS 1006 V 2.4 Issue date: 12/11

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1. About this document

1.1 Important information

The equipment must be installed in accordance with installation regulations required in the area where the installation is located. Local regulations must be carefully followed in all cases. Authorities having jurisdiction shall be consulted before installations are made.

1.2 Purpose of this document

This document is to provide you with information regarding the collectors of the OEM/INOX and XL INOX series. It contains information concerning:

• Safety • Hydraulic interconnection • Connection options • Assembly and installation • Hydraulic connections • Accessory kits • Lightning protection

1.3 Target group for this document

These installation instructions are intended for installation engineers.

1.4 Symbols used in this document

The following terms are used throughout this manual to bring attention to the presence of hazards of various risk levels, or important information concerning product life.



Indicates an imminently hazardous situation, which, if not avoided, will result in death, serious injury, or substantial property damage.



Indicates a potentially hazardous situation, which, if not avoided, could result in death, serious injury, or substantial property damage.



Indicates a potentially hazardous situation, which, if not avoided, may result in moderate, or minor injury or property damage.

NOTICE

Indicates special instructions on installation, operation or maintenance, which are important but not related to personal injury hazards.

1.5 Applicability

These installation instructions apply for the OEM/INOX and XL INOX evacuated tube collectors as of 01/01/2008.

2. Safety Information



The respective state's specific standards and safety regulations must be adhered to.

Please pay careful attention to this safety information in order to avoid the risk of injury or death and damage to property and equipment. Carefully read through these installation instructions.

2.1 Working on the solar energy system



Installation, initial setup, inspection, maintenance and repairs must be carried out by authorized service personnel (registered heating engineers). Work must comply with the relevant safety standards.



Before working on the solar energy system it should be isolated from the mains power (e.g. by removing its separate fuse or switching its circuit breaker) and steps taken to prevent it being switched back on.

2.2 Repair work



Repairs to safety-critical components are not permitted. If components are replaced, original Ritter replacement parts must be used.

2.3 Roof work



The maximum permissible load for the substructure and the required distance from the roof edge are to be observed in accordance with the local building code. The latest valid version of any applicable accident prevention guidelines must also be observed.

2.4 Gloves and safety glasses



Wear gloves and safety glasses to avoid cut injuries when installing the collector.

2.5 Fire hazard



Evacuated tube collectors CPC OEM/INOX and XL INOX can reach stagnation temperatures in excess of 400°F during installation and operation. The flow and return connections are a burn hazard due to (among other things)

escaping steam.

2.6 Overhead electrical lines



Appropriate safety measures must be taken in the vicinity of overhead electrical lines following consultation with the operator.

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2.7 Equipotential bonding / lightning protection for the solar energy system

The pipe work of the solar circuit in the lower part of the building must be bonded as specified by the local building code. The connection of the collector system to an existing or new lightning protection system, as well as the installation of a local equipotential bond, may only be carried out by authorized service personnel after taking all local conditions into consideration.

3. General Information

Carefully read through these installation instructions. Failure to follow these instructions will void any manufacturer's or legal guarantee claims.

3.1 Structure and function of CPC OEM/INOX and CPC XL INOX

The CPC OEM/INOX and XL INOX evacuated tube collector consists of 3 main components, which are completely pre-assembled in a collector module:

- Evacuated tubes
- CPC reflector
- Manifold with heat transfer units

The incident solar radiation is reflected by the CPC reflector onto the absorber surface of the evacuated tubes where it is converted into heat. The high vacuum in the tubes combined with the highly selective coating on the absorber prevents the heat from escaping into the environment. The heat is transported away from the collector using a suitable heat transfer medium and by means of so-called heat exchangers inside the vacuum tubes and the tube register connected to them.

3.2 Applications of CPC OEM/INOX and CPC XL INOX

The CPC OEM/INOX and XL INOX may be used solely for water heating as well as in partial solar heating applications.

- Collector area for DHW heating = number of persons x 10 ft² + 10 ft²
- Collector area for DHW and space heating = number of persons x 20 ft² + 10 ft²
- Storage tank capacity: approx. 2 gal per ft² collector area for DHW heating and space heating

The CPC OEM/INOX and XL INOX should only be used in conjunction with suitable solar controllers and only in intrinsically safe and sealed solar heating systems that are fitted with a suitable and sufficiently sized membrane expansion tank.

3.3 Notes on the type plate

NOTICE

The type plate is attached to the collector manifold. It contains all the important manufacturer's data in the form of symbols. The following table gives the meaning of the individual symbols.

Symbol	Meaning	Explanation
Ag	area gross	gross area
l x w	length x width	length x width
V _f	volume _{fluid}	collector content
m	mass	weight
T _{stag}	temperature stagnation	stagnation temperature, max. (for 300 Btu/h and 90°F)
p _{max}	pressure maximum	operating overpressure, max permissible
y prod	year production	production year

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3.4 Technical data CPC 6 / 12 / 18 OEM / INOX

Series		CPC 6 OEM/INOX	CPC 12 OEM/INOX	CPC 18 OEM/INOX	
Number of evacuated tubes		6	12	18	
(based on gross area) SRCC	%	55.4	55.4	55.4	
a₁ (based on gross area) SRCC	Btu/ft².h.°F	0.1430	0.1430	0.1430	
a ₂ (based on gross area) SRCC	Btu/ft ² .h.°F ²	0.0003	0.0003	0.0003	
Yield forecast according to SRCC					
Clear Day, Category C	kBtu/unit	12.1	24.0	35.8	
Module dimensions					
(width x height x depth)	in	27.5 x 64.5 x 4	55 x 64.5x 4	82.5 x 64.5 x 4	
Gross surface	ft²	12.38	24.54	36.70	
Aperture area	ft²	10.76	21.68	32.29	
Collector content – OEM	gal	0.2	0.5	0.6	
Collector content – INOX	gal	0.2	0.5	0.7	
Weight – OEM	lb	41	75	113	
Weight – INOX	lb	38	75	115	
Max. permitted operating pressure	psi	150	150	150	
Stagnation temperature, max.	°F	522	522	522	
Connection width, flow/return	mm	15	15	15	
Collector material – OEM		Al / Cu / g	lass / silicone / PBT / E	EPDM / TE	
Collector material – INOX		AI / stainless ste	eel / glass / silicone / P	BT / EPDM / TE	
Glass tube material			borosilicate 3.3		
Selective absorber layer material			aluminum nitrite		
Glass tube, (ext. dim./ int. dim./	mm		aluminum nitrite 47 / 36.2 / 1.6 / 1503		
wall thickness / tube length)	in	1	.85 / 1.47 / 0.063 / 59.0)5	
Colour OEM					
(aluminum frame profiles, anodized)		natura	al anodized (aluminium	ı grey)	
Colour INOX					
(aluminum frame profiles, powder coated)			RAL 7015		
Colour (plastic parts)			black		
Heat transfer medium			Tyfocor LS or water		
Hailstone test according to DIN EN 12975-2	TÜV No.		435/142448		
SRCC OG-100 Certification no OEM		2008008E	2008008D	2008008F	
SRCC OG-100 Certification no INOX		2008008E	2008008D	20080080 2008008C	
		20000000	2000000A	20000000	

CPC OEM / INOX and XL INOX Installation Manual

3.5 Technical data CPC 6 /12 XL INOX

Series		CPC 6 XL INOX	CPC 12 XL INOX	
Number of evacuated tubes		6	12	
(based on gross) SRCC	%	57.8	57.8	
a ₁ (based on gross area) SRCC	Btu/ft².h.°F	0.14580	0.14580	
a ₂ (based on gross area) SRCC	Btu/ft².h.°F²	0.00036	0.00036	
Yield forecast according to SRCC Clear Day, Category C	kBtu/unit	15.1	32.1	
Module dimensions (width x height x depth)	in	27.5 x 81 x 4	55 x 81 x 4	
Gross surface	ft²	14.42	30.66	
Aperture area	ft²	13.15	27.80	
Collector content	gal	0.3	0.6	
Weight	lb	48	91	
Max. permitted operating overpressure	psi	150	150	
Stagnation temperature, max.	°F	522	522	
Connection width, flow/return	mm	15	15	
Collector material – INOX		Al / stainless steel / glass / silicone / PBT / EPDM		
Glass tube material		borosilic	ate 3.3	
Selective absorber layer material		aluminur	n nitrite	
Glass tube, (external dim./ internal dim./ wall thickness / tube length)	mm in	47 / 36.2 / 1.6 / 1920 1.85 / 1.47 / 0.063 / 75.59		
Colour INOX (aluminum frame profiles, powder coated)		RAL 7	7015	
Colour (plastic parts)		bla	ck	
Heat transfer medium		Tyfocor LS	6 or water	
Hailstone test according to DIN EN 12975-2	TüV No.	435/142448		
SRCC OG-100 Certification no INOX		2008010C	2008010D	

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3.6 Hydraulic interconnection of collectors

The hydraulic interconnection of collectors depends on the available pump head height, and is described in the following for standard systems. In principle, it is advisable to firstly connect as much collector surface as possible in series.

The collectors' maximum aperture surface which can be connected in series is 140 ft² in low-flow operation (volume flow 0.25 I / (min·ft²) and 86 ft² in high-flow operation (volume flow 0.66 I / (min·ft²).

Maximum permissible number of collectors in series

	Low Flow	High Flow	
CPC 6 OEM / INOX	13	8	
CPC 12 OEM / INOX	6	4	
CPC 18 OEM / INOX	4	2	
CPC 6 XL INOX	10	6	
CPC 12 XL INOX	5	3	

It is recommended that the collectors are arranged adjacently. However, stacked arrangements as shown on the following diagrams are also permitted. All these arrangements can also be mirrored in the vertical plane. Clearances between adjacent collectors are to be 1/4", and at least 6" between stacked collectors.

General Information

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3.7 Connection Options

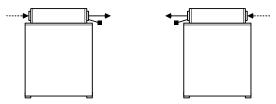
Legend

- Corrugated hose return (cold)
- Corrugated hose supply (hot) with collector sensor

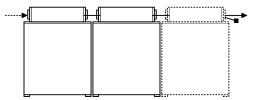


CAUTION Sensor must be located on the supply side (hot outlet)

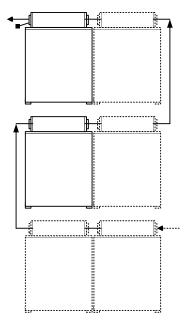
3.7.1 Connection options for 1 collector



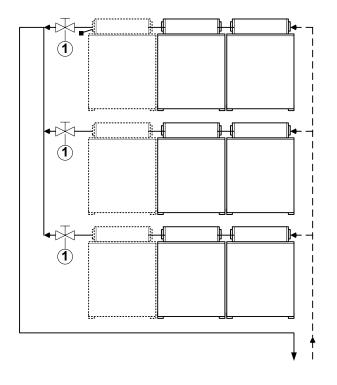
3.7.2 Connection options for 2 or more adjacent collectors



3.7.3 Connection options for 2 or more stacked collectors



3.7.4 Connection options for 2 or more adjacent collectors and 2 or 3 stacked collectors



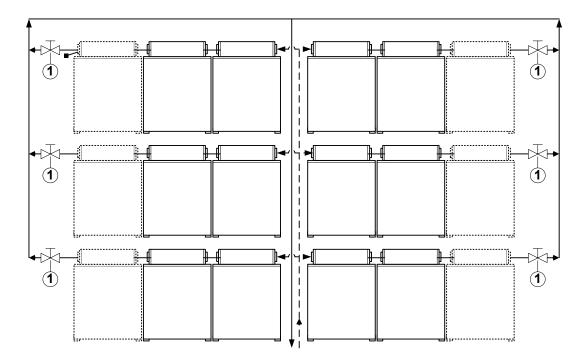
NOTICE

In order to facilitate bleeding and equalize the collector arrays, one shut-off ball valve ① should be built into each outlet.



Sensor must be located on the supply side (hot outlet)

3.7.5 Connection options for 1 or 2 series connections <u>beside each other</u> and several series connections <u>above each other</u>



and multiple series connections above one another

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4. Installing the Collectors



Please carefully observe the following notes on installation and safety, in order to avoid risk of injury or death and damage to property and equipment.

4.1 General notes on installation

- The accident prevention regulations of accident prevention and insurance associations are to be observed.
- Danger of falling persons, falling objects, breakthrough of surfaces due to insufficient load-bearing capacity, etc., are to be prevented by means of appropriate measures such as the use of scaffolding, protective walls, safety harnesses, leaning ladders, intercepting scaffolds, roof scaffolds, roof ladders, etc.
- The maximum permissible load for the substructure and the required distance from the roof edge are to be observed in accordance with all applicable codes and regulations.
- The roof substructure is to be checked for suitability before commencing collector installation. Consult an appropriately qualified expert (structural engineer, carpenter, etc.) if you have any doubts.
- When installing the CPC OEM/INOX and XL INOX evacuated tube collector, gloves and safety glasses are to be worn.
- When overhead power lines are nearby, appropriate safety measures (voltage disconnection, covering, safety distances) are to be observed upon consultation with the line operator.
- The collector is to be fastened carefully, so that the stresses which arise in the event of gales, storms, and snow, can be safely accommodated by the fasteners.
- For installations in gardens, safety precautions are to be taken, in order to prevent playing children from becoming injured, or from causing damage.
- The alignment of the collector is to be as southerly as possible. A deviation of ±30° is possible. Shading during the main usage period is to be avoided.
- The manifold of the collector is always to be installed uppermost.
- The predefined minimum pitch of the collector is 15° (self-cleaning), the maximum pitch is 90°.
- The sun protection film must be left on the collector until the collector has been flushed and filled, however it must not be exposed to the weather for longer than 4 weeks. For longer periods, a suitable sun protection tarpaulin must be applied.
- Plastic piping and press-fitting connections are not permissible in the collector circuit.
- All hydraulic connections are to be realized using compression ring fittings (recommended) or brazed joints.
- When brazing, comprehensive fire protection and sufficient ventilation are to be ensured.
- The insulation of the connecting pipe work must be resistant to temperatures of up to 300°F, and UV-resistant.
- The installation kits contain a number of small parts such as nuts and bolts. Take care not to lose these parts. Perform the working steps on the ground whenever possible.

4.2 CPC OEM/INOX and XL INOX evacuated tube collector delivery contents

The complete CPC OEM/INOX and XL INOX evacuated tube collector delivery contents comprise:

- 6, 12 or 18 evacuated tubes based on the thermos flask principle with heat exchangers
- Manifold with direct-flow heat conduction units and dry connection of the evacuated tubes, including straight compression ring fittings for flow and return
- CPC reflector
- Installation instructions

4.3 Transporting the collector onto the roof

Check that the tube retainer is positioned correctly before transporting the collector onto the roof The collector is transported onto the roof inside the packaging. This prevents damage to the reverse side of the collector. Special caution is required in case of windy conditions

On the reverse side of the collector, strap loops are found above and below, left and right. Suitable load lifting tackles can be inserted here. In so doing, it must be ensured that fastenings (knots) are secure. Transport onto the roof is made easier with a construction crane or mobile crane. If such a device is not available, an inclined hoist can be used. In either case, the collector must, in addition, be guided by ropes, which prevent swinging or lateral tilting. In the absence of motor-powered aids, the collector is hoisted onto the roof with the help of leaning ladders or planks, which serve as slide ramps. In this case the main supporting element, e.g. rope, must be attached to the strap loops using suitable load lifting tackle such as (e.g.) snap hooks or shackles or by using an appropriate knot. Care must be taken to ensure that the main supporting element cannot slip out of the straps. Falling parts can endanger persons and damage property. Never stand underneath a suspended load. Observe the applicable regulations for working at the height of the installation. Cordon off a sufficiently large fall area below the working position. Label the working position using (e.g.) warning notices in accordance with the applicable regulations.

4.4 Installing the collector

Carefully lift the collector (with packaging) over the installed lower mounting hooks. Open the packaging and allow the collector to slide downwards into the lower hooks. If necessary, lift the collector upwards slightly, so that the hooks encompass the lower frame. Insert the upper mounting hook into the groove in the manifold, and screw tight onto the bearing rail using a raised cheese-head screw.



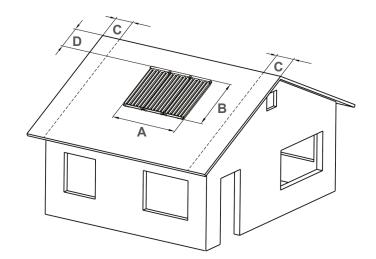
The sun protection film must be left on the collector until the collector has been flushed and filled, however it must not be exposed to the weather for longer than 4 weeks. For longer periods, a suitable sun protection tarpaulin must be applied

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5. Installation instructions

5.1 Space requirements



Dim. A

		CPC OEM / INOX			CPC XL INOX	
	6	12	18	6	12	
Number of adjacent collectors	[in]	[in]	[in]	[in]	[in]	
1	27 1/2	55 1/8	82 5/8	27 1/2	55 1/8	
2	55 1/8	110 1/4	165 3/8	55 1/8	110 1/4	
3	84 5/8	165 3/8	248	84 5/8	165 3/8	
4	112 1/4	220 1/2	328 3/4	112 1/4	220 1/2	
5	139 3/4	275 5/8	411 1/2	139 3/4	275 5/8	
6	167 3/8	330 3/4	494	167 3/8	330 3/4	

Dim. B

	CPC 6/12/18 OEM/INOX	CPC 6/12 XL INOX
Number of collectors above on another	[in]	[in]
1	64 1/2	81 1/8
2	135	169
3	206	256

Dim. C

corresponds to the roof overhang including the thickness of the end wall. The adjoining 12 in distance from the collector is required for hydraulic connection below the roof.

Dim. D

Observe the local building code.

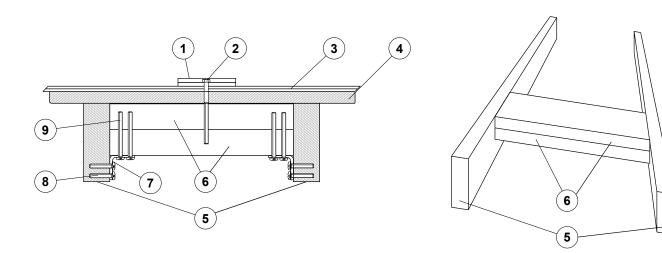
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5.1 Positioning the retaining clamps

Observe the following illustrations to determine the position of the base plates.

NOTICE

Where indicated an additional horizontal structural support between two rafters must be installed.



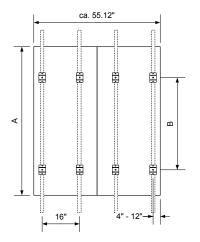
	Parts list structural support	
Pos. 1	Retaining clamp	
Pos. 2	Lag bolt	
Pos. 3	Shingles	
Pos. 4	Plywood roofing	
Pos. 5	Rafters	
Pos. 6	Structural support 2" x 6"	
Pos. 7	Brackets	
Pos. 8	Decking screw for rafters	
Pos. 9	Decking screw for structural support	
6		

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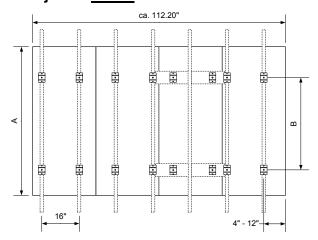
5.2.1 Positioning on a 16" roof

	CPC 6 / 12 7 18 / INOX	CPC 6 / 12 XL INOX
Dim. A	64 1/2"	81"
Dim. B	approx. 40"	approx. 57 "

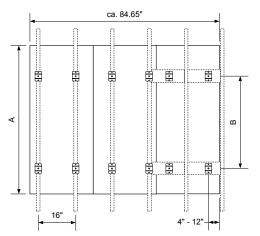
Positioning the retaining clamps for 2 adjacent <u>CPC 6</u> collectors



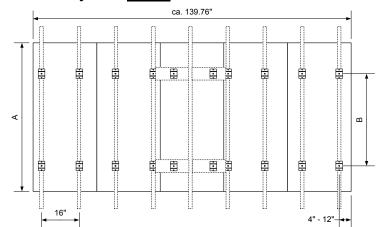
Positioning the retaining clamps for 4 adjacent <u>CPC 6</u> collectors



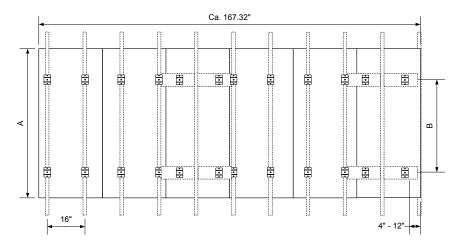
Positioning the retaining clamps for 3 adjacent <u>CPC 6</u> collectors



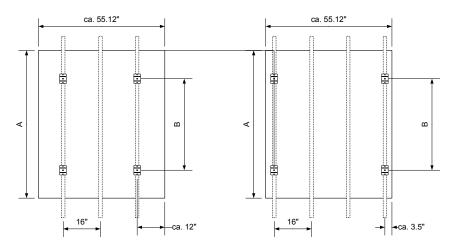
Positioning the retaining clamps for 5 adjacent <u>CPC 6</u> collectors



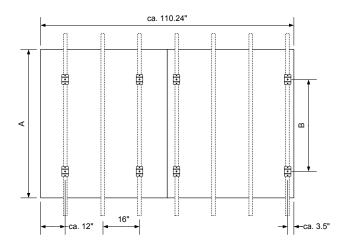
Positioning the retaining clamps for 6 adjacent <u>CPC 6</u> collectors



Positioning the retaining clamps for1 adjacent CPC 12 collectors

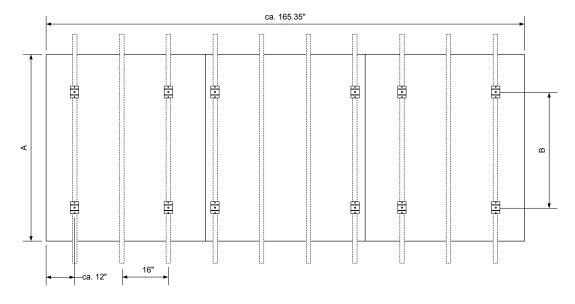


Positioning the retaining clamps for two adjacent CPC 12 collectors

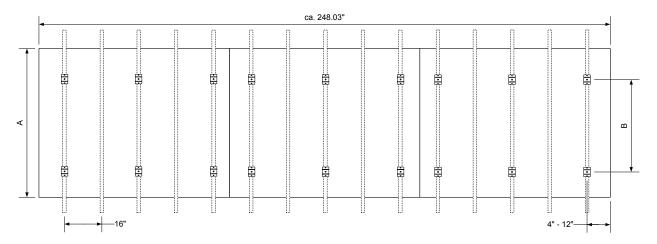


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Positioning the retaining clamps for 3 adjacent <u>CPC 12</u> collectors



Positioning the retaining clamps for one or more adjacent CPC 18 OEM / INOX



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Pre-charge pressure ppre:

The pre-charge pressure p_{pre} of the expansion tank must be 2 psi bellow the initial pressure p_{inital} .

 $p_{pre} = p_{inital} - 2psi$

Solar component contents

L-copper

Size	3/8"	1/2"	3/4"	1"
Content (gal/ft)	0.00753	0.0121	0.0251	0.0429

Collectors

Model	CPC 6 OEM	CPC 12 OEM	CPC 18 OEM	CPC 6 INOX	CPC 12 INOX
Content (gal)	0.21	0.42	0.63	0.24	0.48
Model	CPC 18 INOX	CPC6XL INOX	CPC12XL INOX		
Content (gal)	0.69	0.3	0.6		

Example:

Based on:2 CPC 12 OEM / INOX collectors
Static height h_{stat}: 25 ftPipe work: 1/2" L-copper, 2 x 50 ft
Pressure relief valve rating: 87 psi
Content of the heat exchanger and the solar pump station: e.g. 1.5 gal
Pipes in the vapor zone: 1/2" L-copper 2 x 5 ft

The individual capacities of the system components can be ascertained from the respective data tables in the product description. The content of the collectors and for various sizes of L-copper pipe are specified in the tables above.

 $V_{svs} = 1.5 \text{ gal} + (100 \text{ ft} \cdot 0.012 \text{ 1gal/ft}) + (2 \cdot 0.42 \text{ gal}) = 3.55 \text{ gal}$

Pipes above or at the same height as the collector manifold (or the lowest manifold if there are several collectors above each other) can be filled with vapor if the solar system comes to a standstill. Thus, the contents of the affected pipes are included in the vapor volume V_{vapor} .

 $V_{vapor} = 2.5 \text{ft} \cdot 0.0121 \text{gal/ft} = 0.12 \text{gal}$

Calculation of the acceptance volume:

The acceptance volume V_{accept} of the expansion tank must be larger than expansion volume V_{exp} of the system.

$$V_{accept} \ge V_{exp} = (2 \cdot 0.42 \text{ gal}) + 0.12 \text{ gal} + (0.7 \cdot 3.55 \text{ gal}) = 3.45 \text{ gal}$$

 $V_{inital} = 0.005 \cdot 4.44 \text{ gal} = 0.02 \text{ gal}, \text{but } V_{svs} \le 200 \text{ gal} \implies V_{inital} = 1 \text{ gal}$

 $p_{inital} = 4 psi+25 ft \cdot 0.45 psi/ft = 15 psi$

 $p_{safe} = 0.9 \cdot 87 psi = 78 psi$

Calculation of the total tank volume:

$$V_{tank} = (3.45 \text{gal} + 1 \text{gal}) \cdot \frac{78 \text{psi} + 14.5 \text{psi}}{78 \text{psi} - 15 \text{psi}} = 6.55 \text{gal}$$

Calculation of the pre-charge pressure:

p_{pre} = 15psi-2psi=13psi

Connection Options

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11. Connection options

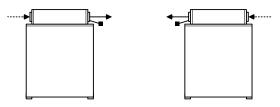
Legend

- Corrugated hose return (cold)
- Corrugated hose supply (hot) with collector sensor

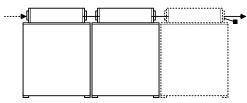


CAUTION Sensor must be located on the supply side (hot outlet)

Connection options for 1 collector

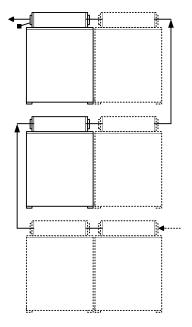


Connection options for 2 or more adjacent collectors

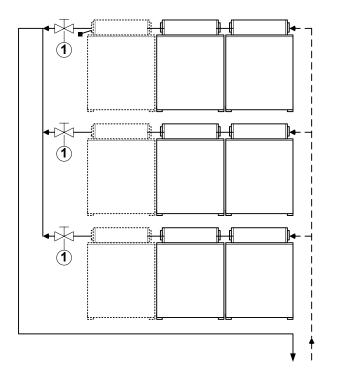


Reverse connection of the flow direction is possible

Connection options for 2 or more collectors above one another



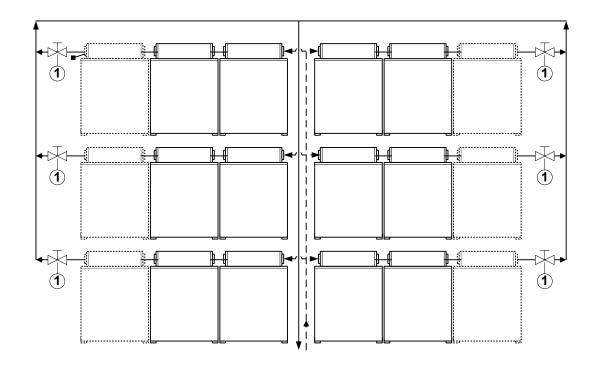
Connection options for 1 or 2 adjacent collectors and 2 or 3 collectors above one another



NOTICE

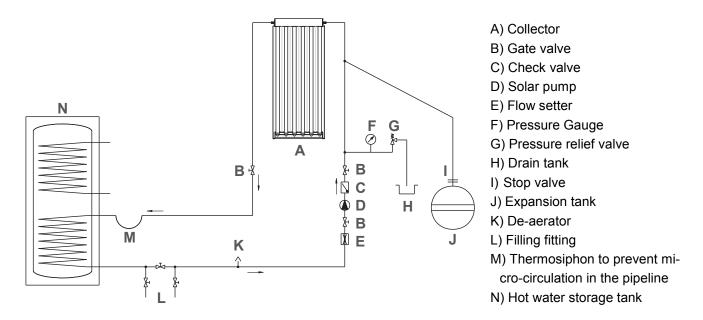
In order to facilitate bleeding and equalize the collector arrays, one shut-off ball valve ① should be built into each outlet.

Connection options for 1 or 2 <u>adjacent</u> series connections and multiple series connections <u>above one another</u>

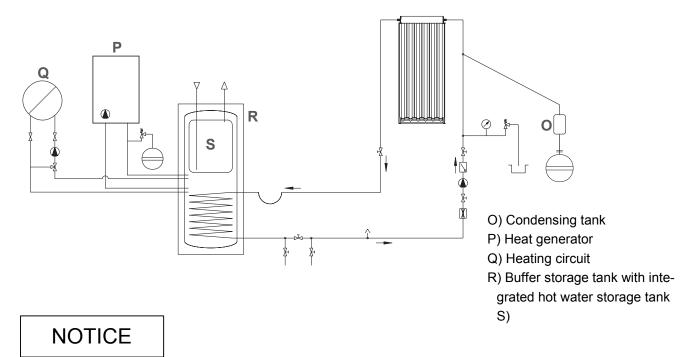


12. Sample system

12.1 Sample system for solar water heating



12.2 Sample system for solar water heating with heating support

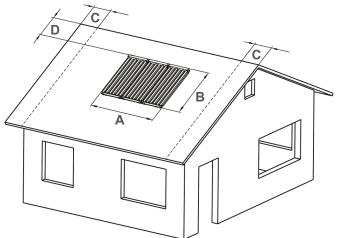


For solar energy systems with heating support, we recommend that you install a condensing tank. Solar energy systems which are too large for the six summer months often stagnate, i.e. the membrane of the expansion tank is protected by the cold primary content of the primary tank.

MESys Solar

13. Installation instructions

13.1 Space requirements for pitched roofs



Dim. A

		CPC OEM / INOX			CPC XL INOX	
	6	12	18	6	12	
Number of adjacent collectors	[in]	[in]	[in]	[in]	[in]	
1	27 1/2	55 1/8	82 5/8	27 1/2	55 1/8	
2	55 1/8	110 1/4	165 3/8	55 1/8	110 1/4	
3	84 5/8	165 3/8	248	84 5/8	165 3/8	
4	112 1/4	220 1/2	328 3/4	112 1/4	220 1/2	
5	139 3/4	275 5/8	411 1/2	139 3/4	275 5/8	
6	167 3/8	330 3/4	494	167 3/8	330 3/4	

Dim. B

	CPC 6/12/18 OEM/INOX	CPC 6/12 XL INOX
Number of collectors above on another	[in]	[in]
1	64 1/2	81 1/8
2	135	169
3	206	256

Dim. C

corresponds to the roof overhang including the thickness of the end wall. The adjoining 12 in distance from the collector is required for hydraulic connection below the roof.

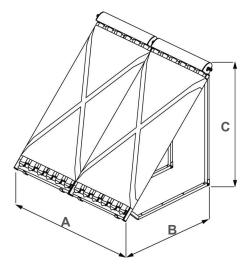
Dim. D

Observe the local building code.

13.2 Space requirements for pitched roofs

The CPC OEM/INOX and XL INOX evacuated tube collector can be installed on flat roofs, on slightly sloping roofs (up to 20°) or in gardens. The spacing between the angle frames must also be adhered to on sloping roofs. It may be necessary to add auxiliary rafters. If applicable, a stress analysis is to be carried out on the substructure.

Space requirements for a <u>single-row</u> collector array:



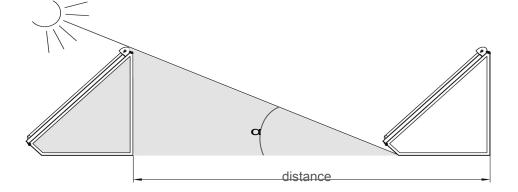
Dimension A according to the number of collectors

		CPC OEM / INOX			L INOX
	6	12	18	6	12
Number of collectors	[in]	[in]	[in]	[in]	[in]
1	27 1/2	55 1/8	82 5/8	27 1/2	55 1/8
2	55 1/8	110 1/4	165 3/8	55 1/8	110 1/4
3	84 5/8	165 3/8	248	84 5/8	165 3/8
4	112 1/4	220 1/2	328 3/4	112 1/4	220 1/2
5	139 3/4	275 5/8	411 1/2	139 3/4	275 5/8
6	167 3/8	330 3/4	494	167 3/8	330 3/4

Dimension B and C according to installation angle

	CPC 6/12/18 OEM/INOX	CPC 6/12 XL INOX
Installation angle	[in]	[in]
Dim. B 30°	56 3/4	71 5/8
Dim. B 45°	47 1/4	59
Dim. C 30°	41	48 7/8
Dim: C 45°	53 1/8	64 1/4

Distance between the collectors, for double-row or multi-row collector arrays



		Distance [ft] a= 30°		Distance [ft] a= 45°		
Type of use	0	CPC 6/ 12/ 18 OEM / INOX			CPC 6/ 12 XL INOX	

System location between 50° and 40° northern latitude:

DHW	May to August			not recommended	not recommended
DHW	April to September				
DHW and heating	March to October	not recommended	not recommended		
DHW and heating	All year	not recommended	not recommended		

System location between 40° and 30° northern latitude:

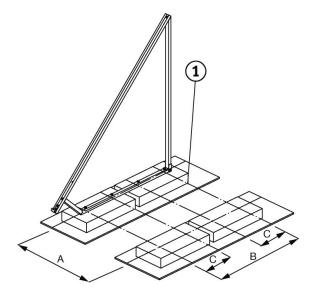
DHW	May to August		not recommended	not recommended
DHW	April to September			
DHW and heating	March to October			
DHW and heating	All year			

System location between 30° and 20° northern latitude:

DHW	May to August		not recommended	not recommended
DHW	April to September		not recommended	not recommended
DHW and heating	March to October		not recommended	not recommended
DHW and heating	All year		not recommended	not recommended



13.3 Weight and positioning of the concrete blocks





Flat roofs covered with gravel : clear gravel from the area where the concrete slabs are to be placed. Flat roofs with plastic roof sheeting: place the concrete slabs on protective overlays (building protection mats, pos.1).

Arrange the concrete slabs as shown in the figure to the left.

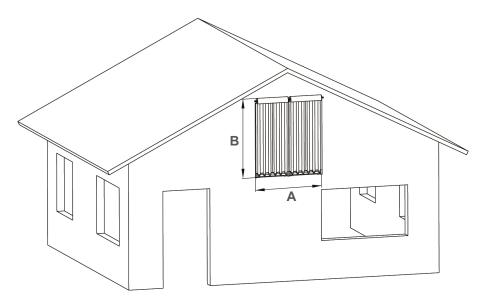
	CPC OEM / INOX			CPC XL INOX	
	6	12	18	6	12
Dim. A (in)	22	43	55	22	43
Dim. B 30° (in)	41.34				
Dim. B 45° (in)			31.89		
Dim. C 30° (in)	13.78				
Dim. C 45° (in)	10.63				

Collector type	Number	Angle	Required weight	Required weight
	of the angle	of the	of the front	of the rear
	frames	frame	concrete slab	concrete slab
CPC 6/12/18 OEM/INOX	2	30°	75 kg	75 kg
CPC 6/12 XL INOX	2	30°	75 kg	75 kg
CPC 6/12/18 OEM/INOX	2	45°	75 kg	75 kg
CPC 6/12 XL INOX	2	45°	75 kg	75 kg
Building height of up to 2 Collector type		Angle	Required weight	
Building height of up to 2	0 m	Angle of the		
Building height of up to 2	0 m Number	-	Required weight	Required weight
Building height of up to 2	0 m Number of the angle	of the	Required weight of the front	Required weight of the rear
Building height of up to 2 Collector type	0 m Number of the angle frames	of the frame	Required weight of the front concrete slab	Required weight of the rear concrete slab
Building height of up to 2 Collector type CPC 6/12/18 OEM/INOX	0 m Number of the angle frames 2	of the frame 30°	Required weight of the front concrete slab 112 kg	Required weight of the rear concrete slab 112 kg

13

13.4 Space requirement for vertical facade installation

The CPC INOX can also be installed vertically on a wall by means of the retaining clamps for pan tiles. A specific clearance of the piping length must be maintained beneath the array.



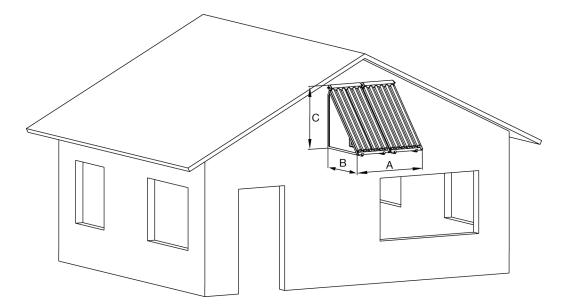
Dimension A according to the number of collectors

		CPC OEM / INOX			CPC XL INOX	
	6	12	18	6	12	
Number of collectors	[in]	[in]	[in]	[in]	[in]	
1	27 1/2	55 1/8	82 5/8	27 1/2	55 1/8	
2	55 1/8	110 1/4	165 3/8	55 1/8	110 1/4	
3	84 5/8	165 3/8	248	84 5/8	165 3/8	
4	112 1/4	220 1/2	328 3/4	112 1/4	220 1/2	
5	139 3/4	275 5/8	411 1/2	139 3/4	275 5/8	
6	167 3/8	330 3/4	494	167 3/8	330 3/4	

Dim. B		
	CPC 6/12/18 OEM/INOX	CPC 6/12 XL INOX
Number of collectors above on another	[in]	[in]
1	64 1/2	81 1/8
2	135	169
3	206	256

13.5 Space requirement for facade installation with 45° or 60° angle frames

The CPC OEM/INOX and CPC XL INOX can be installed on a wall by means of the angle frames for 45° or 60° slopes. For a 60° slope, 3 feet space must be kept free beneath the collector.



Space requirement for a single-row collector array:

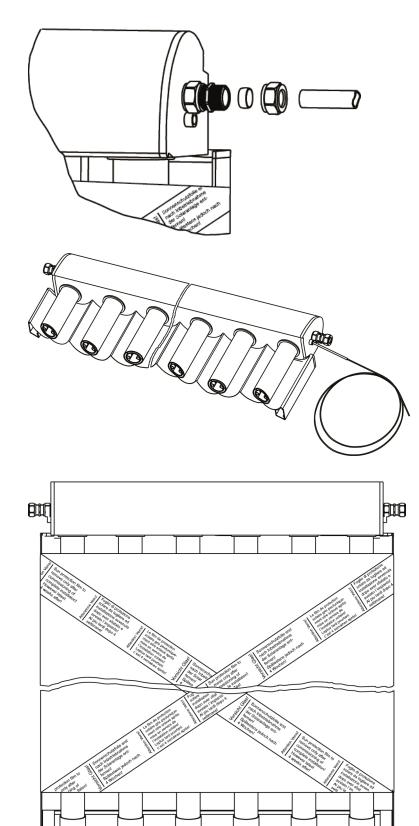
Dimension A according to the number of collectors

	CPC OEM / INOX			CPC XL INOX	
	6	12	18	6	12
Number of collectors	[in]	[in]	[in]	[in]	[in]
1	27 1/2	55 1/8	82 5/8	27 1/2	55 1/8
2	55 1/8	110 1/4	165 3/8	55 1/8	110 1/4
3	84 5/8	165 3/8	248	84 5/8	165 3/8
4	112 1/4	220 1/2	328 3/4	112 1/4	220 1/2
5	139 3/4	275 5/8	411 1/2	139 3/4	275 5/8
6	167 3/8	330 3/4	494	167 3/8	330 3/4

Dimension B and C according to installation angle

	CPC 6/12/18 OEM/INOX	CPC 6/12 XL INOX	
Installation angle	[in]	[in]	
Dim. B 30°	53 1/8	64 1/8	
Dim. B 45°	39 3/4	47 1/4	
Dim. C 30°	47 1/4	59	
Dim: C 45°	58 1/4	72 1/2	

13.6 Specifications



The flow or return pipe can be connected to the collector on the left or on the right, as selected.

The connection is made using compression ring fittings. A 15 mm fitting is preassembled. Adapter fittings to 1/2" or 3/8" L-copper are available.

One integrated sensor immersion sleeve is available on each collector connection side. The sensor is always located on the hot flow side.

Upon delivery, the collector is covered by a sun protection film. This facilitates trouble-free commissioning of the solar energy system even in strong sunlight. It prevents the heat transfer medium being vaporized, rendering commissioning impossible. Remove the sun protection sheet after commissioning.

NOTICE

The collector must be commissioned 4 weeks after installation. The sun protection film will become brittle after 4 weeks of exposure.