

renewable energy ∴ solar systems ∭ heat pumps

catalogue 01/2015



- tradition of technological excellence

Galmet is one of the largest manufacturers of heating systems in Poland and exports its products to over 25 countries worldwide. The company is dynamically developing and consistently building its position since 1982 - from a small one-person workshop founded by the current CEO Stanislaw Galara, to a large company - one of the largest in the industry, employing over 700 people. Galmet is always at the forefront of the most modern and innovative companies, creating Polish, technologically advanced, and eco-friendly heating systems for private households, public buildings, and industrial facilities. Available in multiple configurations, the heating sets are composed exclusively of the company-produced parts, which guarantees their maximum reliability, functionality, and efficiency. Buyers of the Galmet heating systems appreciate the comfort of this solution, attractive prices, and sets' extended warranties.

The company offers four main product groups:



The complete offer includes many different equipment options and ways of powering the heating systems, with huge product range - from a series of water heaters, through all types of DHW and CH boilers, to ground and air heat pumps and solar systems, produced in a recently built, most advanced manufacture plant in Poland. The total area of Galmet's production halls cover more than 25,000 square meters.

The company continues to invests in top of the line machinery and modern technologies. The production lines are equipped with digitally controlled devices and robots, which guarantees the highest possible build quality, as well as speeds up the production process. The most important aspect of the company is, without a doubt, quality - that being the quality of the end products; after/before-sale services; and the state of partnership with retail chains, wholesalers, shops, installers, and individual clients.

The company consciously shapes its business and social strategy to ensure the greatest care for the environment. It also takes many initiatives to support cultural, historical, educational, sporting, and charitable activities, as well as the development of local communities.

Galmet is a company that uses ethical business principles; respects its customers, employees, and cooperators; - in other words, Galmet is a reliable business partner.

We are looking forward to doing business with you.



Stanisław Galara - Galmet's president and CEO



Solar panels' production hall



Heat pumps' production hall



The company employs over 700 people



renewable energy

- Solar systems

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All products are covered by a system of EAN-13 codes.

Due to the constant improvement of our products, Galmet reserves the right to alter specifications and equipment of the products described in this publication. The catalogue does not constitute an offer as per the Civil Code and is for informational purposes only. All data specified is approximate. Sample pictures and diagrams of products may vary slightly from the actual products.

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Most advanced solar collector

KSG 21 Premium GT

The collector are produced in Głubczyce, Poland, in one of the most advanced factories in Europe. It can be used to heat domestic/pool water; as an ancillary to the existing CH heating solution; or for the production of processed heat.

Advantages of the KSG 21 Premium GT collector:

- > Prismatic tempered glass with an anti-reflective coating; extremely high sunlight permeability at 96%.
- > High sunlight absorption at 95%.
- > High optical efficiency at 80,6% the collector has an increased number of absorber tubes, the tube system has a form of a double harp.
- > The best absorber design (copper-copper) copper absorber plate ultrasonically bonded with copper harp.
- > High quality insulation pressed solar wool at the bottom part of the collector, while the side is being insulated by a patented double-wall profile, bent from one piece.
- > "Solar Keymark" certified, the certificate ensures high quality and efficiency of the collector.
- > Longevity the collector is made from durable materials such as copper and aluminum, as a result the collector has a 10 year warranty.
- > Galmet's Technical Support assists in the selection of an appropriate solar system elements tailored specifically to the needs of its users.
- > Research and Development (R&D) the innovative solutions used in the KSG 21 Premium GT collector have been developed by engineers and scientists at Galmet and University of Technology in Wrocław.

Galme

Galmet's solar collectors, indirect water heaters, and other solar systems components can be used in single households, single-family homes, industrial plants, schools, hotels, as well as in elaborate housing estates.

Pros of a solar system powered by the KSG 21 Premium GT collectors

- > Up to 60% annual savings compared to other DHW heating solutions.
- > Ecology the energy obtained from the solar radiation does not cause any negative effects on the environment - the energy obtained that way is ,,pure"and perfectly safe.
- > The collector can act as a ancillary to the existing CH heating solution.
- > Easy to install.
- > Intuitive controls.



"Solar Keymark" certified





solar systems

catalogue 01/2015



> Flat solar collectors - type KSG Premium GT

Solar collectors for direct roof assembly (flat or pitched) or assembled to any base using to any base using a frame construction.

Specifications - type KSG Premium GT

	unit	KSG21 Premium GT	KSG27 Premium GT
catalogue number		08-102102	08-102702
type of collector	-	flat	flat
length	mm	2033	2033
width	mm	1033	1354
height	mm	83	83
weight	kg	36,5	46,5
collector gross surface area	m²	2,1	2,7
aperture area (active area)	m²	1,94	2,57
optical efficiency	%	80,6	77,9
absorption efficiency	%	95	95
heat loss coefficient	a1/a2	3,395/0,014	3,552/0,013
maximum pressure	MPa	0,9	0,9
liquid capacity	l	1,6	2,1
housing	-	aluminum profile	
absorber material	-	coppe	rplate
absorbing layer	-	highly s	elective
header cross-section / lateral pipe cross-section	mm	22/8	22/8
number of risers	pcs.	12	16
glass	-	anti-reflective prismatic	anti-reflective prismatic
insulation	-	mineral wool	
absorber piping system	-	double harp	
absorber piping material	-	copper pipe	
welding technology	-	ultrasound	
stagnation temperature	°C	194	199





prismatic, anti-reflective glass copper absorber with highly selective layer 12 copper pipes making a double harp layout thermal insulation made from mineral wool aluminum housing patented aluminum profile

> Solar collectors evacuated tube - type KSG PT

Specifications - type KSG PT

	unit	KSG PT 15	KSG PT 20
catalogue number	-	08-101503	08-102003
type of collector	-	tube	tube
no. of tubes in a collector	-	15	20
height	mm	1975	1975
width	mm	1190	1571
depth	mm	135	135
weight	kg	49,6	64,4
collector gross surface area	m²	2,350	3,103
collector net surface area	m²	1,203	1,603
aperture area (active area)	m²	1,407	1,876
optical efficiency	%	67,9	
heat loss coefficient	a1/a2	1,696/0,0099	
liquid capacity	l	1,3	1,5
working pressure	MPa	0,6	
absorption efficiency	%	92	
collector shield		tempered	glass tube
glass tube thickness	mm	1,5	
absorber coating		SS-CU-ALN/AIN	
approximate heat loss	W/ m²°C	< (0,8
stagnation temperature	°C	22	5,4



-0

Solar systems

Complete solar systems with indirect water heater >

Solar system 1 >

- > Basic GT heat pump for 2-3 people¹⁾
- 2 flat solar collectors KSG21 Premium GT
- **4,2 m²** of collector's gross surface area
- 3,8 m² of aperture (active) area _
- primary group included (without the STDC module)²¹ _
- heat pump's controller controls the solar system

catalogue number	model
08-9320B2	solar system with a Basic GT heat pump
08-220202	installation kit for pitched roofs covered with tiles
08-220212	installation kit for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles
08-220201	installation kit for a flat roof



diaphragm

vessel 18 l





Galme

Basic GT heat pump with a 200 l water heater

2 solar collectors KSG21 Premium GT

Solar system 2 >

- PREMIUM STANDARD for 2-3 people¹⁾ >
- 2 flat solar collectors KSG21 Premium GT
- 4,2 m² of collector's gross surface area
- 3,8 m² of aperture (active) area
- primary group included

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catatogue number	model
08-942012	solar system with indirect water heater 200 l - artificial leather (gray)
08-942017	solar system with indirect water heater 200 l - plastic jacket (white)
08-220202	installation kit for pitched roofs covered with tiles
08-220212	installation kit for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles
08-220201	installation kit for a flat roof

Solar system 3 >

- > PREMIUM for 2-3 people^{1]}
- 2 flat solar collectors KSG21 Premium GT
- 4,2 m² of collector's gross surface area
- 3,8 m² of aperture (active) area
- primary group included

printar	y group metaded
catalogue number	model
08-900400	solar system with indirect water heater 250 l - artificial leather (gray)
08-942027	solar system with indirect water heater 250 l - plastic jacket (white)
08-902002	solar system without indirect water heater
08-220202	installation kit for pitched roofs covered with tiles
08-220212	installation kit for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shin

08-220201 installation kit for a flat roof



The primary

group

includes:

2)

- > PREMIUM PLUS for 3-5 people ^{1]}
- 3 flat solar collectors KSG21 Premium GT
- 6,3 m² of collector's gross surface area
- 5,8 m² of aperture (active) area _
- primary group included

catalogue number	model
08-942033	solar system with indirect water heater 300 l - artificial leather (gray)
08-942038	solar system with indirect water heater 300 l - plastic jacket (white)
08-902003	solar system without indirect water heater
08-220302	installation kit for pitched roofs covered with tiles
08-220312	installation kit for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles
08-220301	installation kit for a flat roof



bivalent water heater 300 L type SGW(S)B

3 solar collectors KSG21 Premium GT





We also choose and match other systems on individual order.



bivalent water heater

200 L type SGW(S)B



2 solar collectors

2 solar collectors KSG21 Premium GT

ngles



circulating

pump group

two-way

with air

separator

diaphragm

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collector

connection kit



diaphragm vessel 18



Solar collectors



Complete solar systems with indirect water heater >

Solar system 5 >

- > **PREMIUM MAXI for 4-6 people**^{1]}
- 4 flat solar collectors KSG21 Premium GT
- 8,4 m² of collector's gross surface area
- 7,76 m² of aperture (active) area
- primary group included

catalogue number	model
08-942044	solar system with indirect water heater 400 l - artificial leather (gray)
08-942049	solar system with indirect water heater 400 l - plastic jacket (white)
08-902004	solar system without indirect water heater
08-220402	installation kit for pitched roofs covered with tiles
08-220412	installation kit for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles
08-220401	installation kit for a flat roof

Solar system 6 >

- PREMIUM MAXI PLUS for 5-7 people¹¹ >
- 5 flat solar collectors KSG21 Premium GT
- 10,5 m² of collector's gross surface area
- 9,6 m² of aperture (active) area
- primary group included

catalogue number	model
08-942055	solar system with indirect water heater 500 l - artificial leather (gray)
08-902005	solar system without indirect water heater
08-220502	installation kit for pitched roofs covered with tiles
08-220512	installation kit for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles
08-220501	installation kit for a flat roof

Solar system 7 >

- PREMIUM LARGE for 3-4 people¹⁾ >
- 2 flat solar collectors KSG27 Premium GT
- 5,5 m² of collector's gross surface area
- 5,1 m² of aperture (active) area
- primary group included

catalogue number	model
08-942632	solar system with indirect water heater 300 l - artificial leather (gray)
08-942637	solar system with indirect water heater 300 l - plastic jacket (white)
08-902602	solar system without indirect water heater
08-226202	installation kit for pitched roofs covered with tiles
08-226212	installation kit for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles
08-226201	installation kit for a flat roof

Solar system 8 >

The primary

group

includes:

2)

11

- > PREMIUM LARGE PLUS for 4-6 people ¹⁾
- 3 flat solar collectors KSG27 Premium GT
- 8,25 m² of collector's gross surface area _
- 7,7 m² of aperture (active) area _

 primary group included ² 			
catalogue number	model		
08-942643	solar system with indirect water heater 400 l - artificial leather (gray)		
08-942648	solar system with indirect water heater 400 l - plastic jacket (white)		

20 Lalvcol

container

08-942648	solar system with indirect water heater 400 l - plastic jacket (white)
08-902603	solar system without indirect water heater
08-226302	installation kit for pitched roofs covered with tiles
08-226312	installation kit for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingle
08-226301	installation kit for a flat roof



circulating

pump group with air

separator

two-way



bivalent water heater

400 l type SGW(S)B









We also choose and match other systems on individual order.



bivalent water heater

400 L type SGW(S)B

diaphragm

vessel 36 l

diaphragm

vessel 50

diaphragm vessel 24 l



4 solar collectors

KSG21 Premium GT

5 solar collectors KSG21 Premium GT

bivalent water heater 300 l type SGW(S)B

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*] After purchasing the temperature sensor for the solar collector.

According to average consumption of domestic hot water.

collector

connection kit



Galmel

Complete solar systems with indirect water heater >

Solar system 9

- > STANDARD TUBE for 2-3 people ^{1]}
- 1 evacuated tube collector KSG PT20 (20 tubes)
- **3,1 m²** of collector's gross surface area
- 1,6 m² of aperture (active) area
- primary group included

catalogue no.	model
08-962021	solar system with indirect water heater 200 l - artificial leather (gray)
08-962026	solar system with indirect water heater 200 l - plastic jacket (white)
08-992001	solar system without indirect water heater
08-000540	installation kit for pitched roofs covered with tiles (for 1 coll.)
08-000541	installation kit for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles (for 1 coll.)
08-230201	installation kit for a flat roof (for 1 coll.)

Solar system 10 >

- > LUXURY TUBE for 3-4 people ¹⁾
- 2 evacuated tube collectors KSG PT15 (30 tubes)
- 4,7 m² of collector's gross surface area
- 2,4 m² of aperture (active) area
- primary group included
- catalogue no. model solar system with indirect water heater 300 l - artificial leather (gray) 08-961532 08-961537 solar system with indirect water heater 300 l - plastic jacket (white) 08-991502 solar system without indirect water heater 08-000540 installation kit for pitched roofs covered with tiles (for 1 coll.) 08-000541 installation kit for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles (for 1 coll.) 08-230151 installation kit for a flat roof (for 1 coll.)

> Solar system 11

- HEAT TUBE for 3-4 people >
- 2 evacuated tube collectors KSG PT20 (40 tubes)
- 6,2 m² of collector's gross surface area
- 3,2 m² of aperture (active) area
- primary group included

catalogue number model

08-962042	solar system with indirect water heater 250 l - artificial leather (gray)
08-962047	solar system with indirect water heater 250 l - plastic jacket (white)
08-992002	solar system without indirect water heater
08-000540	installation kit for pitched roofs covered with tiles (for 1 coll.)
08-000541	installation kit for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles (for 1 coll.)
08-230201	installation kit for a flat roof (for 1 coll.)

solar system with indirect water heater **380/120 l** - artificial leather (gray)

installation kit for pitched roofs covered with tiles (for 1 coll.)

20 Lalvcol

container

solar system with indirect water heater 380/120 l - artificial leather (white)

installation kit for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles (for 1 coll.)

Solar system 12 >

catalogue number model 08-962043

08-962068

08-992003

08-000540

08-000541

08-230201

group

The primary

includes:

2]

- MAXI TUBE for 4-6 people (CH system auxiliary)¹¹ >
- 3 evacuated tube collectors KSG PT20 (60 tubes)
- 9,3 m² of collector's gross surface area

solar system without indirect water heater

installation kit for a flat roof (for 1 coll.)

- 4,8 m² of aperture (active) area
- primary group included _

diaphragm vessel 36 l

circulating

pump group

two-way

with air

separator

diaphragm

vessel 18 l

diaphragm vessel 18 l

diaphragm

vessel 24 l





3 evacuated tube





installation kit

Combined heat

accumulation vessel



-0-

We also choose and match other systems on individual order.

After purchasing the temperature sensor for the solar collector. According to average consumption of domestic hot water.

300 L type SGW(S)B

hivalent water heater

200 L type SGW(S)B



1 evacuated tube collector

KSG PT20

bivalent water heater





bivalent water heater 400 l type SGW(S)B

2 evacuated tube collectors KSG PT20



collector

connection kit



Galme

> Stand alone photovoltaic set for domestic water heating

Electric energy generated by a set of photovoltaic modules is converted into heat energy, which then heats the water in a tank. Thanks to the Intelligent Heaters' Controller (IHC), the system's work is fully automated and optimized. IHC finds the Maximum Power Point of the photovoltaic modules and adjusts the resistance of the heater unit accordingly. As a result, the system is much more efficient in comparison to the one without the IHC.



> Stand alone photovoltaic set includes:

- 4-10 pieces of SELFA SV60P-240 photovoltaic modules measuring 983 x 1670 x 45 mm (± 2 mm),
- Intelligent Heaters' Controller (IHC),
- Heating unit with adjustable power up to 2,5 kW (6/4"),
- wiring.

set of photovoltaic modules



Intelligent Heaters' Controller (IHC



heater

> System advantages:

- stand alone system
 - there is no need to connect the system to the power network,
- easy to set up
 - no hydraulic elements between the tank and the modules,
- certified SV60P modules
- guarantee of efficiency up to 25 years, high efficiency
- thanks to IHC,
- wide operating range
 - radiation intensity ranging from 0 to 1500 W/m².



Stand alone photovoltaic sets

catalogue no.	model	nominal power
10-990710	set with 4 SV 60P modules	1 kW heater K 6/4"
10-991015	set with 6 SV 60P modules	1,5 heater kW K 6/4"
10-991420	set with 8 SV 60P modules	2 heater kW K 6/4"
10-991725	set with 10 SV 60P modules	2,5 heater kW K 6/4"

Mounting kit not included in the set.



> Three propositions of using a photovoltaic set:

> Heating the water by using two independent sources: a photovoltaic set and an electricity grid

Two heaters are located inside the water heater. One is connected to the photovoltaic set, the other one is powered by the energy from the electricity grid. An additional heater inside the water heater helps reduce energy bills. Moreover, the set can be equipped with a special controller for the heater connected the electricity grid (as long as the water heater isn't equipped with one to begin with). The principle of operation is similar to a CH boiler controller - user sets a time at which the hot water in the water heater must be ready, the controller constantly measures the water's temperature and switches the heater on at the most suitable moment. Such solution prevents the constant water reheating, thus saving energy, set's durability, and money.



> Fully automated water heating

This set is the simplest solution. It can be used in places with no direct access to electricity. The water is heated solely by the heater powered by the energy produced by the photovoltaic set.



Set 2
EKO GT KWP M 17 CH boiler
SGW(S) 200 l water heater, polyurethane
Set for heating the domestic water

> Heating the water by using two independent sources: a photovoltaic set and an additional energy source

Two types of thermal energy sources are located in the water heater. Electric heater connected to the photovoltaic set is one of them, the heat exchanger from a gas boiler or other heat source is the second one. Both sources can operate at once, or (like in one of the previous examples) - in conjunction with the IHC controller.



Galme

> Complete photovoltaic sets

Photovoltaic panels provide an interesting way of harvesting the energy from the sun, they work by directly converting solar radiation into electricity.

The panels base their operation on the photovoltaic phenomenon (creating an electromotive force in a solid body by the means of sun rays), therefore making it possible to use the sun as an energy source. Investing in a photovoltaic set brings benefits not only in terms of **significantly reduced electricity bills**, but also by protecting the environment.

Photovoltaic sets **can be installed on almost any type of roof**: both pitched and flat, covered with ceramic/metal/plain/other tiles; or **directly on the ground**, as a construction hammered/screwed to the soil or mounted on a concrete slabs.

The mounting systems are made of high-quality materials, i.e.: aluminum, galvanized steel, and stainless steel. They are quick and easy to install, with adjustable tilt angle of 20°/25°/30°. Moreover, their high mechanical strength meets the European DIN standards.



The components of an exemplary photovoltaic set

Galmel

> Complete ON-GRID photovoltaic sets (connected to the grid)

Photovoltaic set 1, nominal power 1,5 kWp

item	unit	value
catalogue no.	-	10-901000
KSG 250 photovoltaic module	pcs.	6
SB 1600TL-10 inverter	pcs.	1
wiring	m	40
connectors	pcs.	2
minimal module's surface	m²	10,2
weight of the modules	kg	120
estimated production of electric energy per year	kWh	1 456

Photovoltaic set 3, nominal power 3,5 kWp

item	unit	value
catalogue no.	-	10-902400
KSG 250 photovoltaic module	pcs.	14
SB 3000TLST-21 inverter	pcs.	1
wiring	m	40
connectors	pcs.	2
minimal module's surface	m²	23,8
weight of the modules	kg	280
estimated production of electric energy per year	kWh	3 397

Photovoltaic set 5, nominal power 6,00 kWp

item	unit	value
catalogue no.	-	10-904100
KSG 250 photovoltaic module	pcs.	24
POWADOR 6.0 TL3 inverter	pcs.	1
wiring	m	80
connectors	pcs.	4
minimal module's surface	m²	40,8
weight of the modules	kg	480
estimated production of electric energy per year	kWh	5 824

Photovoltaic set 7, nominal power 20,00 kWp

item	unit	value
catalogue no.	-	10-913600
KSG 250 photovoltaic module	pcs.	80
POWADOR 20.0 TL3 inverter	pcs.	1
wiring	m	160
connectors	pcs.	8
minimal module's surface	m²	136
weight of the modules	kg	1 600
estimated production of electric energy per year	kWh	19 413

Photovoltaic set 8, nominal power 40,00 kWp

item	unit	value
catalogue no.	-	10-927200
KSG 250 photovoltaic module	pcs.	160
POWADOR 20.0 TL3 inverter	pcs.	2
wiring	m	320
connectors	pcs.	16
minimal module's surface	m²	272
weight of the modules	kg	3 200
estimated production of electric energy per year	kWh	38 827

Mounting systems available on individual request.

Photovoltaic set 2, nominal power 2,5 kWp

item	unit	value
catalogue no.	-	10-901700
KSG 250 photovoltaic module	pcs.	10
SB 2100TL inverter	pcs.	1
wiring	m	40
connectors	pcs.	2
minimal module's surface	m²	17,0
weight of the modules	kg	200
estimated production of electric energy per year	kWh	2 426

Photovoltaic set 4, nominal power 4,5 kWp

item	unit	value
catalogue no.	-	10-903100
KSG 250 photovoltaic module	pcs.	18
SB 3600TL-21 inverter	pcs.	1
wiring	m	80
connectors	pcs.	4
minimal module's surface	m²	30,6
weight of the modules	kg	360
estimated production of electric energy per year	kWh	4 214

Photovoltaic set 6, nominal power 10,00 kWp

item	unit	value
catalogue no.	-	10-906800
KSG 250 photovoltaic module	pcs.	40
POWADOR 10.0 TL3 inverter	pcs.	1
wiring	m	80
connectors	pcs.	4
minimal module's surface	m²	68
weight of the modules	kg	800
estimated production of electric energy per year	kWh	9 767

Installation of an exemplary ON-GRID photovoltaic set



^{*)} Other items in accordance with the manufacturer warranty; for detailed warranty description, see the warranty card.



Complete photovoltaic sets



> Complete photovoltaic sets OFF-GRID (not connected to the grid)



Photovoltaic set 1, nominal power 0,25 kWp DC/AC

item	unit	value
catalogue no.	-	10-900200
KSG 250 photovoltaic module	pcs.	1
VOLT inverter	pcs.	1
STECA charge controller	pcs.	1
HAZE battery	pcs.	1
wiring	m	40
connectors	set	1
minimal module's surface	m²	1,7
weight of the modules	kg	19,5
estimated production of electric energy per year	kWh	200

Photovoltaic set 3, nominal power 1 kWp DC/AC

item	unit	value
catalogue no.	-	10-900700
KSG 250 photovoltaic module	pcs.	4
MEAN WELL inverter	pcs.	1
charger controller built in the inverter	pcs.	1
HAZE battery	pcs.	2
wiring	m	40
connectors	set	1
minimal module's surface	m²	6,8
weight of the modules	kg	78
estimated production of electric energy per year	kWh	800

Photovoltaic set 5, nominal power 2 kWp DC/AC

item	unit	value
catalogue no.	-	10-901400
KSG 250 photovoltaic module	pcs.	8
MEAN WELL inverter	pcs.	1
STECA charge controller	pcs.	1
HAZE battery	pcs.	8
wiring	m	40
connectors	set	1
minimal module's surface	m²	13,6
weight of the modules	kg	156
estimated production of electric energy per year	kWh	1 600

Photovoltaic set 7, nominal power 5 kWp DC/AC

item	unit	value
catalogue no.	-	10-903400
KSG 250 photovoltaic module	pcs.	20
inwerter VICTRON ENERGY	pcs.	1
SCHNEIDER ELECTRIC charge controller	pcs.	1
HAZE battery	pcs.	8
wiring	m	40
connectors	set	1
minimal module's surface	m²	34,0
weight of the modules	kg	390
estimated production of electric energy per year	kWh	4 400

Photovoltaic set 2, nominal power 0,5 kWp DC/AC

item	unit	value
catalogue no.	-	10-900300
KSG 250 photovoltaic module	pcs.	2
VOLT inverter	pcs.	1
STECA charge controller	pcs.	1
HAZE battery	pcs.	2
wiring	m	40
connectors	set	1
minimal module's surface	m²	3,4
weight of the modules	kg	39
estimated production of electric energy per year	kWh	400

Photovoltaic set 4, nominal power 1,5 kWp DC/AC

item	unit	value
catalogue no.	-	10-901000
KSG 250 photovoltaic module	pcs.	6
MEAN WELL inverter	pcs.	1
charger controller built in the inverter	pcs.	1
HAZE battery	pcs.	4
wiring	m	40
connectors	set	1
minimal module's surface	m²	10,2
weight of the modules	kg	117
estimated production of electric energy per year	kWh	1 200

Photovoltaic set 6, nominal power 2,50 kWp DC/AC

item	unit	value
catalogue no.	-	10-901700
KSG 250 photovoltaic module	pcs.	10
MEAN WELL inverter	pcs.	1
STECA charge controller	pcs.	1
HAZE battery	pcs.	8
wiring	m	40
connectors	set	1
minimal module's surface	m²	17,0
weight of the modules	kg	195
estimated production of electric energy per year	kWh	2 200

Installation of an exemplary OFF-GRID photovoltaic set



Other items in accordance with the manufacturer warranty; for detailed warranty description, see the warranty card.

> List of accessories and spare parts

no.	catalogue number	item
1	08-400400	STDC controller
2	08-400300	MTDC controller
3	08-400700	LTDC controller
4	08-400600	Smart GT Sol controller
5	08-400710	Ethernet module for the LTDC controller
6	08-300301	Two-way solar pump group GT
7	08-300305	Two-way solar pump group + connections set
8	08-300307	Two-way solar pump group with electronic pump + connections set
9	08-300401	Two-way solar pump group with a 25/8 pump
10	33-180200	Diaphragm vessel 18 l
11	33-240200	Diaphragm vessel 24 l
12	33-360200	Diaphragm vessel 36 l
13	33-500200	Diaphragm vessel 50 l
14	08-003000	Diaphragm vessel installation kit - from 18 to 36 l, 3/4" with a check valve
15	08-002000	Solar fluid (glycol) 20 l (-30)
16	08-000010	Connection kit for 1 collector
17	08-000020	Connection kit for 2 collectors
18	08-000030	Connection kit for 3 collectors
19	08-000040	Connection kit for 4 collectors
20	08-000050	Connection kit for 5 collectors
21	08-004122	Joint clip Ø 22/22 for connecting collectors
22	m-001232	Elbow (for connecting the collector) 22/ 3/4" Ext. thread
23	m-004418	4-way solar coupling Ø 22x3/4" with a vent and a sensor capillary
24	m-006237	Screw 10x200 SW7 for metal roof tiles
25	08-715001	Thermostatic mixing valve for DHW 35-60°C (anti-burn) 3/4"
26	08-715002	Thermostatic mixing valve for DHW 35-60°C (anti-burn) 1"
27	08-715003	Switching valve 230 V 1"
28	08-001000	PT1000 temperature sensor for STDC and MTDC controllers
29	m-007223	Manual refractometer
30	08-715012	Rotameter 2-12 I/min
31	08-000601	Device for venting/filling the solar installation
32	m-006817	Flexo connection kit (10 pcs.)
33	08-220102	Installation kit for 1 KSG 21 Premium GT collector for pitched roofs covered with tiles
34	08-220112	Installation kit for 1 KSG 21 Premium GT collector for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles
35	08-220101	Installation kit for 1 KSG 21 Premium GT collector for a flat roof
36	08-220202	Installation kit for 2 KSG 21 Premium GT collectors for pitched roofs covered with tiles
37	08-220212	Installation kit for 2 KSG 21 Premium GT collectors for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles
38	08-220201	Installation kit for 2 KSG 21 Premium GT collectors for a flat roof
39	08-000540	Installation kit for 1 KSG PT 15 or KSG PT 20 collector for pitched roofs covered with tiles
40	08-000541	Installation kit for 1 KSG P1 15 or KSG P1 20 collector for pitched roofs covered with steel sheets, heat-weldable roofing membrane or shingles
41	08-230151	
42	08-230201	
43	08-005010	Double stainless corrugated tube with insulation (solar) 5 m
44	08-005010	Double stainless corrugated tube with insulation (solar). 10 m
45	08-005000	Double staintess corrugated tube with insulation (solar) 15 m
46	08-005020	Double stainless corrugated tube with insulation (solar) 20 m
47	08-005025	Double stainless corrugated tube with insulation (solar) 25 m
48	08-005050	Double stainless corrugated tube with insulation (solar) 50 m

In order to provide customers with access to a full range of accessories and spare parts, an official Galmet e-shop was launched. Overnight shipping, opened 24 hours a day / 7 days a week. More details at **www.sklep.galmet.com.pl**

Solar controller is a device that controls the operation workflow of the entire solar system. In Galmet's offer you will find an additional two types of solar controllers - the MTDC controller and the Smart Sol GT controller.



MTDC

Designed for more complex solar systems. The controller is equipped with 25 hydraulic schemes, including functions like: east-west collector positioning, tank overloading, swimming pool heating. Individual keys are used to input service data, as well to check the operating parameters. Moreover, the controller displays additional help information and (in some instances) a graphic representation of certain options.

Smart GT Sol The controller is

The controller is equipped with 15 hydraulic schemes and a durable three-part plastic housing. The controller is operated by just two input methods, all the information are displayed on a backlit colour display. Moreover, the Smart GT Sol controller is equipped with USB and Micro-SD ports. Thanks to these ports, it's possible to update the controller's firmware without sending it back to the manufacturer as well as to safely download and read the data (i.e. possible error reports).

III Most advanced air-water heat pump - Basic GT

Depending on their type and purpose, heat pumps can be used for heating the domestic water or for heating the buildings themselves (houses, hotels, industrial plants etc.).

By using the heat gathered in the air, ground, or groundwater, a heat pump can work for the whole year without ever stopping. Additionally, by using a heat pump we protect the environment by limiting the CO₂ emission.

Advantages of the Basic GT heat pump:

- > High COP value of 3,2.
- > No drilling.
- > User-friendly touch-screen controller; modes:
 - Eco,
 - Party,
 - Antilegionella,
 - Anti-freezing.
- > Integrated 200-270 l water tank.
- > Room cooling in the summer.
- > Dries the room's air during heater operation.
- > Heats the water up to 50°C.
- > 2 kW electric heater used for periodic reheating.
- > Longevity by using the highest quality components from the top Polish and European producers.
- > Professional Technical Support.
- > Research and Development (R&D) continuous effort to improve the parameters and efficiency ever further.
- > Over 33 years of experience in the field of heating technology in conjunction with one of the most advanced production line in Europe guarantees the highest possible quality.
- > Controls the solar system (after purchasing the temperature sensor for the solar collector).

Key benefits of using the Basic GT heat pump

- > Up to 60% annual savings compared to other DHW heating solutions.
- > Ecology the energy obtained by the heat pump does not cause any negative effects on the environment the energy obtained that way is ,,pure"and perfectly safe.
- Ability to control the domestic hot water circulation pump.





/// heat pumps

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Heat pumps

Galmef

>Air-water heat pump Basic GT for DHW

- Compact device intended for easy indoor installation.
- > Thermal power: 1,92 kW. ^{4]}
- > COP value: 3,2. 4
- > Dries the room's air during heater operation.
- > Room cooling in the summer.
- > Low energy consumption only 0,6 kWh.
- > Heats the water up to 50°C.
- > Makes it possible to set heating time for domestic hot water (on/off).
- > Touch-screen controller with the following modes: eco, antilegionella, party.
- Electric heater for periodic additional heating as standard.
- > Tank volume 200-270 l provides domestic hot water for a 4-5 person family. ⁵
- > Equipped with a coil for connecting an additional energy source (i.e. solid-fuel boiler, solar panel, etc).
- > The controller controls the domestic hot water circulation pump.
- > Annual savings of ~2000 kWh compared to traditional electric heater, assuming that the water consumption will amount to ~200 l/day.
- > Also sold with a titanium anode (option). ^{3]}
- > Controls the solar system (after purchasing the temperature sensor for the solar collector). ³⁾





List of magnesium anodes

specification	catalogue number	item
Basic GT 200 l - 2 anodes	40-262500	magnesium anode 33x250 with plug 5/4"
Basic GT 250 l - 1 anode	40-263800	magnesium anode 38x400 with plug 5/4"
Basic GT 250 l - 1 anode	M-000003	magnesium anode 25x200 with screw M8
Basic GT 270 l - 2 anodes	40-262500	magnesium anode 33x250 with plug 5/4"

Specifications of the Basic GT heat pump

specification	unit	Basic GT 200 l with one spiral coil	Basic GT 270 l with one spiral coil	Basic GT 270 l with two spiral coils
catalogue number	-	09-353101	09-355101	09-355201
supply voltage	V~	230	230	230
working temperature range	°C	5 ÷ 35	5 ÷ 35	5 ÷ 35
tank volume	l	200	270	263
weight	kg	125	165	185
working pressure	MPa	0,6	0,6	0,6
air flow	m³/h	300	300	300
air ducts' diameter	mm	160	160	160
air ducts' maximum length	m	10	10	10
noise emission	dB	45	45	45
dimensions (height x diameter)	mm	1500 x 670	1730 x 670	1730 x 670

^{*)} For detailed warranty description, see the warranty card.

Not included.

⁴¹ When heating the accumulation tank from 10°C to 45°C.
 ⁵¹ Assuming that the water consumption will amount to 40 l/person/day.

> Ground-water heat pump New MiniLand GT for CH and DHW

- Higher efficiency at lower costs thanks to using > top quality materials.
- Thermal power: 6,84 ÷ 55,40 kW. ²⁾ >
- COP value: 4,0÷4,48.²⁾ >
- Maximum DHW temperature: 55°C. >
- Upper and lower source circulation pumps as > standard.
- R 420 compact controller provides full heat > pump control, making it possible to configure it with other heat sources (i.e. solar panel, central heating boiler).
- Cascade of up to 6 devices (when using the > Siemens controller).
- Controls up to 7 time zones for CH and DHW. >
- Available functions: >
 - home heating
 - DHW heating
- Weather thermostat controls the heating circuit > and two independently enabled electric heaters 2 x 4 kW.
- Small size, quiet operation. >
- Room thermostat (option). ^{3]} >
- Passive cooling (option). ^{3]} >
- Soft start (option).^{3]} >
- Ability to install an additional DHW connection > (option).^{3]}









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Specifications of the New MiniLand GT heat pump

specification	unit	New MiniLand 6 GT	New MiniLand 9 GT	New MiniLand 11 GT	New MiniLand 14 GT	New MiniLand 17 GT	New MiniLand 20 GT	New MiniLand 32 GT	New MiniLand 44 GT	New MiniLand 60 GT
catalogue number	-	09-140600	09-140900	09-141100	09-141400	09-141700	09-142000	09-143200	09-144400	09-146000
thermal power 2)	kW	6,84	9,63	11,05	13,60	16,25	20,40	31,5	43,6	55,4
compressor's power consumption	kW	1,67	2,21	2,57	3,12	3,69	5,00	7,03	9,87	12,44
COP value 2)	-	4,31	4,36	4,31	4,37	4,40	4,00	4,48	4,4	4,45
dimensions (h x w x d)	mm	1180 x 680 x 580	1180 x 680 x 580	1180 x 680 x 580	1180 x 680 x 580	1180 x 680 x 580	1180 x 680 x 580	1300 x 920 x 800	1300 x 920 x 800	1300 x 900 x 1100
electric heater's power	-	2 x 4 kW	2 x 4 kW	2 x 4 kW	2 x 4 kW	2 x 4 kW	2 x 4 kW	-	-	-
connections	GZ	1"	1"	1"	1"	1"	1"	5/4"	5/4"	6/4"
working pressure	MPa	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6	0,6
net weight	kg	150	155	160	180	190	195	215	230	320
refrigerant	-	R407c	R407c	R407c	R407c	R407c	R407c	R407c	R407c	R407c
compressor type	-	Copeland Scroll	Copeland Scroll	Copeland Scroll	Copeland Scroll	Copeland Scroll	Copeland Scroll	Copeland Scroll	Copeland Scroll	Copeland Scroll

For detailed warranty description, see the warranty card.

²¹ For the B0W35 conditions (ground temperature 0°C, heating water temperature 35°C).

Not included







Galmel

> Ground-Water heat pump New ML Compact GT for CH and DHW

- Higher efficiency at lower costs thanks to > using top quality materials.
- Thermal power: 6,84 ÷ 11,05 kW. ²⁾ >
- COP value: 4,31 ÷ 4,36. ²⁾ >
- Maximum DHW temperature: 55°C. >
- Upper and lower source circulation > pumps as standard.
- R 420 compact controller provides > circulation control for CH and DHW.
- Controls up to 7 time zones for CH and > DHW.
- Available functions: >
 - home heating
 - DHW heating
- Titanium anode. >
- Weather thermostat controls the heating > circuit and two independently enabled electric heaters 2 x 4 kW.
- 180 l tank integrated within the pump's > housing.



R 420 Controller





Specifications of the New ML Compact GT heat pump

specification	unit	New ML Compact 6 GT	New ML Compact 9 GT	New ML Compact 11 GT
catalogue number		09-150600	09-150900	09-151100
thermal power 2)		6,84	9,63	11,05
compressor's power consumption		1,67	2,21	2,57
COP value 2)	-	4,31	4,36	4,31
dimensions (h x w x d)	mm	1750 x 750 x 750	1750 x 750 x 750	1750 x 750 x 750
electric heater's power	-	2 x 4 kW	2 x 4 kW	2 x 4 kW
connections	GZ	1"	1"	1"
working pressure	MPa	0,6	0,6	0,6
net weight	kg	335	340	345
refrigerant	-	R407c	R407c	R407c
compressor type	-	Copeland Scroll	Copeland Scroll	Copeland Scroll

 *1 For detailed warranty description, see the warranty card. 21 For the B0W35 conditions (ground temperature 0°C, heating water temperature 35°C).

Galmel

> Air-water heat AirMax GT for CH and DHW

- > For home heating and DHW.
- Compact device intended for easy indoor installation.
- > Thermal power: 5,8 kW ÷ 18,2 kW. ^{6]}
- > COP value: 4,25 ÷ 4,59. 6)
- > Maximum DHW temperature: 55°C.
- Modern Siemens controller with a room thermostat as standard and ability to connect to the Internet (option) ^{7]}; cascade of up to 6 devices.
- Higher efficiency thanks to electronically controlled refrigerant injection straight to the evaporator.
- > Can be connected to any heat exchanger operating within the system.
- > Integrated circulation pump.
- > Very quiet operation thanks to the use of the latest fan generation.
- Highly efficient, automatic evaporator defrost system.
- > Operates at temperatures below -15°C.
- > Siemens radio controller (option). ³⁾
- Ability to install a plate heat exchanger: SWEP 41 for powers 5÷11 kW (cat. no. 09-000100); or SWEP 65 for powers 15÷18 kW (cat. no. 09-000101); (option). ³

Siemens QAA74 controller (option) ³⁾





Specifications of the AirMax GT heat pump

specification	unit	AirMax GT 5	AirMax GT 7	AirMax GT 9	AirMax GT 11	AirMax GT 16	AirMax GT 18
catalogue number	-	09-250500	09-250700	09-250900	09-251100	09-211600	09-251800
thermal power 6)	kW	5,80	7,10	9,80	11,50	15,40	18,20
compressor's power consumption	kW	1,40	1,70	2,30	2,50	3,40	4,00
COP value 6	-	4,25	4,29	4,59	4,55	4,50	4,50
dimensions (h x w x d)	mm	1640 x 800 x 520	1650 x 1300 x 530	1650 x 1300 x 530			
weight	kg	110	176	178	180	160	160
electric heaters' power	-	2 x 4 kW	2 x 7,5 kW	2 x 7,5 kW			
evaporator type	-	lamellar	lamellar	lamellar	lamellar	lamellar	lamellar
automation system	-	Siemens RVS 41	Siemens RVS 41	Siemens RVS 41	Siemens RVS 41	Carel SX	Carel SX
refrigerant	-	R407c	R407c	R407c	R407c	R407c	R407c
compressor type	-	Copeland Scroll	Copeland Scroll	Copeland Scroll	Copeland Scroll	Scroll Sanyo	Scroll Sanyo

*) For detailed warranty description, see the warranty card.

Not included.
 For the A7W35 conditions (air temperature 7°C, heating water temperature 35°C).

7) Static IP address required.



Heat pumps

Galme

> Air-water heat pump Small GT for DHW

- > For heating domestic hot water.
- > Thermal power: 1,92 kW. 4)
- > COP value: 3,2. 4)
- > Maximum DHW temperature: 50°C.
- > Touch-screen controller with the following modes: eco, antilegionella, party.
- Can be connected to any exchanger operating within the system.
- > Easy to set up.
- Dries the room's air during heater operation.
- > Room cooling in the summer.
- > Low energy consumption only 0,6 kWh.
- > Indoor installation.
- Circulation pump as standard and a socket for electric tank heater with a power of up to 2 kW (cat. no. 41-020001).
- > The controller controls the domestic hot water circulation pump.
- Controls the solar system (after purchasing the temperature sensor for the solar collector). ³⁾



ST-53 touch-screen controller

Specification for the Small GT heat pump

specification	unit	Small GT
catalogue number	-	09-242000
thermal power 4)	kW	1,92
power consumption 4)	kW	0,6
COP value 4)	-	3,2
supply voltage	V	230
working temperature range	°C	5 ÷ 35
maximum DHW temperature	°C	50
compressor type	-	Emraco/Danfoss
connections	GZ	3/4"
condensate connection	mm	10
working pressure	MPa	0,6
air flow	m³/h	300
air ducts' diameter	mm	200
air ducts' maximum length	m	10
noise emission	dB	45
electrical protection	-	B16
refrigerant	-	R 134a/460g
weight	kg	64
dimensions (h x w x d)	mm	400 x 680 x 720

*) For detailed warranty description, see the warranty card

키 Not included. 키 When heating the accumulation tank from 10°C to 45°C.





Air ducts



Because of its small size, it can be installed on a tank used in an existing heating system







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> Complete hybrid heating systems for CH and DHW assembled from devices manufactured by Galmet

Design no. 1



Design no. 2



don't waste your time on a poorly assembled system, choose a whole system from one manufacturer

Galme

Design no. 3



Design no. 4





> Complete hybrid heating systems for CH and DHW assembled from devices manufactured by Galmet





Design no. 6



don't waste your time on a poorly assembled system, choose a whole system from one manufacturer

Galme

Design no. 7



Exemplary design of a cascade system





"Galmet Sp. z o.o." Sp. K. PL 48-100 Głubczyce, Raciborska 36 tel. +48 77 40 34 500, fax +48 77 40 34 599 export department: +48 77 40 34 580 e-mail: export@galmet.com.pl Distributor