

 **HEWALEX**
KOLEKTORY SŁONECZNE

**THE CATALOGUE OF PRODUCTS
2008**



www.hewalex.com.pl

The production of solar collectors in our company dates back to year 1992. Many years of experience and the position of unquestionable leader on the Polish market enabled us to extend our business activities to many European countries.

Our offer is targeted at the clients who seek alternative and cheap sources of warming up the usable water. This is why we have enjoyed trust of our partners in trade.

The owner



Leszek Skiba

The company holds the required certificates and implemented the Quality Management System with ISO 9001:2000 Standard.



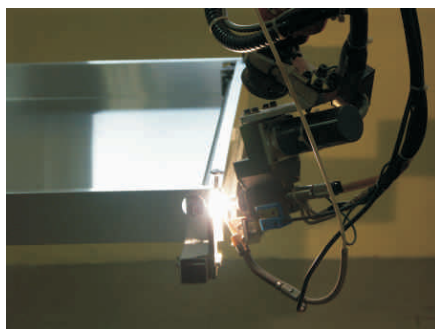
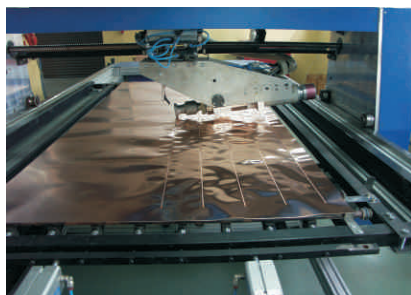
COLLECTOR'S TEST C824, C825



ISO 9001:2000



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General description

Our main product is flat solar collector KS2000. Throughout the years, it has been improved and modified. Its very good technical parameters and the quality of workmanship have been confirmed with tens of thousands of sold devices and the long term of warranty granted by our company. KS2000 collectors were repeatedly tested for effectiveness and energy performance by independent, renowned European institutes. In our company we also conduct tests of collectors in pursuit of most advantageous technical and economic solutions. The collectors we produce are successfully used in small installations designed for single-family houses and in large installations designed for multi-family housing and public utility objects.

Destination

Solar collectors are used for supporting household usable water heating systems and central heating systems as well as heating the water in swimming pools. There are great many solutions for installations with solar collectors and the way of combining them with the existing heating systems.

From the beginning of 2008, the company has introduced into its offer highly effective vacuum tube solar collector KSR10.

Remaining offer

Apart from solar collectors, you will also find in our offer: complete solar sets, water heaters, pumping sets, other equipment and accessories. Our offer also includes special solar collectors for warming up the water in swimming pools.



Small solar installations for hot household water in single-family houses

A well-designed solar installation should satisfy the demand for heat needed for warming up the usable water for the all dwellers for whom the installation is designed.

- 100% in summer season,
- 50-60% for the rest of the year.

Guidelines for the selection of installation

The number of solar collectors

General guideline: from 0.8 to 1.5 m² of collector's absorber per one person

COLLECTOR KSR10 (pcs)	2-3	3-4	4-6	5-7
COLLECTOR KS 2000 (pcs)	2	3	4	5
Number of users:	2-4	3-5	4-6	5-8

Solar installations supporting building's central heating system

We recommend using solar collectors for supporting central heating installations in buildings with low demand for energy needed for heating it and with low-temperature heating system. We will provide you detailed information in response to your particular inquiry.

Swimming pool solar installations

When choosing the collectors for a swimming pool, one should be guided by the following principles:

- for open-air swimming pools without anti-evaporation cover - the area of the collectors` absorber should be 40% to 60% of the swimming pool's area,
- for open-air and indoors swimming pools with anti-evaporation cover - the area of the collectors` absorber should be 30% to 40% of the swimming pool's area,
- for indoors swimming pools without anti-evaporation cover - the area of the collectors` absorber should be 40% to 50% of the swimming pool's area.

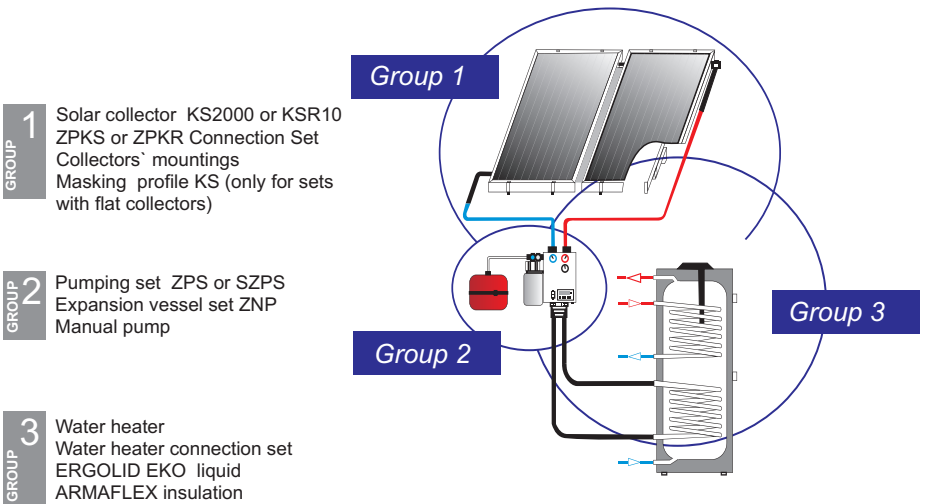
HOW TO ORDER OUR PRODUCTS

This catalogue enables you to collect all the items and products for solar installations for heating household usable water in single-family houses. Larger installations (any size) require more detailed agreements with our company.

In order to complete the devices for solar installation you should specify:

- the size of installation (number of collectors, capacity of the water heater) according to user`s needs and requirements,
- place and method of mounting the collectors,
- place of mounting the water heater (height of the place)

In order to make easier the selection of individual elements composing the solar installation, we created three catalogue groups:



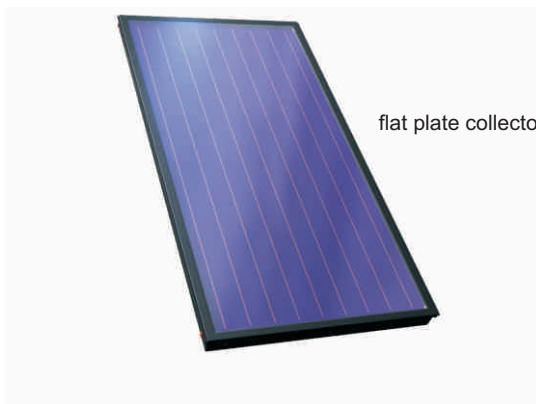
TECHNICAL SPECIFICATION

No.	Data	Solar collector type		Vacuum tube collector KSR10
		KS2000SLP	KS2000TLP	
1	Length	2018 mm		2130mm
2	Width	1037 mm		860mm
3	Height	89 mm		111mm
4	Weight	38 kg		31 kg
5	Gross surface	2,09 m ²		1,82m ²
6	Absorber area	1,83 m ²		1,02m ²
7	Attachments	four outside screw-threads 3/4"		two outside screw-threads 3/4"
8	Capacity	1,1 litre		1,8 litre
9	Maximum work pressure		6 bar	
10	Casing	welded, sheet metal of aluminium (letter "L" - powder painted in colour RAL 7022)		top and bottom casings (sheet metal of aluminium) powder painted in colour RAL7022
11	Covering	SUN PLUS glass 3,2mm (transmission 92%-signed P)		glass pipe with antireflective coating
12	Absorber	Execution	Copper stripes ultrasonic welded with copper pipes	
		Selective Coverage	Black chrome TINOX classic	
13	Insulation	Mineral wool		
14	Method of installation	universal handles KSAL, KSOL adjusting handles KSOL, flashing universal constructions KSOL		universal handles KSR1L, adjusting handles KSR1L, universal constructions KSR1L
15	Warranty	10 years		5 years

The product name:	Art. No:
Solar collector KS2000SLP	11.22.00
Solar collector KS2000TLP	14.22.00

Signature:

- S - black chrome cover
- L - powder painted with colour RAL 7022 (graphite)
- P - SUNPLUS glass
- T - TINOX classic cover, ultrasonic welded



flat plate collector KS2000 TLP

flat plate collector KS2000SLP



VACCUM TUBE SOLAR COLLECTOR KSR10

THE CONSTRUCTION:

Vaccum tube collector KSR is designed to be easily put together just before mounting on the chosen place, for example on the roof or on an universal construction.

The vaccum tube collector consists of:

- **10 vaccum tubes Ø 56/1,9 mm and 2,0 m. long with absorbers inside,**
- compact separator of heat medium with outside screw-threads Gz 3/4",
- basic construction made of aluminium and connections made of stainless steel,
- top and bottom casings made of aluminium sheet; powder painted with RAL 7022.



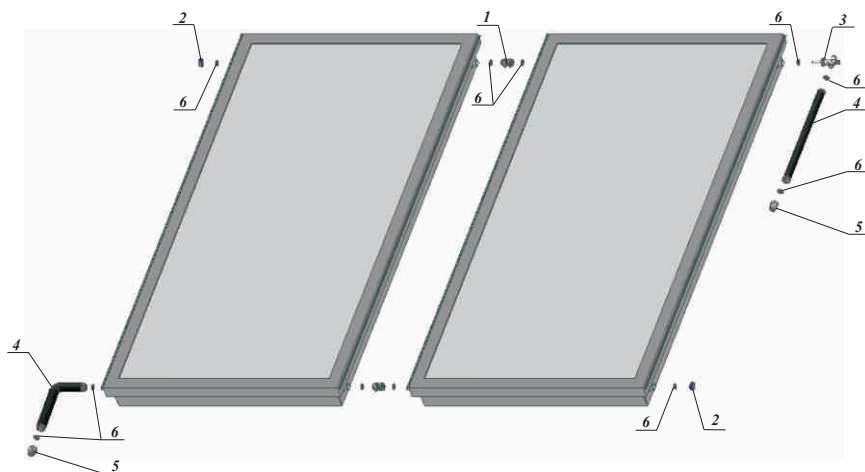
THE SELECTION:

The basic unit consists of two vaccum tube collectors KSR10 on a common basic construction, which create together a battery.

The battery can be **enlarged up to 5 vaccum tube collectors** joined in series.

You should collect proper mounting elements (handles, flashing, universal construction) to the place, where vaccum tube collectors will be mounted.

The product name:	Art. No.
Vaccum tube collector 2KSR10 (the battery)	15.21.00
Vaccum tube collector KSR10	15.11.00



Description of individual elements in the section:
 Collectors` equipment - p. 28-32

THE DESTINATION:

The set enables complete assembly and connection of flat solar collector's batteries to installation pipes. The set's equipment depends on the number of flat collector batteries and the diameter of the installation pipe, which connects the collectors to the pumping and control unit.

THE EQUIPMENT:

The set consist of the following elements:

- Pipe Union KS 3/4" (1)
- Sensor's housing KS 3/4" with vent (3)
- Plug KS 3/4" (2)
- Elastic connection KS 3/4" (4)
- Connection GZ 3/4"-18 or Connection GZ 3/4"-22 (5)
- Complete set of gaskets 24/18 (6)

THE SELECTION:

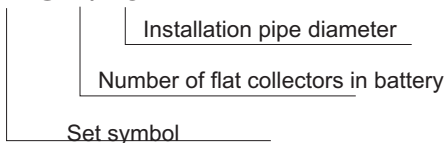
For a battery consisting of maximum eight flat collectors, one connection set should be ordered. When choosing the set, you should take into consideration the number of flat collectors in a battery and the diameter of the installation pipe used.

Product name:	Art. no.:
Connection set ZPKS 1/18	46.01.11
Connection set ZPKS 2/18	46.01.12
Connection set ZPKS 3/18	46.01.13
Connection set ZPKS 3/22	46.01.23
Connection set ZPKS 4/22	46.01.24
Connection set ZPKS 5/22	46.01.25
Connection set ZPKS 6/22	46.01.26
Connection set ZPKS 7/22	46.01.27
Connection set ZPKS 8/22	46.01.28

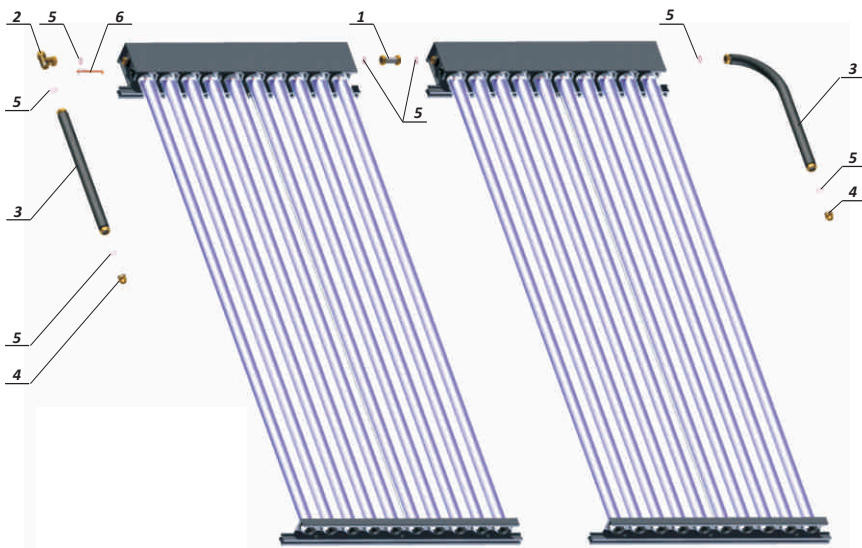
ZPKS
GROUP 1

Signatures:

ZPKS 2/18



ZPKR
1
GROUP



Description of individual elements in the section:
Solar collectors` equipment - p. 28-32

THE DESTINATION:

The set enables complete assembly and connection of vaccum tube solar collector's batteries to installation pipes. The set's equipment depends on the number of vaccum tube collector batteries and the diameter of the installation pipe, which connects the vaccum tube collectors KSR10 to the pumping and control unit.

THE EQUIPMENT:

The set consist of the following elements:

- Pipe Union KS 3/4 (1),
- Elastic connection KS 3/4" (3),
- Three-way adapter KSR with vent (2),
- Connection GZ 3/4"-18 or Connection GZ 3/4 "-22 (4),
- Complete set of gaskets 24/18 (5),
- Sensor`s housing (6).

THE SELECTION:

When choosing the set, you should take into consideration the number of vaccum tube collectors KSR10 in a battery and the diameter of the installation pipe used. Please look into the chart on the next page.

The product name:	Art. no.:
Connection set ZPKR 1/18	46.02.11
Connection set ZPKR 2/18	46.02.12
Connection set ZPKS 3/18	46.02.13
Connection set ZPKR 4/22	46.02.24
Connection set ZPKR 5/22	46.02.25

Sigatures:

ZPKR 2/18

Installation pipe diameter
Number of vaccum tube collectors in battery
Set symbol

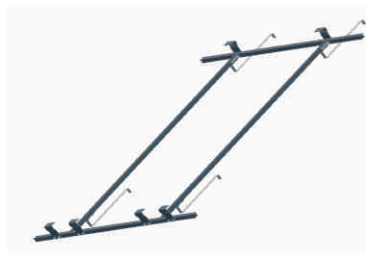
ZPKR

GROUP 1

UNIVERSAL HANDLES KSAL, KSOL

THE DESTINATION:

Universal handles KSAL and KSOL are used to mount at least two flat collectors KS2000 on roof coverings of gradients at least $\alpha > 30^\circ$ and covered with tiles, sheet metal coverings, bituminous shingle.



THE CONSTRUCTION:

Aluminium profiles are joined with unions. Together they create a basic platform for two flat collectors KS2000. The platform is mounted to the roof by four hooks. Hooks are made of stainless steel or galvanized steel.

THE SELECTION:

The basic platform is dedicated for 2 flat solar collectors (KSAL-2 or KSOL-2) with four hooks. **The handle can be enlarged up to maximum 8 flat solar collectors in one set.** To achieve this, one should add to basic platform one universal handle (KSAL-1 or KSOL-1) for each additional flat collector .

Product name:	Art. no.:
Universal handle KSAL-2 (for two solar collectors, made of stainless steel and aluminium, painted)	21.32.02
Universal handle KSAL-1 (for additional solar collector, made of stainless steel and aluminium, painted)	21.32.01
Universal handle KSOL-2 (for two solar collectors, made of galvanized steel and aluminium, painted)	21.42.02
Universal handle KSOL-1 (for additional solar collector, made of galvanized steel and aluminium, painted)	21.42.01

ADJUSTING HANDLE KSOL

THE DESTINATION:

For mounting flat collectors on roof coverings of gradients from 30° to 20°, adjusting handles are used. These handles increase slope angle by 10°.



THE CONSTRUCTION:

Adjusting handle KSOL vary from universal handle in the way, that upper hooks are longer and increase the slope angle by 10°. Hooks are made of galvanized steel. KSOL handles are powder painted in RAL 7022.

THE SELECTION:

Adjusting handles should be ordered as a set for **two flat collectors KSOL-2** and additionally for each subsequent collector (KSOL-1) in a battery.

The product name:	Art. No:
Adjusting handle KSOL-2 (for two collectors, painted)	21.52.02
Adjusting handle KSOL-1 (for additional collector, painted)	21.52.01

UNIVERSAL CONSTRUCTION KSOL

THE DESTINATION:

Universal construction (collector rack) is dedicated to mount flat collectors on roofs of slight slope angles (below 20°) or directly on a flat ground.

THE CONSTRUCTION:

The universal construction is made of galvanized steel profiles connected with bolts (they create together one basic platform for two flat collectors). Other elements of the construction, which assure the proper slope and the ground basis (which mount the construction to the ground) are made of galvanized steel.

All the items of the universal construction KSOL are powder painted in RAL 7022.

THE SELECTION:

The basic platform can be **enlarged up to 8 flat solar collectors in one set.**

The universal construction should be ordered as **a set for two flat collectors (KSOL-2)** and additionally for each subsequent collector in a battery (KSOL-1).

When mounting flat collectors on the ground, you need to screw the ground basis to the universal construction. The ground basis (consists of two items) must be cemented to the ground.



GROUP 1
KSOL
CONSTRUCTION

The product name:	Art. No:
Universal construction KSOL-2 (for two collectors, painted)	22.22.02
Universal construction KSOL-1 (for additional collector, painted)	22.22.01
Ground basis (2 items, painted)	22.20.02

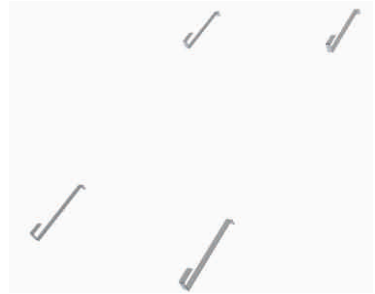
UNIVERSAL HANDLE KSRL

THE DESTINATION:

Universal handles KSRL-2 i KSRL-1 are dedicated to mount vaccum tube solar collectors KSR10 on slanting roofs (slope angle at least 30°) covered with tiles, sheet metal coverings or bituminious.

THE CONSTRUCTION:

Universal handles KSRL are made of stainless steel - two hooks for one vaccum tube collector.



THE SELECTION:

The basic unit is **universal handle KSRL-2** dedicated for **two vaccum tube KSR10 collectors**. The solar set can be **enlarged up to 5 vaccum tube solar collectors in one set**. To enlarge the solar set, you need to add **one universal handle KSRL-1** for each additional **vaccum tube collector** in the solar set.

The product name:	Art. no.:
Universal handle KSRL-2 (for two collectors, stainless steel)	21.62.02
Universal handle KSRL-1 (for additional collector, stainless steel)	21.62.01

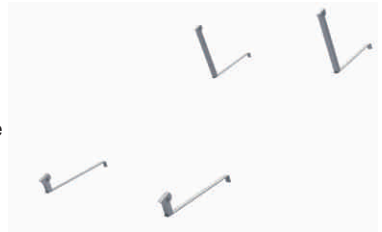
ADJUSTING HANDLE KSRL

THE DESTINATION:

Adjusting handle KSRL is a variety of universal handle on slanting roofs (slope angle from 20° to 30°).

THE CONSTRUCTION:

Adjusting handles KSRL are made of galvanized steel, additionally powder painted in colour RAL 7022. Upper hooks are higher (than in the universal handle KSRL) and what is why they increase vaccum tube collectors angle by 10°.



THE SELECTION:

For the basic battery (consisted of two vaccum tube solar collectors KSR10), one KSRL-2 adjusting handle should be ordered. For each additional vaccum tube collector in the battery, you should order one KSRL-1 adjusting handle.

The product name:	Art. no.:
Adjusting handle KSRL-2 (for two collectors, galvanized steel; painted)	21.72.02
Adjusting handle KSRL-1 (for additional collector, galvanized steel; painted)	21.72.01

UNIVERSAL CONSTRUCTION KSRL

THE DESTINATION:

Universal handle KSRL is dedicated to mount vaccum tube collectors on roofs of slight slope angles (below 20°) or directly on a hard flat ground.



THE CONSTRUCTION:

The universal construction KSRL is made of aluminium profiles connected with bolts (they create together one basic platform for two vaccum tube collectors). Other elements of the the construction, which assure the proper slope and the ground basis (which mount the construction to the ground) are made of galvanized steel.

All the items of the universal construction KSRL are powder painted in RAL 7022.

THE SELECTION:

The basic platform can be **enlarged up to 5 vaccum tube solar collectors in one set**. The universal construction should be ordered as a **set for two vaccum tube collectors (KSRL-2)** and **additionally for each subsequent collector in a battery (KSRL-1)**.

When mounting vaccum tube collectors on the ground, you need to screw the ground basis to the universal construction. The ground basis (consists of two items) must be cemented to the ground.



The product name:

Art.. no.:

Universal construction KSRL-2 (for two collectors, powder painted)

22.32.02

Universal construction KSRL-1 (for additional collector, powder painted)

22.32.01

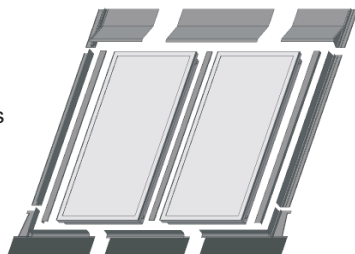
Ground basic (2 items, powder painted)

22.20.02

FLASHING FOR FLAT COLLECTORS

THE DESTINATION:

The flashing is designed for building in the flat collectors on the roof as a fragment of its cover. Solar collectors are arranged directly on boards or laths designed for laying the tiles.



FLASHING

GROUP 1

THE EQUIPMENT:

Flashings are made of aluminium sheet and lead strip painted in RAL 7022 colour (umbra grey).

THE SELECTION:

The flashing should be ordered as a set for two flat collectors and additionally for each additional flat collector in a battery.

The product name:	Art. No:
Flashing for two collectors	27.01.00
Flashing for additional collector	27.01.02

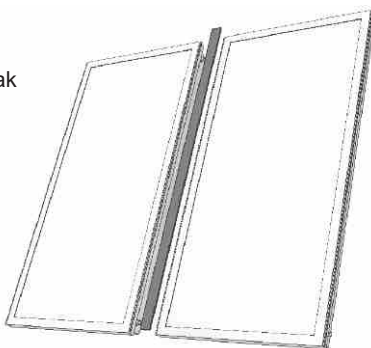
MASKING PROFILE KS

THE DESTINATION:

The masking profile is dedicated to cover the break between flat collectors in a battery. It improves the aesthetics and is the shield for pipe union insulation.

THE SELECTION:

For a single battery of flat collectors, you should order one profile less than the number of flat collectors in a battery.

**The product name:**

Masking profile KSL (powder painted)

Art. No:

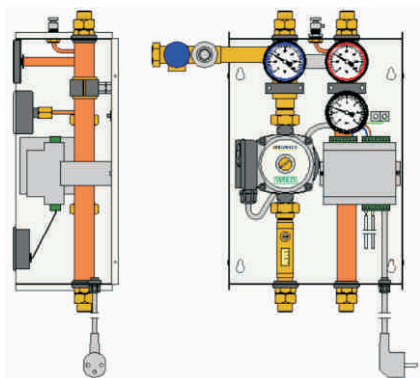
41.02.00

SET ZPS

THE DESTINATION:

The pumping and control unit is designed for installations with both flat and vacuum tube solar collectors with **maximum flow 12 litres/min.**

The ZPS set is forcing and controlling the flow of heating carrier in a hydraulic circulation of collectors and the water heater.



THE EQUIPMENT:

The pumping and control unit is composed of: heating carrier circulating pump, air separator, heating carrier flowmeter, safety valve (6 bar), check valve, cut-off valve, manometer, two thermometers for measuring the supply and return temperature, electronic controller of pump operation with a set of sensors. All the elements of the subassembly are built in a cabinet case made of steel sheet lacquered in white.

THE SELECTION:

For a single installation, one pumping and control unit is used. It is selected depending on the required height of elevating and the maximum flow of heating carrier and the diameter of connection pipe.

The product name:

Art. No:

Set ZPS 4/8-18

71.04.08

Set ZPS 4/12-22

71.04.12

Set ZPS 6/8-22

71.06.08

Set ZPS 6/12-22

71.06.12

SIGNATURES:

ZPS 4/8-18

 _____ Diameter of the connection pipe
 _____ Maximum flow of heating carrier l/min
 _____ Required height of elevating
 _____ Set sign.

SET SZPS

THE DESTINATION:

The pumping and control units are designed for installations with both flat and vacuum tube solar collectors with **flow up to 12 litres/min and up to 28 litres/min.**

The pumping and control unit is designed for installations with solar collectors and serves forcing and controlling the flow of heating carrier in a hydraulic circulation of collectors and the water heater.



THE EQUIPMENT:

The pumping and control unit is composed of: ball valves on the supply and return way, security unit (which protects the installation from the overpressures), flowmeter and circulating pump. The SZPS set involves the temperature difference controller TDC3. All the elements of the subassembly are built in a cabinet case made of foamy polypropylene.

SELECTION:

For a single installation, one pumping and control unit is used. It is selected depending on the required height of elevating and the maximum flow of heating carrier and the diameter of connection pipe.

Letter "I" in the product name means a set with integrated controller inside the casing.
Letter "N" in the product name means a set with the controller outside the casing.

The product name:	Art. No:
Set SZPS 6/12 I TDC3	71.26.12
Set SZPS 6/28 I TDC3	71.26.28
Set SZPS 6/12 N TDC3	71.16.12
Set SZPS 6/28 N TDC3	71.16.28

SIGNATURES:

SZPS 6/28

Maximum flow of heating carrier l/min
Required height of elevating
Set sign.

SET ZNP

THE DESTINATION:

Pressure vessel compensates for changes of volume of the heating carrier in the installation in various temperatures. In addition, in emergency situations, it intercepts heat from collectors, this way ensuring protection against unintended opening of the safety valve.

The size of the vessel should be suited to the number of solar collectors and the liquid volume of heating carrier of collector circulation.

THE EQUIPMENT:

The pressure vessel is composed of: pressure vessel, a holder for wall mounting of the vessel, connection hose for connecting the vessel to the pumping and control unit.



THE SELECTION:

The capacity of the vessel is selected taking into account the capacity of the collector unit, number of collectors and the hydrostatic elevation of the installation. Apart from particular cases, for small installations with two collectors we recommend a vessel of the capacity of 12 litres, installations with three to four collectors - 18 litres, with five collectors - 24 litres.

ZNP

GROUP 2

The product name:	Art. No:
Set ZNP 12	72.12.00
Set ZNP 18	72.18.00
Set ZNP 24	72.24.00

SIGNATURES:

ZNP 12

Capacity of the vessel in litres _____

Set signature _____

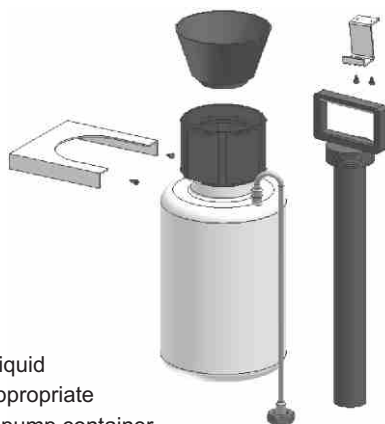
MANUAL PUMP

THE DESTINATION:

Manual pump is designed for filling in the installation with heat carrier and creating the required overpressure.

THE CONSTRUCTION:

This is a manual piston air pump with a container of capacity of 3 litres of liquid. The air overpressure created over the liquid surface in the vessel forces liquid to flow through drain valve to the installation. The appropriate holder supplied with the pump enables hanging the pump container under the safety valve. In case of emergency opening of the valve, it collects the heating carrier from the system.



The product name:

Manual pump

Art. No:

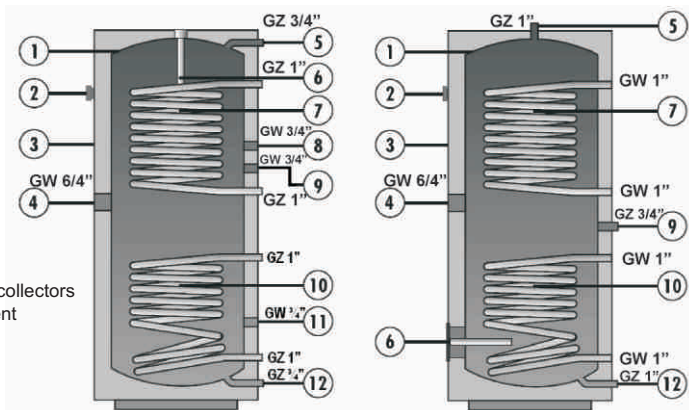
73.01.00



COMPLETE STRUCTURE OF PUMPING SET

HEATERS WITH TWO HEAT EXCHANGERS

1. Glazed container
2. Filled thermometer
3. Insulation+steel cover
4. Electric heater socket
5. Hot water collection
6. Magnesium anode
7. Heat exchanger
8. Thermometer
9. Water circulation
10. Heat exchanger
11. Thermometer for solar collectors
12. Cold water reinforcement



OKC250NTRR

HT300ERR, 400ERR, 500ERR

THE DESTINATION:

Water heaters are designed for heating household water using heat from solar collectors and the heat from central heating boiler. The bottom coil pipe is designed for solar collectors, and the upper one for central heating boiler. It is possible to build in an electric heater in the water heaters (chapter: accessories for solar installation).

THE CONSTRUCTION:

The water heater is made of steel and on the inside is coated with ceramic enamel protecting the steel against corrosive effect of hot water. It is thermally insulated with a layer of polyurethane foam. On the external surface it has a jacket made of powder lacquered steel sheet. In addition, the water heater is protected against corrosion by a magnesium anode.

Type of preheater

Type of preheater	OKC250NTRR	HT300ERR	HT400ERR	HT500ERR
Capacity, dm ³	245	300	400	500
Total diameter, mm	584	610	680	760
Total height, mm	1520	1797	1832	1853
Heater pressure Max, MPa	0,6	0,6	0,6	0,6
Upper heat exchanger Surface, m ²	1,0	0,7	0,7	0,7
Lower heat exchanger Surface, m ²	1,0	1,2	1,45	1,76

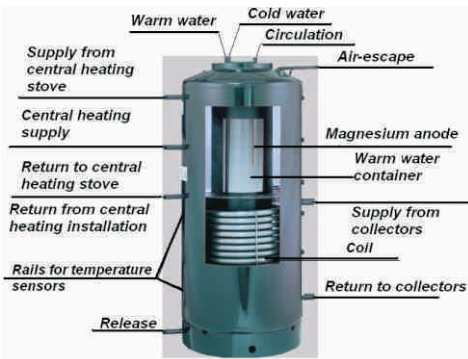
SELECTION:

General guideline: water heater's capacity per one collector KS2000 - 90 to 130 litres.

Collectors amount	2 pcs.	3 pcs.	4 pcs.	5 pcs.
Water heater capacity	250 l	300 l	400 l	500 l

The product name:	Art. No:
Water heater OKC250NTRR	81.10.00
Water heater HT300ERR	83.30.12
Water heater HT400ERR	83.40.12
Water heater HT500ERR	83.50.12

WATER HEATERS FOR WARMING UP USABLE WATER AND SUPPORTING CENTRAL HEATING



SiSS water heaters are designed for warming up usable water and supporting central heating.

The internal container (covered with enamel) is dedicated for warming up the usable water.

The external container is dedicated for heating water. It is additionally insulated with high quality polyurethane foam. It includes highly effective coil, which cooperates with collectors

In the name of the water heater the first number describes the total capacity of both containers. The second number describes the capacity of the internal container for warming up the usable water.

Product name:	Art.. no.:
Water heater SiSS 500/150	85.55.15
Water heater SiSS 750/150	85.75.15
Water heater SiSS 900/200	85.90.20
Water heater SiSS 1100/250	85.11.25
Water heater SiSS 1350/250	85.13.25

THE SELECTION:

General guideline: water heater's capacity per one collector KS2000 - 90 to 130 litres.

Collectors amount	2 pcs.	3 pcs.	4 pcs.	5 pcs.
Water heater`s capacity	250 l	300 l	400 l	500 l

The product name:	Art. No:
Water heater OKC250NTRR	81.10.00
Water heater HT300ERR	83.30.12
Water heater HT400ERR	83.40.12
Water heater HT500ERR	83.50.12

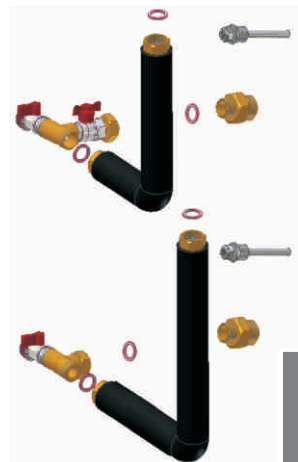
CONNECTION SET ZPP

THE DESTINATION:

The unit is designed for connecting the pumping and control unit PCU to the selected water heater.

THE EQUIPMENT:

The set consist of the following elements:
a set of flexible couplings, reducing pipe enabling connecting the flexible coupling to the vessel, a drain valve unit for filling in and emptying the solar installation, housing of the temperature sensor.



THE SELECTION:

For a single installation, one connection set should be ordered, taking into account the water heater's manufacturer.

The product name:	Art. No:
Set ZPP-C (for EKO-VIMAR water heaters)	51.01.00
Set ZPP-P (for Galmet, Elektromet water heaters)	51.02.00
Set ZPP-A (for Austria Email water heaters)	51.03.00

ZPP
GROUP 3

ERGOLID EKO LIQUID

THE TECHNICAL CHARACTERIZATION:

The offered liquid ERGOLID EKO is a water solution of non-toxic polypropylene glycol. It has in its composition a set of inhibitors which guarantee excellent anticorrosion properties, enabling exploitation of the installation in perfect condition for many years. The freezing temperature of ERGOLID EKO is -25 °C. It is supplied in packagings - 20 and 30 kg.



The product name:	Art. No.:
ERGOLID EKO (30 kg)	80.30.30
ERGOLID EKO (20 kg)	80.30.20

ARMAFLEX AC INSULATION

THE DESTINATION:

The insulation is designed for insulating the pipes running inside the building, connecting the solar collectors with the pumping and control unit.



THE TECHNICAL CHARACTERIZATION:

It is made of very flexible material of high ratio of resistance against diffusion of water vapour and low heat conduction, based on synthetic caoutchouc. It is resistant to maximum temperature of heating agent of 105°C in continuous operation. Insulation is delivered in lengths of 2 m. (in packagings including 2m, 10m and 20m)

The product name:	Art. No:
Insulation ARMAFLEX AC 18/9	80.18.09
Insulation ARMAFLEX AC 18/13	80.18.13
Insulation ARMAFLEX AC 22/9	80.22.09
Insulation ARMAFLEX AC 22/13	80.22.13

SIGNATURES:

INSULATION ARMAFLEX AC 18/9

Product name

Insulation thickness
Outside pipe diameter

SENSOR'S HOUSING KS 3/4" WITH VENT

THE DESTINATION:

The housing protects the temperature sensor placed in the flat collector. It has a manual vent, enabling removal of air from the installation during filling it up.



THE CONSTRUCTION:

The housing is made of copper pipe with brass head and manual vent, hexagonal nut 30 mm with internal thread 3/4" and flat gasket.

The product name:

Sensor's housing with vent KS 3/4"

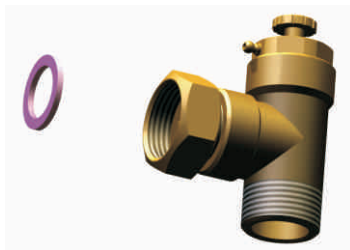
Art. No:

44.01.01

THREE-WAY KSR ADAPTER WITH VENT

THE DESTINATION:

The three-way KSR adapter is dedicated to join the vacuum tube collector KSR10 with elastic connection.



THE CONSTRUCTION:

The three-way KSR adapter is made of brass. It has a hexagonal nut with internal thread 3/4" and flat gasket and a manual vent.

The product name:

Three-way KSR Adapter

Art. No:

46.02.01

AIR SEPARATOR KS 3/4"

THE DESTINATION:

The separator is designed for removing air from the installation during filling it up with heating carrier and after its start.

It is used in case of an installation composed of many batteries of solar collectors.



THE CONSTRUCTION:

This is a vessel of internal capacity of 0.2 dm³ with two connections with external thread 3/4" and a manual air-escape valve 1/2" on the upper bottom of the separator.

THE SELECTION:

In case of an installation composed of many batteries of collectors, it is recommended to use one separator for each of these batteries. For direct connection of the separator to the collector serves pipe union KS 3/4", which should be ordered separately.

The product name:

Air separator KS 3/4"

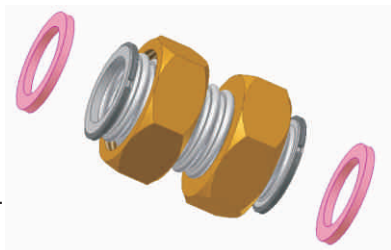
Art. No:

45.01.00

PIPE UNION 3/4"

THE DESTINATION:

Pipe union serves connecting individual solar collectors into larger batteries. Due to linear elongation of collection pipes in collectors under temperature, it is permitted to join maximum five collectors in one battery.



THE CONSTRUCTION:

Pipe union consists of pipe coupling with two hexagonal nuts 30 mm with internal thread 3/4", two flat gaskets and thermal insulation.

The product name:

Pipe union KS 3/4"

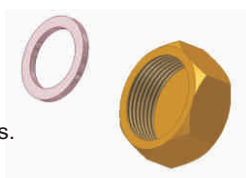
Art. No:

42.01.00

PLUG KS 3/4"

THE DESTINATION:

A plug serves plugging threaded connections of collectors.



The product name:

Plug KS 3/4"

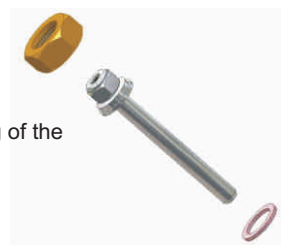
Art. No:

43.01.00

SENSOR'S HOUSING KS 3/4"

THE DESTINATION:

The sensor's housing is used in case of a set consisting of many batteries of solar collectors and makes the shielding of the sensor placed in the collector.



THE CONSTRUCTION:

The housing is made of copper pipe with copper head, hexagonal nut 30 mm with internal thread 3/4" and flat gasket.

The product name:

Sensor's housing KS 3/4"

Art. No:

44.01.00

PIPE HALF-UNION KS 3/4" L FOR SOLDERING

THE DESTINATION:

Pipe half-union serves direct connection of a battery of collectors to the installation piping.



THE CONSTRUCTION:

It is made of a brass element enabling soldering to it a copper pipe of diameter 18 or 22 mm, hexagonal nut 30 mm with internal thread 3/4" and a flat gasket.

THE SELECTION:

In case of resignation of the complete connection set, for a single battery of collectors, you should order two pipe half-unions.

Accommodation	Art. No:
Pipe hal-funion L 3/4"-18 (for pipe C∅ 18)	40.20.18
Pipe half-union L 3/4"-22 (for pipe C∅ 22)	40.20.22

ELASTIC CONNECTION KS 3/4"

THE DESTINATION:

They enable connecting a battery of collectors to installation piping. It makes considerably faster and easier the assembly of collectors and passage of pipes under the building roof.



THE CONSTRUCTION:

Connections are made of goffered stainless steel pipe in thermally insulating caoutchouc, with two hexagonal nuts 30 mm with internal thread 3/4" and two flat gaskets.

The set consists of two flexible couplings 0.7m long.

The product name:	Art. No:
Elastic connection KS 3/4"	40.11.00

CONNECTION GZ 3/4"

THE DESTINATION:

Guarantees proper connection of flexible coupling with copper pipe.



THE CONSTRUCTION:

The coupling is made of brass and has external thread 3/4" with the possibility of soldering to it the copper pipe of diameter 18 or 22 mm. It has wide faying surface enabling the use of flat gasket.

The product name:	Art. No:
Connection GZ 3/4"-18 (for pipe Cu Ø18)	40.30.18
Connection GZ 3/4"-22 (for pipe Cu Ø22)	40.30.22

GASKET 24/18

THE DESTINATION:

Gaskets are used for all types of sealing related to the assembly of solar collectors.



THE SELECTION:

The number of gaskets necessary for the assembly is delivered with connection sets and pipe unions. These gaskets can be ordered in case of individual demand as spare parts. Number in unit packaging 10 pcs.

The product name:	Art. No:
Gasket S24/18 (silicone)	40.41.10

HOUSING FOR TEMPERATURE GAUGE

THE DESTINATION:

The housing of immersion type sensor is suited to housing in water heater.

THE CONSTRUCTION:

The housing is made of copper pipe with brass head with external thread 1/2" or 3/4".



THE SELECTION:

Sensor's housing should be ordered appropriately to the water heater type (e.g. for water heater 250NTRR - two housings). It has to be noted that these housings are the equipment of connection sets designed for relevant water heaters.

The product name:	Art. No:
Housing for temperature gauge 1/2"	50.41.00
Housing for temperature gauge 3/4"	50.31.00

ELECTRIC HEATER

THE DESTINATION:

An electric heater is used for heating the water in the water heater up to the required temperature in case of insufficient amount of energy from other sources.



THE CONSTRUCTION:

The heater has a heating element of 2kW output. It is equipped with an adjustable thermostat and appropriate protection against too high temperatures. It is suited to screwing into 5/4" stub pipe. In order to make possible its use in water heater OKC250NTRR and Austria Email, it is necessary to use reduction 6/4" to 5/4", available in brass and also included in our offer.

The product name:	Art. No:
Electric heater 2kW	80.10.10
Brass reduction 6/4" to 5/4"	80.10.20

CONTROLLER G403-P10 self-contained control block

THE DESTINATION:

The controller is a self-contained control block designed for controlling the work of circulation pumps and electric drive valves in installations with solar collectors. The controller has 3 temperature sensors and 3 outputs, which in various solutions of the installations with solar collectors enables using one of the six available program options in this controller.



THE CONSTRUCTION:

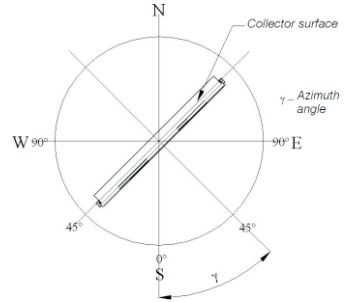
The controller consist of the following devices:
 programming panel with LCD display, control panel with power supply cable and electronic cable to programming cable and a set of semiconductor sensors with connection cables. Power supply 230V; 50Hz, max output 200W

The product name:	Art. No:
Controller G403-P10	74.01.00
Temperature sensor G403-P10 20m	74.01.20
Temperature sensor G403-P10 3m	74.01.03
Casing to controller G403-P10	74.02.00

GENERAL ATTENSIONS REGARDING SOLAR COLLECTORS INSTALLATIONS

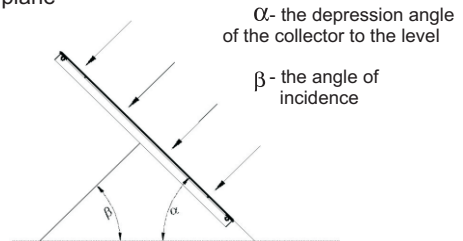
Collectors should face the south.

The collector's plane should be, if only possible, directed towards the south. In practice, however, this is not always possible and gradient deflections within $\pm 45^\circ$ are permitted.



Gradient of collector batteries.

The gradient of the collector plane to horizontal plane plays an important role in the collection of solar radiation. The most advantageous conditions to the collection of solar energy are present when the sun rays fall perpendicular to the collector's glass. Due to changeable gradient of the sun in various times of the day and seasons of the year, we recommend the collector's gradient between 35° - 45° .



Important notes during constructing the installation:

- proper place to mount solar collectors,
- mounting the installation according to attached manuals,
- filling the installation with proper liquid and its start-up according to attached manuals.

EXAMPLES OF INSTALLATION DIAGRAMS WITH SOLAR COLLECTORS

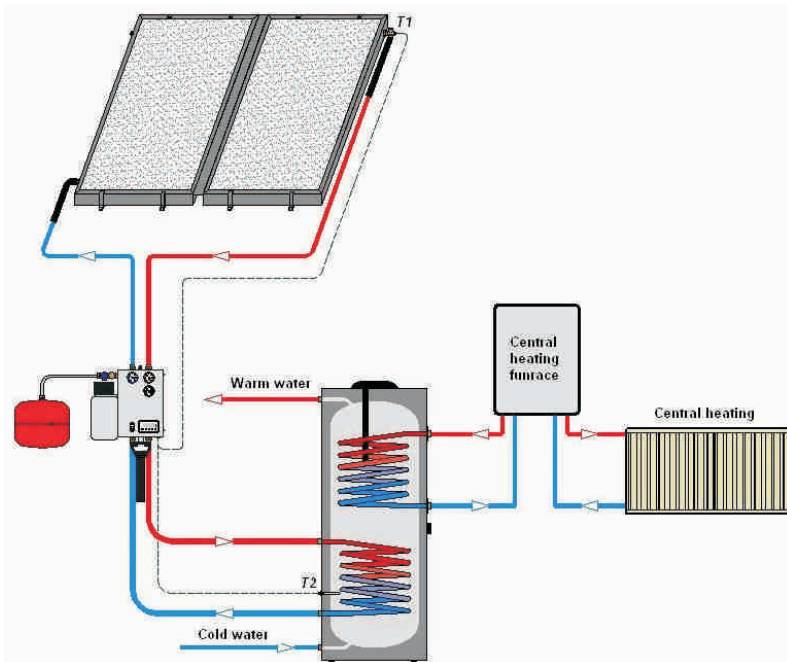
THE GENERAL DESCRIPTION:

In this chapter, we would like to present a few examples of installation diagrams which can be assembled with the devices selected from our catalogue. For each solution presented, we can provide control ensuring proper operation of the whole installation.

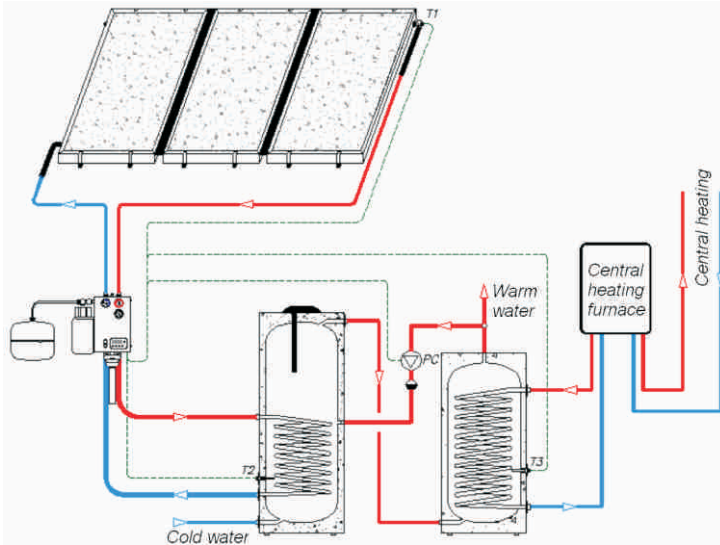
In order to ensure the best use of solar collectors in the installations built, one should remember that efficiency of solar energy collectors is the higher the lower is the temperature of their operation at a given amount of solar radiation.

This purpose can be achieved by:

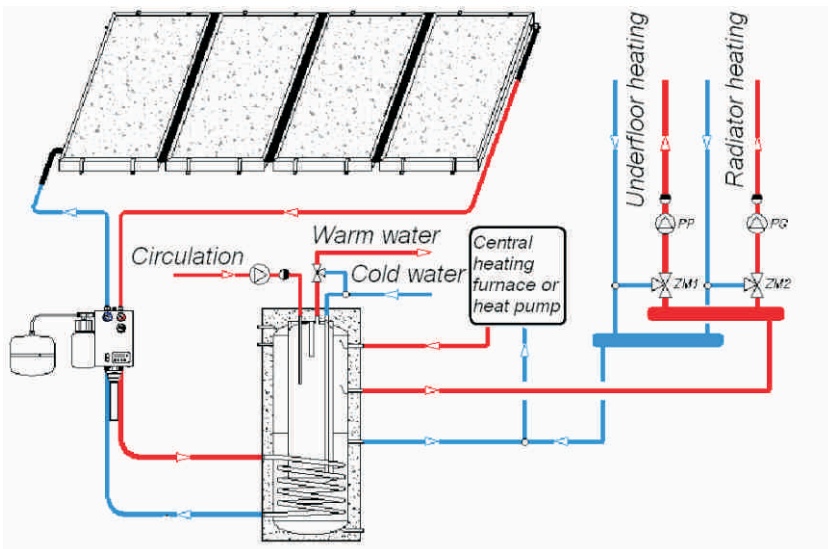
- proper adjusting of the number of collectors to the size of the water heater,
- ensuring appropriate flow and temperature settings,
- avoiding the use of too many collectors in relation to real needs.



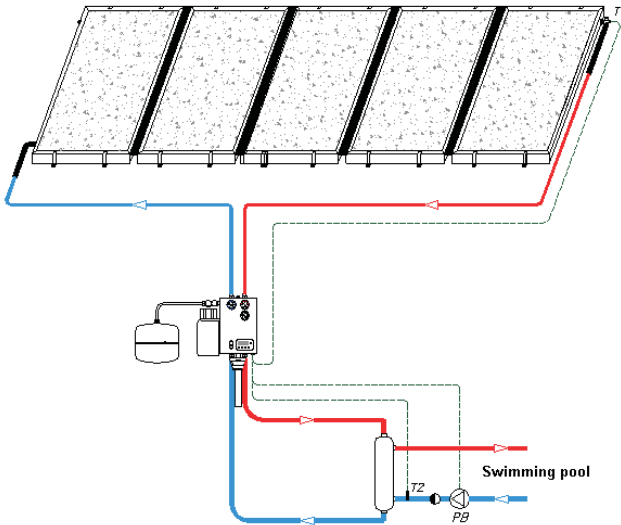
It is the diagram of the most popular use of solar collectors for warming up the usable water in small household installations. We offer this solution for newly constructed water heating installations or modernisation of the existing ones. Water preheated in solar collectors is then additionally heated by the boiler connected to the upper exchanger in the same water heater.



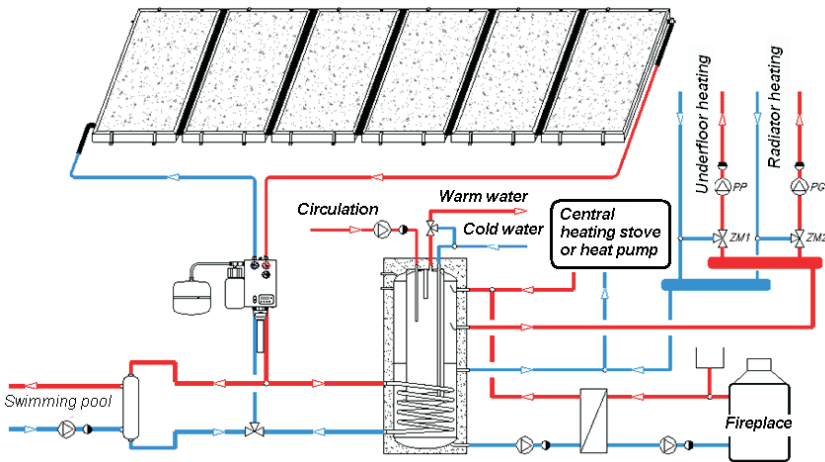
In case of water heating system with the existing water heater, the use of solar collectors requires additional water heater in which cold water is preheated by solar energy and then directed to the next water heater cooperating with the boiler.



An example of the use of solar collectors for heating household water and supporting heating system of the building. SISS type buffer water heater of special construction with the built-in hot household water container inside is dedicated to that kind of installations.

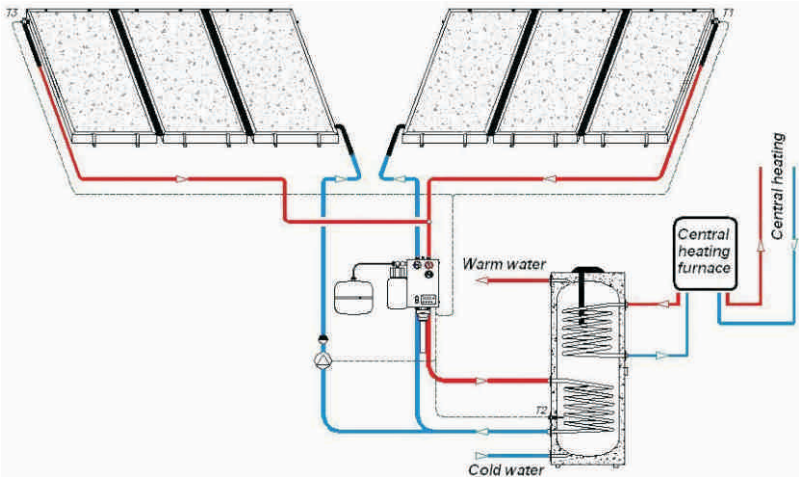


When heating water in the swimming pool, solar collectors have to be connected to the proper heat exchanger built in the water filtering system. In this case, we always recommend the option of using the same collectors for heating household water.



In the solution presented, solar collectors are used for preheating household water, water in a swimming pool as well as supporting central heating system. In this solution, attention should be paid to the additional function of the buffer container making it possible to combine several heat sources. The installation presented in the diagram is an example of an optimum use of many solar collectors which in summer provide hot water and heat the swimming pool and support central heating in spring and autumn.

Installation diagram for warming up the usable water with solar collectors placed east-and-west



East-and-west placing solar collectors results from the building placing and is less favourable than placing collectors to south.

Each group of batteries situated east and west works with separated circulating pump, but with common pumping set.

The principle of this type of installation:
Till noon only the group of collectors situated-east works, at noon both groups of collectors situate east-and-west work together, in the afternoon only the west situated group works.

TERMS AND CONDITIONS OF SOLAR UNITS WARRANTY

Solar collectors together with all devices comprising the solar units we offer are covered by the warranty.

The warranty granted for individual devices covers the following periods starting from the production date:

- flat plate solar collectors - 10 years,
- vacuum tube solar collectors - 5 years,
- pumping and controlling units - 2 years,
- water heaters - 5 years.

Detailed terms and dates of warranty are described in warranty cards enclosed with the delivered devices.

ZERTIFIKAT ♦ CERTIFICATE ♦ CERTIFICADO ♦ CERTIFICAT ♦ CERTIFIKAT ♦ CERTIFICATE ♦ CERTIFICADO ♦ CERTIFICAT



Management Service

CERTIFICATE

The Certification Body
of TÜV SÜD Management Service GmbH
certifies that

HEWALEX Leszek Skiba
ul. Witosza 14a
PL-43-512 Bestwinka

has established and applies
a Quality Management System for

**Designing, construction, production, sales and
service of solar collectors and solar heating systems**

An audit was performed, Report No. **70098804**
Proof has been furnished that the requirements
according to

ISO 9001: 2000

are fulfilled. The certificate is valid until **2008-07-11**
Certificate Registration No. **12 100 25680 TMS**





Munich, 2005-07-15



TGA-ZM-07-92

TÜV Management Service GmbH · TÜV SÜD Gruppe · Zertifizierstelle · Ridlerstrasse 65 · 80339 München · Germany

SPF Solartechnik
Prüfung
Forschung

Institut für Solartechnik
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Obernbergstr. 11, D-124 854 Regensburg
Tel. +49 92 22 42 42, Fax +49 92 22 42 44
www.solarenergy.de

Nachweis des jährlichen Kollektormindestertrages

Sonnenkollektor „KS 2000 TP“
der Firma HEWALEX

Der Sonnenkollektor KS 2000 TP der Firma HEWALEX in PL-43-512 Bestwinka, System zur Brauchwassererwärmung mit 25% solarem Deckungsanteil für den Standort Würzburg einen jährlichen Energieertrag von mehr als 925 kWh/m².

Die Berechnung des Ertrages wurde gemäß der Empfehlung im Anhang zur Vergleichsgrundlage nach RAL-UZ 73 durchgeführt. Der Kollektor erfüllt damit die Anforderungen der Richtlinien zur Förderung von Maßnahmen zur Nutzung erneuerbarer Energien des Bundesministeriums für Wirtschaft und Ausfuhrkontrolle, Deutschland.

Die Wärmekapazität des Kollektors wurde nach EN12975-2, Abschnitt 6.1.6.2 bestimmt.

Rapperswil, den 22.05.2007

J. Böhm
Dr. Andreas Böhm
Leiter Kollektoren

Die Gültigkeit dieses Dokuments kann jederzeit überprüft werden!
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Tel. +49 92 22 42 42, Fax +49 92 22 42 44
www.solarenergy.de

Nachweis des jährlichen Kollektormindestertrages

Sonnenkollektor „KS 2000 SP“
der Firma HEWALEX

Der Sonnenkollektor KS 2000 SP der Firma HEWALEX in PL-43-512 Bestwinka, System zur Brauchwassererwärmung mit 40% solarem Deckungsanteil für den Standort Würzburg einen jährlichen Energieertrag von mehr als 925 kWh/m².

Die Berechnung des Ertrages wurde gemäß der Empfehlung im Anhang zur Vergleichsgrundlage nach RAL-UZ 73 durchgeführt. Der Kollektor erfüllt damit die Anforderungen der Richtlinien zur Förderung von Maßnahmen zur Nutzung erneuerbarer Energien des Bundesministeriums für Wirtschaft und Ausfuhrkontrolle, Deutschland.

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J. Böhm
Dr. Andreas Böhm
Leiter Kollektoren

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www.solarenergy.de/Support

DIN CERTCO
Gesellschaft für Konformitätsbewertung mbH

CERTIFICATE

The company
HEWALEX
ul. Wilosa 14a
43-512 BESTWINKA
POLAND

with its production site in
Bestwinka
hereby receives the confirmation that the products
Solar collectors
of the type
KS 2000 TP
conforms to
DIN EN 12975-1:2006-06
DIN EN 12975-2:2006-06
Specific CEN KEYMARK Scheme Rules for Solar Thermal Products
and is granted the license to use the mark

in conjunction with the Registration No.: **061-78181 F**
Registration No.: **011-78181 F**

This certificate remains valid as long as the required surveillance conditions will be passed with a positive result for the assessment.

See annex for further information
DIN CERTCO Gesellschaft für Konformitätsbewertung mbH
Alte Marktstraße 36, 12103 Berlin
030 26 09 06
Dir. Ing. Dipl.-Ing. Steven Schütz
Acting Head of Certification Body

S. Schütz

DIN CERTCO
Gesellschaft für Konformitätsbewertung mbH

CERTIFICATE

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HEWALEX
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43-512 BESTWINKA
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Acting Head of Certification Body

S. Schütz



HEWALEX

KOLEKTORY SŁONECZNE



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e-mail: hewalex@hewalex.com.pl