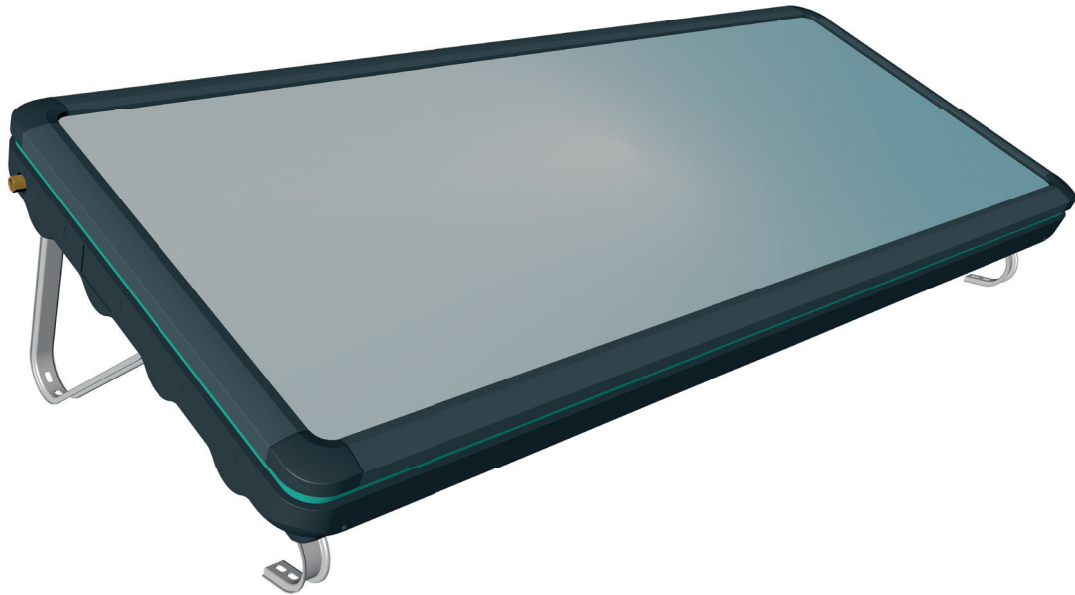




- EN** Instruction manual
- IT** Istruzioni di montaggio
- FR** Notice de montage
- ES** Instrucción de montaje
- PT** Instruções de montagem



**FOLLOW  
THIS  
MANUAL**

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## Safety information

Avvertenze per la sicurezza

Instructions de sécurité

Advertencias de seguridad

Indicações de segurança



	<p>Safety precautions: Before commencing mounting work on roofs, it must be ensured in all cases that the non-personal fall protection and fall-arrest systems required by DIN 18338 (Roof Covering and Roof Sealing Works) and DIN 18451 (Scaffolding Works) are in place. See also Builders' Protection Ordinance [Bauarbeiterschutzverordnung], Federal Law Gazette 340/ 1994, paragraphs 7-10! Other country-specific regulations must be observed!</p>		<p>Safety harnesses should be fixed above the users whenever possible. Safety harnesses should only be fastened to sufficiently load-bearing structures or fixing points!</p>
	<p>If non-personal fall protection or fall-arrest systems cannot be installed for technical reasons, all personnel must be secured by means of suitable safety harnesses!</p>		<p>Never use damaged ladders (e.g., wooden ladders with split runners or rungs, or bent or buckled metal ladders). Never try to repair broken runners, rungs or steps on wooden ladders!</p>
	<p>Only use safety harnesses (safety belts, lanyards and straps, shock absorbers, fall arresters) that were tested and certified by authorized testing bodies.</p>		<p>Ensure that ladders are put up safely. Observe the correct leaning angle (68° - 75°). Prevent ladders from sliding, falling over or sinking into the ground (e.g. using wider feet, feet suited to the ground or hooking devices).</p>
	<p>If non-personal fall protection or fall-arrest systems are not provided, working without the use of suitable safety harnesses may lead to falls from heights and therefore cause serious or lethal injuries!</p>		<p>Only lean ladders against secure points. Secure ladders in traffic areas by suitable cordoning.</p>
	<p>Ladders not properly secured against sinking in, sliding or falling over may lead to dangerous falls!</p>		<p>Contact with live electric overhead cables can be lethal.</p>
	<p>Whenever you are near live overhead electric cables where contact is possible, only work if:</p> <ul style="list-style-type: none"> <li>- it is ensured that they are voltage-free and this is secured for the duration of work.</li> <li>- the live parts are secured by covering them or cordoning them off.</li> <li>- the prescribed safety distances are maintained.</li> </ul> <p>Voltage radius:</p> <p>1 m .....voltages up to 1000V  3 m .....voltages from 1000V to 11000V  4 m .....voltages from 11000V to 22000V  5 m .....voltages from 22000V to 38000V  &gt; 5 m in case of unknown voltages</p>		<p>Wear protective goggles when drilling and handling collectors!</p>
			<p>Wear safety shoes when carrying out installation work!</p>
			<p>Wear cut-proof safety gloves when mounting collectors!</p>
	<p>Only the heat transfer medium specified may be used!</p>		<p>Wear a helmet when carrying out installation work!</p>



## General Information

We are delighted that you have chosen our product. With this high-quality, high-performance product, you have made an excellent selection. We wish you successful operation and many sunny days. Please read this manual carefully before installation and commissioning, as it contains important information for proper installation and for safety.

After the commissioning has been successfully completed, the assembly instructions must be handed over to the end customer. We would like to point out that proper function can only be guaranteed if: 1) you have annual maintenance carried out by qualified experts, 2) the instructions mentioned in this manual and 3) the stated operational recommendations are observed, and 4) the original accessories or spare parts are used.

### 1.1. Expert Persons (assembly, commissioning, maintenance and troubleshooting)

"Expert persons" are exclusively those persons who are qualified and certificated installers (in the case of electrical components: Electricians) with current trade registrations. All the activities listed in these installation instructions must, without exception, be carried out by these expert persons.

### 1.2. General Storage and Transport Instructions

The system components must not be stored unprotected outdoors; especially the system connections and the aeration/ventilation openings must be protected from water ingress and contamination, such as dust, etc.

The system or the storage tank must not be lifted up by the connectors or screw threads; avoid impacts and mechanical influences on the system components, in particular on the solar glass, system back panel, pipe connections and storage tank sheath.

### 1.3. General Installation Instructions

Installation may only be carried out by a qualified professional. The instructions provided here are directed at qualified professionals only. The supplied materials must be used for installation. Prior to installing and operating the SUNPAD system, familiarise yourself with the locally applicable standards and regulations.

## Structural Engineering Aspects

The system may only be installed on a roof surface or substructure with sufficient load-bearing capacity. The static load-bearing capacity of the roof or substructure must be checked in accordance with local and regional stipulations on site prior to the assembly of the systems. In particular, it is important to check whether the quality of the (wooden) substructure is sufficient to ensure the durability of the screw connections for attaching the system mounting apparatus.

The on-site inspection of the system (system and attachment apparatus) as per EN 1991 and/or country-specific regulations is particularly important in areas prone to high winds.

When doing this, you need also to investigate all the peculiarities of the erection location (prevailing winds (foehn), venturi effects, eddies, etc.) that may lead to locally increased load.

### Information regarding inclined roofs:

The assembly of a SUNPAD system constitutes an intervention in an (existing) roof. Roof cladding such as tiles, shingles and slate, attics with a special construction or that are used for residential purposes, and roof pitches that are below the minimum recommended value require (in relation to the cladding) additional construction measures to protect against the penetration of water as a result of wind force and driving snow. This might include sub-roof membranes, for example. When selecting the installation site, note that the maximum permissible loads due to wind forces must not be exceeded. To prevent impermissible wind loads, the collectors must not be installed at the edge of a roof (e/10 edge zones as per EN 1991, but with a minimum gap of 1 m). In particular, in the case of elevated structures, the top of the system must not protrude above the roof ridge.

### Information regarding flat roofs:

The installation of a SUNPAD system constitutes an intervention in an (existing) roof. Attics with a special construction or that are used for residential purposes and roof pitches that are below the minimum recommended value require (in relation to the cladding) additional construction measures to protect against the penetration of water as a result of wind force and driving snow. This might include sub-roof membranes, for example. When selecting the installation site, note that the maximum permissible loads due to wind forces must not be exceeded. To prevent impermissible wind loads, the panels must not be installed at the edge of a roof (e/10 edge zones as per EN 1991, but minimum gap of 1 m). In the case of larger system fields, we recommend that you mount the SUNPAD system on a separate bearing structure made from steel profiles.

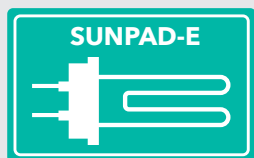


## Lightning Protection

As per the stipulations of Lightning Protection Standard EN 62305 Parts 1-4, the SUNPAD system must not be connected to the building's lightning protection. Beyond the scope of validity of this standard, country-specific requirements must be observed. A safety gap of at least one metre from any adjacent conductive object must be maintained. In the case of installations on top of existing metal substructures, an authorised and qualified electrician must generally be consulted. To enable equipotential bonding of the building, the metallic conductor pipes of the solar/water circuit and all of the system housing/fixtures must be connected to the main equipotential busbar by an authorised and qualified electrician in accordance with EN 60364 and/or country-specific requirements.

## General Important System Information

The SUNPAD system is a two-circuit system. The SUNPAD system forms a closed circuit (process water circuit) with the heat exchanger of the storage tank. This circuit is completely separate from the solar circuit (storage tank). The SUNPAD system or the SUNPAD-E system offers appropriate performance only when installed in frost-free areas. If the temperature falls below 0 °C for more than 18 consecutive hours or -5 °C for more than six consecutive hours, the domestic hot water circuit of the SUNPAD system must be drained.



In this SUNPAD-E system, an electric immersion heater can be installed into the solar water circuit. The system storage tank is already prepared for its installation as standard. An appropriate electric immersion heater is available as a retrofit kit in the optional scope of supply of the product. The hot and cold water lines in the process water circuit are not protected from freezing by the electric immersion heater. When installing, appropriate insulation and trace heating for the pipes must be provided.

The frost tolerance limits are based upon an assumed set of environmental conditions. Extended periods of cold weather, including ambient air temperatures below the specified limit of -5°C, may cause freezing in exposed parts of the system. It is the owner's responsibility to protect the SUNPAD system in accordance with the manufacturer's instructions if the air temperature is anticipated to approach the specified frost tolerance limits.

Protect all water pipes from freezing. If the SUNPAD system is not completely drained, the warranty will become void.

After initial commissioning and in seasons with strong outside temperature fluctuations, condensation may form in the SUNPAD system. However, this condensation disappears after a few hours of sunlight.



**A thermal mixer, where the required water temperature can be set, must always be installed at the hot water outlet as scald protection. The safety over-pressure valve provided must be installed on the cold water connection to the SUNPAD system in order to limit overpressure in the water circuit.**

## System Alignment

For the installation of the SUNPAD system, a suitable place without shade (e.g. trees, buildings) is required throughout the year. For optimum function of the SUNPAD system, it should be installed facing south in the northern hemisphere and facing north in the southern hemisphere, if possible. Mounting vertically to the first is prohibited; the system must be mounted in the horizontal orientation. Please note the appropriate installation instructions ([see page 48](#)).

## System inclination

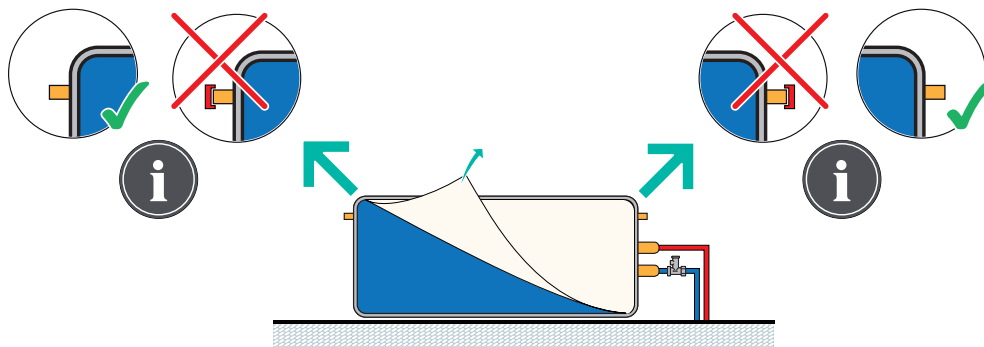
The SUNPAD system is suitable for an inclination of at least 5° to a maximum of 45° and may only be mounted horizontally (+/-5°). Other installation angles are not permitted, as this will cause irreparable damage to the solar storage tank.

## System pressures

The maximum operating pressure in the cold water supply must always be limited to 10 bar; if necessary, a corresponding/suitable pressure reducer must be installed. The solar storage tank of the SUNPAD system must be kept depressurised; one of the two filling openings above (see sketch) must remain open due to the risk of irreparable damage to the solar storage tank. The maximum operating overpressures specified on the storage tank identification plate must never be exceeded. The safety valve provided must always be installed in the relevant connection on the storage tank to limit the overpressure in the process water circuit (see sketch).



### Connection Diagram:



### Connections, Joints and Piping

Depending on the application, the SUNPAD system can reach temperatures of up to 95 °C, which can lead to injuries (e.g. scalding). As a result, a suitable thermal mixer must always be installed downstream of the hot water outlet to limit the process water temperature to max. 60 °C.



**CAUTION: Only use pipes and fittings that are suitable for sanitary facilities and that can withstand temperatures of at least 100 °C.**

### Connections and Piping

The SUNPAD system must be connected to the connection piping (3/4" external thread) in a flat-sealing and only the seals intended and provided for this purpose may be used. It is important to make sure that the flat gaskets are properly seated. Please pay special attention to the hydraulic diagram for the cold water and hot water connections in the manual. When the connections are tightened up, pliers or other wrenches must be used for holding (locking), in order to prevent the connector from being damaged. If no flexible tubes are available for use as connection elements, make sure that the connecting piping allows for appropriate precautions to compensate for the thermal expansion caused by temperature fluctuations, e.g. suitable expansion elbows or flexible piping. In the connecting lines, tension relief must be provided (see sketch).

### Insulation of the System Circuit Pipe

The pipes must be insulated with a suitable UV-resistant material to reduce heat loss and protect the pipes from freezing. To ensure perfect functionality, make sure that the valves are not insulated. The process water connection must be established in accordance with DIN 1988 and DIN 4753 (country-specific regulations must be observed!).

### Yield prognosis

Indicators for the performance of solar systems without auxiliary heating and of solar preheating systems on an annual basis for a volume requirement of 140 l/d				
Location (latitude)	Qd / MJ	QL / MJ	fsol / %	Qpar / MJ
Stockholm (59,6° N)	7821	2652	-	34
Würzburg (49,5° N)	7506	2857	-	38
Davos (46,8° N)	8483	3784	-	45
Athens (38,0° N)	5834	3816	-	65



## Instructions for Commissioning and Filling the System

The SUNPAD system is delivered with a protective film over the solar glass. This protective film blocks sunlight and must not be removed until the system has been filled. For safety reasons (risk of burning and scalding), the filling of the SUNPAD system must be carried out exclusively with the protective film applied. This prevents heating of the solar system during installation. Premature removal of the protective film could cause thermal damage to important system components due to overheating of the product by direct sunlight. To protect the materials from excessive thermal load, the filling and commissioning of the system should be carried out immediately after assembly; apart from that, the system must be protected against direct sunlight.

The SUNPAD system must be filled no later than two weeks after assembly. After initial commissioning and in seasons with strong outside temperature fluctuations, condensation may form in the SUNPAD system. However, this condensation disappears after a few hours of sunlight.

Make sure that the maximum operating pressure stated on the type plate or in the installation instructions is not exceeded. Check to make sure that all safety components have been installed in accordance with the hydraulic diagram before you open the water supply and fill the system before initial start-up.

### Filling the System



**CAUTION:**  
If you do not follow these instructions, the solar storage tank will be irreparably damaged!



The following procedure must be observed when filling the system:



Connect the filling opening of the solar circuit (solar storage tank) to the cold water pipe according to the hydraulic diagram.



Open the cold water shut-off valve.



Fill the solar storage tank up to the water outlet on the opposite side (the storage tank is completely filled).



Now connect the cold/hot water pipe to the SUNPAD system according to the hydraulic diagram.



Open the cold water shut-off valve to fill the process water circuit, and then open the hot/cold tap in the house to allow the remaining air to escape from the system.



Carefully inspect the system for leaks.

### System in Unused Condition/Periods Without Hot Water Consumption










If the SUNPAD system is not used for a period of two weeks, e.g. during holidays, the SUNPAD system should remain filled and then be thoroughly flushed before first use (process water circuit) in order to clean possible contamination from the heat exchanger. If the SUNPAD system is not used for a longer period of time (e.g. longer summer holidays), the system must be covered with a light-reflecting cloth or a light-reflecting film to avoid damage caused by overheating.






## Maintenance Instructions

Maintenance work may only be carried out by expert trained personnel. The SUNPAD system must be maintained and documented at least annually in accordance with the points described (see the warranty conditions). In case of very low water consumption or for longer periods of non-use, the maintenance interval must be shortened.

	<b>For annual maintenance and inspection work on the SUNPAD system, the following points must be taken into account:</b>
	Fill the water level; observe the "Filling the system" section in this manual (see page 49) <b>ATTENTION: If the system is operated with antifreeze, it must be refilled!</b>
	Check for damage to the system
	Check for leakage on the connectors
	Check for a firm seat of the connecting screws to the roof
	Check the insulation on the supply/drain line (process water circuit)
	<b>Additionally for SUNPAD-E:</b>
	Check for damage to electrical lines
	Check for leaks in the e-cartridge area

	<b>ATTENTION – DANGER OF SCALDING! WARNING: WATER MAY BE DISCHARGED AT VERY HIGH TEMPERATURES. TO AVOID SCALDING, EXERCISE MAXIMUM CAUTION WHEN DRAINING THE HOT WATER FROM THE SUNPAD SYSTEM. DON'T TOUCH THE HOT PIPES!</b>
---	---

To replace and maintain the electric immersion heater, ensure that the hot water temperature in the solar storage tank is not above 45 °C. One day before the start of work, the SUNPAD system should be protected from sunlight with a cover. We also recommended repair work be carried out only in the early morning hours.

## Increasing the efficiency

To increase the efficiency of the SUNPAD system, observe the following recommendations:

1. If possible, use the hot water in the evening (e.g. for showering)
2. Use a timer (including overnight shutdown) in connection with the original heating element to prevent unnecessary heat losses
3. A volume flow of 10 lt. / min is recommended for optimum system performance, higher flow rates can lead to rapid hot water consumption.

## Instructions on Using the Heating Element

(included in the scope of supply of SUNPAD-E)

Only the original heating element from the manufacturer may be used to prevent damage or destruction of the SUNPAD system. The electric heating element is optionally available as an accessory.

## Safety Instructions for Installing the Electric Immersion Heater

For the installation of the electric immersion heater, you must ensure that the SUNPAD system is protected from sunlight. The electric immersion heater, available as an option, may only be integrated in the SUNPAD system by expert personnel.



## Maintenance of the system

The system must be inspected visually, once a year, for any damage, leaks and contamination. Condensate can form in the system after commissioning and during times of the year with strong outdoor temperature fluctuations. This condensate disappears however after a few hours exposure to sunlight.

## Maintenance of anti-reflective glass (AR glass)

To ensure and preserve the best possible performance of a collector with increased transmission glass (anti-reflective glass or AR glass for short), the following points in particular should be observed.

### USE ...

- Clean lifting gear, suction holders, and gloves
- A cover for the glass vacuum lifter (material: Tyvek; replace when dirty)
- Do not use the glass surface as a place to deposit installation material or other objects!



**ATTENTION:**  
**Clear the AR glass only with plain water or slightly soapy water!**



**The following can damage the anti-reflective coating and thus prevent the system from achieving its full performance!**

### AVOID ...

- Getting fingerprints or stains on the glass
- Using leather gloves
- Contact with silicone, oil, grease, and any other thick, hydrophobic substances
- Cleaning aids such as car polish, fluoric acid, wire wool, wire brushes, polishing cloths,
- Scouring powder, and fabrics containing metal yarn
- Mechanical cleaning methods such as scrubbing, stripping, and high-pressure cleaning



## Warranty and Liability

### A warranty entitlement exists only if:

- an inspection is performed on arrival of the goods that reveals obvious defects, which are immediately communicated to us.
- the installation, commissioning and maintenance of the products by a qualified expert (heating system technician or installer) has been properly accomplished in accordance with the specifications in the installation instructions, taking into account the applicable standards and directives.
- after notification of a product defect, we or our representative is provided immediate access for on-site inspection and testing, repeated if necessary, and the affected products are immediately sent back to us at our request and expense.
- there are written confirmations by a qualified expert available regarding the correct commissioning and annual inspection and maintenance.

### We accept no liability for defects or damage:

- to parts that have not been supplied by the manufacturer, as well as wear parts, such as valves, immersion heaters, etc.
- for corrosion, deposits, frost (ice formation), glass breakage, mechanical stress, normal wear and ageing, environmental influences (e.g. near coastal or industrial areas), improper repairs, maintenance or modifications, or force majeure, whether caused by transport/shipping/storage.

**GREENoneTEC** provides a warranty for the freedom from defects of the delivered SUNPAD system for a period of 5 years. Accessories such as valves and heating element have a warranty period of 2 years. The warranty period starts with the production date noted on the type sticker. Prerequisites for the warranty claim are assembly, commissioning and maintenance by a specialist company according to the provided installation instructions, as well as proper documentation.

Excluded from the warranty are defects and damage caused by corrosion (water limits see installation instructions), limescale deposits, frost, (system) overpressure, broken glass as well as errors in components that are not supplied by **GREENoneTEC**.

We accept no liability for unintended use or unauthorised changes to the assembly components and any resulting consequences, as well as non-observance of the assembly instructions.

Unless otherwise stipulated in this warranty agreement, the current terms and conditions of business of **GREENoneTEC** ([www.greenonotec.com](http://www.greenonotec.com)) apply.

The instructions described in the assembly manual refer to the current state of development, while the illustrations used are symbolic representations. These installation instructions contain proprietary information that is protected by copyright. Due to possible typesetting and printing errors and the need for technical changes, no liability can be assumed for the correctness of the content of the assembly instructions.



**CAUTION: Guarantee claims are only valid if assembly, commissioning and documented maintenance have been properly performed.**

## General Usage Instructions

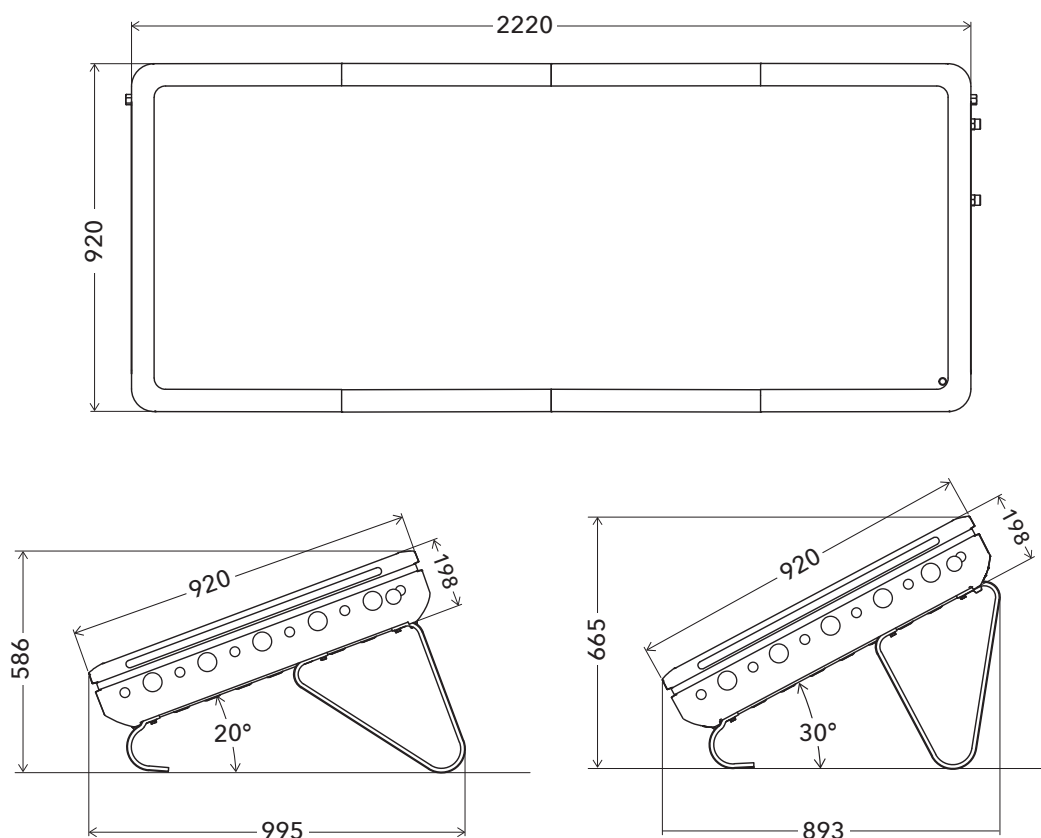
All the details and instructions in these installation instructions relate to the current level of development. Please always use the installation instructions provided. Illustrations used are symbolic photos. Due to possible typographical and printing errors, but also due to the necessity of continuous technical modifications, we ask for your understanding that we cannot accept any liability for the correctness of content. We refer to the applicability of the general terms and conditions in their currently valid form. These installation instructions contain proprietary information that is protected by copyright. We reserve the rights of and the right to make changes to these installation instructions.



**IMPORTANT INFORMATION: Dear customer, in order to guarantee you the full warranty period of 5 years on the system and 2 years on accessories it is mandatory required to register your product(s)! You will find the registration QR code on the page "Checklist for the first start-up" at the back of this manual. Thank you!**



<b>Gross area [m<sup>2</sup>]</b> Superficie lorda Surface brute Superficie bruta Área bruta	<b>2,05</b>	<b>Net area [m<sup>2</sup>]</b> Superficie netta Surface nette Superficie neta Área líquida	<b>1,68</b>
<b>Dimension L / W / H [mm]</b> Dimensioni Dimension Dimensiones Dimensão	<b>2220 x 920 x 198</b>	<b>Weight empty [kg]</b> Peso a vuoto Poids à vide Peso en vacío Peso vazio	<b>72</b>
<b>Connection</b> Connessioni Connexions Conexiones Conexões	<b>3/4"</b>	<b>Tank capacity [l]</b> Contenuto del serbatoio Contenu de mémoire Capacidad del tanque Conteúdo de memória	<b>150</b>
<b>Capacity heat exchanger [l]</b> Grandezza dello scambiatore di calore Capacité de l'échangeur de chaleur Capacidad del intercambiador de calor Capacidade do trocador de calor	<b>9,2</b>	<b>Compressive strength/          heat exchanger [bar]</b> Resistenza alla compressione/ scambiatore di calore Résistance à la compression/ l'échangeur de chaleur Presión máxima del intercambiador de calor Resistência à compressão/ trocador de calor	<b>10</b>





Water quality Qualità dell'acqua Composants de l'eau Calidad del agua Substâncias na água	Tank Serbatoio Réservoir Tanque Tanque	Heat exchanger Scambiatore di calore Échangeur de chaleur Intercambiador de calor Permutador de calor	
	T	WTS	WTP
<b>pH value</b> Valore pH - Valeur du pH - Valor de pH - Valor de pH	7 - 9 *		
<b>Total hardness [°dH]</b> Durezza totale - Titre hydrotimétrique total - Dureza total - Dureza total	6 - 15 > 5		
<b>Chlorides [mg/l]</b> Cloruri - Chlorures - Cloruro - Cloretos	< 100	< 250	< 1000
<b>Free chlorine [mg/l]</b> Cloro libero - Chlore libre - Cloro libre - Sem cloro	< 0,2		< 0,5
<b>Sulfate [mg/l]</b> Solfato - Sulfate - Sulfato - Sulfato	< 100		< 250
<b>Conductibility [µS/cm - 25°C]</b> Conductivité - Conductabilidad - Conductabilidad - Condutividade	650		2500

\* (under observance of SI Index) / (tenendo conto dell'indice SI) / (en tenant compte de l'index SI [Suitability Index]) / (bajo observación del índice SI) / (observando o índice de SI - adequabilidade)



**System can not run on swimming pool water!**

Il sistema non può funzionare con l'acqua della piscina!  
 Le système ne peut pas fonctionner sur l'eau de piscine!  
 El sistema no puede funcionar con el agua de la piscina!  
 O sistema não pode funcionar com água da piscina!



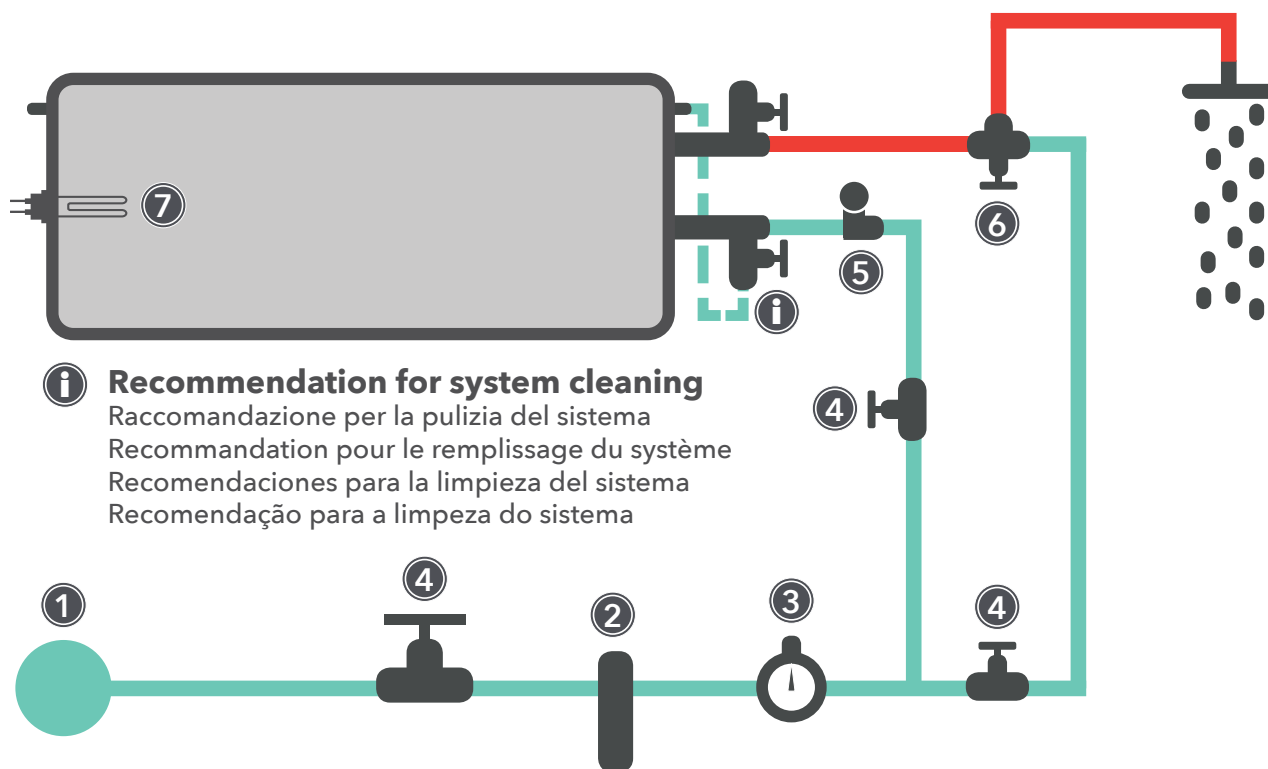
**TO AVOID SYSTEM FAILURE AND DAMAGES, ASSURE THAT THE WATER QUALITY FALLS WITHIN THE RANGE OF THE WATER VALUES AS WRITTEN ABOVE. If the water values are out of the specified limiting values, the warranty is void. Installation is performed at the user's own risk.**

LA GARANZIA SCADE SE SI UTILIZZA IL SISTEMA SUNPAD UTILIZZANDO ACQUA CHE NON RIENTRA NELL'INTERVALLO DEI VALORI DELL'ACQUA SOPRA INDICATI. Se i valori dell'acqua sono superiori o inferiori ai valori limite indicati, decade qualsiasi garanzia. L'installazione avviene a proprio rischio e pericolo.

VOTRE GARANTIE EST ANNULÉE SI VOUS UTILISEZ LE SYSTÈME SUNPAD AVEC DE L'EAU QUI N'ENTRE PAS DANS LA PLAGE DES VALEURS INDIQUÉES CI-DESSUS. Si les valeurs de l'eau dépassent les valeurs limites spécifiées, la garantie est annulée. L'installation s'effectue aux risques et périls de l'utilisateur.

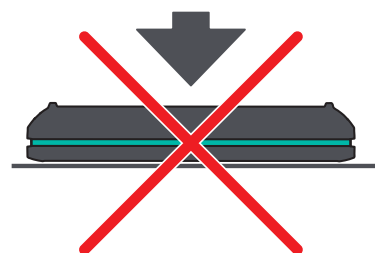
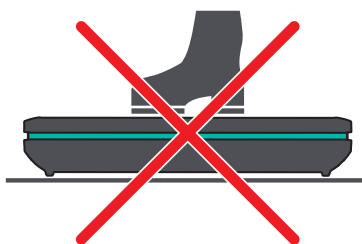
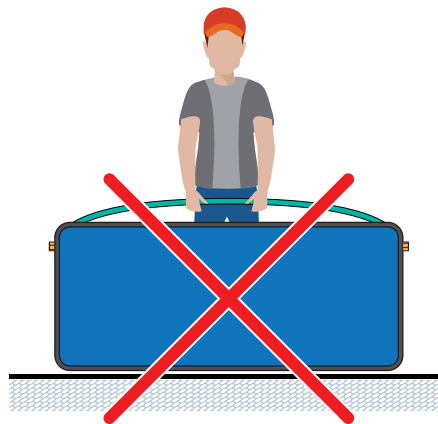
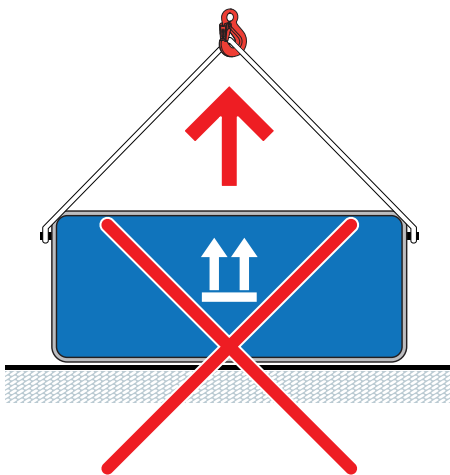
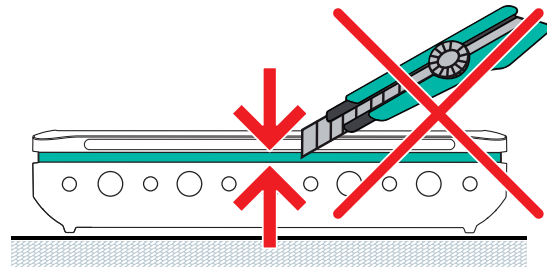
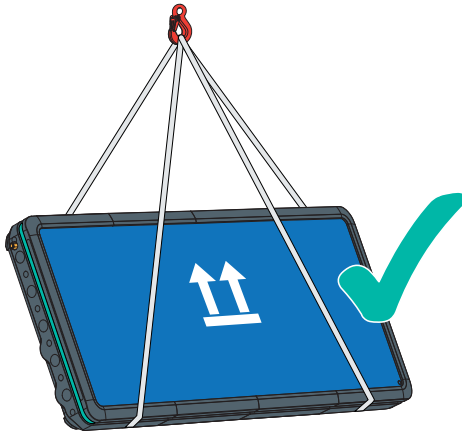
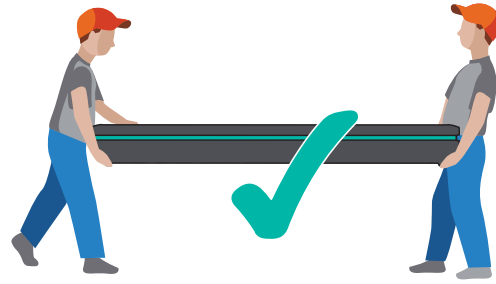
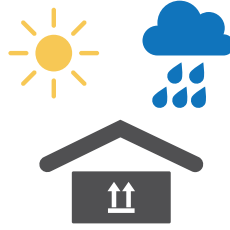
SU GARANTÍA QUEDA ANULADA SI USTED OPERA EL SISTEMA SUNPAD UTILIZANDO AGUA QUE NO SE ENCUENTRA DENTRO DEL RANGO DE LOS VALORES DEL AGUA COMO SE INDICA ANTERIORMENTE. Estando los valores del agua fuera de los límites indicados expira la garantía. La instalación ocurre entonces bajo propia responsabilidad.

SUA GARANTIA SERÁ ANULADA SE VOCÊ OPERAR O SISTEMA SUNPAD USANDO ÁGUA QUE NÃO ESTEJA DENTRO DA FAIXA DE VALORES DE ÁGUA COMO DESCRITO ACIMA. Se os parâmetros de água estiverem abaixo/acima dos valores-limite estabelecidos, é excluída qualquer garantia. Uma instalação ocorre por conta e risco próprio.



**(i) Recommendation for system cleaning**  
 Raccomandazione per la pulizia del sistema  
 Recommendation pour le remplissage du système  
 Recomendaciones para la limpieza del sistema  
 Recomendação para a limpeza do sistema

<b>1</b>	<b>Cold water connection in accordance with DIN EN 806 or pursuant to country-specific regulations</b> Allacciamento acqua fredda conformemente alla DIN EN 806 o alle normative specifiche del Paese Raccordement de l'eau froide selon la norme DIN EN 806 ou selon les règlements nationaux spécifiques Conexión de agua fría conforme a DIN EN 806 o siguiendo las disposiciones específicas de cada país Ligação de água fria, segundo a norma DIN EN 806 ou segundo os regulamentos específicos do país.
<b>2</b>	<b>Water filter</b> Filtro dell'acqua - Filtre à eau - Filtro de agua - Água filtro
<b>3</b>	<b>Pressure reductions valve (max. 10 bar)</b> Réducteur de pression (max. 10 bar) - Valvula reductora de presión (max. 10 bar) Riduttore di pressione (máx. 10 bar) - Valvula redutora de pressão (máx. 10 bar)
<b>4</b>	<b>Shut-off valve</b> Rubinetto di scarico - Robinet de purge - Llave de corte - Torneira de drenagem
<b>5</b>	<b>Combined non-return/safety valve, 10 bar</b> Soupape de non retour/de sécurité combinée, 10 bar - Válvula combinada de antiretorno/seguridad, 10 bar Valvola antiritorno/di sicurezza combinata, 10 bar - Válvula combinada de segurança/de retorno, 10 bar
<b>6</b>	<b>Service water mixer (preset to max 60°)</b> Miscelatore acqua sanitaria (preimpostato su max. 60°) Mitigeur d'eau sanitaire (préréglé sur max. 60°) Mezclador termostático de A.C.S. (preajustado a máx. 60°) Misturador de água de serviço (predefinido a um máx. de 60°)
<b>7</b>	<b>Heating Element, optional (SUNPAD-E)</b> Resistenza elettrica di integrazione - Résistance électrique, optionnelle Resistencia eléctrica de apoyo, opcional - Elemento de aquecimento, facultativo



Collector inclination min. 5° - max. 45°  
 Inclinazione del collettore min. 5° - max. 45°  
 Inclinaison du capteur min. 5° - max. 45°  
 Inclinación del colector mín. 5° - máx. 45°  
 Inclinação do colector mín. 5° - máx. 45°



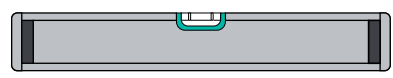
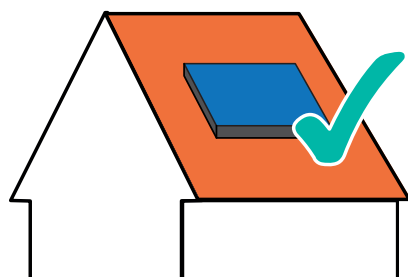
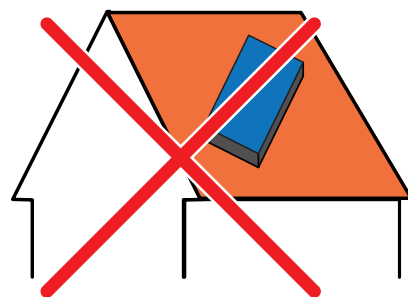
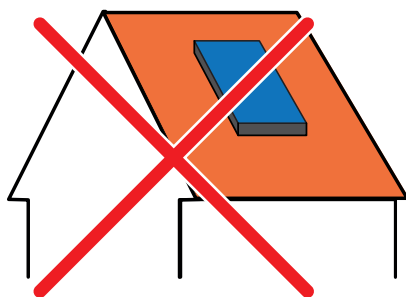
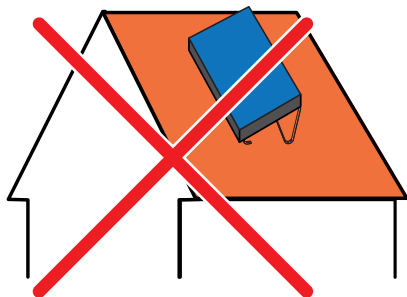
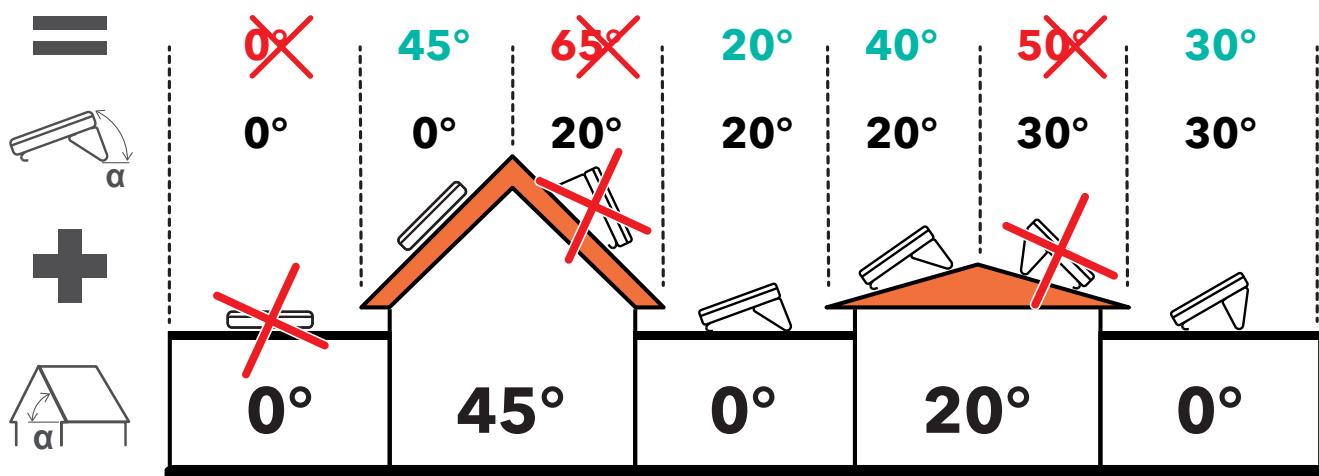
**EN Collector inclination min. 5° - max. 45°**

IT Inclinazione del collettore min. 5° - max. 45°

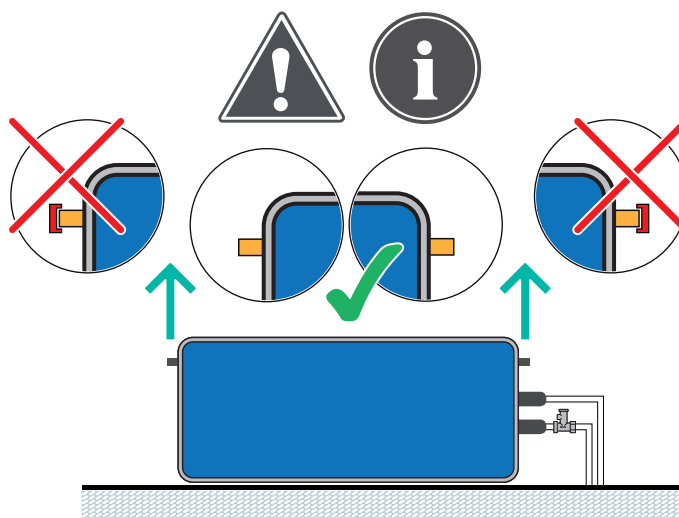
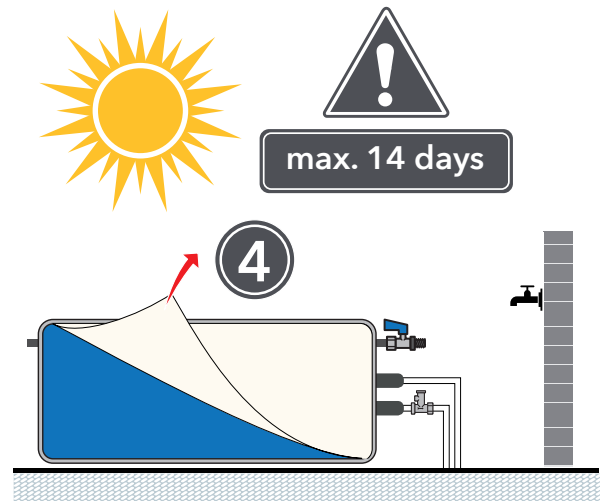
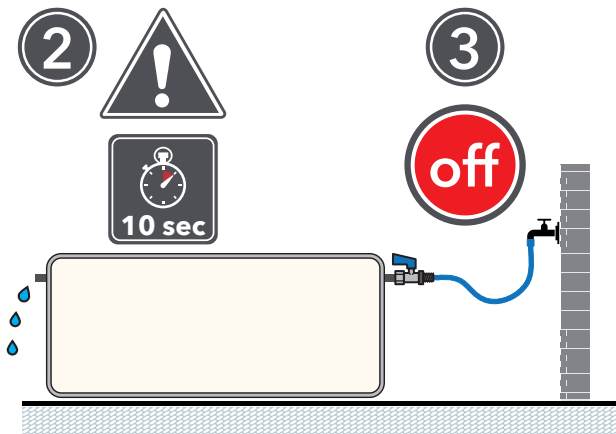
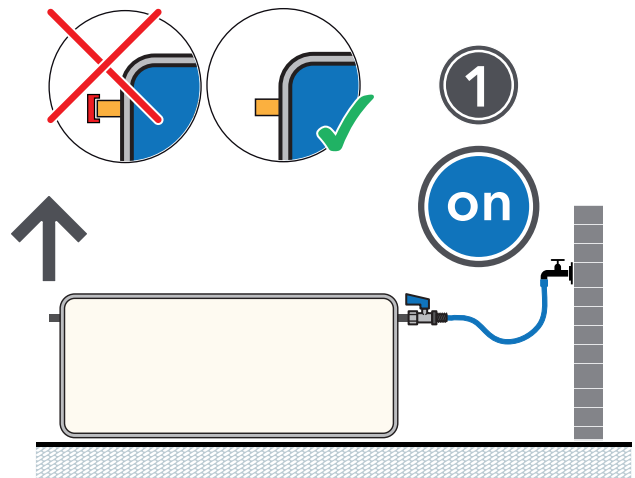
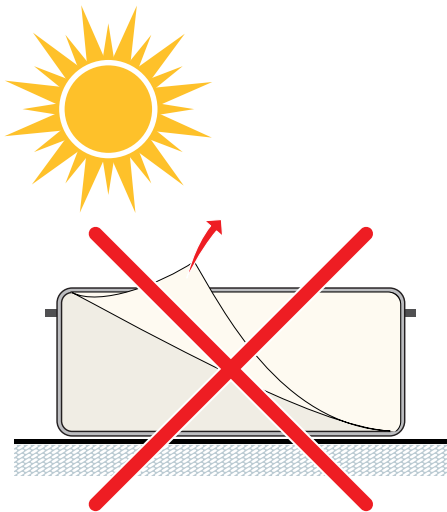
FR Inclinaison du capteur min. 5° - max. 45°

ES Inclinación del colector mín. 5° - máx. 45°

PT Inclinação do colector mín. 5° - máx. 45°



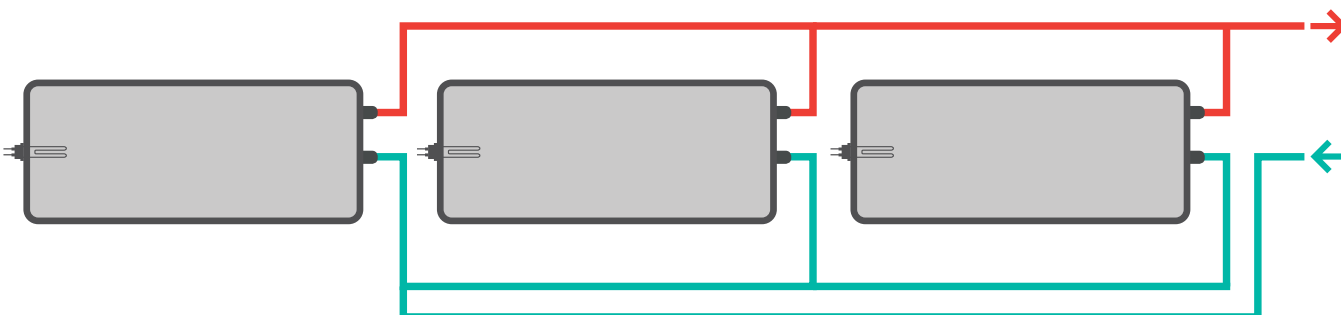
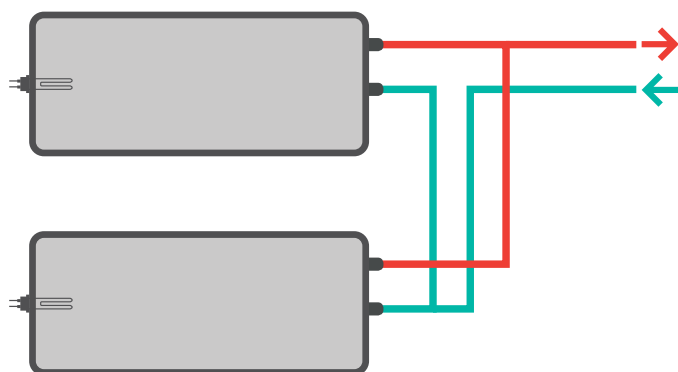




**Do not close connections!**  
 Non chiudere i collegamenti!  
 Ne pas fermer les connexions!  
 ¡No cierre las conexiones de llenado del tanque!  
 Não fechar as conexões!

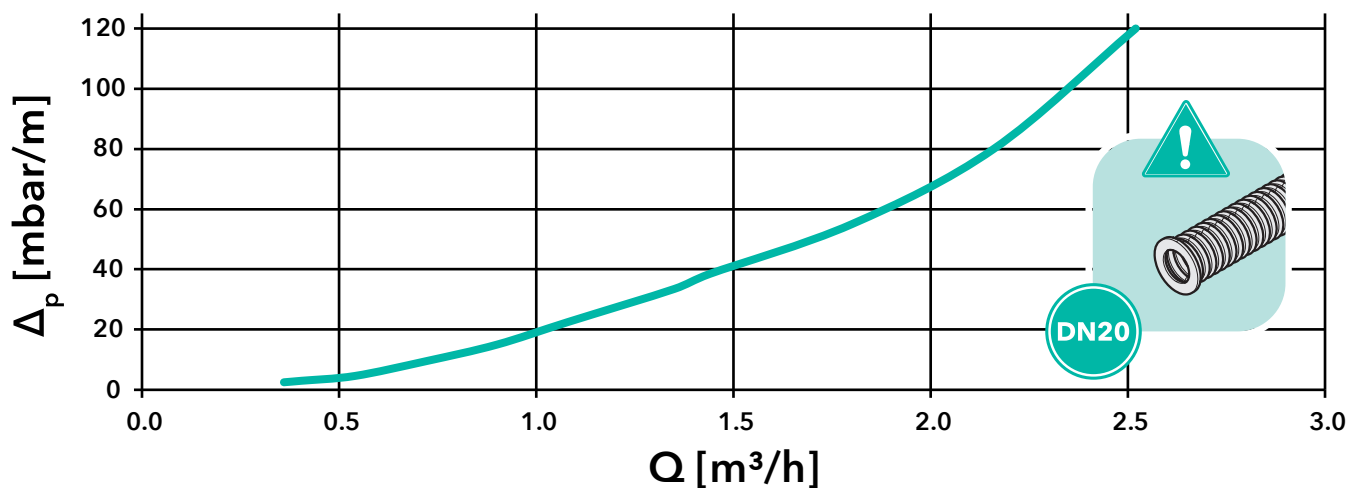


	<b>MORE THAN TWO SYSTEMS MUST ALWAYS BE CONNECTED IN PARALLEL!</b>
	PIÙ DI DUE SISTEMI DEVONO ESSERE SEMPRE COLLEGATI IN PARALLELO!
	PLUS DE DEUX SYSTÈMES DOIVENT TOUJOURS ÊTRE CONNECTÉS EN PARALLÈLE!
	SIEMPRE SE DEBEN CONECTAR MÁ S DE DOS SISTEMAS EN PARALELO!
	MAIS DE DOIS SISTEMAS DEVEM SER SEMPRE CONECTADOS EM PARALELO!



### Pressure drop - heat exchanger

Perdita di carico - scambiatore di calore / Perte de charge - l'échangeur de chaleur  
 Pérdida de presión - intercambiador de calor / Perda de pressão - trocador de calor





**EN Drill/pre-drill**  
 IT Forare/fissare  
 FR Perçage/pré-perçage  
 ES Taladrar/taladrar previamente  
 PT Furos/Furos prévios



**EN Hot surface!**  
 IT Superficie calda!  
 FR Surface chaude!  
 ES Superficie caliente!  
 PT Superfície quente!



**EN See page**  
 IT Vedi pag.  
 FR Consulter la page  
 ES Ver la página  
 PT Consulte a página



**EN Important note**  
 IT Note importante  
 FR Remarque importante  
 ES Nota importante  
 PT Nota importante



**EN Tighten firmly**  
 IT Serraggio con utensile  
 FR Resserrer fermement  
 ES Apretar fuertemente  
 PT Apertar bem



**EN Qualified electrician**  
 IT Tecnico elettrico autorizzato  
 FR Électricien spécialisé agréé  
 ES Técnico eléctrico autorizado  
 PT Electricista qualificado autorizado



**EN Two people**  
 IT Due persone  
 FR Deux personnes  
 ES Dos personas  
 PT Duas pessoas



**EN Equally spaced**  
 IT Distanza uguale  
 FR Distance identique  
 ES La misma distancia  
 PT Distância igual



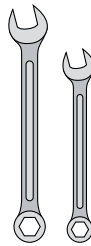
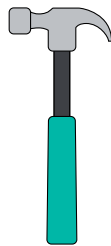
**EN Right angle**  
 IT Angolo retto  
 FR Angle droit  
 ES Ángulo recto  
 PT Ângulo direito



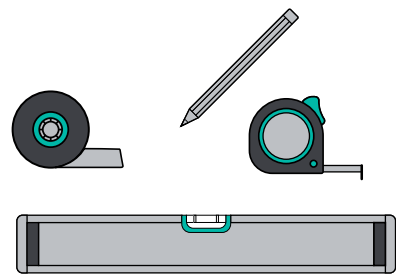
**EN Materials to be provided by others**  
 IT Materiale a cura del committente  
 FR Matériels à fournir pour la mise en œuvre  
 ES Material a suministrar en obra  
 PT Material a fornecer no local



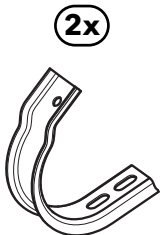


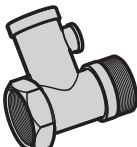
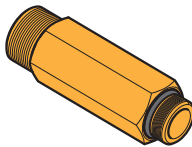
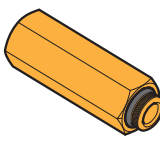
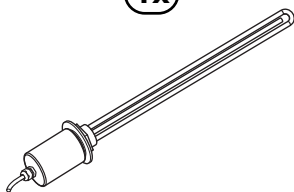

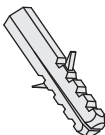
Ø10



13  
27  
30

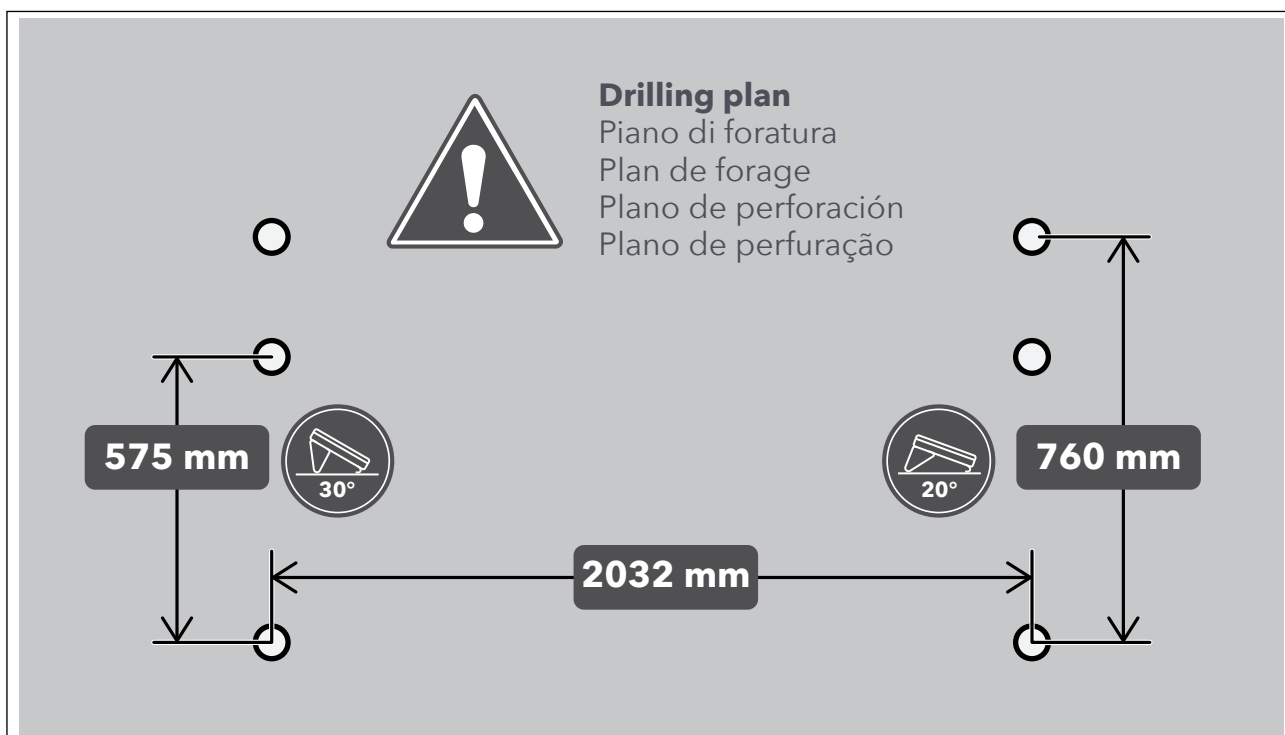
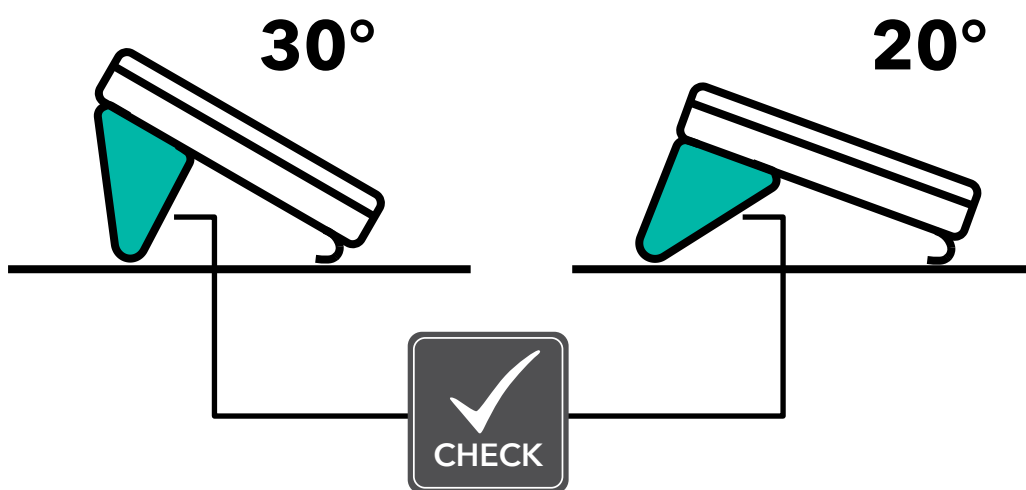
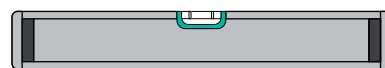
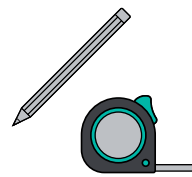




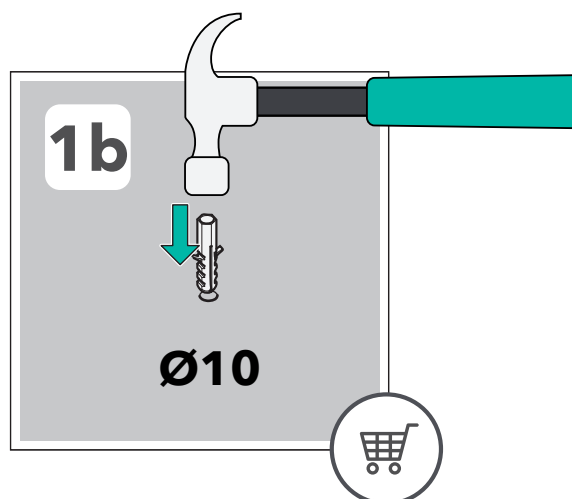
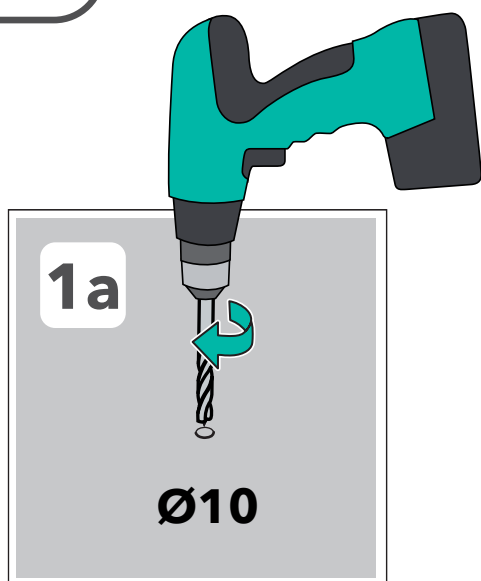
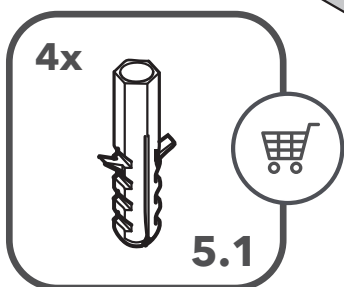
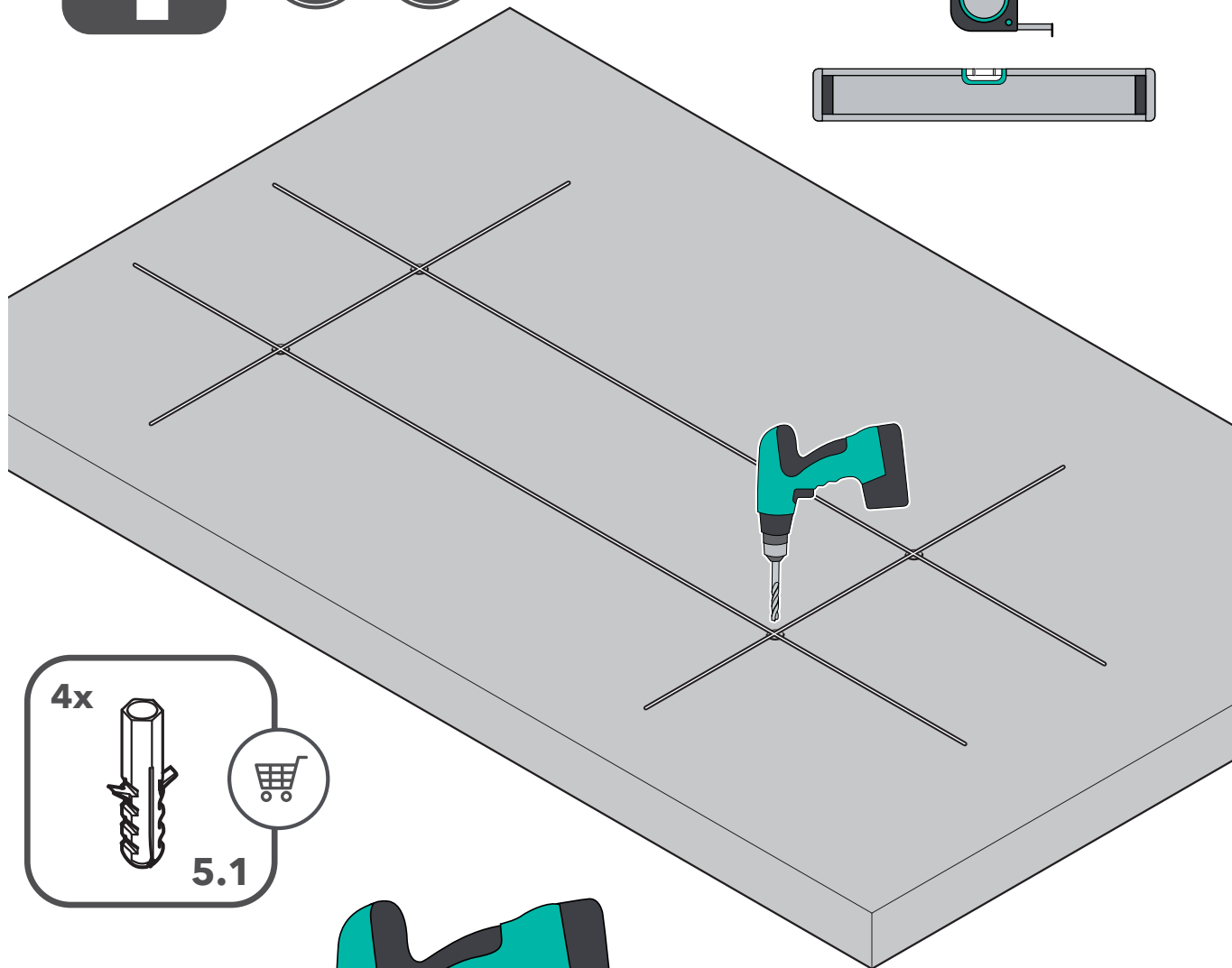
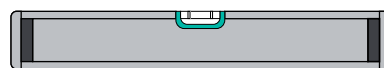
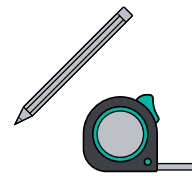
 <p><b>2x</b></p> <p><b>1.0</b></p>	 <p><b>2x</b></p> <p><b>1.1</b></p>	 <p><b>6x</b></p> <p><b>M8x16</b></p> <p><b>2.0</b></p>	 <p><b>6x</b></p> <p><b>M8</b></p> <p><b>2.1</b></p>
 <p><b>1x</b></p> <p><b>3/4"</b></p> <p><b>3.0</b></p>	 <p><b>2x</b></p> <p><b>3/4"</b></p> <p><b>3.1</b></p>	 <p><b>2x</b></p> <p><b>1/2"</b></p> <p><b>3.2</b></p>	 <p><b>1x</b></p> <p><b>SUNPAD-E</b></p> <p><b>4.0</b></p>
 <p><b>4x</b></p> <p><b>8x80</b></p> <p><b>5.0</b></p>			
 <p><b>4x</b></p> <p><b>Ø10</b></p> <p><b>5.1</b></p>	<p><b>1 Cold water connection</b>                  Allacciamento acqua fredda                  Raccordement à l'eau froide                  Conexión de agua fría                  Ligaçao de água fria</p>	<p><b>3 Ventilation (filling connection)</b>                  Ventilazione (collegamento di riempimento)                  Ventilation (raccord de remplissage)                  Respiración (conexión de llenado)                  Respiração (ligaçao de enchimento)</p>	
	<p><b>2 Hot water outlet</b>                  Uscita acqua calda                  Sortie d'eau chaude                  Salida de agua caliente                  Saída de água quente</p>	<p><b>4 Ventilation</b>                  Ventilazione                  Ventilation                  Ventilación                  Ventilação</p>	



Important information - Drilling plan  
 Informazioni importanti - Piano di foratura  
 Renseignements importants - Plan de forage  
 Informaciones importantes - Plano de perforación  
 Informações importantes - Plano de perfuração

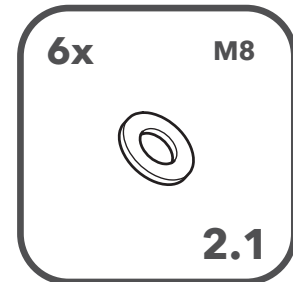
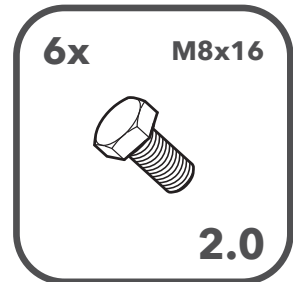
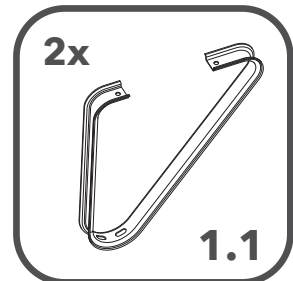
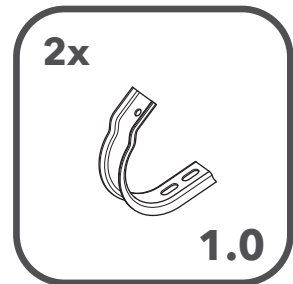
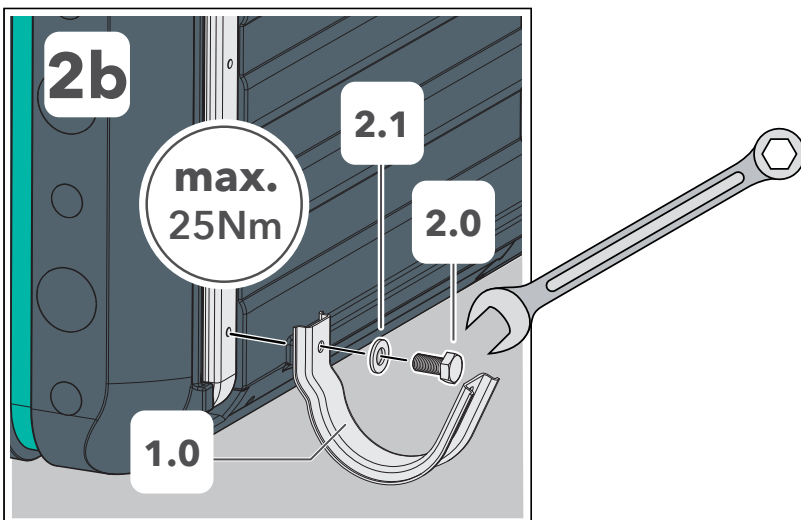
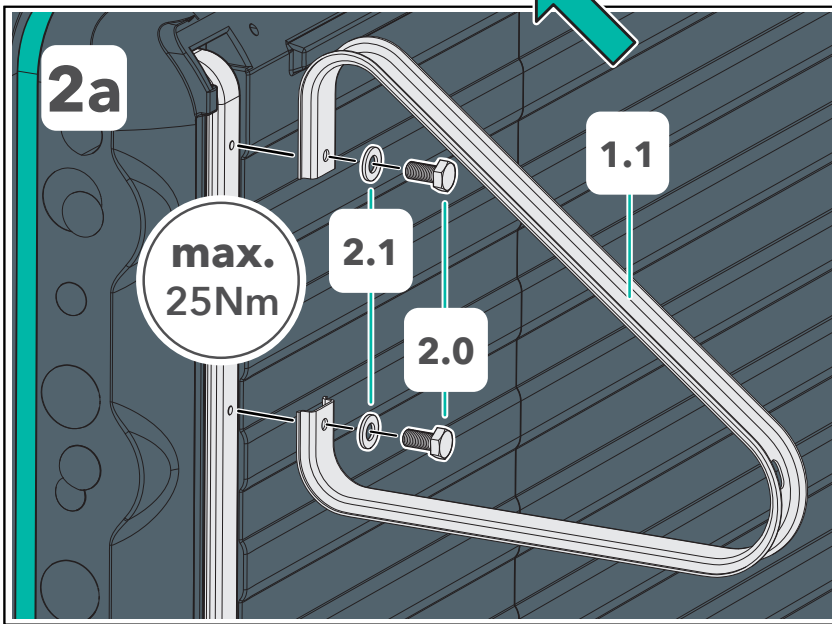
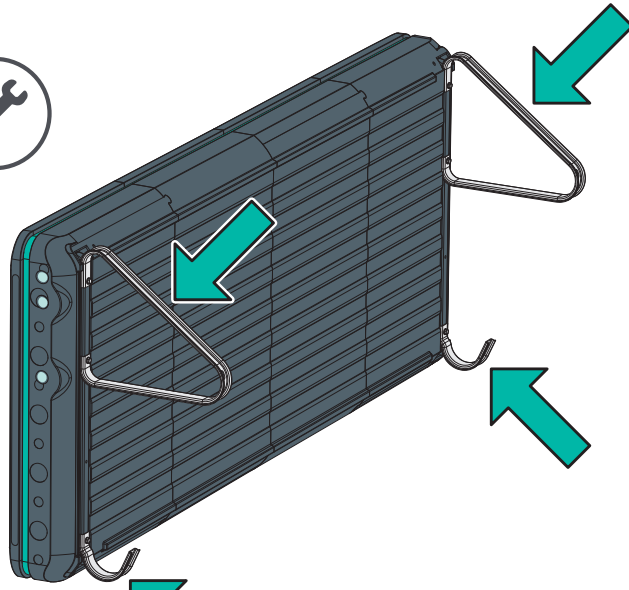


**1**



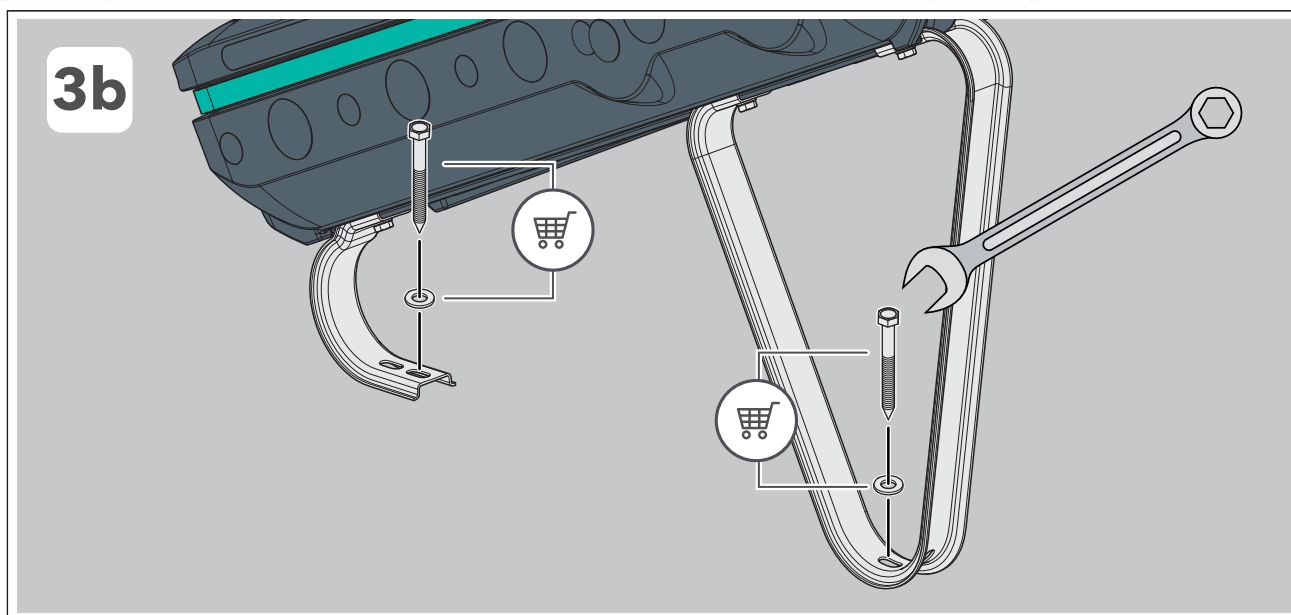
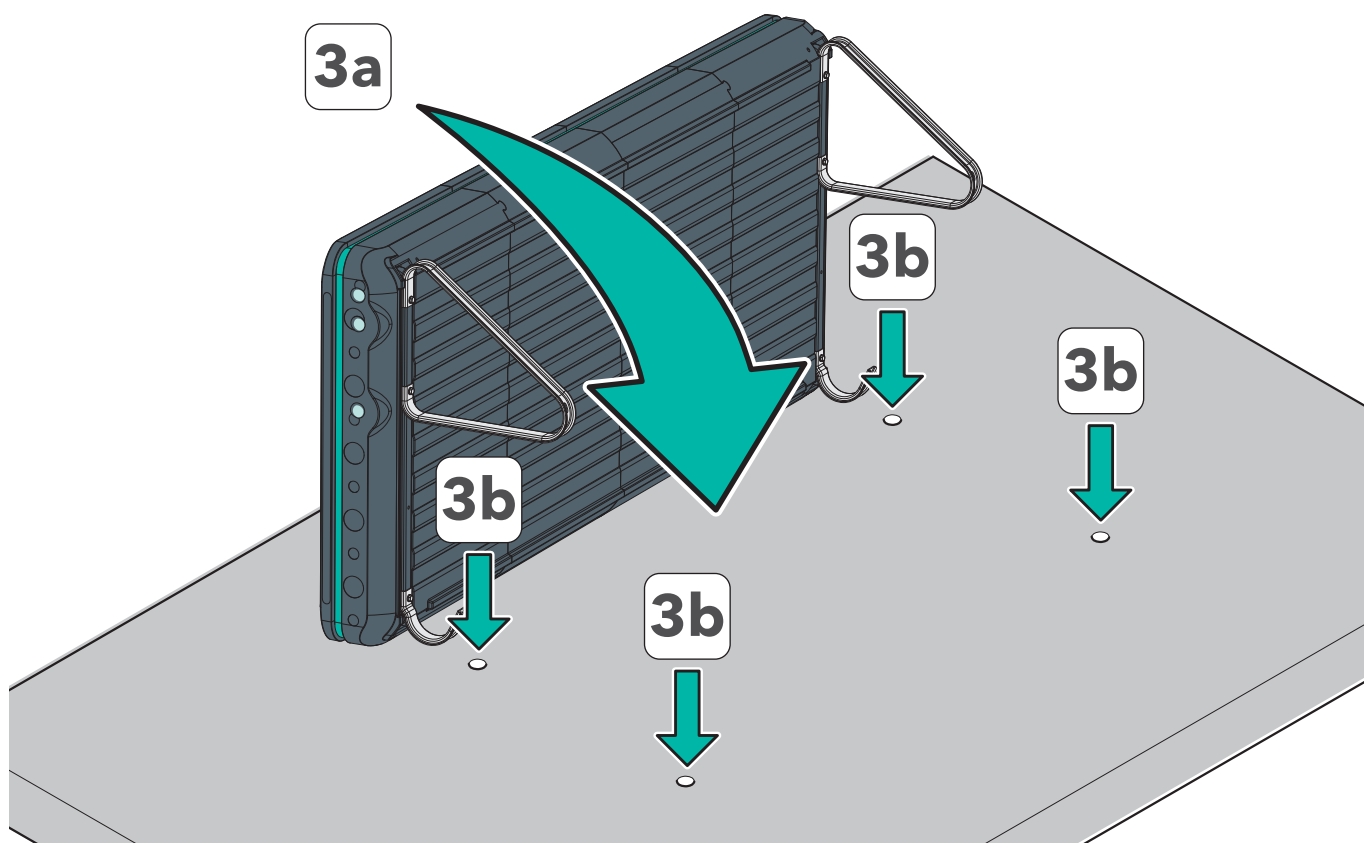
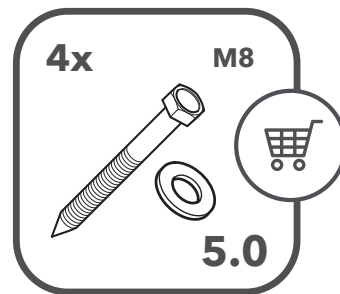


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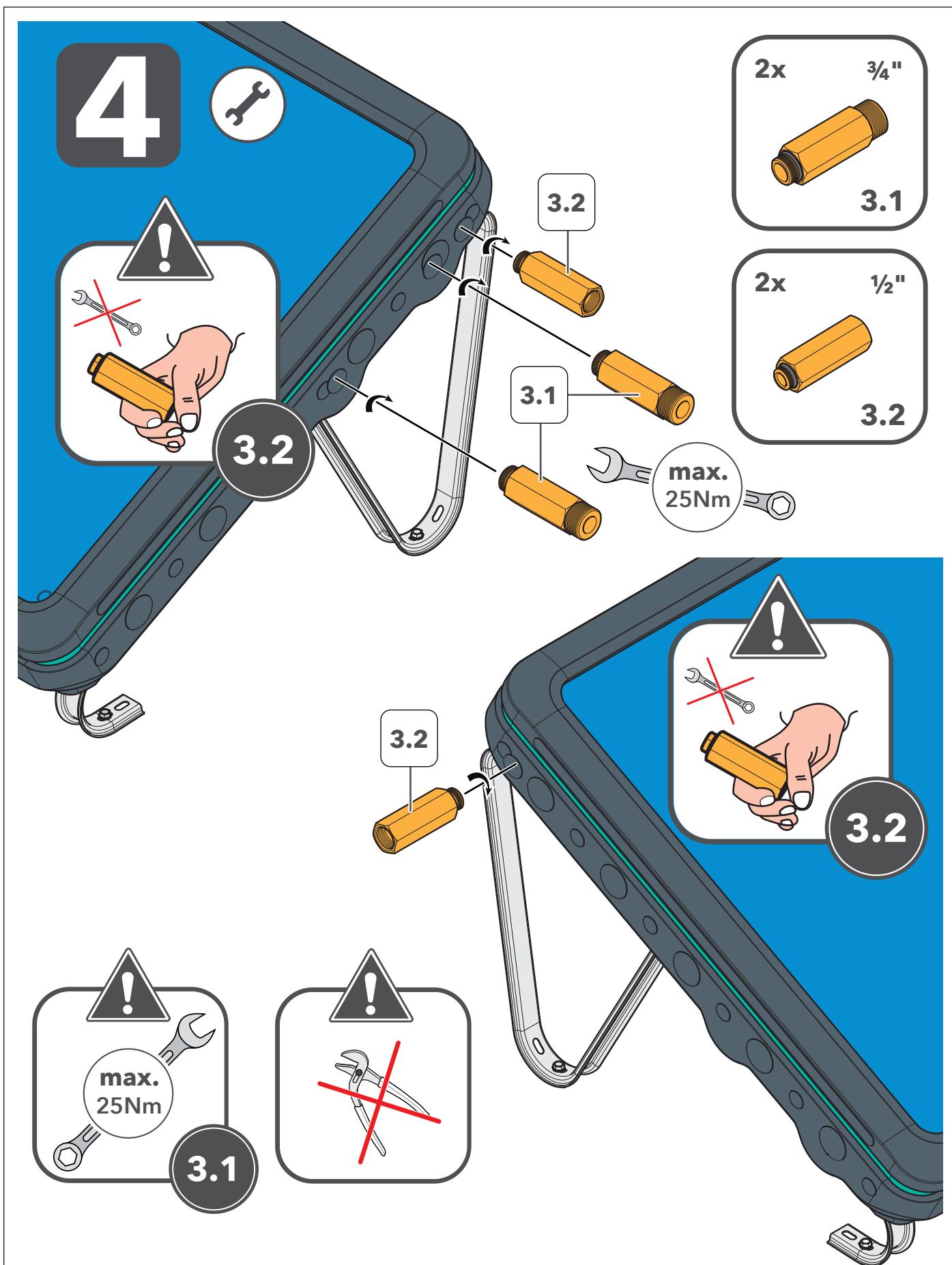




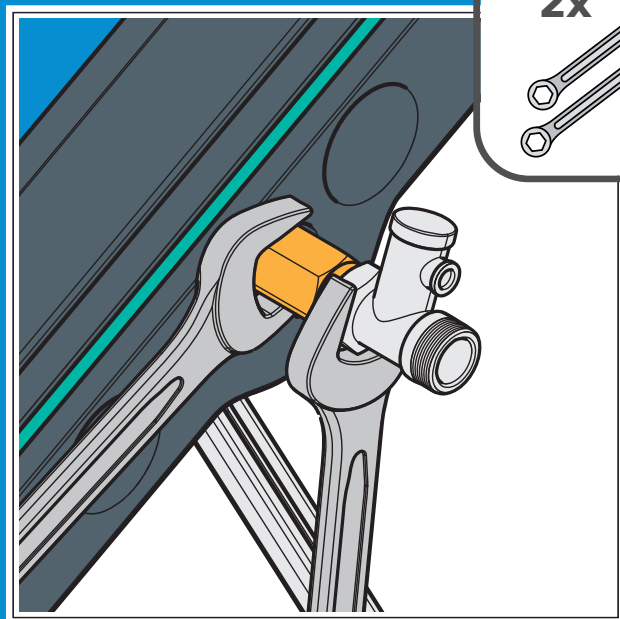
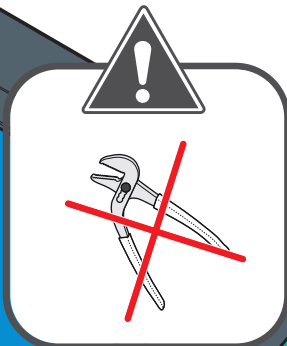
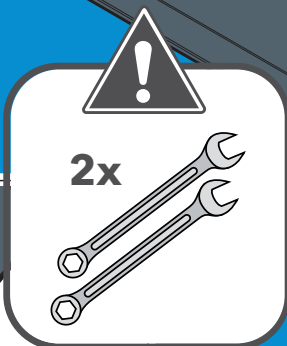
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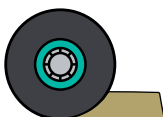
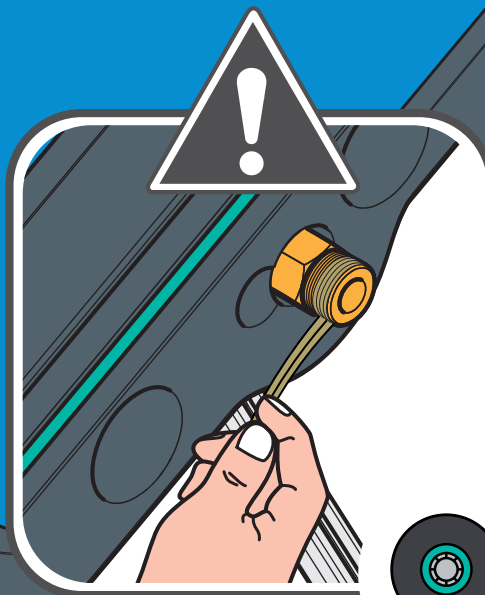




**5**

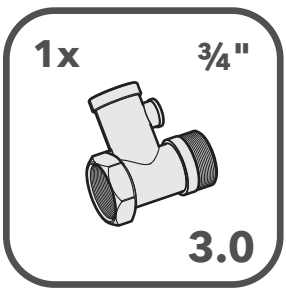


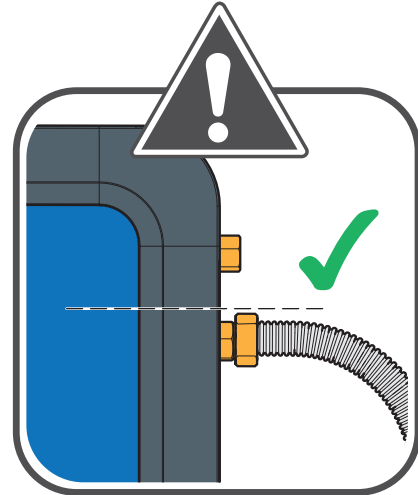
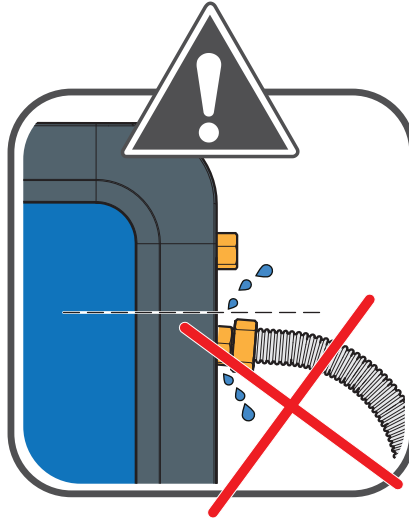
**3.0**



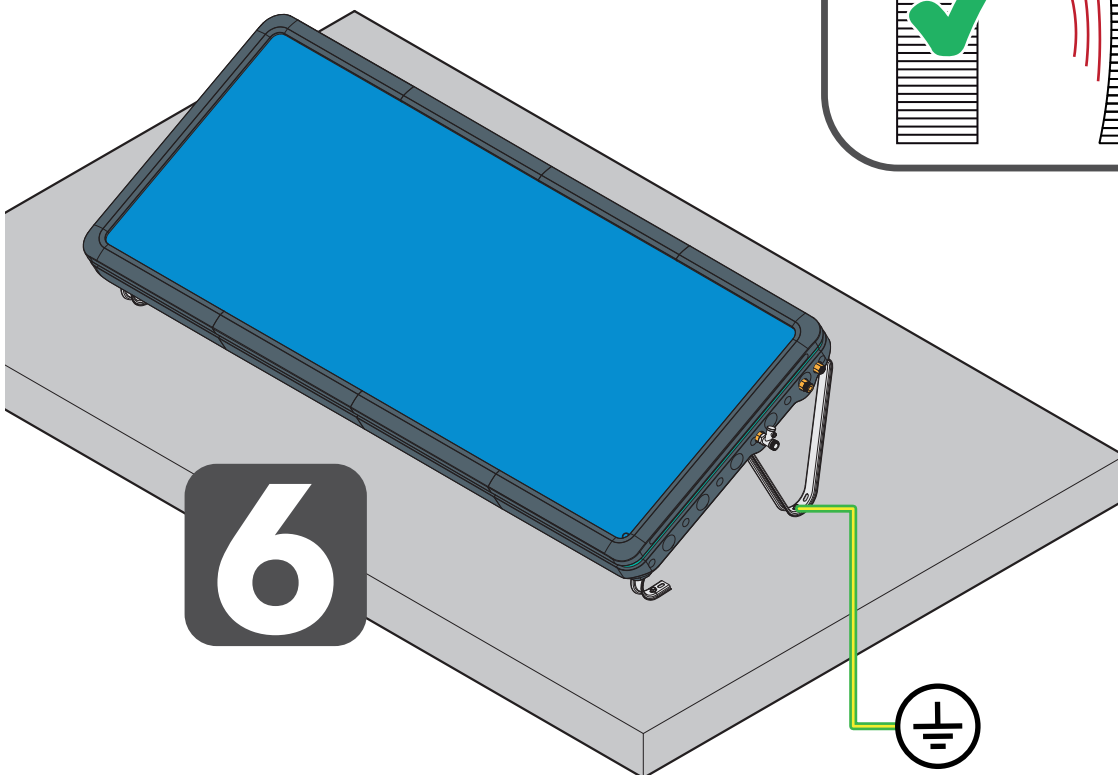
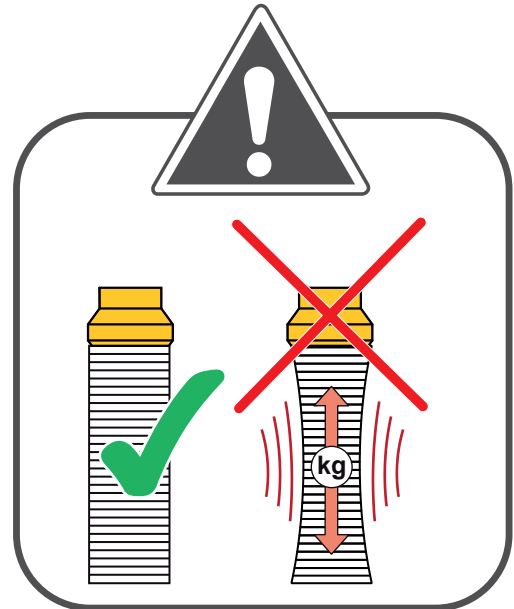
**Teflon sealing tape**

Nastro di tenuta in teflon  
 Bande de scellement en téflon  
 Cinta de sellado de teflón  
 Fita de vedação em teflon

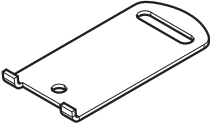


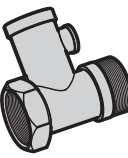
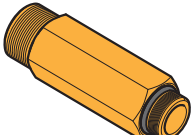
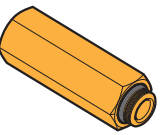
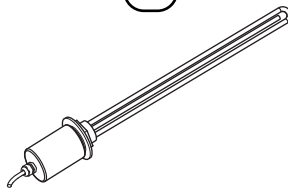






20° 	0 kN/m <sup>2</sup>	240 km/h
30° 	0 kN/m <sup>2</sup>	210 km/h





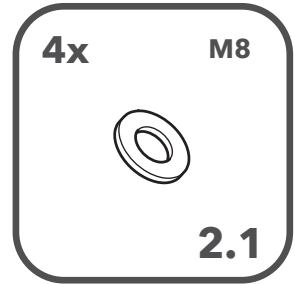
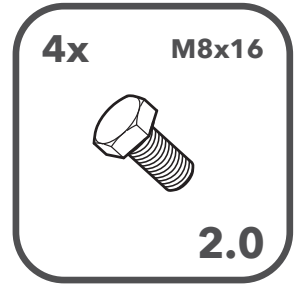
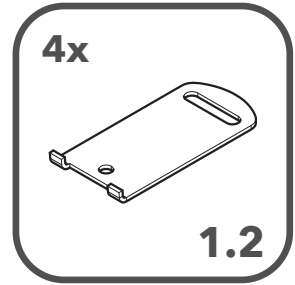
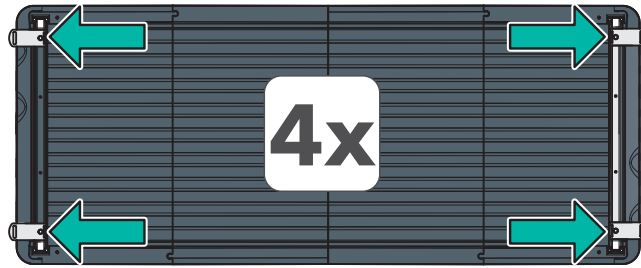
<p>(4x)</p>  <p><b>1.2</b></p>	<p>(4x)</p>  <p><b>M8x16</b></p> <p><b>2.0</b></p>	<p>(4x)</p>  <p><b>M8</b></p> <p><b>2.1</b></p>	<p>(1x)</p>  <p><b>3/4"</b></p> <p><b>3.0</b></p>
<p>(2x)</p>  <p><b>3/4"</b></p> <p><b>3.1</b></p>	<p>(2x)</p>  <p><b>1/2"</b></p> <p><b>3.2</b></p>	<p>(1x)</p>  <p><b>SUNPAD-E</b></p> <p><b>4.0</b></p>	

<p>(4x)</p>  <p><b>8x80</b></p> <p><b>5.0</b></p>	<p>(4x)</p>  <p><b>Ø10</b></p> <p><b>5.1</b></p>
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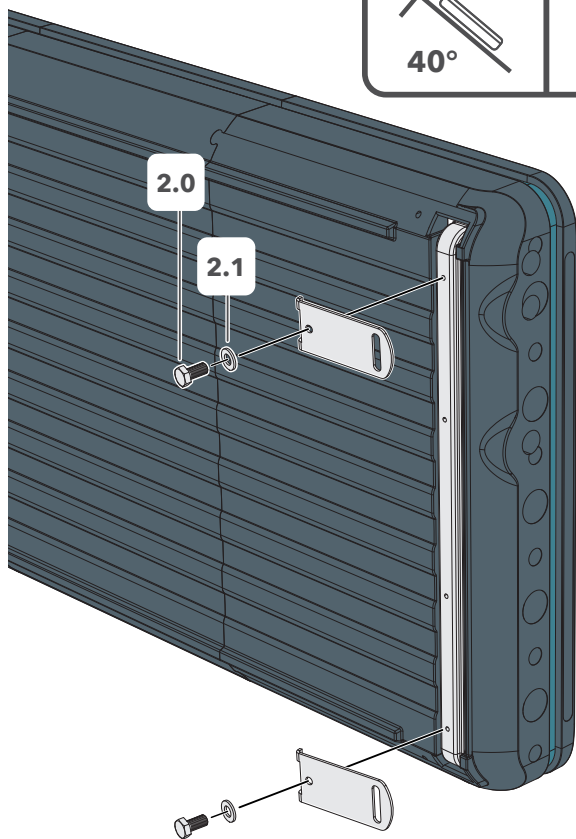
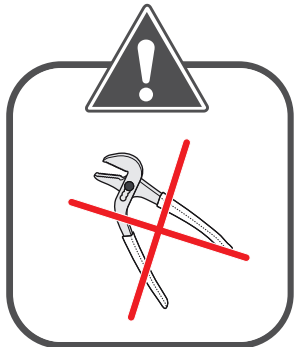


On-roof mounting system, parallel  
 Sistema di montaggio su tetto, in parallelo  
 Système de montage sur toiture en parallèle  
 Sistema de montaje sobre tejado en paralelo  
 Sistema de montagem em telhado, paralelo

**1**

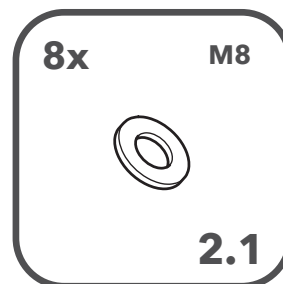
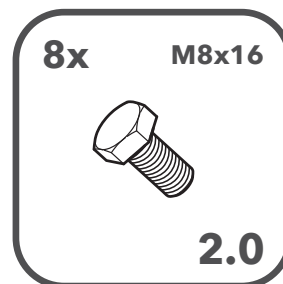
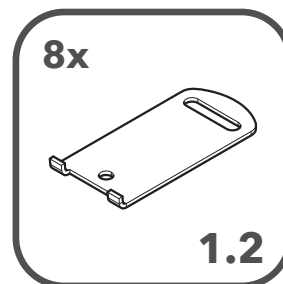
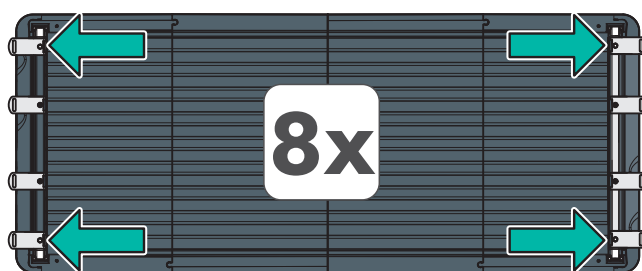


	0 kN/m <sup>2</sup>	160 km/h
	0 kN/m <sup>2</sup>	160 km/h
	0 kN/m <sup>2</sup>	160 km/h

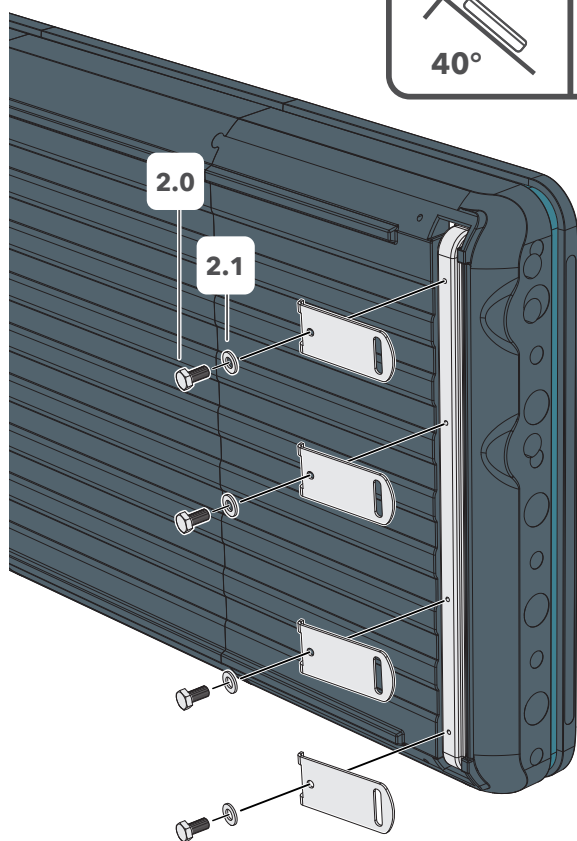




**1\***



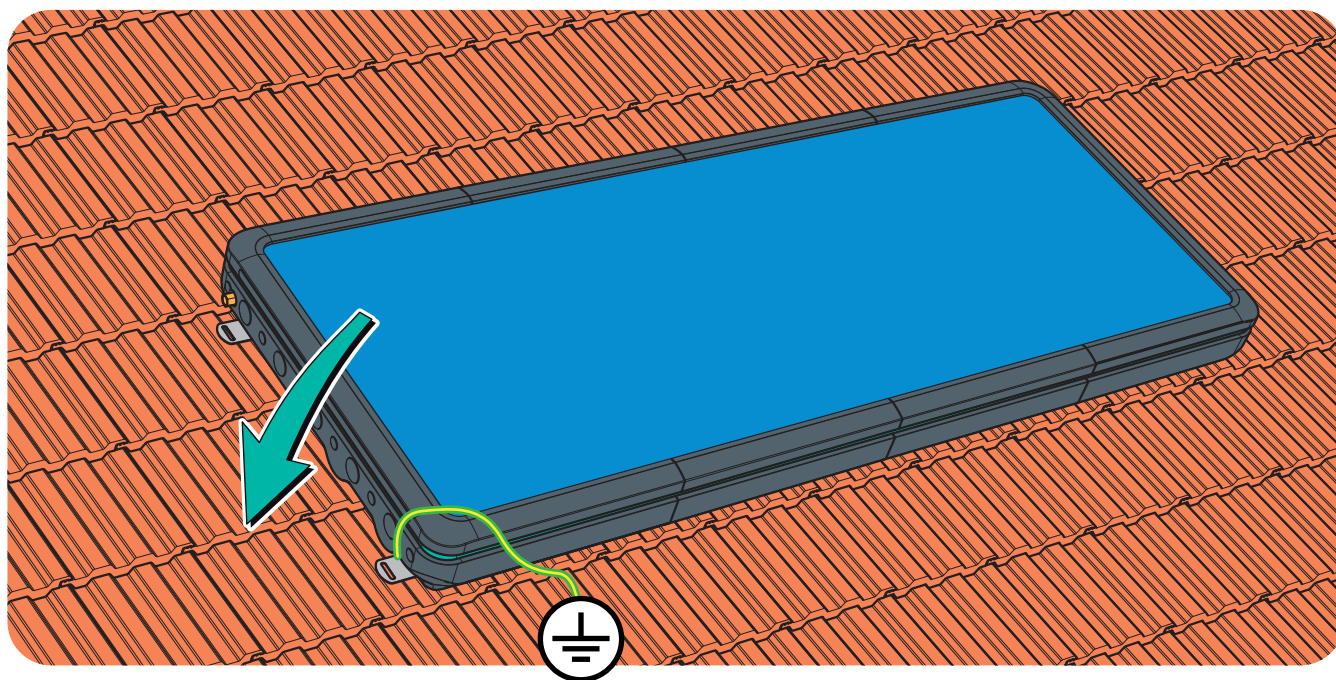
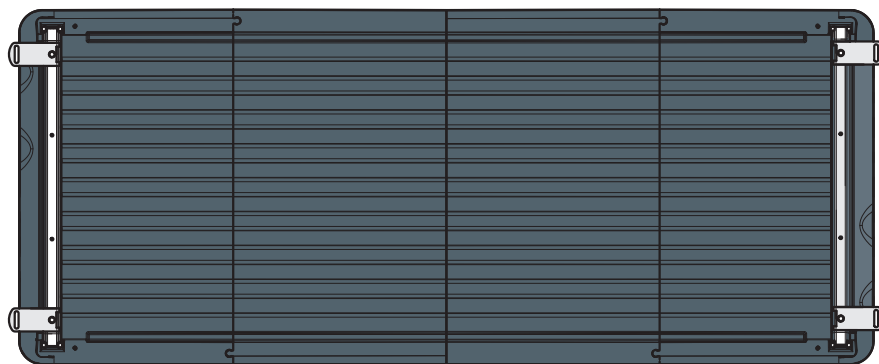
	0 kN/m <sup>2</sup>	225 km/h
	0 kN/m <sup>2</sup>	218 km/h
	0 kN/m <sup>2</sup>	210 km/h





On-roof mounting system, parallel  
Sistema di montaggio su tetto, in parallelo  
Système de montage sur toiture en parallèle  
Sistema de montaje sobre tejado en paralelo  
Sistema de montagem em telhado, paralelo

# 2



**THE CUSTOMER IS RESPONSIBLE FOR THE MATERIALS AND CONNECTION TO THE ROOF HIMSELF AND MUST ENSURE THAT SUITABLE COMPONENTS ARE USED!**



IL CLIENTE STESSO È RESPONSABILE DEI MATERIALI E DEL COLLEGAMENTO AL TETTO E DEVE ASSICURARSI CHE VENGANO UTILIZZATI COMPONENTI IDONEI!



LE CLIENT EST RESPONSABLE DES MATÉRIAUX ET DU RACCORDEMENT AU TOIT ET DOIT S'ASSURER QUE LES COMPOSANTS APPROPRIÉS SONT UTILISÉS!

EL CLIENTE ES RESPONSABLE DE LOS MATERIALES Y LA CONEXIÓN AL TECHO Y DEBE ASEGURARSE DE QUE SE USEN LOS COMPONENTES ADECUADOS!

O PRÓPRIO CLIENTE É RESPONSÁVEL PELOS MATERIAIS E PELA LIGAÇÃO AO TELHADO E DEVE ASSEGURAR A UTILIZAÇÃO DE COMPONENTES ADEQUADOS!

## Checklist for first start-up

Lista di controllo per la messa in funzione

Points à vérifier lors de la mise en service

Lista de verificación para la puesta en marcha inicial

Lista de verificação para o comissionamento inicial

30°



20°



5-45°



Serial number of the SUNPAD system: <input type="text"/>	Installation date of the SUNPAD system: <input type="text"/>
Name of the customer: <input type="text"/>	Customer address   Street   City (country): <input type="text"/>
Name of the installation company: <input type="text"/>	Telephone number of the installation company: <input type="text"/>

1	Check the positioning of the SUNPAD system	Yes	No
1.1	Does the SUNPAD system face south in the Northern Hemisphere and north in the Southern Hemisphere?	<input type="checkbox"/>	<input type="checkbox"/>
1.2	Has it been verified that the SUNPAD system is not in an area that is in the shade during the course of the year?	<input type="checkbox"/>	<input type="checkbox"/>
1.3	Has the SUNPAD system been installed at an installation angle of 5°-45°?	<input type="checkbox"/>	<input type="checkbox"/>
1.4	Has the SUNPAD system been installed at a minimum distance of 1 m from the walls or the edge of the roof?	<input type="checkbox"/>	<input type="checkbox"/>
2	Check the installation of the SUNPAD system	Yes	No
2.1	Was the provided manual used?	<input type="checkbox"/>	<input type="checkbox"/>
2.2	Is the operating pressure below 10 bar?	<input type="checkbox"/>	<input type="checkbox"/>
2.3	Has the SUNPAD system been filled correctly according to the instructions in the manual?	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Are the ventilation openings free and/or not closed?	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Has the protective film been removed from the glass/bird protection?	<input type="checkbox"/>	<input type="checkbox"/>
2.6	If the cold water pressure in the main line exceeds 10 bar: Has a pressure reducer been installed?	<input type="checkbox"/>	<input type="checkbox"/>
2.7	Have the static specifications been taken into account?	<input type="checkbox"/>	<input type="checkbox"/>
2.8	To avoid problems with moisture or water ingress on the roof, the pipes leading into the roof must be particularly well-sealed. The construction engineer on site should give you precise instructions that are tailored to the type of roof construction.	<input type="checkbox"/>	<input type="checkbox"/>
2.9	All connecting pipes must be very well-insulated to protect against frost and damage by UV radiation. Has an insulating material been used that corresponds to the local weather conditions?	<input type="checkbox"/>	<input type="checkbox"/>
2.10	Have all the provided fittings been used?	<input type="checkbox"/>	<input type="checkbox"/>
2.11	Are all connections free from heavy loads and/or have they been designed to be flexible?	<input type="checkbox"/>	<input type="checkbox"/>
2.12	Has the SUNPAD system been checked for leaks?	<input type="checkbox"/>	<input type="checkbox"/>
2.13	The SUNPAD system can produce hot water with temperatures above 60 °C. Has the recommended mixing valve been used?	<input type="checkbox"/>	<input type="checkbox"/>





2	Check the installation of the SUNPAD system	Yes	No
2.14	Is the safety valve free of all insulating materials?	<input type="checkbox"/>	<input type="checkbox"/>
2.15	Has the installation system been checked for visible damage?	<input type="checkbox"/>	<input type="checkbox"/>
2.16	Has the original heating element been installed by an approved electrician?	<input type="checkbox"/>	<input type="checkbox"/>
2.17	Has the heating element been installed according to the enclosed installation instructions?	<input type="checkbox"/>	<input type="checkbox"/>
2.18	Has the cold and/or hot water been connected correctly?	<input type="checkbox"/>	<input type="checkbox"/>

Date of filling	
Date of initial commissioning	Signature / stamp of installer

📱
**Registration**





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