



THERMOCYLINDER

200 | 300



Esteemed Client,

We would like to thank you for your choice when you acquired an equipment for sanitary water heating.

The **THERMOCYLINDER** will surely meet all your expectations and provide many years of comfort with maximum power saving.

Our organization dedicates much time, energy and economic resources in order to develop innovations that will promote power saving in our products.

Your choice has demonstrated your good sense and concern with power consumption, a matter that affects the environment.

We have taken on a permanent commitment to conceive innovative and efficient products so that this rational use of energy can actively contribute to the preservation of the environment and natural resources of the planet.

Keep this manual whose objective is to inform, alert and advise about the use and maintenance of this equipment.

Our services are always at your disposal. Feel free to call upon us!

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1. PRODUCT

The Energie DHW cylinder for heat pump, has been manufactured. in accordance with the essential safety requirements established in Directive 2014/68/EU of the European Parliament and of the Council of May 15, 2014, on the approximation of the laws of the Member States on pressure equipment and also manufactured in accordance with ErP directives 2009/125 CE and ELD and 2010/30/EU.

The following instructions have been prepared in accordance with the provisions of point 3.4 of Annex I of RD 97/23/EC and each coil water heater will be marketed accompanied by this document.

2. TECHNICAL DATA

This cylinder is made of stainless steel, the quality of which makes it suitable for resisting the combined action of sanitary water at 60°C and the chlorine dissolved in it.

It is a hermetically sealed tank, designed to the following service conditions:

Test pressure prim/sec: 12/12 bar

Maximum working pressure prim/sec: 6/6 bar

Design temperature: 5°C – 90°C

Working temperature: 60 °C

In the option with electrical support: 230V 50HZ (single phase)

3. SPECIFICATIONS

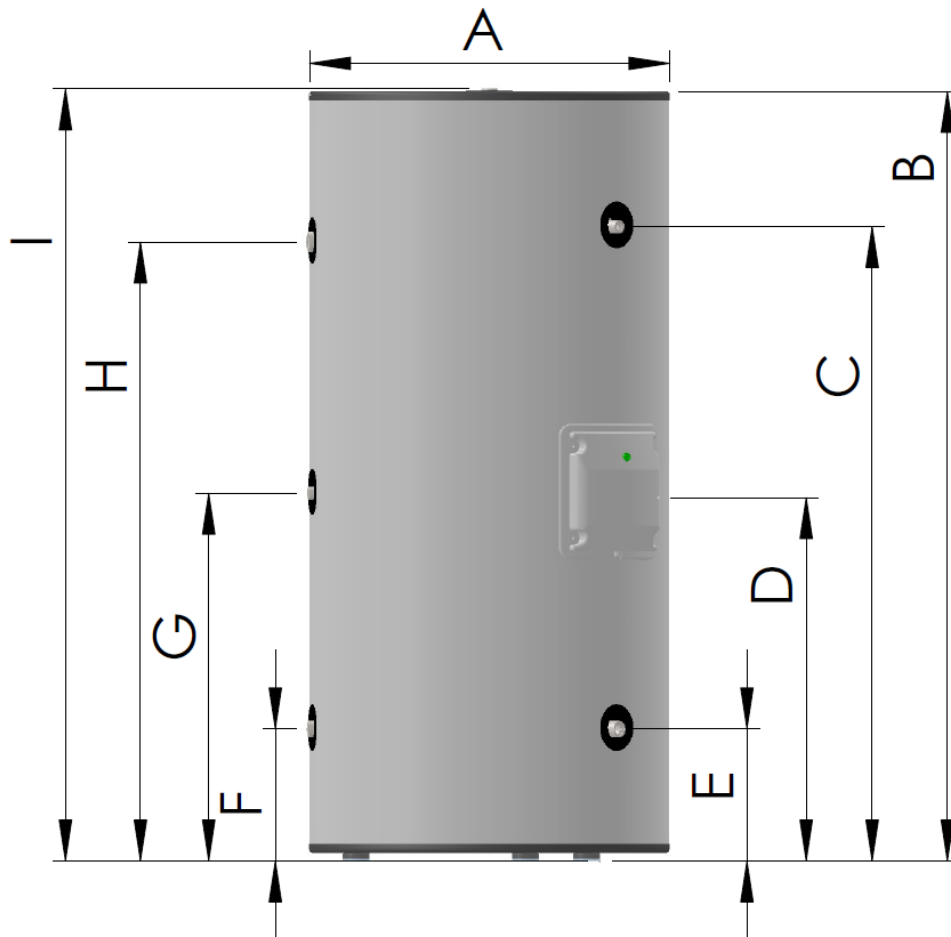
Model		THERMOCYLINDER 200	THERMOCYLINDER 300
Capacity	L	200	270
Empty weight	kg	51	60
Dimensions (ø / alt.)	mm	Ø580 / 1240	Ø580 / 1540
Material	-	Stainless steel	Stainless steel
Polyurethane Insulation	mm	50mm	50mm
Exchange surface	m ²	2,3	2,6
Max. Pressure coil	bar	8	8
Max. Pressure tank	bar	6	6
Max. Temp. coil	°C	90	90
Max. Temp. tank	°C	90	90
ErP Class	-	B	B
Static Loss (EN 12897)	W	59	65
Coil power ¹⁾	kW	a) 70 b) 43	a) 79 b) 49
Power Supply	-	230V/50Hz	230V/50Hz
Heating Element Power	W	1500	1500
Ambient Temperature Limits	°C	-5/40	-5/40
Max. Pressure	bar	7	7

- 1) a) Primary circuit (Tin =90 °C; Tout =80 °C); Production DHW (Tin=10 °C; Tout=55 °C)
 b) Primary circuit (Tin =70 °C; Tout =60 °C); Production DHW (Tin=10 °C; Tout=55 °C)

3.1. Cylinder


The Thermocylinder has a hot water storage tank, in stainless steel, with a high performance coil to heat exchange with a heat pump.

Dimensions:







	Ø Pol.	THERMOCYLINDER 200 mm	THERMOCYLINDER 300 mm	Obs. -
A	-	580	580	Diameter
B	-	1240	1540	Height
C	G 1/2" F	1000	1295	Instrumentation
D	G 1" 1/4" F	595	595	Electrical Heater
E	G 3/4" F	215	215	Cold Water
F	G 3/4" F	215	215	Heat Exchanger Outlet
G	G 1/2" F	595	595	Recirculation
H	G 3/4" F	975	1055	Heat Exchanger Inlet
I	G 3/4" F	1240	1540	Hot Water

4. TRANSPORT



 WARNING	<p>The equipment must be carried in an upright position. The equipment must be raised and lowered with extreme care, to avoid impact that could damage the material. Make sure the belts and/or transportation straps do not damage the material. Always use suitable means to transport the material (pallet lift, forklift, etc.)</p>
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The equipment must be transported in its original package to the place of installation.
 The packages contain the following information symbols:

	Fragile, handle with extreme caution		Keep the package dry
	Make sure the arrows are always up		Do not stack packages



5. INSTALLATION

The tank must be installed by an specialized technician or installation company, for which the current applicable regulations and the indications of this manual must be taken into account.

 DANGER	<p>The installation of the equipment must be carried out by specialized technicians as it can lead to physical damage if performed incorrectly.</p>
 WARNING	<p>It is recommended to place anti-electrolytic sleeves to protect the installation.</p>

5.1. Water Quality

Water quality must comply with EU Council Directive 98/83/EC. The water quality should be checked before the tank installation to prevent appearance of corrosion or lime scale. No antifreeze additive can be added to the domestic hot water circuit. For a longer life of the heat exchangers, a high quality of water with low levels of calcium carbonate must be guaranteed.

 WARNING/DANGER	
<p>The water you use may contain impurities and/or substances damaging to the system and even harmful to your health. Make sure you use water with quality fitting for home consumption. The following table indicates some parameters that, when exceeded, must be chemically treated.</p>	
Water quality parameters	Range
Chlorine (ppm)	X<250
Sulfate (ppm)	X<250
Calcium carbonate (ppm)	X<250
pH	7 - 9
Electrical conductivity	200 - 650

5.2. Placement

The equipment mustn't be installed outside. Its installation must be done in an interior space, protected from the weather and other circumstances that may affect its good condition.

Whenever possible, in order to maximize performance, it is advisable that the equipment is not installed in cold places or areas subject to draughts.

It should be positioned in easily accessible places, so that in the event of a breakdown, the technician can easily access the equipment for repair or removal.

If an electrical heating element is integrated, the applicable electrotechnical standards must be taken into account.

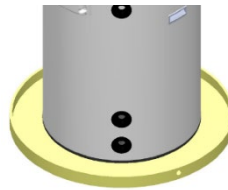
5.3. Heat Source Connection

The support coil connections must be connected to the heat pump. The heat source output must be connected to the coil inlet in the tank and the coil outlet must be connected to the heat source return.

The tank has a connection (C) to which a pressure and temperature safety valve must be connected. Also an expansion vessel with the appropriate characteristics must be installed in the return of the primary circuit and in the cold water inlet.

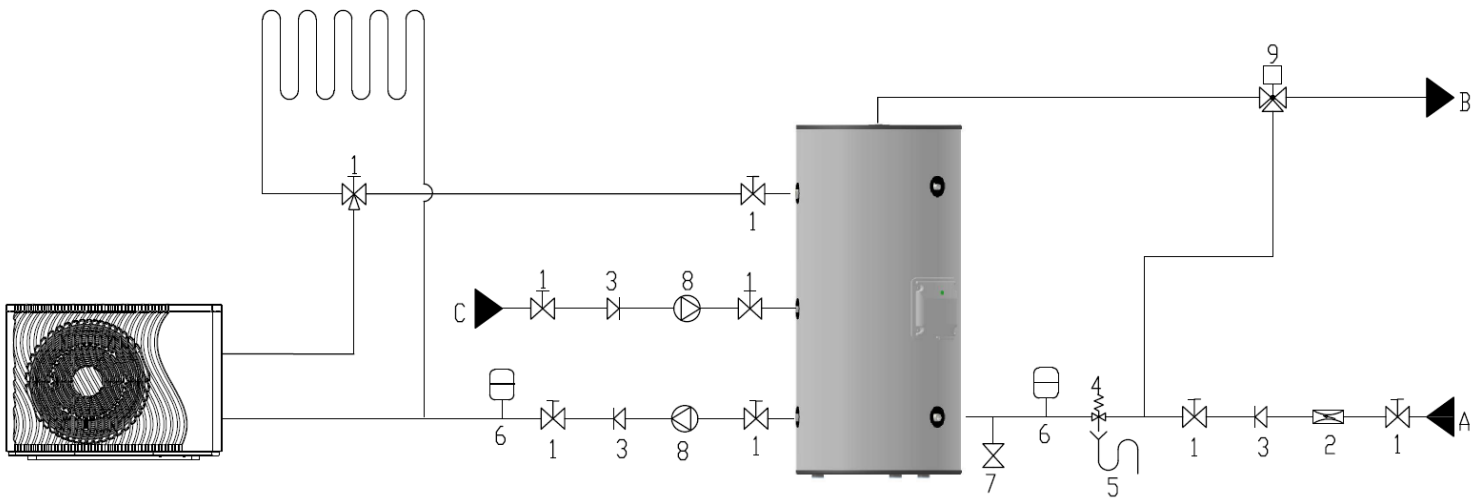
5.4. Drain Pan

The equipment should not be installed over an area where drains from the tank or its connections could cause damage in the adjacent area or on the lower floors of the structure. For the aforementioned reasons, it is recommended to place a drain pan under the equipment.



It is important that the pan has a flow channel with a minimum diameter of 3/4".

5.5. Hydraulic Installation



Caption

- | | |
|---|-----------------------------|
| 1 Shut Off Valve | 7 Drain Valve |
| 2 Pressure Reducing Valve (3 bar / 0,3 MPa) | 8 Circulating Pump |
| 3 Non-return Valve | 9 Thermostatic Mixing Valve |
| 4 Safety group (7 bar / 0,7 MPa) | A Cold Water Inlet |
| 5 Drainage Siphon | B Hot Water Outlet |
| 6 Expansion Vessel | C Recirculation |



It is necessary to install a safety device at the cold water inlet of the appliance. The safety device must be in compliance with the standard EN 1487:2002, maximum pressure 7 bar (0.7 MPa) Water must not be stopped from flowing from the safety device to the deposit by any sort of accessory.

The safety device must be connected with piping whose diameter is not less than the cold water inlet coupling. The discharge must be connected to a sewage siphon or, if this is not possible, elevated to a distance of at least 20 mm from the pavement to allow visual inspection;

To prevent high pressure from main water supply, install a pressure reduction valve set to 3 bar (0.3 MPa).



The manufacture is not responsible for damage related to not following these recommendations/ warnings.

5.6. Set-up

Once the tank has been installed, it must be filled with water, for which the general faucet of the home water installation, a hot water faucet from a point of consumption (shower, sink,...), and the faucet of the cold water from the appliance, until all the air comes out of the tank. Then close the tap at the point of consumption.

The domestic hot water thermostat will be set to a certain temperature. The electrical heating element will turn on and work until the water in the tank reaches the temperature to which the thermostat has been set.

The safety valve during heating, could drip slightly. The valve should never be clogged because there is a risk of bursting the tank.

Verify if there are no water leaks through the connections, if any, they will be tightened moderately. If after 24-48 hours the problem persists, please contact your installer.

6. ELECTRICAL HEATING ELEMENT

The heat pump must be plugged to the power supply only after filling the storage water tank. It comes with a mains cable, to be connected to an earthed monophase voltage (230VAC/50HZ). The connections must comply with the standards of installation in effect in the territory or country where the monobloc heat pump has been installed.

The installation includes:

- Bipolar circuit-breaker with connection cable with section equal to or exceeding 1.5 mm
- Protection differential circuit breaker of 30 mA

If the power supply cable is damaged, it must be replaced by the manufacturer, by its customer service, or by staff with similar training.

The equipment has an electrical immersion element of 1500W for heating the water.

Along with the electrical heater, there is a regulation and safety thermostat. It is used to select the temperature to which the water in the tank will be heated by the electric heating element.

In addition, the thermostat also has a safety function. In this case, the thermostat trips when the water temperature reaches 80°C. You can check if the safety thermostat has tripped for safety if a small red button is protruding from the rest of the thermostat body. To reset the thermostat so that the heating element can start again, it is necessary to push this button inwards.

Be very careful if using hot water in these conditions, as it is possible that it will come out at a much higher temperature than usual and there may be a risk of burns.

When disconnecting the appliance from the mains, do so by pulling the plug, never the cable.



Never start the heating system if the tank is not filled with water.

7. MAINTENANCE

Maintenance operations must be carried out by qualified personnel, taking into account current legislation and the following indications.

The tank disinfection process can be carried out using two different methods:

In the case of chemical disinfection with chlorine, the procedure is:

- Chlorinate the tank with 20-30 mg/l of free residual chlorine, at a temperature not higher than 30 °C and a pH of 7-8, making it reach all the terminal points of the network 1-2 mg/l and keep for 3 or 2 hours respectively. Alternatively, 4-5 mg/l can be used in the tank for 12 hours.
 - Neutralize the amount of free residual chlorine and empty.
 - Thoroughly clean the tank walls, removing incrustations and making the necessary repairs and rinsing with water.
 - Refill with water and restore normal conditions of use. If chlorination is necessary, it will be carried out by means of automatic dispensers.

In the case of thermal disinfection, the procedure is:

- Drain the system and, if necessary, thoroughly clean the walls of the accumulator tanks, carry out the necessary repairs and rinse with clean water.
- Fill the storage tank and raise the water temperature to 70 °C and keep it for at least 2 hours. Subsequently open all the taps and showers by sectors, for 5 minutes, sequentially. Confirm the temperature so that a temperature of 60 °C is reached at all terminal points of the network. Once this maintenance has been carried out, to put the tank into operation you must follow the start-up instructions in this manual.



In order to keep the tank in good use, it is recommended to inspect its interior every year.

To clean the exterior of the tank, we recommend using a cloth moistened with products indicated for this purpose. Do not use abrasive products or solvents. It is advisable to empty the tank if it is not going to be used for a long period of time, or if it is not going to be used and there is a risk of frost.

7.1. Empty the Water Storage



Remember that the water in the storage water tank is at a high temperature, so there is an associated risk of burns. Before emptying the storage water tank, allow the water temperature to drop to a level that avoids burns.

After ensuring the water temperature is at a safe level that will avoid burns, follow this procedure:

- Unplug the system from the power supply
- Shut off the water supply valve and open a hot water tap
- Open the system discharge valve;

8. TROUBLESHOOTING GUIDE

Failure	Possible Cause	Possible Solution
No water flow from hot water faucets	Mains supply is off.	Check and open the stopcock.
	Blocked filter.	Close the water supply. Remove the filter and clean it.
	Cold water inlet: pressure reducing valve improperly installed.	Check and reassemble as necessary.
The tap water is cold.	Immersion heaters not turned on.	Check and turn on.
	Heater thermal switch immersion on.	Check and reset button.
	Program set to central heating or not set.	Check and set to hot water.
	The boiler doesn't work	Check boiler operation. In case of failure, consult the installer or the boiler manufacturer
	Control temperature is not configured correctly	Set desired temperature.
Intermittent discharge of water	Thermal control fault. (Caution: water may be hot)	Check thermal controls and replace them if they are defective.
Continuous discharge of water	Inlet Pressure Reducing Valve cold water does not work.	Check pressure valve.
	Temperature relief and pressure valve faulty.	Check and replace if defective.
	Expansion relief valve does not work correctly.	Check and replace if defective.
Dripping water	Fault in the valve safety group.	Check pressure and temperature replace if defective.

9. RECYCLING



The crossed-out wheeled bin symbol on the seal with features indicates that the product, at its end-of-life, must be treated separately from household / urban waste. It must be delivered to a separate collection centre for electrical / electronic equipment or returned to the retailer at the time of purchasing new equipment. The end-user is responsible for delivering the end-of-life device to an appropriate collection centre. Appropriate differentiated delivery for recycling, treatment, and the environmentally compatible disposal of the equipment helps to avoid possible harmful effects on the environment and health, favouring the recycling of the materials that make up the product. For more detailed information on the available collection systems, please contact your local waste disposal service or the organization where you purchased the waste.

END

Warranty

This warranty covers all defects to the confirmed materials, excluding the payment of any type of personal damage indemnity caused directly or indirectly by the materials.

The periods indicated below start from the purchase date of the apparatus, 6 months at the latest from the leaving date from our storage warehouses.

Water Cylinder

(Domestic and Industrial)

5 Years: Stainless Steel (2+3 Years)*

5 Years Enamelled (2+3 Years)*

Manufacturer Warranty

Thermodynamic

Solar Panel

10 years against corrosion

Electrical components and moving parts:

- Thermodynamic Block
- Solar Block
- Solarbox
- Split
- Monobloc (except cylinder)
- Thermobox
- Inverter

2 Years

*The warranty extension of 3 years, against corrosion of the internal tank (Enamelled / Stainless Steel), is conditioned to the submission of:

- Warranty and Check Sheet at maximum 15 days after the installation.
- Documental evidence of the magnesium anode annual replacement (if applicable).
- Pictures of the installation where it's shown safety group, expansion vessel, hydraulic and electrical connections.

In case of warranty, the parts replaced are property of the manufacturer. A repair under the warranty is not reason for an extension of its term.

Warranty Exclusions

The warranty ceases to be effective when the apparatus is no longer connected, used or assembled in accordance with manufacturer instructions, or if there has been any form of intervention by unauthorized technicians, has the appearance of modifications and/or if the series number appears to have been removed or erased. The equipment should be installed by qualified technicians according to the rules in effects and/or the rules of the trade, or the instructions of our technical services. Further exclusions from warranty:

- Hot water tanks have been operating in water with the following indexes:
 - o Active chlorine > 0.2 ppm
 - o Chlorides > 50 mg/l (Inox)
 - o Hardness > 200 mg/l
 - o Conductibility > 600µS/cm (20°C)
 - o PH < 5,5 or PH > 9 (Sorensen at 20°C)
 - o Magnesium > 10 mg/l
 - o Calcium > 20 mg/l
 - o Sodium > 150 mg/l
 - o Iron > 1 mg/l
 - o If one of the water parameters has a higher value than stipulated by directive 236/98 (Portugal) or equivalent standard in the costumer's country
- Parts are subject to natural wear and tear – levers, switches, resistances, programmers, thermostats, etc.
- Breakdown due to incorrect handling, electrical discharges, flooding, humidity or by improper use of the apparatus.
- The warranty lapses if it is transferred to another owner, even if within the guarantee period.
- The warranty lapses if this certificate is incorrectly filled in, if it is violated or if it is returned after more than 15 days have passed since the installation or purchase date of the apparatus.

NOTE: This sheet must be properly filled, signed and stamped by the installer / reseller and returned to ENERGIE EST, Lda., otherwise the warranty will not be validated.

Send this installation sheet to warranty@energie.pt, writing the serial number of the equipment as subject.



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