

THERMAL SOLAR SYSTEMS



NEW RANGE

GENERAL CATALOGUE

Thermal solar systems



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Indicative performance of solar packs for production of domestic hot water

The solar packs are presented with indications on the number of people who can be served on a level of the domestic hot water demand. These indications are provided referring to:

- solar collectors facing south and installed at a 30° angle in Italy.

Indicative performance of combined solar packs

These solutions have variable performance based on the inclination and exposure of the solar collectors as well as the building energy demand and the type of heating elements.

The data supplied must be considered as general indications. Always refer to qualified technicians to design and implement the system, who will take care of the correct dimensioning of the solar systems.



Immergas Advanced Training Centre

DOMUStechnica

IMMERGAS: THE SUN IS SHINING ON THE FUTURE OF ENERGY

Immergas, active for over 40 years in the gas boiler and thermal systems sector, represents one of the most advanced realities in offering high technological level energy solutions. Due to its strong tendency towards innovation, it was among the first companies to realise the new environmental functionality and sustainability requirements coming from the domestic heating market. It has responded with a full range of products and integrated solutions featuring **high energy efficiency and low environmental impact**.

Today the company would like to accompany its customers in this path of growth and created “**Domus Technica**”, a modern centre dedicated to professional training on new technologies. This facility, set up to hold courses for its customers, examines topics concerning solar energy systems and all the most innovative technologies on our market that require not only state-of-the-art products but also consulting services, training and support.

LEADER IN SERVICES FOR ITS CUSTOMERS

Immergas' success is also based on its focus and trustful relationship it establishes with its customers, because their satisfaction is ours. To always guarantee a high level of services and gain new markets, the company has always placed a strong focus on all those aspects associated with before and after-sales **consultancy services and support**.

Professionals in the sector, designers and installers, are constantly kept up-to-date through in-depth technical courses held both at our headquarters and throughout the country.

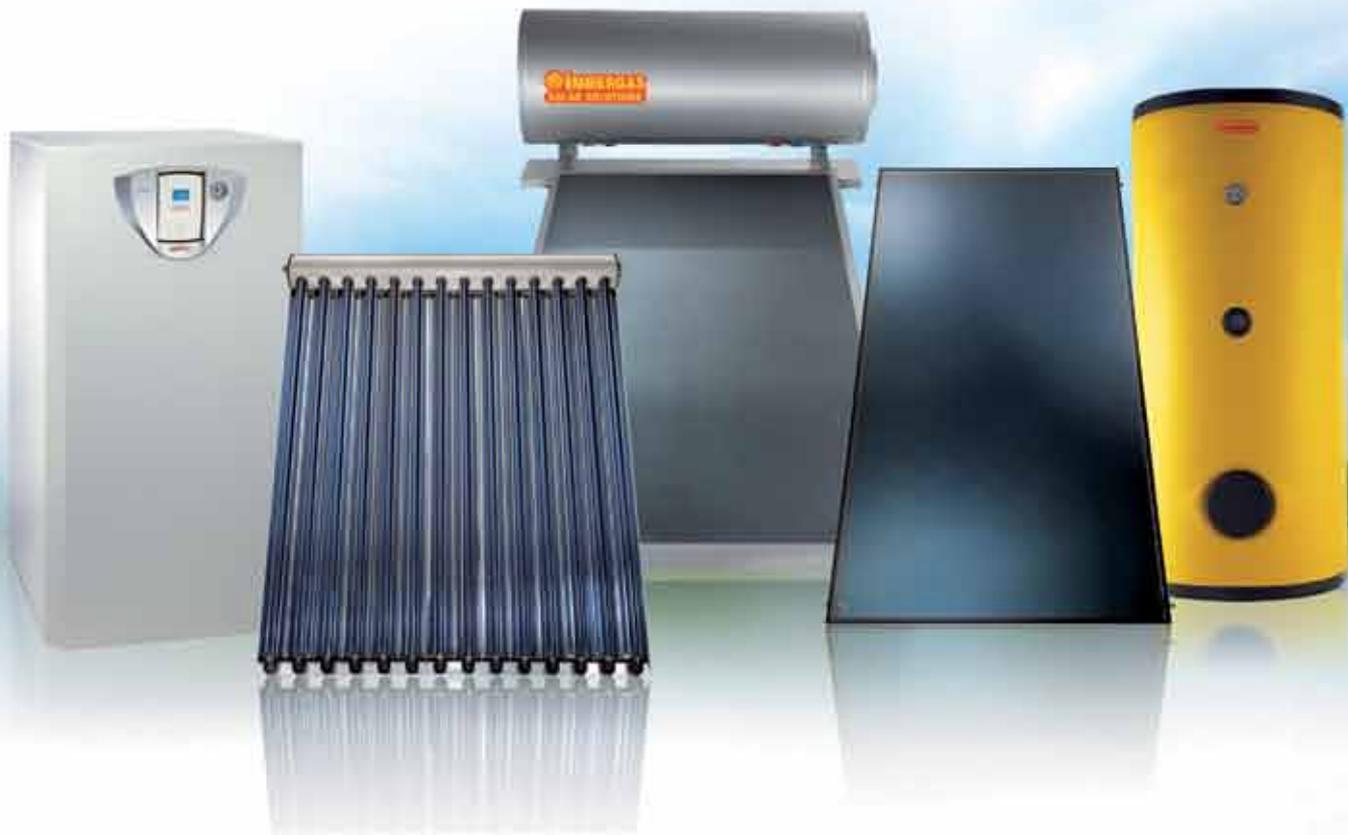




SOLAR ENERGY SYSTEMS: SUSTAINABLE CHOICE, SURE INVESTMENT

In recent years solar heating systems have imposed themselves as one of the most widespread resources of renewable energy. The growing ecological awareness has stimulated Immergas to further improve the performance of its products by designing **innovative solutions for every type of living context.**

With the new Solar Solutions range, Immergas introduces new system solutions to make it easier for designers and installers to offer efficient integrated systems, capable of providing high energy savings.



New Solar Solutions range: the renewal of solar energy

The Immergas Solar Solutions range has been renewed by developing latest-generation products and systems capable of exploiting solar energy to a maximum and offering new standards of comfort.

The technological excellence of Immergas solar components is expanded with the new CP4 XL Flat-Plate Collectors and the CSV 14 Vacuum Collectors. In response to an ever-growing need of sustainable consumption, the absorption surface of the panels has increased (by over 2.50 m²), thus favouring greater energy performance and a better use of renewable energies. A solution which helps the storage tank reach a higher temperature in less time.

There is also a Flat-Plate Collector model available with a smaller surface (CP4 M 2.05 m²) to provide more flexible system solutions. Thanks to the new accessories supplied, the collectors are also easier and safer to install on the roof, both vertically (standard supply of packs) and horizontally (for sloped roofs or free-standing installation).

Depending on the system required, Immergas offers **three types of packs**:

- **DOMESTIC SOL**, complete combined pump-circulated packs, to integrate heating services and generate domestic hot water.
- **INOX SOL**, 6 complete pump-circulated packs and 2 **BASIC SOL** models to generate domestic hot water.
- **NATURAL SOL**, 3 complete packs with natural circulation, to generate domestic hot water.





Solar Ready integrated solutions: specific technological synergy

The floor standing condensing boiler **HERCULES Solar 26**, combines in a small space the advantages of condensation and the possibility of heating domestic hot water with solar energy with the technology of the integrated 200-litre stainless steel storage tank. It is the ideal solution for new systems.

For designing special solutions or for systems integrated in thermal systems, Immergas provides **a wide range of individual components and accessories** with which any type of technical solution proposed can be adequately sized.





Immergas Storage Tanks, our pride for over 30 years

The technological excellence and the accurate choice of materials have always distinguished Immergas products. Immergas has been building its storage tanks using stainless steel for over 30 years, making it one of the strengths of the company: a strategic advantage, supported by growing investments, that have allowed our manufacturing departments to extend the **range of stainless steel storage tanks with solutions up to 500 litres in capacity**.

In solar energy systems, storage tanks act as a real energy reservoir. Designed to use solar resources at their best, they hold the heat gathered by the collectors for a long time and generate domestic hot water.

The production of Immergas storage tanks dedicated to solar is the following:

- **UB Inox from 80 to 200 litres** (see page 40)
- **UB Inox Solar 200-2**, equipped with solar accessories as an integration to collectors (see page 42).
- **160 and 200-litre storage tanks** included in the GAUDIUM Solar and HERCULES Solar range (see page 86 and 90)
- NEW** ➤ **INOXSTOR 200-300-500, storage tanks** which integrate the new range of solar packs for the production of domestic hot water. They are also supplied individually (see page 44)

Further models completing the range: UB 1000-1500-2000 litres in vitrified steel (see page 46), for the production of domestic hot water, and UB 550 and UB 750 (see page 48), for those applications where solar energy is also used for central heating.





Inox stainless steel reliability

A GUARANTEE OVER TIME

Stainless steel is an efficient material which remains unchanged by the action of water even when solar energy makes it reach high temperatures.

A PERFECT THERMAL EXCHANGE

There is a double stainless steel coil inside the storage tank which maximises the production of domestic hot water, also taking advantage of solar energy. Moreover the perfect insulation reduces heat losses to a minimum thus favouring lower consumption levels.

SIMPLE MAINTENANCE

A specific flange makes it easy to clean the inside of the storage tank. Stainless steel also allows to intervene with products capable of dissolving lime scale without damaging the internal casing of the tank.







Complete solar packs with forced circulation for domestic hot water

The INOX SOL TOP and BASIC SOL TOP solar solutions, ideal for houses and small businesses, are made up of **8 complete packs for the production of domestic hot water**.

Each pack is provided with an indication for its use, in order to satisfy **50% of the solar coverage** of the yearly primary energy demand **for the production of domestic hot water**. The data supplied, with collectors facing south and inclined at a 30° angle in Italy, is variable depending on the location and type of installation. Have the system checked by a qualified thermotechnical designer to dimension it ideally.

↘ List of solar packs and main components

Solar pack	SOLAR COLLECTORS			STORAGE TANK Capacity (litres)	"Basic" pack without storage tank (*)
	Flat-Plate	Vacuum	Number of collectors		
INOX SOL 200 TOP	CP4 XL		1	200	
INOX SOL 200 LUX TOP		CSV 14	1	200	
INOX SOL 300 TOP	CP4 XL		2	300	
INOX SOL 300 LUX TOP		CSV 14	2	300	
INOX SOL 500 TOP	CP4 XL		4	500	
INOX SOL 500 LUX TOP		CSV 14	3	500	
BASIC SOL TOP	CP4 XL		1	-	X
BASIC SOL LUX TOP		CSV 14	1	-	X

* Ideal for coupling with HERCULES Condensing models, built-in 120 litre stainless steel storage tank.

Meaning of the names

CP4 XL	Flat-Plate Collector 4 connections
INOX	pack with stainless steel storage tank
BASIC	"basic" pack, without storage tank, for coupling with HERCULES Condensing boilers
200, 300, 500	capacity in litres of storage tank included in pack
LUX	pack with CSV 14 Vacuum Collectors
TOP	new packs in Solar Solutions 2012 range





INOX SOL 200 TOP

Solar pack with forced circulation with 1 CP4 XL Flat-Plate Collector and 200 litre INOXSTOR Storage Tank Unit

Indicative solution* for units of up to 3 persons.



.A



.B



.C



.D



.E



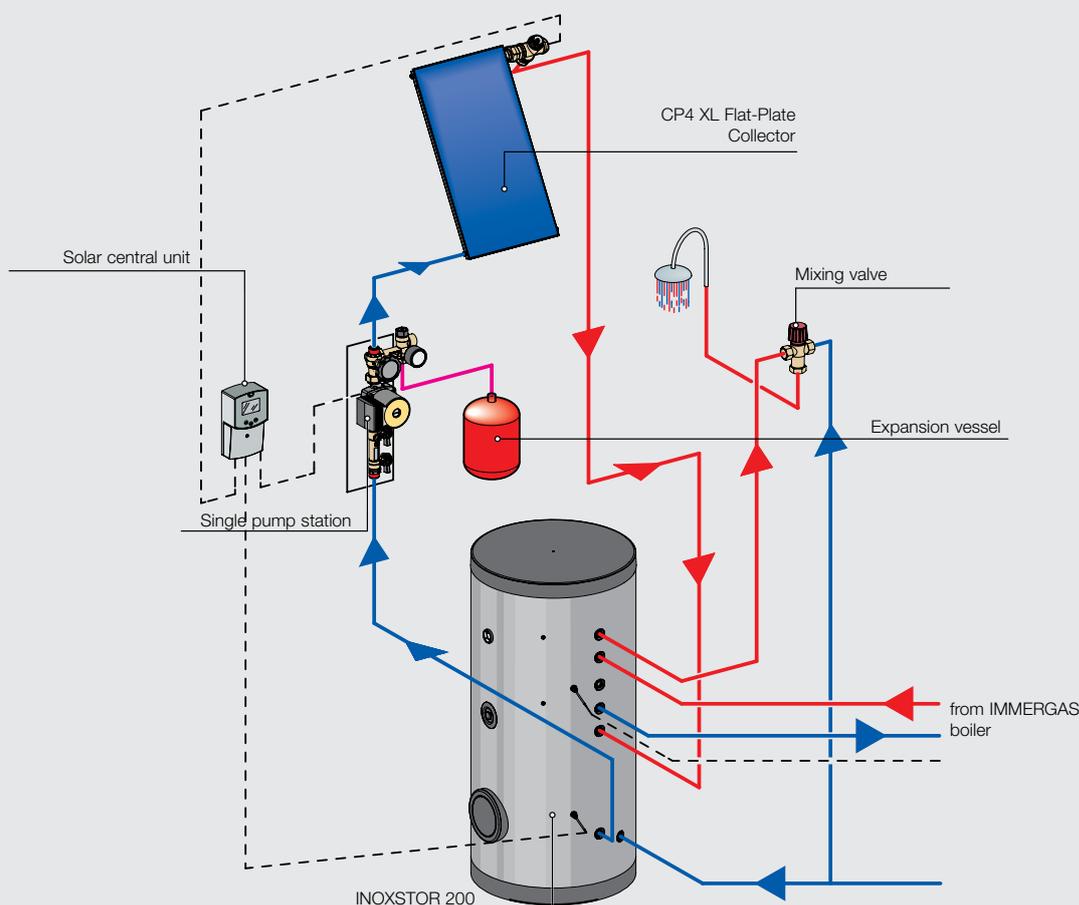
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* see page 3





INOX SOL 200 TOP (code 3.022124) includes as per standard:

- .A INOXSTOR 200 litre stainless steel Storage Tank Unit** for production of domestic hot water, insulated with stainless steel double coil including NTC probe for connection to Immergas boiler < 35 kW and brackets for installation of relative pump station.
- The following components can be mounted directly on the storage tank:**
- **Single pump station** with safety valve 6 bar and flow rate regulator (1-6 l/min) with relative connection kit
 - **Solar central unit** with temperature probes (Storage Tank Unit and Collector)
- The use of this Storage Tank Unit involves the installation of an appropriately sized DHW expansion vessel and safety valve, not included in the supply.*
- .B 1 CP4 XL Flat-Plate Collector** complete with **1 aluminium support frame** for one vertically installed collector
- .C 18 litre expansion vessel** with accessories
- .D Complete hydraulic fittings** for mounting the collector
- .E ¾" adjustable thermostatic mixing valve**
- .F 1 tank** of 20 kg of premixed **glycol**
- .G 4 brackets for slates and tiles** for planar installation on sloped roofs with relative fixing accessories

➤ **The pack is supplied as per standard with brackets for slates and tiles for sloped roofs to fix the collectors. The following kits are available for different types of fixing:**

Fixing systems	Code	See page
Vertical recessed installation kit for CP4 XL	3.022213	57
Brackets kit for slates/tiles to be drilled*	3.019105	60
"L"-shaped brackets kit for smooth roofs*	3.022776	60
Free-standing vertical installation kit for CP4 XL (on the ground or on flat roofs)	3.022674	56

*Some fixing elements present in the pack must be used with these kits.

The CP4 XL Flat-Plate Collectors can also be installed horizontally; for instructions and additional kits see page 54.

➤ **For boilers suitable for complete solar packs, see page 85.**





INOX SOL 200 LUX TOP

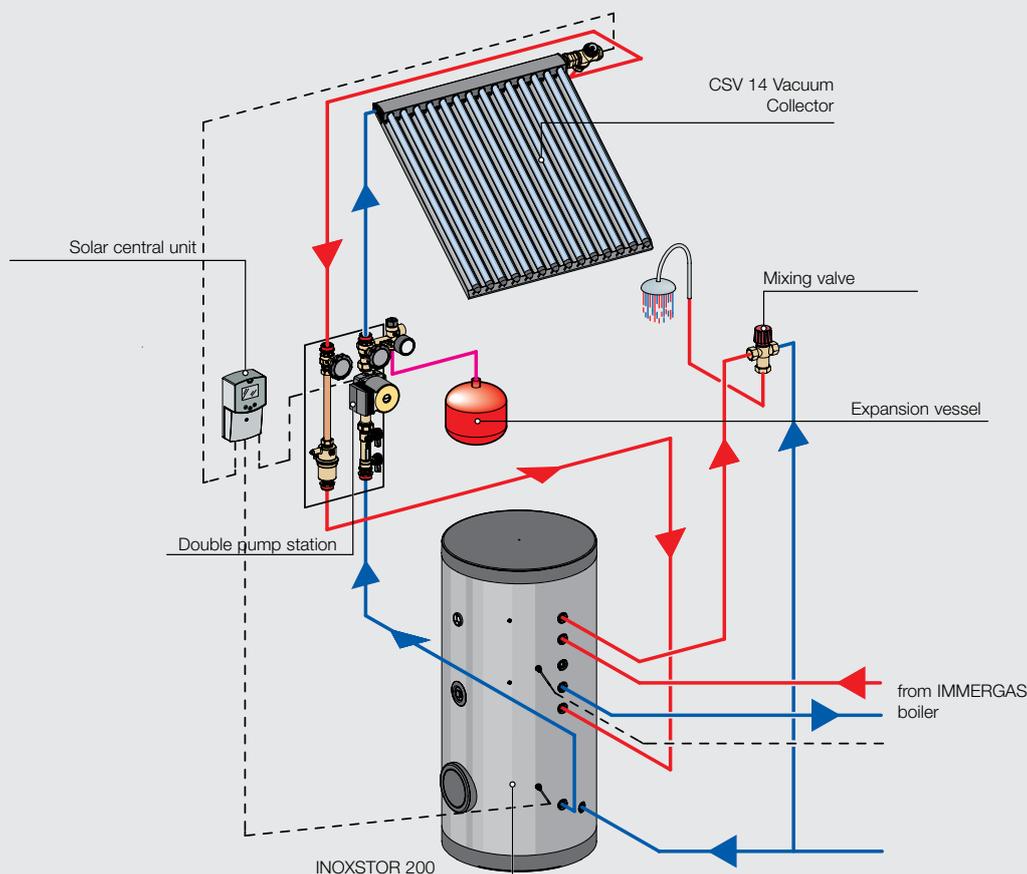
Solar pack with forced circulation with 1 CSV 14 Vacuum Collector and 200 litre INOXSTOR Storage Tank Unit

Indicative solution* for units of up to 3/4 persons



* see page 3





INOX SOL 200 LUX TOP (code 3.022126) includes as per standard:

- .A **INOXSTOR 200 litre stainless steel Storage Tank Unit** for production of domestic hot water, insulated with stainless steel double coil including NTC probe for connection to Immergas boiler < 35 kW and brackets for installation of relative pump station.
- .B **1 CSV 14 Vacuum Collector** complete with **1 aluminium support frame** for one vertically installed collector
- .C **35 litre expansion vessel** with accessories
- .D **Complete hydraulic fittings** for mounting the collector
- .E **¾" adjustable thermostatic mixing valve**
- .F **1 tank** of 20 kg of premixed **glycol**
- .G **4 brackets for slates and tiles with relative vertical uprights** for planar installation on sloped roofs with relative fixing accessories

The following components can be mounted directly on the storage tank:

- **Double pump station** with 6 bar safety valve flow rate regulator (1-6 l/min) and air separating device with relative connection kit
- **Solar central unit*** with temperature probes (Storage Tank Unit and Collector)

The use of this Storage Tank Unit involves the installation of an appropriately sized DHW expansion vessel and safety valve, not included in the supply.

** Consult the website immergas.com or contact our Customer Service to perform fixing.*

➤ **The pack is supplied as per standard with brackets for slates and tiles for sloped roofs to fix the collectors. The following kits are available for different types of fixing:**

Fixing systems	Code	See page
Vertical recessed installation kit for CSV 14	3.022215	64
Free-standing vertical installation kit for CSV 14 (on the ground or on flat roofs, order 2 kits)	3.022733	63

➤ **For boilers suitable for complete solar packs, see page 85.**



INOX SOL 300 TOP

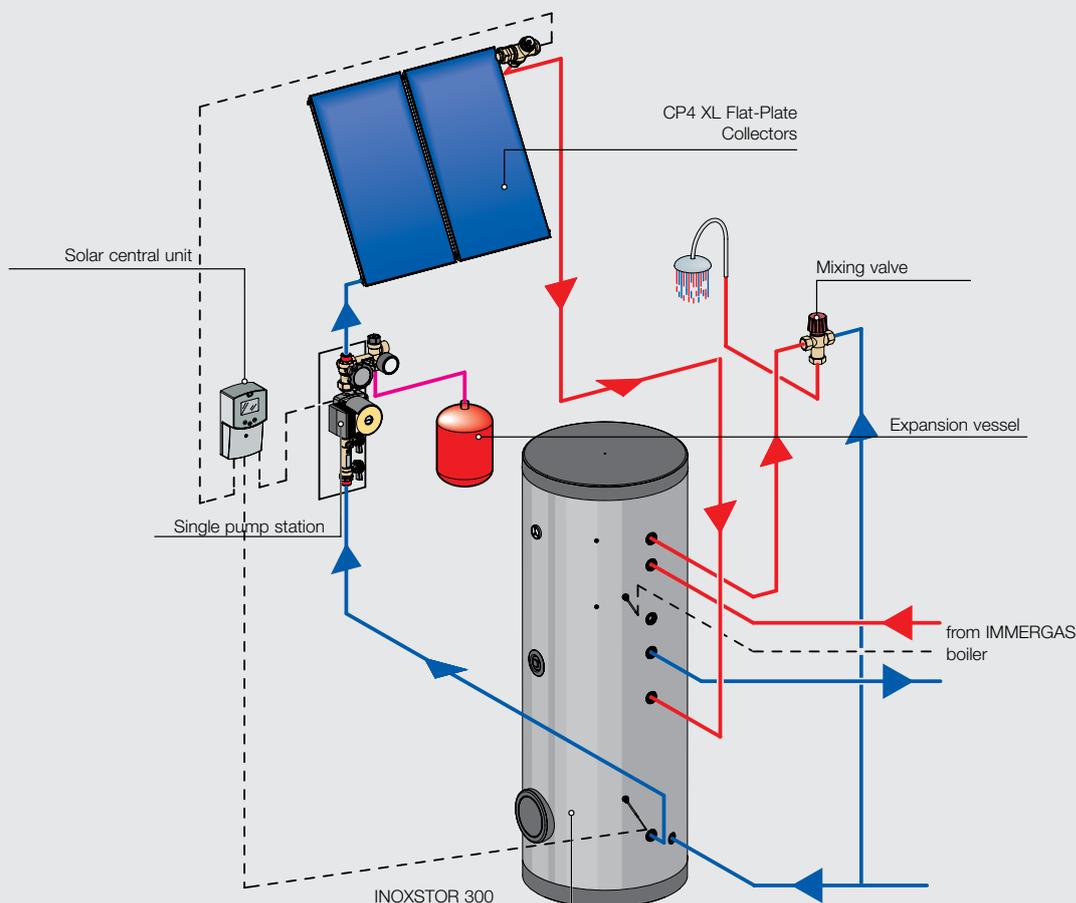
Solar pack with forced circulation with 2 CP4 XL Flat-Plate Collectors and 300 litre INOXSTOR Storage Tank Unit

Indicative solution* for units from 4 to 8 persons



* see page 3





INOX SOL 300 TOP (code 3.022127) includes as per standard:

- .A **INOXSTOR 300 litre stainless steel Storage Tank Unit** for production of domestic hot water, insulated with stainless steel double coil including NTC probe for connection to Immergas boiler and brackets for installation of relative pump station.
 - .B **2 CP4 XL Flat-Plate Collectors** complete with **1 aluminium support frame** for two vertically installed collectors
 - .C **18 litre expansion vessel** with accessories
 - .D **Complete hydraulic fittings** for mounting the collectors
 - .E **¾" adjustable thermostatic mixing valve**
 - .F **1 tank** of 20 kg of premixed **glycol**
 - .G **6 brackets for slates and tiles** for planar installation on sloped roofs with relative fixing accessories
- The following components can be mounted directly on the storage tank:**
- **Single pump station** with safety valve 6 bar and flow rate regulator (1-6 l/min) with relative connection kit
 - **Solar central unit** with temperature probes (Storage Tank Unit and Collector)
- The use of this Storage Tank Unit involves the installation of an appropriately sized DHW expansion vessel and safety valve, not included in the supply.*

➤ **The pack is supplied as per standard with brackets for slates and tiles for sloped roofs to fix the collectors. The following kits are available for different types of fixing:**

Fixing systems	Code	See page
Vertical recessed installation kit for CP4 XL; order: 2 recessed kits for CP4 XL 1 frame extension kit for CP4 XL	3.022213	57
	3.023028	57
Brackets kit for slates/tiles to be drilled* (order 2 kits)	3.019105	60
"L"-shaped brackets kit for smooth roofs* (order 2 kits)	3.022776	60
Free-standing vertical installation kit for CP4 XL (on the ground or on flat roofs); order 1 basic kit for CP4 XL 1 extension kit for CP4 XL	3.022674	56
	3.022677	56

*Some fixing elements present in the pack must be used with these kits.

The CP4 XL Flat-Plate Collectors can also be installed horizontally; for instructions and additional kits see page 54.

➤ **For boilers suitable for complete solar packs, see page 85.**





INOX SOL 300 LUX TOP

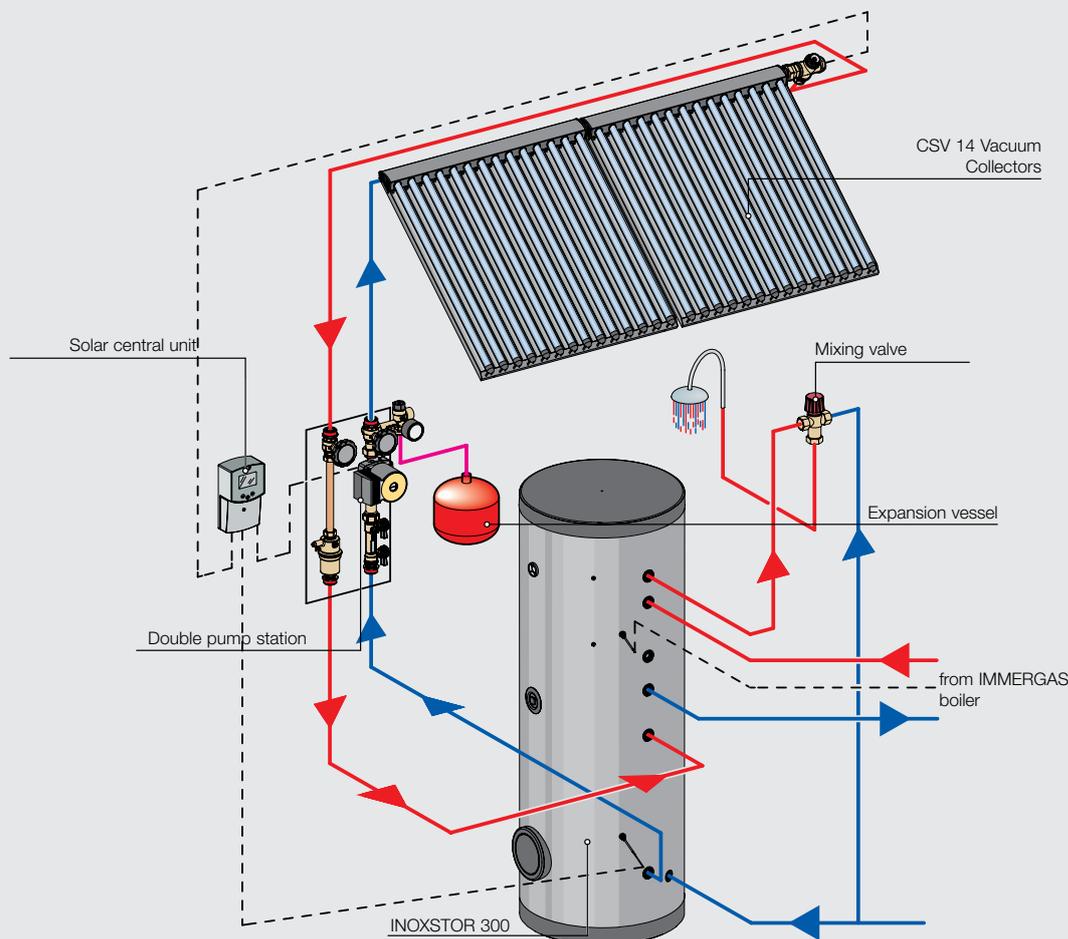
Solar pack with forced circulation with 2 CSV 14 Vacuum Collectors and 300 litre INOXSTOR Storage Tank Unit

Indicative solution* for units from 5 to 9 persons



* see page 3





INOX SOL 300 LUX TOP (code 3.022128) includes as per standard:

.A INOXSTOR 300 litre stainless steel Storage Tank Unit for production of domestic hot water, insulated with stainless steel double coil including NTC probe for connection to Immergas boiler < 35 kW and brackets for installation of relative pump station.

The following components can be mounted directly on the storage tank:

- **Double pump station** with 6 bar safety valve flow rate regulator (1-6 l/min) and air separating device with relative connection kit
- **Solar central unit*** with temperature probes (Storage Tank Unit and Collector)

The use of this Storage Tank Unit involves the installation of an appropriately sized DHW expansion vessel and safety valve, not included in the supply.

** Consult the website immergas.com or contact our Customer Service to perform fixing.*

- .B 2 CSV 14 Vacuum Collectors** complete with **2 aluminium support frames** for one vertically installed collector each
- .C 35 litre expansion vessel** with accessories
- .D Complete hydraulic fittings** for mounting the collector
- .E ¾" adjustable thermostatic mixing valve**
- .F 1 tank** of 20 kg of premixed **glycol**
- .G 6 brackets for slates and tiles with relative vertical uprights** for planar installation on sloped roofs with relative fixing accessories

➤ **The pack is supplied as per standard with brackets for slates and tiles for sloped roofs to fix the collectors. The following kits are available for different types of fixing:**

Fixing systems	Code	See page
Vertical recessed installation kit for CSV 14 (order 2 kits)	3.022215	64
Free-standing vertical installation kit for CSV 14 (on the ground or on flat roofs, order 3 kits)	3.022733	63

➤ **For boilers suitable for complete solar packs, see page 85.**





INOX SOL 500 TOP

Solar pack with forced circulation with 4 CP4 XL Flat-Plate Collectors and 500 litre INOXSTOR Storage Tank Unit

Indicative solution* for family units/small businesses



.A



.B



.C



.D



.E



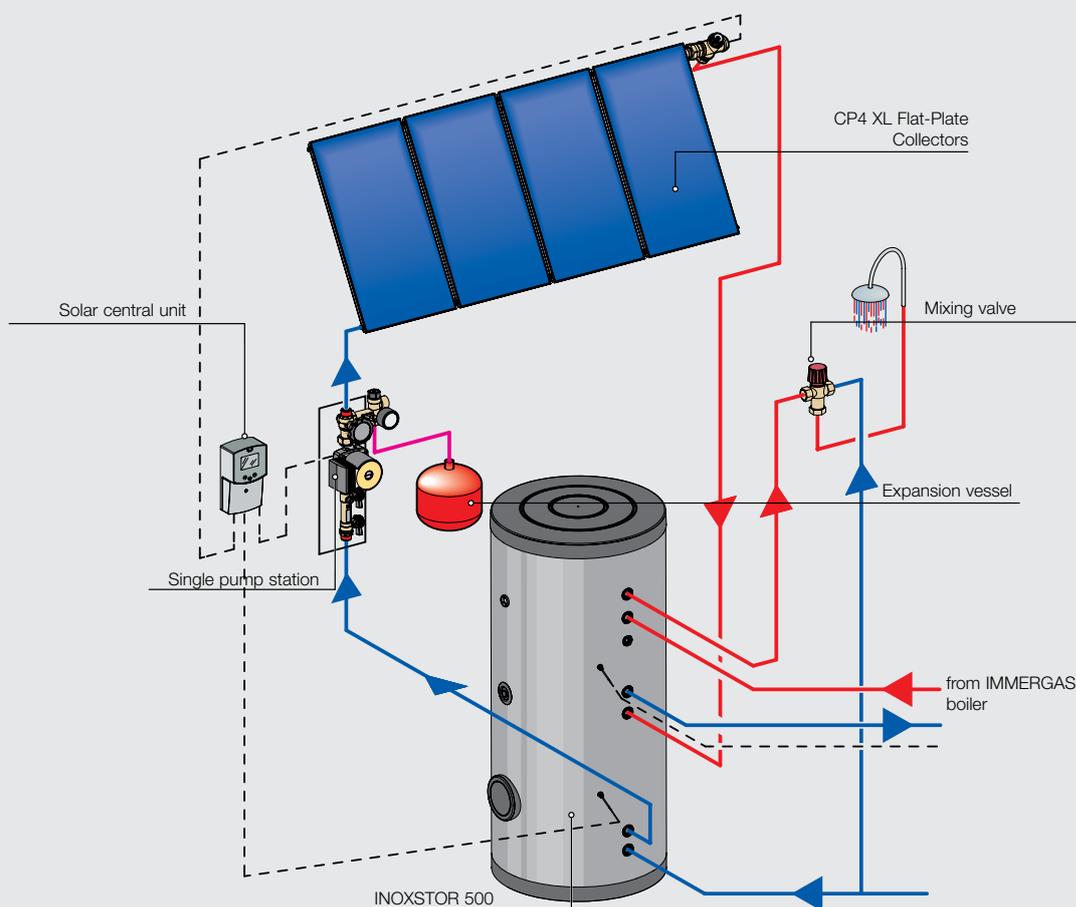
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* see page 3





INOX SOL 500 TOP (code 3.022129) includes as per standard:

- .A INOXSTOR 500 litre stainless steel Storage Tank Unit** for production of domestic hot water, insulated with stainless steel double coil including NTC probe for connection to Immergas boiler < 35 kW and brackets for installation of relative pump station.

The following components can be mounted directly on the storage tank:

- **Single pump station** with safety valve 6 bar and flow rate regulator (1-6 l/min) with relative connection kit
- **Solar central unit** with temperature probes (Storage Tank Unit and Collector)

The use of this Storage Tank Unit involves the installation of an appropriately sized DHW expansion vessel and safety valve, not included in the supply.

- .B 4 CP4 XL Flat-Plate Collectors** complete with **2 aluminium support frames** for two vertically installed collectors each
- .C 35 litre expansion vessel** with accessories
- .D Complete hydraulic fittings** for mounting the collectors
- .E ¾" adjustable thermostatic mixing valve**
- .F 2 tanks** of 20 kg of premixed **glycol**
- .G 10 Brackets for slates and tiles** for planar installation on sloped roofs with relative fixing accessories

➤ **The pack is supplied as per standard with brackets for slates and tiles for sloped roofs to fix the collectors. The following kits are available for different types of fixing:**

Fixing systems	Code	See page
Vertical recessed installation kit for CP4 XL; order: 4 recessed kits for CP4 XL 3 frame extension kits for CP4 XL	3.022213 3.023028	57 57
Brackets kit for slates/tiles to be drilled* (order 3 kits)	3.019105	60
"L"-shaped brackets kit for smooth roofs* (order 3 kits)	3.022776	60
Free-standing vertical installation kit for CP4 XL (on the ground or on flat roofs); order: 1 basic kit for CP4 XL 3 extension kits for CP4 XL	3.022674 3.022677	56 56

* Some fixing elements present in the pack must be used with these kits.

The CP4 XL Flat-Plate Collectors can also be installed horizontally; for instructions and additional kits see page 54.

➤ **For boilers suitable for complete solar packs, see page 85.**





INOX SOL 500 LUX TOP

Solar pack with forced circulation with 3 CSV 14 Vacuum Collectors and 500 litre INOXSTOR Storage Tank Unit

Indicative solution* for several family units/small businesses



.C



.D



.E



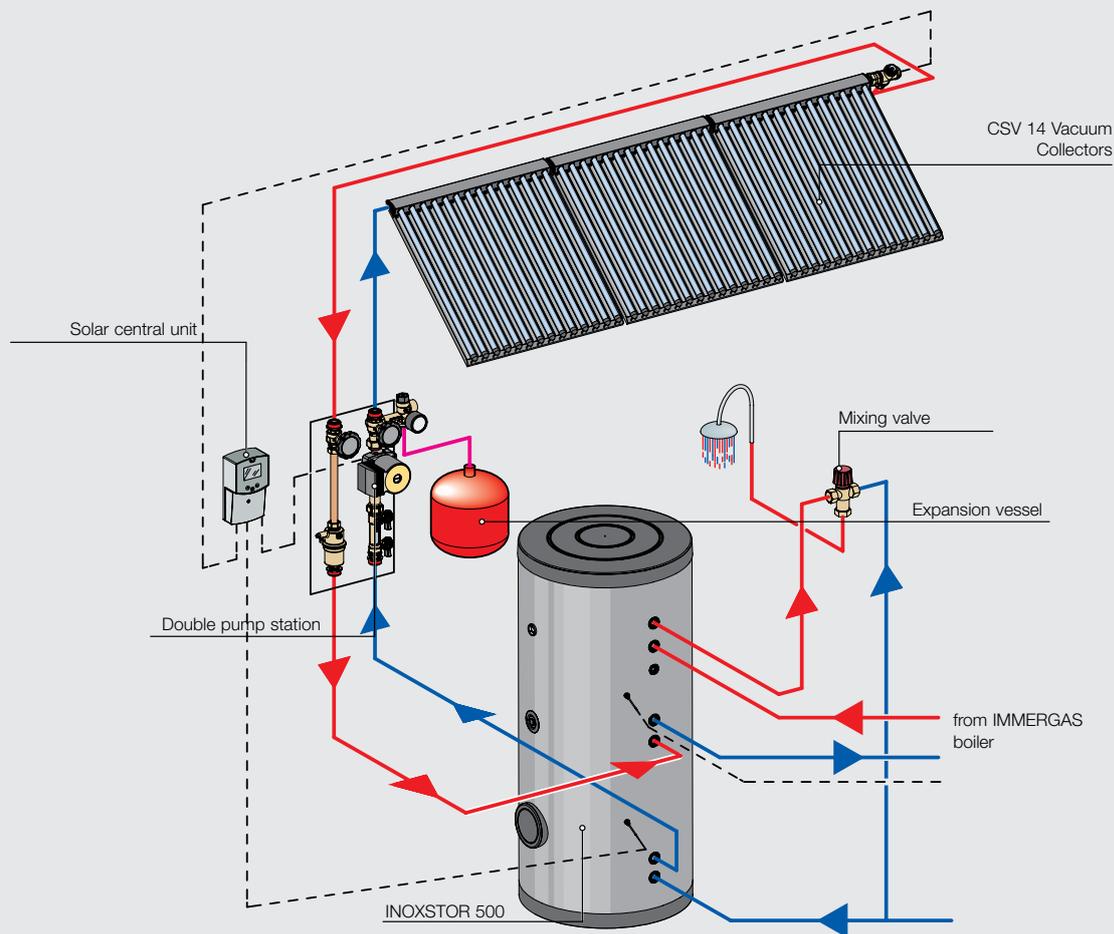
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* see page 3





INOX SOL 500 LUX TOP (code 3.022130) includes as per standard:

.A INOXSTOR 500 litre stainless steel Storage Tank Unit for production of domestic hot water, insulated with stainless steel double coil including NTC probe for connection to Immergas boiler < 35 kW and brackets for installation of relative pump station.

The following components can be mounted directly on the storage tank:

- **Double pump station** with 6 bar safety valve flow rate regulator (1-6 l/min) and air separating device with relative connection kit
- **Solar central unit*** with temperature probes (Storage Tank Unit and Collector)

The use of this Storage Tank Unit involves the installation of an appropriately sized DHW expansion vessel and safety valve, not included in the supply.

** Consult the website immergas.com or contact our Customer Service to perform fixing.*

- .B 3 CSV 14 Vacuum Collectors** complete with **3 aluminium support frames** for one vertically installed collector each
- .C 80 litre expansion vessel** with accessories
- .D Complete hydraulic fittings** for mounting the collectors
- .E ¾" adjustable thermostatic mixing valve**
- .F 2 tanks** of 20 kg of premixed **glycol**
- .G 8 Brackets for slates and tiles with relative vertical uprights** for planar installation on sloped roofs with relative fixing accessories

➤ **The pack is supplied as per standard with brackets for slates and tiles for sloped roofs to fix the collectors. The following kits are available for different types of fixing:**

Fixing systems	Code	See page
Vertical recessed installation kit for CSV 14 (order 3 kits)	3.022115	64
Free-standing vertical installation kit for CSV 14 (on the ground or on flat roofs, order 4 kits)	3.022733	63

➤ **For boilers suitable for complete solar packs,** see page 85.



BASIC SOL TOP

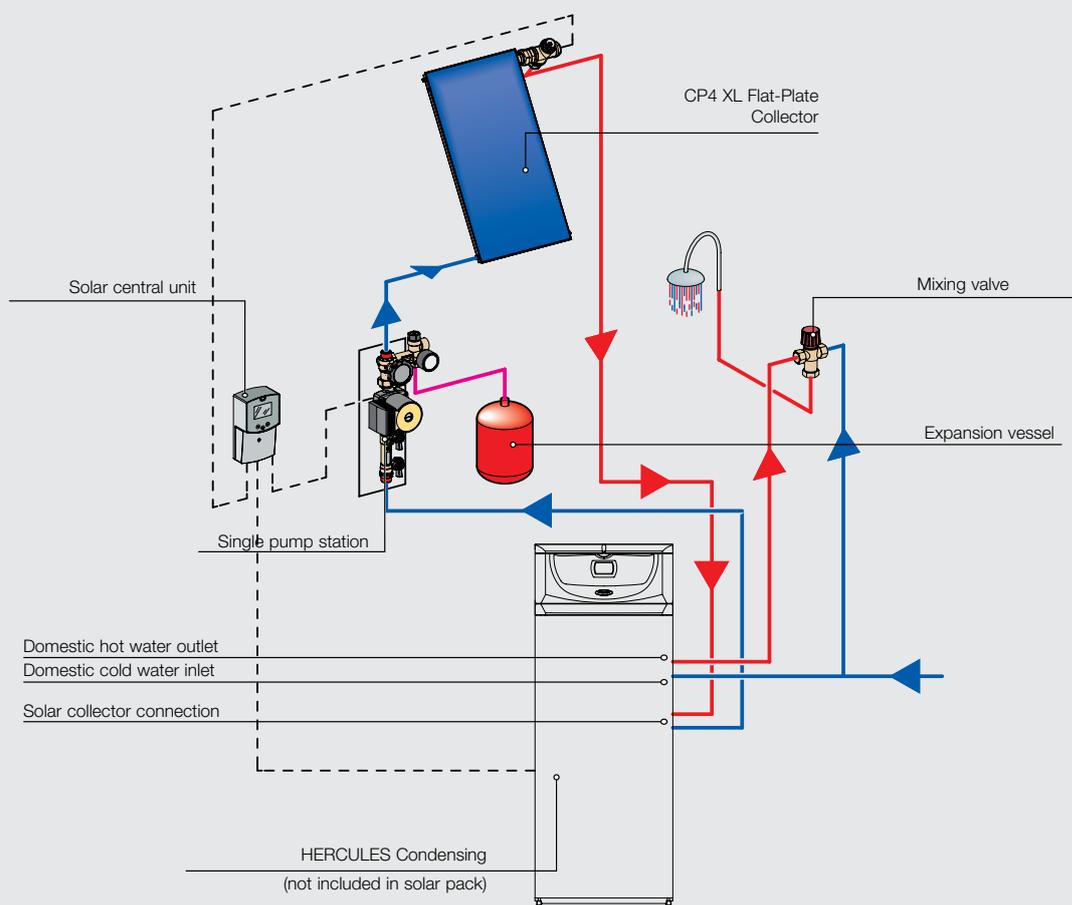
Solar pack with forced circulation with 1 CP4 XL Flat-Plate Collector for coupling with HERCULES Condensing boilers (models with built-in 120 litre storage tank)

Indicative solution* for units from 2 to 3 persons



* see page 3





BASIC SOL TOP (code 3.022122) includes as per standard:

- .A **1 CP4 XL Flat-Plate Collector** complete with **1 aluminium support frame** for one vertically installed collector
- .B **Single pump station** with 6 bar safety valve and flow rate regulator (1-6 l/min) with relative connection kit
- .C **Solar central unit** with temperature probes (Storage Tank Unit and Collector)
- .D **18 litre expansion vessel** with accessories
- .E **Complete hydraulic fittings** for mounting the collector
- .F **¾" adjustable thermostatic mixing valve**
- .G **1 tank** of 20 kg of premixed **glycol**
- .H **4 Brackets for slates and tiles** for planar installation on sloped roofs with relative fixing accessories

➤ **The pack is supplied as per standard with brackets for slates and tiles for sloped roofs to fix the collectors. The following kits are available for different types of fixing:**

Fixing systems	Code	See page
Vertical recessed installation kit for CP4 XL	3.022213	57
Brackets kit for slates/tiles to be drilled*	3.019105	60
"L"-shaped brackets kit for smooth roofs*	3.022776	60
Free-standing vertical installation kit for CP4 XL (on the ground or on flat roofs)	3.022674	56

* Some fixing elements present in the pack must be used with these kits.

The CP4 XL Flat-Plate Collectors can also be installed horizontally; for instructions and additional kits see page 54.

➤ **BASIC SOL TOP + HERCULES Condensing are the solution that integrate:**

- **Boiler**
- **Storage tank** (use the optional solar collector coupling kit code 3.019998 not supplied in the pack)
- **Solar heating system**
- **Heating system area distribution** improving aesthetics and reducing technical clearance inside the home.

➤ **For boilers suitable for complete solar packs, see page 85.**





BASIC SOL LUX TOP

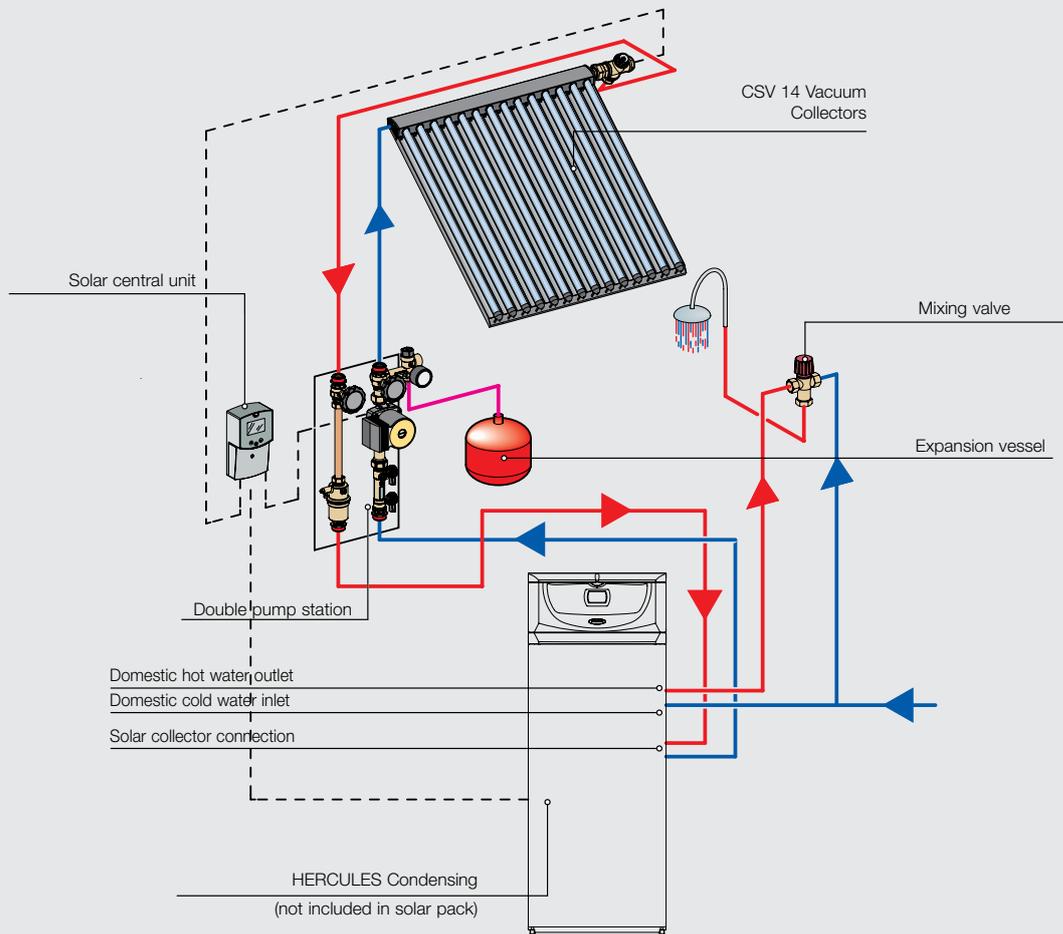
Solar pack with forced circulation with 1 CSV 14 Vacuum Collector for coupling with HERCULES Condensing boilers (models with built-in 120 litre storage tank)

Indicative solution* for units of up to 3 persons



* see page 3





BASIC SOL LUX TOP (code 3.022123) includes as per standard:

- .A **1 CSV 14 Vacuum Collector** complete with **1 aluminium support frame** for one vertically installed collector
- .B **Double pump station** with 6 bar safety valve, flow rate regulator (1-6 l/min) and air separating device with relative connection kit
- .C **Solar central unit** with temperature probes (Storage Tank Unit and Collector)
- .D **35 litre expansion vessel** with accessories
- .E **Complete hydraulic fittings** for mounting the collector
- .F $\frac{3}{4}$ " adjustable thermostatic **mixing valve**
- .G **1 tank** of 20 kg of premixed **glycol**
- .H **4 Brackets for slates and tiles** with relative vertical uprights for level installation on sloped roofs with relative fixing accessories

➤ **The pack is supplied as per standard with brackets for slates and tiles for sloped roofs to fix the collectors. The following kits are available for different types of fixing:**

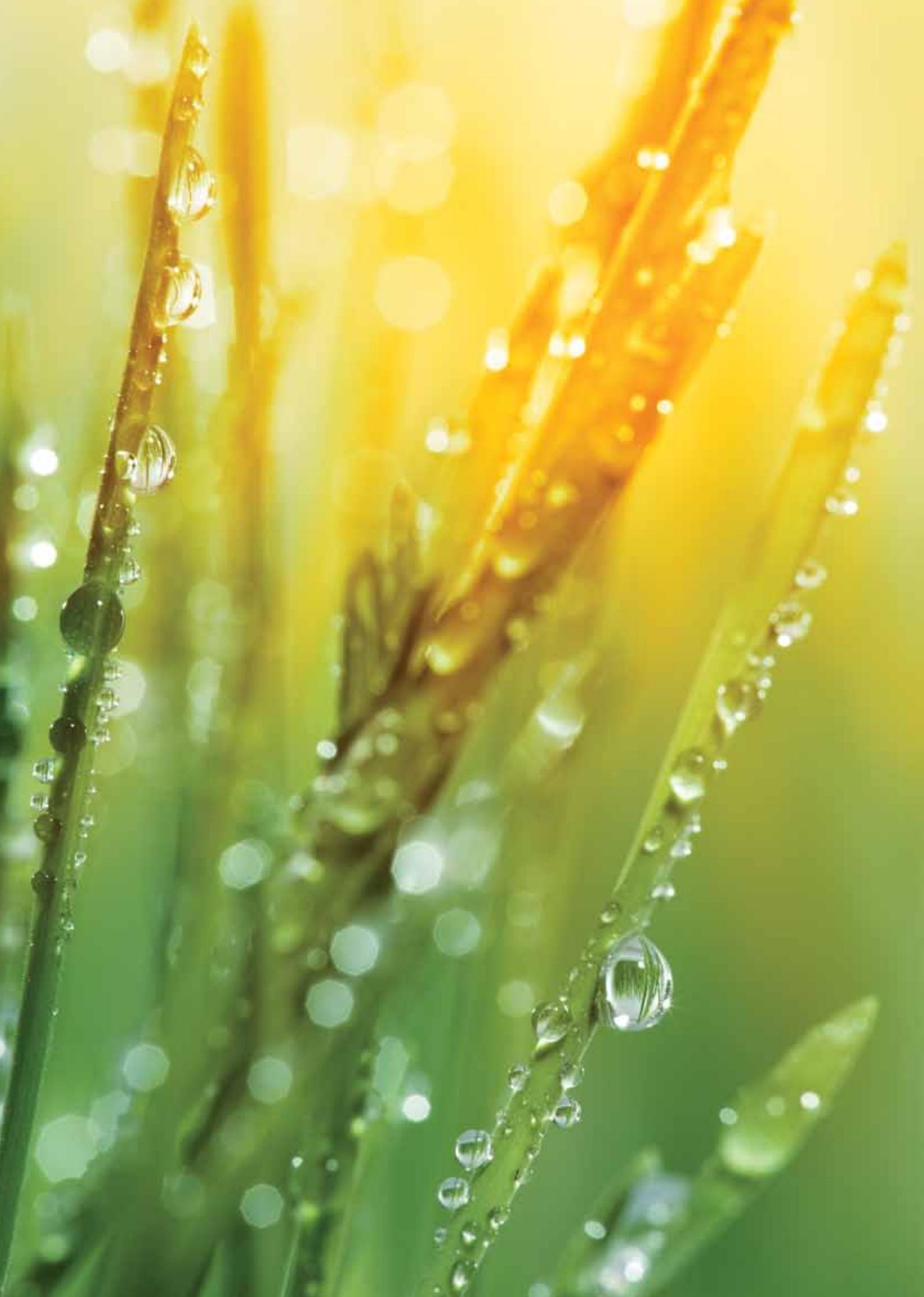
Fixing systems	Code	See page
Vertical recessed installation kit for CSV 14	3.022215	64
Free-standing vertical installation kit for CSV 14 (on the ground or on flat roofs, order 2 kits)	3.022733	63

➤ **BASIC SOL LUX TOP + HERCULES Condensing are the solution that integrate:**

- **Boiler**
- **Storage tank** (use the optional solar collector coupling kit code 3.019998 not supplied in the pack)
- **Solar heating system**
- **Heating system area distribution** improving aesthetics and reducing technical clearance inside the home.

➤ **For boilers suitable for complete solar packs, see page 85.**







Complete pump circulated solar packs combined for heating and domestic hot water

The DOMESTIC SOL TOP solar solutions, ideal for single-family houses, are made up of **4 complete packs for the integration of heating and production of domestic hot water**.

Each pack can be used with various application layouts according to the type of thermal system to be installed and the boiler; for further information consult the website immergas.com or contact our Customer Service.

These solutions have variable performances based on the inclination and exposure of the solar collectors as well as the energy demand for winter heating of the building and the type of heating elements chosen. Have the system checked by a qualified thermotechnical designer to dimension it ideally.

List of packs and main components

Pack	SOLAR COLLECTORS			COMBINED STORAGE TANK UNIT Capacity (litres)
	CP4 XL Flat-Plate	CSV 14 Vacuum	Number of collectors	
DOMESTIC SOL 550 TOP	X		4	550
DOMESTIC SOL 550 LUX TOP		X	3	550
DOMESTIC SOL 750 TOP	X		5	750
DOMESTIC SOL 750 LUX TOP		X	4	750

Meaning of the names

DOMESTIC pack with Storage Tank Unit for integration of heating and domestic hot water
550, 750 capacity in litres of storage tank included in pack
LUX pack with Vacuum Collectors
TOP new packs in Solar Solutions 2012 range





DOMESTIC SOL 550 TOP

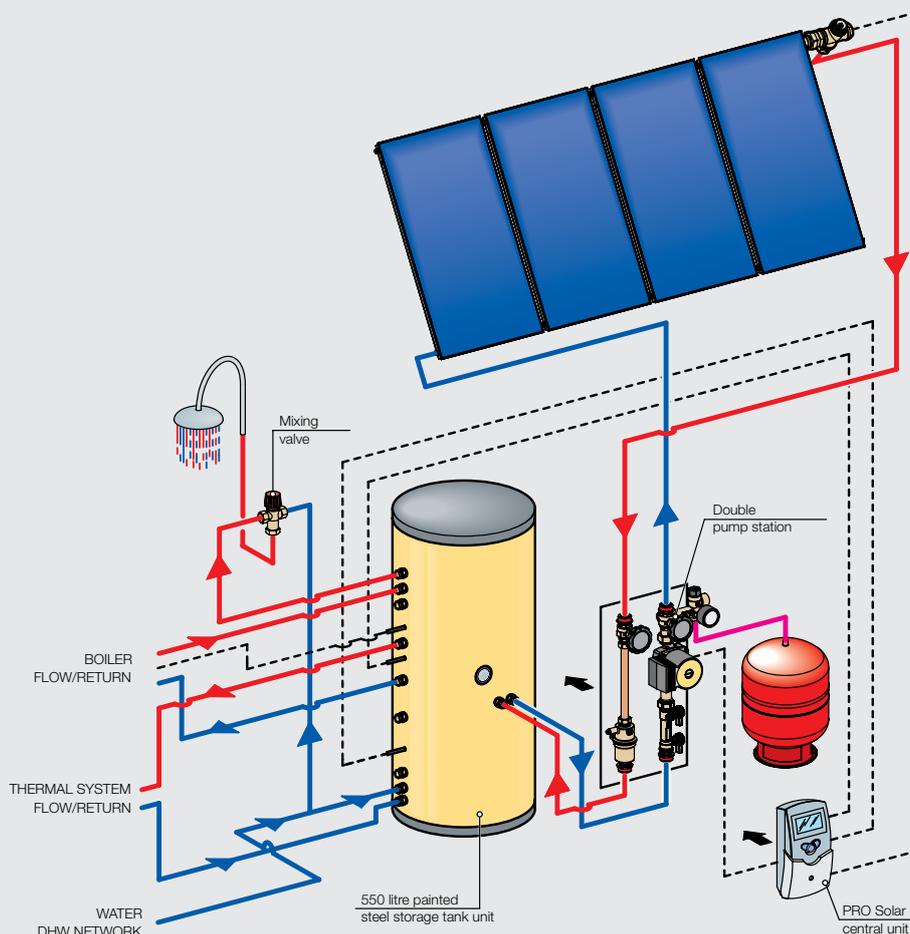
Combined pump-circulated solar pack with 4 CP4 XL Flat-Plate Collectors and 550 litre Storage Tank Unit

Solution* for single-family houses



* see page 3





DOMESTIC SOL 550 TOP (code 3.022131) includes as per standard:

- .A **Combined 550 litre Storage Tank Unit**, insulated, for heating integration with a 28.5 litre immersed stainless steel coil for production of domestic hot water and solar integration coil. Supplied with connections for boiler and auxiliary heat generator (for example AUDAX heat pump), the Storage Tank Unit is integrated by the following components:
 - **Double pump station** with 6 bar safety valve flow rate regulator (2-15 l/min) and air separating device with relative connection kit
 - **PRO Solar central unit** with four temperature probes (Storage Tank Unit and Collector)
 - **NTC probe** for Immergas boiler connection < 35 kW
- .B **4 CP4 XL Flat-Plate Collectors** complete with **2 aluminium support frames** for two vertically installed collectors each
- .C **80 litre expansion vessel** with accessories
- .D **Complete hydraulic fittings** for mounting the collectors
- .E **3/4" adjustable thermostatic mixing valve**
- .F **2 tanks** of 20 kg of premixed **glycol**
- .G **10 brackets for slates and tiles** for planar installation on sloped roofs with relative fixing accessories

➤ **The pack is supplied as per standard with brackets for slates and tiles for sloped roofs to fix the collectors. The following kits are available for different types of fixing:**

Fixing systems	Code	See page
Vertical recessed installation kit for CP4 XL, order: 4 recessed kits for CP4 XL 3 frame extension kits for CP4 XL	3.022213 3.023028	57 57
Brackets kit for slates/tiles to be drilled* (order 3 kits)	3.019105	60
"L"-shaped brackets kit for smooth roofs* (order 3 kits)	3.022776	60
Free-standing vertical installation kit for CP4 XL (on the ground or on flat roofs); order: 1 basic kit for CP4 XL 3 extension kits for CP4 XL	3.022674 3.022677	56 56

* Some fixing elements present in the pack must be used with these kits.

The CP4 XL Flat-Plate Collectors can also be installed horizontally; for instructions and additional kits see page 54.

➤ **For boilers suitable for complete solar packs, see page 85.**





DOMESTIC SOL 550 LUX TOP

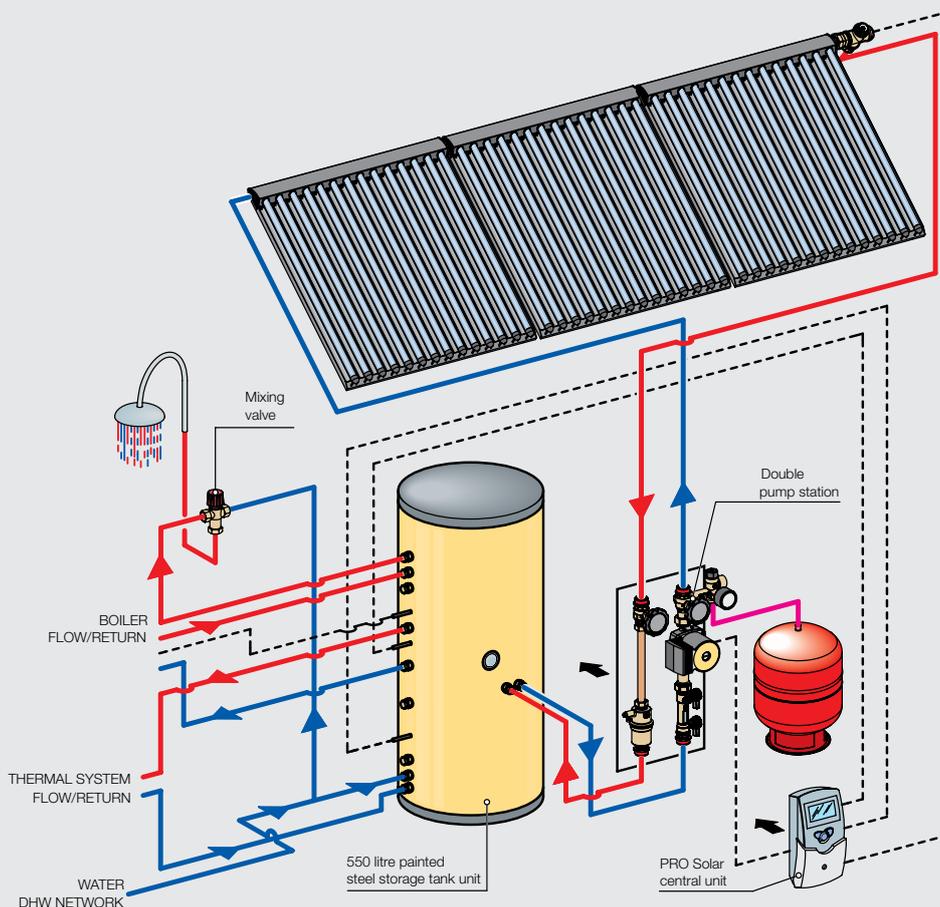
Combined pump-circulated solar pack with 3 CSV 14 Vacuum Collectors and 550 litre Storage Tank Unit

Solution* for single-family houses



* see page 3





DOMESTIC SOL 550 LUX TOP (code 3.022642) includes as per standard:

- .A **Combined 550 litre Storage Tank Unit**, insulated, for heating integration with a 28.5 litre immersed stainless steel coil for production of domestic hot water and solar integration coil. Supplied with connections for boiler and auxiliary heat generator (for example AUDAX heat pump), the Storage Tank Unit is integrated by the following components:
 - **Double pump station** with 6 bar safety valve flow rate regulator (2-15 l/min) and air separating device with relative connection kit
 - **PRO Solar central unit** with four temperature probes (Storage Tank Unit and Collector)
 - **NTC probe** for Immergas boiler connection < 35 kW
- .B **3 CSV 14 Vacuum Collectors** complete with **3 aluminium support frames** for one vertically installed collector each
- .C **80 litre expansion vessel** with accessories
- .D **Complete hydraulic fittings** for mounting the collectors
- .E **¾" adjustable thermostatic mixing valve**
- .F **2 tanks** of 20 kg of premixed **glycol**
- .G **8 brackets for slates and tiles with relative vertical uprights** for planar installation on sloped roofs with relative fixing accessories

➤ **The pack is supplied as per standard with brackets for slates and tiles for sloped roofs to fix the collectors. The following kits are available for different types of fixing:**

Fixing systems	Code	See page
Vertical recessed installation kit for CSV 14 (order 3 kits)	3.022215	64
Free-standing vertical installation kit for CSV 14 (on the ground or on flat roofs, order 4 kits)	3.022733	63

➤ **For boilers suitable for complete solar packs, see page 85.**





DOMESTIC SOL 750 TOP

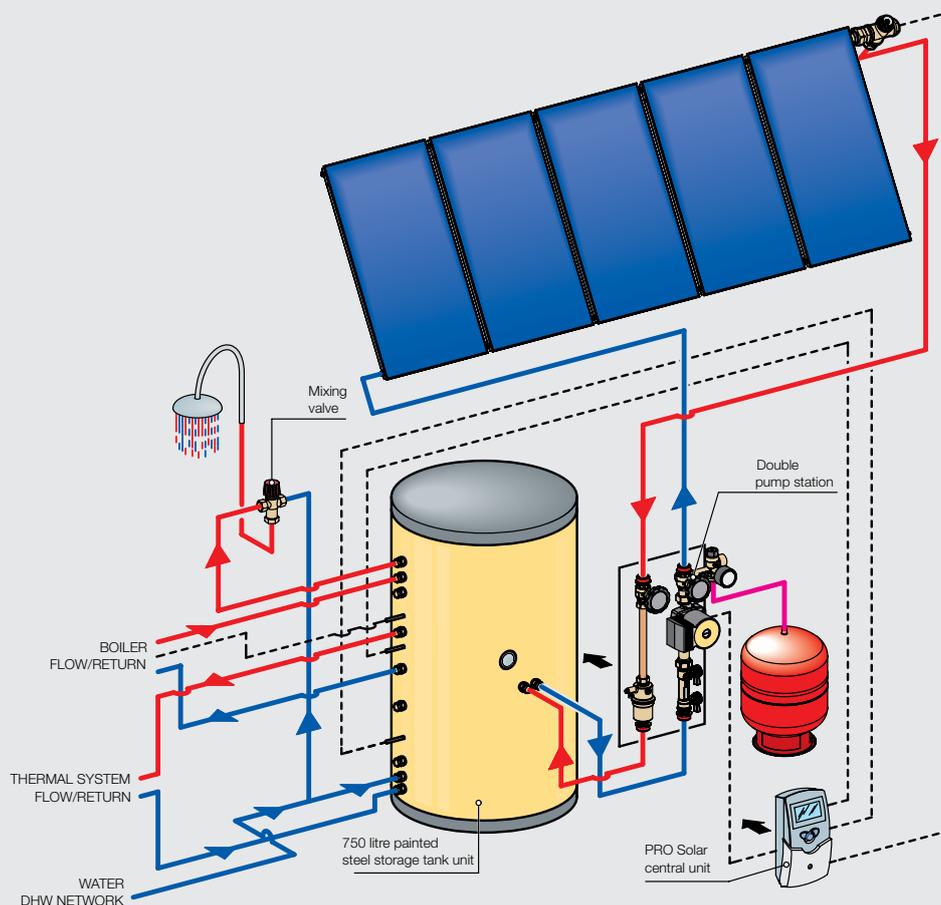
Combined pump-circulated solar pack with 5 CP4 XL Flat-Plate Collectors and 750 litre Storage Tank Unit

Solution* for single-family houses



* see page 3





DOMESTIC SOL 750 TOP (code 3.022133) includes as per standard:

- .A **Combined 750 litre Storage Tank Unit**, insulated, for heating integration with a 28.5 litre immersed stainless steel coil for production of domestic hot water and solar integration coil. Supplied with connections for boiler and auxiliary heat generator (for example AUDAX heat pump), the Storage Tank Unit is integrated by the following components:
 - **Double pump station** with 6 bar safety valve flow rate regulator (2-15 l/min) and air separating device with relative connection kit
 - **PRO Solar central unit** with four temperature probes (Storage Tank Unit and Collector)
 - **NTC probe** for Immergas boiler connection < 35 kW
- .B **5 CP4 XL Flat-Plate Collectors** complete with **2 aluminium support frames** for two collectors each and **1 aluminium support frame** for one collector, installed vertically
- .C **80 litre expansion vessel** with accessories
- .D **Complete hydraulic fittings** for mounting the collectors
- .E **¾" adjustable thermostatic mixing valve**
- .F **2 tanks** of 20 kg of premixed **glycol**
- .G **12 brackets for slates and tiles** for planar installation on sloped roofs with relative fixing accessories

➤ **The pack is supplied as per standard with brackets for slates and tiles for sloped roofs to fix the collectors. The following kits are available for different types of fixing:**

Fixing systems	Code	See page
Vertical recessed installation kit for CP4 XL; order: 4 recessed kits for CP4 XL 3 frame extension kits for CP4 XL	3.022213 3.023028	57 57
Brackets kit for slates/tiles to be drilled* (order 3 kits)	3.019105	60
"L"-shaped brackets kit for smooth roofs* (order 3 kits)	3.022776	60
Free-standing vertical installation kit for CP4 XL (on the ground or on flat roofs), order: 1 basic kit for CP4 XL 4 extension kits for CP4 XL	3.022674 3.022677	56

* Some fixing elements present in the pack must be used with these kits.

The CP4 XL Flat-Plate Collectors can also be installed horizontally; for instructions and additional kits see page 54.

➤ **For boilers suitable for complete solar packs, see page 85.**

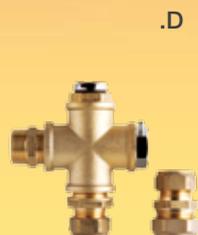




DOMESTIC SOL 750 LUX TOP

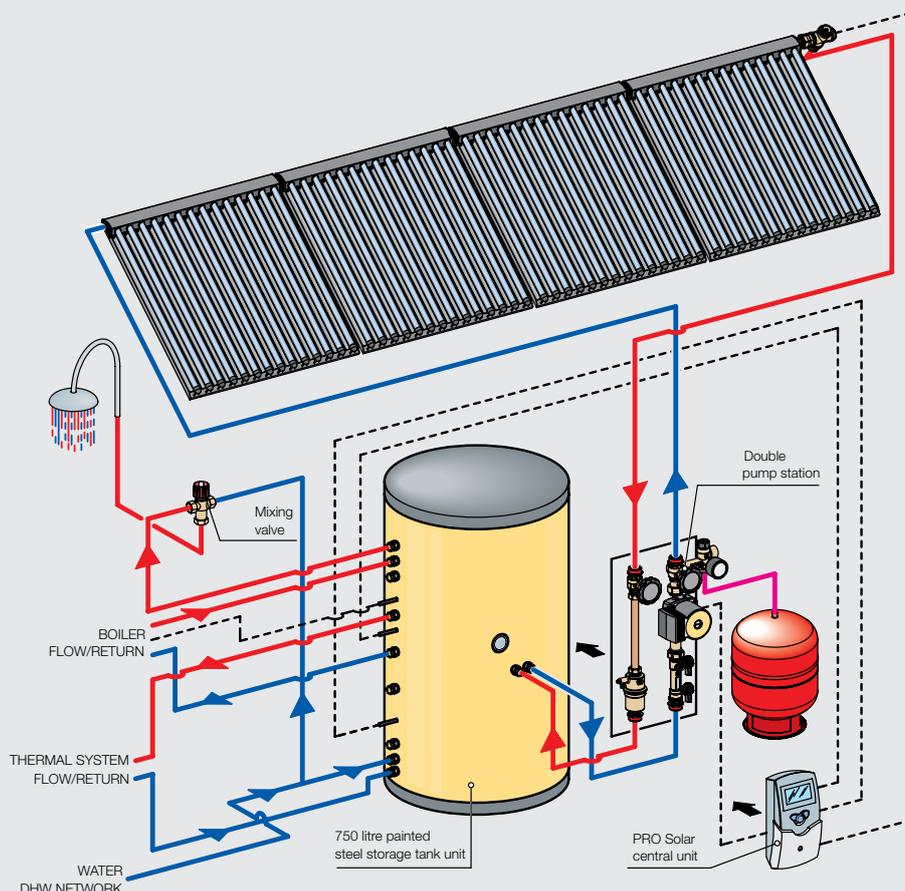
Combined pump-circulated solar pack with 4 CSV 14 Vacuum Collectors and 750 litre Storage Tank Unit

Solution* for single-family houses



* see page 3





DOMESTIC SOL 750 LUX TOP (code 3.022643) includes as per standard:

- .A **Combined 750 litre Storage Tank Unit**, insulated, for heating integration with a 28.5 litre immersed stainless steel coil for production of domestic hot water and solar integration coil. Supplied with connections for boiler and auxiliary heat generator (for example AUDAX heat pump), the Storage Tank Unit is integrated by the following components:
 - **Double pump station** with 6 bar safety valve flow rate regulator (2-15 l/min) and air separating device with relative connection kit
 - **PRO Solar central unit** with four temperature probe (Storage Tank Unit and Collector)
 - **NTC probe** for Immergas boiler connection < 35 kW
- .B **4 CSV 14 Vacuum Collectors** complete with **4 aluminium support frames** for one vertically installed collector each
- .C **80 litre expansion vessel** with accessories
- .D **Complete hydraulic fittings** for mounting the collectors
- .E $\frac{3}{4}$ " adjustable thermostatic **mixing valve**
- .F **2 tanks** of 20 kg of premixed **glycol**
- .G **10 brackets for slates and tiles with relative vertical uprights** for planar installation on sloped roofs with relative fixing accessories

➤ **The pack is supplied as per standard with brackets for slates and tiles for sloped roofs to fix the collectors. The following kits are available for different types of fixing:**

Fixing systems	Code	See page
Vertical recessed installation kit for CSV 14 (order 4 kits)	3.022215	64
Free-standing vertical installation kit for CSV 14 (on the ground or on flat roofs, order 5 kits)	3.022733	63

➤ **For boilers suitable for complete solar packs, see page 85.**







Individual solar components for forced circulation systems

This section includes all the components necessary for forced solar heating system.

Aside from the solar collectors and Storage Tank Units already included in the single solar packs, further accessories are available to integrate the system, as well as accessories useful to implement special systems or large-sized systems (such as for example 550, 750, 1000, 1500 and 2000 litre vitrified steel Storage Tank Units, high flow rate circulation units, etc.).



80, 120 and 200 litre stainless steel Storage Tank Units

The UB Inox Storage Tank Unit range is made of stainless steel, ideal for containing domestic hot water, with upper inspection flange. Casing painted in RAL 9010.

The UB Inox Storage Tank Units are equipped with:

- **2 extractable, stainless steel double concentric coil water/water heat exchangers** (1 for UB Inox 80-2 model)
- **8 bar safety valve** and **8 litre domestic hot water expansion vessel** with 3.5 bar preload
- **2 probe-supports and NTC probe** for Immergas boiler connection < 35 kW
- **Storage tank draining valve**
- **Thermometer and thermometer probe**
- **Magnesium anode**
- **Insulation with self-extinguishing polyester shaped panels** (5 cm thick)
- **Connection to solar collectors with optional kits** for UB Inox 120-2 and 200-2 models (see page 50)
- **Set up for insertion of solar control unit** for UB Inox 120-2 and 200-2 models (see page 50)



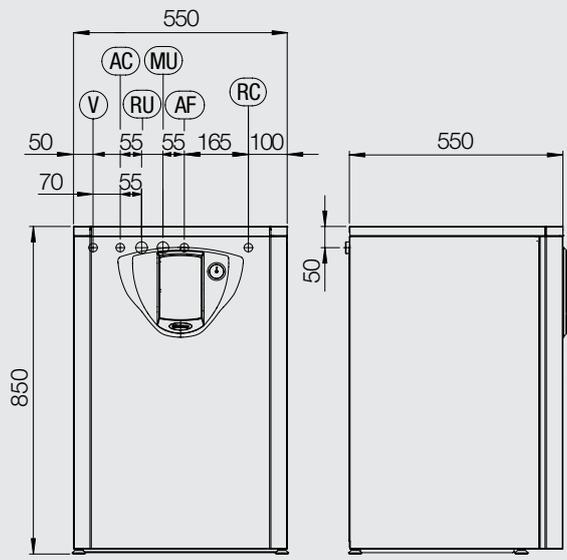
UB Inox 200-2

Type	Code
UB Inox 80-2	3.022012
UB Inox 120-2	3.022013
UB Inox 200-2	3.022014

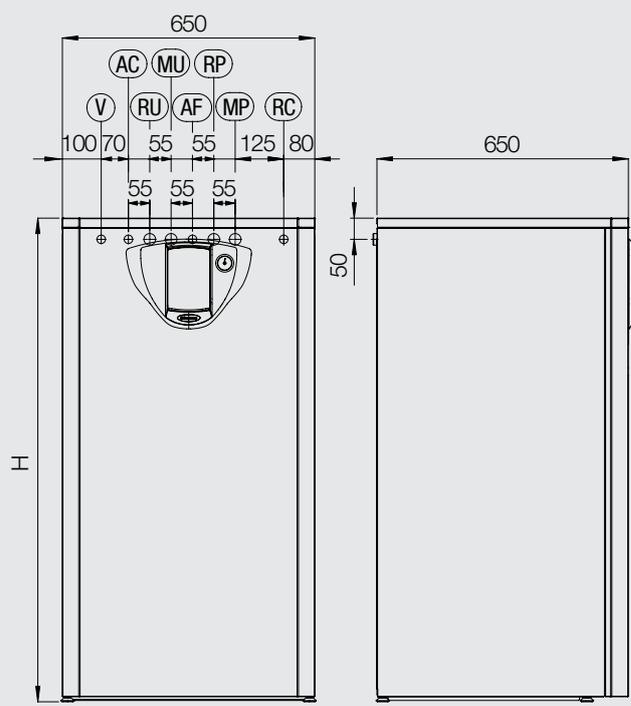
TECHNICAL DATA

Technical features	Unit of measurement	UB Inox 80-2	UB Inox 120-2	UB Inox 200-2
Storage tank useful capacity	l	80	120	200
Domestic hot water side maximum pressure	bar	8	8	8
Maximum operating pressure	°C	99	99	99
Domestic hot water expansion vessel	l	4.0	5.0	8.0
Dispersions	kWh/24h	1.2	1.6	2.2
Coil thickness	mm	0.8	0.8	0.8
Coil length	mm	10350	-	-
Lower/upper coil length	mm	-	3850/8400	6500/10700
Coil exchange surface	m ²	0.65	-	-
Lower/upper coil heat exchange surface	m ²	-	0.24/0.53	0.41/0.67
Coil capacity	l	2.75	-	-
Lower/upper coil capacity	l	-	1.02/2.23	1.73/2.84
Primary fluid flow rate (coil)	l/h	1030	1325	1390
Coil head loss at 1000 l/h	kPa (m c.a.)	13.2 (129.44)	7.1 (69.62)	8.3 (81.39)
Central heating side maximum pressure	bar	6	6	6
Central heating side maximum temperature	°C	90	90	90
Heat exchange maximum output	kW	23.9	30.8	32.3
Reintegration heat output	kW	15.7	18.8	20.2
Full/empty weight	kg	154.0/70.9	203.0/78.9	304.0/99.4
Total water content	l	82.7	123.0	205.0





UB Inox 80-2



UB Inox 120-2/200-2

Key

V	Electrical connection	MU	Storage tank unit flow
AC	Domestic hot water outlet	RP	Return to solar collectors (optional)
AF	Domestic hot water inlet	MP	Flow from solar collectors (optional)
RU	Storage tank unit return	RC	Domestic hot water pump (optional)
H	Height (850 mm UB Inox 120-2; 1250 mm UB Inox 200-2)		

Connections

From boiler	From solar collectors*	Domestic hot water		
MU-RU	MP-RP	AF	AC	RC
3/4"	3/4"	3/4"	3/4"	1/2"

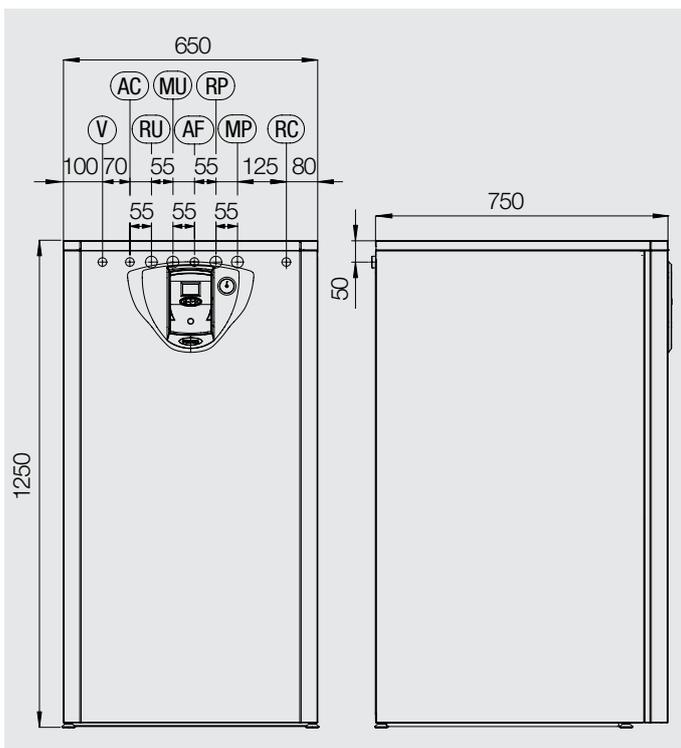
* For UB INOX 120-2 and 200-2 models only



200 litre stainless steel Storage Tank Unit with built-in solar circuit

The UB Inox Solar 200-2 Storage Tank Unit (code 3.022015) is an integrated solution consisting in a 200 litre stainless steel Storage Tank Unit for production of domestic hot water, inspection flange and built-in solar circuit. Casing painted in RAL 9010. Ideal for installing systems with limited space. It is equipped with:

- 2 extractable stainless steel double concentric coil **water/water heat exchangers**
- **NTC probe** for Immergas boiler connection < 35 kW
- **1-6 l/min single circulation unit**
- **18 litre solar expansion vessel**
- **8 litre domestic hot water expansion vessel**
- **8 bar domestic hot water safety valve**
- **6 bar solar circuit safety valve**
- **3/4" thermostatic mixing valve**
- **Solar control unit integrated in storage tank control panel** with relative temperature probes
- **Magnesium anode**
- **Insulation with self-extinguishing polyester shaped panels** (5 cm thick)
- **Solar circuit water pressure gauge**



Key

V	Electrical connection	MU	Storage tank unit flow
AC	Domestic hot water outlet	RP	Return to solar collectors (optional)
AF	Domestic hot water inlet	MP	Flow from solar collectors (optional)
RU	Storage tank unit return	RC	Domestic hot water pump (optional)

Connections

From boiler	From solar collectors*	Domestic hot water		
MU-RU	MP-RP	AF	AC	RC
3/4"	3/4"	3/4"	3/4"	1/2"



TECHNICAL DATA

Technical features	Unit of measurement	UB Inox Solar 200-2
Storage tank useful capacity	l	200
Domestic hot water side maximum pressure	bar	8
Domestic hot water side maximum temperature	°C	99
Domestic hot water expansion vessel	l	8
Dispersions	kWh/24h	2.2
Coil thickness	mm	0.8
Solar coil length	mm	6500
CH coil length	mm	10700
Solar coil exchange surface	m ²	0.41
CH coil exchange surface	m ²	0.67
Solar coil capacity	l	1.73
CH coil capacity	l	2.84
CH/solar primary fluid flow rate (coil)	l/h	1140 / 1140
Coil head loss at 1000 l/h	kPa (m c.a.)	12.3 (1.25)
Central heating side maximum pressure	bar	6
Central heating side maximum temperature	°C	90
Solar heat exchange maximum output	kW	23.8
CH heat exchange maximum output	kW	26.5
Full weight	kg	311
Empty weight	kg	106
Total water content	l	205
Solar circuit maximum pressure	bar	6
Total volume solar expansion vessel	l	18
Solar expansion vessel factory-set pressure	bar	2.5
Content of glycoled water in the solar circuit	l	3.7
Power absorbed by the solar pump	W	45
Equipment electrical system protection	-	IPX0D
Max. solar pump head	m c.a.	6
Solar circuit maximum peak temperature	°C	150
Solar circuit maximum continuous working temperature	°C	130



200, 300 and 500 litre stainless steel Storage Tank Units

NEW

The range of new INOXSTOR stainless steel solar storage tanks, compliant with the standard EN 12897, is ideal to contain domestic hot water with an inspection flange at the lower part. The storage tanks are equipped with:

- **2 stainless steel double concentric coil water/water heat exchangers**
- **2 probe-supports and NTC probe** for Immergas boiler connection < 35 kW
- **Thermometer**
- **Suitable flexible insulation which can be disassembled** (5 cm thick)
- **Pre-arranged to fix pump station to the body of the storage tank**

The use of this Storage Tank Unit involves the installation of an appropriately sized DHW expansion vessel and safety valve, not included in the supply.



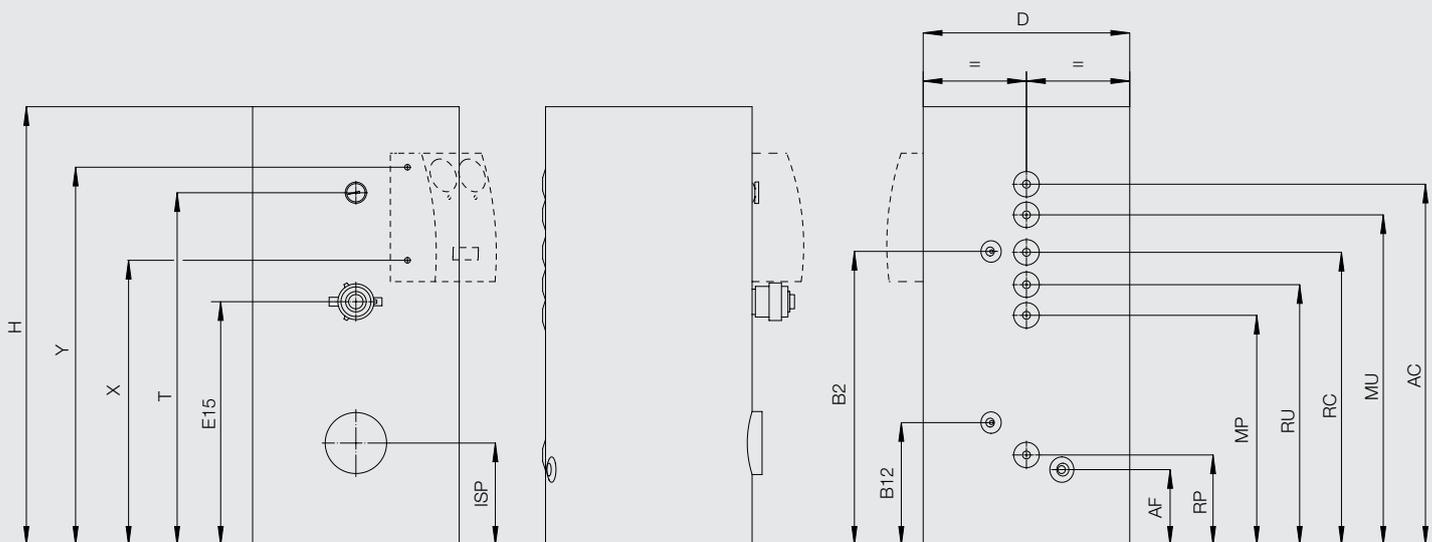
INOXSTOR 200

Type	Code
INOXSTOR 200 NEW	3.022267
INOXSTOR 300 NEW	3.022268
INOXSTOR 500 NEW	3.022269

TECHNICAL DATA

Technical features	Unit of measurement	INOXSTOR 200	INOXSTOR 300	INOXSTOR 500
Storage tank unit capacity	l	205	281	482
Domestic hot water side maximum pressure	bar	8	8	8
Domestic hot water side maximum temperature	°C	99	99	99
Maximum coil pressure	bar	6	6	6
Central heating side maximum temperature	°C	90	90	90
Full/empty storage tank unit weight	kg	60.7/277.3	75.0/368.1	101.0/600.6
Heat dispersion	kW h / 24 h	3.04	3.86	4.67
Upper coil exchange surface	m ²	0.72	0.8	1.23
Upper coil capacity	l	4.1	4.6	7
Upper coil heat exchange power	kW	32.0	32.0	32.0
Upper coil primary fluid flow rate	l/h	1630	1655	1845
Upper coil primary fluid T delta	°C	17	17	14.9
Upper coil useful reintegration power	kW	26.3	26.3	26.3
Lower coil exchange surface	m ²	1.3	1.31	1.84
Lower coil capacity	l	7.5	7.5	10.6
Lower coil heat exchange power	kW	52.0	52.0	52.0
Lower coil primary fluid flow rate	l/h	2950	3080	3057
Lower coil primary fluid T delta	°C	15	14.5	14.6
Lower coil useful reintegration power	kW	34.3	34.3	34.3





N.B.: while performing the connection, set up a drain fitting and an interception cock at the cold water inlet (AF) to facilitate maintenance operations.

Key

D	Storage tank diameter	MU	Flow to storage tank
H	Storage tank height	AC	Domestic hot water outlet
ISP	Inspection flange	B2	Domestic hot water probe
AF	Domestic cold water inlet	B12	Solar storage tank probe
RP	Return from solar collectors	E15	Storage tank integration resistance (optional)
MP	Flow to solar collectors	T	DHW thermometer
RU	Return from storage tank	X	Distance above ground to fix circulation unit
RC	Pump (optional)	Y	Distance above ground to fix circulation unit

Symbol	INOXSTOR 200 (mm)	Connections	INOXSTOR 300 (mm)	Connections	INOXSTOR 500 (mm)	Connections
D	Ø 600	-	Ø 600	-	Ø 752	-
H	1287	-	1684	-	1700	-
ISP	315	100x150	315	100x150	430	100x150
AF	222	¾"	222	¾"	215	1"
RP	265	¾"	265	¾"	305	1"
MP	675	¾"	815	¾"	860	1"
RU	765	¾"	995	¾"	960	1"
RC	860	¾"	1130	¾"	1200	¾"
MU	970	¾"	1345	¾"	1310	1"
AC	1060	¾"	1450	¾"	1420	1"
B2	862	-	1237	-	1100	-
B12	360	-	430	-	500	-
E15	715	1½"	925	1½"	910	1½"
T	1035	-	1450	-	1350	-
X	806	-	1200	-	1180	-
Y	1070	-	1464	-	1444	-



1000, 1500 and 2000 litre vitrified steel Storage Tank Units

The vitrified steel Storage Tank Units are characterised by an internal glazed enamel treatment (also called vitrification) that makes the product highly resistant to water and steam as well as protecting it from corrosion, thus guaranteeing the inalterability of the chemical-physical features of the domestic hot water. They are the ideal solution for centralised systems.

The vitrified steel Storage Tank Units **have an inspection flange** in the lower part and are equipped with:

- **2 coil water/water heat exchangers**
- **2 probe-supports and NTC probe** for Immergas boiler connection < 35 kW
- **Thermometer and thermometer probe**
- **Magnesium anode** (2 for UB 2000)
- **Rigid insulation made up from polyurethane tubes** (PU) which can be disassembled for UB 1000
- **Flexible open cell insulation** 100 mm thick for UB 1500 and UB 2000

The use of this Storage Tank Unit involves the installation of an appropriately sized DHW expansion vessel and safety valve, not included in the supply.



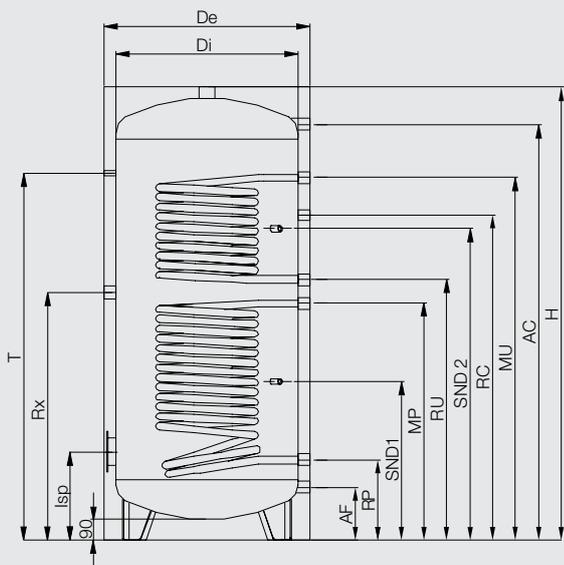
UB 1000

Type	Code
UB 1000	3.019010
UB 1500	3.020955
UB 2000	3.019011

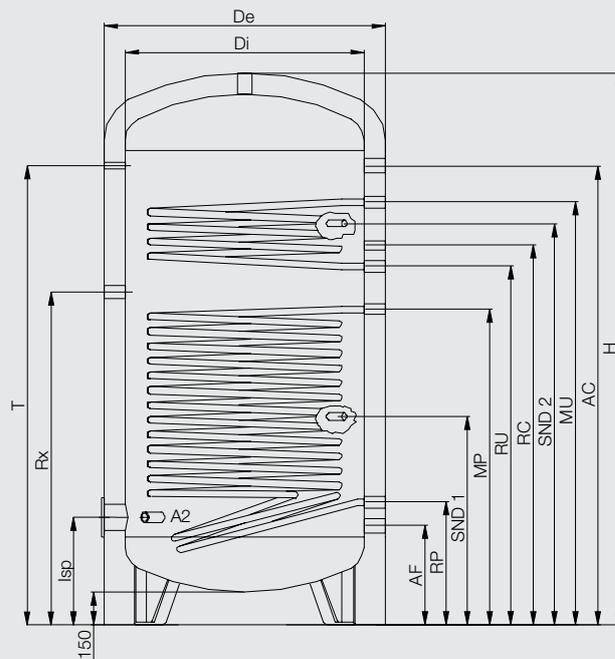
TECHNICAL DATA

Technical features	Unit of measurement	UB 1000	UB 1500	UB 2000
Storage tank useful capacity	l	918	1450	2054
Domestic hot water side maximum pressure	bar	8	8	8
Domestic hot water side maximum temperature	°C	95	95	95
Central heating side maximum pressure	bar	12	12	12
Central heating side maximum temperature	°C	95	95	95
Full weight	kg	1188	1800	2515
Upper coil heat exchange surface (boiler)	m ²	1.5	2	2
Upper coil capacity	l	7.5	10	10
Lower coil heat exchange surface (solar collectors)	m ²	3.4	5	6
Lower coil capacity	l	17	25	30
Heat dispersion	kWh/24h	2.4	3.2	3.8





Dimensions of UB 1000 litres



Dimensions of UB 1500 and UB 2000 litres

Symbol	Key	Dimensions (mm) UB 1000	Dimensions (mm) UB 1500	Dimensions (mm) UB 2000
T	Thermometer	1620	1745	2140
Rx	Integrative resistance	1095	1250	1550
Isp	Inspection flange	390	580	500
H	Height	2060	2225	2570
De	Outside diameter	890	1200	1300
Di	Inside diameter	790	1000	1100
AF	Domestic cold water inlet	160	330	460
AC	Domestic hot water outlet	1785	1930	2140
MU	Storage tank unit flow (boiler)	1600	1650	1970
RU	Storage tank unit return (boiler)	1150	1300	1670
MP	Flow from solar collectors	1045	1150	1470
RP	Return from solar collectors	355	450	570
RC	Recirculation	1435	1530	1770
SND2	Boiler probe connection (as per standard)	1375	1445	1870
SND1	Solar probe connection	700	780	970

Connections

Storage tank unit	System connections	From solar collectors	Domestic hot water		
	MU-RU	MP-RP	RC	AC	AF
UB 1000	1 1/4"	1 1/4"	1"	1 1/4"	1 1/4"
UB 1500	1 1/4"	1 1/4"	1"	2"	2"
UB 2000	1 1/4"	1 1/4"	1"	2"	2"



550 and 750 litre combined Storage Tank Units

The combined Storage Tank Units for heating and domestic hot water integration consists in a storage tank suitable to contain primary heating circuit water. They are specifically intended to be used in single-family homes.

The installation (which can be disassembled) is made of 100 mm thick flexible polyurethane. They are equipped with:

- **Stainless steel water/water heat exchanger**, for the production of domestic hot water, which passes through the entire height of the storage tank for an overall capacity of 28.5 litres; it therefore acts as a storage tank and provides constant production in DHW mode with the Storage Tank Unit kept at a suitable temperature
- **Water/water heat exchanger** with storage tank development in the lower part allowing solar integration coupled with the collectors
- **Storage tank temperature NTC probe** for Immergas boiler connection < 35 kW
- **Connections for coupling with boiler**
- **Connections for possible auxiliary heat generator** (for example AUDAX heat pump)
- **Pre-arranged to fix double pump station to the body of the storage tank**



UB 550

Type	Code
UB 550	3.020070
UB 750	3.020071

TECHNICAL DATA

Technical features	Unit of measurement	UB 550	UB 750
Domestic hot water side maximum pressure	l	571	757
Solar circuit maximum pressure	bar	6	6
Central heating side maximum pressure	bar	12	12
Maximum operating pressure	bar	3	3
Empty weight	°C	95	95
Domestic hot water coil exchange surface	kg	166	175
Domestic hot water coil capacity	m ²	5.5	5.5
Solar coil exchange surface	l	28.5	28.5
Solar coil capacity	m ²	1.8	2.4
Heat dispersion	l	11	15
Thermal losses	kWh/24h	4.0	4.0



Storage Tank Unit options

Type		Description
Solar central unit kit for UB Inox 120-2 and UB Inox 200-2 Code 3.019097		See page 67
Electronic anode kit for Storage Tank Unit up to 500 litres Code 3.020344		No need of periodic replacement
2 kW electric resistance kit for UB INOXSTOR 200-300-500 and UB 550 Code 3.020861		
5 kW electric resistance kit for UB 1000-1500 and UB 550-750 Code 3.020862		
Connection pipe kit for UB Inox 200-2 solar collector Code 3.022195		Including pipes and fittings for connection in template
Connection pipe kit for 2 UB Inox 120-2 solar collector or 2 UB Inox 200-2 in parallel Code 3.022196		Including pipes and fittings for connection in template
Connection pipe kit for UB Inox 120-2 solar collector Code 3.022197		Including pipes and fittings for connection in template
Connection kit for 2 UB Inox 120-2 or 2 UB Inox 200-2 in parallel Code 3.02221		
UB Inox 80-2 recirculation pipe kit Code 3.022198		
UB Inox 120-2 recirculation pipe kit Code 3.022199		
UB Inox 200-2/Solar 200-2 recirculation pipe kit Code 3.022200		
Recirculation pipe kit for 2 UB Inox 120-2 or 2 UB Inox 200-2 in parallel Code 3.022201		

CP4 XL Flat-Plate Collector

NEW

CP4 XL Flat-Plate Collector (code 3.022664) is characterised by:

- **Large absorption surface** (2.31 m²)
- **SOLAR KEYMARK certification** and conformity with **EN 12975**
- **Can be installed either vertically or horizontally**
- **Special hardened glass** (4 mm thick) with low iron content for high solar transmission
- **Optimum handling** thanks to its contained weight
- **High resistance** to atmospheric conditions and heat stress
- **Insulation** using mineral wool (40 mm thick)
- **Reversibility of connections and less head losses**
- **4 connections with "smooth" pipe, without fittings**
- **Possibility of connecting up to 6 collectors in series**



TECHNICAL DATA

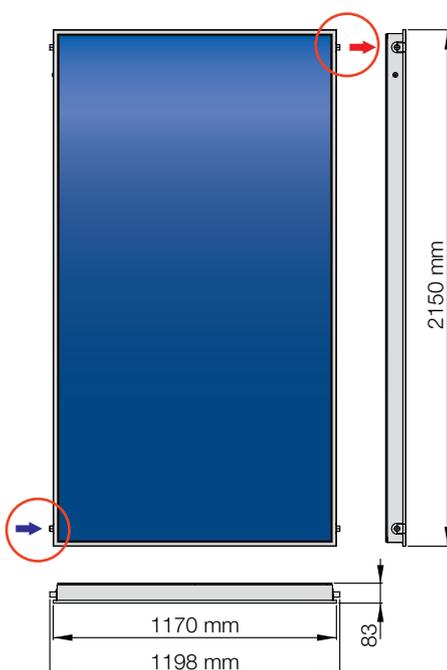
Collector weight (empty)	42 kg
Selector inside pipe diameter	Ø 8 mm
Capacity	1.7 l
Casing	Aluminium
Absorber	Highly selective covering
Gross surface	2.515 m ²
Solar absorption area	2.31 m ²
Stagnation maximum temperature (dry)	234°C

TECHNICAL DATA

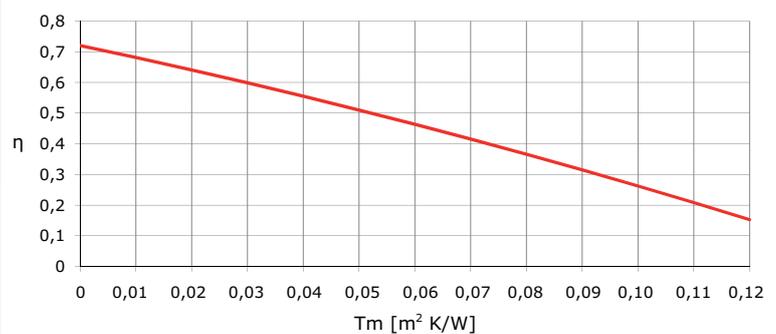
Optical efficiency (according to EN 12975)	0.72 η
a1 ref. opening surface	3.826 W / m ² K
a2 ref. opening surface	0.0094 W / m ² K ²
K θ angle incidence 50°	0.94
Heating capacity	5.28 c _{eff}
Maximum functioning pressure	10 bar
Average flow	1.25 l/min
Head losses with 450 kg/h flow rate (6 CP4 XL in series)	12 mbar

Key

- ➡ Cold fluid inlet ø 22 mm
- ➡ Hot fluid outlet ø 22 mm



Efficiency graphic (referring to solar radiation G 800 W/m²)



$$T_m = \frac{t_m - t_a}{G}$$

t_m = average temp. in collector t_a = room air temp. G = total solar radiation intensity



CP4 M Flat-Plate Collector

NEW

The CP4 M Flat-Plate Collector (code 3.022876) is characterised by:

- Ideal for coupling with Solar Ready systems (see page 85)
- SOLAR KEYMARK certification and conformity with EN 12975
- Can be installed either vertically or horizontally
- Special hardened glass (4 mm thick) with low iron content for high solar transmission
- Optimum handling thanks to its contained weight
- High resistance to atmospheric conditions and heat stress
- Insulation using mineral wool (40 mm thick)
- Reversibility of connections and less head losses
- 4 connections with "smooth" pipe, without fittings
- Possibility of connecting up to 6 collectors in series



TECHNICAL DATA

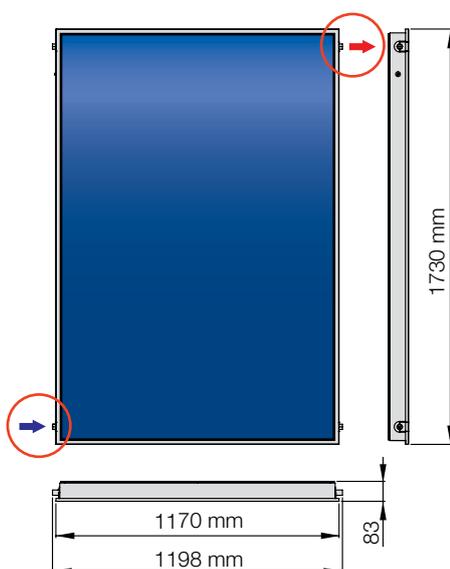
Collector weight (empty)	35 kg
Selector inside pipe diameter	Ø 8 mm
Capacity	1.4 l
Casing	Aluminium
Absorber	Highly selective covering
Gross surface	2.05 m ²
Solar absorption area	1.84 m ²
Stagnation maximum temperature (dry)	234°C

TECHNICAL DATA

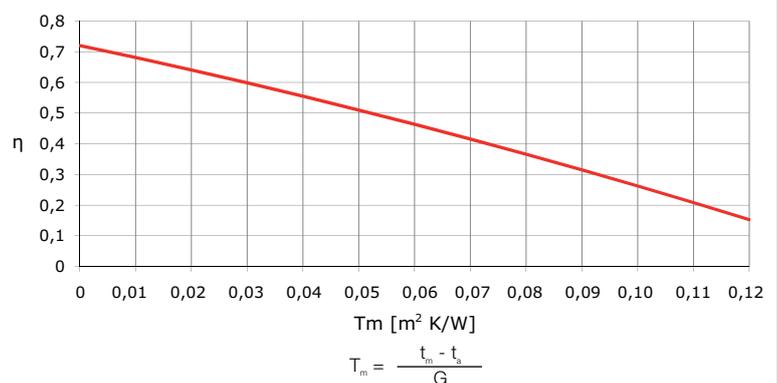
Optical efficiency (according to EN 12975)	0.72 η
a1 ref. opening surface	3.826 W / m ² K
a2 ref. opening surface	0.0094 W / m ² K ²
K θ angle incidence 50°	0.94
Heating capacity	5.28 c _{eff}
Maximum functioning pressure	10 bar
Average flow	1.00 l/min
Head losses with 450 kg/h flow rate (6 CP4 M in series)	5 mbar

Key

- ➡ Cold fluid inlet ø 22 mm
- ➡ Hot fluid outlet ø 22 mm



Efficiency graphic (referring to solar radiation G 800 W/m²)



t_m = average temp. in collector t_a = room air temp. G = total solar radiation intensity



The CSV 14 Vacuum Collector (code 3.022694) is characterised by:

- Large absorption surface (2.36 m²)
- SOLAR KEYMARK certification and conformity with EN 12975
- High energy yield the whole year round using special parabolic concentrator mirror
- CPC14 type and ideal heat insulation using glass vacuum tubes
- Easy replacement of individual tube without having to empty the system
- Reversibility of connections
- 2 connections on opposite sides with 3/4" M-F threaded fittings
- Can only be installed vertically
- Possibility of connecting up to 6 collectors in series



TECHNICAL DATA

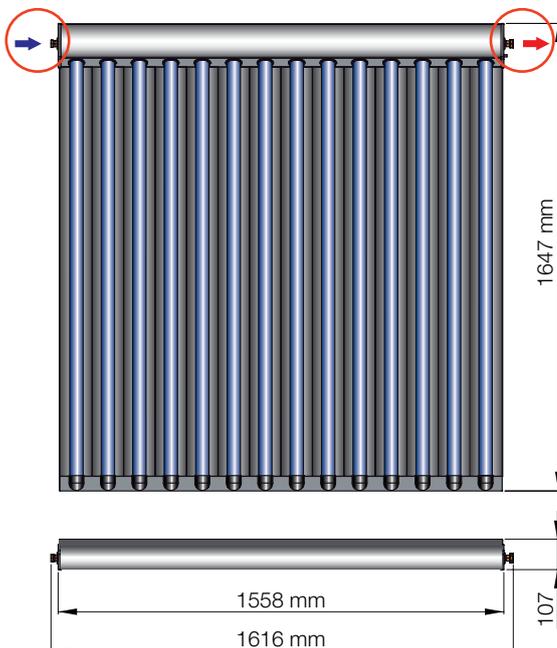
Collector weight (empty)	42 kg
Selector inside pipe diameter	Ø 8 mm
Capacity	2.27 l
Casing	Aluminium
Glass	Borosilicate
Absorber	Aluminium nitrate
Gross surface	2.57 m ²
Solar absorption area	2.36 m ²
Stagnation maximum temperature (dry)	286°C

TECHNICAL DATA

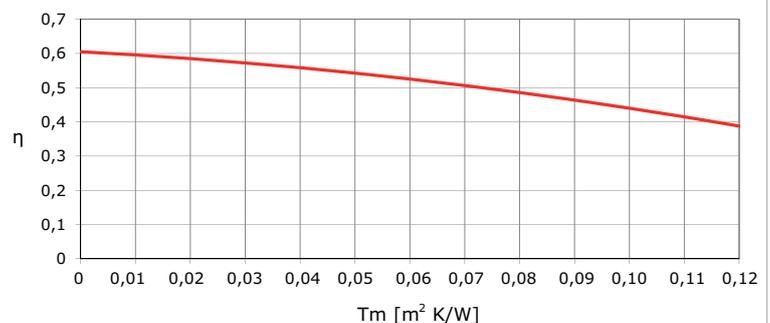
Optical efficiency (according to EN 12975)	0.605 η
a1 ref. opening surface	0.805 W / m ² K
a2 ref. opening surface	0.010 W / m ² K ²
K θ angle incidence 50°	$\theta_{i,50^\circ} = 0.92$ $\theta_{r,50^\circ} = 1.15$
Heating capacity	45.94 c _{eff}
Maximum functioning pressure	10 bar
Average flow	1.25 l/min
Head losses with 450 kg/h flow rate (6 CSV 14 in series)	18 mbar

Key

- ➡ Cold fluid inlet 3/4" M-F
- ➡ Hot fluid outlet 3/4" M-F



Efficiency graphic (referring to solar radiation G 800 W/m²)



$$T_m = \frac{t_m - t_a}{G}$$

t_m = average temp. in collector t_a = room air temp. G = total solar radiation intensity



New Solar Collector installation kits

There are different assembly solutions for installation of new solar collectors based on the type of covering or the positioning of the collectors themselves. The following pages illustrate all the components available in the catalogue based on positioning and type of collector.

The list below provides the configurations available based on the installation kits provided in the catalogue.

NB: All solar packs with forced circulation are provided with frame, fitting and fixing kits for vertical installation only on sloped roofs above tiles.

CP4 XL/M FLAT-PLATE COLLECTORS

VERTICAL INSTALLATION

- Installation on tiles on sloped roofs (as per standard in packs) see page 55
- Free-standing installation on flat roofs/on the ground see page 56
- Recessed installation on sloped roofs see page 57

HORIZONTAL INSTALLATION

- Installation on tiles on sloped roofs see page 58
- Free-standing installation on flat roofs/on the ground see page 59

FIXING SYSTEMS FOR CP4 XL/M FLAT-PLATE COLLECTORS see page 60

HYDRAULIC CONNECTIONS FOR CP4 XL/M FLAT-PLATE COLLECTORS see page 61

CSV 14 VACUUM COLLECTORS

VERTICAL INSTALLATION

- Installation on tiles on sloped roofs (as per standard in packs) see page 62
- Free-standing installation on flat roofs/on the ground see page 63
- Recessed installation on sloped roofs see page 64

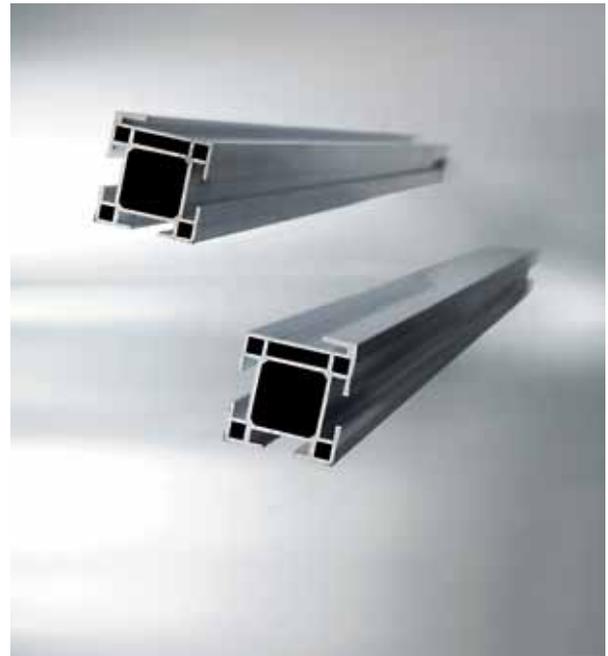
FIXING SYSTEMS FOR CSV 14 VACUUM COLLECTORS see page 65

HYDRAULIC CONNECTIONS FOR CSV 14 VACUUM COLLECTORS see page 65



Kit for vertical installation on tiles CP4 XL/M Flat-Plate Collectors

Installation on tiles on sloped roofs requires the use of specific support frames which consist in 2 horizontal aluminium profiles upon which the CP4 XL/M Flat-Plate Collector is fixed. **In order to fix the frames, use the relative support brackets** (see page 60).



Type		Description
Frame on tiles kit for 1 vertical CP4 XL/M Flat-Plate Collector Code 3.022670		The kit includes: 2 horizontal profiles
Frame on tiles kit for 2 vertical CP4 XL/M Flat-Plate Collectors Code 3.022671		The kit includes: 2 horizontal profiles
Frame connection kit for additional CP4 XL/M Flat-Plate Collector Code 3.022681		The kit includes: 2 brackets The kit allows to mechanically connect two frames together when installing more than one collector

FRAMES AND RELATIVE CONNECTION KITS - based on number of Flat-Plate Collectors

Number of Flat-Plate Collectors	Frame on tiles kit for 1 Flat-Plate Collector Code 3.022670	Frame on tiles kit for 2 Flat-Plate Collectors Code 3.022671	Frame connection kit for additional Flat Plate Collector Code 3.022681
1	N° 1	-	-
2	-	N° 1	-
3	N° 1	N° 1	N° 1
4	-	N° 2	N° 1
5	N° 1	N° 2	N° 2
6	-	N° 3	N° 2

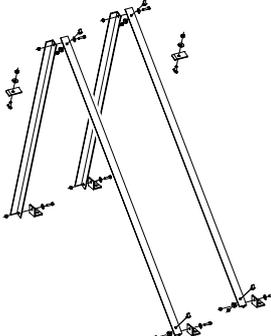


Kit for free-standing vertical installation CP4 XL/M Flat-Plate Collectors

Free-standing installation on flat roofs, terraces or on the ground with a 45° inclination require the use of specific aluminium profiles which allow installation of the CP4 XL/M Flat-Plate Collectors. Appropriate systems must be used for fixing based on the capacity of the installation of withstanding the action of atmospheric agents, especially wind.

In addition to these fixing kits, the support frame kit for the vertical CP4 XL/M Flat-Plate Collector and eventually the extra CP4 XL/M frame connection kit must be provided (see page 55).



Type		Description
Basic free-standing 45° installation kit for 1 vertical CP4 XL/M Flat-Plate Collector Code 3.022674		The kit includes: 4 profiles 2 collector side fixing brackets
Free-standing 45° installation extension kit for vertical CP4 XL/M Flat-Plate Collector Code 3.022677		The kit includes: 2 profiles 2 collector side fixing brackets and 1 spacer bracket

FREE-STANDING INSTALLATION KIT AND RELATIVE ADDITIONAL KITS* - based on number of Flat-Plate Collectors

Number of Flat-Plate Collectors	Basic free-standing 45° installation kit for Flat-Plate Collector Code 3.022674	Free-standing 45° installation extension kit for Flat-Plate Collector Code 3.022677
1	N° 1	-
2	N° 1	N° 1
3	N° 1	N° 2
4	N° 1	N° 3
5	N° 1	N° 4
6	N° 1	N° 5

* Remember that free-standing installation also involves the use of the support frame kits carried on page 55.



Kit for vertical recessed installation CP4 XL/M Flat-Plate Collectors

Recessed installation on sloped roofs uses kits which allow integrating the CP4 XL/M Flat-Plate Collectors In-roof.

The collector is fixed directly on the roof (**without using support frames**) and the waterproof frame will be positioned around it by means of fixing systems that must be provided according to the type of covering.

The main advantages are:

- modularity for single or multiple installations
- fully inspectable and accessible for maintenance
- easy installation and possibility of integrating connection pipes inside the kit
- ideal waterproof thanks to the special sheet steel trays between the covering and the collector



Type	Description
Recessed kit for 1 Flat-Plate Collector Code 3.022213	The kit includes: special waterproof trays, perimeter frames, waterproofing sheath
Recessed frame extension kit for CP4 XL/M Flat-Plate Collector Code 3.023028	The kit includes: intermediate frame around collectors

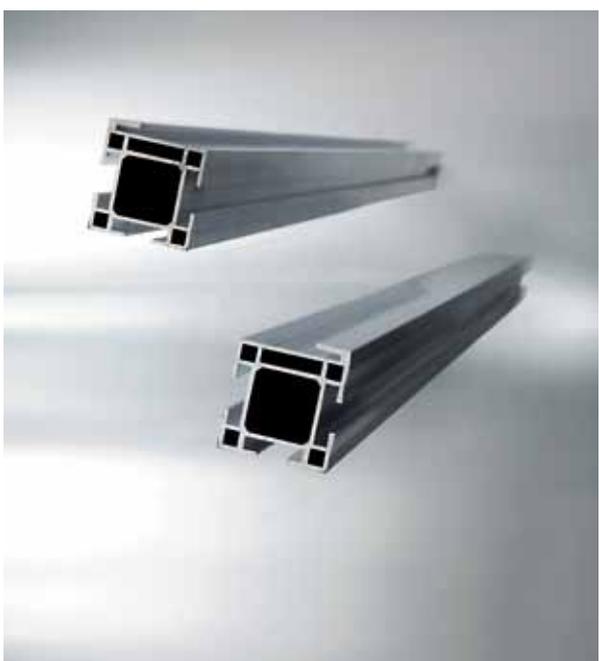
RECESSED KIT - based on number of Flat-Plate Collectors.

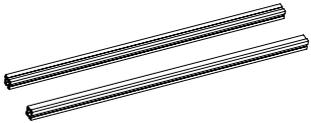
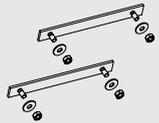
Number of Flat-Plate Collectors	Recessed kit for 1 Flat-Plate Collector Code 3.022213	Recessed frame extension kit for CP4 XL/M Flat-Plate Collector Code 3.023028
1	N° 1	-
2	N° 2	N° 1
3	N° 3	N° 2
4	N° 4	N° 3
5	N° 5	N° 4
6	N° 6	N° 5



Kit for horizontal installation on tiles **CP4 XL/M Flat-Plate Collectors**

Installation on tiles on sloped roofs requires the use of specific support frames which consist in 2 horizontal aluminium profiles upon which the CP4 XL/M Flat-Plate Collector is fixed. **In order to fix the frames, use the relative support brackets** (see page 60).



Type		Description
Frame on tiles kit for 1 horizontal CP4 XL/M Flat-Plate Collector Code 3.022749		The kit includes: 2 horizontal profiles (the profiles must be shortened when using CP4 M)
Frame connection kit for additional CP4 XL/M Flat-Plate Collector Code 3.022681		The kit includes: 2 brackets The kit allows to mechanically connect two frames together when installing more than one collector

FRAMES AND RELATIVE CONNECTION KITS - based on number of Flat-Plate Collectors

Number of Flat-Plate Collectors	Frame on tiles kit for 1 Flat-Plate Collector Code 3.022749	Frame connection kit for additional Flat-Plate Collector Code 3.022681
1	N° 1	-
2	N° 2	N° 1
3	N° 3	N° 2
4	N° 4	N° 3
5	N° 5	N° 4
6	N° 6	N° 5



Kit for free-standing horizontal installation CP4 XL/M Flat-Plate Collectors

Free-standing installation on flat roofs, terraces or on the ground with a 45° inclination require the use of specific aluminium profiles which allow installation of the CP4 XL/M Flat-Plate Collectors. Appropriate systems must be used for fixing based on the capacity of the installation of withstanding the action of atmospheric agents, especially wind.

In addition to these fixing kits, the support frame kit for the horizontal CP4 XL/M Flat-Plate Collector and eventually the extra CP4 XL/M frame connection kit must be provided (see page 58).



Type		Description
Free-standing 45° installation kit for 1 Flat-Plate Collector Code 3.022750		<p>The kit includes: 4 profiles 2 collector side fixing brackets</p> <p>(the profiles must be shortened when using CP4 M)</p>

FREE-STANDING INSTALLATION KIT* - based on number of Flat-Plate Collectors

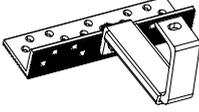
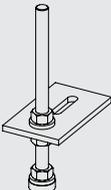
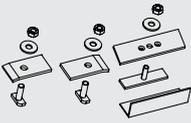
Number of Flat-Plate Collectors	Free-standing 45° installation kit for 1 Flat-Plate Collector Code 3.022750
1	N° 1
2	N° 2
3	N° 3
4	N° 4
5	N° 5
6	N° 6

* Remember that free-standing installation also involves the use of the support frame kits carried on page 58.



Fixing systems for CP4 XL/M Flat-Plate Collectors

These systems allow installing flat-plate collectors level on various types of sloped roofs. Depending on the roof-type, appropriate screws/plugs must be provided to ensure a correct fixing.

Type		Description
4 brackets kit for slates/tiles for CP4 XL/M Flat-Plate Collector Code 3.022678		The kit includes: 4 brackets 2 collector side fixing brackets It allows to fix the collector frame onto sloped roofs without drilling the tiles (for 1 collector)
2 brackets kit for slates/tiles for CP4 XL/M Flat-Plate Collector Code 3.022680		The kit includes: 2 brackets 2 collector side fixing brackets and 1 spacer bracket (to be removed after installation)
4 brackets kit for slates/tiles to be drilled for CP4 XL/M Flat-Plate Collector* Code 3.019105		The kit includes: 4 brackets It allows to fix the collector frame onto sloped roofs
4 "L"-shaped brackets kit for slates/tiles on smooth roofs for CP4 XL/M Flat-Plate Collector* Code 3.022776		The kit includes: 4 brackets It allows to fix the selector frame onto smooth roofs (for 1 collector)
Fixing elements kit for CP4 XL/M Flat-Plate Collector Code 3.022922 this kit must always be added when using the kits Code 3.019105 and Code 3.022776		The kit includes: collector side fixing brackets and 1 intermediate bracket

* always add the fixing element kit code 3.022922

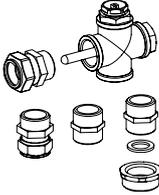
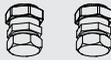
SUPPORT BRACKETS AND RELATIVE ADDITIONAL KITS - based on number of Flat-Plate Collectors

Number of Flat-Plate Collectors	Installation with brackets for slates and tiles for Flat-Plate Collector		Installation with brackets for slates and tiles to be drilled for Flat-Plate Collector		Installation with "L"-shaped brackets for smooth roofs for Flat-Plate Collector	
	Code 3.022678	Code 3.022680	Code 3.019105	Code 3.022922	Code 3.022776	Code 3.022922
1	N° 1	-	N° 1	N° 1	N° 1	N° 1
2	N° 1	N° 1	N° 2	N° 1	N° 2	N° 1
3	N° 1	N° 2	N° 2	N° 2	N° 2	N° 2
4	N° 1	N° 3	N° 3	N° 3	N° 3	N° 3
5	N° 1	N° 4	N° 3	N° 3	N° 3	N° 3
6	N° 1	N° 5	N° 4	N° 4	N° 4	N° 4

N.B. For the horizontal application, 1 kit with 4 brackets for slates and tiles must be used (code 3.022678) for each collector installed as the installation distance increases (see drawing on page 61). For other applications, contact our Customer Service.



Hydraulic connections for CP4 XL/M Flat-Plate Collectors

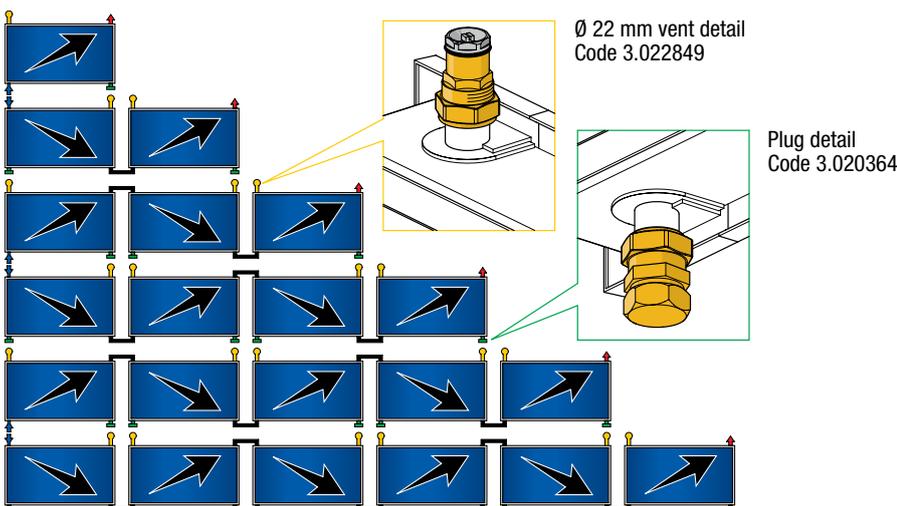
Type		Description
Connection kit for 1 vertical CP4 XL/M Flat-Plate Collector Code 3.022797		The kit includes: fittings for Ø 18 copper pipes and DN 16 and DN 20 steel pipes 2 plugs for CP4 XL/M (To be used for sets of 1 to 6 collectors in series)
Connection kit for additional vertical CP4 XL/M Flat-Plate Collector Code 3.019085		The kit includes: hydraulic fittings to connect up to 3 CP4 XL/M Flat-Plate Collectors in series
Vent kit and fitting for Ø 22 mm pipe for horizontal CP4 XL/M Flat-Plate Collector Code 3.022849		This kit is used in applications with horizontal CP4 XL/M Flat-Plate
2 plug kit for CP4 XL/M Flat-Plate Collector Code 3.020364		The kit includes: 2 mechanical sealing plugs to close fittings not used by CP4 XL/M Flat-Plate Collector

HYDRAULIC FITTINGS - based on installation of Flat-Plate Collectors

Number of Flat-Plate Collectors	Vertical installation		Horizontal installation*	
	Connection kit for 1 Flat-Plate Collector Code 3.022797	Connection kit for additional Flat-Plate Collector Code 3.019085	Vent kit and fitting for Ø 22 mm pipe Code 3.022849	2 plug kit for Flat-Plate Collector Code 3.020364
1	1	-	Nº 1	Nº 1
2	1	1	Nº 2	Nº 1
3	1	1	Nº 3	Nº 2
4	1	2	Nº 4	Nº 2
5	1	2	Nº 5	Nº 3
6	1	3	Nº 6	Nº 3

* Note: The collector probe must be positioned in the probe-support present on the collector. For hydraulic connections between the collectors, you must assess the type of pipe used (copper or steel). For further information contact our Customer Service.

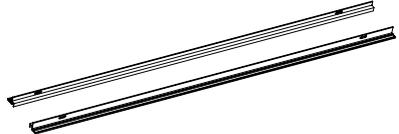
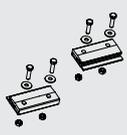
HORIZONTAL INSTALLATION



Kit for vertical installation on tiles **CSV 14 Vacuum Collectors**

Installation on tiles on sloped roofs requires the use of specific support frames which consist in 2 horizontal aluminium profiles on which the CSV 14 Vacuum Collector is fixed. **In order to fix the frames, use the relative support brackets** (see page 65).



Type		Description
Frame on tiles kit for 1 vertical CSV 14 Vacuum Collector Code 3.022701		The kit includes: 2 horizontal profiles
Frame connection kit for additional CSV 14 Vacuum Collector Code 3.022735		The kit includes: 2 brackets The kit allows to mechanically connect two frames together when installing more than one collector

FRAMES AND RELATIVE CONNECTION KITS - based on number of Vacuum Collectors

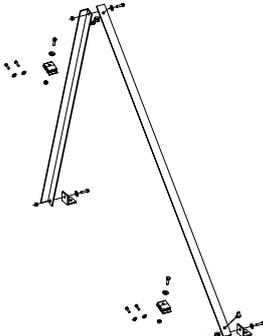
Number of Vacuum Collectors	Frame on tiles kit for 1 Vacuum Collector Code 3.022701	Frame connection kit for additional Vacuum Collector Code 3.022735
1	N° 1	-
2	N° 2	N° 1
3	N° 3	N° 2
4	N° 4	N° 3
5	N° 5	N° 4
6	N° 6	N° 5



Kit for free-standing vertical installation CSV 14 Vacuum Collectors

Free-standing installation on flat roofs, terraces or on the ground with a 45° inclination require the use of specific aluminium profiles which allow installation of the CSV 14 Vacuum Collectors. Appropriate systems must be used for fixing based on the capacity of the installation of withstanding the action of atmospheric agents, especially wind. **In addition to the kits, the support frame kit for the vertical CSV 14 Vacuum Collector and eventually the extra CSV 14 frame connection kit must be provided** (see page 62).



Type		Description
Free-standing 45° installation kit for 1 vertical CSV 14 Vacuum Collector Code 3.022733		The kit includes: 2 profiles collector fixing bracket

FREE-STANDING INSTALLATION KIT* - based on number of Vacuum Collectors

Number of Vacuum Collectors	Free-standing 45° installation kit for 1 Vacuum Collector Code 3.022733
1	N° 2
2	N° 3
3	N° 4
4	N° 5
5	N° 6
6	N° 7

* Remember that free-standing installation also involves the use of the support frame kits carried on page 62.



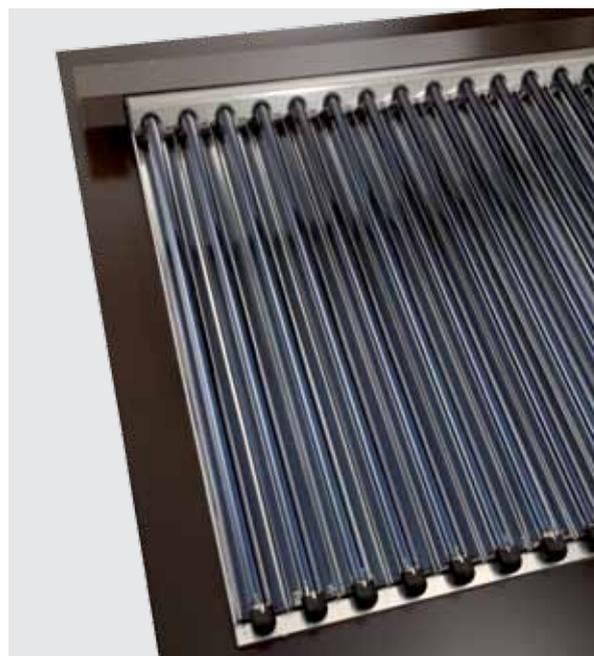
Kit for vertical recessed installation CSV 14 Vacuum Collectors

Recessed installation on sloped roofs uses kits which allow integrating the CSV 14 Vacuum Collectors In-roof.

The collector is fixed directly on the roof (**without using support frames**) by means of fixing systems that must be provided according to the type of covering.

The main advantages are:

- modularity for single or multiple installations
- fully inspectable and accessible for maintenance
- easy installation and possibility of integrating connection pipes inside the kit
- ideal waterproof thanks to the special sheet steel trays between the covering and the collector



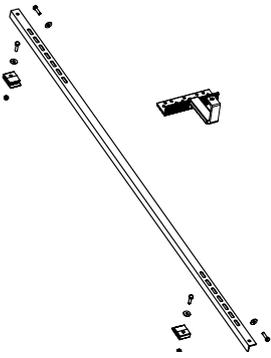
Type	Description
Recessed kit for 1 Vacuum Collector Code 3.022215	The kit includes: special waterproof trays, upper frame, waterproofing sheath

RECESSED KIT - based on number of Vacuum Collectors

Number of Vacuum Collectors	Recessed kit for 1 Vacuum Collector Code 3.022215
1	N° 1
2	N° 2
3	N° 3
4	N° 4
5	N° 5
6	N° 6

Fixing systems for CSV 14 Vacuum Collectors

These systems allow installing vacuum collectors level on sloped roofs. Depending on the roof-type, appropriate screws/plugs must be provided to ensure a correct fixing.

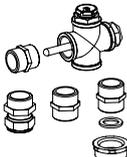
Type		Description
2 brackets kit for slates/tiles for CSV 14 Vacuum Collector Code 3.022700		The kit includes: 2 brackets 1 fixing upright and 2 collector side fixing brackets

KIT WITH 2 BRACKETS FOR SLATES/TILES - based on number of Vacuum Collectors

Number of Vacuum Collectors	Number of Vacuum Collectors 2 brackets kit for slates/tiles for Vacuum Collector Code 3.022700
1	N° 2
2	N° 3
3	N° 4
4	N° 5
5	N° 6
6	N° 7

Hydraulic connections for CSV 14 Vacuum Collectors

Multiple CSV 14 Vacuum Collectors shall be connected by means of the 3/4" M-F threaded fittings and the gaskets already present on the collectors.

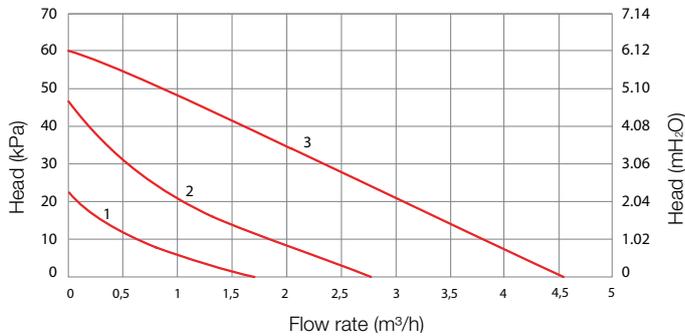
Type		Description
Connection kit for 1 CSV 14 Vacuum Collector Code 3.022796		The kit includes: fittings for Ø 18 copper pipes and DN 16 and DN 20



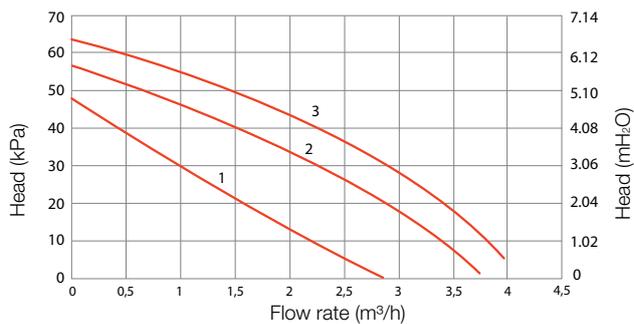
Solar pump stations

The solar pump stations must be coupled to the relative solar unit connection kit (see page 71) supplied separately. These units can be installed on the INOXSTOR 200-300-500 Storage Tank Units (see page 44).

Graphic of solar pump stations
(1-6 l/min and 2-15 l/min)



Graphic of double solar pump station
(7-30 l/min)



Key

- 1 First speed
- 2 Second speed
- 3 Third speed

Type	Description
Single solar pump station with 1-6 l/min flow rate Code 3.019093	The kit includes: <ul style="list-style-type: none"> • circulation pump • 6 bar safety valve • 0-10 bar pressure gauge • one-way ball valve, thermometer and connection to the safety unit • flow rate regulated and filling and draining valve • attachment for expansion vessel • filling valve • draining valve • insulation 1" hydraulic connections 230 V ~ power supply voltage
Single solar pump station with 2-15 l/min flow rate Code 3.019521	
Double solar pump station with 1-6 l/min flow rate Code 3.019094	The kit includes: <ul style="list-style-type: none"> • circulation pump • 6 bar safety valve • 0-10 bar pressure gauge • one-way ball valve, thermometer and connection to the safety unit • ball valve with temperature sensor • flow rate regulated and filling and draining valve • attachment for expansion vessel • filling valve • draining valve • insulation • air separating device with vent 1" hydraulic connections 230 V ~ power supply voltage
Double solar pump station with 2-15 l/min flow rate Code 3.019522	
Double solar pump station with 7-30 l/min flow rate Code 3.020350	

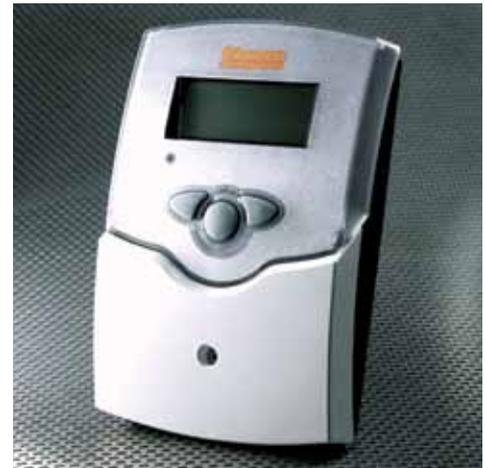


Solar central unit

Ideal for solar thermal systems with exclusive integration of domestic hot water, thanks to the probe supplied as per standard, it controls the circulation pump based on the real availability of solar energy and the temperature of the solar storage tank.

The solar central unit (code 3.019097) is characterised by:

- **Compact size and elegant design**
- **User-friendly controls** (only 3 keys)
- **Easy to read** functioning parameters thanks to the digital display
- **Installable on wall or into electric panel**



Main functions	Description
Collector temperature indication	Measures the temperature in a range from -40 to +250 °C
Solar storage tank temperature indication	Measures the temperature in a range from -40 to +250 °C
Solar system operating hour meter	Measures the operating hours of the solar pump
Solar pump activation temperature differential adjustment	Adjusts the heat drop that makes the solar pump start up; it can be calibrated from 1 to 20 °C it is calibrated as per standard at 6 °C
Solar pump deactivation temperature differential adjustment	Adjusts the heat drop that makes the solar pump stop; it can be calibrated from 0.5 to 19.5 °C it is calibrated as per standard at 4 °C
Solar storage tank max. temperature	Value can be set from 4 to 80 °C, interrupts heating of the storage tank to prevent overheating; it is calibrated as per standard at 60 °C
Collector temperature limit	Value can be set from 110 to 200 °C, interrupts functioning of the solar pump to prevent overheating of the circuit solar components; calibrated as per standard at 140 °C

TECHNICAL DATA

Power supply	Relay 1	Relay 2	Outlet probe 1	Outlet probe 2	Dimensions (mm)		
					H	L	P
220...240 V ~	Solar pump power supply	External user power supply	Solar collector (black cable)	Storage tank probe (grey cable)	173	110	47



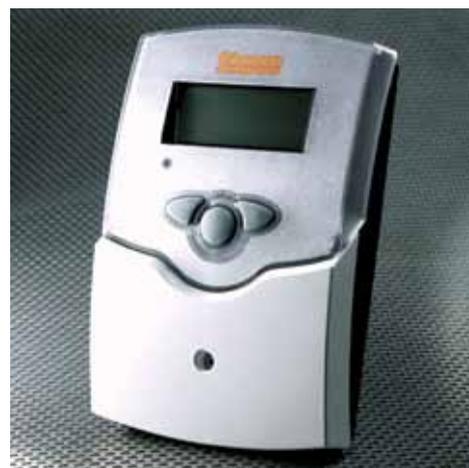
PRO solar central unit

Advanced central unit, capable of managing special systems (such as two sets of collectors on double-pitched roofs, heating systems integration, heating integration for swimming pools etc.). Supplied as per standard with four probes, to be able to control two different ΔT based on the type of system required.

It is supplied as per standard in combined solar packs for heating and domestic hot water integration (see page 29).

The PRO solar central unit (code 3.019519) is characterised by:

- **Compact size and elegant design**
- **User-friendly controls** (only 3 keys)
- **Easy to read** functioning parameters thanks to the digital display
- **Installable on wall or into electric panel**
- **Possibility of setting up to 9 system layouts** among which: management of double-pitched roof systems and of two Storage Tank Units



Main functions	Description
Double collector temperature indication	Measures the temperature in a range from -40 to +250 °C
Double solar storage tank temperature indication	Measures the temperature in a range from -40 to +250 °C
Solar system operating hour meter	Measures the operating hours of the solar pump (it can be reset)
Double solar pump activation temperature differential adjustment	Adjusts the heat drop that makes the solar pump start up; it can be calibrated from 1 to 20 °C it is calibrated as per standard at 6 °C
Double solar pump deactivation temperature differential adjustment	Adjusts the heat drop that makes the solar pump stop; it can be calibrated from 0.5 to 19.5 °C it is calibrated as per standard at 4 °C
Solar storage tank max. temperature	Value can be set from 2 to 95 °C, interrupts heating of the storage tank to prevent overheating; it is calibrated as per standard at 60 °C
Collector temperature limit	Value can be set from 110 to 200 °C, interrupts functioning of the solar pump to prevent overheating of the circuit solar components; calibrated as per standard at 140 °C

TECHNICAL DATA

Power supply	Modulating relay 1	Modulating relay 2	Outlet probe 1-3	Outlet probe 2-4	Dimensions (mm)		
					H	L	P
220...240 V ~	Solar pump power supply	External user power supply	Solar collector (black cable)	Storage tank probe (grey cable)	173	110	47



Solar valve kit

This kit is particularly interesting in all installations where, due to the design, there is the need to couple an instantaneous boiler downstream from the solar heating system, therefore feeding the boiler cold water inlet with pre-heated water from the solar collectors.

The most interesting solutions are:

- **Application on semi-centralised condominium systems** (see layout on page 70) where the solar system is centralised for the production of domestic hot water, while every housing has an autonomous instantaneous boiler for room heating and integration of domestic hot water
- **Application of solar systems with storage tank with instantaneous boiler**



The kit is composed of 1 thermostatic diverter valve and 1 mixing valve:

Type	Boilers which can be coupled
Solar valve kit for instant wall-hung boilers Code 3.018911	VICTRIX Superior TOP*
	VICTRIX 26*
	MAIOR EOLO*
	MINI EOLO/NIKE*
	NIKE Mini 28 kW Special EOLO/NIKE Star 24*

** In these models, functioning of the burner and boiler pump can be deactivated when a temperature close to the set temperature is detected. Therefore it is possible to avoid using the solar valve kit by installing a simple thermostatic mixing valve upstream the boiler.*

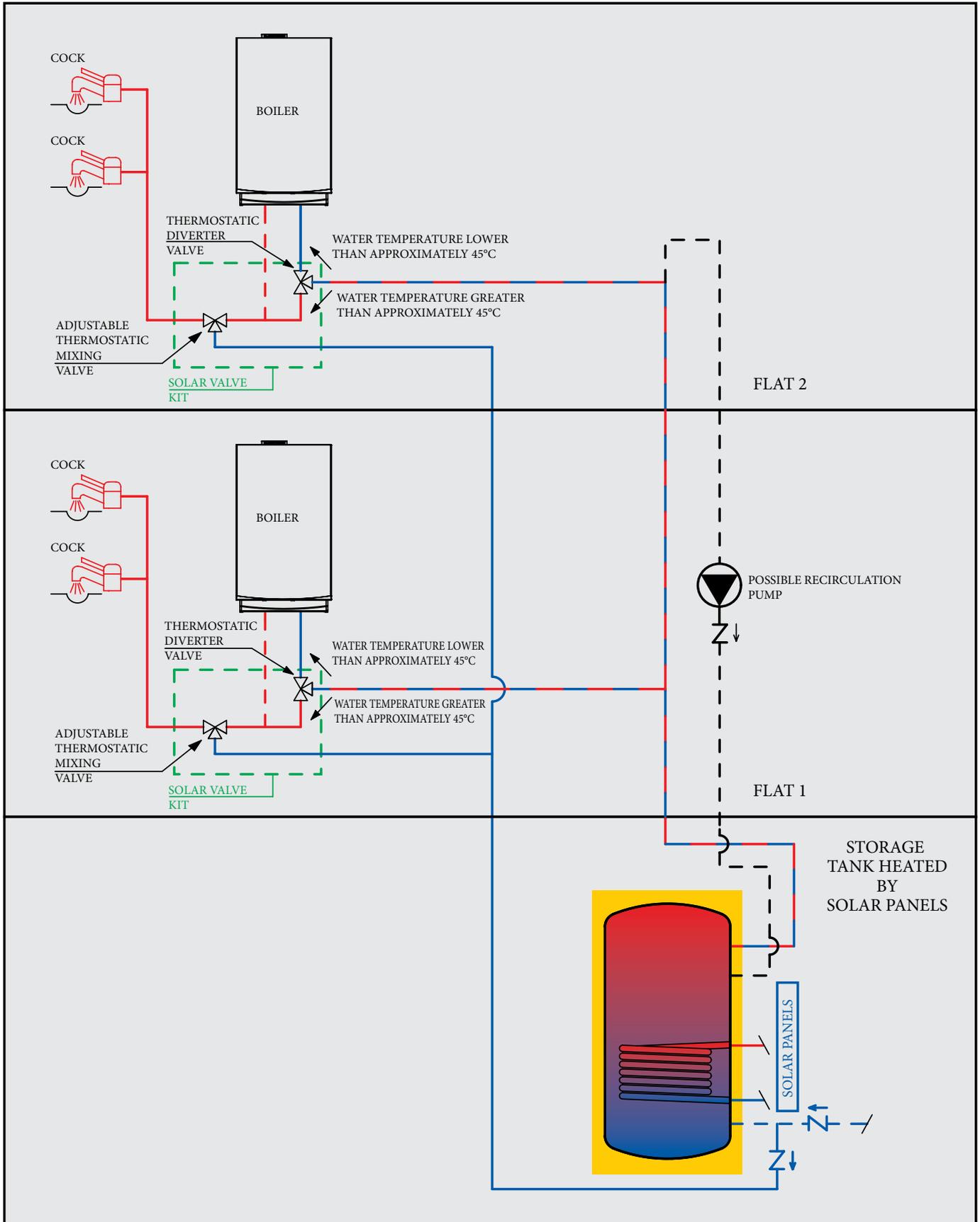
OPERATION

When a temperature above 48 °C is detected, **the thermostatic diverter valve** sends the preheated water from the solar storage tank directly to the mixing valve and then on to the utilities. With lower temperatures, the water is diverted towards the boiler which will integrate it based on the temperature set on the DHW thermostat.

The adjustable thermostatic mixing valve guarantees to the utilities the requested comfort temperature up to a maximum of 60 °C.



SEMI-CENTRALISED SYSTEM



The system represented has the advantage that the centralised domestic hot water storage tank can be positioned in a common part of the building, as it has not particular installation restrictions (apart from structural ones) having no electric or gas supply.



Hydraulic accessories

Type		Description
Connection kit for single solar pump stations Code 3.019095		The kit includes: hydraulic fittings
Connection kit for double solar pump stations Code 3.019096		The kit includes: hydraulic fittings
¾" thermostatic mixing valve kit Code 3.019099		The kit includes: 1 thermostatic mixing valve with a 42 °C - 60 °C adjustment range and maximum inlet temperature of 90 °C
1"¼ thermostatic mixing valve kit Code 3.020322		The kit includes: 1 thermostatic mixing valve with a 42 °C - 60 °C adjustment range and maximum inlet temperature of 85 °C. Equipped with thermometer
18 litre expansion vessel kit Including metal clamp and wall fixing bracket Code 3.019131	 <i>18 litre expansion vessel</i>	The expansion vessel must be dimensioned according to the content of the solar circuit fluid and the stagnation temperature of the collectors
24 litre expansion vessel kit Including metal clamp and wall fixing bracket Code 3.019138		
35 litre expansion vessel kit Including wall fixing bracket Code 3.019135		
80 litre expansion vessel kit With support for placing on the floor Code 3.019139		
Automatic valve kit for expansion vessel Code 3.023005	 NEW	Automatically shuts the passage of fluid during maintenance of the expansion vessel
Solar collector connection kit for HERCULES Condensing (models with built-in 120 litre storage tank) Code 3.019998		For connecting 1 Flat-Plate or Vacuum Collector. It must be used coupled with the typical BASIC SOL TOP and BASIC SOL LUX TOP packs



↘ Filling and installation accessories

Type		Description
<p>Ø 18 copper pipe connection kit for collectors Code 3.019089</p>		<p>The kit includes: double Ø 18 mm insulated 15 m long copper pipe integrated cable for solar collector temperature probe</p>
<p>DN 16 steel pipe connection kit for collectors Code 3.019125</p>		<p>The kit includes: double DN 16 insulated 15 m long steel pipe integrated cable for solar collector temperature probe</p>
<p>DN 20 steel pipe connection kit for collectors Code 3.020354</p>		<p>The kit includes: double DN 20 insulated 15 m long steel pipe integrated cable for solar collector temperature probe hydraulic fittings for connections</p>
<p>Tank of glycol for CP4 XL/M Flat-Plate Collectors and CSV 14 Vacuum Collectors Code 1.031756</p>	<p>NEW</p> 	<p>The kit includes: One 20 Kg can of glycol and propylene already mixed and ready to use</p> <p>Antifreeze protection up to - 25 °C</p>
<p>1" nut kit for DN 20 steel pipe Code 3.021009</p>	<p>NEW</p>	<p>For connection to pump stations</p>
<p>1" nut kit for DN 16 steel pipe Code 3.019981</p>	<p>NEW</p>	<p>For connection to pump stations</p>
<p>¾" nut kit for DN 16 steel pipe Code 1.027255</p>	<p>NEW</p>	<p>For connection to solar collectors</p>
<p>Cover for CP4 M Flat-Plate Collector Code 1.028522</p>		
<p>Cover for CP4 XL Flat-Plate Collector Code 1.033271</p>	<p>NEW</p>	<p>Allows to cover the collector to guarantee its integrity until it is filled</p>
<p>Cover for CSV 14 Vacuum Collector Code 1.033273</p>	<p>NEW</p>	
<p>System filling pump station Code 3.018742</p>		<p>Ideal for correctly filling the forced circulation solar system with the water-glycol solution</p>
<p>DHW priority 3-way valve kit for DOMESTIC SOL TOP Code 3.020633</p>		
<p>3-way valve return temperature raising kit for DOMESTIC SOL TOP Code 3.020632</p>		



Temperature probe kit

Type		Description
<p>NTC contact probe kit for storage tank for coupling boilers <35 kW with commercial Storage Tank Unit Code 3.019375</p>		<p>Allows to check the DHW temperature of a commercial Storage Tank Unit with the Immergas boiler <35 kW. Provided as per standard on all Storage Tank Units in the catalogue</p>
<p>Solar collector temperature probe kit for cascade and zone regulator Code 3.019374</p>		<p>To be used to manage the solar system coupled to thermal plants using the cascade and zone regulator. Code 3.015244 (see page 95).</p>
<p>Storage Tank Unit temperature probe kit for cascade and zone regulator Code 3.015268</p>		<p>To be used to control the Storage Tank Unit temperature coupled to thermal plants using the cascade and zone regulator. Code 3.015244 (see page 95).</p>







Solar packs with natural circulation for domestic hot water

The NATURAL SOL range is composed by of **3 complete packs with natural circulation for the production of domestic hot water**. These solutions are the ideal application for solar systems in the Mediterranean area and in areas with a mild climate and for all those systems where a simple installation is required.

Each pack is provided with an indication for its use, in order to satisfy 50% **of the solar coverage** of the yearly primary energy demand **for the production of domestic hot water**. The data supplied, with collectors facing south and inclined at a 30° angle in Italy, is variable depending on the location and type of installation.

Have the system checked by a qualified thermotechnical designer to dimension it ideally.

NATURAL SOL packs stand out for:

- **Solar Keymark certification.**
Certifies compliance with European standards concerning reliability and quality.
- **Practical installation.**
On sloped roof or on flat covers - or on the ground - as free installation.
- **Simple connection to combi boilers.**
With solar valve kit (see page 69).
- **Shipping and delivery in one package.**

List of packs and main components

Pack	SOLAR COLLECTORS			STORAGE TANK capacity (litres)
	Flat-Plate	Selective Flat-Plate	Number of collectors	
NATURAL SOL 150	X		1	150
NATURAL SOL 200		X	1	200
NATURAL SOL 280	X		2	280



NATURAL SOL 150

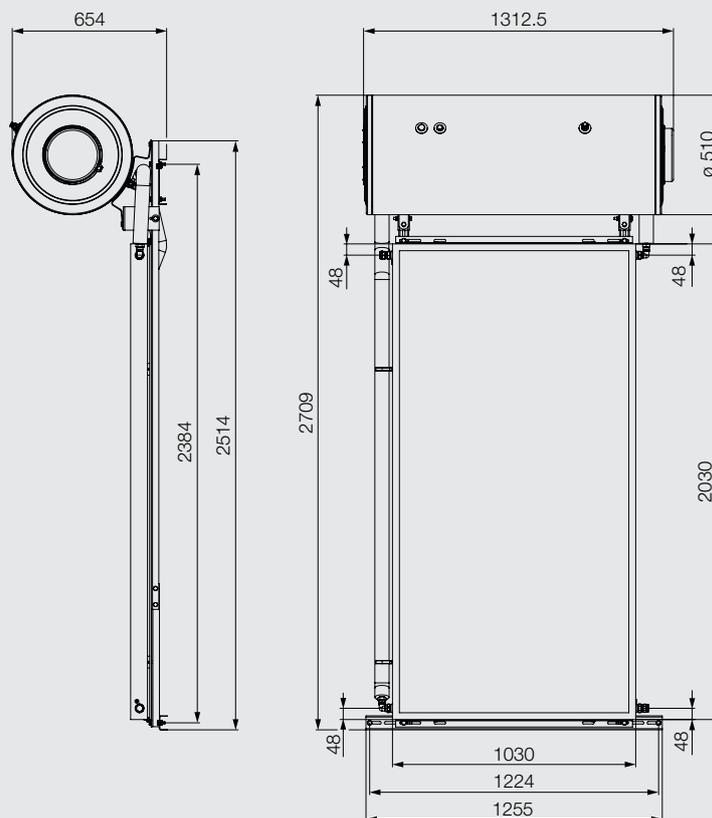
Solar pack with natural circulation with 1 Flat-Plate Collector and 150 litre Storage Tank Unit

Indicative solution* for units of up to 3 persons



* see page 3





NATURAL SOL 150 (code 3.020217) includes as per standard:

- **1 Flat-Plate Collector**
- **150 litre Storage Tank Unit** - double walled, insulated, vitrified steel - with two magnesium anodes
- **3 bar safety valve** (solar circuit)
- **6 bar safety valve** (DHW circuit)
- **Fixing system for sloped roofs** (on roof) and **free-standing installation*** on flat roofs or on the ground
- **2 bottles of glycol** (to be mixed with water; water content in solar circuit equal to 10 litres)
- **Insulated pipes for collector-storage tank connection**
- **Hydraulic fittings and screws for assembly**

* The installation requires a structural calculation that considers the place of installation and static equilibrium of the system respect to action of wind and atmospheric agents.

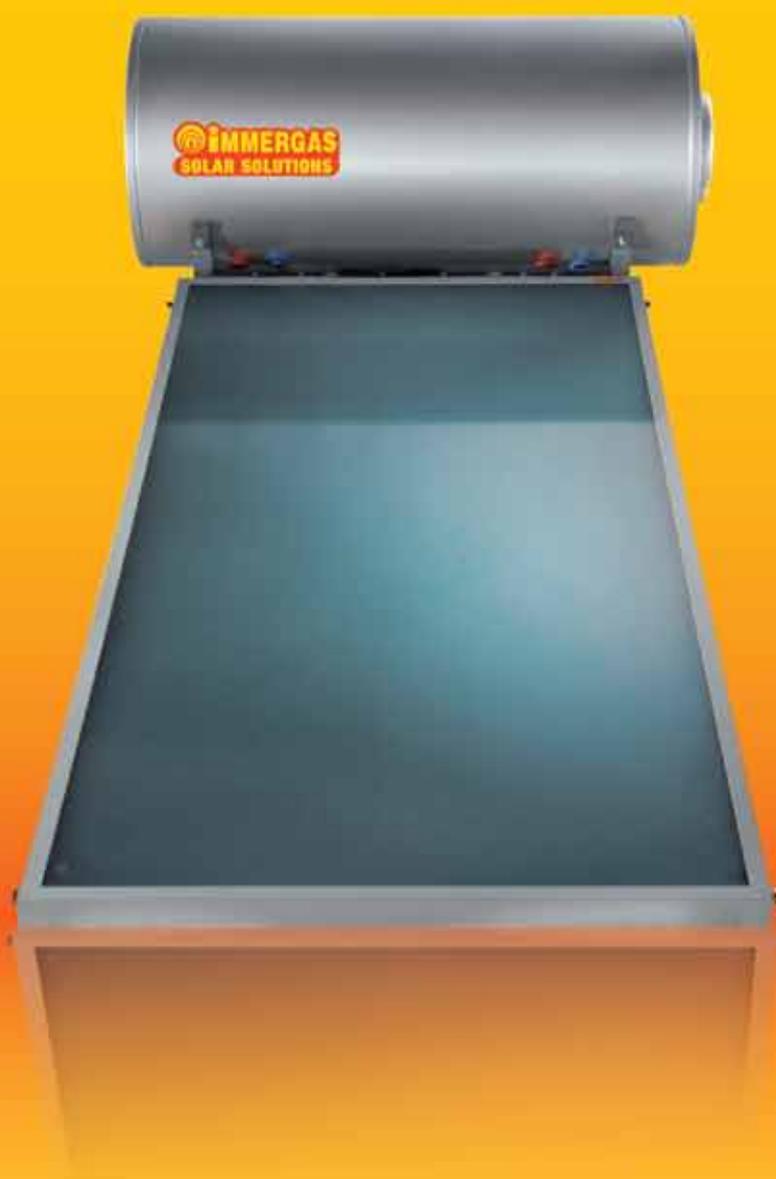
Fixing systems	Code
4 brackets kit for slates/tiles to fix directly onto the roof	3.019236



NATURAL SOL 200

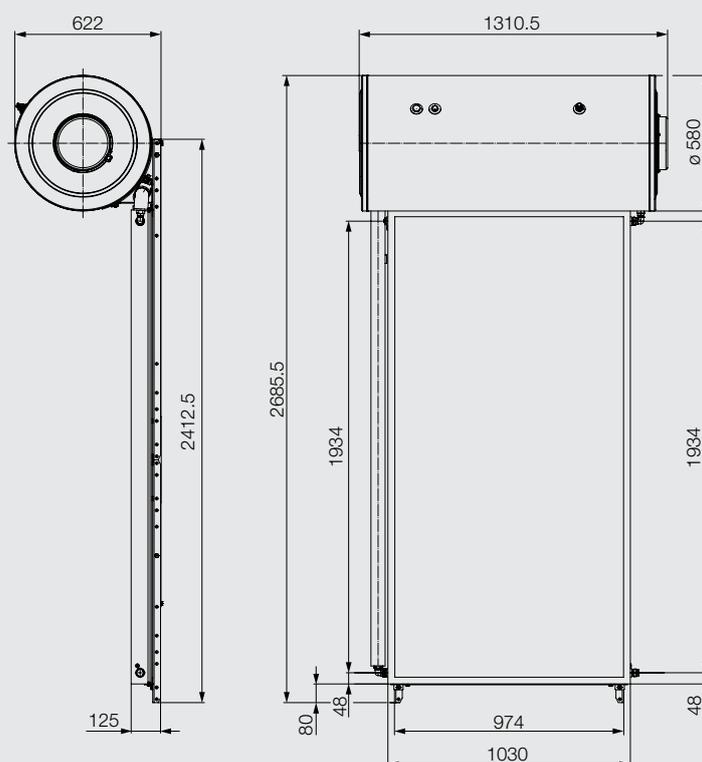
Solar pack with natural circulation with 1 Flat-Plate Collector and 200 litre Storage Tank Unit

Indicative solution* for units of up to 3-4 persons



* see page 3





NATURAL SOL 200 (code 3.020647) includes as per standard:

- **1 selective Flat-Plate Collector**
- **200 litre Storage Tank Unit** - double walled, insulated, vitrified steel - with two magnesium anodes
- **3 bar safety valve** (solar circuit)
- **6 bar safety valve** (DHW circuit)
- **Fixing system for sloped roofs** (on roof) and **free-standing installation*** on flat roofs or on the ground
- **3 bottles of glycol** (to be mixed with water; water content in solar circuit equal to 12 litres)
- **Insulated pipes for collector-storage tank connection**
- **Hydraulic fittings and screws for assembly**

* The installation requires a structural calculation that considers the place of installation and static equilibrium of the system respect to action of wind and atmospheric agents.

Fixing systems	Code
4 brackets kit for slates/tiles to fix directly onto the roof	3.019236



NATURAL SOL 280

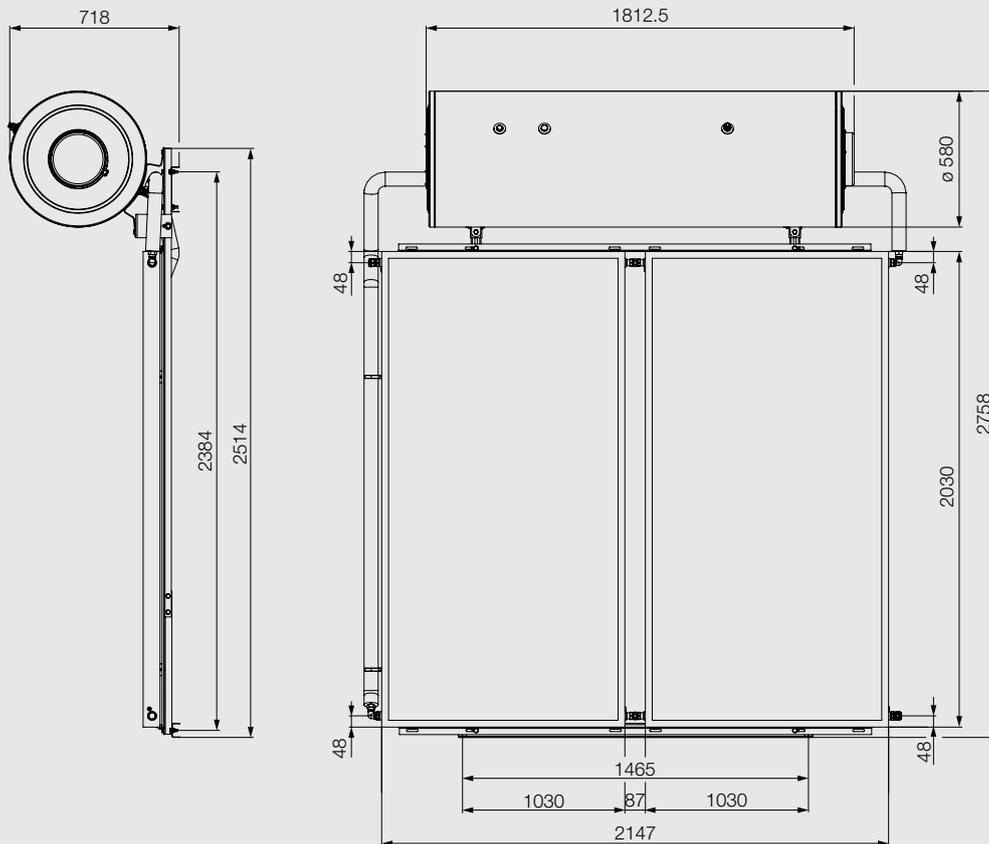
Solar pack with natural circulation with 2 Flat-Plate Collectors and 280 litre Storage Tank Unit

Indicative solution* for units of up to 6 persons



* see page 3





NATURAL SOL 280 (code 3.020218) includes as per standard:

- **2 Flat-Plate Collectors**
- **280 litre Storage Tank Unit**- double walled, insulated, vitrified steel - with two magnesium anodes
- **3 bar safety valve** (solar circuit)
- **6 bar safety valve** (DHW circuit)
- **Fixing system for sloped roofs** (on roof) and **free-standing installation*** on flat roofs or on the ground
- **3 bottles of glycol** (to be mixed with water; water content in solar circuit equal to 20 litres)
- **Insulated pipes for collector-storage tank connection**
- **Hydraulic fittings and screws for assembly**

* The installation requires a structural calculation that considers the place of installation and static equilibrium of the system respect to action of wind and atmospheric agents.

Fixing systems	Code
4 brackets kit for slates/tiles to fix directly onto the roof (order 2 kits)	3.019236



The NATURAL SOL packs must be installed carefully evaluating the type of covering or sloped roof. Due to the considerable weight of the system while operating, it is recommended to perform a static and loaded calculation of the structure upon which it rests, also keeping in mind possible snowfall and gusts of wind.

↳ TECHNICAL DATA

Type	Unit of measurement	NATURAL SOL 150	NATURAL SOL 200	NATURAL SOL 280
Collector	n.	1	1	2
Dimensions	mm	2030 x 1030 x 87.5	2030 x 1030 x 87.5	2030 x 1030 x 87.5
Empty weight	kg	44	48	44 x 2
Content	litres	1.97	1.97	1.97 x 2
Gross surface	m ²	2.09	2.09	2.09 x 2
Net surface	m ²	1.92	1.92	1.92 x 2
Max allowed pressure	bar	10	10	10
Stagnation temperature	°C	136	196	136
Storage tank				
Dimensions	mm	1310 x Ø 510	1310 x Ø 580	1810 x Ø 580
Empty weight	kg	67	85	107
Content	litri	145	192	280
Max DHW circuit pressure	bar	6	6	6
Max solar circuit pressure	bar	3	3	3
Connections	inches	1/2" F	1/2" F	1/2" F
Complete system				
Storage tank	litres	145	192	280
Collectors	n.	1	1	2
Heat carrying liquid content	litres	10	12	20
Overall weight (full)	kg	297	360	485



NATURAL SOL options

Type		Code	Notes
Solar valve kit for instantaneous wall-hung boilers*		3.018911	Kit for coupling an instantaneous boiler downstream the solar heating system, then supplying the cold water inlet of the boiler with water preheated by NATURAL SOL
3/4" thermostatic mixing valve kit		3.019099	Can be calibrated from 42 to 60 °C
Integrative 1,5 kW electric resistance kit (ideal to guarantee the anti-freeze function)		3.020341	Ideal to guarantee the anti-freeze function, can be calibrated by a specific thermostat
Pressure - temperature safety valve kit		3.020342	Setted at 6 bar and 94 °C
Electronic anode kit		3.020344	Can be used instead of magnesium anodes, requires no periodical replacement
1 litre bottle of glycol		1.028473	To be mixed with water according to the minimum outside temperature
NATURAL SOL bypass kit NEW		3.022453	Can be used to empty the storage tank during winter
4 brackets kit for slates/tiles to fix directly on roof		3.019236	It allows to fix the collector frame directly onto sloped roofs without drilling the tiles

* In some models, functioning of the burner and boiler pump can be deactivated when a temperature close to the set temperature is detected. Therefore it is possible to avoid using the solar valve kit by installing a thermostatic mixing valve upstream the boiler. For further information contact our Customer Service.





Boilers suitable for solar packs

Immergas boilers that can be coupled to pump-circulated circulation solar packs:

- Condensing < 35 kW
- Conventional < 35 kW
- Light commercial condensing wall-mounted



Boilers coupled to pump-circulated solar packs

CONDENSING BOILERS < 35 kW

Model	Methane LPG code	Useful heat output kW	Description	Solar packs that can be coupled
HERCULES Condensing 26 2 E	3.019196 3.019196LPG	23.9 heating 25.8 DHW	Floor standing boiler with 120 litre stainless steel storage tank, set up for zone systems	For production of DHW models BASIC SOL TOP
HERCULES Condensing 32 2 I	3.019197 3.019197LPG	32.0		
HERCULES Condensing ABT 32 2 I	3.019198 3.019198LPG	32.0		
VICTRIX Superior TOP 32 X E	3.022900 3.022900LPG	32.0	Wall-mounted heating only boiler can be coupled to separate Storage Tank Unit with optional kit Code 3.022848	For production of DHW models INOX SOL TOP For heating production of DHW models DOMESTIC SOL TOP
VICTRIX X 24	3.022109 3.022109LPG	23.6 heating 26.0 DHW	Wall-mounted heating only boiler can be coupled to separate Storage Tank Unit with optional kit Code 3.022193	
VICTRIX X 12	3.022110 3.022110LPG	12.0	Wall-mounted or recessed for heating only boiler can be coupled to separate Storage Tank Unit with optional kit Code 3.022193	

CONVENTIONAL BOILERS < 35 kW

Model	Methane LPG code	Useful heat output kW	Description	Solar packs that can be coupled
MINI EOLO X 24 3 E	3.020855 3.020855LPG	24.0	Wall-mounted heating only boiler with sealed chamber can be coupled to separate Storage Tank Unit with optional kit Code 3.020934	For production of DHW models INOX SOL TOP
MINI NIKE X 24 3 E	3.020857 3.020857LPG	23.8	Wall-mounted heating only boiler with open chamber can be coupled to separate Storage Tank Unit with optional kit Code 3.020934	For heating production of DHW models DOMESTIC SOL TOP



↘ LIGHT COMMERCIAL CONDENSING WALL-MOUNTED BOILERS

Model	Methane LPG code	Useful nominal output kW	Description	Solar packs that can be coupled
VICTRIX 50	3.016359 3.016359LPG	50.0	Modular condensing can be coupled in cascade to up to 3 boilers	For production of DHW models INOX SOL 500 UB 1000 - UB 1500 - UB 2000 for centralised systems
VICTRIX 75	3.018511 3.018511LPG	72.6		
VICTRIX 90	3.020425 3.020425LPG	90.0		
VICTRIX 115	3.020426 3.020426LPG	115.0		

1ST CASE – INSTALLATION WITH CASCADE REGULATOR

The use of the cascade and zone regulator (code 3.015244) as a climatic regulator of the thermal plant also allows to manage a thermal solar system for the production of domestic hot water. In this case, for temperature control of the collectors and of the solar heating storage tank, specific temperature probes must be used (optional see page 73) to be connected to the regulator itself, therefore replacing the NTC probe present in the Immergas Storage Tank Unit and not making use of the solar control unit kit:

- 2 temperature probes for Storage Tank Unit code 3.015268
- 1 temperature probe for solar collector code 3.019374

2ND CASE – INSTALLATION WITH THREE-WAY VALVE

When using the single boiler coupled with the three-way valve kit code 3.015223, the NTC probe present in the Immergas Storage Tank Unit must be replaced by the probe present in the kit.





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