Cat. No./ Serial No. .....

Date of manufacture .....

QC

creating smart solutions

Installation and Operating Manual / Warranty Card

Water heater type **SGW(S) Vulcan**

Capacity:

- ☐ 100 l
- ☐ 120 l
- ☐ 140 l
- ☐ 200 l

Protection:

- ☐ Magnesium anode
- ☐ Titanium anode

Type:

- ☐ Free-standing
- ☐ Wall-mounted

Please read the instructions carefully before beginning the installation and use of the product.

Made in Poland

www.galmet.eu

Table of Contents

1. Operation and maintenance

The VULCAN water heater in its standing and suspended versions is a pressure device adapted for operation with a maximum water pressure of 0.6 MPa (6 bar). A water heater is a device designed to heat and store water in a heated state. It can be used in households, catering facilities, social rooms in industrial facilities, etc. The water heater can be used with all types of heating boilers, in particular, suspended, single function boilers. The main part of the water heater is a tank, which is made of sheet steel coated with vitreous enamel.

1.1. Device description

The water heater is equipped with a coil with a large heat exchanging surface, which enables rapid heating of large quantities of water. In the standing water heater, all hydraulic connections are located in the upper end cap, while in the su spended water heater in the lower end cap. Hydraulic connections have an external thread, which allows easy assembly and disassembly of the tank. The water heater can also be connected to a circulation system and a temperature sensor. A standing water heater has, in its bottom end cap, a draining connection that allows the tank to be emptied. The water heater has additional corrosion protection in the form of a magnesium anode, which uses the electrochemical potential difference between the material of the anode and that of the tank. The magnesium anode is to be found in the top end cap for the standing version on a 5/4" plug and a M8 one for the suspended version. The water heater is insulated with a layer of CFC free polyurethane foam to minimize heat loss. A suspended heater is suitable for hanging on a wall or other sufficiently durable construction elements, but only in the vertical position. Both a standing and a suspended water heater can have a heating element connected.

Remember!

1. Do not turn on the water heater when empty.
2. Do not operate the water heater without a properly functioning safety valve (the safety valve should be checked every 14 days by turning the cap to the right or left, so that water flows out of the side outlet. Then, turn the cap in the opposite direction until it clicks into the previous position and tighten it to the valve body. If no flow of water occurs when the cap is turned, the valve is defective. When the cap is turned and there is a continuous leak of water once the cap is returned to the previous position, the valve poppet has become polluted and the valve should be flushed repeatedly by opening and closing the valve using the cap. Attention possibility of hot water outflow. The company is not responsible for safety valve malfunction caused by incorrect installation of the valve and installation errors, such as the lack of a pressure release valve in the cold water outlet installation. The maximum pressure for a full opening of the safety valve must not exceed 0.67 MPa.
3. Adequate protection of the boiler working together with the water heater ensures proper pro tection of the water heater coil.
4. The water heater must be flushed of sediment at least once a year.
5. The magnesium anode must be replaced every 18 months it is not covered by the warranty.
6. To extend the life of the water heater and ensure smooth operation of the safety valve, filters to eliminate pollution should be used.
7. If the water heaters work in a very aggressive environment (e.g. shed, etc.), a product spe cially prepared for working in such an environment must be purchased (the manufacturer will prepare parts that are likely to suffer from accelerated corrosion by properly securing them chemically).
8. It is not allowed to prevent water from dripping from the safety valve – do not clog the safety valve outlet. If the safety valve is leaking water all the time, the pressure in the water supply installation is too high or the safety valve is defective. The valve outlet should be pointing down. It is recommended to place a funnel for draining water under the valve. A hose can also be attached to the water outlet for draining leaks caused by opening of the safety valve. The hose should be resistant to a temperature of +80°C, have an internal diameter of 9 mm and a maximum length of 1.2 m, be led from the outlet with a downward grade (min. 3%) in an environment where the tem perature does not drop below 0°C. The hose should be secured against reduction in flow capacity (crushing, clogging) and its end should be visible (in order to check the functioning of the valve).
9. The water heater is protected against the possibility of excessive temperature of the heated water by means of an adjustable thermoregulator and temperature limiter, which shuts off the electrici ty supply to the heating element, if the temperature of the water heater wall reaches 80°C.
10. "Galmet" reserves the right to make any modifications without prior notice to the clients.

2. Installation

INSTALLATION OF THE WATER HEATER should be done by a technician with appropriate qualifica tions. Installation is to be confirmed in the warranty card. Due to the design of the water heater, it can be installed only VERTICALLY or in a SUSPENDED position, depending on the type of tank. The water heater must be connected directly to the water supply network (with possibility of disconnec tion, e.g. for maintenance) with a pressure not exceeding 0.6 MPa and the minimum pressure can not be lower than 0.1 MPa about I atm. If water pressure in the water supply network exceeds 0.6 MPa, it is necessary to reduce the

pressure using a flow control valve. A safety valve, for example ZB8 FACH Cieszyn, must be installed on the cold water supply pipe, while the safety valve, equipped with a function that reduces water pressure in the water heater through redirecting its flow back to the water supply installation, with a water supply installation that, for a distance of 5 m from the sa fety valve, should withstand a water temperature of 90°C. The safety valve outlet must be constantly open connected with the outside. It is permitted to connect the water heater in such a way as to draw water from a number of sources. The heating coil of the water heater may be supplied from the low temperature water boiler, secured as per the standard PN 91/B 02413 working as part of an open system (p.13).

In order to protect pumps, the three way valve and the heat exchanger from pollution, a strainer filter should be installed in the circuit. It is recommended to flush the entire heating system before installation. All connected branches must be thoroughly thermally insulated.

If the system will be working with domestic hot water heating as a priority using a three way valve, the installation instructions of the three way valve manufacturer must always be respected. The temperature of the heating medium within the heating system must be lower than the switching temperature of the temperature limiter (80°C). Once the water heater is installed and filled with wa ter, check the heater and installation for leaks. Only after filling the water heater with water can the heating coil be connected to the electricity grid or the central heating system. In order to temporarily disable the water heater, disconnect it from the electrical socket. If the water heater is disabled in winter and there is a concern that water may freeze inside the water, the water heater should be drained by unscrewing the drain cap.

3. Troubleshooting

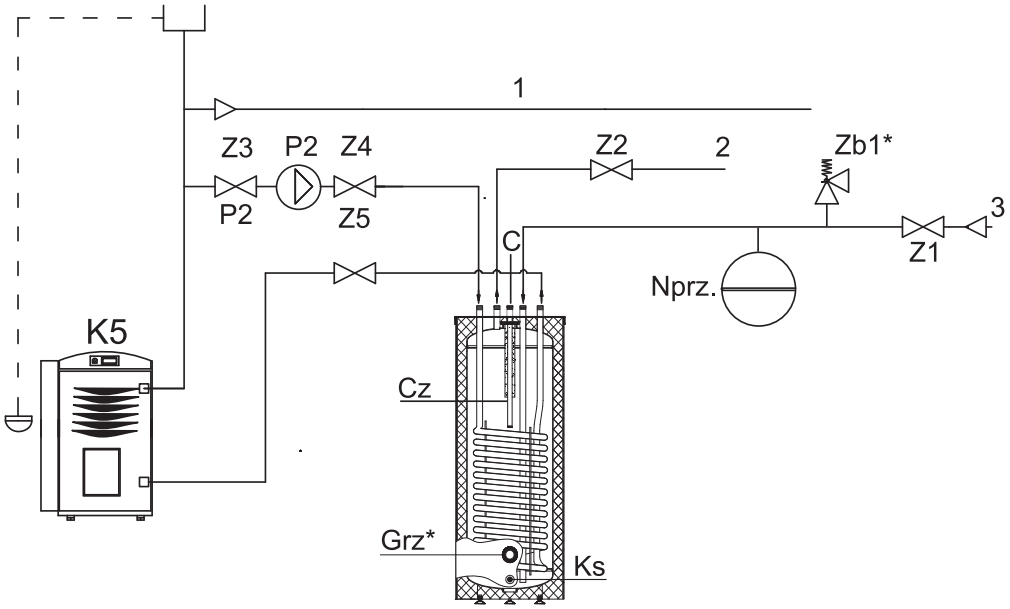
PROBLEM	CAUSE	METHOD OF ELIMINATION
The safety valve does not open {even doing a blow through).	Safety valve seized.	Clean or replace the valve.
Safety valve leaks.	Touching surfaces of safety valve dirty or defective.	Clean or scrub the touching surfaces of the safety valve.
	Excessive water pressure in the network.	Instal a flow control device.
Water from the water heater is dirty.	A large amount of sediment in the tank.	Clean the tank of sediment.
	Worn out magnesium anode	Replace the magnesium anode - not covered by the warranty.

Uwaga!

1. At least once every 18 months replace the magnesium anode (keep the receipt for the magnesium anode). Regular replacement of the magnesium anode is a requirement for maintaining a warranty on the tank (for an enamelled tank).
2. It is not allowed to install the water heater without a properly functioning safety valve.
3. The safety valve must be installed directly in front of the cold water pipe leading to the water heater. Only valves approved by the Technical Supervision Office, designed for capacitive water heaters, can be used – ones with a return valve. The safety valve allows water to flow out of the heater, if an exces sive increase in pressure in the heater occurs – opening pressure of 0.67 MPa.
4. No additional device can be installed between the safety valve and the water heater (e.g. shut off valve, water valve, etc.).
5. The repair method is specified by the manufacturer.
6. In the event of product defects importer. Free repairs of damage, for which the manufacturer is liable, will be remedied within 14 days from the date of notification. THE WATER HEATER MUST NOT BE DISASSEMBLED. The receipt for the purchase of the water heater must be kept for after sales service purposes. The number of repairs does not include gasket replacements, magnesium anode replace ments etc.
7. A properly filled out, complete and in no way corrected warranty card is the basis for having repairs done under warranty (it must be kept throughout the warranty period).
8. Cases not covered by the above conditions are subject to the provisions of the Polish Civil Code.
9. Connections with the heaters must not be made of plastic pipes not designed to work at a temperature of 95°C and at a pressure of 0.7 MPa.
10. Water heaters must be installed in such a way as to ensure easy access (e.g. for maintenance, repair or replacement).
11. The manufacturer is not liable for any inconvenience or expense caused by the dismantling of addi tional housing elements.
12. In case water becomes odorous or darkly coloured, this is caused by the formation of hydrogen sulfide by sulfate reducing bacteria that live in oxygen poor water. If cleaning the water heater, repla cing the magnesium anode and setting the temperature above 60°C do not improve the situation, we recommend the use of a titanium anode connected separately to the power supply.

4. Technical specification

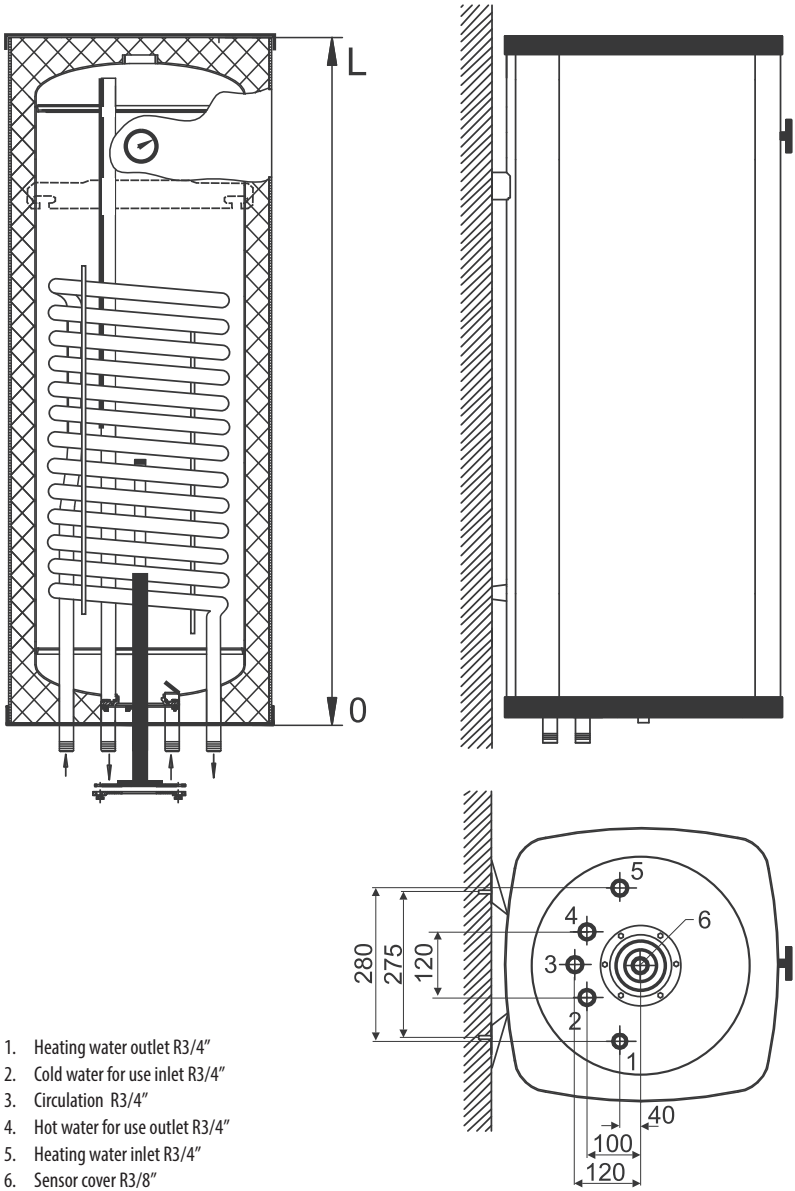
4.1. Exemplary connection scheme



N - collection vessel for an open system
Nprz - expansion vessel
Zb1* - safety valve
Z1 - shut off valve on cold water inlet
Z2 - shut off valve on hot water outlet
Z3, Z4 - shut off valve on water inlet from the heating system to the coil
Z5 - shut off valve on the outlet hose from the heating installation
P2 - pump
Cz. - sensor cover
Ks - water outlet (drain)
C - circulation
Grz* - connection for the heating element
K5 - boiler

4. Technical specification

4.2. Scheme of the SGW(S) Vulcan 100÷140 l - wall-mounted



1. Heating water outlet R3/4"
2. Cold water for use inlet R3/4"
3. Circulation R3/4"
4. Hot water for use outlet R3/4"
5. Heating water inlet R3/4"
6. Sensor cover R3/8"

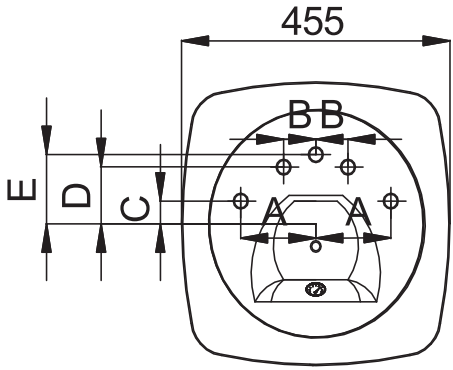
4.3. Technical specification of the SGW(S) Vulcan - wall-mounted

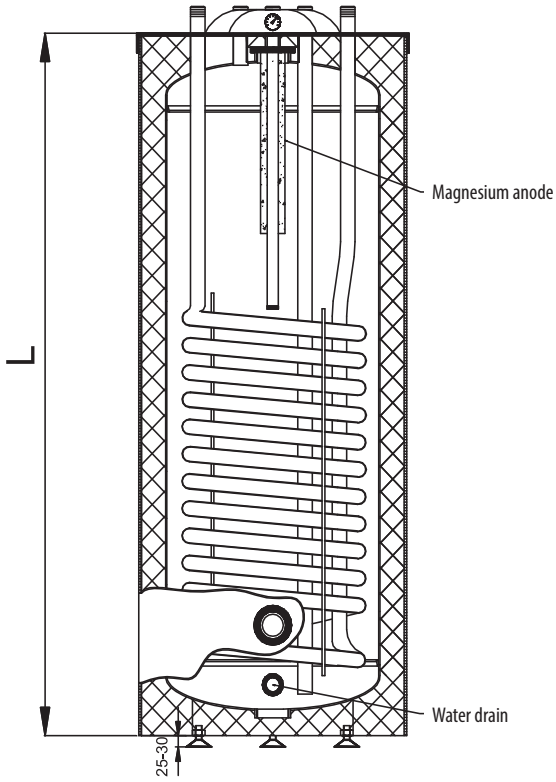
Specification	unit	SGW(S) 100	SGW(S) 120	SGW(S) 140
Storage capacity *	l	101	113	127
Maximum working temperature	°C	100		
Maximum working pressure	bar	6		
Heat exchanger surface	m^2	1,2		
Heat exchanger capacity	l	5,2		
Demand tor central heating water	m^3/h	2,5		
Efficiency (70/10/45°C)	l/h	700		
Heating power	kW	29		
Dimensions				
L - height	mm	990	1090	1240
Tank dimensions (without insulation)	Ø	400		
Tank dimensions (with insulation)	mm	455 x 455		
Soft polyurethane foam insulation	mm	25		
External housing	-	metal jacket		
Connections				
Cold water / hot water	R	3/4"		
Circulation	R	3/4"		
Heating water circuit (supply/return)	R	3/4"		
E-coupler (heater)	R	5/4"		
Sensor cover	R	3/8"		
Thermometer	Gw	1/2"		
Magnesium anode	-	M8 screw		
Weight (empty)	kg	57	62	67

* According to the (UE) 812/2013, 814/2013.

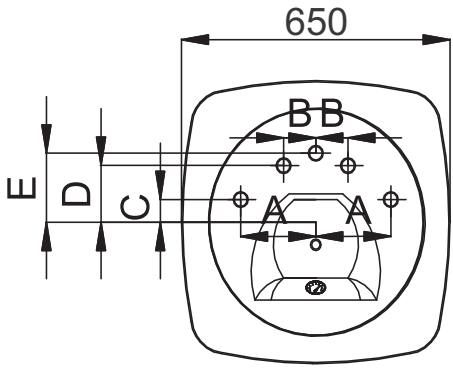
4. Technical specification

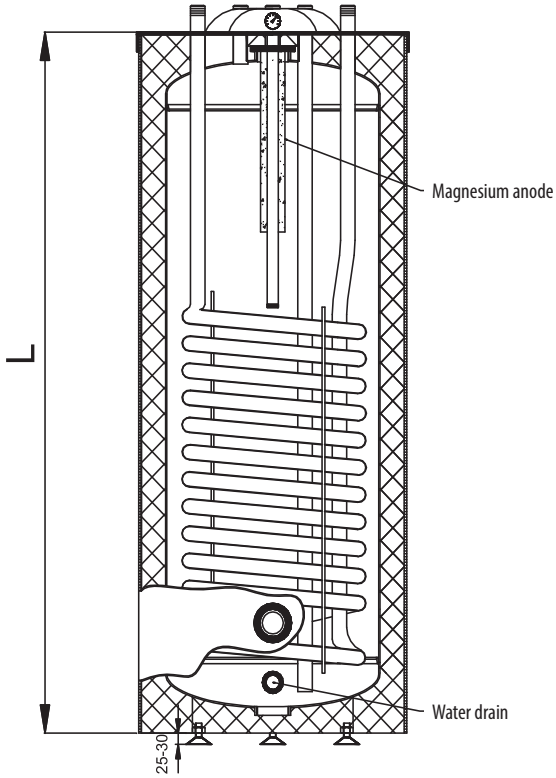
4.4. Scheme of the SGW(S) Vulcan 100÷140 l - free-standing





4.5. Scheme of the SGW(S) Vulcan 200 l - free-standing





4. Technical specification

4.6. Technical specification of the SGW(S) Vulcan - free-standing

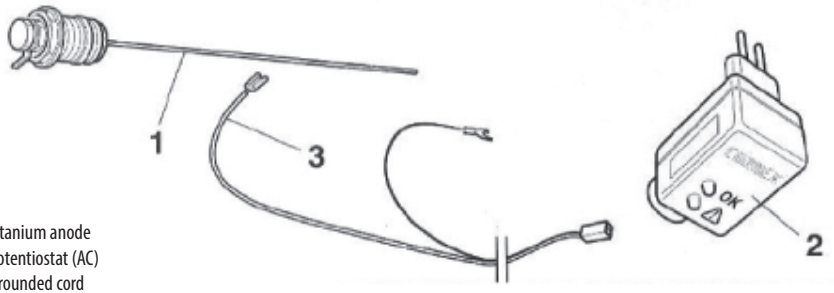
Specification	unit	SGW(S) 100	SGW(S) 120	SGW(S) 140	SGW(S) 200
Storage capacity *	l	101	113	127	194
Maximum working temperature	°C	100			
Maximum working pressure	bar	6			
Heat exchanger surface	m^2	1,2			1,6
Heat exchanger capacity	l	5,2			11,2
Demand tor central heating water	m^3/h	2,5			2,6
Efficiency (70/10/45°C)	l/h	700			950
Heating power	kW	29			39
Dimensions					
A	mm	140			190
B	mm	60			
C	mm	40			
D	mm	100			
E	mm	120			
L - height	mm	990	1090	1240	1130
Tank dimensions (without insulation)	Ø	400			550
Tank dimensions (with insulation)	mm	455 x 455			650 x 650
Soft polyurethane foam insulation	mm	25			50
External housing	-	metal jacket			
Connections					
Cold water / hot water	R	3/4"			1"
Circulation	R	3/4"			1"
Heating water circuit (supply/return)	R	3/4"			1"
E-coupler (heater)	R	5/4"			6/4"
Sensor cover	R	3/8"			
Thermometer	Gw	3,8"			1/2"
Water drain	Gw	3/4"			1"
Magnesium anode	-	plug 5/4"			
Weight (empty)	kg	57	62	67	85

* According to the (UE) 812/2013, 814/2013.

5. Titanium, maintenance-free, active anode

5.1. Pros of the titanium anode

- reliable, durable protection
- low consumption of anodes
- no sludge on the anode
- not required regeneration
- guaranteed long-term operation of the tank



1. Titanium anode
2. Potentiostat (AC)
3. Grounded cord

NOTE ! Before installing the anode CORREX, remove existing protective magnesium anode.

1. Cable supplied bipolar, connecting the anode CORREX and potentiometer plug must not be lengthened.
2. A random change in polarity causes the acceleration of corrosion.
3. It is recommended to use the socket 230 V in a short distance from the tank.

5.2. Troubleshooting

LED CONTROL	CAUSE	METHOD OF REMOVAL
ON - green colour	- Anode CORREX working properly. Full protection against corrosion.	-
OFF	- Lack of electricity.	- Check the voltage 230 V.
ON - red colour	- Lack of water in the tank. - Cables between the electronic part and the anode is connected incorrectly. - Lack of contact between the ground (tank) and the electrical part of the anode. - The anode is contacted with the mass of the tank.	- Fill the tank with water. - Put the cables at the anode. - Check and clean the rust all connections. - Properly isolate the anode from the tank.

Declaration of Conformity

„GALMET Sp. z o.o." Sp. K.
48-100 Głubczyce, Raciborska 36

declares that the following product:

SGW(S) 100; SGW(S) 120; SGW(S) 140; SGW(S) 200;

To which this declaration applies to is compliant with the following directives:

Pressure Equipment Directive (PED): 2014/68/UE;

The water heaters are intended for heating and storage of the DHW.
The wall thickness of the jackets and the bottoms,
as well as the material the exchangers were made of are listed below:

Type	Diameter [Ø]	Bottoms	Material	Jackets	Material
		Material thickness		Material thickness	
SGW(S) 100	400	2,5	S235JR	2,5	S235JR
SGW(S) 120	400	2,5		2,5	
SGW(S) 140	400	2,5		2,5	
SGW(S) 200	550	3,0		3,0	

Głubczyce 19.07.2016
(Place and date)

PREZES ZARZĄDU
Stanisław Galara
(Authorized person signature)

7. Product fiche (according to EU Regulation No 812/2013)

7.1. SGW(S) Vulcan

1	EN - Supplier's name or trade mark	Galmet			
2	EN - Supplier's model identifier	SGW(S) Vulcan 100	SGW(S) Vulcan 120	SGW(S) Vulcan 140	SGW(S) Vulcan 200
3	EN - Energy efficiency class	C	D	D	C
4	EN - Standing loss [W]	62	74	84	65
5	EN - Storage volume [L]	101	113	127	194

Notes

WARRANTY CARD

No.	Date of receiving	Description of the repair	Date of worksmanship	Serviceman's signature

Date of repair	Date of repair	Date of repair	Date of repair
Range of repair	Range of repair	Range of repair	Range of repair
Seal of the service	Seal of the service	Seal of the service	Seal of the service
Name, address of the owner	Name, address of the owner	Name, address of the owner	Name, address of the owner
Owner's signature	Owner's signature	Owner's signature	Owner's signature

WARRANTY CARD

„Galmet Sp. z o.o." Sp. K.
48-100 Głubczyce, ul. Raciborska 36

Magnesium anode replacement confirmation (paid service)	
Date and signature of an authorized person	Date and signature of an authorized person
Date and signature of an authorized person	Date and signature of an authorized person

Warranty coupon 1	Warranty coupon 2	Warranty coupon 3	Warranty coupon 4
Galmet tworzymy rzeczy mądre	Galmet tworzymy rzeczy mądre	Galmet tworzymy rzeczy mądre	Galmet tworzymy rzeczy mądre
Type:	Type:	Type:	Type:
Factory No.:	Factory No.:	Factory No.:	Factory No.:
Date of sale:	Date of sale:	Date of sale:	Date of sale:
Seller's seal and signature	Seller's seal and signature	Seller's seal and signature	Seller's seal and signature

Installation confirmation
Galmet tworzymy rzeczy mądre
Type:
Factory No.:
Date of sale:
Seller's seal and signature