GEBWELL

Installation and Maintenance Manual

Gebwell G-Energy® Energy Accumulators

CONTENTS

G-Energy storage tanks are designed and manufactured in accordance with good engineering practice (PED 2014/68/EU Articles 4.1 and 4.3) to ensure safe use.

KEEP THE INSTRUCTIONS FOR USE IN THE IMMEDIATE VICINITY OF THE DEVICE!

Please read the instructions carefully before installing or servicing the device. The instructions provided must be followed.

CONGRATULATIONS ON YOUR CHOICE!

Gebwell Ltd is a Finnish company specialising in environmentally friendly heating and cooling solutions. At our factory in Leppävirta, we manufacture heat pumps, district heating substations and energy storage tanks for a wide range of applications.

GEBWELL G-ENERGY® STORAGE TANKS

In water-based heating systems, the heat produced by the heating device is stored in energy storage tanks, from which the thermal energy is used to heat the building and domestic water. Gebwell's G-Energy energy storage tank is a Finnish product manufactured by heating professionals at our factory in Leppävirta.

Our extensive product range includes models for use with different types of heating. The G-Energy energy storage tank enables the parallel use of different types of heating. Energy storage tanks can be connected to underfloor heating or radiator networks, as well as to cooling applications. G-Energy storage tanks offer options for both detached houses and large properties. Our range includes 501, 750, 1000, 2000, 3000, 4000 and 5000 litre storage tanks.

EASY TO HANDLE

Regardless of the model and size, Gebwell storage tanks are easy to transport, handle and install thanks to the steel frame at the bottom. The storage tanks have removable insulation, which makes it easier to transport them into tight spaces without having to remove door frames. The insulation options for G-Energy storage tanks are either high-quality polyurethane insulation blocks with quick-release fasteners or polyester fibre insulation with zippers. Both insulation options can be removed and installed by one person. Depending on the size of the storage tank, the polyurethane insulation consists of 3–5 separate blocks. For example, the diameter of a 1,000-litre storage tank without insulation is 850 mm. The connection points of the storage tanks extend to the level of the insulation surface to facilitate pipe installation. Adjustable feet (adjustment range 0–60 mm) allow the storage tank to be easily positioned vertically even on uneven surfaces.

HIGH QUALITY AND LONG SERVICE LIFE

Gebwell's Leppävirta factory has strict quality control. Robot welding ensures first-class welding and consistent quality. The tanks are made of steel, primed and pressure tested with water. In addition, storage tanks made of stainless or acid-resistant steel are available for cooling and domestic water applications, among others. The insulation is made of pressure-moulded urethane, which has excellent thermal insulation properties and minimal heat loss. The insulation is made of closed-cell urethane, and the surface plate of the insulation blocks is painted steel plate covered with a protective film. The polyester fibre insulation is coated with PVC plastic. The vertical cylinder storage tank manufactured by Gebwell is the best option in terms of thermal properties. The connections are designed for ease of use. The storage tanks are equipped with two drain connections, the front one of which makes it easy to drain the tank.

SUFFICIENT FRESH WATER

Using an energy storage tank, or hot water tank, is an ecological and economical way to achieve a pleasant, even room temperature and sufficient hot water. The hot water tank stores and balances the heat produced by the heating system, which is then used to heat the property and domestic water. In Gebwell storage tanks, domestic water is heated in a copper coil, where water exchange is rapid. The coil dispenses water in an energy-efficient manner and ensures that it remains fresh. Coils are ordered separately for storage tanks, except for the G-Energy Coil domestic water heater, which comes with pre-installed coils.

INSTALLATION REPORT

The installation report must be completed during installation; the completed report is a condition for the warranty to be valid. The storage tank information can be found on the model plate on the side of the storage tank.

Storage tank HVAC number:	
Installation address:	
System pressure:	

Storage tank serial number:	
System heating types:	
Resistance power:	

THE FOLLOWING CHECKS HAVE BEEN CARRIED OUT:

V	Hot water	Comments
	- Shut-off valves	
	- Mixing valve	
	Cold water	
	- Shut-off valves	
	- mixing valve	
	- safety valve	
	Electric	
	- power supply combined	
	- Sensors	
	- temperature limiter	
	Other	
	- Tightness of pipe connections checked	
	- Instruction in use given to the owner of the storage tank	
	-	

HVAC INSTALLATION

Company _____

Installer (name): _____

Telephone _____

Email _____

Date of HVAC installation: _____/_____ 20 _____

Installer's signature: _____

ELECTRICAL INSTALLATION

Company: _____

Installer (name): _____

Telephone number: _____

Email address: _____

Date of electrical installation: _____/_____ 20 _____

Installer's signature: _____

HANDLING OF THE STORAGE TANK

CONTENTS OF DELIVERY

- Storage tank
- Installation, operating and maintenance instructions 1
- Accessory bag containing a lifting loop for lifting the storage tank and a handle for removing the insulation blocks.

OPTIONAL ACCESSORIES

- Coil
- Electric heating element
- Sensor pocket

TRANSPORT

It is recommended that the storage tank be transported upright and well supported. If the storage tank is transported in a horizontal position, care must be taken to ensure that the outer shell of the storage tank is not damaged.

Any visible transport damage must be noted on the consignment note and reported to the manufacturer immediately.

Carefully remove the packaging plastics.

STORAGE OF THE STORAGE TANK

Before installation, store the storage tank in a dry and warm place without unpacking it.

TRANSPORTING THE STORAGE TANK

We recommend transporting the storage tank with a pump truck or forklift. There is a steel frame at the bottom of the storage tank to facilitate transport.

Insert the forks of the pump truck or forklift into the openings in the steel frame and lift.

The 501, 750 and 1000 litre storage tanks are equipped with a base structure with a two-part steel frame that allows the storage tank to be lowered. The lower steel frame can be removed after transport if desired, lowering the height of the storage tank by approx. 90-150 mm.

The storage tank can also be lifted using a lifting loop attached to the top of the storage tank. To attach the lifting loop, the insulation plate on top of

the storage tank must be removed.

Ensure that the lifting loop is screwed into place securely! Extreme caution must be exercised when lifting the storage tank and lifting it at an angle is prohibited!

If the storage tank is transported on its side, its tilt angle must be considered. The measurement is given in the tables at the end of the instructions.

LOOSE INSULATION

The storage tanks are equipped with removable insulation as standard. The insulation blocks are easy to remove and replace. The insulation blocks can be removed by opening the quick-release fasteners with the handle supplied with the storage tank.

There are 3–5 blocks, depending on the volume of the storage tank. The diameter of the storage tank is reduced by 180 mm when the insulation is removed. With the insulation removed, the diameter of a 1000-litre storage tank, for example, is only 850 mm.

To remove a loose insulation block, remove the plastic plug from the quick-release fastener hole, insert the handle into the hole and turn it counterclockwise. There are two quick-release

fasteners, one at the top and one at the bottom of the insulation block. When putting the insulation blocks back in place, turn the handle clockwise to lock the quick-release fastener.

The polyester fibre insulation is opened and closed with a zip.

PLACING THE STORAGE TANK

When positioning the storage tank, ensure that the floor can support the weight of the tank when full and that there is sufficient space for installing connections and performing maintenance.

The steel frame at the bottom of G-Energy storage tanks has adjustable feet with an adjustment range of 0-60 mm. By adjusting the feet, the storage tank can be placed vertically even on uneven surfaces.

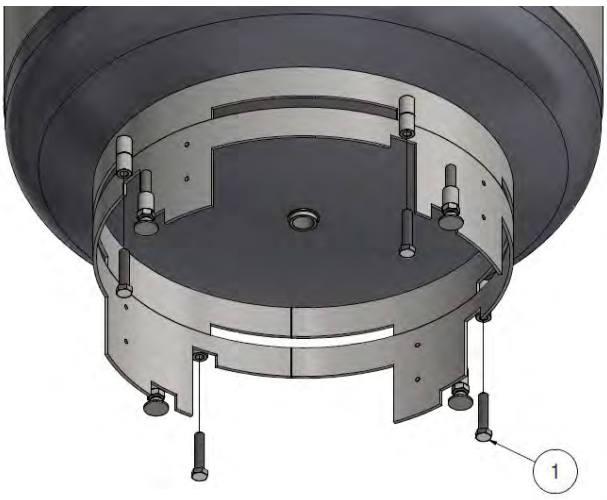
In the low model, the adjustment feet are attached to the lower, removable part of the steel frame. Move the adjustment feet to the upper part after removal. The adjustment feet are placed in place of the frame's mounting bolts.

NOTE Adjust the legs before filling the tank. Use the adjustable legs to level the storage tank so that the frame of the storage tank leg remains as close to the floor as possible and the adjustable leg is as short as possible.

REMOVING THE SUPPORT FRAME – LOWERABLE STORAGE TANK MODELS

The 501, 750 and 1000 litre models are equipped with a base structure that allows lowering. In these models, the steel frame under the storage tank is in two parts. The lower part of the frame, which facilitates lifting, can be removed at the installation site, reducing the height of the storage tank by approximately 90–150 mm, depending on the volume.

Lift the storage tank by the lifting lugs or, alternatively, remove the insulation (see instructions on the previous page) and carefully tip the storage tank onto its side.



1. Remove the lower frame from the upper frame by loosening the bolts.

2. Remove the lower frame.

3. Remove the adjustment feet from the lower frame.

4. Screw the adjustment feet to the frame remaining at the bottom of the storage tank.

NOTE! When the base is lowered, the connection at the bottom of the storage tank is not available. The connection is pre-plugged when delivered.

TANK INFORMATION

Each storage tank we deliver is equipped with a model plate, which shows the storage tank's serial number and other important information needed when ordering accessories or possible maintenance for the storage tank. The model plate also contains the storage tank information needed for the installation report.

INSTALLATION

The storage tank must be installed and commissioned by a plumbing and electrical professional.

G-Energy storage tanks can only be installed vertically.

All connections must be insulated during installation to minimise heat loss. When installing, ensure that there are enough thermometers and sufficient insulation when making pipe connections.

PIPE INSTALLATIONS

Pipe installations must be carried out in accordance with applicable regulations and instructions. Pipes installed in the storage tank must be carefully supported as close as possible to the tank connections so that the pipes do not exert force on the tank connections. The necessary valves, such as a safety valve, shut-off valve, non-return valve and suction protection/vacuum valve, must be installed in the storage tank. The storage tank must be equipped with at least one pressure safety valve, the operation of which has been tested in accordance with the manufacturer's instructions.

A mixing valve must be installed in the storage tank to limit the supply water temperature to 60 degrees. If plastic pipes or annealed copper pipes are used, internal support sleeves must be used in the installation. An overflow pipe must be connected from the safety valve to the drain. The overflow pipe must be the same size as the safety valve. The overflow pipe must be installed with a slope all the way to the drain and must be protected from freezing. The end of the overflow pipe must be visible and must not be located near electrical components.

The drain valve can be installed either in the drain connection located under the accumulator or in the measuring connection located at the bottom of the accumulator; the connection size is 1".

FILLING

The storage tank should be filled with water that is as warm as possible to facilitate venting and reduce thermal expansion during heating. The overflow pipes of the storage tank must be constructed in such a way that the water coming from them does not cause moisture damage. Also ensure that the water is suitable for domestic use.

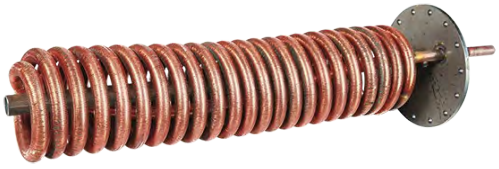
The system pressure must remain below the design pressure specified on the model plate. Insulate the pipes only after checking the tightness of the connections. When insulating pipes, consider the maintainability of the equipment.

The installer must provide the owner of the storage tank with instructions for use. The installation report on this page must be completed after installation and instruction. The completed report is a condition for the validity of the warranty. It is recommended that all components be clearly labelled so that the user can identify them.

Enough air vent valves must be installed in the system to ensure the proper functioning of the storage tank and the system. Air may escape from the system and storage tank for several days after commissioning.

The expansion vessel to be installed must be correctly dimensioned and the pre-pressure set in accordance with the manufacturer's instructions to prevent the accumulator from breaking.

INSTALLING THE COILS



The seal supplied by the manufacturer is sufficient. Tighten each bolt on the flange a little at a time. The seal must not protrude more than 5 mm between the flange and the door.

INSTALLING THE HEATING ELEMENT

Electric heating elements can be installed in some G-Energy storage tanks. The connection size of the heating elements is 2". Electric heating elements can be used, for example, to heat a wood-fired house during a holiday. When installing the heating elements, it is recommended to use the flat gasket supplied or, alternatively, hemp and putty. When installing the storage tank, ensure that there is sufficient space in front of the storage tank to remove the heating elements (see table: length).

Model	HVAC number	Power kW	Material	Connection	Length	Immersion depth mm	Cold section mm
Electric heater 2 kW	5362307	2.0	AISI 316L	2	254	240	95
Electric heater 3 kW	5362308	3.0	AISI 316L	2	269	255	95
Electric heater 4.5 kW	5362309	4.5	AISI 316L	2	399	385	95
Electric heater 6 kW	5362310	6.0	AISI 316L	2	399	385	95
Electric heater 7.5 kW	5362311	7.5	AISI 316L	2	455	441	95
Electric heater 9 kW	5362312	9.0	AISI 316L	2	455	441	95
Electric heater 10 kW	5362313	10.0	AISI 316L	2	455	441	95
Electric heater 12 kW	5362613	12	AISI 316L	2	530	516	95

STORAGE TANK MAINTENANCE

Annual leak checks, in which all connections and coil doors are visually inspected for leaks, are sufficient maintenance measures for the storage tank. In addition, the condition of the storage tank insulation should be checked annually and repaired if necessary.

The operation of the pressure relief valve connected to the tank must be checked in accordance with the manufacturer's instructions.

PRECAUTIONS

The following points must be considered during installation and use:

The load on the floor caused by the weight of the filled storage tank and the possible need for reinforcement.

Risks associated with the fluid contained in the system during installation, use and maintenance.

The heating of the system components and the hot fluid they contain, to avoid possible burns.

Adequate air venting system to prevent air pockets from forming inside the storage tank.

If misused, the storage tank may pose a significant risk. Ensure that the system has adequate safety devices to prevent excessive pressure build-up.

Electrical equipment may only be installed and maintained by a qualified electrician.

Open flames and the use of sparking tools in the vicinity of the storage tank are prohibited.

RECYCLING

We recommend that the system connections be disconnected by a professional. The system must be depressurised and the fluid inside it must have cooled down before any disconnection work is carried out. If the system contains chemicals, they must be disposed of in accordance with the law.

The loose insulation of the accumulators must be recycled in accordance with local waste regulations. SER parts, such as electric heating elements, must be delivered to a separate collection point for SER waste. Other parts must be recycled in accordance with local regulations, depending on the material of the components.

FOR FURTHER INFORMATION VISIT WWW.GEBWELL.FI/EN/PRODUCTS/ENERGY-ACCUMULATORS/

Vaatimustenmukaisuusvakuutus
Declaration of Conformity
Försäkran om överensstämmelse

Gebwell Oy vakuuttaa omalla vastuullaan, että tuotteet
We, Gebwell Ltd, hereby declare under our sole responsibility that the product
Gebwell Ab försäkrar under eget ansvar att de produkter

G-Energy and KVL Vessels with capacity of 500 liters and below

joita tämä vakuutus koskee, on seuraavien direktiivien ja asetusten mukainen
to which this declaration relates is in conformity with the
som omfattas av denna försäkran är i överensstämmelse med följande direktiv

ELECTROMAGNETIC COMPATIBILITY (EMC) DIRECTIVE 2014/30/EU
LOW VOLTAGE DIRECTIVE (LVD) 2014/35/EU
ECO-DESIGN REQUIREMENTS FOR ENERGY-RELATED PRODUCTS DIRECTIVE 2009/125/EC
RESTRICTION OF THE USE OF HAZARDOUS SUBSTANCES DIRECTIVE (RoHS II): 2011/65/EU
REGULATION (EU) 2017/1369 ON ENERGY LABELLING
(Pressure Equipment Directive (PED) 2014/68/EU shall not apply to this pressurized equipment according to item 2.f.iii in Article 1.)

ja seuraavia yhdenmukaistettuja standardeja ja teknisiä eritelmiä on sovellettu:
and the following harmonised standards and technical specifications have been applied:
och följande harmoniserade standarder och tekniska specifikationer har tillämpats:

LVD:	EN 61439-1:2011 EN 61439-2:2011 EN 61439-3:2012
EMCD:	EN 61439-1 Annex J, Point J.9.4.2
HD:	60364 Low-voltage electrical installations 384 Electrical installations of buildings
	EN 14511

Commission Regulation (EU) No 813/2013 on eco design of space heaters and combination heaters
Commission Delegated Regulation (EU) No 811/2013 on energy labelling of space heaters and combination heaters.

Tuotteilla on CE-vaatimuksenmukaisuusmerkintä.
Products are provided with a CE marking of conformity.
Produkterna är försedda med CE-märkning av överensstämmelse.

Leppävirta 26.3.2025

Martti Artama,
CEO

Vaatimustenmukaisuusvakuutus
Declaration of Conformity
Försäkran om överensstämmelse

Gebwell Oy vakuuttaa omalla vastuullaan, että tuotteet
We, Gebwell Ltd, hereby declare under our sole responsibility that the product
Gebwell Ab försäkrar under eget ansvar att de produkter

G-Energy Vessels with capacity over 500 liters

joita tämä vakuutus koskee, on seuraavien direktiivien ja asetusten mukainen
to which this declaration relates is in conformity with the
som omfattas av denna försäkran är i överensstämmelse med följande direktiv

ELECTROMAGNETIC COMPATIBILITY (EMC) DIRECTIVE 2014/30/EU
LOW VOLTAGE DIRECTIVE (LVD) 2014/35/EU
ECO-DESIGN REQUIREMENTS FOR ENERGY-RELATED PRODUCTS DIRECTIVE 2009/125/EC

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	EN 14511

Commission Regulation (EU) No 813/2013 on eco design of space heaters and combination heaters

PED2014/68/EU artiklassa 4.3 on määritelty, että painelaitteet, joiden ominaisuudet ovat PED luokan 1 rajojen alapuolella tai yhtä suuret, on suunniteltava ja valmistettava jäsenvaltiossa noudatettavan hyvän konepajakäytännön mukaisesti. Tällaisissa laitteissa tai laitekokonaisuuksissa ei saa olla 18. artiklassa tarkoitettua PED direktiiviä koskevaa CE-merkintää.

PED2014/68/EU specificerar i artikel 4.3 att tryckutrustning som klassas i högst kategori 1, skall utformas och tillverkas enligt god praxis och att sådan utrustning ej skall omfattas av CE-märkning enligt PED.

PED2014/68/EU specifies in article 4.3, that pressure equipment under the limits set to Category 1 shall be designed and manufactured in accordance with the sound engineering practice and such equipment shall not bear the CE mark referred to PED.

Leppävirta 26.3.2025

Martti Artama
CEO

Contact us in case of need

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A Finnish expert in sustainable heating and cooling solutions

GEBWELL

PURE HEAT