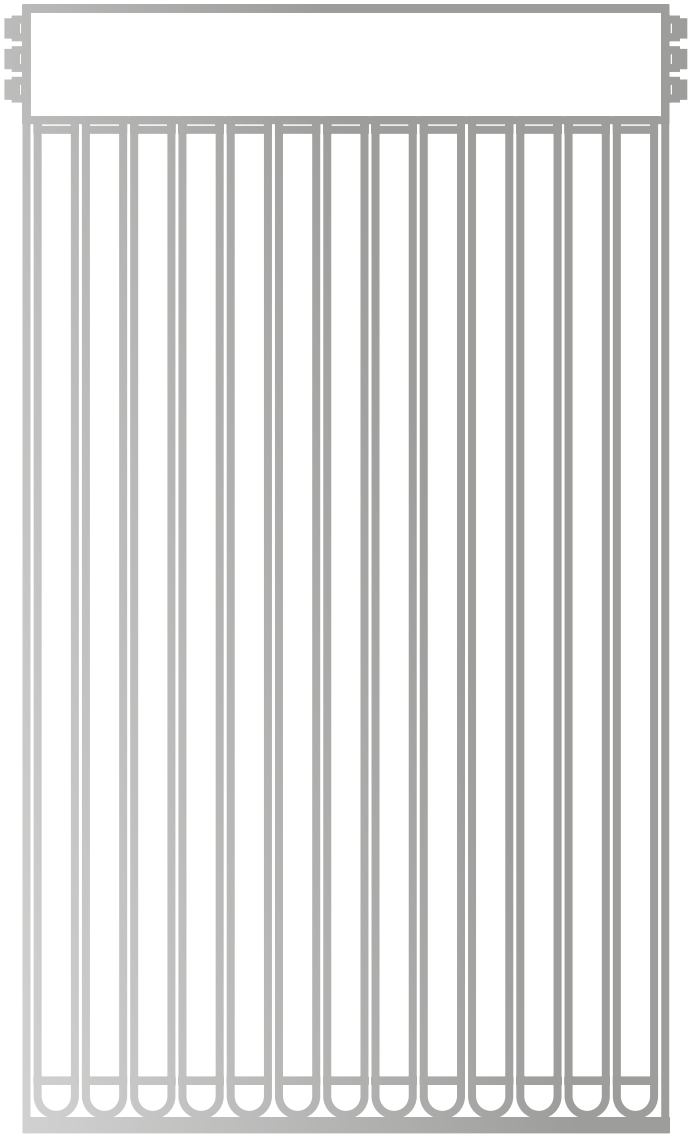
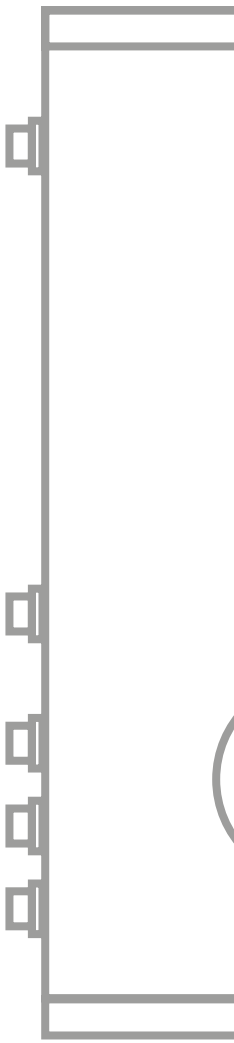
PLEION
The Sun is our Life!

DESIGNED AND MANUFACTORED IN ITALY





SOLAR THERMAL PROFESSIONAL

2025
Ver. 01

www.pleion.it



SOLAR THERMAL PROFESSIONAL

DESIGNED AND MANUFACTORED IN ITALY

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DHW + HEATING
WITH HEAT PUMP
AND SOLAR THERMAL

SPAZIO

THE ONLY ONE IN CLASS A+

- All with connections on the front
- SPACE-SAVING square shape
- Innovative PEX tank



SPACE-SAVING INSTALLATION

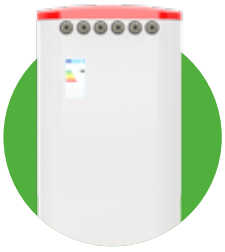
Innovative design that combines a SQUARE structure for maximum stability, compactness and ease of installation.

A+

THE ONLY ONE IN CLASS A+

310-liter size in class A+
440 and 800-liter sizes in class A

3 SIZES
310 liters
440 liters
800 liters



ALL WITH CONNECTIONS IN THE RIGHT PLACE

Save space and time for a tidy and functional installation.

WARRANTY
10 YEARS



THE PEX TANK THAT KNOWS NO CORROSION!

Cross-linked polyethylene reinforced with lightweight fiberglass, no welding, no corrosion, extremely high resistance over time.

INOX

ONLY HIGH QUALITY MATERIALS

Diffuser, heat exchangers and all components in stainless steel.

PLEION
The Sun is our Life!

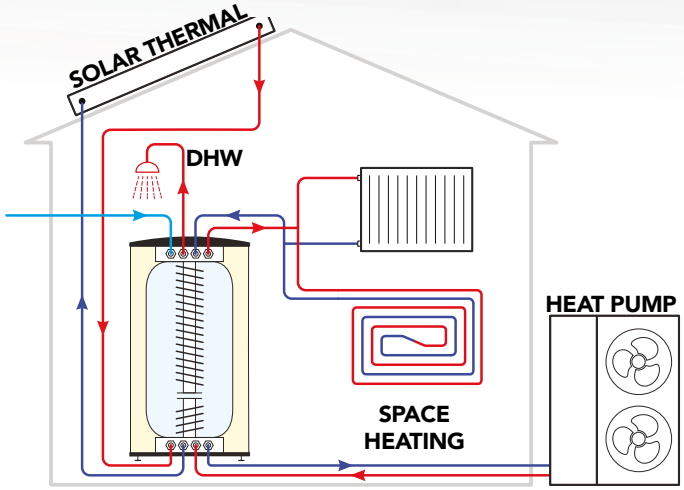


2 VERSIONS
3 SIZES

FOR MAXIMUM APPLICATION VERSATILITY.

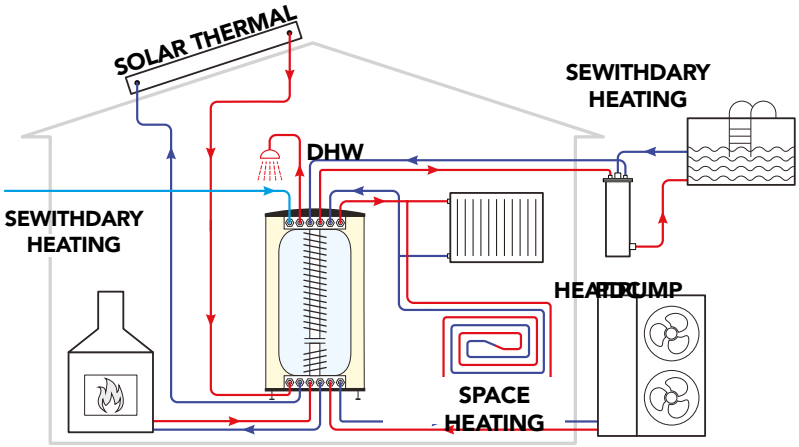
SPAZIO

2 INPUTS: *Solar thermal and heat pump*
2 OUTPUTS: *DHW and space heating*



SPAZIO PRO

3 INPUTS: *Solar thermal, heat pump and boiler/biomass*
3 OUTPUTS: *DHW and space heating with 2 circuits*



DHW + HEATING AND COOLING
WITH HEAT PUMP
AND SOLAR THERMAL

THERMA 4.3(0)

COMBINED WATER HEATER
DHW, HEATING AND COOLING

430-liter storage that includes both a 330-liter DHW water heater and a 100-liter hot/cold buffer tank.



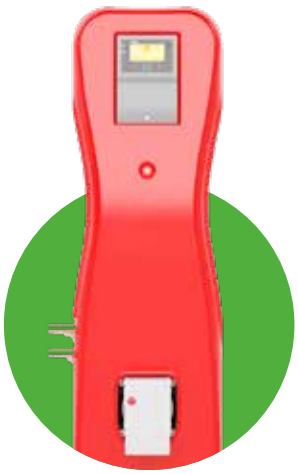
VITRIFIED DHW WATER HEATER DOUBLE COIL

330-liter water heater for domestic hot water storage. OVERSIZED UPPER HEAT EXCHANGER with double coil for perfect matching with heat pumps and LOWER HEAT EXCHANGER for solar thermal systems.

HOT/COLD BUFFER TANK

100-liter buffer tank for technical system water, hot/cold, for space heating and cooling.

5 YEARS WARRANTY



INTEGRATED SOLAR STATION AND WI-FI CONTROL UNIT

Solar station with electronic circulator positioned in the lower part for reduced heat loss. Innovative WI-FI Control unit for remote monitoring.





PLEION
The Sun is our Life!

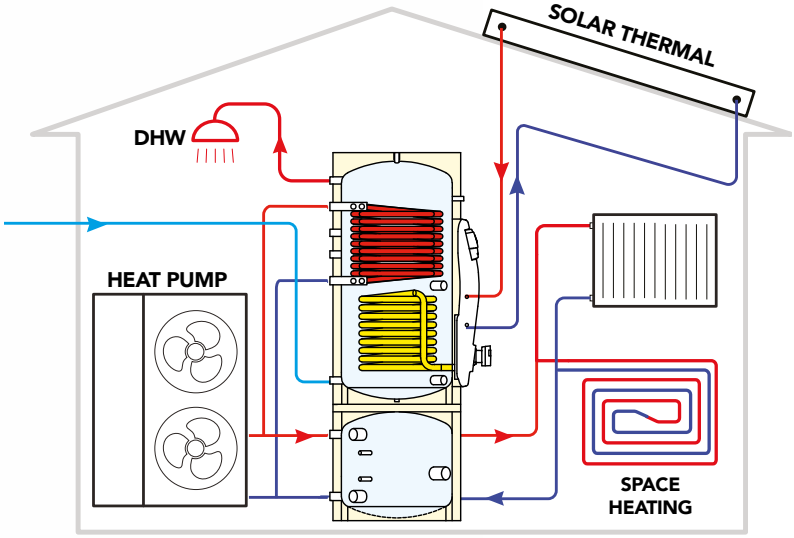


CLASS B

THERMA AND A HEAT PUMP SOLVE ALL YOUR NEEDS: **DHW, HEATING AND COOLING**

CLASS B

2 INPUTS: *Solar thermal + heat pump*
2 OUTPUTS: *DHW + space heating and cooling*



SOLAR VACUUM COLLECTORS

X-RAY III R

VACUUM SOLAR COLLECTORS WITH INTEGRATED THIRD TUBE

Maximum efficiency even in winter. Integrated third tube, +15% EFFICIENCY

SAPIENZA
UNIVERSITÀ DI ROMA

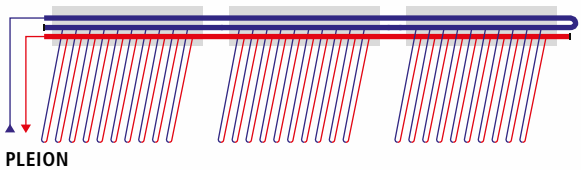
+15% efficiency in parallel WITHnection. TEST WITHDUCTED AT THE INTER-UNIVERSITY RESEARCH CENTER FOR SUSTAINABLE DEVELOPMENT (CIRPS).

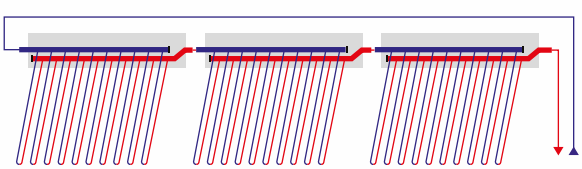


HIGH POWER SUPER EFFICIENCY +15% IN PARALLEL

High-performance collectors of the highest category, featuring vacuum technology and an integrated third tube in the header (no visible return piping).

15% HIGHER PARALLEL PERFORMANCE COMPARED TO COMPETITORS

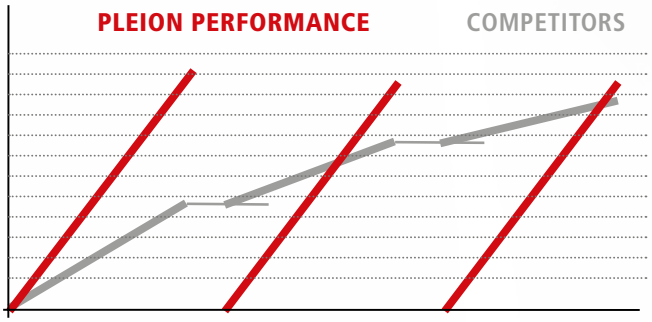

PLEION


COMPETITORS

PLEION INNOVATION: INTEGRATED THIRD TUBE

All X-RAY R 10/15/18/21 vacuum collectors with and without ECLIPSE SYSTEM are equipped with hydraulics integrated into the collector:

- **No external piping -** maximum insulation, reduced heat loss and no degradation over time.
- **PLUG&PLAY** collectors - Installation time reduced to a minimum, with a clean and harmonious aesthetic result.
- **HIGH PERFORMANCE -** Faster, more efficient and uniform heating, especially in winter, compared to all competitors with 2-tube hydraulics.



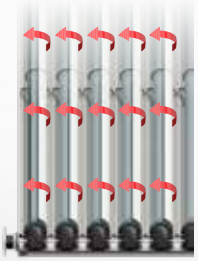
PLEION
The Sun is our Life!



ECLIPSE SYSTEM

WORLD INNOVATION

PATENTED



THE FIRST INTELLIGENT ANTI-STAGNATION SYSTEM

The patented ECLIPSE SYSTEM ROTATING PARABOLA shading system automatically activates in case of panel overtemperature, cooling it instantly.

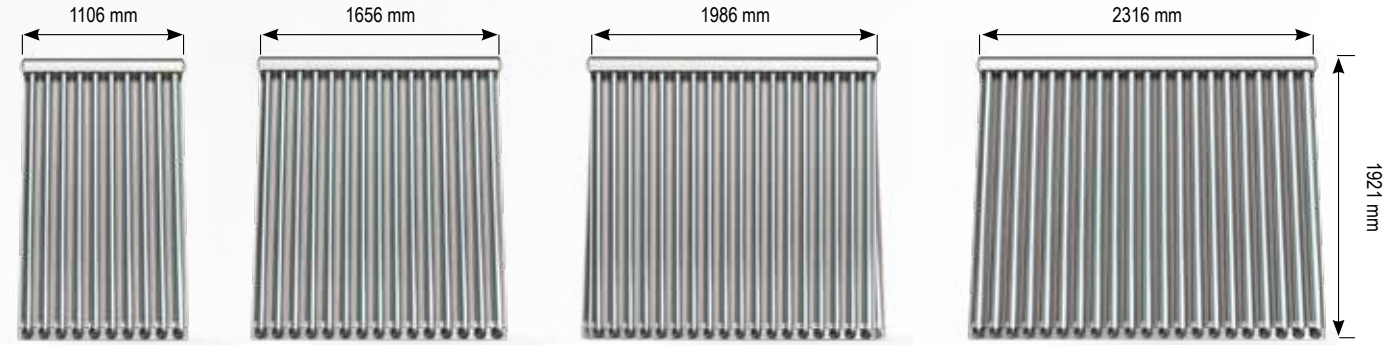
ECLIPSE SMART CONTROL

- Automatic SMART Control
- Manual Closing
- Programming

EFFICIENT SYSTEM 365 DAYS A YEAR

The solar system is utilized for 365 days a year and with ECLIPSE SYSTEM protected in case of excessive solar radiation (without resorting to draining).

The ECLIPSE SYSTEM drastically reduces stagnation. It is recommended to correctly size the number of panels in relation to WITHsumption and the volume of the storage tank/accumulator.



10 TUBES
Up to 8 collectors in parallel

15 TUBES
Up to 5 collectors in parallel

18 TUBES
Up to 4 collectors in parallel

21 TUBES
Up to 3 collectors in parallel

SOLAR SYSTEMS
TANKLESS SOLAR WATER HEATING

DOMESTIC HOT WATER - INTEGRATED COLLECTOR AND STORAGE

EGO ed EGO PRIME

Innovative natural circulation solar thermal system with integrated storage, capable of resisting corrosion even from the most aggressive water.

TANKLESS SOLAR WATER HEATING - ALL IN ONE

EGO - LUNAR WHITE



LITRES	🚹	m²	CODE
110	1-2	1,52	1020001100
150	2-3	1,93	1020001500
180	3-4	2,35	1020001800
220	4-5	2,77	1020002200
260	5-6	3,18	1020002600

EGO R - TILE RED



LITRES	🚹	m²	CODE
110	1-2	1,52	1020001101
150	2-3	1,93	1020001501
180	3-4	2,35	1020001801
220	4-5	2,77	1020002201
260	5-6	3,18	1020002601

EGO PRIME - ALUMINIUM



LITRES	🚹	m²	CODE
110	1-2	1,28	1030001100
150	2-3	1,68	1030001500
180	3-4	2,08	1030001800
220	4-5	2,48	1030002200
260	5-6	2,88	1030002600

EGO PRIME B - (WHITE)



LITRES	🚹	m²	CODE
110	1-2	1,28	1030001101
150	2-3	1,68	1030001511
180	3-4	2,08	1030001811
220	4-5	2,48	1030002211
260	5-6	2,88	1030002601

EGO PRIME R - RED



LITRES	🚹	m²	CODE
110	1-2	1,28	1030001102
150	2-3	1,68	1030001512
180	3-4	2,08	1030001812
220	4-5	2,48	1030002212
260	5-6	2,88	1030002602

DOMESTIC HOT WATER

FREE

Natural circulation solar systems WITHsisting of a storage tank (150-200-300 liters) combined with vacuum or flat plate solar collectors.

NATURAL CIRCULATION - FLAT PLATE

FREE S (KSF-S20/KSF-S25)



FREE S/Ti - STORAGE TANK + KSF-S20

LITRES	Coll.	m²	CODE
150	1	2,02	1020003000
200	1	2,02	1020003020
FREE S/Tp - STORAGE TANK + KSF-S20			
150	1	2,02	1020003010
200	1	2,02	1020003030
FREE S/Univ. - STORAGE TANK + KSF-S25			
300	2	2,52	1020003070
FREE S/ 18° Tp - STORAGE TANK + KSF-S25			
300	2	2,52	1020003060

Ti sloped roof - **Tp** flat roof - **Univ.** universal - **18° Tp.** flat roof with 18° inclination

DESIGNED AND MANUFACTORED IN ITALY

DOMESTIC WATER SOLAR
SYSTEM FOR WATER HEATER

PLEION
The Sun is our Life!

DOMESTIC HOT WATER (2 COILS)

ECO COMPACT

New generation of innovative solar systems for DHW production, equipped with a Control Cover that includes an integrated solar station and a pre-wired electronic Controller

VACUUM TUBE

ECO COMPACT ECLIPSE - ECO COMPAC T WITH ECLIPSE



LITRES	Coll.	m²	CODE
200	1 (15R)	3,18	1010202093
300	1 (21R)	4,45	1010203003
500	2 (15R)	6,36	1010205103

ECO COMPACT RAY - ECO COMPACT WITH X-RAY R



LITRES	Coll.	m²	CODE
200	1 (15R)	3,18	1010202094
300	1 (21R)	4,45	1010202111
500	2 (15R)	6,36	1010205100

FLAT PLATE

ECO COMPACT - ECO COMPACT WITH UNIKO-P21



LITRES	Coll.	m²	CODE
200	1	2,06	1020202071
300	2	4,12	1020203091
500	3	6,18	1020205081

ECO COMPACT PLUS - ECO COMPACT WITH KSF-P26



LITRES	Coll.	m²	CODE
200	1	2,62	1020202081
300	2	5,24	1020203081
500	3	7,86	1020205091

SMART ECO - ECO COMPACT WITH KSF-D25



LITRES	Coll.	m²	CODE
200	1	2,52	1010202081
300	2	5,04	1010203091
500	3	7,56	1010205101

DOMESTIC HOT WATER (2 COILS)

SMART

Solar systems for DHW production WITHsisting of vitrified double coil storage tanks (from 200 to 500 liters).

VACUUM TUBE

SMART RAY - VITRIFIED DOUBLE COIL STORAGE TANK WITH X-RAY R



LITRES	Coll.	m²	CODE
200	1 (21R)	4,45	1020405211
300	2 (15R)	6,36	1020405241
300	2 (18R)	7,64	1020405231
500	3 (18R)	11,46	1020405201

FLAT PLATE

SMART - VITRIFIED DOUBLE COIL STORAGE TANK WITH KSF-D25



LITRES	Coll.	m²	CODE
200	1	2,52	1020402021
200	2	5,04	1020402031
300	2	5,04	1020403031
300	3	7,56	1020403041
500	3	7,56	1020405011
500	4	10,08	1020405021

DOMESTIC HOT WATER (2 COILS)

MASTER

Solar systems for the production of large quantities of DHW, WITHsisting of vitrified double coil storage tanks (from 800 to 2000 liters).

VACUUM TUBE

MASTER RAY - BVITRIFIED DOUBLE COIL STORAGE TANK WITH X-RAY R



LITRES	Coll.	m²	CODE
800	3 (18R)	11,46	1010208101
1000	3 (21R)	13,35	1010201002
1500	4 (21R)	17,80	1010201502
2000	6 (21R)	26,70	1010202002
3000	8 (21R)	35,60	1010203002
4000	11 (21R)	48,95	1010204002
4000	12 (18R)	45,84	1010204003

FLAT PLATE

MASTER PLUS - BVITRIFIED DOUBLE COIL STORAGE TANK WITH KSF-P26



LITRES	Coll.	m²	CODE
800	4	10,48	1020208042
1000	6	15,72	1020201062
1500	8	20,96	1020201582
2000	10	26,20	1020202102

SOLAR SYSTEMS
DOMESTIC WATER SYSTEMS FOR HEAT PUMP

DOMESTIC HOT WATER (2 COILS)

ECO COMPACT HPS

New generation of innovative solar systems for DHW production in combination with heat pumps, equipped with a Control Cover that includes an integrated solar station and a pre-wired electronic controller. Integration with heat pumps of any brand!

VACUUM TUBE

ECO COMPACT HPS ECLIPSE - ECO COMPACT HPS WITH ECLIPSE



LITRES	Coll.	m²	CODE
300	1 (21R)	4,45	1010303042
500	2 (15R)	6,36	1010305032

ECO COMPACT HPS RAY - ECO COMPACT HPS WITH X-RAY R



LITRES	Coll.	m²	CODE
300	1 (21R)	4,45	1010303041
500	2 (15R)	6,36	1010305031

FLAT PLATE

ECO COMPACT HPS - ECO COMPACT HPS WITH UNIKO-P21



LITRES	Coll.	m²	CODE
300	2	4,12	1020303011
500	3	6,18	1020305011

ECO COMPACT HPS PLUS - ECO COMPACT HPS WITH KSF-P26



LITRES	Coll.	m²	CODE
300	2	5,24	1020303001
500	3	7,86	1020305001

DOMESTIC HOT WATER (2 COILS)

SMART HPS

Solar systems for DHW production in combination with heat pumps, consisting of a double coil storage tank with an oversized double-spiral **upper heat exchanger for greater exchange surface, ideal for heat pumps.**

FLAT PLATE

SMART HPS PLUS - BOLLITORE DOPPIO SERPENTINO WITH KSF-D25



LITRES	Coll.	m²	CODE
300	2	5,04	1020403051
500	3	7,56	1020405071

DOMESTIC HOT WATER (2 COILS)

THERMA

Solar systems consisting of a THERMA storage tank with a 300-liter vitrified DHW tank, complete with OVERSIZED heat exchanger for heat pumps and a 100-liter technical water buffer for heating and cooling integration. Integrated controller and solar station.

NEW 2025

VACUUM TUBE

THERMA ECLIPSE - THERMA WITH ECLIPSE SYSTEM



LITRES	Coll.	m²	CODE
400	1 (21R)	4,45	1020407010

NEW 2025

THERMA RAY - THERMA WITH X-RAY R



LITRES	Coll.	m²	CODE
400	1 (15R)	3,15	1020407009

NEW 2025

FLAT PLATE

THERMA - THERMA WITH KSF-D25



LITRES	Coll.	m²	CODE
400	2	5,04	1020407011

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SOLAR SYSTEMS
SOLAR SYSTEMS IN HEAT PUMP

HEAT PUMP WITH 1 COIL FOR SOLAR

JET

AIR/WATER high-temperature heat pump for domestic hot water production, with a 300-liter storage tank with 1 heat exchanger for combination with solar collectors.

JET ECLIPSE - JET 300S WITH ECLIPSE



LITRES	Coll.	m²	CODE
300	1 (21R)	4,45	1010303032

JET RAY - JET 300S WITH X-RAY21



LITRES	Coll.	m²	CODE
300	1 (21R)	4,45	1010303031

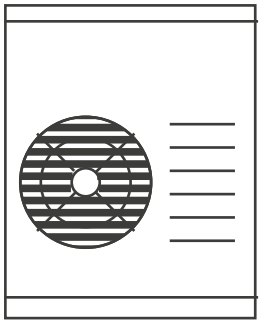
JET PLUS - JET 300S WITH KSF-P26



LITRES	Coll.	m²	CODE
300	2	5,24	1020303031

PLEION INFORMS

The advantages of Solar Thermal combined with Heat Pumps



• A heat pump is, among the technologies for heat production that can be combined with solar, the one that guarantees greater efficiency. PLEION offers a range of tanks and storage units for domestic hot water specifically designed for combination with heat pumps.

• The coil heat exchangers with increased surface area enhance the efficiency characteristics of every heat pump.

• In summer, the need to produce DHW for a heat pump that is working on cooling environments is translated into a cycle inversion, i.e., the heat pump stops cooling and reverses the working cycle to produce hot water. The cycle inversion leads to reduced comfort, reduced heat pump service life, and inefficiency.

Thanks to SOLAR THERMAL, dedicated to domestic hot water production, the heat pump remains exclusively focused on cooling environments, increasing its service life, improving comfort and efficiency.

• In winter, SOLAR THERMAL is still an element of efficiency that optimizes performance and reduces consumption for DHW heating.

SOLAR SYSTEMS
INTEGRATION FOR WATER HEATER

DHW + HEATING INTEGRATION

ULTRAFRESH 401

Revolutionary solar systems with storage tank equipped with Comfort Station, containing: an integrated solar station, an external 20 l/min plate module for domestic hot water production, and a pre-wired electronic solar controller.

VACUUM TUBE

ULTRAFRESH ECLIPSE 401 - ULTRAFRESH 401 WITH ECLIPSE



LITRES	Coll.	m²	CODE
401	1 (21R)	4,45	1010213532
401	2 (15R)	6,36	1010213533

ULTRAFRESH RAY 401 - ULTRAFRESH 401 WITH X-RAY 21R



LITRES	Coll.	m²	CODE
401	1 (21R)	4,45	1010213534

FLAT PLATE

ULTRAFRESH PLUS 401 - ULTRAFRESH 401 WITH KSF-P26



LITRES	Coll.	m²	CODE
401	2	5,24	1010213535

DHW + HEATING INTEGRATION

SPAZIO

Solar systems for heat pumps consisting of a SPAZIO storage tank (the only one in A+ class) in 310, 440, and 800 liter sizes, for DHW production and heating integration. Innovative tank in cross-linked polyethylene reinforced with fiberglass, for high resistance over time.

NEW 2025

SPAZIO ECLIPSE - SPAZIO WITH ECLIPSE



LITRES	Coll.	m²	CODE
310	1 (15R)	3,15	1010207030
440	1 (21R)	4,45	1010207031
800	2 (21R)	8,90	1010207032

NEW 2025

SPAZIO RAY - SPAZIO WITH X-RAY R



LITRES	Coll.	m²	CODE
310	1 (15R)	3,15	1010207010
440	1 (21R)	4,45	1010207011
800	2 (21R)	8,90	1010207012

NEW 2025

SPAZIO - SPAZIO WITH KSF D25



LITRES	Coll.	m²	CODE
310	2	5,04	1010207020
440	2	5,04	1010207021
800	4	10,08	1010207022

DHW + HEATING INTEGRATION

AQUA FRESH

Solar systems consisting of a Solar Puffer PR technical water storage tank combined with an instantaneous DHW module model SAN F30T (300-500 liters) and SANF40 (800-1000 liters).

VACUUM TUBE

AQUA FRESH RAY - PR WITH X-RAY R



LITRES	Coll.	m²	CODE
500	2 (18R)	7,64	1010213561
800	3 (18R)	11,46	1010213581
1000	3 (21R)	13,35	1010213501

FLAT PLATE

AQUA FRESH PLUS - PR WITH KSF-P26



LITRES	Coll.	m²	CODE
500	3	7,86	1010213551
800	5	13,1	1010213571
1000	6	15,72	1010213591

DHW + HEATING INTEGRATION

ECO DUO

Innovative solar systems with buffer tank (from 600 to 1000 liters) with solar heat exchanger and corrugated stainless steel coil suitable for instantaneous DHW production. Storage tank equipped with Control Cover, with integrated solar station and pre-wired electronic controller.

VACUUM TUBE

ECO DUO ECLIPSE - ECO DUO WITH ECLIPSE



LITRES	Coll.	m²	CODE
600	2 (21R)	8,9	1010216002
800	3 (21R)	13,35	1010218002
1000	4 (21R)	17,8	1010211002

ECO DUO RAY - ECO DUO WITH X-RAY R



LITRES	Coll.	m²	CODE
600	2 (21R)	8,9	1010216001
800	3 (18R)	11,46	1010218001
1000	4 (21R)	17,8	1010211001

DESIGNED AND MANUFACTORED IN ITALY

DHW + HEATING INTEGRATION

SMART HR

Solar systems with internal double coil storage tank suitable for space heating and domestic hot water production for residential and domestic structures. Domestic hot water production occurs instantaneously through an internal corrugated stainless steel coil that extends throughout the entire storage volume.

VACUUM TUBE

SMART HR RAY - HR WITH X-RAY R



LITRES	Coll.	m²	CODE
500	2 (21R)	8,9	1020405101
500	3 (18R)	11,46	1020408051
800	3 (18R)	11,46	1020408041
1000	4 (21R)	17,8	1020401101

FLAT PLATE

SMART HR - HR WITH KSF-D25



LITRES	Coll.	m²	CODE
500	3	7,56	1020405001
800	5	12,60	1020408001
1000	6	15,12	1020401001

DHW + HEATING INTEGRATION

SMART HRR

Solar systems with internal triple coil storage tank suitable for space heating and domestic hot water production for residential and domestic structures. Ideal for connection to multiple energy sources (gas/biomass boiler and solar thermal) for integration with underfloor heating systems.

VACUUM TUBE

SMART HRR RAY - HRR WITH X-RAY R



LITRES	Coll.	m²	CODE
500	2 (21R)	8,9	1020405002
500	3 (18R)	11,46	1020405003
800	3 (18R)	11,46	1020408003
1000	4 (21R)	17,8	1020401004

FLAT PLATE

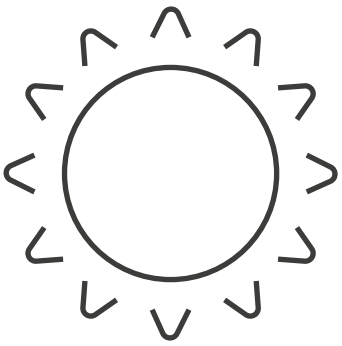
SMART HRR - HRR WITH KSF-D25



LITRES	Coll.	m²	CODE
500	3	7,56	1020405061
800	5	12,60	1020408021
1000	6	15,12	1020401021

PLEION INFORMS

I vantaggi del Solare Termico per l'integrazione al riscaldamento



The advantages of Solar Thermal for heating integration

• Space heating normally represents the most important part of a building's energy requirements. Pleion has a complete range of solutions to use solar thermal panels for both domestic hot water production and space heating.

• PLEION solar systems for hot water and heating have the advantage of providing instantaneous domestic hot water heating at the moment of use. This guarantees additional safety and hygiene of the water, especially with respect to Legionella bacteria.

• A solar thermal system designed to also contribute to space heating highlights the high quality and top-of-the-category performance of vacuum tube collectors, which will perform best in the cold season, when the building's heat demand is highest.

• The use of a solar thermal system for space heating is particularly effective and advantageous in combination with a low-temperature radiant system, to which PLEION dedicates an entire and vast catalog including solutions suitable for every need.

WORLD INNOVATION PATENTED

NATURAL CIRCULATION SOLAR SYSTEMS EGO E EGO PRIME

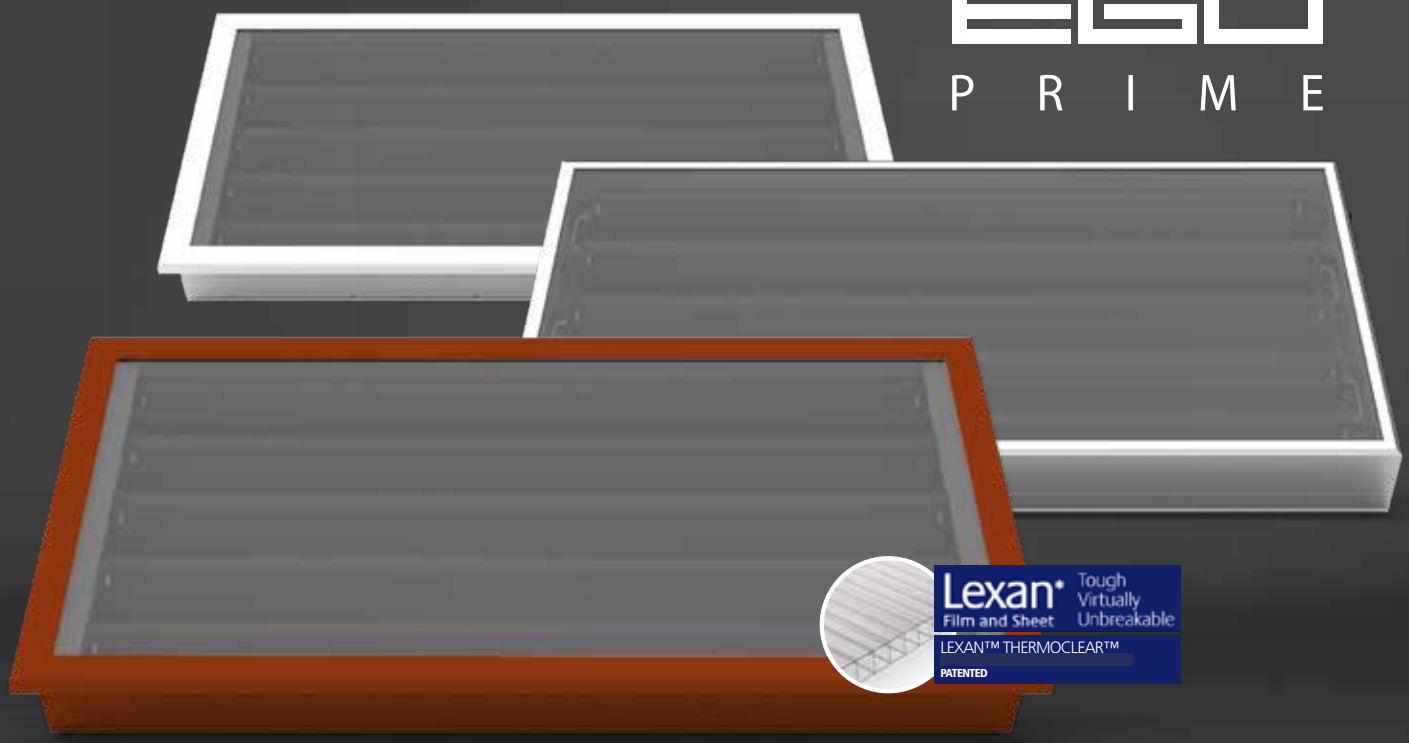
PLEION INNOVATION

THE WIDEST RANGE OF NATURAL CIRCULATION SOLAR SYSTEMS

WITH INTEGRATED STORAGE

EGO

EGO PRIME



INNOVATIVE CONCEPT AND MATERIALS UNIQUE DESIGN

THE ONLY ONE IN 2 COLORS AND 5 SIZES

DESIGNED AND MANUFACTURED IN ITALY

WARRANTY 5 YEARS

EGO Smart.Solar.Box
was developed in collaboration with the most prestigious Research Institutes and Organizations.

UNIVERSITY OF TRENTO - Italy

ENEA

034

ACTIVATE THE WARRANTY ON-LINE!

In resistant plastic material the solar thermal becomes EASY FOR EVERYONE



EGO

It is the new natural circulation solar thermal system, compact and integrated, ALL-IN-ONE therefore all in one: the tank integrated into the thickness of the panel guarantees a clean and pleasant aesthetic. Special steel tubes contain the necessary domestic water (depending on the size chosen) which is quickly heated by the sun and fed into your system. The job is done, nothing could be easier. But the exclusive technology used is among the most advanced as are the materials chosen for the construction components.

THE FRAME The easily removable frame makes it an object with a design suitable for any architectural context and at the same time allows quick installation and easy maintenance.

DOMESTIC WATER STORAGE The domestic water storage is made with a new alloy capable of resisting the most aggressive waters.

EGO is 40% lighter thanks to the combination of new materials: it is easier and faster to install and being less heavy it can be installed with fewer concerns, the 110 liter model weighs only 36 kg!

THE NEW SUPPORT BRACKETS INCLUDED allow installation parallel to the SLOPED ROOF, or with adjustable inclination on flat roof (25°, 30°, 45°).

PLUS

HOT WATER FOR ALL SEASONS*
EVEN WITH LOW RADIATION.
*Even with cold temperatures with optional electric heater.

- READY-TO-USE SOLAR SYSTEM, all in one box! It installs in minutes.
- 5 YEARSwarranty, with compliant installation and use.
- Resistant even to the most aggressive waters.

The new LEXAN® sheet significantly reduces heat loss compared to traditional glass, eliminates the condensation effect and increases resistance to weathering.

An essential design in 2 beautiful colors.

EGO LUNAR WHITE						
LITERS	AREA M²	PEOPLE	WEIGHT* Kg	DIMENSIONS L x P x H mm	MODEL	CODE
110	1,52	1-2	36	2136x711x220	**EGO 110**	1020001100
150	1,93	2-3	43	2136x906x220	**EGO 150**	1020001500
180	2,35	3-4	50	2136x1101x220	**EGO 180**	1020001800
220	2,77	4-5	57	2136x1296x220	**EGO 220**	1020002200
260	3,18	5-6	64	2136x1491x220	**EGO 260**	1020002600

EGO TILE RED						
LITERS	AREA M²	PEOPLE	WEIGHT* Kg	DIMENSIONS L x P x H mm	MODEL	CODE
110	1,52	1-2	36	2136x711x220	**EGO 110-R**	1020001101
150	1,93	2-3	43	2136x906x220	**EGO 150-R**	1020001501
180	2,35	3-4	50	2136x1101x220	**EGO 180-R**	1020001801
220	2,77	4-5	57	2136x1296x220	**EGO 220-R**	1020002201
260	3,18	5-6	64	2136x1491x220	**EGO 260-R**	1020002601

BRACKETS INCLUDED

FLAT ROOF 45° SLOPED ROOF

EGO PRIME

All-in-one system, innovative and cost-effective, in ALUMINIUM



EGO PRIME

It is the new natural circulation solar thermal system, compact and integrated, ALL-IN-ONE therefore all in one: the tank integrated into the thickness of the panel guarantees a clean and pleasant aesthetic. Special steel tubes contain the necessary domestic water (depending on the size chosen) which is quickly heated by the sun and fed into your system. The job is done, nothing could be easier. But the exclusive technology used is among the most advanced as are the materials chosen for the construction components.

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The new LEXAN® sheet significantly reduces heat loss compared to traditional glass, eliminates the condensation effect and increases resistance to weathering.

An essential design in 3 beautiful colors.

EGO PRIME ALUMINIUM

LITERS	AREA M²	PEOPLE	WEIGHT* Kg	DIMENSIONS L x P x H mm	MODEL	CODE
110	1,28	1-2	29	2055x620x213	**EGO PRIME 110**	1030001100
150	1,68	2-3	36	2055x815x213	**EGO PRIME 150**	1030001500
180	2,08	3-4	43	2055x1010x213	**EGO PRIME 180**	1030001800
220	2,48	4-5	50	2055x1205x213	**EGO PRIME 220**	1030002200
260	2,88	5-6	58	2055x1400x213	**EGO PRIME 260**	1030002600

EGO PRIME WHITE

LITERS	AREA M²	PEOPLE	WEIGHT* Kg	DIMENSIONS L x P x H mm	MODEL	CODE
110	1,28	1-2	29	2055x620x213	**EGO PRIME 110-B**	1030001101
150	1,68	2-3	36	2055x815x213	**EGO PRIME 150-B**	1030001511
180	2,08	3-4	43	2055x1010x213	**EGO PRIME 180-B**	1030001811
220	2,48	4-5	50	2055x1205x213	**EGO PRIME 220-B**	1030002211
260	2,88	5-6	58	2055x1400x213	**EGO PRIME 260-B**	1030002601

EGO PRIME RED

LITERS	AREA M²	PEOPLE	WEIGHT* Kg	DIMENSIONS L x P x H mm	MODEL	CODE
110	1,28	1-2	29	2055x620x213	**EGO PRIME 110-R**	1030001102
150	1,68	2-3	36	2055x815x213	**EGO PRIME 150-R**	1030001512
180	2,08	3-4	43	2055x1010x213	**EGO PRIME 180-R**	1030001812
220	2,48	4-5	50	2055x1205x213	**EGO PRIME 220-R**	1030002212
260	2,88	5-6	58	2055x1400x213	**EGO PRIME 260-R**	1030002602

BRACKETS INCLUDED

FLAT ROOF 45° SLOPED ROOF

ACCESSORIES

STANDARD ACCESSORIES



AIR VENTILATION VALVE (STANDARD)

Standard and included in the package of each EGO

DESCRIPTION	CODE
Air ventilation valve	**4400225711**



SAFETY AND NON-RETURN VALVE (STANDARD)

Standard and included in the package of each EGO

DESCRIPTION	CODE
Safety valve	**4400226101**

OPTIONAL ACCESSORIES



EGO SOLAR BANK

Extend the power of your EGO, always hot water thanks to an optional 35-liter insulated tube, applicable to any EGO and EGO PRIME (even on those already installed).

DESCRIPTION	CODE
EGO SOLAR BANK (WHITE)	**4400300080**
EGO SOLAR BANK (ALUMINIUM)	**4400300081**



PRESSURE REDUCER (OPTIONAL)

Limits the inlet pressure, thus reducing the possibility of valve opening and therefore a possible water discharge. Calibration 3 bar.

DESCRIPTION	CODE
Pressure reducer	**4400223303**



MIXING VALVE (OPTIONAL)

Adjustable high-performance thermostatic mixer for sanitary systems, suitable for solar systems with anti-scalding safety. Complete with 1" M threaded valve body connections with 1" F x ¾" M fittings. Maximum operating pressure/temperature 10 bar/100°C.

DESCRIPTION	CODE
Thermostatic Mixing Valve 3/4" - 35/55° kvs=1,7	**1030900002**



THERMOSTATIC DIVERTER-MIXER VALVE (OPTIONAL)

Valve composed in a single brass alloy body and plastic selector, on one part a fixed-point non-adjustable thermostatic diverter at 48°C (+/-1°C) and on a second part an adjustable thermostatic mixer 30-56°C (±1°C) with anti-scalding safety.

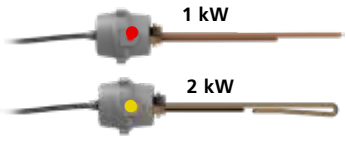
DESCRIPTION	CODE
5-WAY DIVERTER-MIXER VALVE	**1030900991**



ANTIFREEZE ELECTRIC HEATER (300 W) - (OPTIONAL)

The EGO solar collector can be used without limitations except in areas at risk of ice. In case of external temperature below 0°C, the collector must be emptied and covered. Alternatively, and in any case with external temperatures not below -5°C, the antifreeze electric heater can be installed.

DESCRIPTION	CODE
ANTIFREEZE ELECTRIC HEATER (300 W)	**4400234100**



ELECTRIC HEATERS FOR THERMAL INTEGRATION 1-2 KW - (OPTIONAL)

DESCRIPTION	CODE
ELECTRIC HEATERS FOR THERMAL INTEGRATION 1 kW	**4400234101**
ELECTRIC HEATERS FOR THERMAL INTEGRATION 2 kW	**4400234102**

EVACUATED TUBE SOLAR COLLECTORS

X-RAY 10R / 15R / 18R / 21R + ECLIPSE SYSTEM

100% MADE IN PLEION

HIGH PERFORMANCE

X-RAY 10R - 582 kWh/M² year
X-RAY 15/18R - 621 kWh/M² year
X-RAY 21R - 648 kWh/M² year
Wurzburg 50° data



NEW ANTI-STAGNATION

ECLIPSE SYSTEM

PATENTED

SOLAR COLLECTOR WARRANTY 5+5 YEARS
*WARRANTY EXTENSION

GARANZIA TUBI 10 YEARS
ANTI - GRANDINE

ACTIVATE THE WARRANTY ONLINE!

EVACUATED TUBE SOLAR COLLECTORS

The super efficient collector
also with ANTI-STAGNATION system ECLIPSE SYSTEM

The high-performance X-RAY 10 R / 15 R / 18 R / 21 R evacuated tube collectors consist of evacuated tubes with an external diameter of 58 mm in borosilicate glass 3.3, inside which a vacuum is created to eliminate heat losses towards the external environment. The internal hydraulic circuit is made with connecting copper pipes Ø 18x0.7 mm with ¾"M connections and as many flow and return copper pipes Ø 8x0.6 mm bent in a U-shape through which the solar heat transfer fluid flows.

The entire external structure of the collector is in anodized aluminum, while the side closures of the collector are in thermoplastic material equipped with ventilation slots.

Reversible collector with hydraulic connection and temperature sensor preparation on both sides

INTEGRATED THIRD PIPE - PARALLEL CONNECTION
The hydraulics of the collector is designed to connect in parallel the tubes of all panels that are connected in a row, so as to constitute almost a single collector. In addition, the integrated third pipe allows to connect flow and return on the same side of the row of panels (right or left, indifferently).

X-RAY R with ECLIPSE SYSTEM ANTI-STAGNATION

- **AUTOMATIC ANTI-STAGNATION SYSTEM that protects the collector from overtemperature.**
- **SMART APP CONTROL**

CODE	DESCRIPTION
1010101063	Evacuated tube solar collector X-RAY 10 R
1010101532	Evacuated tube solar collector X-RAY 15 R
1010101802	Evacuated tube solar collector X-RAY 18R
1010102111	Evacuated tube solar collector X-RAY 21 R

1010101064	Evacuated tube solar collector X-RAY 10 R with ECLIPSE SYSTEM
1010101534	Evacuated tube solar collector X-RAY 15 R with ECLIPSE SYSTEM
1010101803	Evacuated tube solar collector X-RAY 18R with ECLIPSE SYSTEM
1010102112	Evacuated tube solar collector X-RAY 21R with ECLIPSE SYSTEM
2000450000	SMART CONTROLLER ECLIPSE SYSTEM*

*One for each collector.

SAPIENZA UNIVERSITÀ DI ROMA

***+15% efficiency in parallel connection.
TEST CARRIED OUT AT THE INTER-UNIVERSITY
RESEARCH CENTER FOR SUSTAINABLE DEVELOPMENT CIRPS.**

SOLAR KEYMARK Fraunhofer FLAT ROOF 45° SLOPED ROOF

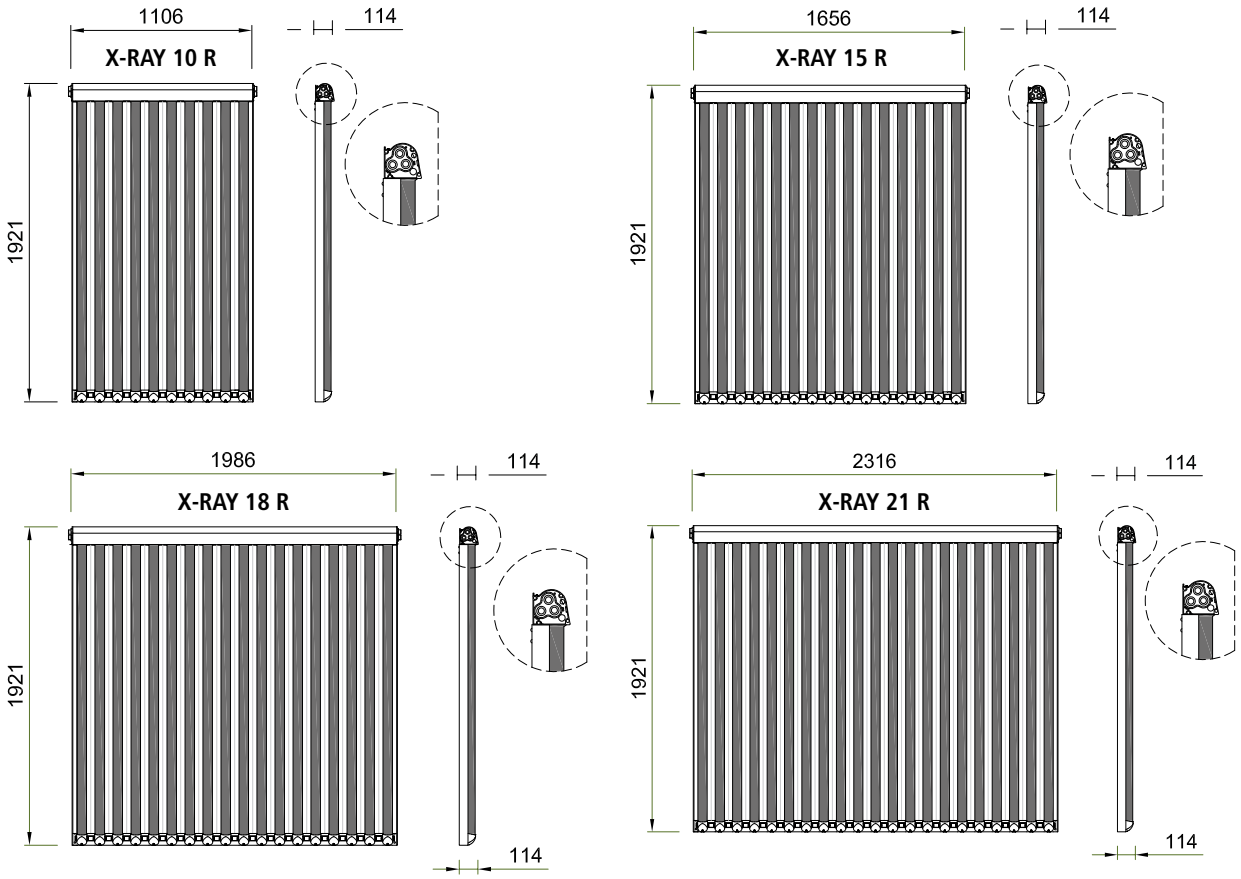
X-RAY R + ECLIPSE SYSTEM

TECHNICAL DATA

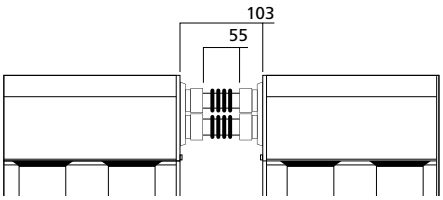
TECHNICAL CHARACTERISTICS					
		X RAY 10R	X RAY 15R	X RAY 18R	X RAY 21R
Evacuated tubes	[N°]	10	15	18	21
Maximum recommended number of collectors in battery	[N°]	8	5	4	3
Connections	[N°]	6			
Connection size	[Ø inch]	¾"M	¾"M	¾"M	3/4 " M
Aperture area	[m²]	1,912	2,866	3,4457	4,02
Absorption area	[m²]	2,574	3,852	4,62	5,39
Gross area	[m²]	2,12	3,18	3,82	4,45
Dimensions (LxHxD)	[mm]	1106x1921x114	1656x1921x114	1986 x 1921 x 114	2316 x 1921 x 114
Insulation thickness head, glass wool shell with aluminum	[mm]	30			
Diameter-Length evacuated tubes	[mm]	58/47 - 1800	58/47 - 1800	58/47 - 1800	58/47 - 1800
Recommended inclination	[°]	15 - 75			
Weight	[kg]	40	58,2	69,2	73
Heat transfer fluid content	[LITERS]	1,8	2,7	3,21	3,75

PERFORMANCE					
η_o Optical efficiency (ref. gross area)	[%]	0,600	0,615	0,615	0,609
k1 transmission coefficient (ref. gross area)	[W/m²K]	0,910	0,850	0,850	0,690
K2 transmission coefficient (ref. gross area)	[W/m²K²]	0,013	0,009	0,009	0,005
Nominal power	[W]	1272	1956	2349	2710
Incidence angle correction factor	[K50°]	1,14 T/0,91L	1,14T/0,91L	1,14T/0,91L	1,14T/0,91L
Thermal capacity (ref. aperture)	[kJ/m²K]	50,9			
Energy produced annually ISO 9806:2013 – Wurzburg – Temperature 50°C	[kWh]	1234	1975	2372	2885
Energy produced annually ISO 9806:2013 – Wurzburg – Temperature 75°C	[kWh]	956	1607	1930	2500
Test Report ISO 9'806: 2013	-	Kiwa			
DIN CERTCO Registration number	-	16084 REV.0	16083 REV 0	16083 REV 0	16082 Rev.0
Recommended flow rate per collector	[l/m]	1,41	2,12	2,55	2,96
Stagnation temperature	[°C]	279			
Maximum pressure	[bar]	10			
ECLIPSE SYSTEM	-	Opzionale			

DIMENSIONS



DIMENSIONS AND OVERALL DIMENSIONS



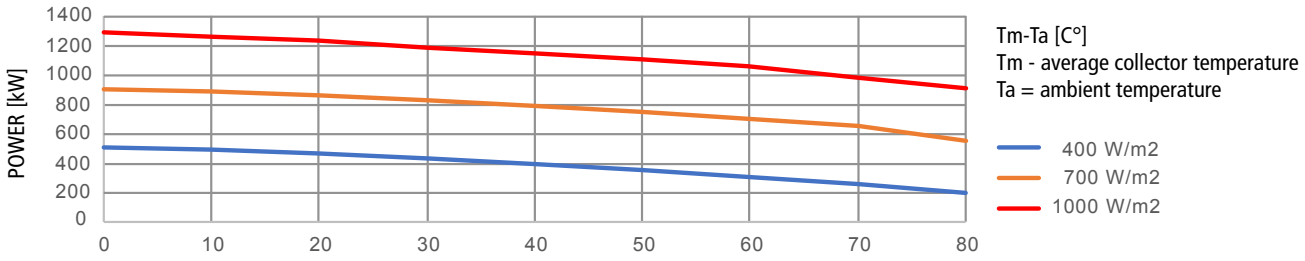
N. collectors	Overall width with brackets [mm]			
	X-RAY 10R	X-RAY 15R	X-RAY 18R	X-RAY 21R
1	1206	1756	2086	2416
2	2412	3512	4172	4832
3	3618	5268	6258	7248
4	4824	7024	8344	
5	6030	8780		
6	7236			
7	8442			
8	9648			

• Values refer to Pleion mounting brackets

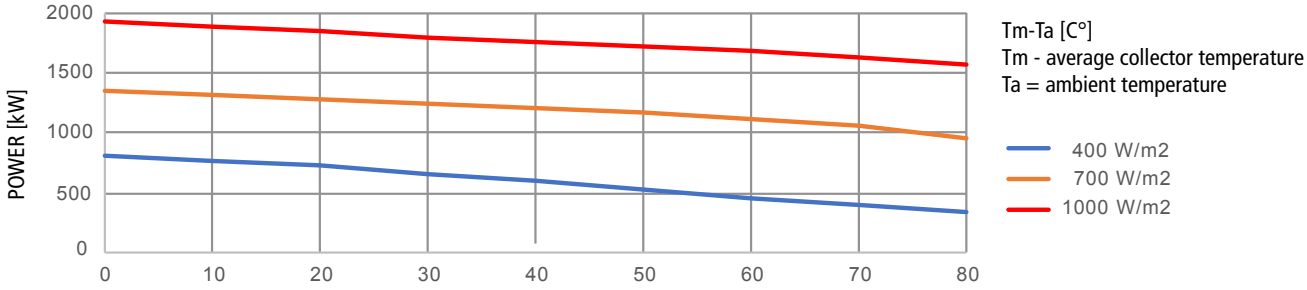
PIPE SIZING FOR CONNECTING COLLECTORS TO STORAGE TANK								
	X RAY 10		X RAY 15		X RAY 18		X RAY 21	
N. collectors	Recommended flow rate [l/h]	Cu pipes Øe/Øi [mm]	Recommended flow rate [l/h]	Cu pipes Øe/Øi [mm]	Recommended flow rate [l/h]	Cu pipes Øe/Øi [mm]	Recommended flow rate [l/h]	Cu pipes Øe/Øi [mm]
1	90	16/14	130	16/14	150	16/14	180	16/14
2	180	16/14	260	16/14	300	16/14	360	18/16
3	270	16/14	390	18/16	450	18/16	540	22/20
4	360	18/16	520	22/20	600	22/20	720	22/20
5	450	18/16	650	22/20				
6	540	22/20						
7	630	28/25						
8	720	28/25						

X-RAY R + ECLIPSE SYSTEM

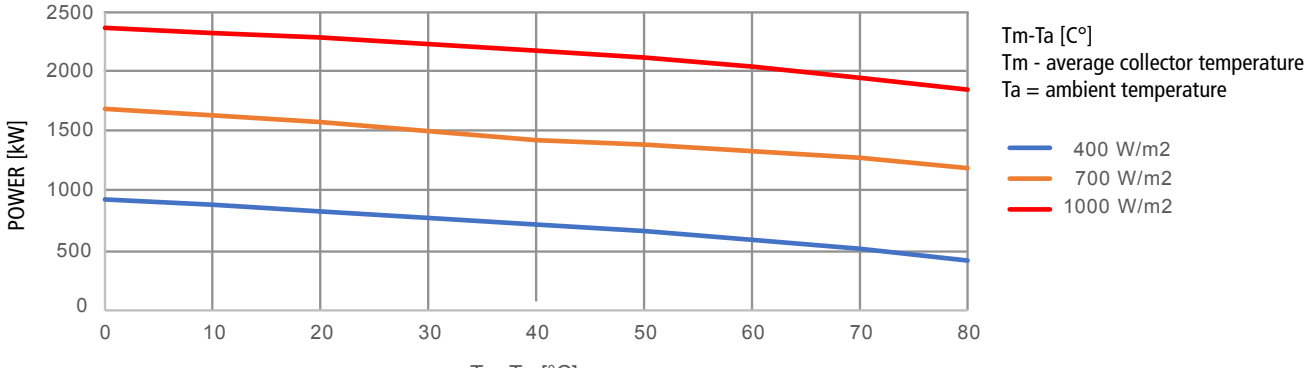
POWER CURVES X-RAY 10 R



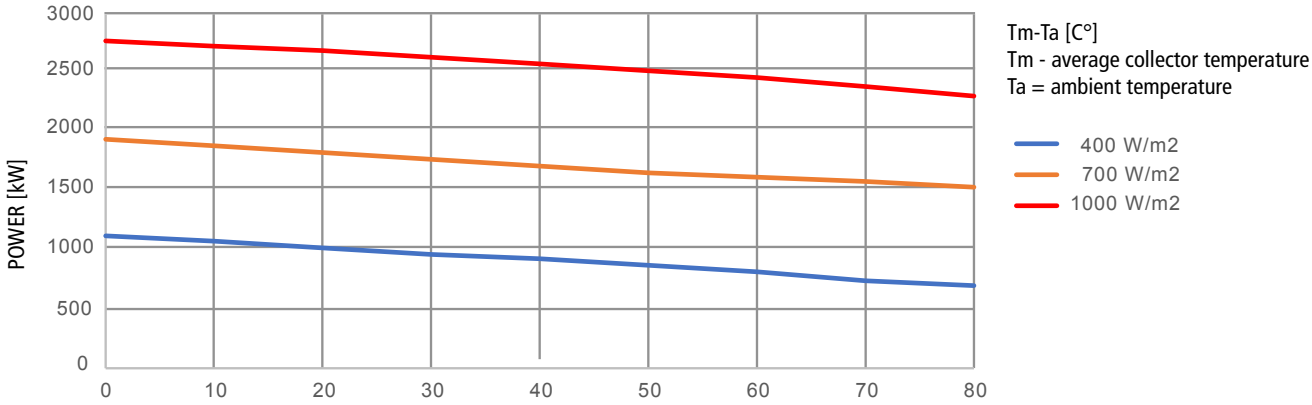
POWER CURVES X-RAY 15 R



POWER CURVES X-RAY 18 R

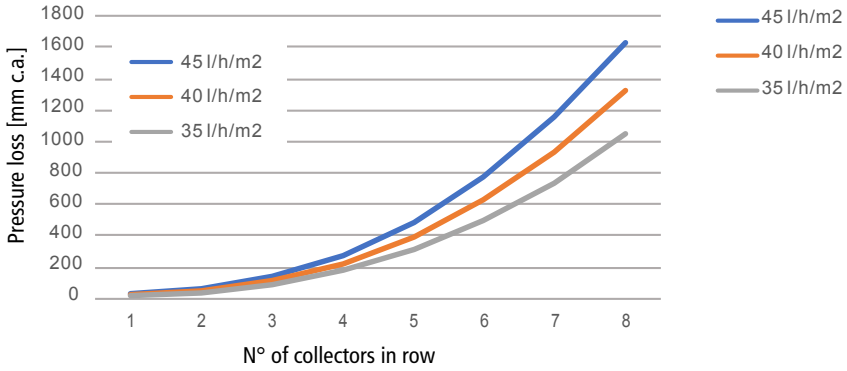


POWER CURVES X-RAY 21 R

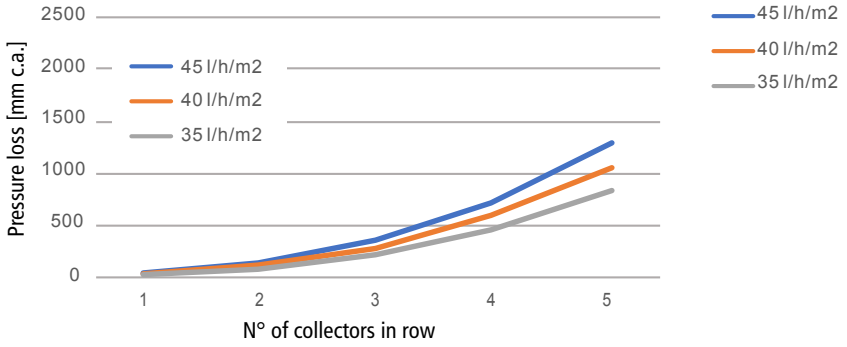


PRESSURE LOSSES X-RAY R
with water, propylene and glycole 40%

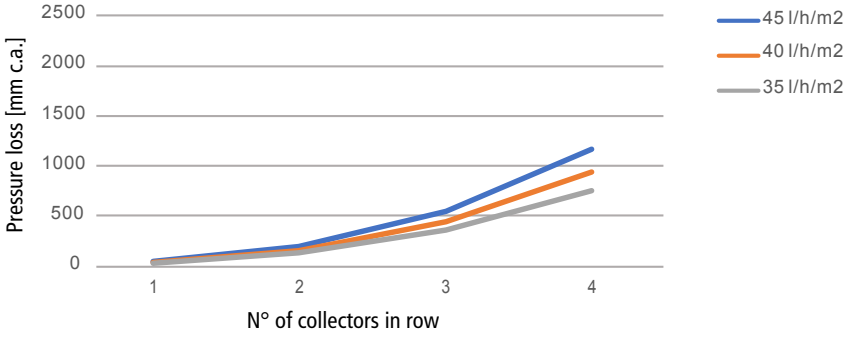
X-RAY 10 R



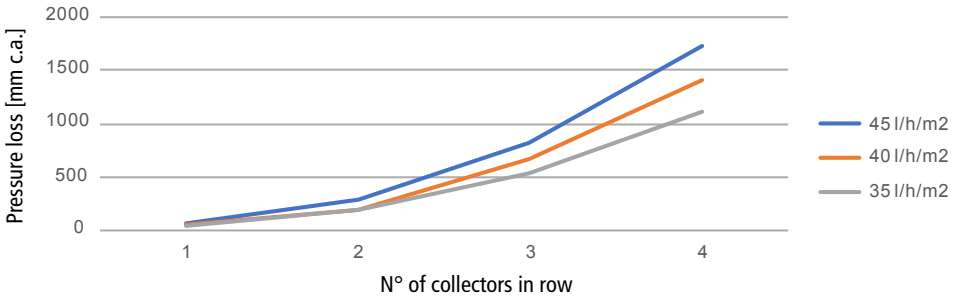
X-RAY 15 R



X-RAY 18 R



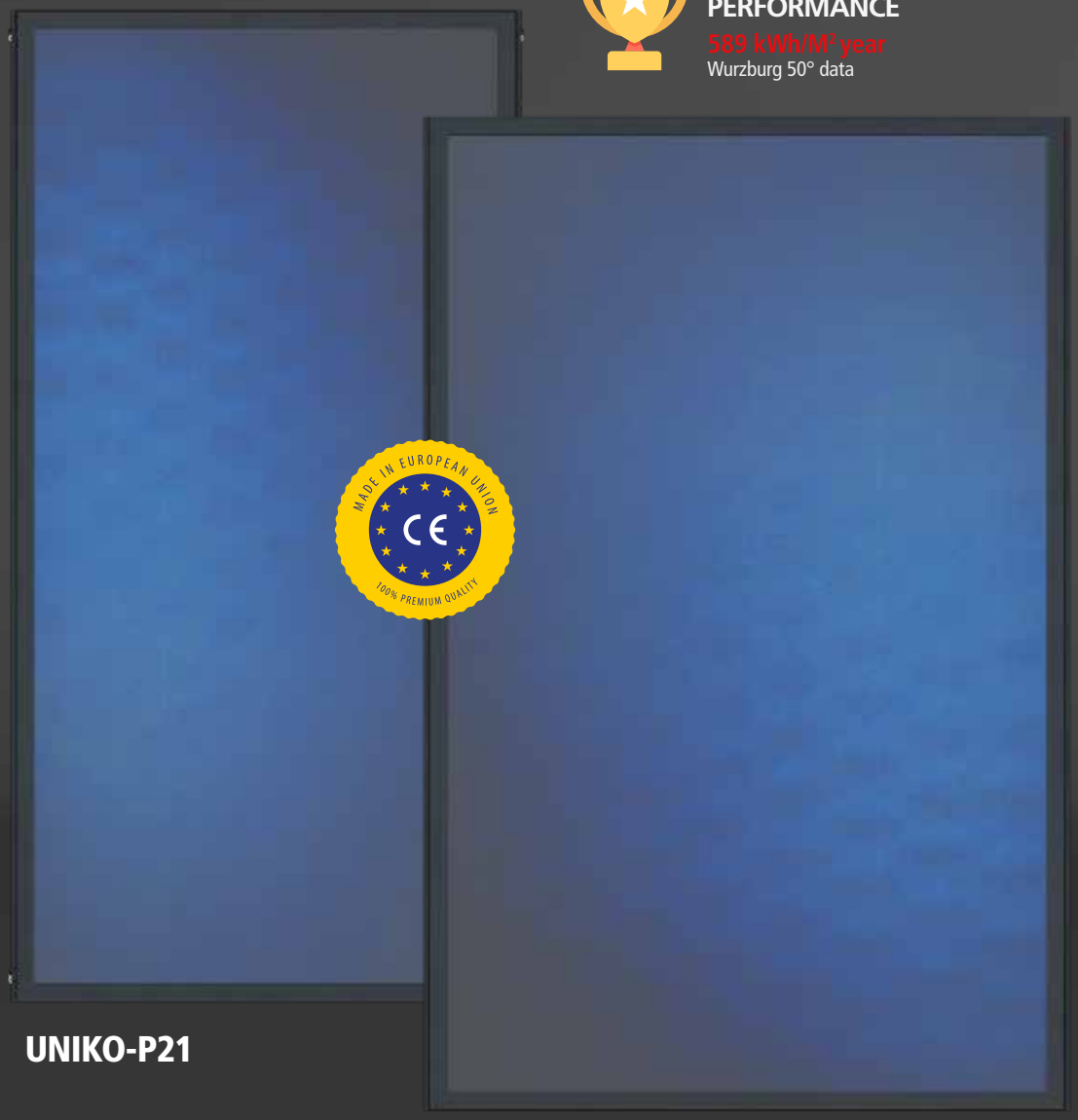
X-RAY 21 R



FLAT SOLAR COLLECTORS

UNIKO-P21 and KSF-P26

HIGH PERFORMANCE
589 kWh/M² year
Wurzburg 50° data



UNIKO-P21

KSF-P26

SOLAR COLLECTOR WARRANTY 5+5 YEARS
*WARRANTY EXTENSION

ACTIVATE THE WARRANTY ONLINE!

Anti-reflective flat collectors compact and high efficiency suitable for any installation

High-efficiency flat solar collector made with premium quality materials starting externally from the robust anthracite-colored aluminum frame treated for protection against corrosion, internal rock wool insulation capable of maintaining its insulation characteristics over time, high-performance single-sheet aluminum absorber thanks to the highly selective BLUETEC titanium coating, internal copper harp piping ultrasonically welded. The hydraulic circulation, by its nature, is characterized by low pressure drop values capable of creating strings of up to 8 collectors in addition to reducing the consumption of the system circulator with consequent energy savings.

External connections with 4 ¾" fittings with O-ring seals to be realized thanks to the hydraulic connection accessories:
- UNIKO-P21/KSF-P26 base hydraulic set necessary at the end of each string and composed of 1 brass body including sensor pocket with seal, manual air vent and ¾" connection with O-ring seal for connection to the hot side return and 2 string closing caps;
- UNIKO-P21/KSF-P26 plus hydraulic set necessary to join two collectors in series, composed of 2 corrugated stainless steel expansion joints with ¾"F swivel;
- UNIKO-P21/KSF-P26 H plus hydraulic set necessary to horizontally join two collectors in series, composed of 1 linear section of completely insulated corrugated stainless steel with ¾"F swivels and 2 closing caps.

Cover with 3.2 mm anti-reflective glass with high mechanical resistance and low iron content to guarantee maximum light transmission, capable of capturing as much energy as possible in addition to being internally treated to be able to internally reflect the infrared rays generated by the absorber, thus retaining the heat otherwise emitted externally through the heated glass. The seal of the cover is guaranteed by means of the shaped gasket made of EPDM resistant to UV solar rays and high temperatures.

The UNIKO-P21 and KSF-P26 collectors are reversible for vertical or horizontal installation thanks to the hydraulic accessories, while for fixing there are mounting systems available for pitched roofs, with screws or hooks (on request, a raised system for all roofs characterized by low slopes, able to increase the inclination of the collector up to 15°) and flat roofs, and universal recessed for all types of roofing. They are lightweight, simple to install and have high thermal efficiency and reliability over time. Ideal for small and large domestic hot water systems.

No. of collectors per string		1	2	3	4	5	6	7	8
N° Base hydraulic set UNIKO-P21 e KSF-P26		1	1	1	1	1	1	1	1
N° Plus hydraulic set UNIKO-P21 e KSF-P26		0	1	2	3	4	5	6	7
N° Plus hydraulic set H UNIKO-P21 e KSF-P26		0	1	2	3	4	-	-	-
Hydraulic accessories for creating a string									

COD	DESCRIPTION
1020100131	Flat collector UNIKO-P21
1020100121	Flat collector KSF-P26
1030907481	Base hydraulic set UNIKO-P21 e KSF-P26
1030907491	Plus hydraulic set UNIKO-P21 e KSF-P26
1030907641	Plus hydraulic set H UNIKO-P21 e KSF-P26

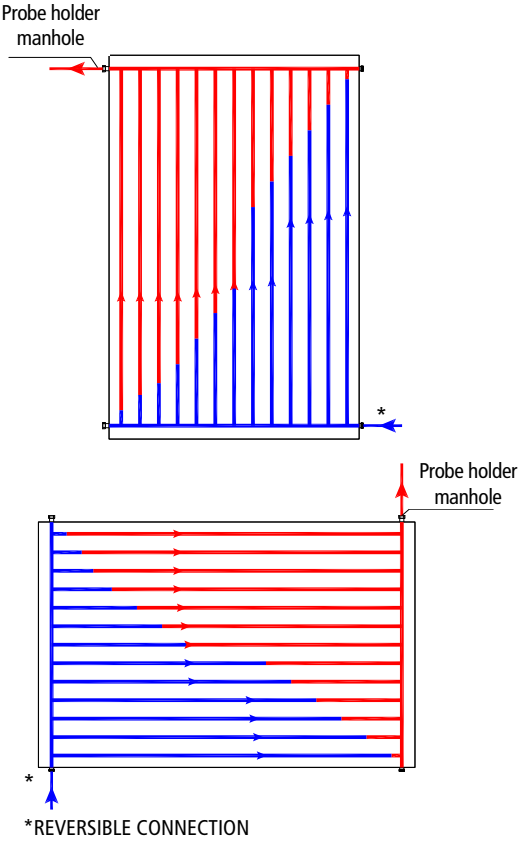
SOLAR KEYMARK FLAT ROOF 45° SLOPED ROOF

UNIKO-P21 / KSF-P26

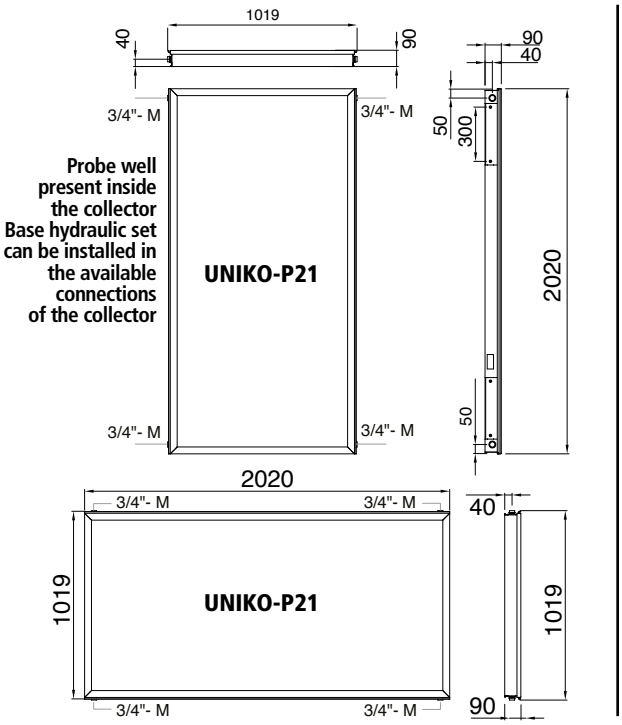
TECHNICAL DATA

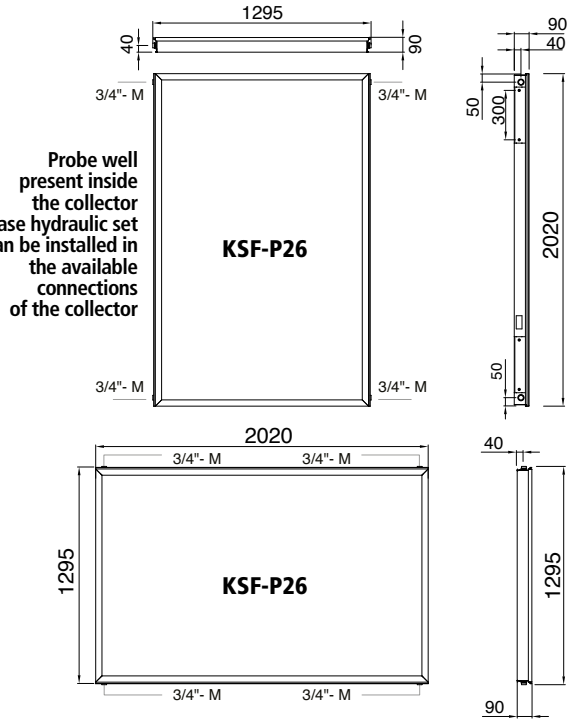
TECHNICAL CHARACTERISTICS	u.m.	UNIKO-P21	KSF-P26
DIMENSIONS	[mm]	[2020 x 1019 x 90]	[2020 x 1295 x 90]
Gross area	[m²]	2,06	2,62
Aperture area	[m²]	1,93	2,47
WEIGHT empty	[kg]	33,7	41,8
Liquid content	[l]	0,87	1,1
Maximum operating pressure	[bar]	10	10
Mineral wool insulation	[mm]	40 Inf./10 lat	40 Inf./10 lat
a1 linear transmission coefficient (ref. gross area)	[W/m²K]	3,342	3,342
a2 linear transmission coefficient (ref. gross area)	[W/m²K²]	0,014	0,014
no optical efficiency (ref. gross area)	-	0,791	0,791
Absorption coefficient	[%]	95	95
Emission coefficient	[%]	<5	<5
Transmission coefficient	[%]	96,7	96,7
Hydraulic connections	-	¾" M x 4	¾" M x 4
Cover glass thickness	[mm]	3,2	3,2
Maximum stagnation temperature	[°C]	197	196,6
Minimum inclination	[°]	15	15
Maximum inclination	[°]	75	75
Peak power of the collector	[W]	1629	2072
Incident angle correction factor	[K50°]	0,95	0,95

THE PERFORMANCE FYear REFERRED TO THE APERTURE AREA



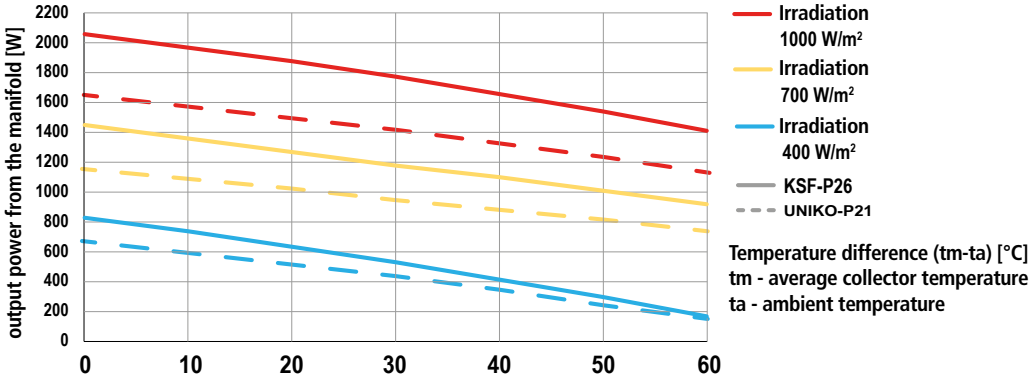
DIMENSIONS AND OVERALL DIMENSIONS





		UNIKO-P21								KSF-P26							
No. of collectors	**u.m**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
WIDTH IN VERTICAL PITCHED AND FLAT ROOF	mm	1120	2200	3310	4430	5550	6660	7780	8900	1414	2748	4142	5536	6930	8324	9718	11112
WIDTH IN HORIZONTAL PITCHED AND FLAT ROOF	mm	2100	4200	6300	8400	10500	12600	14700	16800	2100	4200	6300	8400	10500	12600	14700	16800

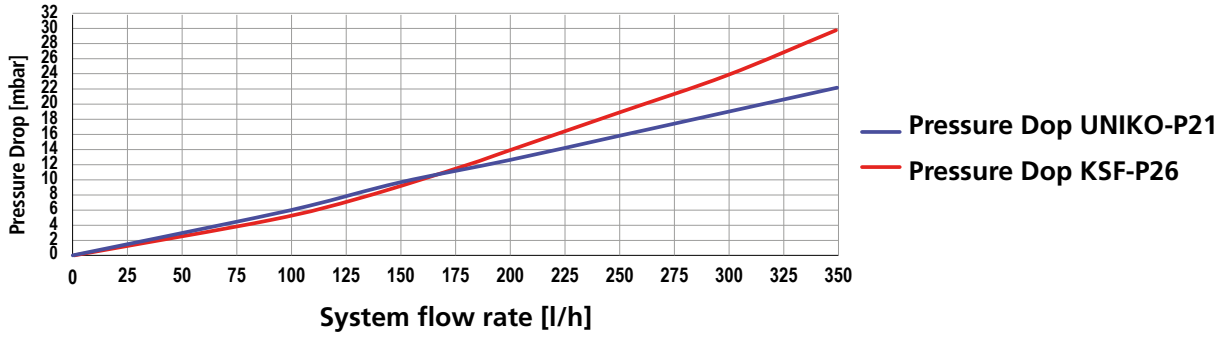
POWER CURVES UNIKO-P21 / KSF-P26



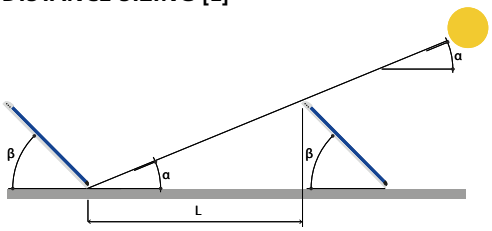
Temperature difference (tm-ta) [°C]
tm - average collector temperature
ta - ambient temperature

POWER [W]	SOLAR IRRADIATION [W/M²]					
	UNIKO-P21			KSF-P26		
Tm-Ta [°C]	400	700	1000	400	700	1000
0	652	1141	1629	829	1451	2072
10	580	1069	1558	738	1359	1981
20	503	991	1480	639	1261	1883
30	419	908	1397	533	1155	1777
40	330	819	1308	420	1042	1663
50	235	724	1213	299	921	1543
60	134	623	1112	172	793	1415
70	28	517	1006	36	658	1280

PRESSURE DROPS as flow rate varies



DISTANCE SIZING [L]



Inclinación rayos solares nα[°]	Inclinación KOLLEKTOR solar β [°]	
	VERTICAL 45°	HORIZONTAL 45°
15	5,3	2,8
25	3,1	1,6
35	2,1	1,1

PIPE SIZING FOR CONNECTING COLLECTORS TO STORAGE TANK

		UNIKO-P21								KSF-P26							
No. of collectors	u.m	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
RECOMMENDED FLOW RATE	l/h	70	140	210	280	350	420	490	560	90	180	270	360	450	540	630	720
CU PIPES ØE/ØI	mm	18/16	18/16	18/16	18/16	22/20	22/20	22/20	22/20	18/16	18/16	18/16	18/16	22/20	28/25	28/25	28/25

FLAT SOLAR COLLECTORS

KSF-D25



SOLAR COLLECTOR WARRANTY 5·5 YEARS
*WARRANTY EXTENSION

ACTIVATE THE WARRANTY ONLINE!

FLAT SOLAR COLLECTORS **KSF-D25**

The solid and versatile flat collector
with large surface area for any installation

The KSF-D25 collector is particularly robust, thanks to its reinforced and welded aluminum profile frame and 4 mm thick glass. It is also easy to install and connect thanks to the connections with 22 mm diameter copper pipe.

- KSF-D25 hydra base set required at the end of each string and composed of 1 brass body including a probe housing with seal, manual air vent, and connection to the hot side return, and 2 string closing caps;
- KSF-D25 hydra plus set required to join two collectors in series, composed of 2 joints;

Cover with 3.2 mm tempered safety glass, highly transparent, to ensure maximum light transmission, capable of capturing as much energy as possible.

No. of collectors per string	1	2	3	4	5	6	7	8
N° Base hydraulic set KSF-D25	1	1	1	1	1	1	1	1
N° Plus hydraulic set KSF-D25	0	1	2	3	4	5	6	7
Hydraulic accessories for creating a string								

COD	DESCRIPTION
1020100191	Flat collector KSF-D25
1030908612	Base hydraulic set KSF-D25
1030908625	Plus hydraulic set KSF-D25

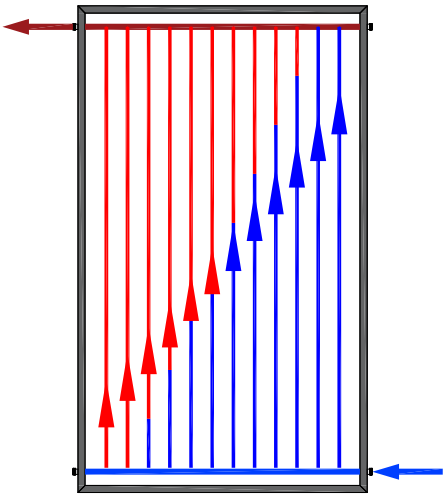
SOLAR KEYMARK FLAT ROOF 45° SLOPED ROOF

KSF-D25

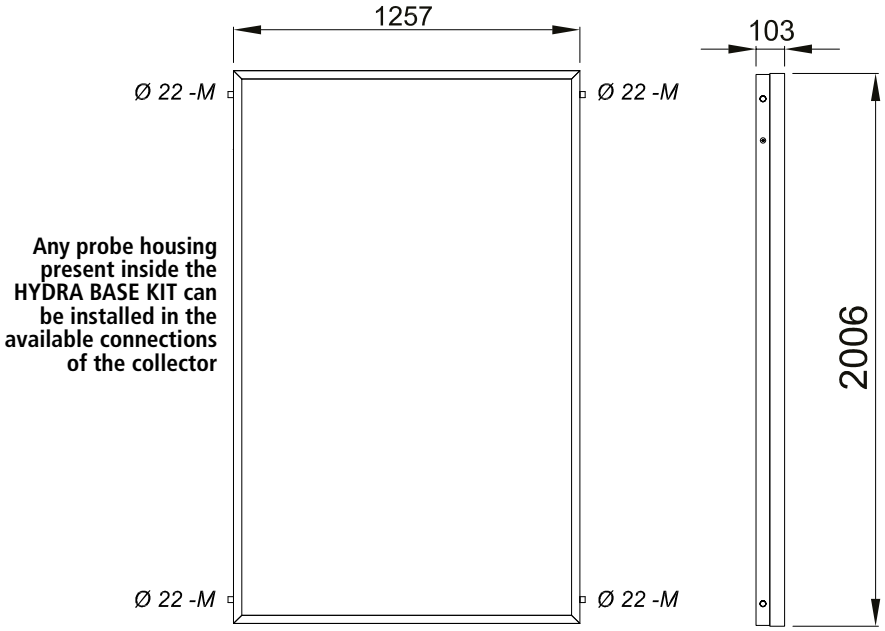
TECHNICAL DATA

TECHNICAL CHARACTERISTICS		
Dimensions	[mm]	2006x1257x103
Gross SURFACE	[m²]	2,52
Aperture SURFACE	[m²]	2,33
Empty weight	[kg]	36
Liquid content	[lt]	1,90
Maximum operating pressure	[bar]	16
Mineral wool insulation	[mm]	40 inf. - 10 lat.
a1 linear coefficient a1 (ref. gross SURFACE)	[W/ m²K]	3,16
a2 quadratic linear coefficient a2 (ref. gross SURFACE)	[W/ m²K²]	0,010
η_o optical efficiency (ref. gross SURFACE)	[%]	74,8
Absorption coefficient	[%]	95
Emission coefficient	[%]	<5
Transmission coefficient	[%]	91
Hydraulic connections	[mm]	22 mm X 4
Cover glass thickness	[mm]	3,2
Maximum stagnation temperature	[°C]	185
Minimum inclination	[°]	15
Maximum inclination	[°]	75
Peak PUISSANCE of collector	[W]	1852
Nominal flow rate	[l/h]	90
Incidence angle correction factor	[K50°]	0,94

THE PERFORMANCE REFERS TO THE APERTURE SURFACE

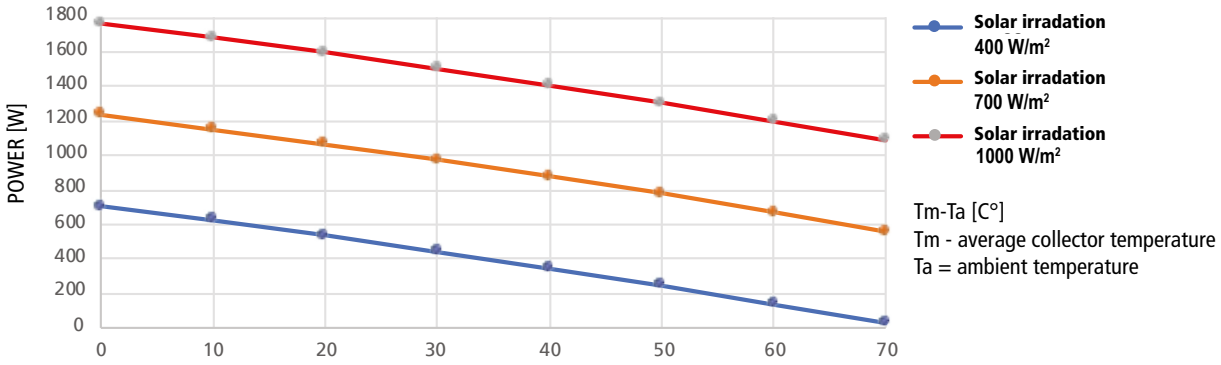


DIMENSIONS AND OVERALL DIMENSIONS



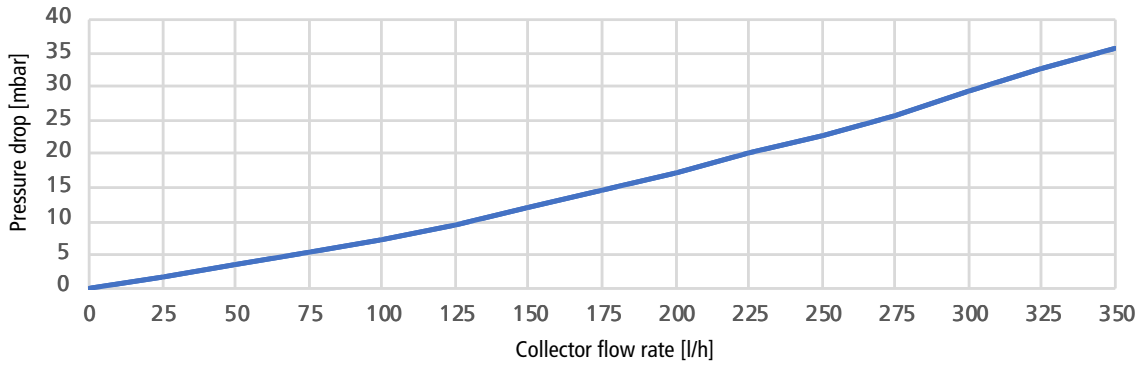
Any probe housing present inside the HYDRA BASE KIT can be installed in the available connections of the collector

POWER CURVE for KSF-D25 collectors

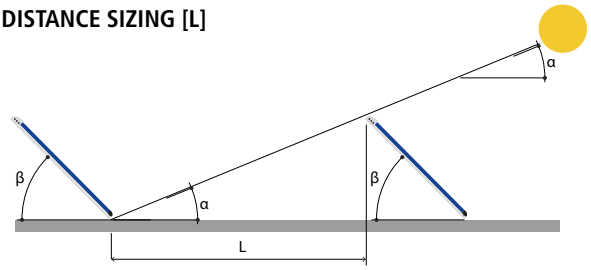


POWER [W]	SOLAR IRRADIATION [W/M²]		
Tm-Ta [°C]	**400**	**700**	**1000**
0	707	1237	1767
10	624	1154	1684
20	537	1067	1597
30	445	975	1505
40	348	878	1408
50	246	776	1306
60	139	669	1199
70	28	558	1088

PRESSURE DROPS as flow rate varies



DISTANCE SIZING [L]



Solar ray inclination α[°]	Solar collector inclination IN VERTICAL β [°]		
	30°	45°	50°
15	4,0	5,3	5,8
25	2,2	3,1	3,3
35	1,5	2,1	2,2

PIPE SIZING FOR CONNECTING COLLECTORS TO STORAGE TANK

		KSF-D25							
No. of collectors	**u.m**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
RECOMMENDED FLOW RATE	**l/h**	**90**	**180**	**270**	**360**	**450**	**540**	**630**	**720**
CU PIPES ØE/ØI	**mm**	**18/16**	**18/16**	**18/16**	**22/20**	**22/20**	**28/25**	**28/25**	**28/25**

MOUNTING SYSTEMS

VACUUM TUBE SOLAR COLLECTORS **X-RAY R E X-RAY R WITH ECLIPSE SYSTEM**

MOUNTING SYSTEMS FOR VACUUM TUBE COLLECTORS X-RAY 15R and X-RAY 15R with ECLIPSE SYSTEM

ROOF	MOUNTING TYPE		DESCRIPTION	CODE
SLOPED ROOF	TILE		MOUNTING SET 1 X-RAY 15R TILE	1030909871
			MOUNTING SET 2 X-RAY 15R TILE	1030909881
			MOUNTING SET 3 X-RAY 15R TILE	1030909891
			MOUNTING SET 4 X-RAY 15R TILE	1030909901
			MOUNTING SET 5 X-RAY 15R TILE	1030909911
			MOUNTING SET 1 X-RAY 15R CURVED TILE	1030909921
	CURVED TILE		MOUNTING SET 2 X-RAY 15R CURVED TILE	1030909931
			MOUNTING SET 3 X-RAY 15R CURVED TILE	1030909941
			MOUNTING SET 4 X-RAY 15R CURVED TILE	1030909951
			MOUNTING SET 5 X-RAY 15R CURVED TILE	1030909961
			MOUNTING SET 1 X-RAY 15R SCREW	1030909971
			MOUNTING SET 2 X-RAY 15R SCREW	1030909981
	SCREW		MOUNTING SET 3 X-RAY 15R SCREW	1030909991
			MOUNTING SET 4 X-RAY 15R SCREW	1030909902
			MOUNTING SET 5 X-RAY 15R SCREW	1030909912
			MOUNTING SET 1 X-RAY 15R FLAT ROOF	1030909922
			MOUNTING SET 2 X-RAY 15R FLAT ROOF	1030909932
			MOUNTING SET 3 X-RAY 15R FLAT ROOF	1030909942
FLAT ROOF	TRIANGLE SYSTEM		MOUNTING SET 4 X-RAY 15R FLAT ROOF	1030909952
			MOUNTING SET 5 X-RAY 15R FLAT ROOF	1030909962
			MOUNTING SET3 X-RAY 10R FLAT ROOF	1030909972
			MOUNTING SET4 X-RAY 10R FLAT ROOF	1030909982
			MOUNTING SET5 X-RAY 10R FLAT ROOF	1030909992
			MOUNTING SET6 X-RAY 10R FLAT ROOF	1030909903

MOUNTING SYSTEMS FOR VACUUM TUBE COLLECTORS X-RAY 10R and X-RAY 10R with ECLIPSE SYSTEM

ROOF	MOUNTING TYPE		DESCRIPTION	CODE
SLOPED ROOF	TILE		MOUNTING SET1 X-RAY 15R TILE	1030908651
			MOUNTING SET2 X-RAY 15R TILE	1030908661
			MOUNTING SET3 X-RAY 15R TILE	1030908671
			MOUNTING SET4 X-RAY 15R TILE	1030908681
			MOUNTING SET5 X-RAY 15R TILE	1030908691
	CURVED TILE		MOUNTING SET1 X-RAY 15R CURVED TILE	1030908711
			MOUNTING SET2 X-RAY 15R CURVED TILE	1030908721
			MOUNTING SET3 X-RAY 15R CURVED TILE	1030908731
			MOUNTING SET4 X-RAY 15R CURVED TILE	1030908751
			MOUNTING SET5 X-RAY 15R CURVED TILE	1030908761
	SCREW		MOUNTING SET1 X-RAY 15R SCREW	1030908781
			MOUNTING SET2 X-RAY 15R SCREW	1030908791
			MOUNTING SET3 X-RAY 15R SCREW	1030908801
			MOUNTING SET4 X-RAY 15R SCREW	1030908811
			MOUNTING SET5 X-RAY 15R SCREW	1030908821
FLAT ROOF	TRIANGLE SYSTEM		MOUNTING SET1 X-RAY 15R FLAT ROOF	1030908851
			MOUNTING SET2 X-RAY 15R FLAT ROOF	1030908861
			MOUNTING SET3 X-RAY 15R FLAT ROOF	1030908871
			MOUNTING SET4 X-RAY 15R FLAT ROOF	1030908881
			MOUNTING SET5 X-RAY 15R FLAT ROOF	1030908891

MOUNTING SYSTEMS FOR VACUUM TUBE COLLECTORS X-RAY 18R and X-RAY 18R with ECLIPSE SYSTEM

ROOF	MOUNTING TYPE		DESCRIPTION	CODE
SLOPED ROOF	TILE		MOUNTING SET1 X-RAY 18R TILE	1030908911
			MOUNTING SET2 X-RAY 18R TILE	1030908921
			MOUNTING SET3 X-RAY 18R TILE	1030908931
			MOUNTING SET4 X-RAY 18R TILE	1030908951
	CURVED TILE		MOUNTING SET1 X-RAY 18R CURVED TILE	1030908961
			MOUNTING SET2 X-RAY 18R CURVED TILE	1030908971
			MOUNTING SET3 X-RAY 18R CURVED TILE	1030908981
			MOUNTING SET4 X-RAY 18R CURVED TILE	1030908991
	SCREW		MOUNTING SET1 X-RAY 18R SCREW	1030909101
			MOUNTING SET2 X-RAY 18R SCREW	1030909111
			MOUNTING SET3 X-RAY 18RSCREW	1030909121
			MOUNTING SET4 X-RAY 18R SCREW	1030909131
FLAT ROOF	TRIANGLE SYSTEM		MOUNTING SET1 X-RAY 18R FLAT ROOF	1030909141
			MOUNTING SET2 X-RAY 18R FLAT ROOF	1030909151
			MOUNTING SET3 X-RAY 18R FLAT ROOF	1030909161
			MOUNTING SET4 X-RAY 18R FLAT ROOF	1030909171

MOUNTING SYSTEMS FOR VACUUM TUBE COLLECTORS X-RAY 21R and X-RAY 21R with ECLIPSE SYSTEM

ROOF	MOUNTING TYPE		DESCRIPTION	CODE
SLOPED ROOF	TILE		MOUNTING SET1 X-RAY 21R TILE	1030908341
			MOUNTING SET2 X-RAY 21R TILE	1030908351
			MOUNTING SET3 X-RAY 21R TILE	1030908361
	CURVED TILE		MOUNTING SET1 X-RAY 21R CURVED TILE	1030908381
			MOUNTING SET2 X-RAY 21R CURVED TILE	1030908391
			MOUNTING SET3 X-RAY 21R CURVED TILE	1030908401
	SCREW		MOUNTING SET1 X-RAY 21R SCREW	1030908421
			MOUNTING SET2 X-RAY 21R SCREW	1030908431
			MOUNTING SET3 X-RAY 21R SCREW	1030908441
FLAT ROOF	TRIANGLE SYSTEM		MOUNTING SET1 X-RAY 21R FLAT ROOF	1030908461
			MOUNTING SET2 X-RAY 21R FLAT ROOF	1030908471
			MOUNTING SET3 X-RAY 21R FLAT ROOF	1030908481

ACCESSORIES
FOR X-RAY R VACUUM TUBE SOLAR COLLECTORS

HYDRAULIC CONNECTIONS

SET	DESCRIPTION	CODE
BASE SET	BASE SET X-RAY R 	1030908511
	BASE SET X-RAY R WITH INSULATING COVER 	1030908512
PLUS SET	PLUS SET X-RAY R 	1030908531
	PLUS SET X-RAY R WITH INSULATING COVER 	1030908532
SUPPLY KIT	SUPPLY KIT FOR X-RAY R 	1030908541

COLLECTOR ACCESSORIES AND SPARE PARTS

DESCRIPTION	CODE
3/4 MALE COPPER FITTING 18	1030908551
3/4 MALE COPPER FITTING 22	1030908561
3/4 MALE COPPER FITTING 28	1030908571
NIPPLE MR 3/4-MG"3/4"	1030908581
NIPPLE FP 3/4-MG"3/4"	1030908591
NIPPLE 3/4 - 1"	1030908601
TUBE SOUS VIDE ø58/47 - L=1800mm	1010300803

ACCESSOIRES ET SUPPORTS FREE
FOR **FREE-S SYSTEM**

SISTEMA **FREE S**	DESCRIPTION	CODE
150 TP	F ACCESSORIES FOR 150/1 COLL.S20	1030908814
	FLAT ROOF SUPPORTS FOR 150/1–200/1 COLL.S20	1030908822
150 TI	INCLINED ROOF ACCESSORIES FOR 150/1 COLL.S20	1030908815
	INCLINED ROOF SUPPORTS FOR 150/1 COLL.S20	1030908824
200 TP	FLAT ROOF ACCESSORIES FOR 200/1 COLL.S20	1030908812
	FLAT ROOF SUPPORTS FOR 150/1–200/1 COLL.S20	1030908822
200 TI	INCLINED ROOF ACCESSORIES FOR 200/1 COLL.S20	1030908816
	INCLINED ROOF SUPPORTS FOR 200/1 COLL.S20	1030908820
300 UNIV.	UNIVERSAL ACCESSORIES FOR 300/2 COLL.S25	1030908806
	UNIVERSAL SUPPORTS FOR 300/2 COLL.S25	1030908829
300 18° TP	18° FLAT ROOF ACCESSORIES FOR 300/2 COLL.S25	1030908800
	18° SUPPORTS FOR 300/2 COLL.S25	1030908830

MOUNTING SYSTEMS
FOR **KSF-P26 / KSF-D25** FLAT COLLECTORS

MOUNTING SYSTEMS FOR KSF-P26 / KSF-D25 FLAT COLLECTORS

ATTENTION: ACCESSORY COMPONENTS TO BE ORDERED SEPARATELY

ROOF	MOUNTING TYPE	Mounting set	CODE
SLOPED ROOF	SCREW SYSTEMS	BASE MOUNTING SET VI KSF-P26/D25	1030906972
		PLUS MOUNTING SET VI KSF-P26/D25	1030906973
	CORRUGATED SHEET	BASE MOUNTING SET LG KSF-P26/D25	1030906983
		PLUS MOUNTING SET LG KSF-P26/D25	1030906984
	STANDING SEAM SHEET	BASE MOUNTING SET LA KSF-P26/D25	1030906985
		PLUS MOUNTING SET LA KSF-P26/D25	1030906986
	TILE HOOK SYSTEM	BASE MOUNTING SET GI-T KSF-P26/D25	1030906974
		PLUS MOUNTING SET GI-T KSF-P26/D25	1030906975
	CURVED TILE HOOK SYSTEM	BASE MOUNTING SET GI-C KSF-P26/D25	1030906976
		PLUS MOUNTING SET GI-C KSF-P26/D25	1030906977
	IN-ROOF	NEW IN-ROOF SET BASE 1 COLL. KSF-P26	1030909032
		NEW IN-ROOF SET EXT.1 COLL. KSF-P26	1030909033
FLAT ROOF (25-45° inclination)	TRIANGLE SYSTEM	BASE MOUNTING SET TP P26/M25/D25	1030906978
		PLUS MOUNTING SET TP P26/M25/D25	1030906979

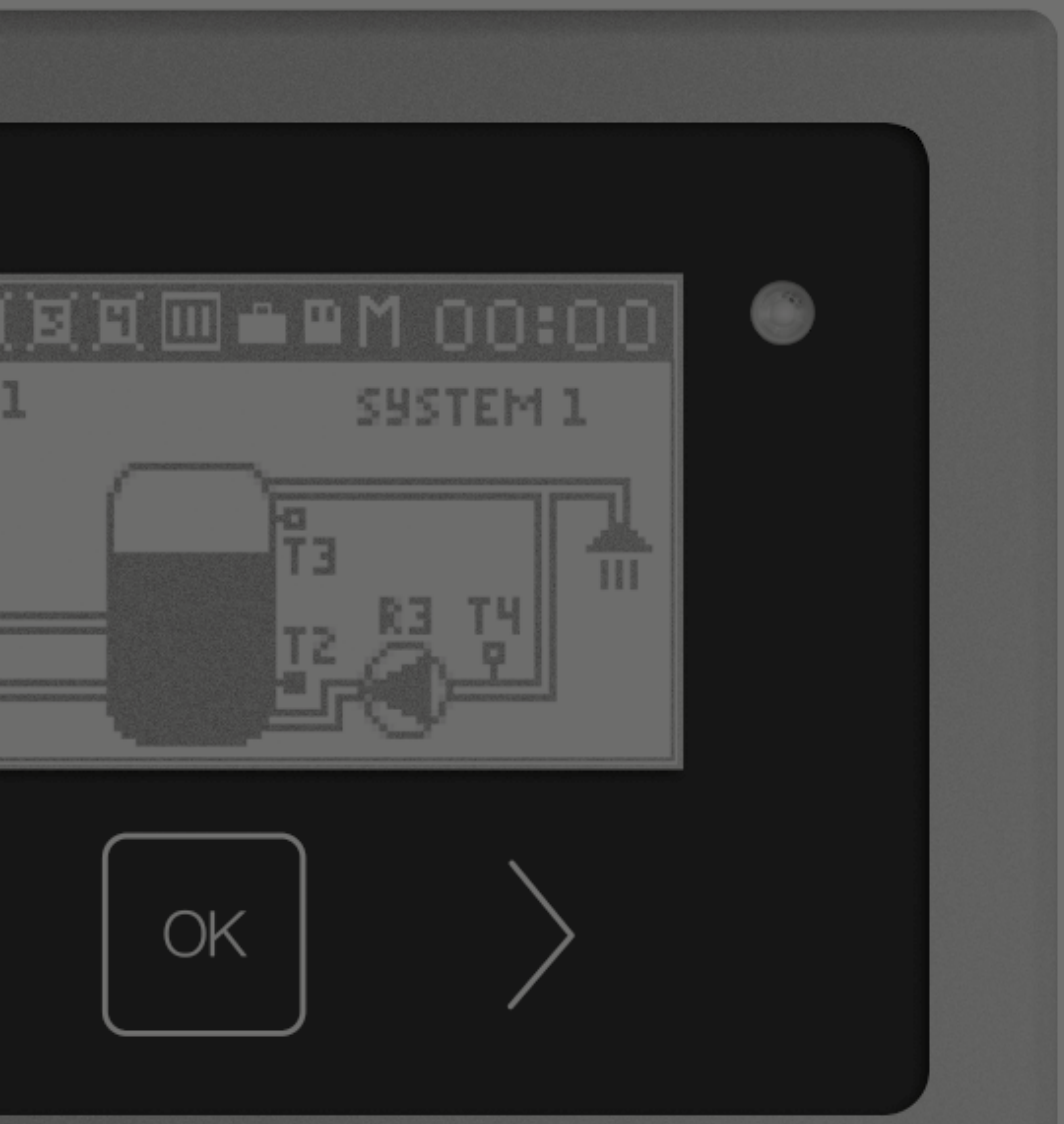
MOUNTING SYSTEMS FOR UNIKO P21 FLAT COLLECTORS

ATTENTION: ACCESSORY COMPONENTS TO BE ORDERED SEPARATELY

ROOF	MOUNTING TYPE	SET FISSAGGIO	CODE
SLOPED ROOF	SCREW SYSTEMS	VERTICAL BASE – 1 COLLECTOR VI UNIKO-P21	1030907581
		VERTICAL BASE – 2 COLLECTORS VI UNIKO-P21	1030907601
		VERTICAL EXTENSION KIT – 1 COLLECTOR VI UNIKO-P21	1030907591
		HORIZONTAL BASE – 1 COLLECTOR VI UNIKO-P21	1030907771
		HORIZONTAL EXTENSION KIT – 1 COLLECTOR VI UNIKO-P21	1030907801
	SISTEMA GANCIO	VERTICAL BASE – 1 COLLECTOR GI UNIKO-P21	1030907731
		VERTICAL BASE – 2 COLLECTORS GI UNIKO-P21	1030907721
		VERTICAL EXTENSION KIT – 1 COLLECTOR GI UNIKO-P21	1030907741
		HORIZONTAL BASE – 1 COLLECTOR GI UNIKO-P21	1030907811
		HORIZONTAL EXTENSION KIT – 1 COLLECTOR GI UNIKO-P21	1030907821
	IN-ROOF	NEW SET INCL. BASE 1 COLL. UNIKO-P21	1030909034
		NEW SET INCL. EXT. 1 COLL. UNIKO-P21	1030909035
FLAT ROOF	SISTEMA A TRIANGOLO	VERTICAL BASE – 1 COLLECTOR TP UNIKO-P21	1030907611
		VERTICAL BASE – 2 COLLECTORS TP UNIKO-P21	1030907631
		VERTICAL EXTENSION KIT – 1 COLLECTOR TP UNIKO-P21	1030907621
		HORIZONTAL BASE – 1 COLLECTOR TP UNIKO-P21	1030907651
		HORIZONTAL EXTENSION KIT – 1 COLLECTOR TP UNIKO-P21	1030907751


PB404

PLEION
The Sun is our Life!



CONTROL UNITS

PB404 / PB404 WI-FI CONTROL UNIT

Complete and efficient thermal solar system management
also remotely with WI-FI version



THE PB404 AND PB404 WI-FI SOLAR CONTROLLERS are efficient, universal and economical electronic regulators for managing solar and heating systems with high-efficiency pumps that require safe, durable and correct control over time. The controllers feature 4 inputs and 4 outputs, with 14 pre-configured management systems according to needs.
The system parameters and measured values can be controlled, modified and displayed via the backlit monochromatic graphic LCD display and two-color LED for diagnostics or signaling. Unique in the sector, they feature a touch-sensitive keypad that provides enviable technological and aesthetic advantages.

The Wi-Fi module integrated inside the PB404 WI-FI solar controller allows you to monitor and manage your solar system.

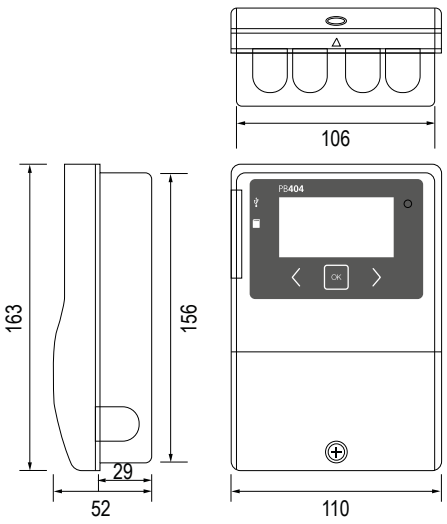
The advanced communication system offers the possibility of inserting the controllers into a vast and heterogeneous system, guaranteeing full control of the system at all times. Furthermore, the exclusive design makes them easy to handle, simple to install and suitable for use in any context. The controllers allow the saving of the main operating parameters thanks to the micro SD card slot (not included), and thanks to the USB port it is possible to update the software to the latest version.

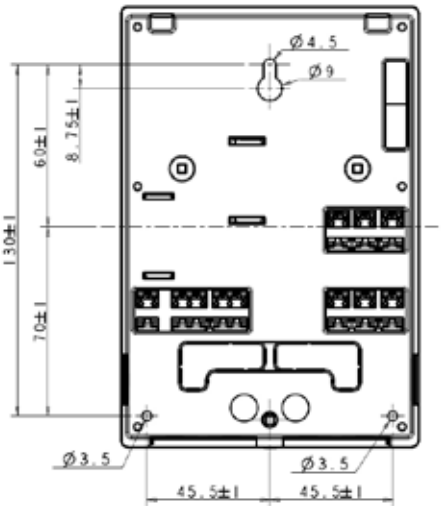
PLEISOLAR APP

Thanks to the APP, the end user will be able to view the status of their solar system, while the authorized technical assistance center will be able to regularly monitor and remotely manage it through proprietary software.

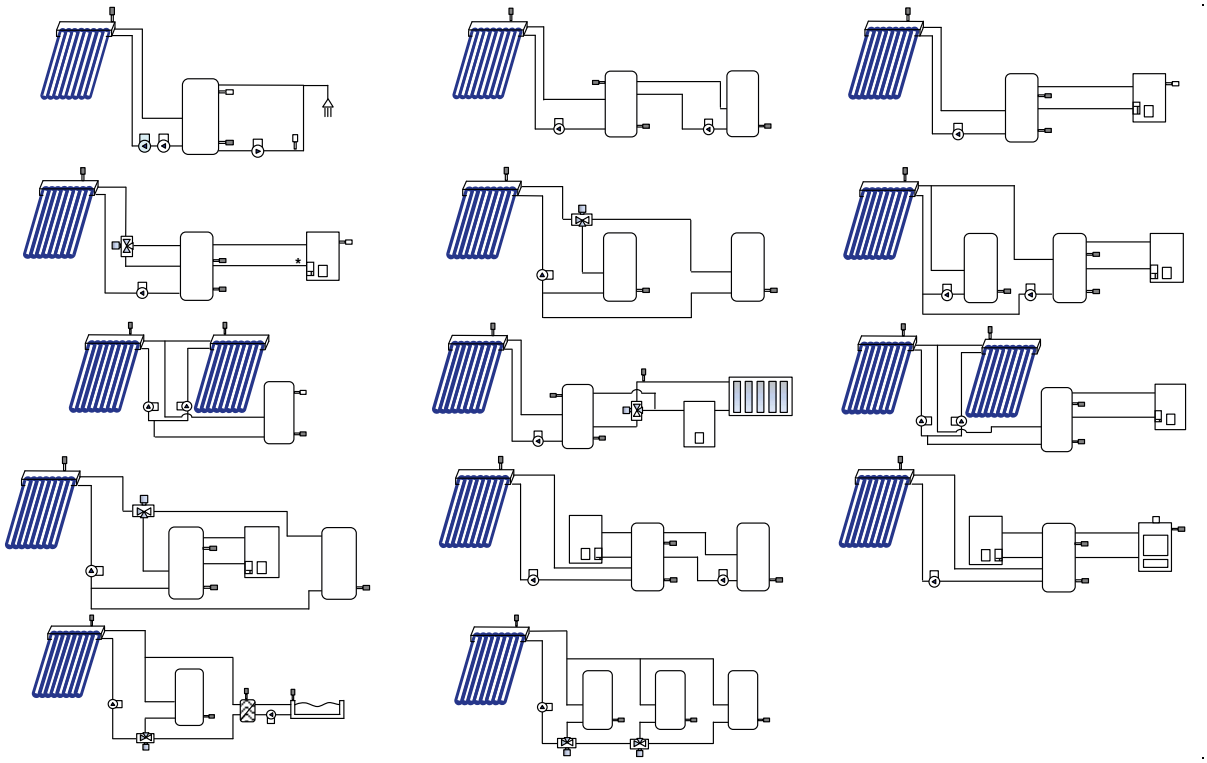
DISPONIBILE SU Google Play
Download on the App Store

DIMENSIONS





PB404 PRESET SYSTEMS



TECHNICAL DATA

Power supply	240V (50Hz)
Total current consumption (Standby)	2A – 240V – (1.96 W)
Preconfigured systems	14
Outputs	3 semiconductor relays "240 V" + 1 low voltage potential-free relay MAX 3A 2 PWM outputs for high-efficiency pumps
	4 for PT1000 or NTC 10K temperature probes 1 input for VP40 pulse counter
Inputs	Anti-freeze, stagnation reduction, vacuum tube collector, DHW recirculation, pump anti-blocking function, vacation mode, storage tank loading priority, boiler, cooling, Eclipse, energy metering, temperature graphs, status bar, programmable thermostat
	IP 20/IEC 60529 (I)
Functions	110x47x166 mm
Protection rating (Protection type)	English, Italian, German, French, Spanish and Portuguese
Dimensions	110x47x166 mm
Languages	English, Italian, German, French, Spanish and Portuguese

CODE	DESCRIPTION
1030604043	PB404 solar controller
1030604044	PB404 WI-FI solar controller

PR805 CONTROL UNIT

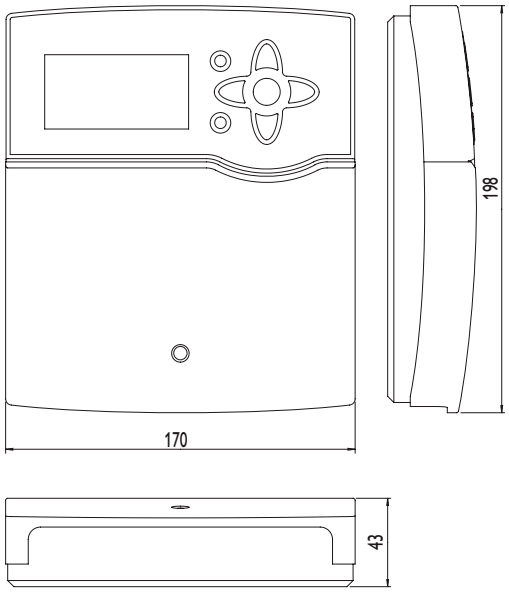
The best solution for every control need



THE PR805 SOLAR CONTROLLER is the most efficient, universal and compact electronic regulator for managing COMPLEX solar and heating systems equipped with various storage tanks and high-efficiency pumps that require safe, durable and correct control over time. The intuitive commissioning menu guides the user through the project system configuration, offering a complete overview of all available relays and sensors.

The PR805 is the ideal controller for managing multiple command outputs with a single control. The controller features 8 inputs and 5 outputs, but by means of the Vbus® connection, it is possible to connect 2 expansion modules in cascade to reach 21 temperature inputs and 15 output relays. Data logging, backups and firmware updates via SD card (max. memory capacity of 32MB). The controller is able to manage automatic loading of single-slope solar systems with up to 4 storage tanks or double-slope systems with up to 3 storage tanks. Possibility to receive input from two Grundfos Direct Sensor digital probes.

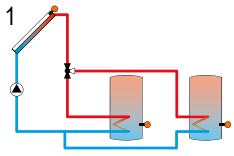
DIMENSIONS



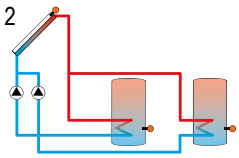
TECHNICAL DATA

Power supply	240V (50Hz)
Total current consumption (Standby)	4A – 240V (0,76 W)
Preconfigured systems	Can be created from preconfigured blocks, up to 1,000,000 solutions
Outputs	4 semiconductor relays "240 V" + 1 low voltage potential-free relay "30V"
	Inputs
Data interface	8 for PT1000 temperature probes
VBus® current supply	2 Grundfos Direct Sensors inputs, Radiation sensor
Functions	VBus® - SD card slot
Protection rating (Protection type)	VBus® 35mA
Dimensions	Delta T regulation, speed control, thermal calculation, solar pump operating hours count, tube collector, thermostat, stratified tank loading, priority logic, excess heat removal, thermal disinfection, function monitoring and drain back option
Degree of protection (Type of protection)	IP 20/IEC 60529 (I)
DIMENSIONS	198x170x43 mm

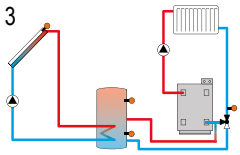
PR805 FEASIBLE SYSTEMS (NOT PRECONFIGURED)



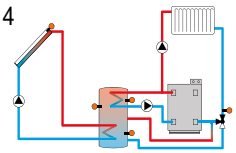
1. System with 2 tanks and valve control



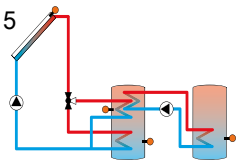
2. System with 2 tanks and pump control



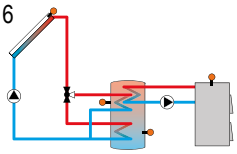
3. System with 1 tank and return temperature increase



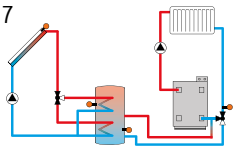
4. System with 1 tank, return temperature increase and supplementary heating



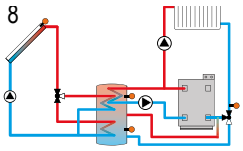
5. System with 1 stratified tank and heat exchange



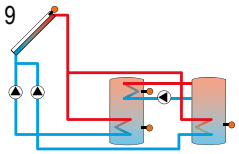
6. System with 1 stratified tank and solid fuel boiler



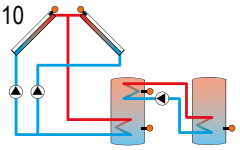
7. System with 1 stratified tank and return temperature increase



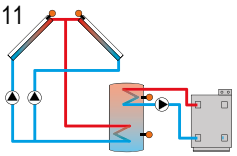
8. System with 1 stratified tank, return temperature increase and supplementary heating



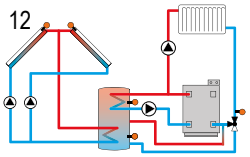
9. System with 2 tanks, valve control and heat exchange



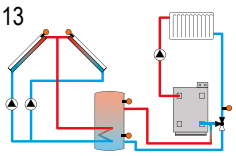
10. System with east/west collectors, 2 tanks, pump control and heat exchange



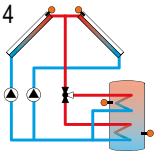
11. System with east/west collectors and supplementary heating



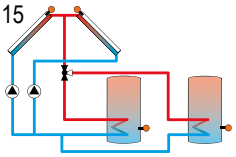
12. System with east/west collectors, return temperature increase and supplementary heating



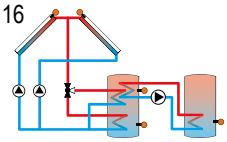
13. System with east/ west collectors and return temperature increase



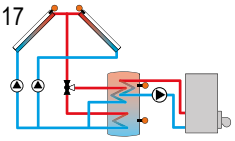
14. System with east/west collectors and 1 stratified tank



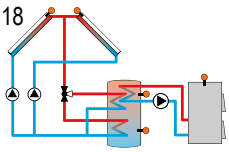
15. System with east/west collectors, 2 tanks and valve control



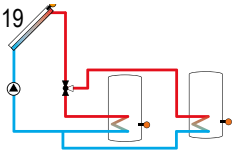
16. System with east/west collectors and heat exchange



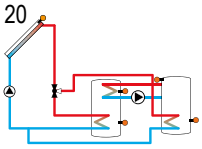
17. System with east/west collectors and supplementary heating



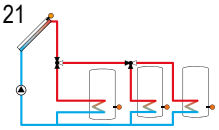
18. System with east/west collectors and solid fuel boiler



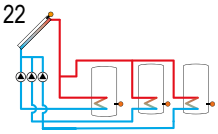
19. Solar system with 2 tanks, sensors and 1 3-way valve



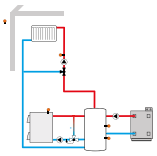
20. Solar system with 2 tanks, valve control and heat exchange



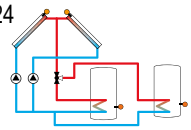
21. Solar system with 3 tanks and diverter valve control



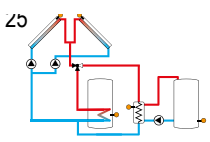
22. Solar system with 3 tanks, pump control and priority logic



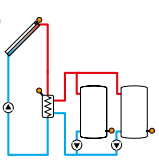
23. 1 mixed heating circuit with solid fuel boiler and supplementary heating (on request)



24. Solar system with 2 tanks and east/west collectors (valve control)



25. Solar system with 2 tanks, east/west collectors, 1 external heat exchanger and 1 3-way valve



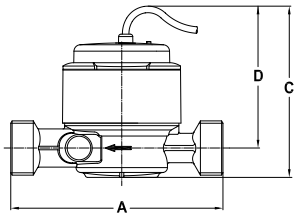
26. Solar system with 2 tanks, 1 external heat exchanger and pump control

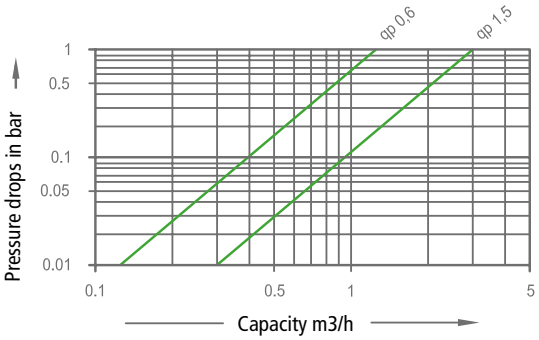
CODE	DESCRIPTION
1030604051	PR805 Controller

ACCESSORIES

MF1 AND MF2 FLOW METERS







Flow meter for water or water and glycol mixture capable of detecting the flow rate in transit and transmitting the actual value to the solar controller to which it must be connected by means of a pulse. The solar controller, by detecting the pulse and the temperature difference between flow and return, calculates the amount of heat in kWh based on precise parameters (type of glycol used, retention, thermal capacity, etc.). Available in two versions, MF1 which generates one pulse per liter and MF2 which generates one pulse per 10 liters. Vertical and horizontal mounting.
The MF1 and MF2 meters are equipped with a single-jet turbine. DN20 connections, other sizes such as DN25-40-50 are available upon request.

TECHNICAL DATA

			MF1	MF2
Pulse frequency		l/Imp	1	10
Nominal diameter	DN	-	20	20
Counter thread	G…B	-	1	1
Connection thread	R…	-	¾	¾
Maximum operating pressure	pmax	Bar	16	16
Maximum operating temperature	Tmax	°C	120	120
Nominal flow rate	Qnom	m³/h	0,6	1,5
Maximum flow rate	Qmax	m³/h	1,2	3
Separation limit ± 3%	Qt	l/h	48	120
Minimum horizontal flow rate	Qmin	l/h	12	30
Minimum vertical flow rate	Qmin	l/h	21	60
(A) Length without connections		mm	110	110
Length with connections		mm	208	208
(C) Counter height with pulse emitter		mm	108	108
(D) Counter height from middle of pipe		mm	90	90
Counter width		mm	72	72
Weight without connections		kg	0,7	0,7

CODE	DESCRIPTION
1030601001	MF1 Flow Meter
1030601011	MF2 Flow Meter

PT 1000 TEMPERATURE SENSORS



Immersion or contact temperature sensor based on the application, installable inside a sensor pocket or in contact with pipes by means of a metal clamp.

TECHNICAL DATA

Measurement range	-50°C ... +180°C
Nominal diameter	15 mm (contact sens.) - 6 mm (immersion sens.)
Silicone cable length	3,000 mm (contact sens.) - 1,500 mm (immersion sens.)
Bulb length	20 mm (contact sens.) - 50 mm (immersion sens.)
Bulb material	aluminum (contact sens.) - stainless steel (immersion sens.)

CODE	DESCRIPTION
1030901131	PT1000 Immersion Sensor
1030901141	PT1000 Contact Sensor

ACCESSORIES

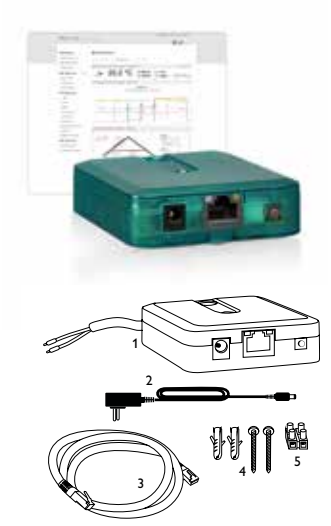
B1 SOLAR CELL



The B1 solar cell is used to detect the current solar radiation intensity. The short-circuit current increases as the radiation intensity increases. Only the pr805 controllers can be paired with the solar cell as an additional plausibility check, direct system regulation function (below a minimum radiation value the solar station is not activated), or as a radiometer function capable of switching a relay on and off independently of the detected radiation value. If during the delay time the detected radiation value is greater than the set value, the assigned relay switches on. When the invert option is activated, the relay reacts in the opposite way. The connection cable can be extended up to 100 meters.

CODE	DESCRIPTION
1030601004	B1 Solar Cell

PR C COMMUNICATION MODULE





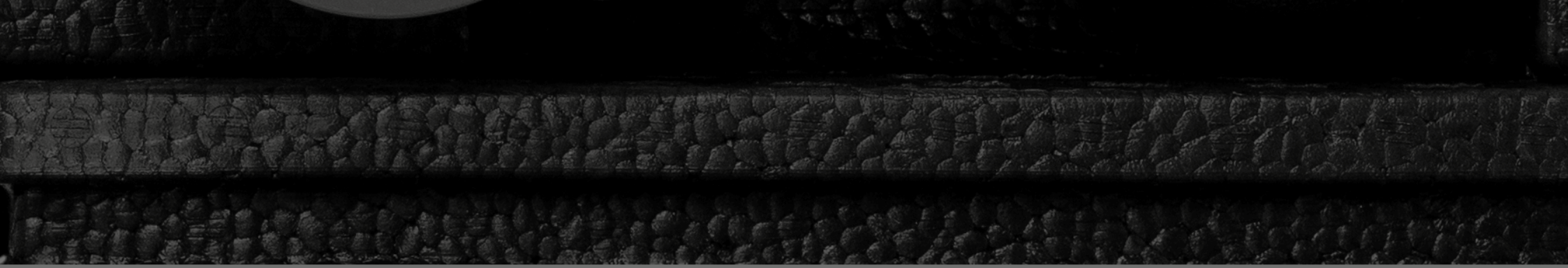
The KM2 communication module is the perfect interface between a PLEION solar or heating controller of the PR series and the Internet. The connection between the controller and the RESOL VBus.net portal is made in a few steps. The communication module has been designed for all PLEION PR series controllers equipped with VBus® and allows simple and secure access to system data through VBus.net.

1- PR C communication module, power supply and VBus® cable already connected 2- Power supply (EURO, UK, USA, AUS)
3- Network cable (CAT5e, RJ45), 2 m
4- Screws, wall plugs and non-slip rubber pieces
5- Cable clamp for extending the VBus® cable

TECHNICAL DATA

Housing	plastic
Protection rating	IP 20 / EN 60529
Dimensions	95 × 70 × 25 mm
Mounting	A parete
Ambient temperature	0 … 40 °C
Indicator lights	Operation control LED
Power supply	Input voltage of power supply: 100 … 240 V~ (50 … 60 Hz) Nominal current: 146 mA Input voltage of communication module: 12 V DC ± 5
Interface	VBus® for connection to PR controllers,10/100 Base TX Ethernet, Auto MDIX, WLAN 2.4~2.4835 GHz
Power consumption	<1,75 W

CODE	DESCRIPTION
1030630001	PR C Communication Module



PLEION
The Sun is our Life!



SOLAR STATIONS

SOLAR STATIONS

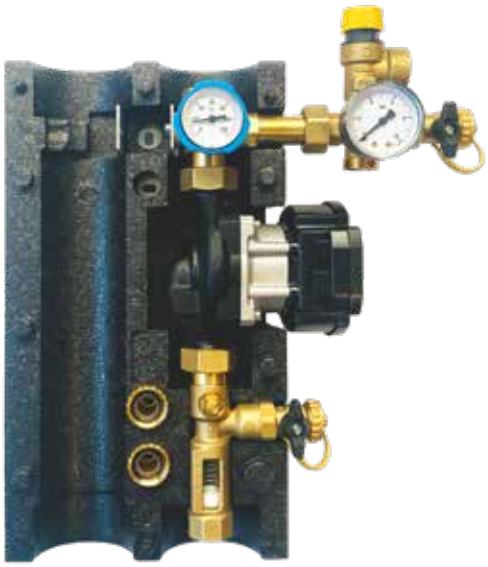
PLEION solar stations are used to best manage the circulation of the heat transfer fluid within the solar circuit. The DN20 and DN25 range allows covering system surfaces starting from 2-4 m² with a single tube solution, reaching surfaces of 90-140 m² depending on the type of collector (flat plate - vacuum tube). PLEION solar stations provide two regulation ranges of 1-13 l/min and 5-35 l/min, which can be doubled to 10-70 l/min thanks to parallel connection.

N.B. IT IS RECOMMENDED TO VERIFY THE CORRECT SIZING OF THE SOLAR STATION BASED ON THE ACTUAL FLOW RATE REQUIREMENTS AND THE ACTUAL PRESSURE LOSSES OF THE SOLAR CIRCUIT.

SOLAR STATIONS OVERVIEW

TECHNICAL DATA	MODELS			
	M12-7	**B13-7**	**B35-9**	**2xB35-9**
Type	Single tube	Double tube	Double tube	Double tube
Nominal size	DN20	DN20	DN25	DN25x2
Flow regulator	1-13 l/min	1-13 l/min	5-35 l/min	5-35 l/min x 2
Circulation pump	Head 7.5 m.w.c. - Max temp 110° 1" - center distance 130 mm		Head 9 m.w.c. - Max temp ° 1101" - center distance 130 mm	
SIZING				
Flat plate collector surface (m²)	**26**	**26**	**70**	**140**
UNIKO-P21 Collector (pcs)	14	14	38	76
KSF-P26 Collector (pcs)	11	11	30	60
KSF-M25 Collector (pcs)	11	11	30	60
Vacuum tube collector surface (m²)	**20**	**20**	**50**	**95**
X-RAY10R Collector (pcs)	9	9	24	49
X-RAY15R Collector (pcs)	6	6	16	33
X-RAY18R Collector (pcs)	5	5	13	26
X-RAY21R Collector (pcs)	4	4	11	22
ECLIPSE 2 Collector (pcs)	8	8	20	40
X-RAY10 Collector (pcs)	9	9	24	49
				

For small and medium-sized systems
single-tube and reversible



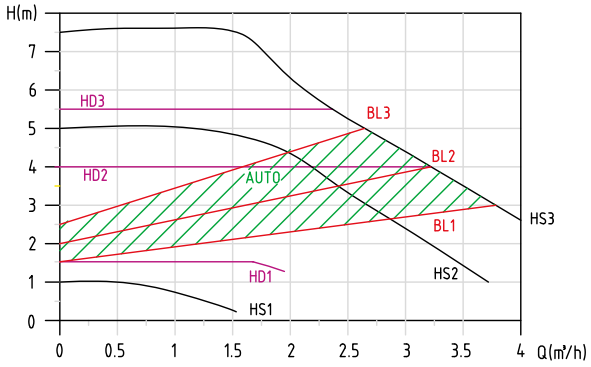


The M12-7 is a compact SINGLE-TUBE solar station, completely pre-assembled to be installed in the cold side return section of the panels. It can cover surfaces up to 26 m² of flat plate collectors or 17 m² of vacuum tube collectors. The station is equipped with a flow meter with adjustment range of 1-13 l/min, drain valve, high-efficiency circulator with head 7.5 m.w.c. - Max temp. 110° - 1" connections - center distance 130 mm, safety group consisting of a pressure gauge (0-10 bar) followed by a safety valve calibrated at 6 bar, filling valve, connections for the solar expansion vessel and ball valve equipped with a non-return valve (20 mbar) and integrated thermometer. The air separator is not present on the flow section and can be supplied separately.

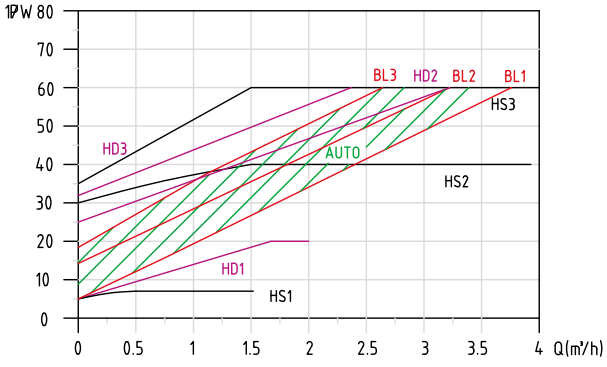
Thanks to the BM HYDRAULIC KIT, the M12-7 solar station can be combined with the B13-7 station in case of:
- **solar systems with double slope by joining the flow section of the two circuits;**
- **systems with double domestic hot water and heating storage;**
- **if it's necessary to increase the flow range of a system (in this case, verify the characteristics of the existing pump).**

The pre-formed thermal insulation shell allows maximum reduction of heat loss as well as protecting the electronic controller housing. Ready to be mounted directly on the wall by means of the brackets included in the package.

CHARACTERISTIC CURVE



POWER



CODE	DESCRIPTION	CONTROLLER
1040101210	M12-7 Eco Solar Station	-
1040101211	M12-7 Basic Solar Station	PB404

B13-7 SOLAR STATION

For small and medium-sized systems
double tube

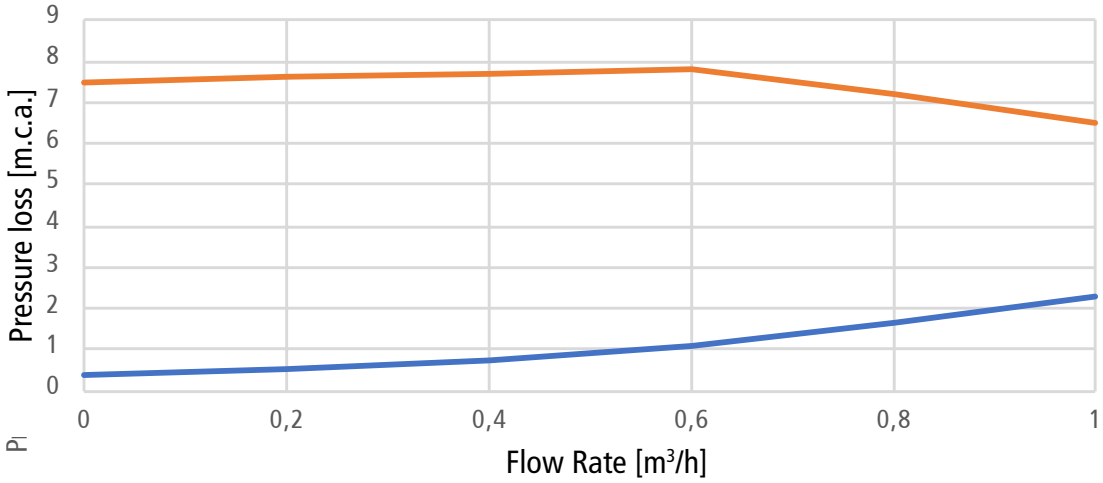


B13-7 is a compact DOUBLE-TUBE solar station, completely pre-assembled to be installed in the solar circuit, capable of covering surfaces up to 26 m² of flat plate collectors or 20 m² of vacuum tube collectors. In the return section, the station is equipped with a flow meter with adjustment range of 1-13 l/min, drain valve, high-efficiency circulator with head 7.5 m.w.c. - Max temp. 110° - 1" connections - center distance 130 mm, safety group consisting of a pressure gauge (0-10 bar) followed by a safety valve calibrated at 6 bar, filling valve, connections for the solar expansion vessel and a blue ball valve equipped with a non-return valve (20 mbar) with integrated thermometer; in the flow section, there is a red ball valve equipped with thermometer and integrated non-return valve, a large-sized deaerator designed to eliminate air during the system startup phases as well as ensuring correct operation over time.

The pre-formed thermal insulation shell allows maximum reduction of heat loss as well as protecting the electronic controller housing. Ready to be mounted directly on the wall by means of the brackets included in the package.

The unit is available without control unit in the B13-7 Eco Version, or in the Basic configurations with PB404 control unit.

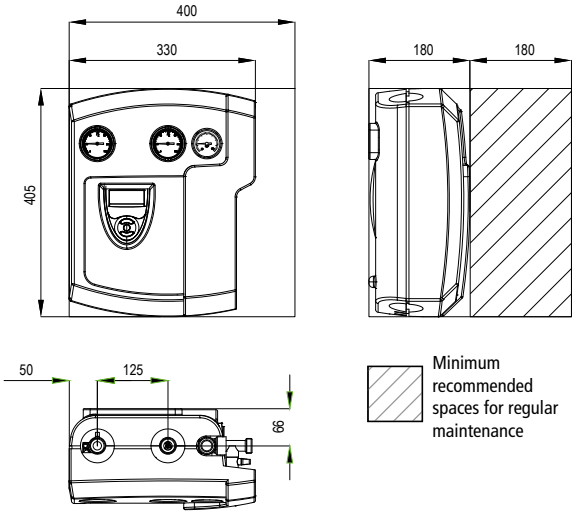
PRESSURE DROPS AND PERFORMANCE CURVES - B13-7 SOLAR STATION



TECHNICAL DATA

MATERIALS	
Fittings	Brass
Gaskets	EPDM
Insulation	EPP λ=0,038 W/mK
Non-return valves	Brass
TECHNICAL DATA	
Max. Pressure	6 bar
Max. Flow Temperature	140°C
Max. Return Temperature	120°C
COMPONENTI	
Flow meter	Adjustment range 1-13 l/min
Pump	Head 7.5 m.w.c. - Max temp. 110° - 1" connections - center distance 130 mm
Pressure gauge	0-10 bar
Thermometer	0-120 °C
Safety valve	6 bar
Non-return valve	20 mbar x 2
DIMENSIONS	
System connections	¾" F
Safety valve connections	¾" F
Fill-drain system connections	½" M
Overall dimensions	405x330x180 mm
Center distance	125 mm

DIMENSIONS AND OVERALL SIZES



CODE	DESCRIPTION	CONTROLLER
1040101320	B13-7 Eco Solar Station	-
1040101321	B13-7 Basic Solar Station	PB404

B35-9 E B35-9 x2 SOLAR STATIONS

For medium and large systems
double tube





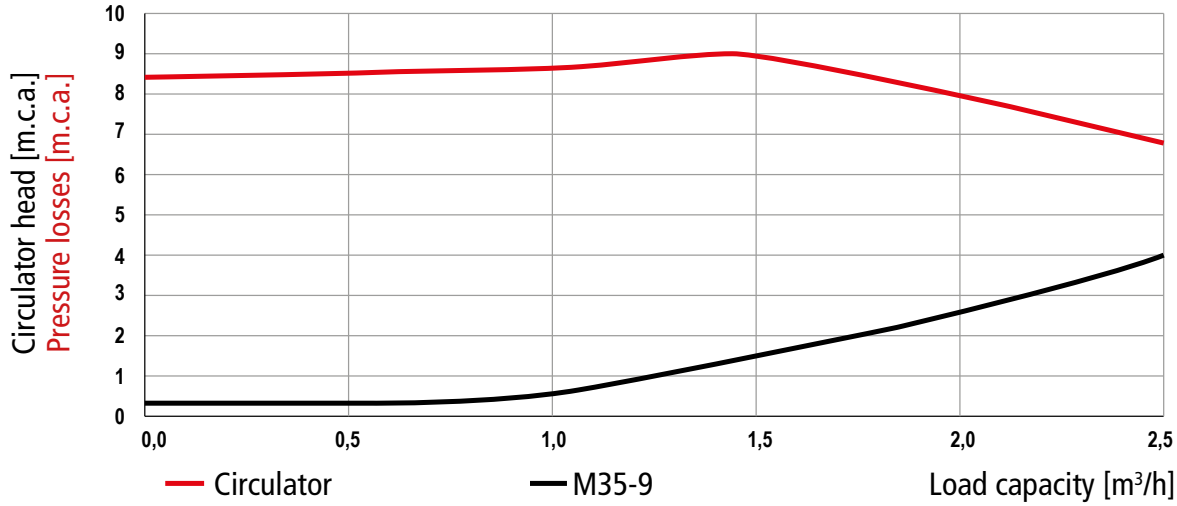
B35-9 is a compact DOUBLE-TUBE solar station, completely pre-assembled to be installed in the solar circuit, capable of covering surfaces up to 70 m² of flat plate collectors or 50 m² of vacuum tube collectors. In the return section, the station is equipped with a flow meter with adjustment range of 5-35 l/min, drain valve, high-efficiency circulator with head 9 m.w.c. - Max temp. 110° - 1" connections - center distance 130 mm, safety group consisting of a pressure gauge (0-10 bar), safety valve calibrated at 6 bar, filling valve, connections for the solar expansion vessel, and finally a blue ball valve equipped with a non-return valve (20 mbar) and integrated thermometer complete the return section. In the flow section, there is a red ball valve also equipped with thermometer and integrated non-return valve, and a large-sized deaerator designed to eliminate air during the system startup phases as well as ensuring correct operation of the system over time.

By connecting two B35-9 stations in parallel, it is possible to guarantee coverage of solar systems up to 140 m² of flat plate collectors or 100 m² of vacuum tube collectors.
The pre-formed thermal insulation shell allows maximum reduction of heat loss as well as protecting the electronic controller housing.

Ready to be mounted directly on the wall by means of the brackets included in the package.

The unit is available without control unit in the B35-9 Eco Version, or in the Basic configuration with PB404 control unit and Pro with PR805 control unit PR805.

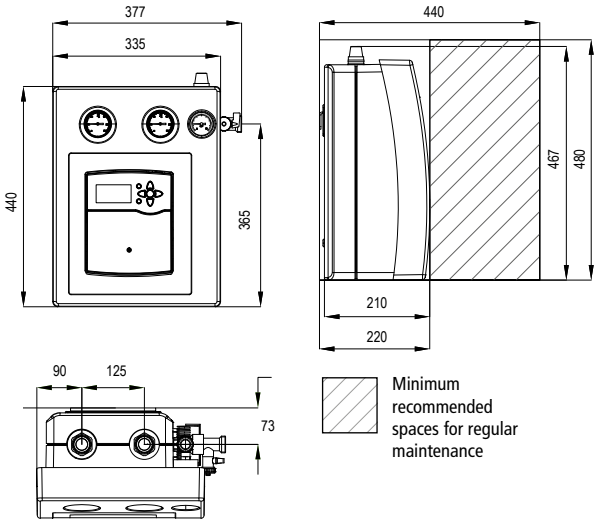
PRESSURE DROPS AND PERFORMANCE CURVES - B35-9 SOLAR STATION



TECHNICAL DATA

MATERIALS	
Fittings	Brass
Gaskets	EPDM
Insulation	EPP λ=0,038 W/mK
Non-return valves	Brass
TECHNICAL DATA	
Max. Pressure	6 bar
Max. Flow Temperature	140°C
Max. Return Temperature	120°C
COMPONENTS	
Flow meter	Adjustment range 1-13 l/min
Pump	Head 7.5 m.w.c. - Max temp. 110° - 1" connections - center distance 130 mm
Pressure gauge	0-10bar
Thermometer	0-120°C
Safety valve	6 bar
Non-return valve	20 mbar x 2
DIMENSIONS	
System connections	1"F
Safety valve connections	¾" F
Fill-drain connections	½" M
Overall dimensions	470x380x215 mm
Center distance	125 mm

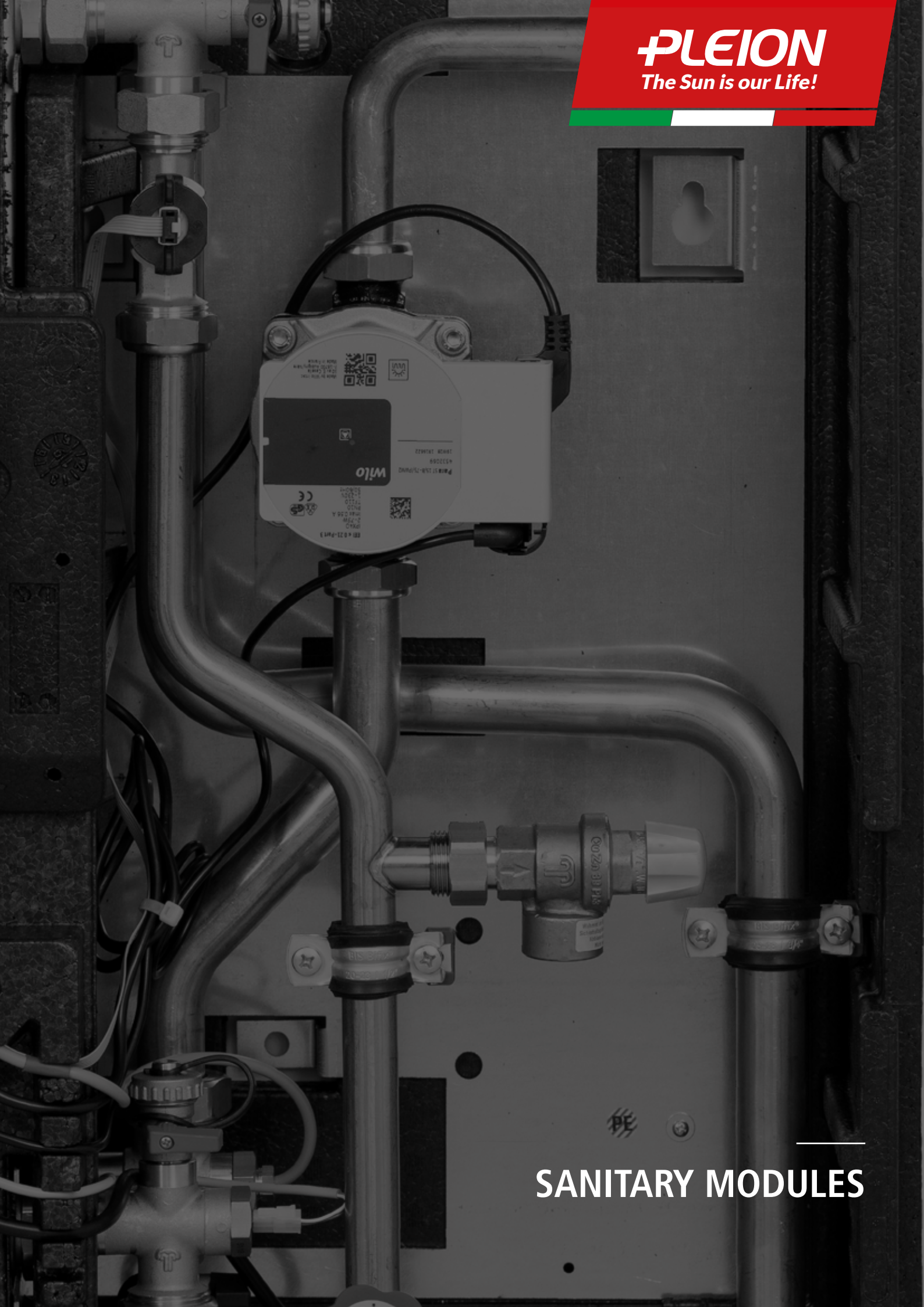
DIMENSIONS AND OVERALL SIZESBRI



CODE	DESCRIPTION	CONTROLLER
1040103520	B35-9 Eco Solar Station	-
1040103521	B35-9 Basic Solar Station	PB404
1040103522	B35-9 Pro Solar Station	PR805
1040107022	2 x B35-9 Pro Solar Station *	PR805 **

* Parallel configuration
** A single PR805 controller for managing the 2 pumps


T-VL 70.0
3.0%
T-WW 50.0
0.0 l/min
T-RL 40.8



PLEION
The Sun is our Life!

SANITARY MODULES

SANITARY MODULES
SAN

PLEION SAN: Instantaneous domestic hot water production modules free from legionella. Domestic water heating is produced through the use of a counterflow heat exchanger. Effective protection against limescale. High efficiency for cascade installation (except SAN F30T/F30 T VE)

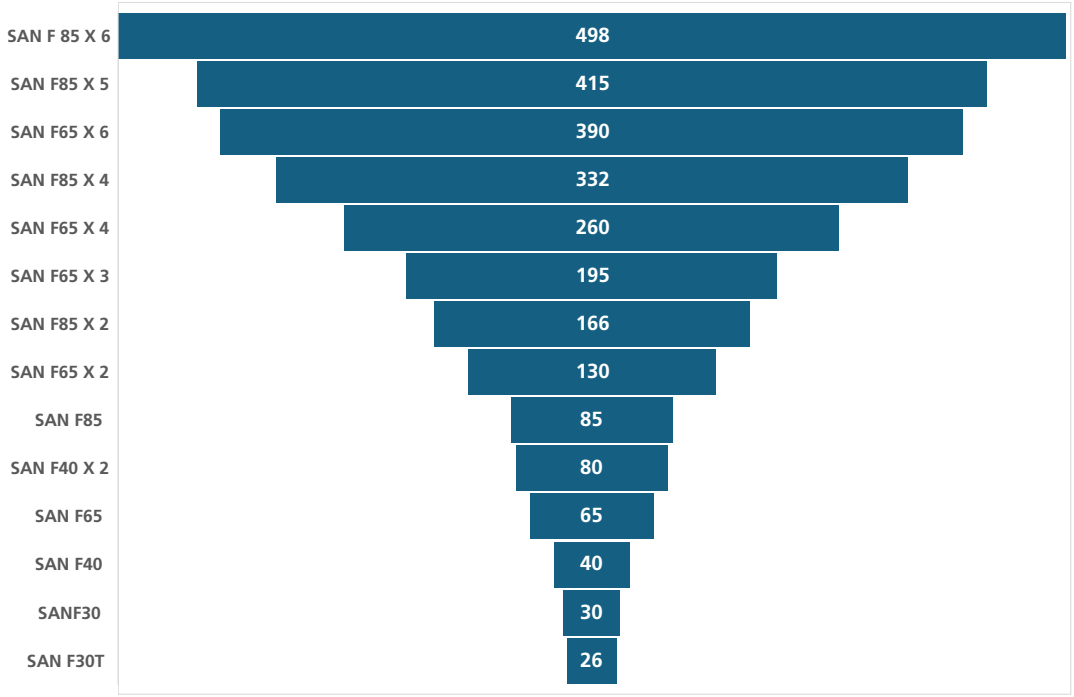
Instantaneous domestic hot water production modules are used to extract heat from a storage tank to heat domestic water. Plate heat exchangers are used to separate the storage tank from the domestic water. The amount of heat needed to obtain hot water comes exclusively from the storage tank while the domestic water is heated only when it is used. Therefore, we will have extremely hygienic and potable instantaneous hot water available. The flow through the plate heat exchangers is countercurrent; the exchangers have thermal lengths that guarantee high energy efficiency. Low temperatures and high flow rates within the plate heat exchanger circuits offer double protection against limescale.

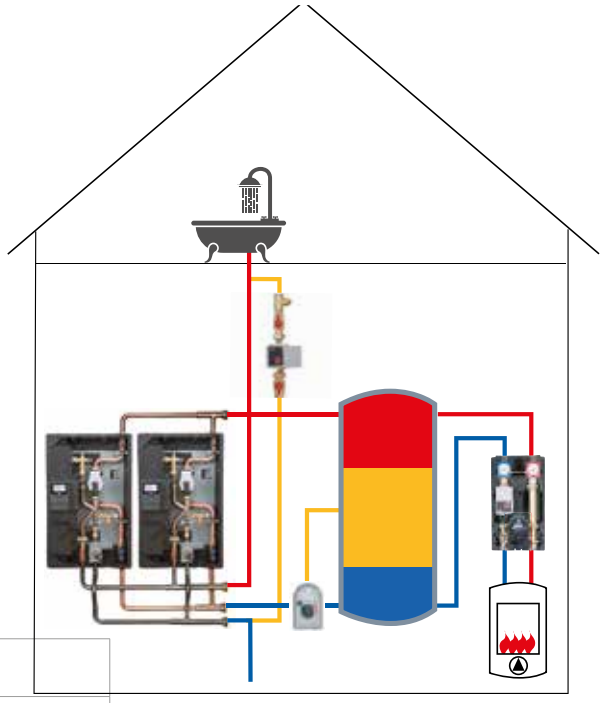
The SAN SERIES is divided into:

SAN F30T - SAN F30 T VE	Universal sanitary module for single-family homes	with thermostatic control	
SAN F30 - SAN F30 VE	Sanitary module with infinite working possibilities	with electronic regulation and possibility of cascade connection	
SAN F40 - SAN F40 VE			
SAN F65 - SAN F65 VE	Instantaneous domestic hot water production module for medium and large systems	cascade valve included in version "C"	
SAN F65 C - SAN F65 C VE			
SAN F85 - SAN F85 VE		cascade valve to be installed externally	

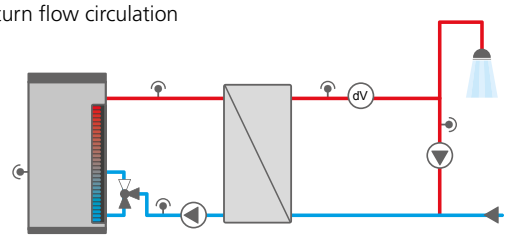
The diagram shows a scheme of the maximum possible flow capacity
Maximum flow rate: storage tank temperature 75 °C, cold water temperature 10 - 60 °C mixed to 45 °C

MAXIMUM FLOW RATE [liters/min] - PRIMARY 65 °C - SANITARY 10-45 °C

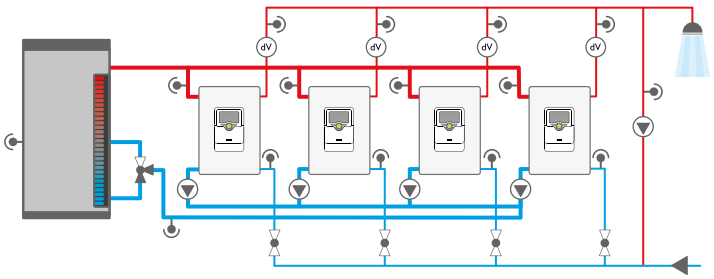




SINGLE STATION: Figure of the sensor with stratification and return flow circulation



CASCADE: Figure of the sensor with stratification and return flow circulation



All SAN F sanitary modules are available in 2 versions: standard and "VE".

The standard versions have a copper-brazed stainless steel plate heat exchanger. In the VE versions, stainless steel is used not only in the plates but also as filler material for brazing, in order to make the exchanger particularly resistant and durable even in conditions where dissolved salts make the water particularly aggressive. The first check to choose the most suitable type is the electrical conductivity of the water. If the water conductivity value is equal to or higher than 500 µS, then the use of the "VE" version is highly recommended. For a more detailed verification, however, it is advisable to refer to the following table:

LIMIT VALUES FOR DOMESTIC WATER:	Standard version with copper-brazed stainless steel plate exchanger	"VE" version with 100% stainless steel exchanger
Chlorine (CL-)	< 250 mg/l a 50°C < 100 mg/l a 75°C < 10 mg/l a 90°C	<250 mg/l a 50°C <100 mg/l a 75°C <10 mg/l a 90°C
Sulfates (SO4 2-)	< 100 mg/l	<400 mg/l
Nitrates (NO3-)	< 100 mg/l	nessun limite
pH	7,5 - 9,0	6,0 - 10,0
Electrical conductivity	10-500 µS	nessun limite
Hydrogen carbonate (HCO3-)	70-300 mg/l	nessun limite
HCO3-/SO42- ratio	> 1	nessun limite
Ammonium ion (NH4+)	< 2 mg/l	nessun limite
Free chlorine	< 0,5 mg/l	< 0,5 mg/l
Sulfites	< 1 mg/l	< 7 mg/l
Ammonia	< 2 mg/l	< 2 mg/l
Hydrogen sulfide (H2S)	< 0,05 mg/l	nessun limite
Free carbon dioxide (CO2)	< 5 mg/l	nessun limite
Iron (Fe)	< 0,2 mg/l	nessun limite
Saturation index SI	-0,4	nessun limite
Manganese (Mn)	<0,05 mg/l	nessun limite
Hardness	7-24 °F	7-24 °F
[Ca2+, Mg2+]/[HCO3] ratio	< 0,5	< 0,5
Total organic carbon	< 30 mg/l	nessun limite

It should also be noted that the frequency and intensity of use of the sanitary module influence corrosion phenomena. For systems subjected to intensive use, the VE version is always recommended.

SANITARY MODULE
SAN-F30 T / SAN-F30 T VE
SAN F30 / SAN F30 VE
SAN F40 / SAN F40 VE

Ideal for small and medium users
great efficiency and flexibility



SAN F30 T

SAN F30 T is the functional module for instantaneous production of domestic hot water for single-family houses, ensuring excellent regulation quality thanks to the interaction between the pump logic and the regulation valve with rapid thermal actuator. The hot water temperature range is preselected with a thermostatic head.



SAN F30



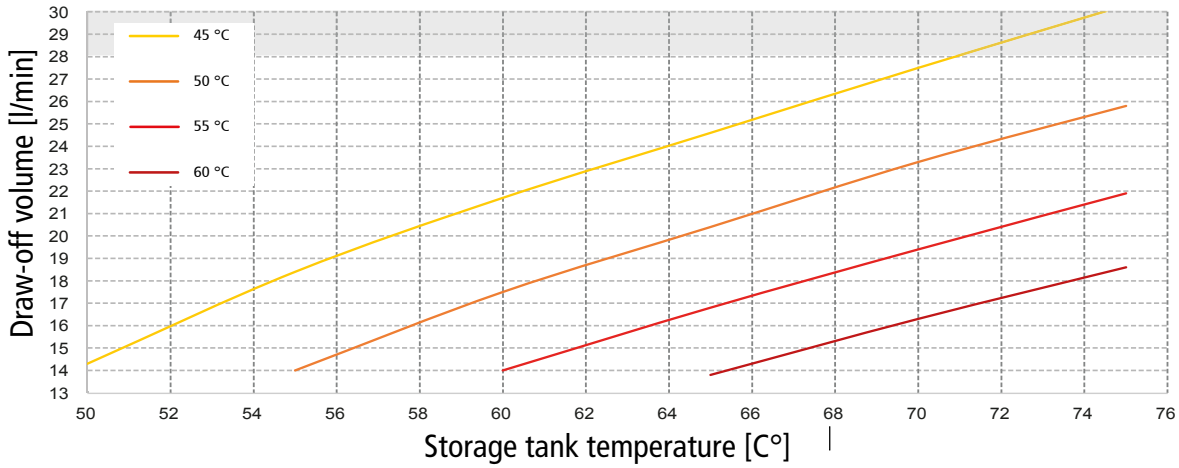
SAN F40

SAN F30 e SAN F40 are universal modules for instantaneous production of domestic hot water with many possibilities, equipped with electronic regulation with numerous options such as circulation programs, cascade connection function up to 4 modules, and sanitization programs.

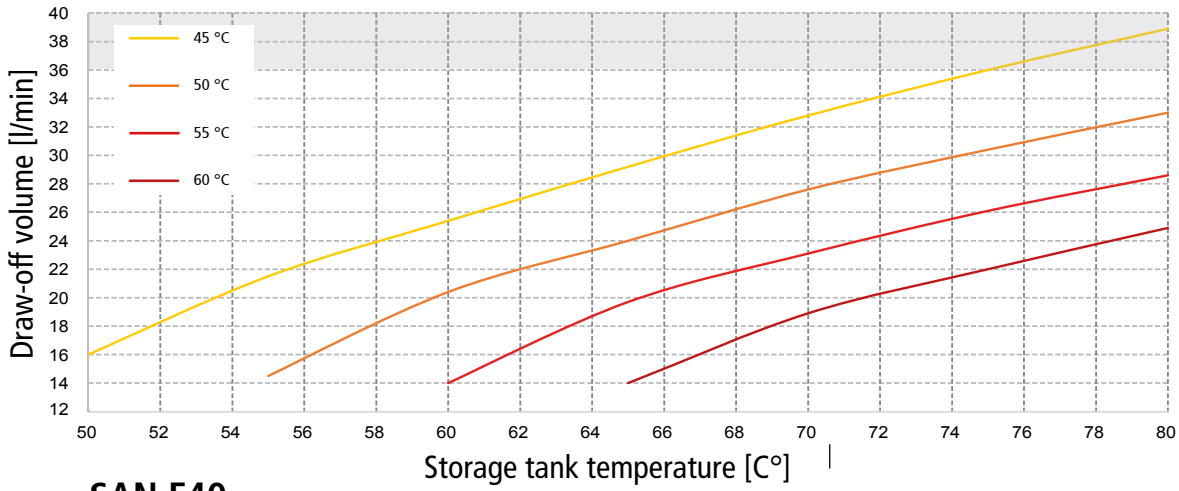
- Complete stainless steel piping
- Optimized insulation compliant with EnEV 2014
- Versions with plate heat exchanger completely in stainless steel are available (VE version)
- Comfort function (warm start)
- Shifting setpoint function: if the storage tank temperature is low, the setpoint is reduced, so the storage tank does not operate in mixed mode.

	SAN F30T	SAN F30	SAN F40
Nominal Diameter primary and sanitary circuit	DN20		DN25
Type of regulation	Mechanical	Electronic	
Possibility of cascade connection	NO	Up to 6 modules	Up to 6 modules
Nominal exchange power (10-45°C buffer 65°C) [kW]	60	70	100
Nominal DHW capacity (10-45°C buffer 65°C) [l/min]	24.6	28.7	41
Primary side circulator	Wilo Para 15/7 iPWM2		
Max operating pressure buffer side [bar]	10		
Max operating pressure sanitary water [bar]	10		
T max primary [°C]	85		
Tmax DHW [°C]	65		
Pressure drop at nominal DHW flow [bar]	0.6	0.8	0.6
Dimensions HxWxD [mm]	425 x 350 x 190		

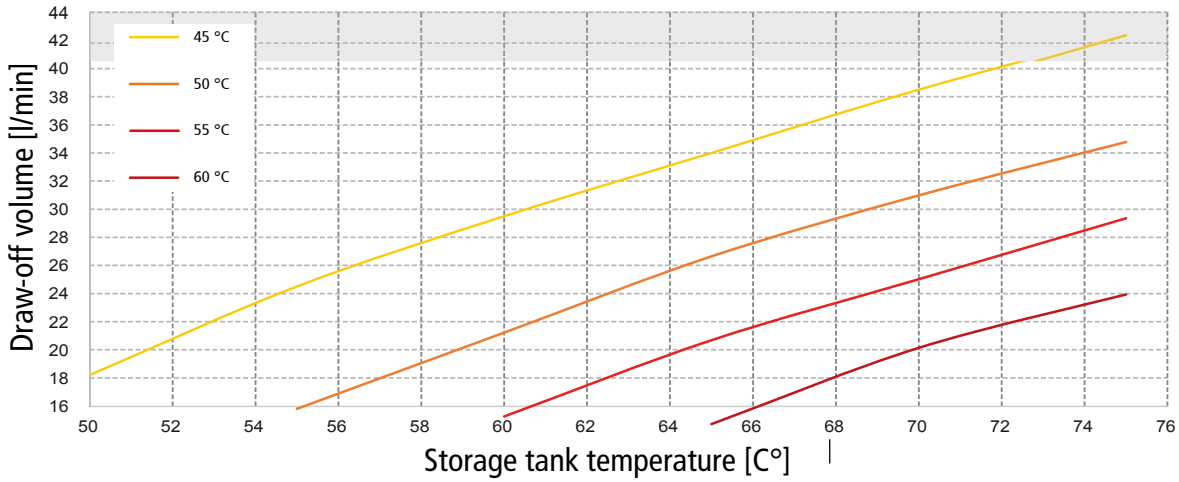
SAN F30 T



SAN F30



SAN F40



CODE	DESCRIPTION
1042112730	Sanitary module SAN F30 T
1042112731	Sanitary module SAN F30 T VE
1042113530	Sanitary module SAN F30 - control unit included
1042113531	Sanitary module SAN F30 VE - control unit included
1042113030	Sanitary module SAN F40 - control unit included
1042113031	Sanitary module SAN F40 VE - control unit included

Accessories for cascade connection on page 61

SANITARY MODULE
SAN-F65/ F65 VE
SAN-F65 C/ F65 C VE
SAN-F85/ F85 VE

For high demands
maximum efficiency



SAN F65



SAN F85

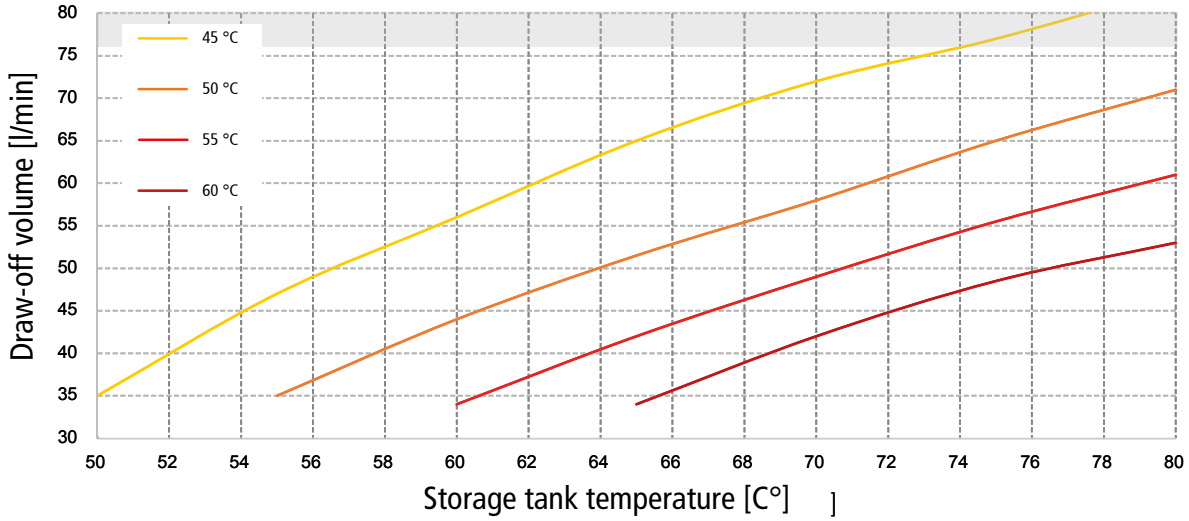
SAN F65 e SAN F85 are large-sized modules for instantaneous production of domestic hot water with electronic regulation and numerous options, such as: circulation programs, Comfort function and sanitization programs. They can be connected in cascade up to 6 modules of the same type.

The SAN F65 C version is equipped with a pre-installed internal cascade management valve. In the SAN F85 module, it must instead be installed externally. The control unit included in all versions is already enabled for wireless communication for cascade connection. Cascade operation allows the power of multiple modules to be combined. The modules are therefore combined to achieve the necessary power.

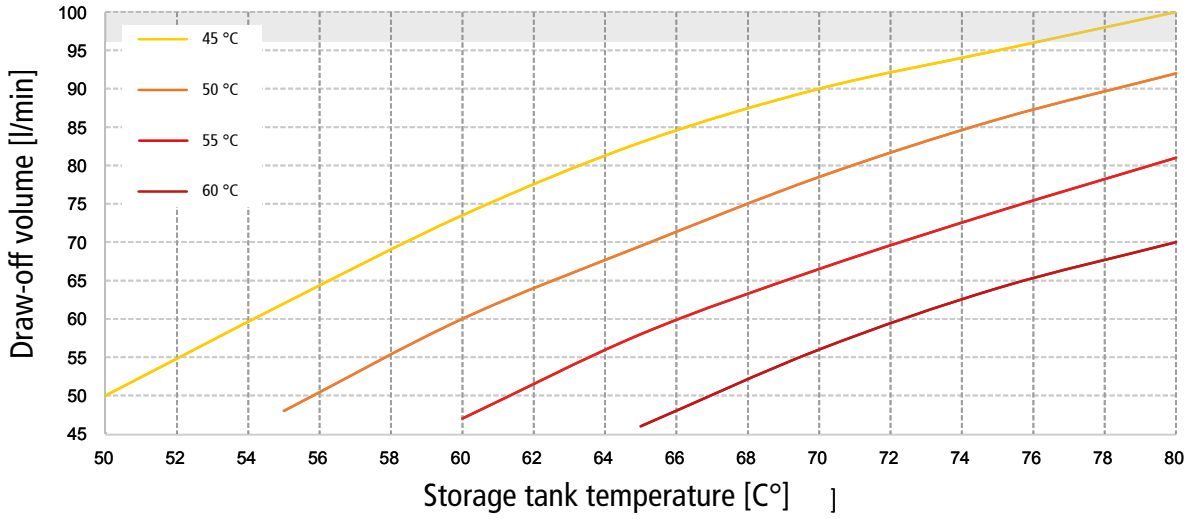
Compared to large-sized modules for instantaneous production of domestic hot water, the advantage of this solution lies in the possibility of regulating the hot water flow more precisely thanks to the presence of multiple single modules. The next module is activated only when the activation threshold is reached.

	SAN F65	SAN F 85
Nominal Diameter primary and sanitary circuit	DN25	DN 32
Type of regulation	electronic	
Possibility of cascade connection	Up to 6 modules	Up to 6 modules
Cascade valves	Integrated in the module (C version)	To be installed externally
Nominal exchange power (10-45°C buffer 65°C) [kW]	158	223
Nominal DHW capacity (10-45°C buffer 65°C) [l/min]	65	83
Primary side circulator	Wilo Para 15/8 iPWM2	Wilo Para 15/9 iPWM2
Max operating pressure buffer side [bar]	10	10
Max operating pressure sanitary water [bar]	10	10
T max primary [°C]	85	85
Tmax DHW [°C]	65	65
Pressure drop at nominal DHW flow [bar]	0.4	0.4
Dimensions HxWxD [mm]	865x525x280	

SAN F65



SAN F85



CODE	DESCRIPTION
1042214530	Sanitary module SAN F65
1042214540	Sanitary module SAN F65 VE
1042214550	Sanitary module SAN F65 C FOR RECESSED INSTALLATION
1042214551	Sanitary module SAN F65 C VE
1042214600	Sanitary module SAN F85
1042214610	Sanitary module SAN F85 VE

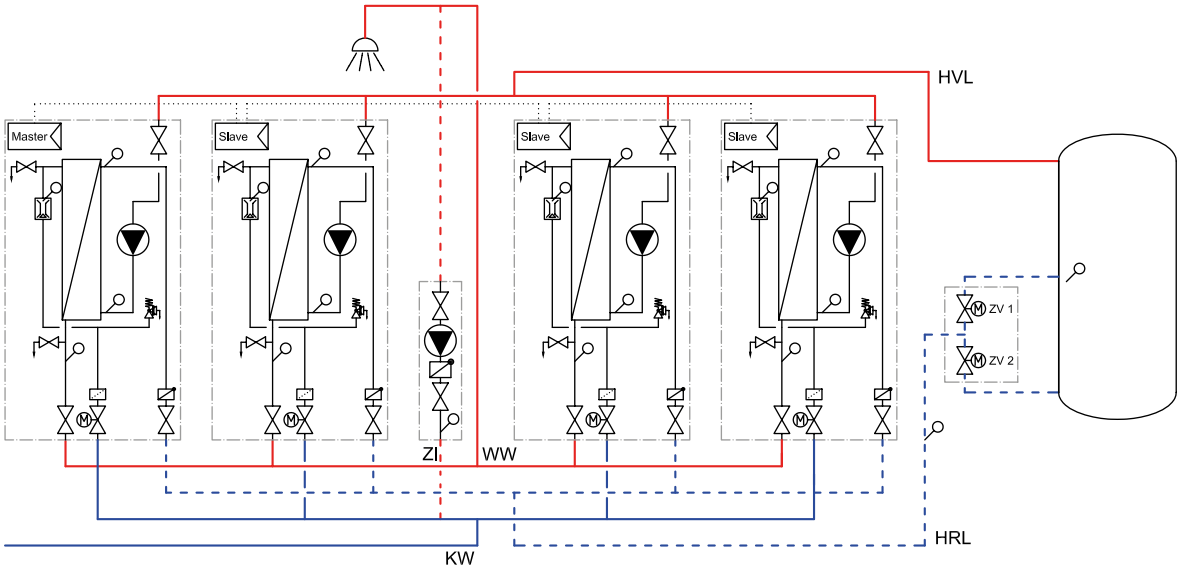
Accessories for cascade connection on page 61

THE ADVANTAGES OF CASCADE SYSTEMS

The cascade system offers the possibility to connect up to 6 modules. The modules that make up a cascade system must be of the same size. The advantage compared to single large-sized modules is that multiple modules in cascade control the hot water volumetric flow with greater precision. In any case, each module will be activated immediately after the increase in the withdrawal threshold. Furthermore, the sequential activation of the different modules in cascade also allows to always keep the return temperature towards the lower part of the storage tank as low as possible.

This enables optimal utilization of both the storage tank itself and the heat sources that feed it, an advantage that becomes particularly evident in the presence of solar thermal, heat pump, or condensing boiler.

Finally, the cascade system guarantees maximum reliability: in the remote event that a module should fail, the system can continue to operate with the remaining SAN modules, ensuring service continuity, albeit with temporarily limited flow rates.



ACCESSORIES

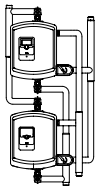
VALVE KIT FOR CASCADE SAN F30/SAN F40



Valve kit for cascade composed of 2 angled ball valves and 1 2-way motorized valve. For cascade connection of SAN F30 and SAN F40 modules (VE and standard versions). One valve kit is required for each module that makes up the cascade system.

COD	DESCRIPTION
1052102530	Valve kit for cascade SAN F30/SAN F40 – One required for each module

CASCADE TUBES KIT FOR SAN F30/SAN F40



Cascade tubes kit for the hydraulic cascade connection of 2 SAN F30 or SAN F40 modules (VE and standard versions).

COD	DESCRIPTION
1044100012	Cascade tubes kit for SAN F30 or SAN F40

RECIRCULATION KIT SAN F30T (VE)/SAN F30 (VE)/SAN F40 (VE)/SAN F65C (VE)



Recirculation kit including WILO domestic hot water circulator, shut-off valves, non-return valve, drain sump, and PT1000 temperature sensor. For external installation on SAN F30T (VE), SAN F30 (VE), SAN F40 (VE) modules and for SAN F65C (VE) in cascade.

Recirculation kit including WILO domestic hot water circulator, shut-off valves, non-return valve, drain sump, and PT1000 temperature sensor. For internal installation on SAN F65 VE and SAN F65 modules.

COD	DESCRIPTION
1043102505	RECIRCULATION KIT SAN F30T (VE)/SAN F30 (VE)/SAN F40 (VE)/SAN F65C (VE)
1043102515	Recirculation kit SAN F65 (VE) SIMPLE INTERNAL INSTALLATION ON THE MODULE

CASCADE TUBES KIT SAN F65 C



Hydraulic connection pipe kit for 2 SAN F65 C modules in cascade.

COD	DESCRIPTION
1044100002	Vanne cascade pour SAN F85

CASCADE VALVE FOR SAN F85



1¼" cascade valve for SAN F85 (1 required per module)

COD	DESCRIPTION
1056100236	Cascade valve for SAN F85

HEAT EXCHANGERS

BRAZED HEAT EXCHANGERS FOR SOLAR SYSTEMS

Brazed heat exchangers for solar systems. Stainless steel AISI 316 plates, copper brazed. Suitable for heat exchange between the solar circuit and technical water or mains water (sanitary). 1" M connections. Allowable operating pressure up to 30 bar. MAX allowable operating temperature 195°C (150°C with insulation). All brazed heat exchangers are sized to exchange the nominal power under particularly severe conditions, which are as follows:

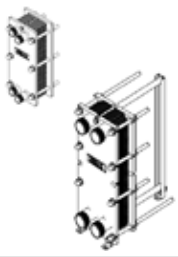
Primary circuit (solar): Water and propylene glycol 50% 93==>78°C
Secondary circuit: Water 70==>84°C

	CODE	DESCRIPTION	DIMENSIONS [MM]
	1051341311	Brazed heat exchanger 13 kW pre-insulated up to 20 m² collectors	175X346X105
	1051343211	Brazed heat exchanger 32 kW pre-insulated up to 50 m² collectors	175X346X135
	1051345211	Brazed heat exchanger 52 kW pre-insulated up to 80 m² collectors	175X346X179
	1051347810	Brazed heat exchanger 78 kW up to 120 m² collectors	125X334X124
	1051341710	Brazed heat exchanger 117 kW up to 180 m² collectors	125X334X170
	1051346210	Brazed heat exchanger 162 kW up to 250 m² collectors	125X334X239
	1051307810	Insulation for brazed heat exchanger 78 kW	-
	1051301710	Insulation for brazed heat exchanger 117 kW	-
	1051306210	Insulation for brazed heat exchanger 162 kW	-

PLATE AND GASKET HEAT EXCHANGERS

Heat exchangers for solar systems for pool heating with chlorinated water. AISI 316 stainless steel plates with EPDM UniLock gaskets and galvanized carbon steel frame. 1"1/4 M connections in AISI 304 steel. The use of EPDM gaskets ensures excellent compatibility with chemicals commonly used for swimming pool water treatment. Allowable operating pressure up to 10 bar. MAX allowable operating temperature 100°C. Versions with titanium plates, suitable for use with salt water, are available on request. All brazed heat exchangers are sized to exchange the nominal power under particularly severe conditions, which are as follows:

Primary circuit (solar): Water and propylene glycol 50% 55==>50°C
Secondary circuit: Pool water 28°C

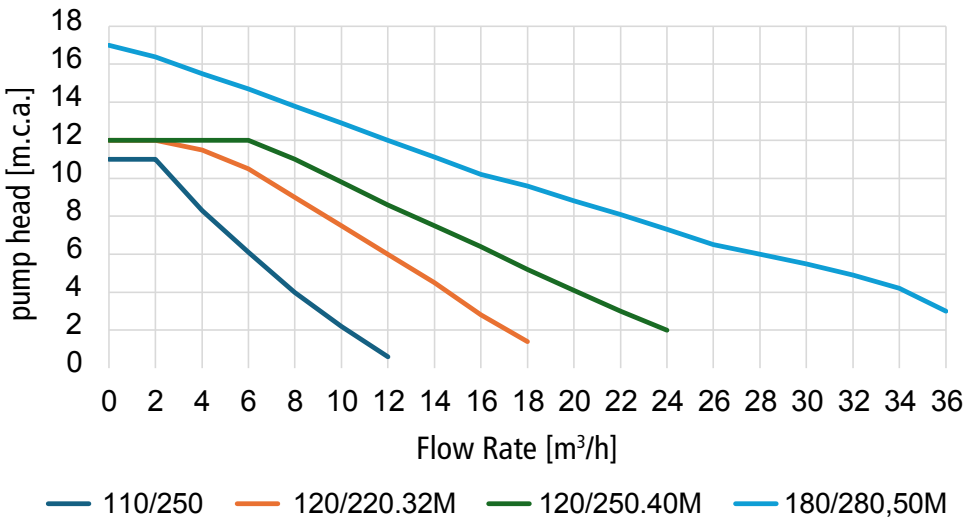
	CODE	DESCRIPTION	DIMENSIONS [MM]
	1051331310	Swimming pool heat exchanger 13 kW up to 20 m² collector	470X200X220
	1051333210	Swimming pool heat exchanger 32 kW up to 50 m² collector	470X200X220
	1051335210	Swimming pool heat exchanger 52 kW up to 80 m² collector	470X200X220
	1051337810	Swimming pool heat exchanger 78 kW up to 120 m² collector	470X200X330
	1051331710	Swimming pool heat exchanger 117 kW up to 180 m² collector	470X200X330
	1051336210	Swimming pool heat exchanger 162 kW up to 250 m² collector	730X310X630
	1051301320	Insulation for swimming pool heat exchanger 13 kW	-
	1051303220	Insulation for swimming pool heat exchanger 32 kW	-
	1051305220	Insulation for swimming pool heat exchanger 52 kW	-
	1051307820	Insulation for swimming pool heat exchanger 78 kW	-
	1051301720	Insulation for swimming pool heat exchanger 117 kW	-
	1051306220	Insulation for swimming pool heat exchanger 162 kW	-

MONOBLOC CIRCULATION PUMPS

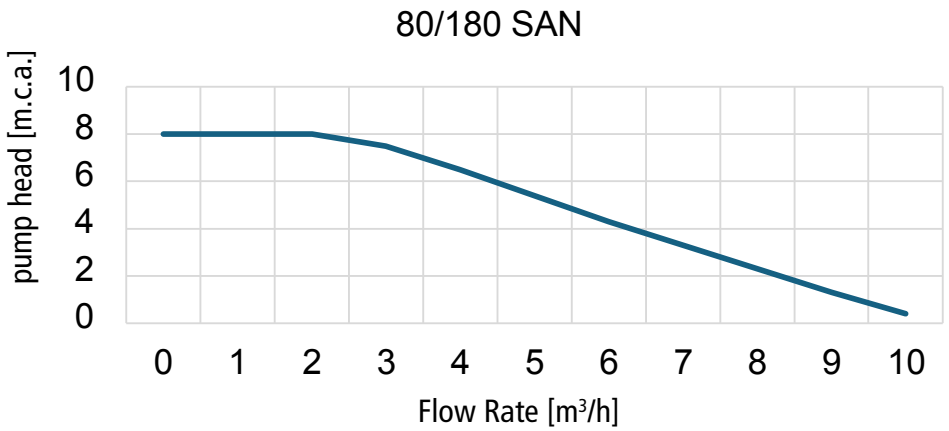
Monobloc circulation pumps consisting of a cast iron hydraulic part and a synchronous wet rotor electric motor. Aluminum motor housing. Spiral pump body with high hydraulic efficiency thanks to careful design and smooth internal surfaces. Supplied with a series of insulation shells to prevent heat dispersion and/or condensation formation.

The EVOPLUS circulators connect to the power supply line through a practical connector with a corresponding plug supplied as standard, making the operation simple and quick. Technopolymer impeller, motor shaft in alumina mounted on graphite bushings lubricated by the same pumped liquid. Stainless steel rotor protection sleeve. Ceramic thrust ring, ethylene propylene sealing rings, and carbon fiber composite stator sleeve.

CODE	DESCRIPTION
1090000205	Circulator EVOPLUS B 110/250.40M
1050213021	Circulator EVOPLUS B 120/220.32M
1050213020	Circulator EVOPLUS B 120/250.40M
1050213022	Circulator EVOPLUS B 180/280.50M



CODE	DESCRIPTION
1050213019	Circ. EVOPLUS 80/180 SAN M including small multifunction module, with bronze body, for sanitary water recirculation



PLEION
The Sun is our Life!







ACCESSORIES

SOLAR THERMAL ACCESSORIES

SOLAR THERMOSTATIC MIXER ¾" 35/55°C



Thermostatic mixer for sanitary systems with high performance, adjustable, suitable for solar systems with anti-scalding safety. Complete with 1" M valve body threaded connections with 1" F x ¾" M fittings. Maximum operating pressure/temperature 10 bar/100°C.

CODE	DESCRIPTION
1030900002	Thermostatic mixer 3/4"-35/55°C-kvs=1.7

SOLAR THERMOSTATIC MIXER 1" 30-65°C



Thermostatic mixer for sanitary systems, adjustable and suitable for use with solar systems. 1" male threaded connections. Maximum operating pressure/temperature 14 bar/100°C.

CODE	DESCRIPTION
1030900013	Thermostatic mixer 1"-30/65°C-kvs=2.6

THERMOSTATIC DIVERTER-MIXER



Valve composed of a single brass alloy body and plastic selector, with a fixed-point non-adjustable thermostatic diverter set at 48°C (+/-1°C) and a second part with adjustable thermostatic mixer 30-56°C (±1°C) with anti-scalding safety.

OPERATION
The water entering at temperature "T" can follow two different paths.

1. If T<48°C the water entering the valve from the solar system enters the diverter part and is passed to the boiler to be heated, then returning to the mixer part with cold water to reach the temperature required by the user.

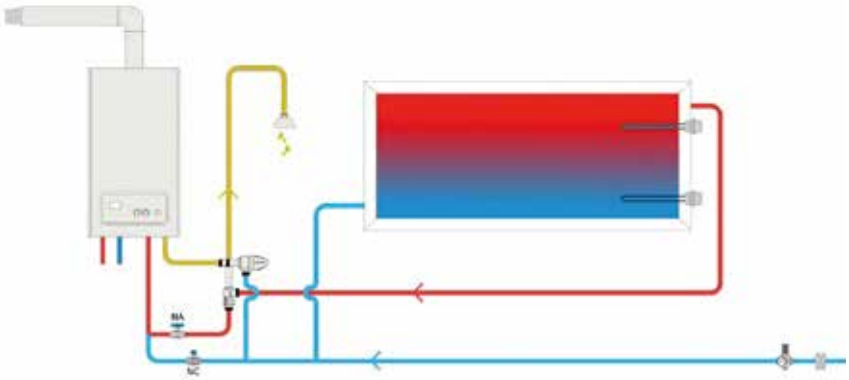
2.If T>48°C the water entering the valve is diverted directly to the mixer to reach the required temperature with cold water, thus bypassing the storage tank or backup energy source.

MIXER TECHNICAL DATA

Maximum operating temperature	100°C
Fixed temperature setting	+/-1°C
kvs	1,8
Connections	½"M

DIVERTER TECHNICAL DATA

Maximum operating pressure	10 bar
Minimum operating pressure	0,5 bar
Adjustment range	30-56°C (+/-1°C)
Pressure drop at 1000 l/h	0,35 bar
Kvs	2,1
Connections	½"M



CODE	DESCRIPTION
1030900991	5-way Diverter-Mixer Valve

SOLAR VALVE NR20 PLUS



Solar valve NR20 Plus. T-fitting composed of a ball valve with integrated non-return valve and a tap for loading or draining the system.

CODE	DESCRIPTION
1057103400	Solar valve NR20 Plus

SYSTEM LOADING - DRAINING UNIT



In a single body, the possibility to load the solar circuit thanks to the shut-off valve present in the center of the valve body. Complete with loading-draining section with taps with closing cap. Maximum temperature 120°C, maximum pressure 6 bar.
Connections: DN20, G1 AG - G1

CODE	DESCRIPTION
1058101000	Solar valve for system loading - draining

SOLAR VALVE NR20



Non-return valve 20 mbar, to be used as additional resistance to the one already present in the solar station. To be used in solar systems characterized by a high hydrostatic height.
Connections: DN20, G3/4 IG, suitable to be mounted directly to the solar station M13-7 and B13-7.

CODE	DESCRIPTION
1059103420	Solar valve NR20

AUTOMATIC SOLAR VENT VALVE



Automatic vent valve for solar systems, with high precision thanks to the particular internal geometry. Maximum temperature 160°C and pressure 10 bar. To be used in combination with the shut-off valve.
Connections G3/8 or G1/2.

CODE	DESCRIPTION
1055113800	Automatic solar vent valve G3/8
1055111200	Automatic solar vent valve G1/2

BRASS COMPRESSION FITTING



PTFE sealing compression fitting ¾" with copper olive and nut for copper pipes DN15-18-22.

CODE	DESCRIPTION
1061102315	PTFE sealing compression fitting ¾" for Copper DN15
1061102318	PTFE sealing compression fitting ¾" for Copper DN18
1061102322	PTFE sealing compression fitting ¾" for Copper DN22

SOLAR THERMAL ACCESSORIES

3D DIVERTER VALVE



Three-way diverter valve made entirely of special brass and complete with servo motor with 3-point control. To be used also in case of solar storage tank loading. Manually operable in the absence of voltage and equipped with 4 connection cables of 0.5mm². Duration and rotation angle of 18s/90°.

TECHNICAL DATA

Maximum operating temperature	110°C
Maximum operating pressure	6 bar
Maximum differential pressure	0,4 bar
Power supply	230V-50/60Hz
Protection degree	IP44

CODE	DESCRIPTION
1052102520	3D diverter valve-25
1052103220	3D diverter valve-32

MOTORIZED VALVE



Motorized valve with 230Vac/50-60Hz servo motor. Equipped with 4 connection cables of 0.5mm². Compatible with technical or sanitary water. Duration and rotation angle of 30s/90°.

TECHNICAL DATA

Maximum operating temperature	110°C
Maximum operating pressure	6 bar
Maximum differential pressure	0,4 bar
Power supply	230V-50/60Hz
Protection degree	IP44

CODE	DESCRIPTION
1052102510	Motorized valve 2D-DN25-kvs=123
1052103210	Motorized valve 2D-DN32-kvs=123

H-AIR AIR SEPARATOR FOR HORIZONTAL INSTALLATION





The H-AIR air separator is used to continuously remove air contained in solar circuits. Equipped with PALL rings. Installation is recommended after the solar panel in a horizontal position. The ecological insulation jacket has a very low weight and avoids unwanted heat dispersion, thus contributing effectively and rationally to energy saving. For safety reasons, venting must be performed periodically manually using the provided key attached to the chain, to adjust the opening or closing of the vent valve.

TECHNICAL DATA

Max operating temperature	200°C		
Min operating temperature	-10°C		
Maximum operating pressure	10 bar		
Max glycol percentage	50%		
Max flow velocity	1,5 m/s		
DIMENSIONS [mm] LxPxH (Racc.) Peso[kg]	102x113x188	22 3/4"	1,4
	110x117x207	1"	1,8
	116x121x227	1¼"	2,4

CODE	DESCRIPTION
1030903541	H-AIR air separator ¾"
1030903521	H-AIR air separator 1"
1030902991	H-AIR air separator 1 ¼"

FLOW REGULATORS



The balancing valves allow for comfortable and precise regulation of volumetric flows in the various branches of a centralized solar system, thus optimizing the energy captured by each solar sub-field, also displaying the flow rate at any moment "the reference for reading is the lower edge of the float body". After calibration, the bypass is replaced with the closing set. Suitable for high pressures and temperatures, characteristic of a solar system.

The balancing valve requires a straight inlet section of length and nominal diameter equal to those of the system used. The valve can be mounted in a horizontal, oblique, and vertical position, however taking into consideration the flow direction indicated by the arrow. Maximum operating temperature-pressure 185°C-16 bar. Female thread connection.

TECHNICAL DATA

Internal connection	External connection	Range (l/min)	kvs	Dimensions (LxWxH)
¾"F	DN20	2-12	2,2	129x46x79
¾"F	DN20	8-30	5	129x46x79
1"F	DN25	10-40	5,1	152x58x82
1"F	DN32	10-70	17	161x65x84

CODE	DESCRIPTION
1030902951	Flow regulator ¾" 2-12 l/min
1030903031	Flow regulator ¾" 8-30 l/min
1030903591	Flow regulator 1" 10-40 l/min
1030907361	Flow regulator 1" 10-70 l/min

ELECTRIC ANODE



Electric anode with ½" connection (replaces the sacrificial magnesium anode) for boilers with capacity up to 2,000 liters.

CODE	DESCRIPTION
1030907346	Electric anode up to 1,000 liters
1030907345	Electric anode from 1,000 to 2,000 liters

EXPANSION VESSELS

ESOL SOLAR EXPANSION VESSEL



The ESOL EXPANSION VESSELS are dedicated for use in forced circulation solar systems powered by flat-plate or vacuum collectors. A high-performance forced circulation solar system by its nature is subjected to high temperature variations capable of reaching in some cases 200°C, with consequent volume variations. For this reason, the expansion vessel must be carefully chosen to compensate for these variations as well as to withstand high temperatures.

In fact, ESOL vessels mount EPDM-HT membranes capable of withstanding temperatures up to 140°C with glycol fluid, or it is possible to combine the DISOL dissipator vessel with the ESOL series to cool the fluid, thus protecting the membrane.

The vessels are distinguished by the possibility of changing the membrane in case of failure, hydraulic connection made on galvanized counter-flange and with replaceable nylon diffuser, RAL9010 paint.

TECHNICAL DATA

Model	Height [mm]	Diameter [mm]	Maximum Operating Pressure [bar]	Standard Precharge Pressure [bar]	Connection [inch]
ESOL8	316	200	10	2,5	¾"
ESOL12	295	280	10	2,5	¾"
ESOL18	456	280	10	2,5	¾"
ESOL25	483	280	10	2,5	¾"
ESOL35	450	365	10	2,5	¾"
ESOL50	565	365	10	2,5	¾"
ESOL80	717	415	10	2,5	1"
ESOL100	663	495	10	2,5	1"
ESOL150	795	550	10	2,5	1"
ESOL200	1085	600	10	2,5	1"
ESOL300	1212	650	10	2,5	1"

CODE	DESCRIPTION
1030710108	Solar expansion vessel ESOL 08
1030710112	Solar expansion vessel ESOL 12
1030710118	Solar expansion vessel ESOL 18
1030710124	Solar expansion vessel ESOL 25
1030710135	Solar expansion vessel ESOL 35
1030710150	Solar expansion vessel ESOL 50
1030710180	Solar expansion vessel ESOL 80
1030710100	Solar expansion vessel ESOL 100
1030710015	Solar expansion vessel ESOL 150
1030710200	Solar expansion vessel ESOL 200
1030710300	Solar expansion vessel ESOL 300

DISOL SOLAR DISSIPATOR VESSEL



The solar dissipator or cooling vessel has the function of protecting the membrane of the ESOL solar expansion vessel in case of excessive overheating due to oversized solar systems or equipped with a solar station installed near the solar field and therefore subjected to higher temperatures. To be connected upstream of the ESOL expansion vessel thanks to the two ¾" connections.

TECHNICAL DATA

Model	Height [mm]	Diameter [mm]	Maximum Operating Pressure [bar]	Connection [inch]
DISOL12	320	280	10	2x¾"
DISOL18	435	280	10	2x¾"
DISOL24	510	280	10	2x¾"

CODE	DESCRIPTION
1030711112	Solar dissipator expansion vessel DISOL12
1030711118	Solar dissipator expansion vessel DISOL18
1030711124	Solar dissipator expansion vessel DISOL24

ESAN SANITARY VESSEL



The expansion vessel for sanitary systems with interchangeable EPDM membrane, for temperatures from -10÷100°C and pressures of 10 bar, external paint color RAL 5015.

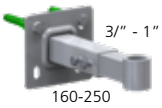
TECHNICAL DATA

Model	Height [mm]	Diameter [mm]	Maximum Operating Pressure [bar]	Standard Precharge Pressure [bar]	Connection [inch]
ESAN8	316	200	10	1,5	¾"
ESAN12	295	280	10	1,5	¾"
ESAN18	456	280	10	1,5	¾"
ESAN24	483	280	10	1,5	¾"
ESAN35	440	365	10	1,5	1"

CODE	DESCRIPTION
1030712108	Sanitary solar expansion vessel ESAN08
1030712112	Sanitary solar expansion vessel ESAN12
1030712118	Sanitary solar expansion vessel ESAN18
1030712124	Sanitary solar expansion vessel ESAN24
1030712135	Sanitary solar expansion vessel ESAN35

EXPANSION VESSELS ACCESSORIES

WALL SUPPORT BRACKET



160-250 3/4" - 1"
Wall support bracket with extension, equipped with four wall plugs and screws for fixing and ¾" male threaded fitting for direct connection to the ESOL series from 8 to 24 liters.

CODICE	DESCRIPTION
1030910721	Wall support bracket with ¾" nipple

ESOL EXPANSION VESSEL CONNECTION KIT



Kit designed for quick and efficient connection of the ESOL solar expansion vessel (up to 50 liter size). The kit includes a 1-meter ¾" flexible steel pipe complete with swivel nuts with flat gaskets on both sides, manual ¾" shut-off fitting to be used for connection to the expansion vessel to allow its disconnection from the system in case maintenance or other operations are necessary, and a vessel support bracket with wall mounting.

CODICE	DESCRIPTION
1030903481	ESOL expansion vessel connection kit

VESSEL SHUT-OFF FITTING



Manual ¾" shut-off fitting to be used for connection to the expansion vessel to allow its disconnection from the system in case maintenance or other operations are necessary.

CODICE	DESCRIPTION
1030901061	Solar shut-off fitting ¾"

ANTIFREEZE

THSOL-28 SOLAR FLUID



The THSOL -28 SOLAR FLUID is particularly suitable for systems with vacuum panels, thanks to its high resistance to high temperatures. A product based on glycols that have a high boiling point and excellent resistance to degradation at high temperatures. It withstands high thermal loads without any reduction in properties for longer periods of time compared to antifreeze based on monoethylene glycol and propylene glycol. THSOL -28 is ready to use, it should not be diluted with water. Dilution with water can reduce the antifreeze and anticorrosive properties of the product.

THSOL -28 concentrate should be diluted in water in percentages from 40% to 55%. The organic antioxidant additive keeps the circuit in perfect operating conditions for longer periods of time compared to conventional inorganic products. It protects the metal elements typically used in thermal systems.
The red coloration allows detecting leaks in the circuit. It does not contain nitrites or amines, products that form nitrosamines, potential carcinogenic agents. It also does not contain phosphates, banned for their harmful effects on the environment. Stable product between -28°C and 190°C. Prolonged exposure to high temperatures (>200°C) can cause a reduction in the useful life of the product.

CODE	DESCRIPTION
1030812521	ThSol-28 premixed antifreeze for vacuum tube, 10 l tank
1030812532	ThSol-28 premixed antifreeze for vacuum tube, 20 l tank
1030812533	ThSol-28 concentrated antifreeze for vacuum tube, 25 l tank
1030812534	ThSol-28 concentrated antifreeze for vacuum tube, 220 l tank

CS-LTV SOLAR CLEANER LIQUID



The Vacuum Solar Panel Cleaner CS-LTV is a slightly acidic, green liquid with a very weak odor. Thanks to its chemical structure, it is able to dissolve deposits of degraded heat transfer fluid. For optimal results, it is necessary to remove the overheated liquid from the solar thermal system as completely as possible. Dilution of the product with water reduces its performance, so it should be avoided. The product is ready to use, do not dilute. The collectors must be covered before starting the rinsing process to eliminate the degraded thermal fluid.

After filling the system, the product should be circulated for several hours between 50 and 60°C; higher temperatures should be avoided due to potential incompatibility problems with gaskets. It is recommended to clean the system in sections, ensuring a good flow of water through the affected pipes. After completing the cleaning process, the cleaning fluid should be drained from the system as completely as possible, then the system should be rinsed with water before loading it with new antifreeze.

CHEMICAL-PHYSICAL CHARACTERISTICS

Appearance	Liquido di colore Rosa fluorescente
Odor	Debole odore proprio
Solubility in water	Miscibile
pH value on 100g/l at 20°C	8,5÷10
Auto-ignition	Non auto-in-fiammabile
Ignition temperature	245°C

CODE	DESCRIPTION
1030850015	CS-LTV solar cleaner liquid, 5 l tank
1030850110	CS-LTV solar cleaner liquid, 10 l tank

FILLING STATION



Filling station for solar systems capable of ensuring correct filling and elimination of air present in the pipes in a simple, fast, and clean manner. Equipped with a filter on the suction side, level indicator, ON/OFF switch, and transparent system filling tube for visual control during use.

TECHNICAL DATA

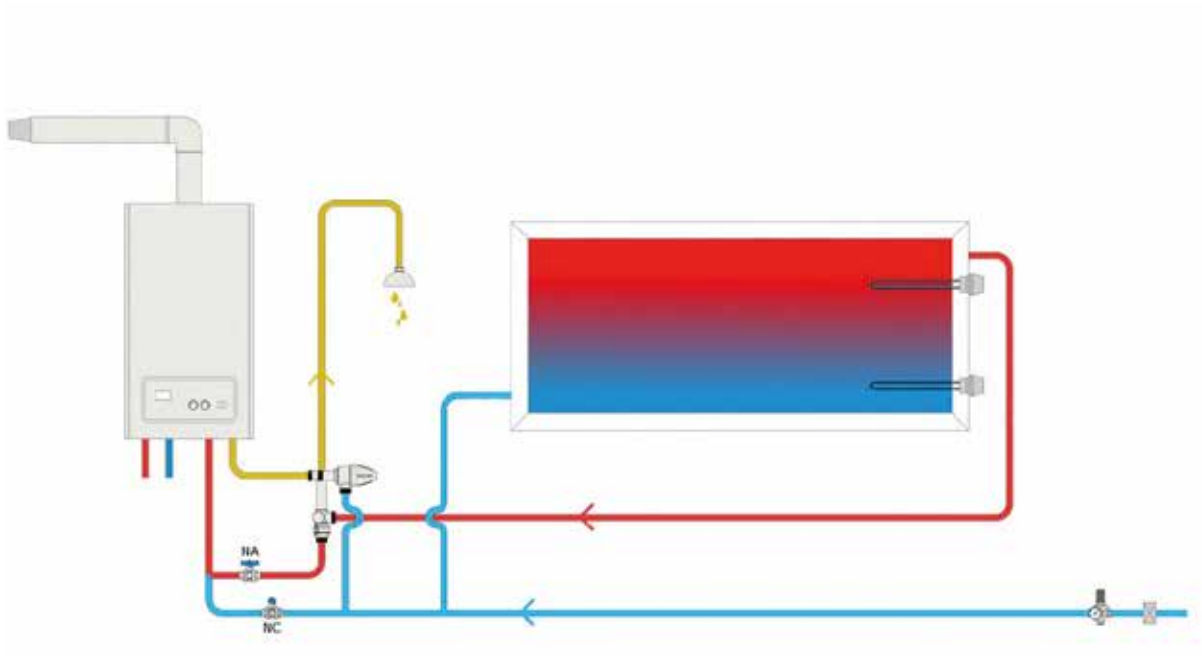
Flow rate	5-47 l/min
Maximum head	52 m
Power supply	230V
Working fluid	Acqua glicolata-detergenti liquidi
Power cable	1,5 m
Ball valves	Carico e Scarico

CODE	DESCRIPTION
1030900701	System filling station

APPLICATION

EGO

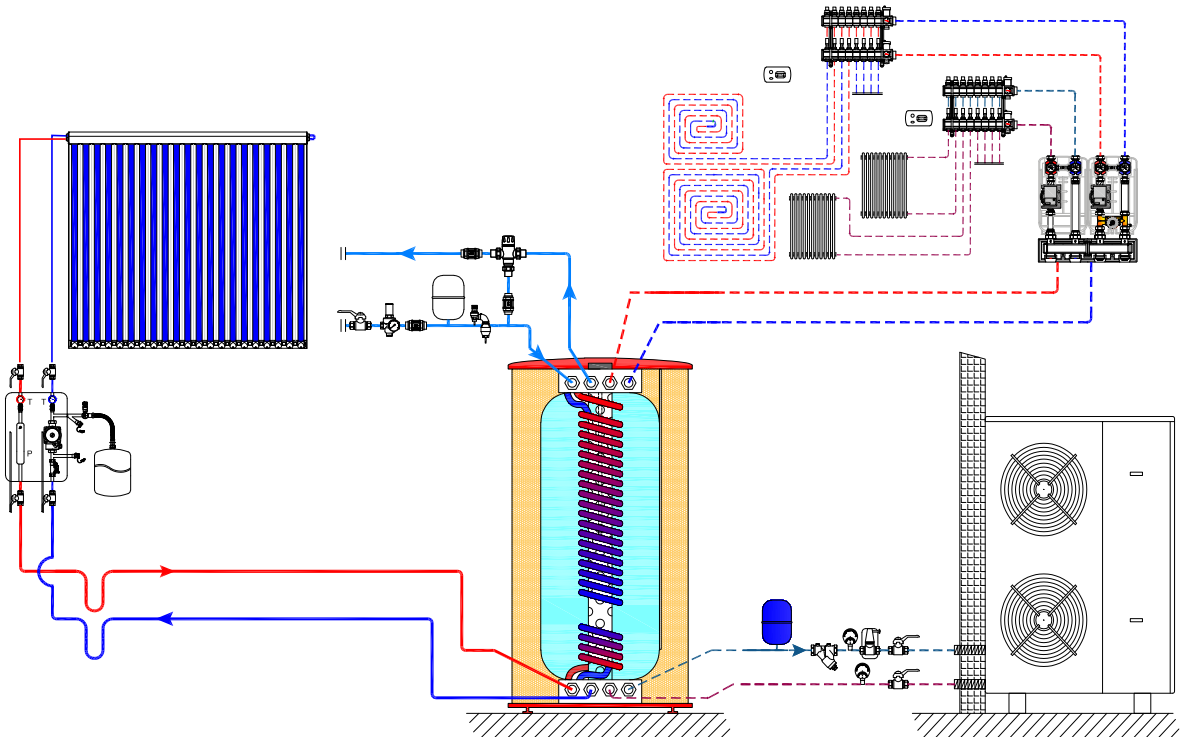
Natural circulation solar collector with integrated storage tank complete with antifreeze resistance and integration resistance, combined with 5-way diverter-mixer valve.



N.B. All diagrams are included for illustrative purposes

SPAZIO

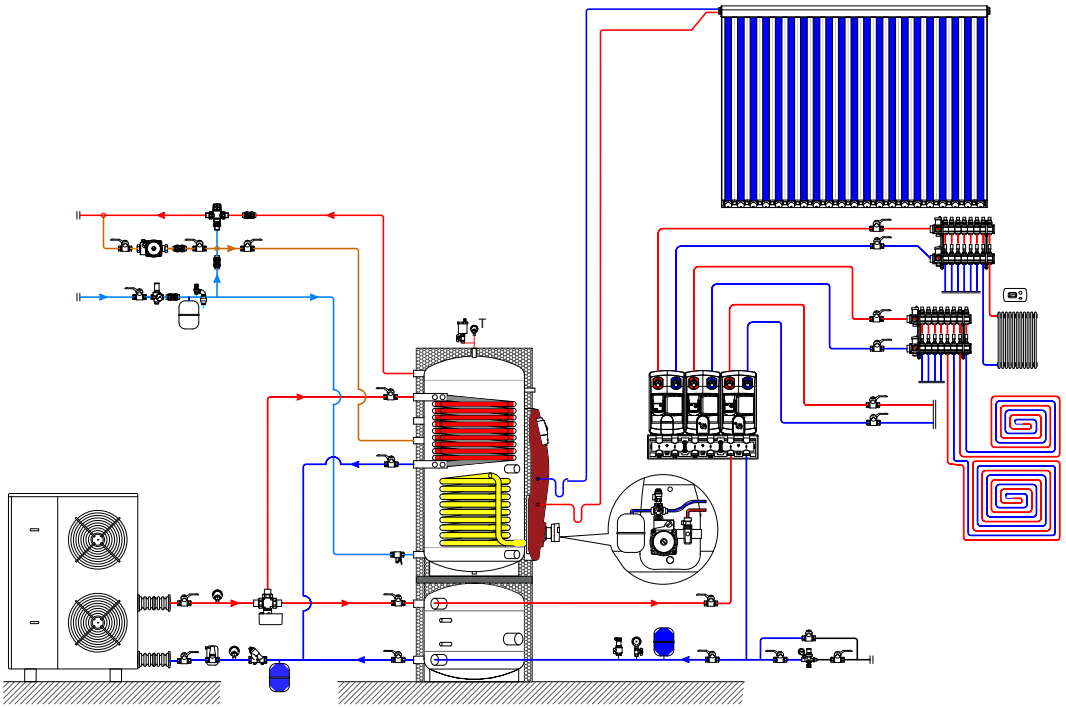
Solar field with SPAZIO storage tank for DHW heat pumps + heating



N.B. All diagrams are included for illustrative purposes

THERMA

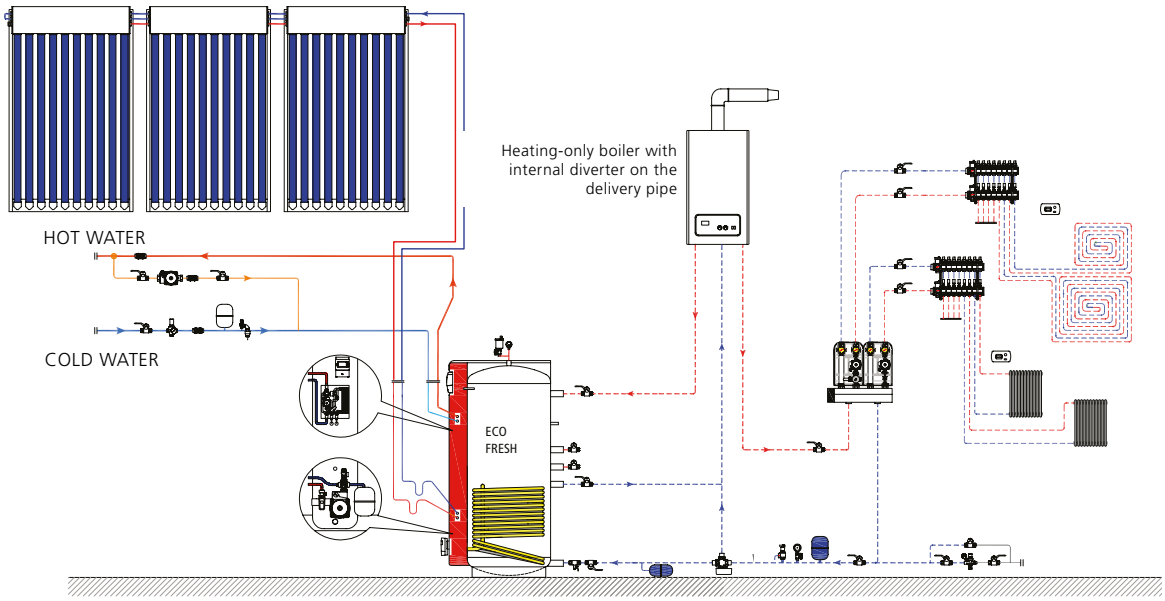
Solar field with THERMA storage tank for DHW heat pumps + heating and cooling of rooms



N.B. All diagrams are included for illustrative purposes

ECO FRESH

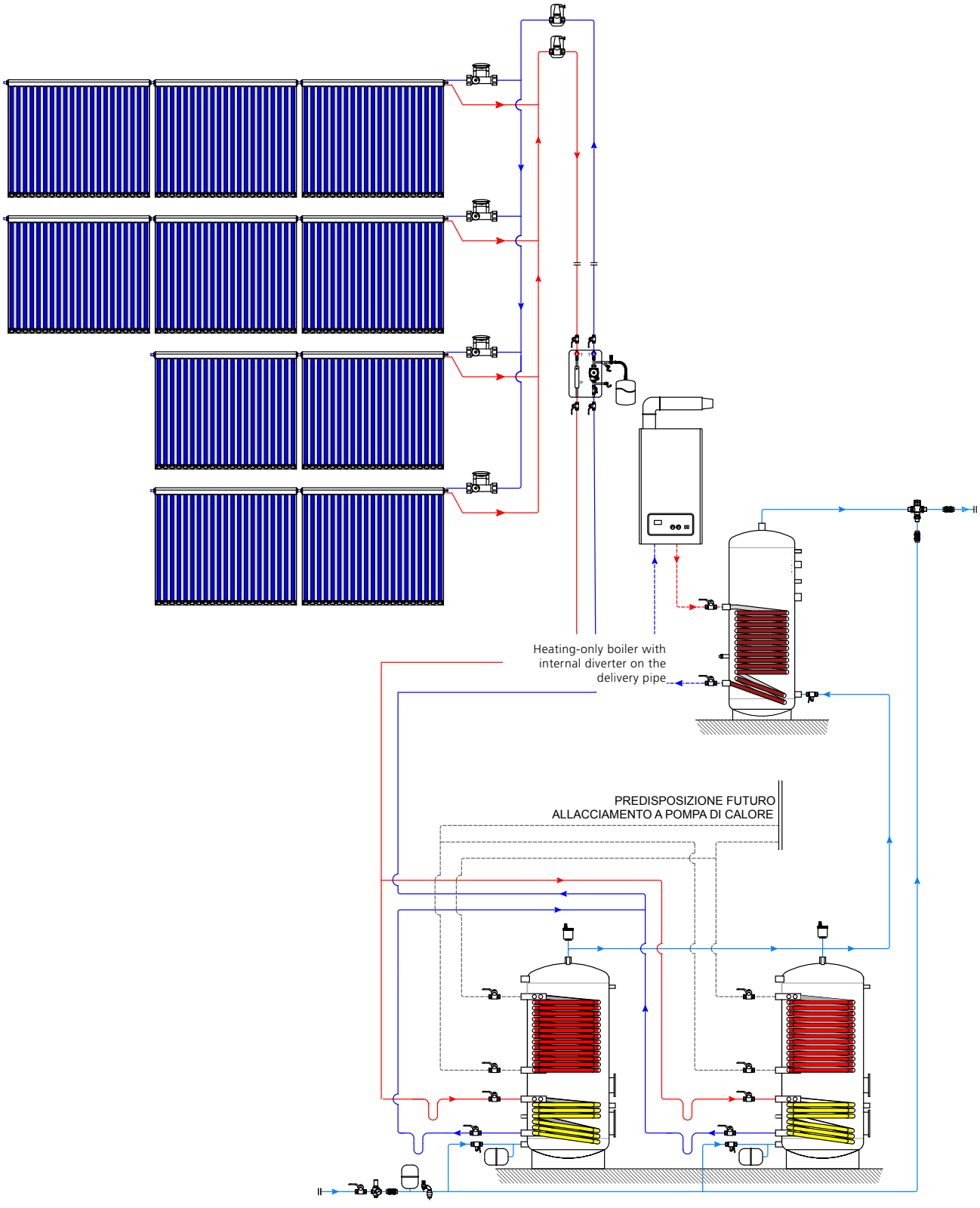
Solar field with heating-only boiler 3 pipes - ECO FRESH 350 technical water storage tank with external plate heat exchanger for instantaneous production and solar station integrated in the storage tank. Diverter valve placed in the return of the heating systems for raising the temperature in case of solar energy present in the storage tank during the winter phase.



N.B. All diagrams are included for illustrative purposes

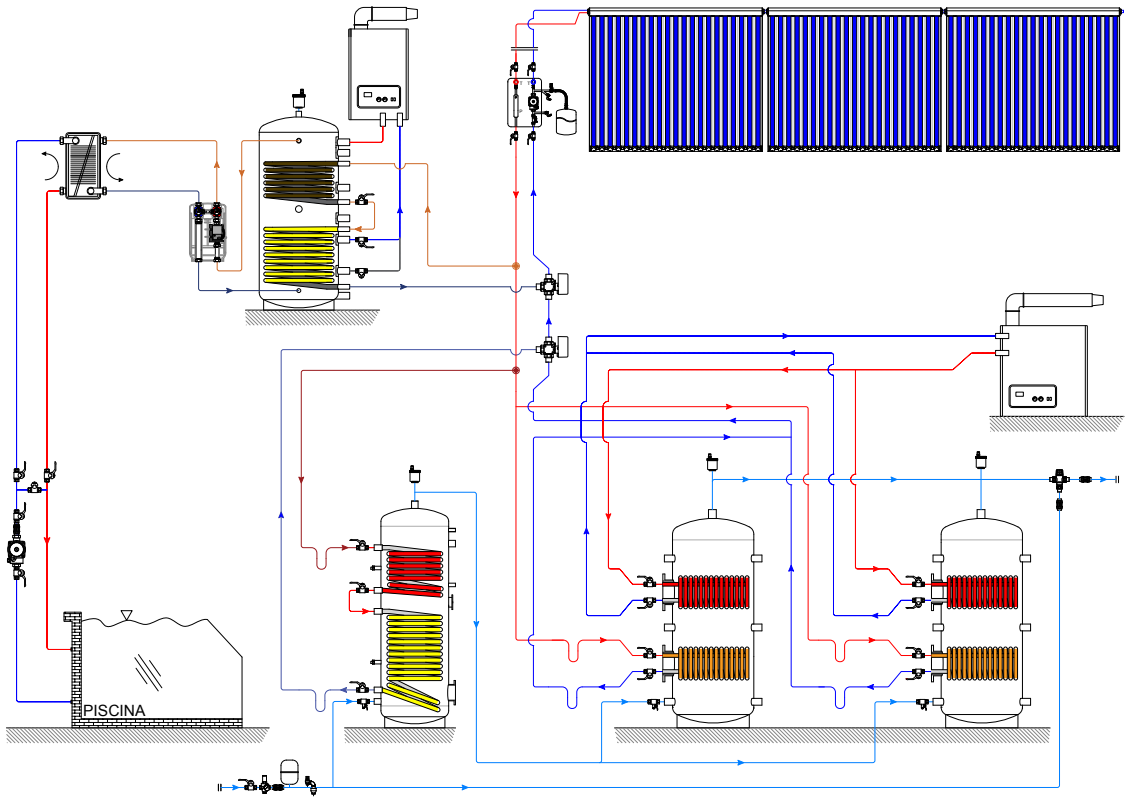
THERMAL PLANT DIAGRAMS FOR LARGE SYSTEMS

EXAMPLE 1



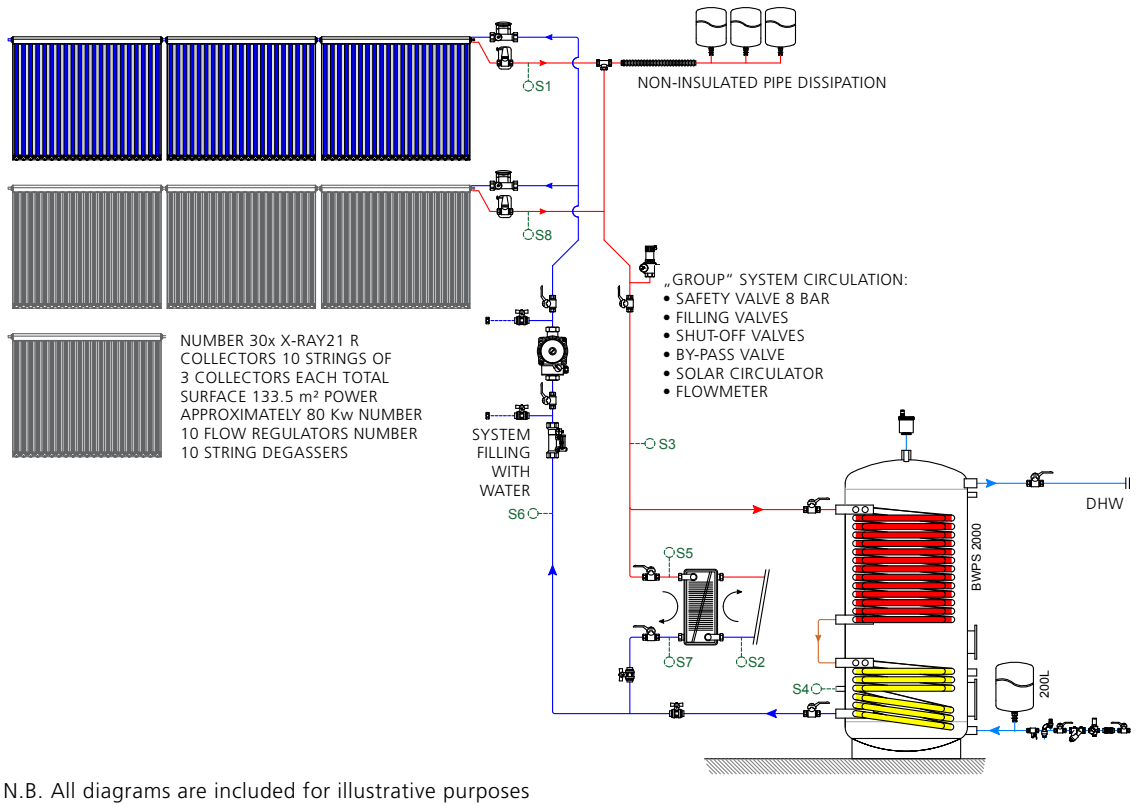
N.B. All diagrams are included for illustrative purposes

EXAMPLE 2



N.B. All diagrams are included for illustrative purposes

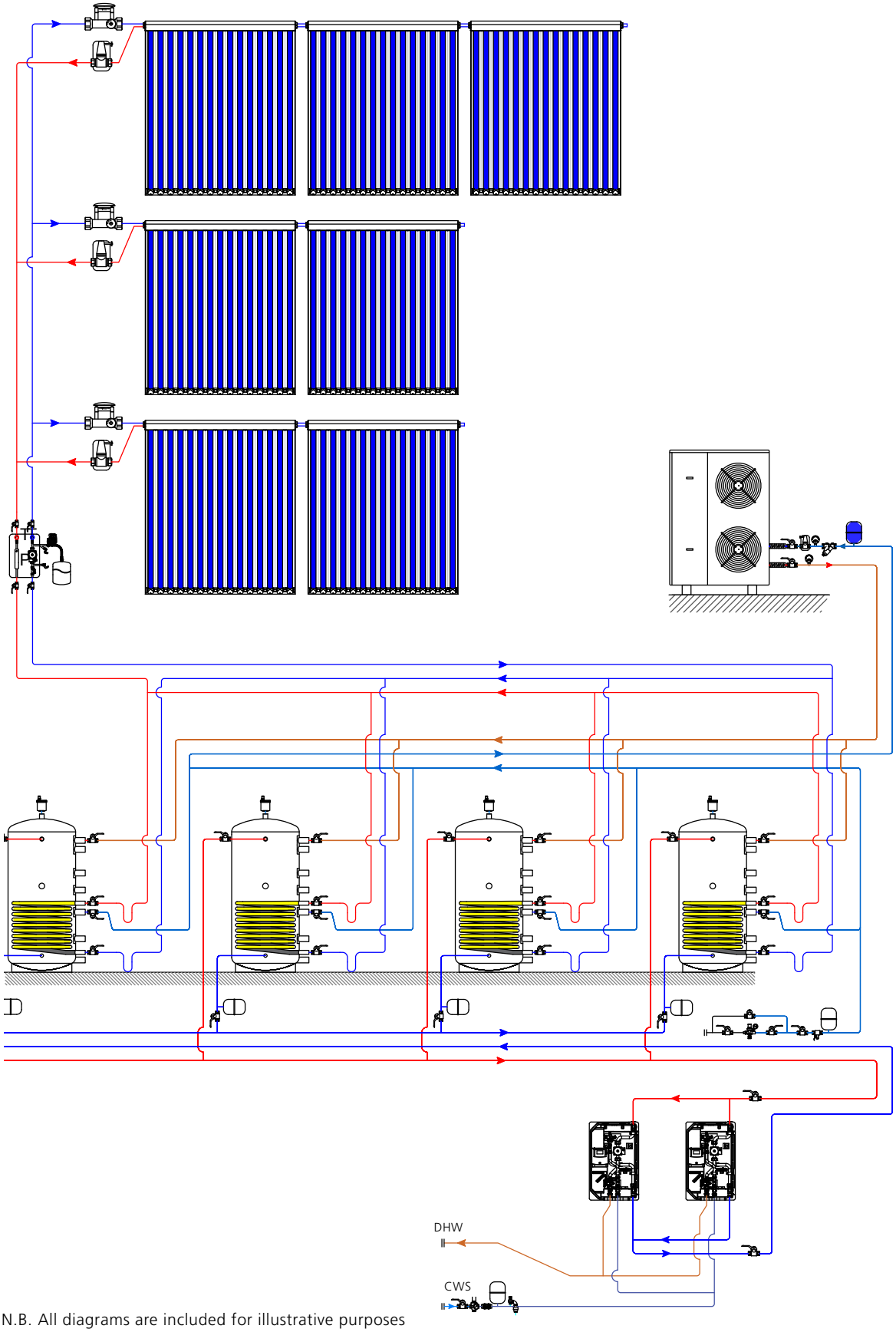
EXAMPLE 3



N.B. All diagrams are included for illustrative purposes

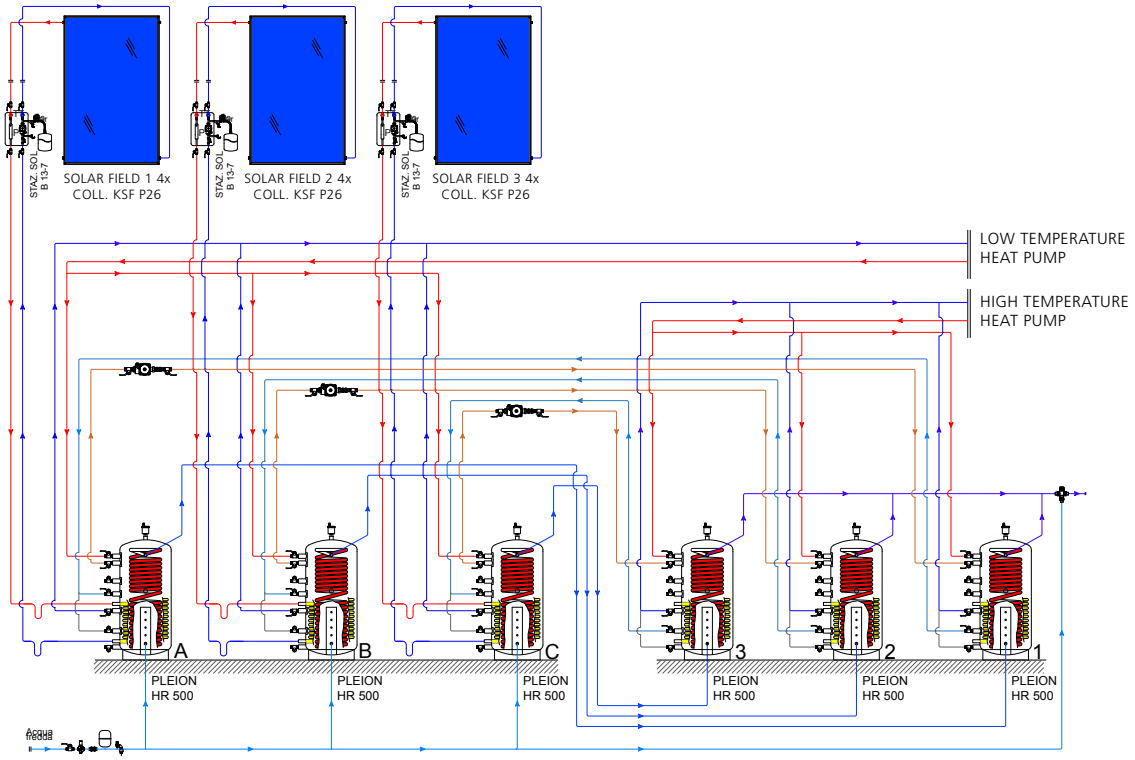
THERMAL PLANT DIAGRAMS FOR LARGE SYSTEMS

EXAMPLE 4



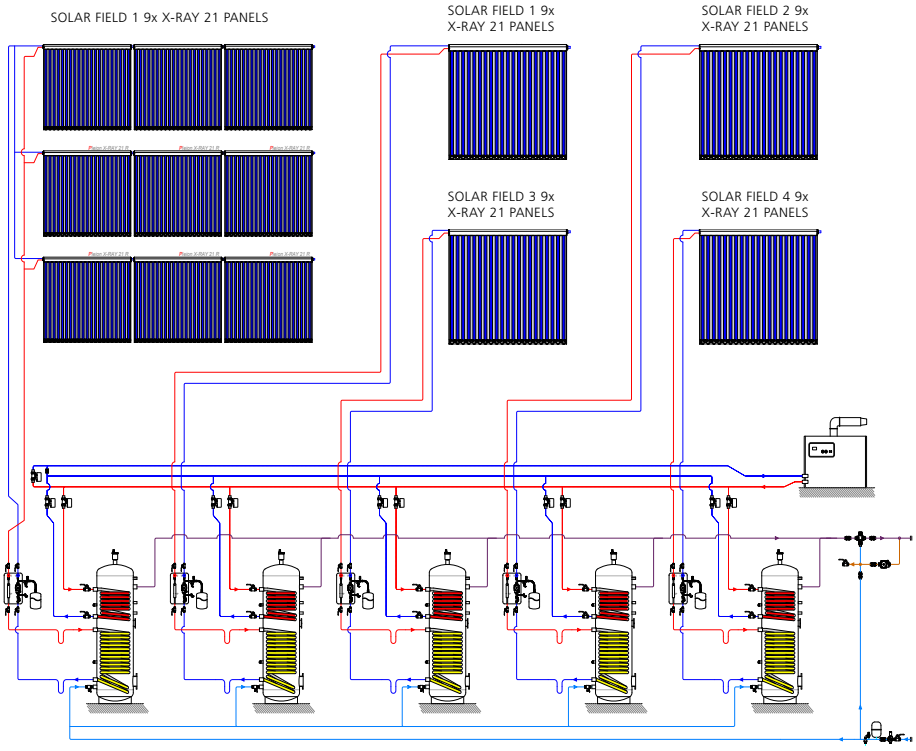
N.B. All diagrams are included for illustrative purposes

EXAMPLE 5



N.B. All diagrams are included for illustrative purposes

EXAMPLE 6



N.B. All diagrams are included for illustrative purposes

STARTUP SERVICE

The first startup service is performed, by appointment, by a Pleion Technical Assistance Center (TAC).

WHAT DOES IT **INCLUDE?**

- **Verification** of hydraulic connections
- **Verification** of electrical wiring
- **Filling o**f the solar circuit, **venting and pressurization**
- **Setting** of the control unit
- **Verification** of expansion vessel pre-charge
- **Verification** of correct functioning of the system components

WHEN IS IT **FREE?**

The service is covered by PLEION EXCLUSIVELY for the following families of solar systems:



ULTRAFRESH 401
ULTRADUO 401



ECO COMPACT
ECO COMPACT HPS



ECO FRESH



ECO DUO



SPAZIO



THERMA 430

WHEN IS IT **PAID?**

A. The service is paid for all systems excluded from the families indicated above.

B. The service can be purchased separately (see table below) with the order of at least one Pleion product (e.g., solar controller); it can therefore also be used where the system includes components from other brands.

CODE	SERVICE	NON-DISCOUNTABLE RATE	NOTES
AC01	Telephone startup of solar controller - NEW 2023	40,00 €	By appointment at https://pleion.it/it/avviamento-centralina
AS05	Startup of solar system up to 5 collectors	100,00 €	Including filling, venting, pressurization of the solar circuit
AS10	Startup of solar system from 6 to 10 collectors	180,00 €	
AS20	Startup of solar system from 11 to 20 collectors	300,00 €	
AS21	Startup of additional collector from the 21st onwards	12,00 €	
ASAN1	Startup of single SAN module	70,00 €	All SAN F models
ASANC	Startup of cascade SAN modules system	120,00 €	Regardless of the number of modules connected in cascade
AR01	Radiant system 1 collector	100,00 €	-
AR02	Radiant system collectors after the first	75,00 €	-

N.B. During system startup, the presence of the electrical and hydraulic installer is strongly recommended.

SOME EXAMPLES:

In the case of a system with 25 collectors, the offer will include:
n. 1 x AS20 Startup of solar system from 11 to 20 collectors €300.00
n. 5 x AS21 Startup of additional collector from the 21st onwards €12.00 each, total €60.00

In the case of a radiant system with 3 collectors, the offer will include:
n. 1 x AR01 Radiant system 1 collector €100.00
n. 2 x AR02 Radiant system collectors after the first, €75.00 each, total €150.00.

The PLEION first startup service does not include the installation of hydraulic or electrical connections unless previously agreed with the PLEION reference personnel. PLEION will be responsible for verifying the correct operation of its components present in the system; components such as heat generators, loading units and more, not supplied by PLEION, can however be verified on request as far as possible.

ACTIVATE YOUR WARRANTY ONLINE!

Pleion offers the consumer (buyer/user) a 5-year Conventional Warranty free of charge.

Please be informed that the Warranty Conditions for the products can be consulted on https://pleion.it/it/condizioni-garanzia/. We recommend contacting our local partner directly for further details and specific conditions.

SALES CONDITIONS

1. APPLICATION
The following General Sales Conditions apply to all Sales Contracts in force between the seller (hereinafter also referred to as Pleion Spa) and the purchaser (hereinafter also referred to as Customer). These conditions are considered to be fully accepted and approved by the Customer when the order is placed.

2. ORDERS
The descriptions, photographs, characteristics, and prices contained in the Pleion Spa catalogue and in other Pleion Spa documentation are for informational purposes only. Pleion Spa reserves the right to change all or part of the aforementioned information and the related products at any time and without prior notice. Customer orders will be considered definitively placed, subject to requests for changes or cancellations made by the Customer within 24 hours of being received by Pleion Spa.

3. PRICES
The sales prices are those indicated in the sales documentation, unless updated to those currently in force on the date of delivery. Prices are ex-office Pleion S.p.a. for products packaged according to standard internal procedures, are net of additional transport charges and other expenses related to the processing of the order and are exclusive of VAT.

4. DELIVERIES
The terms of delivery are indicative and in no case may constitute a motive for cancellation of all or part of the order placed by the Customer. In no case is Pleion Spa responsible for reimbursement of direct or indirect damages due to delivery delays or total or partial interruption of the supply.

5. TRANSPORT
If, at the time of delivery, the customer or person receiving the goods on their behalf discovers a defect or deficiency in the packaging or in the goods received, he or she must make a written notice on the shipper's transport slip and, at the same time, notify Pleion Spa in writing. Any damages or losses related to the transported goods are the Customer's responsibility as it is travelling at the Customer's risk, even if sold postage paid, unless otherwise agreed in writing.

6. CLAIMS
The Customer must submit any complaints to Pleion S.p.a. within eight days of the arrival of the goods. The customer, who has made complaints or brought disputes is under no circumstances entitled to delay or suspend payments for supplies to Pleion S.p.a.

Notwithstanding the provisions of article 134 of the Consumer Code, the non-consumer Buyer may exercise the right of recourse against the Seller, under penalty of forfeiture, only within two years of delivery of the Products to the same non-consumer Buyer.
Without prejudice to the rights provided for by consumer law, the Seller guarantees the quality of the Products for a certain period after delivery, excluding those defects that may occur due to transport, improper use or inadequate storage or maintenance of the Products. Any claim relating to defects or faults concerning the Products must be sent to the Seller by registered letter with return receipt or certified e-mail strictly within eight days of delivery in the case of obvious defects and within eight days of discovery in the case of hidden defects, in any case within 1 year of delivery, under penalty of forfeiture. Returns will not be accepted unless previously authorised in writing by the Seller; the latter will examine the returns to verify that the defect exists and is attributable to its own responsibility and only in this case will it replace and/or repair the Products recognised as defective. Any other warranty, even by law, must be considered excluded and replaced by these Terms and Conditions.

7. PAYMENT
All payments must be made, in the agreed currency, at the domicile of Pleion S.p.a. In the event of deferred payment, failure to comply with a deadline will result in forfeiture of the deadline itself,the immediate payability of the entire remaining amount and the application of default interests to the extent imposed by law. Payments are due within the agreed deadlines even in the event of delays in the delivery of the goods, total or partial failures and losses during the transportation and/or storage phases. This also applies when the Customer does not collect the goods made available to them by Pleion S.p.a.

8. RETENTION OF OWNERSHIP
The goods are sold subject to retention of ownership Italian Civil Code Art. 1523 et seq) and therefore remain the property of Pleion Spa until full payment of the price.

9. TERMINATION AND/OR SUSPENSION OF ORDERS
Pleion Spa has the right to suspend further deliveries in the event of the following:
- failure to comply in all or in part of even one of these sales conditions;
- change in the Customer's company and/or its commercial capabilities.

10. RESPONSIBILITY
Pleion Spa will not be responsible for damages or injuries to animals or people resulting from products being installed properly or contrary to the indications in the technical manuals/instructions provided to the Customer.

11. FORCE MAJEURE CLAUSE
The performance terms written in our offers/acceptances are not binding on Pleion Spa and are automatically suspended in the event of strikes, fires, floods, and other force majeure causes.

12. NOTICE IN ACCORDANCE WITH ART. 13 OF ITALIAN LEGISLATIVE DECREE No. 196 OF 30 JUNE 2003
CODE FOR THE PROTECTION OF PERSONAL DATA

12.1. The personal data collected by Pleion Spa may be processed either in written form or by electronic means for legal and contractual requirements, any future promotional initiatives, through sending electronic and/or paper communications as well as to carry out market research and surveys.
12.2. Personal data may be communicated to credit institutions, credit collection agencies, credit insurance companies, commercial information companies, consultants and professionals, our network of agents and external technical assistants, factoring companies, purchasing groups, and companies to which Pleion Spa has requested or will request the creation of the promotional initiatives and or market research and surveys mentioned above.
12.3. Pursuant to Art. 7 of Italian Legislative Decree no. 196 of 30 June 2003, the customer has the right to obtain the following at any time: the updating, rectification or, when interested, the integration of the data; the erasure, the transformation in anonymous form or the blocking of data processed in violation of the law, including data for which conservation is unnecessary with regards to the purposes for which the data has been collected or subsequently handled; confirmation that the operations referred to above have been brought to the attention, including with regard to their content, of those to whom data have been communicated or disclosed, except in cases where it is impossible to fulfil this obligation or where the obligation leads to the use of resources manifestly disproportionate to the right protected.
12.4. Pursuant to Art. 7 of Italian Legislative Decree no. 196 of 30 June 2003, you have the right to oppose the processing of your personal data, in whole or in part, even if pertinent to the purpose for collection.
12.5. The Data Controller is Pleion Spa, the Privacy Officer, Pleion Spa, and their representatives are authorised to become knowledgeable of the data.

13. ITALIAN LAW AND COURT OF JURISDICTION
These general sales conditions and subsequent future contractual and supply relationships are governed by Italian law. The Court of Verona has jurisdiction over any dispute related or connected to these general sales conditions and subsequent future contractual and supply relationships, with Pleion Spa having the right to start proceedings in the court in the buyer's jurisdiction.

The Buyer _____ Pleion spa _____

The Buyer declares to expressly approve, pursuant to art. 1341 and 1342 of the Italian Civil Code, the following vexatious clauses: art. 6 complaints (time and form of the complaint – waiver of the recourse action) – art. 13 (Italian law and jurisdiction).

The Buyer _____

PLEION

The Sun is our Life!

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