



Solar storage cylinders 7200/2 - 1500-2000 HV PLUS

EN INSTALLATION INSTRUCTIONS

RIELLO

Dear Installer,
thank you for choosing a Riello 7200/2 HV PLUS solar storage cylinder, a modern high quality product, providing you with the utmost wellbeing and with a high level of reliability and safety.

This instruction booklet contains important information and suggestions that should be observed for easy installation and better use of the solar storage cylinder Riello 7200/2 HV PLUS.

Please accept our renewed thanks for your purchase.
Riello

MODEL	CODE
RIELLO 7200/2 - 1500 HV PLUS	20052784
RIELLO 7200/2 - 2000 HV PLUS	20052785

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The following symbols are used in this manual:

 CAUTION! = Indicates actions that require caution and adequate preparation.

 STOP! = Identifies actions that you MUST NOT do.

1 Safety precautions

- ⚠ After removing the packaging make sure that everything is there and undamaged, if not contact the Agency that sold you the appliance.
- ⚠ The installation of the Riello 7200/2 HV PLUS solar storage cylinder should be carried out by a company certified which when the work is finished will issue the owner with a declaration of conformity that the installation is up to standard, i.e. in compliance with regulations in force and with the recommendations provided by the instruction booklet.
- ⚠ The solar storage cylinders Riello 7200/2 HV PLUS can be installed in any room where an electrical protection level for the appliance greater than IP X0D is not required. The room where it is installed should be dry, to prevent rust forming. Respect the minimum distances for maintenance and assembly.
- ⚠ The solar storage cylinder Riello 7200/2 HV PLUS should only be used for the purposes for which it was made. No contractual or extracontractual liability is accepted for damage caused to people, animals, or objects due to errors in installation, adjustment, or maintenance or by improper use.
- ⚠ If necessary, use a pressure reducer for the water input.
- ⚠ Use a safety valve calibrated in the manner shown on the technical data label on the storage cylinder.
- ⚠ Use an expansion tank of a suitable size for the dimensions of the storage cylinder (it recommended that this calculation be done by a heating engineer).
- ⚠ Before start-up it would be good to check the tightness of the flange screws.
- ⚠ Maintenance of the storage cylinder should be carried out at least once a year.
- ⚠ In the event of a water leak, disconnect the storage cylinder from the main power supply, shut off the water supply and promptly notify the Technical Assistance Centre or else professionally qualified personnel.
- ⚠ Check the state of wear of the magnesium anode and replace it if necessary.
- ⚠ Not using the storage cylinder for a long period of time requires that at least the following operations be carried out:
 - Drain the solar heating circuit
 - Close the shut-off devices of the water system
 - Switch off the boiler as described in the appliance's instruction booklet.
 - Turn off the system's main switch
- ⚠ If the storage cylinder is part of a solar system, mix the anti-freeze (propylene glycol), available separately, with water in a variable percentage (30 to 50%) following the instructions in the operating and maintenance manual.
- ⚠ Always fill the solar system with the water/glycol mixture in the percentage reported in the operating and maintenance manual.
- ⚠ This booklet is an integral part of the appliance and so should be carefully preserved and should ALWAYS accompany the storage cylinder even when it is sold to another owner or user or when transferred to another system. In case of loss or damage, please contact the local Technical Assistance Centre in your Area for a new copy.

2 General safety information

Please remember that the use of products using electric power and water involves respect for a few basic safety rules such as:

- ⊖ Children and non-assisted disabled people are not allowed to use the storage cylinder.
- ⊖ It is forbidden to touch the storage cylinder while barefoot or if parts of your body are wet or damp.
- ⊖ Any cleaning operation is forbidden before disconnecting the storage cylinder from the main power supply by turning off the system's main switch as well as the main switch of the boiler's control panel.
- ⊖ Do not modify adjustment devices without the manufacturer's permission and relative instructions.
- ⊖ It is forbidden to pull, disconnect or twist the electric cables coming out of the storage cylinder even if it is disconnected from the main power supply.
- ⊖ It is forbidden to expose the storage cylinder to the elements because it is not designed to function outdoors.
- ⊖ It is forbidden to dispose of the packaging material and keep within children's reach, as it may be a potential source of danger.
- ⊖ It is forbidden, in the event of a drop in pressure of the solar system, to top up only with water as there is a risk of freezing.
- ⊖ It is forbidden to use connection and safety devices that have not been tested or that are not suitable for use in solar system (expansion tanks, piping, insulation).

3 Product description

The solar storage cylinders Riello 7200/2 HV PLUS can be integrated into solar systems for the production of domestic hot water.

The main technical elements of the design of the solar storage cylinder are:

- the careful study of the geometries of the tank and the coils that allow you to obtain the best performance in terms of stratification, heat exchange and reactivation times
- the regulation of the connections to various heights for employing various types of heat generators, without influencing the stratification
- the polyurethane insulation without any CFC and the elegant outer covering to limit dispersion and to improve efficiency

- the use of the flange to facilitate cleaning and maintenance, and the magnesium anode with an "anti-corrosion" function

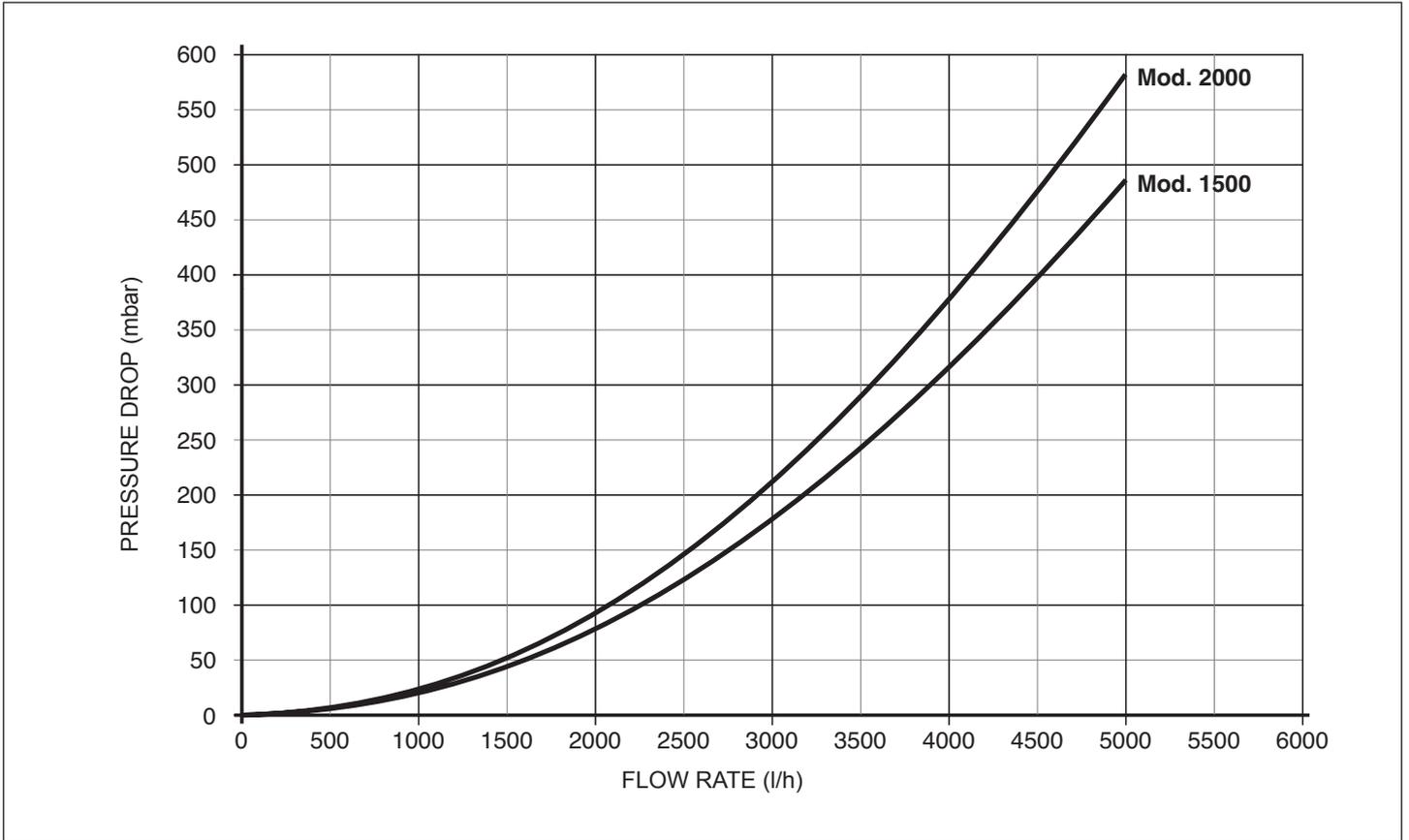
The Riello 7200/2 HV PLUS storage cylinders can be equipped with a specific solar regulator and they can easily be inserted into solar system where the boilers or thermal systems act as auxiliary producers of heat.

4 Technical data

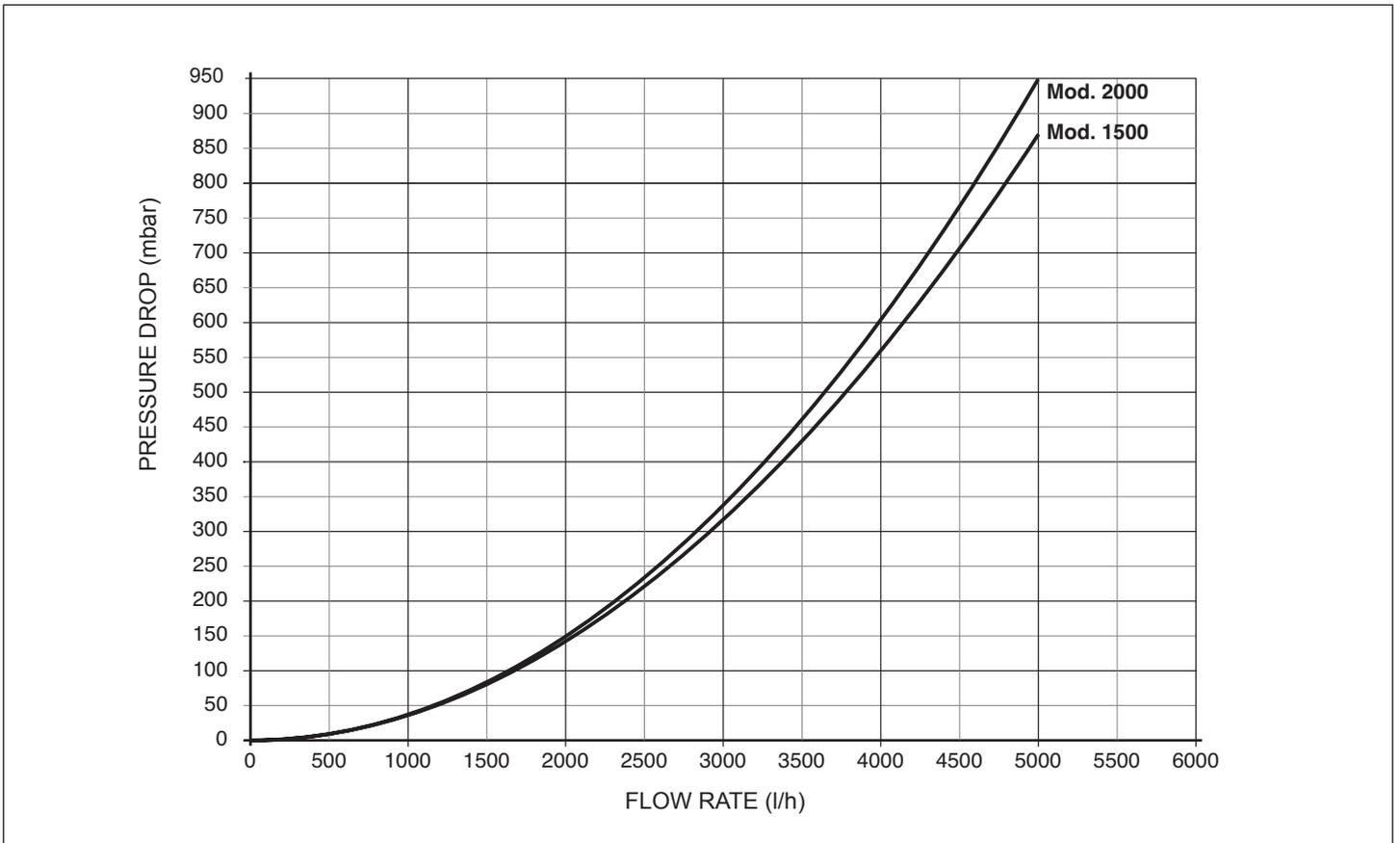
DESCRIPTION	7200/2 1500 HV PLUS	7200/2 2000 HV PLUS	
Cylinder type	Vitrified		
Cylinder layout	Vertical		
Heat exchangers layout	Vertical		
Cylinder diameter with insulation	1200	1300	mm
Cylinder diameter without insulation	1000	1100	mm
Height with insulation	2185	2470	mm
Insulation thickness	100		mm
First magnesium anode (∅ x length)	32 x 700		mm
Second magnesium anode (∅ x length)	32 x 400		mm
Flange diameter	290/220		mm
Probe socket diameter	8	8	mm
Electric resistor socket (not supplied)	1"1/2	1"1/2	∅
Lower coil water content	19,4	28,1	l
Upper coil water content	10,4	16,9	l
Lower coil heat exchange surface	3,4	4,6	m ²
Upper coil heat exchange surface	1,8	2,8	m ²
Lower coil absorbed power (*)	88	120	kW
Upper coil absorbed power (*)	47	73	kW
DHW (*) - bottom coil	2200	2900	l/h
DHW (*) - top coil	1200	1800	l/h
Necessary capacity heat exchanger - lower coil (*)	3,8	5,2	m ³ /h
Necessary capacity heat exchanger - upper coil (*)	2,0	3,1	m ³ /h
Storage cylinder maximum operating pressure	8	8	bar
Coils maximum operating pressure	6	6	bar
Maximum operating temperature	99	99	°C
Net weight with insulation	330	544	kg
Useful volume	1390	1950	l
Dispersion	250	305	W
	6	7,32	kWh/24h
Insulation type	Soft PU shells		
Useful non-solar volume (Vbu)	525	800	l

(*) According to DIN 4708, to get domestic hot water with ΔT 20°C (80°/60°C) on the heat-exchanger, please observe the values showed in the datasheet concerning absorbed power and necessary capacity heat-exchanger.

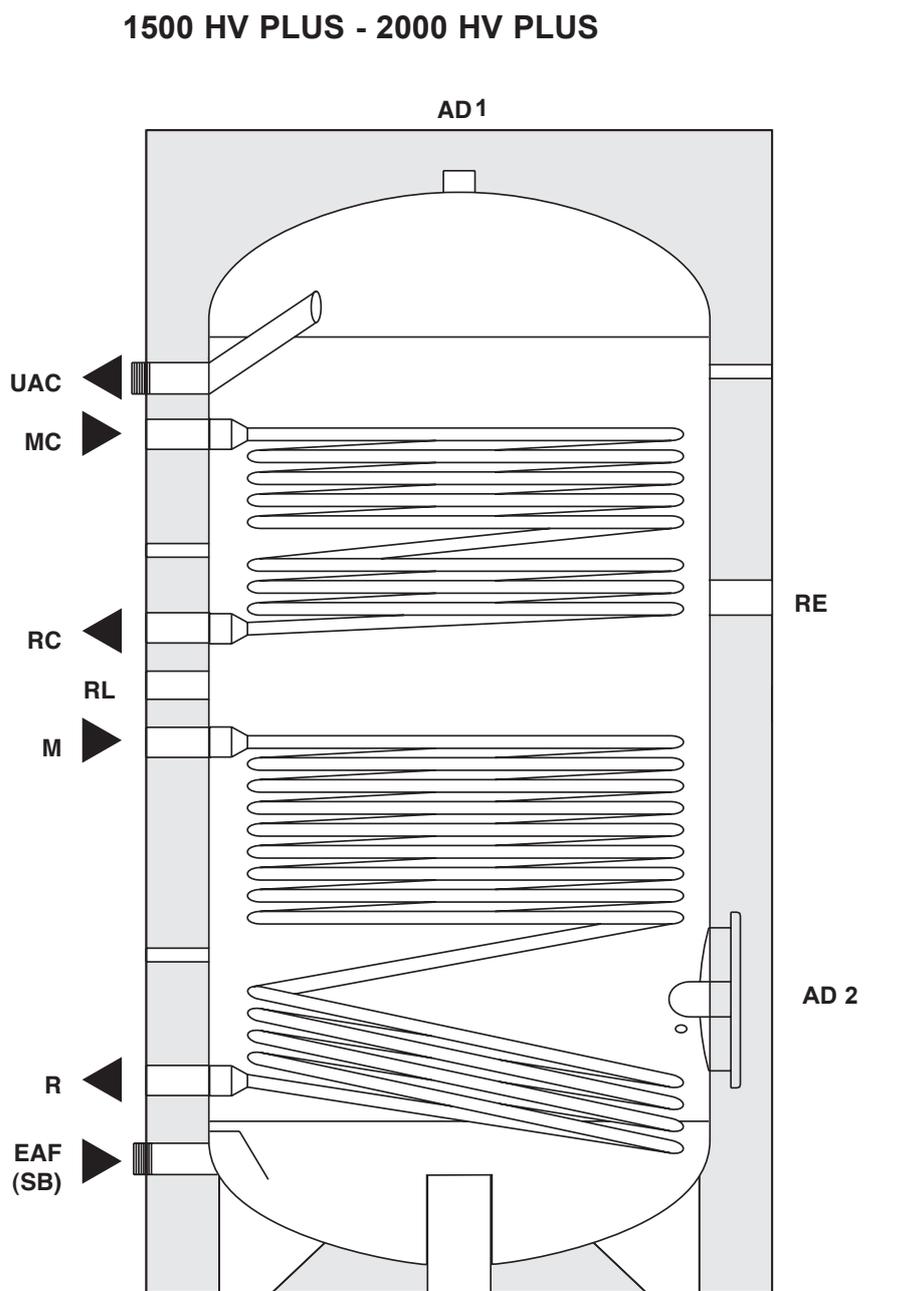
Pressure drop TOP COIL



Pressure drop BOTTOM COIL



5 Water circuit



UAC - DHW outlet

MC - Flow
RC - Return } BOILER

M - Flow
R - Return } SOLAR

RL - DHW ricirculation

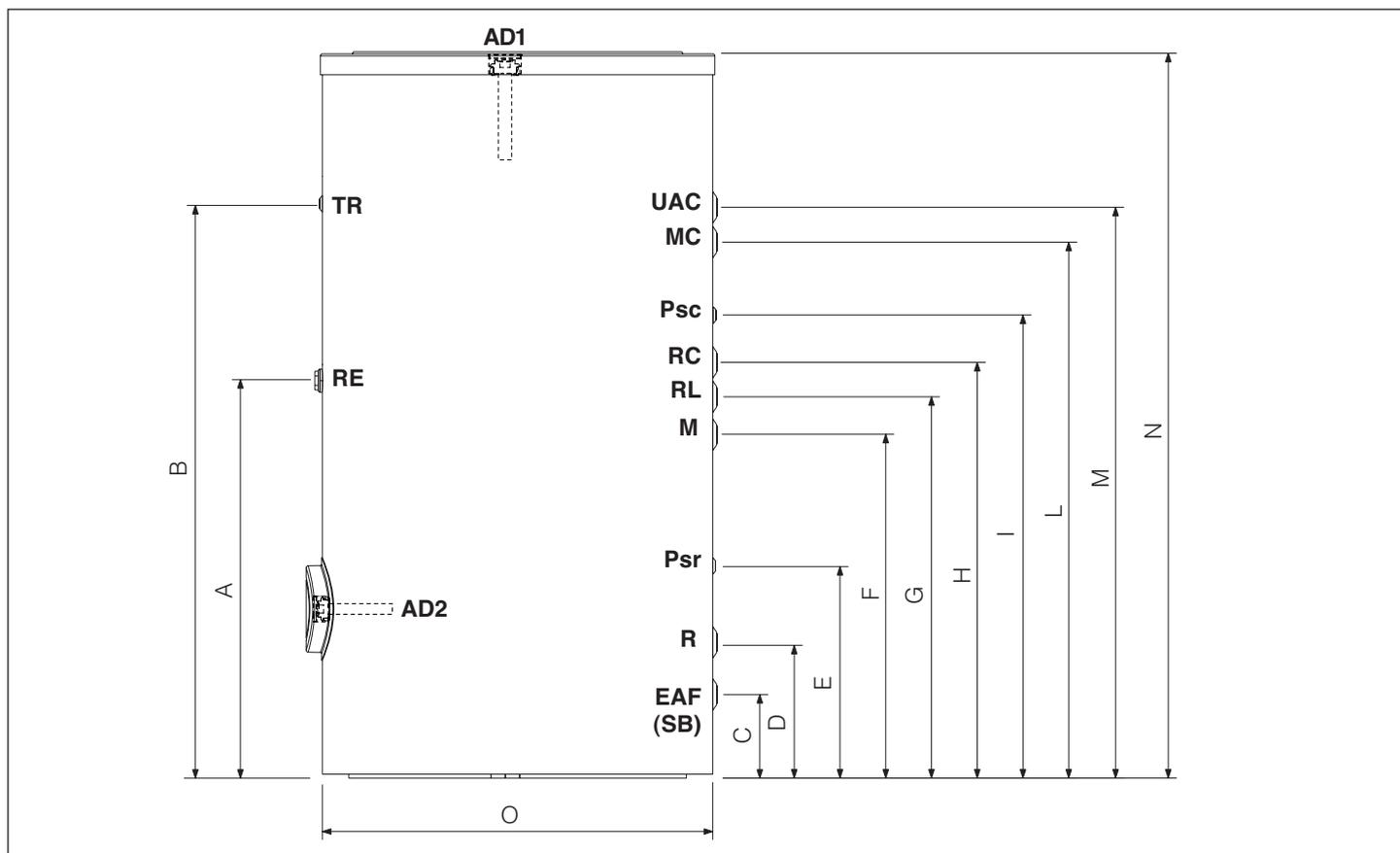
EAF - Domestic cold water inlet
(SB) Cylinder drain

RE - Electric resistor socket (not supplied)

AD1 - AD2 - Magnesium anode

A The solar storage cylinder Riello 7200/2 HV PLUS is not equipped with load circulators which should be appropriately sized and installed on the system. For the recommended flow rate of the solar heating circuit, see the instructions for assembling the solar collector and the Riello operation and maintenance manual of the solar system.

6 Dimensions and connections

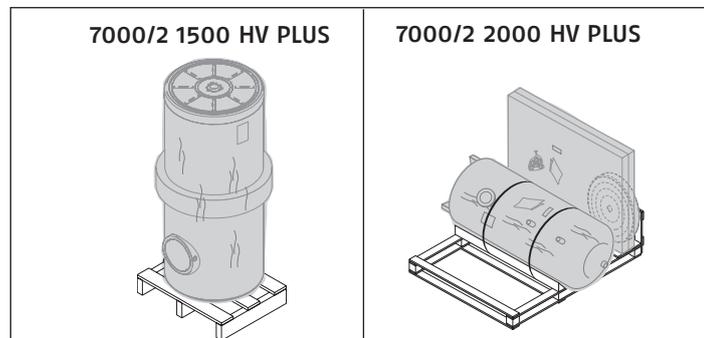


DESCRIPTION	MODELLO 7200/2		
	1500 HV PLUS	2000 HV PLUS	
UAC - DHW outlet	1"1/2 F	1"1/2 F	∅
MC - Boiler flow	1"1/4 F	1"1/4 F	∅
RC - Boiler return	1"1/4 F	1"1/4 F	∅
M - Solar flow	1"1/4 F	1"1/4 F	∅
R - Solar return	1"1/4 F	1"1/4 F	∅
RL - DHW recirculation	1" F	1" F	∅
EAF (SB) - Domestic cold water inlet (cylinder drain)	1"1/2 F	1"1/2 F	∅
Psc - Diameter/length boiler probe socket	1/2" F	1/2" F	∅/mm
Psr - Diameter/length solar regulator probe socket	1/2" F	1/2" F	∅/mm
RE - Electric resistor socket (not supplied)	1"1/2 F	1"1/2 F	∅
AD1 - Diameter/length magnesium anode	32 x 700		∅/mm
AD2 - Diameter/length magnesium anode	32 x 400		∅/mm
TR - Thermometer	1/2" F	1/2" F	∅
A	1230	1340	mm
B	1820	2000	mm
C	280	260	mm
D	415	400	mm
E	525	660	mm
F	1125	1205	mm
G	1220	1315	mm
H	1315	1425	mm
I	1410	1485	mm
L	1720	1870	mm
M	1870	1990	mm
N	2185	2470	mm
O	1200	1300	mm
Net weight with insulation	330	544	kg

7 Receiving the product

The solar storage cylinders Riello 7200/2 1500 HV PLUS are supplied in a single package, protected by a nylon bag and put on wood pallets.

The two magnesium anodes are supplied in a cardboard box on the pallet



Model Riello 7200/2 2000 HV PLUS are supplied in two separate packages:

- the first package is composed of the painted tank, protected by a nylon bag and put on wooden pallets.
- the second package, also protected by a nylon bag, is composed of the polyurethane insulation with an elegant outer covering, the outer trim rings of the pipe coupling, the top cover, the flange covers, the identification labels and the documentation.

The following material is supplied in a plastic envelope inside the package:

- Instruction booklet
 - Garanty certificate and label with bar code
 - Catalogo ricambi
 - Hydraulic test certificate
 - n° 3 adjustable feet
 - n° 2 threaded inserts for fixing solar controller (accessory).
- The two magnesium anodes are supplied in a cardboard box on the pallet

8 Handling

The handling of the storage cylinder is carried out with equipment that is suitable for the weight of the appliance.

To remove the storage cylinder from the pallet, cut the straps (1).

For models 7000/2 1500 HV PLUS these can be found under the insulation near the hinges.

To lift the 7000/2 1500 HV PLUS storage cylinders, there is a plug (2) with a hole where a lifting hoop (\varnothing 10 mm) suitable for the weight of the tank can be inserted.

To lift the 7000/2 2000 HV PLUS storage cylinders, after removing the insulation, bind the high part of the boiler with a cord that can bear the weight and carefully lift it.

⚠ It is possible to dismantle the insulation covering to make it easier to get through the door of the boiler room.

⚠ Use suitable accident-prevention protections.

⊘ It is forbidden to dispose of the packaging material and keep within children's reach, as it may be a potential source of danger.

⚠ The instruction booklet is an integral part of the storage cylinder and it is recommended that it be read and kept safe.

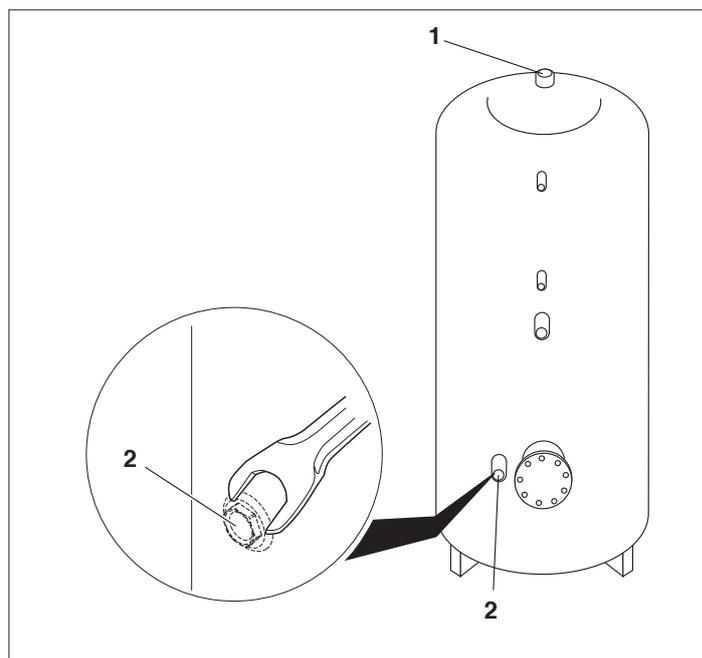
INSTALLING THE MAGNESIUM ANODES

Proceed as follows to install the magnesium anodes:

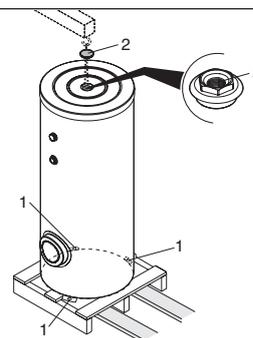
- Remove the protective plugs
- Fit the two magnesium anodes in the fittings (1) and (2)
- Screw in the magnesium anodes using a suitable spanner.

The two magnesium anodes are supplied in a cardboard box on the pallet

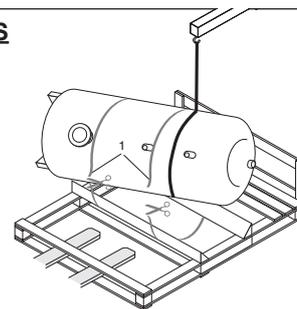
NOTE:
Tighten to a torque of 25 Nm.



7000/2 1500 HV PLUS



7000/2 2000 HV PLUS



9 Installation on appliances that are old or that need to be updated

When the solar storage cylinders Riello 7200/2 HV PLUS are installed on appliances that are old or that need to be updated, check that:

- The installation comes with the safety and control components in compliance with the specific regulations
- The appliance has been washed, cleaned of mud and grime, de-aerated and the water seals have been checked
- There is a treatment system for when the supply/make-up water is particular (the values in the table can be used as reference values).

REFERENCE VALUES	
pH	6-8
Electric conductivity	less than 200 $\mu\text{S}/\text{cm}$ (25°C)
Chlorine ions	less than 50 ppm
Sulphuric acid ions	less than 50 ppm
Total iron	less than 0.3 ppm
M alkalinity	less than 50 ppm
Total hardness	less than 35°F
Sulphur ions	none
Ammonia ions	none
Silicon ions	less than 30 ppm

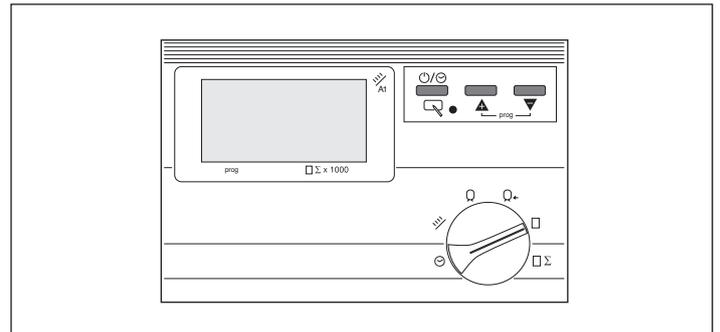
10 First commissioning

Before the start-up and before testing the storage cylinder, it is absolutely necessary to check that:

- The domestic hot water circuit supply taps are open
- Any water connections which connect to the boiler and to the water unit of the solar system have been carried out correctly
- The procedure for washing and filling up the solar heating circuit with the water-glycol has been carried out correctly, and the equipment has been de-aerated at the same time.

The transfer of heat into the solar heating circuit takes place when the temperature of the solar collector is higher than that of the storage cylinder. Therefore in managing the solar equipment the exact temperature is not important, but rather the temperature difference.

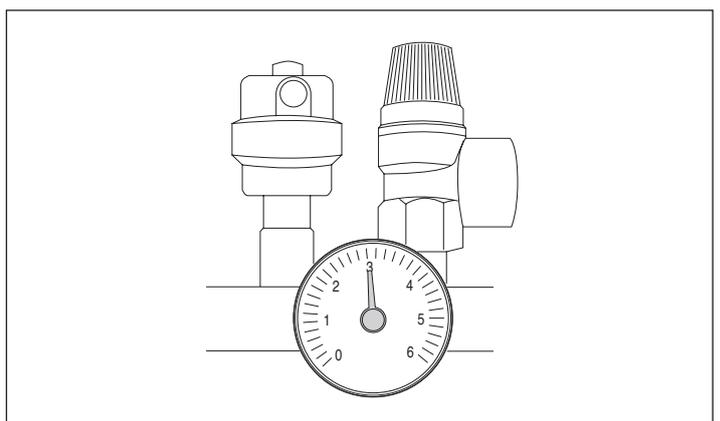
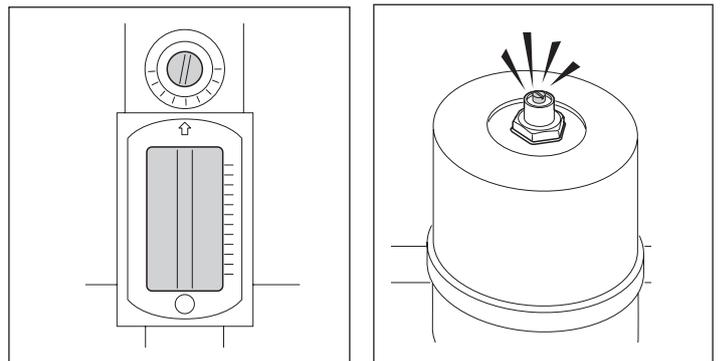
- Set the temperature difference between the collector and the storage cylinder (see the instruction manual of the regulator).
- Commission the boiler for the auxiliary heating of the storage cylinder.



At the start-up make sure that:

- The flow rate of the solar heating circuit is 30 l/h per m² of collector surface
- The solar heating circuit is completely vented
- The cold pressure of the equipment is about 3 bar
- The safety valves intervenes at 6 bar
- The piping of the hydraulic supply are insulated in full respect of current regulations.

If all conditions have been met, restart the boiler and storage cylinder and check the regulated temperature and the amount of DHW that can be taken.



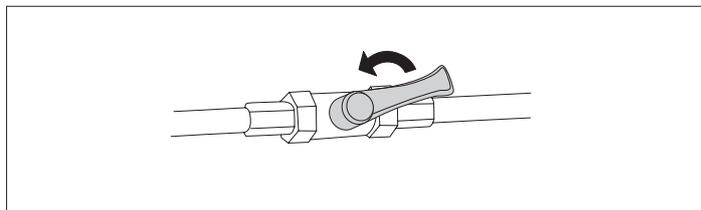
11 Deactivation for long periods

Not using the solar storage cylinder for a long period of time requires that the following operations be carried out:

- Empty the solar heating circuit
- Close the intercept devices of the sanitary system
- Switch off the boiler in the manner described in the appliance's instruction booklet
- Position the system's master switch to off.

⚠ Drain the heating and domestic hot water systems if there is any risk of freezing.

The Technical Assistance Centre is available if the procedure reported above is difficult to do.

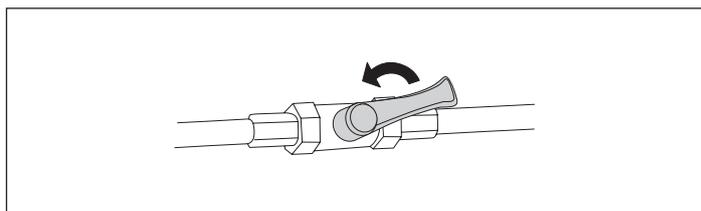
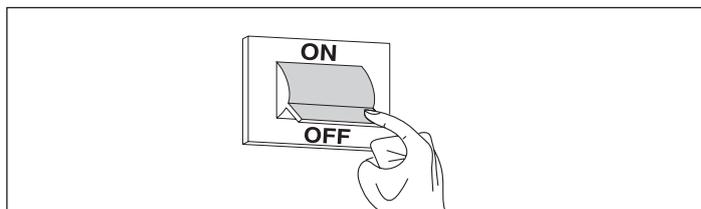


12 Maintenance

Periodic maintenance, which is essential for safety purposes, the efficiency and the life of the solar storage cylinder, provides reduced consumption and keeps the product reliable over time. Remember that the maintenance of the storage cylinder, can be carried out by the Technical Assistance Centre or else by qualified professional personnel and should take place at least once a year.

Before doing any maintenance work:

- Disconnect the storage cylinder's hydraulic unit and the respective generator from the electrical supply, positioning the main switch and that of the control panel to "off"
- Close the intercept devices of the sanitary system
- Empty the storage cylinder's secondary circuit.



13 Cleaning the storage cylinder and dismantling the internal components

OUTSIDE

Cleaning the cover of the storage cylinder should be carried out with damp cloths and water and soap. In the case of stubborn stains dampen the cloth with a mixture of 50% water and methylated spirit or with specific products for the marks. Once the cleaning is finished, dry the storage cylinder.

- ⚠ Do not use abrasive products, gasoline or trichloroethylene.

INSIDE

Removing and checking the magnesium anodes

First magnesium anode:

- Remove the plug (1), the cover (2) and, with a wrench, unscrew the anode-carrying plug (3)

Second magnesium anode:

- Partially remove the cover (4) and, with a wrench, unscrew the anode-carrying plug (5)

Check the state of wear of the magnesium anode and replace it if necessary.

Once the cleaning operations are finished, reassemble all the components, following the above instructions in the reverse order.

NOTE: the tightening torque of the anode-carrying plug should be 25-30 Nxm.

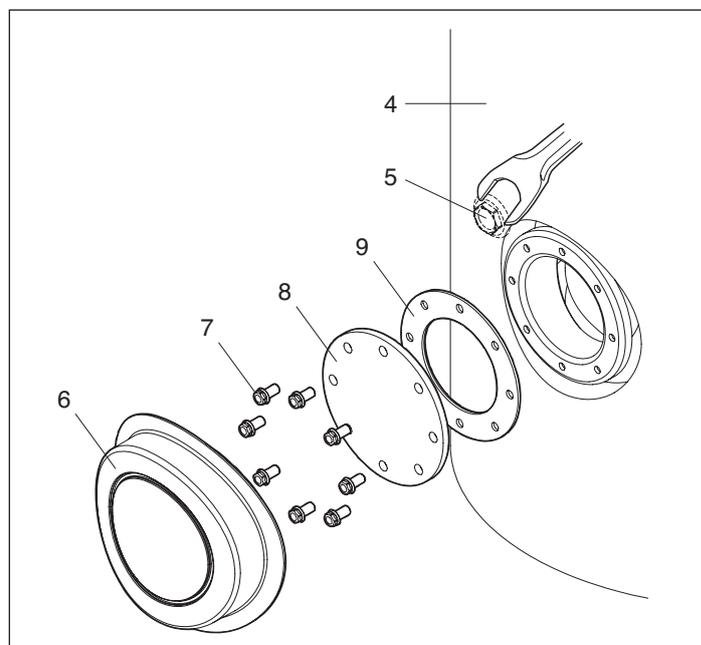
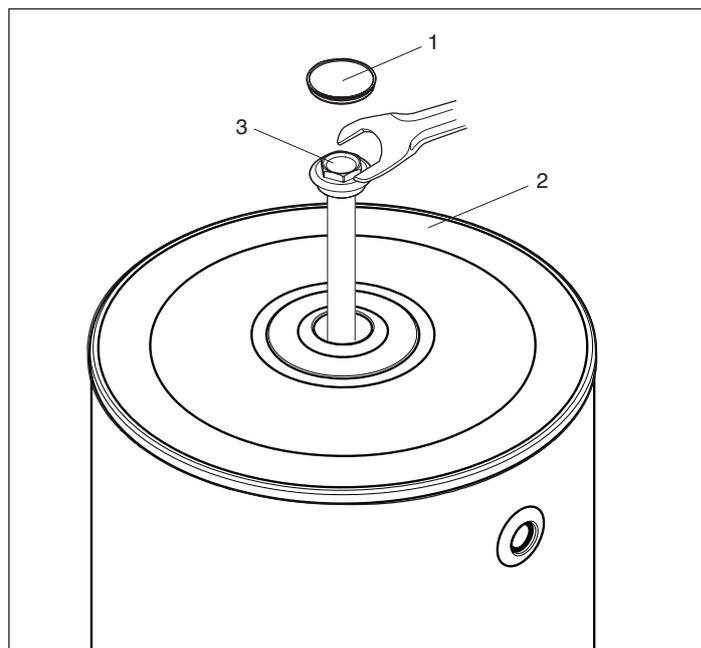
Cleaning the parts inside the storage cylinder

- Remove the flange cover (6)
- Unscrew the bolts (7), remove the cover (8) and the gasket (9).
- Clean the inside surfaces and remove the residues through the opening.

Once the cleaning operations are finished, reassemble all the components, following the above instructions in the reverse order.

- ⚠ Tighten the bolts (7) with a "cross-head" system to uniformly distribute pressure on the gasket.

- Load the storage cylinder's secondary circuit and check the seal of the gaskets.
- Carry out a performance test.



14 Recycling/disposal

When they are no longer needed, the components of the solar storage cylinder (boiler body, insulation and outer cover) can be separated from one another and disposed of using the most environmentally compatible recycling procedure.

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The manufacturer strives to continuously improve all products. Appearance, dimensions, technical specifications, standard equipment and accessories are therefore liable to modification without notice.