

INSTALLATION, USE AND MAINTENANCE MANUAL

STORAGE TANKS

MULTItank

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1 - GENERAL SAFETY WARNINGS

Installation, modifications

- ☞ The installation must be carried out by professionally qualified people, in compliance with national and local regulations, as well as with the instructions given in this manual.
- ☞ Incorrect installation or bad maintenance can cause injury or damage to people, animals or things, for which the manufacturer cannot be held responsible.
- ☞ A domestic hot water temperature of higher than 51°C can cause injury or damage, even of a permanent nature, to people, animals and things. In particular, children, the elderly and the disabled must be protected against any possible risks of scalds, by inserting devices that limit the temperature of use of the DHW to users.
- ☞ Do not leave packaging and replacement parts within reach of children.
- ☞ The user, in line with the arrangements for use, is obliged to maintain the system in good order and to guarantee reliable and safe operation of the equipment.
- ☞ The user is obliged to have maintenance of the system carried out according to national and local regulations and according to the arrangements of this brochure, by a professionally qualified engineer.
- ☞ Before performing any cleaning or maintenance operations, disconnect the storage tank from the mains power supply and/or activate the relevant isolation devices.
- ☞ After completing any cleaning or maintenance operation, before reconnecting the electric power supply, make sure that all the internal parts of the storage tank have been properly dried.
- ☞ This storage tank cannot be used by people (including children) with reduced physical, sensorial or mental capacities or with little experience and knowledge unless they are tested and instructed on the use of the storage tank by the person responsible for their safety.
- ☞ This brochure is an integral and essential part of the product and must be retained carefully by the user for possible future reference. If the storage tank has to be replaced or if you have to move and leave behind the storage tank for another user, always make sure that this brochure is left for the new user and/or installer.
- ☞ Any eventual optional extras or kits added later must be Cosmogas originals.
- ☞ This storage tank must be used only for the purpose for which it was expressly intended: the storage of hot water for domestic and sanitary uses for civil use.
- ☞ The constructor bears no contractual or non-contractual responsibility for damage caused by errors in the installation or use and also where the instructions given by the manufacturer himself, or the applicable national and local laws, are not observed.
- ☞ For reasons of safety and environmental protection, the various pieces of packaging must be disposed of in suitable recycling centres.

In the event of a fault

In the event of a fault and/or poor operation of the storage tank, disconnect it and do not attempt to carry out any repair. Contact only a professionally qualified engineer. If components need to be replaced, these must be original spare parts. Should this be ignored, the safety of the equipment may be compromised.

Professionally qualified engineer.

By professionally qualified engineer we mean someone having specific technical skills in the sector of components of systems for heating and the production of hot water for hygienic and sanitary uses in a civil context, electrical systems, and systems for the use of exhaust gases. Such people must have the skills envisaged by the law.

Technical drawings

All the drawings shown in this manual, relating to electrical, hydraulic or gas installation systems, must be understood to be purely illustrative. All the safety devices, auxiliary devices as well as the diameters of the electrical, hydraulic and gas pipes, must always be checked by a professionally qualified engineer, to make sure they satisfy the applicable laws and regulations.

1.1 - National installation laws

Respect the national regulations, provisions, directives and laws in force.

2 - GENERAL INFORMATION

2.1 - Overview of models

MULTItank XXX

- 200 = Storage tank on base capacity 223 litres.
- 300 = Storage tank on base capacity 320 litres.
- 500 = Storage tank on base capacity 518 litres.
- 800 = Storage tank on base capacity 750 litres.
- 1000 = Storage tank on base capacity 905 litres.

MULTItank = Multifunctional porcelain-glass storage tank for heating and/or production of domestic hot water.

To know which storage tank model you own, compare what is written under the heading “model” on the data plate that gives specifications which is fixed to its side, with what is mentioned above.

2.2 - Meaning of symbols used 2.3 - Disposal



WARNING!

Danger of electric shocks if these warnings are not heeded it can jeopardise correct operation of the equipment or cause serious injury or damage to people, animals or things.



Generic danger!!!

If these warnings are not heeded it can jeopardise correct operation of the equipment or cause serious injury or damage to people, animals or things.

 Symbol showing important instruction



The crossed wheelie bin symbol means that the product must not be thrown away in the ordinary rubbish bin (i.e. in with “mixed urban rubbish”); it must be dealt with separately, in order to undergo suitable operations for it to be reused or treated, so that any substances that are dangerous for the environment can be removed and disposed of safely. This will enable all the raw materials to be recycled. The user is responsible for getting rid of the unit at the end of its life, delivering it to Recycling Centres run by the local authority or city hygiene companies.

For further information regarding correct decommissioning of these units, users can contact the public service in charge or retailers.

3 - DIMENSIONS AND CONNECTIONS

3.1 - MULTItank 200 dimensions and connections

 **WARNING!** Install a drain valve to facilitate the draining of the tank.

- 1 - Solar delivery (1");
- 2 - Solar return (1");
- 3 - Boiler delivery (1");
- 4 - Boiler return (1");
- 5 - Temperature sensor;
- 6 - Hot water outlet (2");
- 7 - Cold water inlet (2");
- 8 - DHW secondary return (2");
- 9 - Electronic anode rode;
- 10 - Hot water outlet (1");
- 11 - Cold water inlet (1");
- 12 - Hot water outlet (1"1/2);

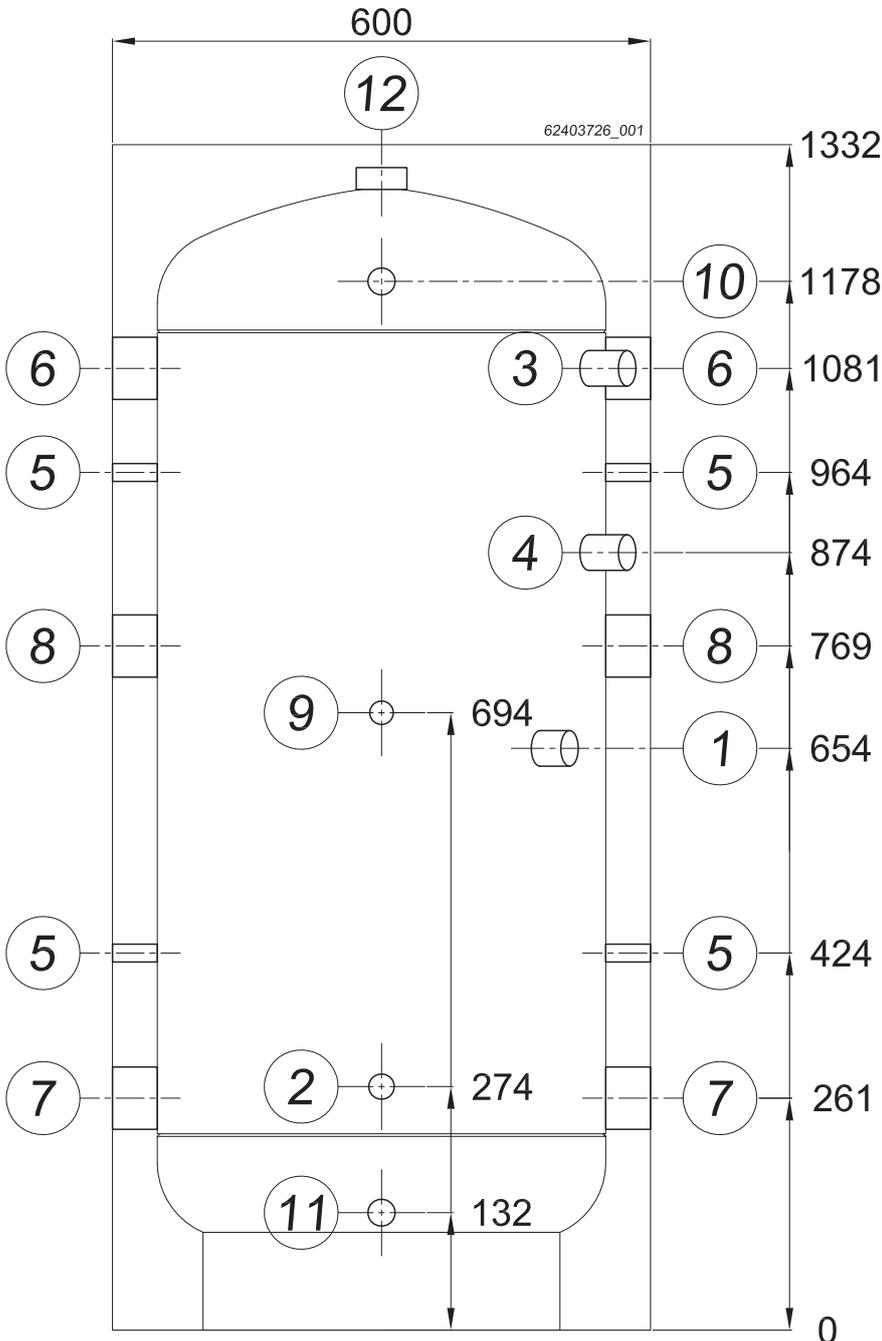


Figure 3-1 - Dimensions and centre to centre distances MULTItank 200

3 - DIMENSIONS AND CONNECTIONS

3.2 - MULTItank 300 dimensions and connections



WARNING! Install a drain valve to facilitate the draining of the tank.

- 1 - Solar delivery (1");
- 2 - Solar return (1");
- 3 - Boiler delivery (1");
- 4 - Boiler return (1");
- 5 - Temperature sensor;
- 6 - Hot water outlet (2");
- 7 - Cold water inlet (2");
- 8 - DHW secondary return (2");
- 9 - Electronic anode rode;
- 10 - Hot water outlet (1");
- 11 - Cold water inlet (1");
- 12 - Hot water outlet (1"1/2);
- 13 - Recirculation (1")

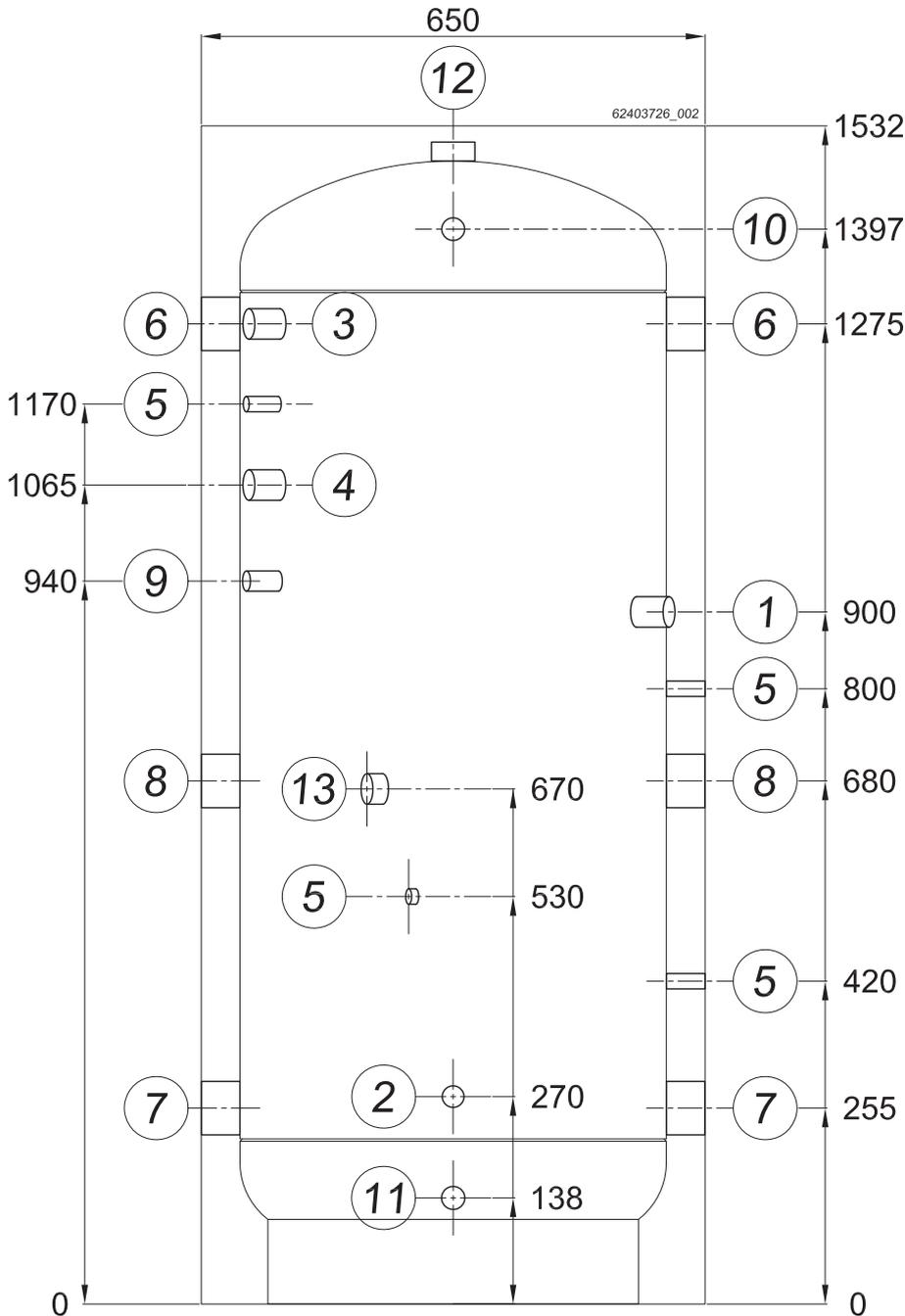


Figure 3-2 - Dimensions and centre to centre distances MULTItank 300

3 - DIMENSIONS AND CONNECTIONS

3.3 - MULTItank 500 dimensions and connections



WARNING! Install a drain valve to facilitate the draining of the tank.

- 1 - Solar delivery (1");
- 2 - Solar return (1");
- 3 - Boiler delivery (1");
- 4 - Boiler return (1");
- 5 - Temperature sensor;
- 6 - Hot water outlet (2");
- 7 - Cold water inlet (2");
- 8 - DHW secondary return (2");
- 9 - Electronic anode rode;
- 10 - Hot water outlet (1");
- 11 - Cold water inlet (1");
- 12 - Hot water outlet (1 1/2");
- 13 - Recirculation (1")

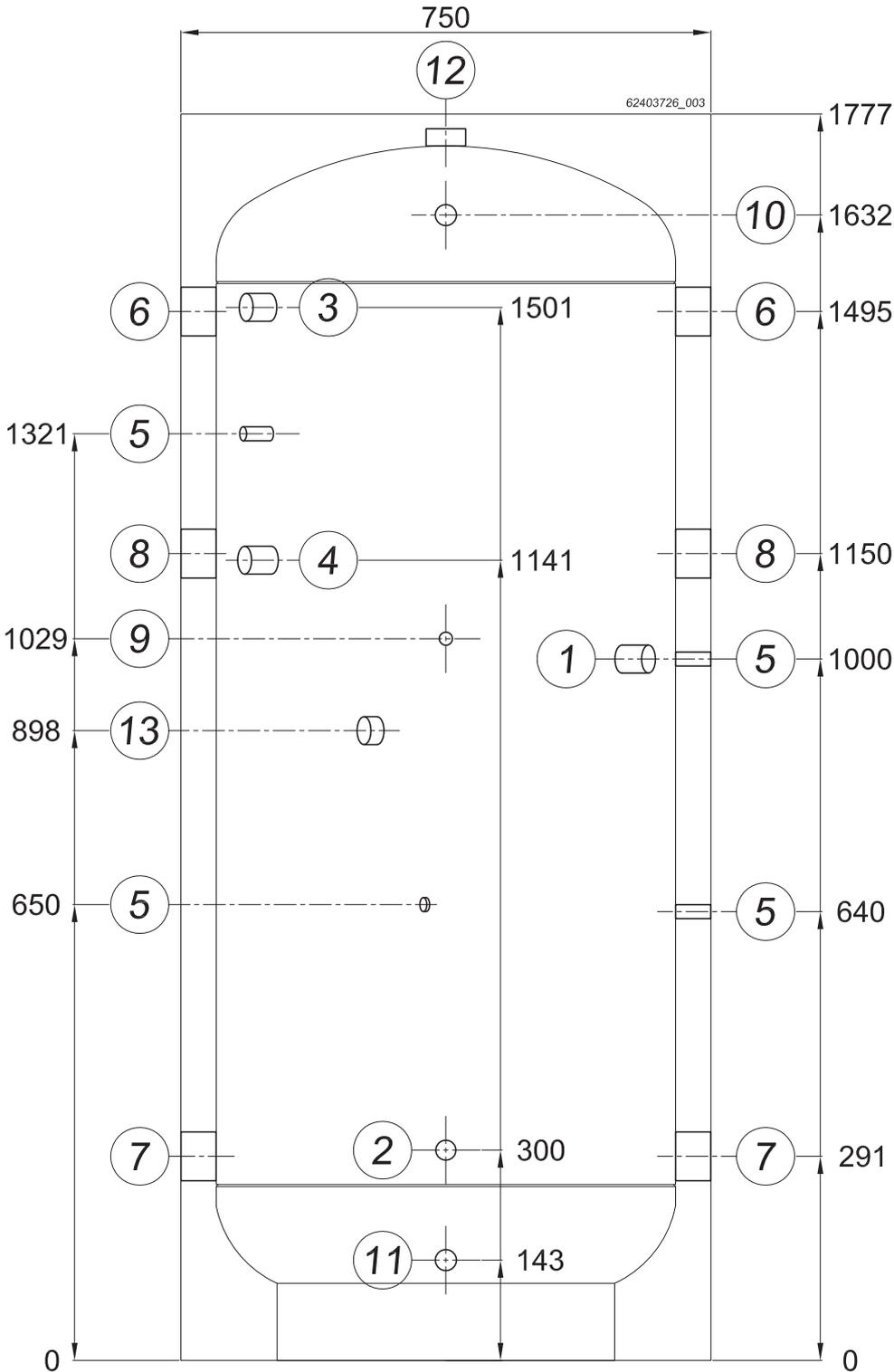


Figure 3-3 - Dimensions and centre to centre distances MULTItank 500

3 - DIMENSIONS AND CONNECTIONS

3.4 - MULTItank 800 dimensions and connections



WARNING! Install a drain valve to facilitate the draining of the tank.

- 1 - Solar delivery (1");
- 2 - Solar return (1");
- 3 - Boiler delivery (1");
- 4 - Boiler return (1");
- 5 - Temperature sensor;
- 6 - Hot water outlet (2");
- 7 - Cold water inlet (2");
- 8 - DHW secondary return (2");
- 9 - Electronic anode rode;
- 10 - Hot water outlet (1"1/4);
- 11 - Cold water inlet (1"1/4);
- 12 - Hot water outlet (1"1/2);
- 13 - Recirculation (1")

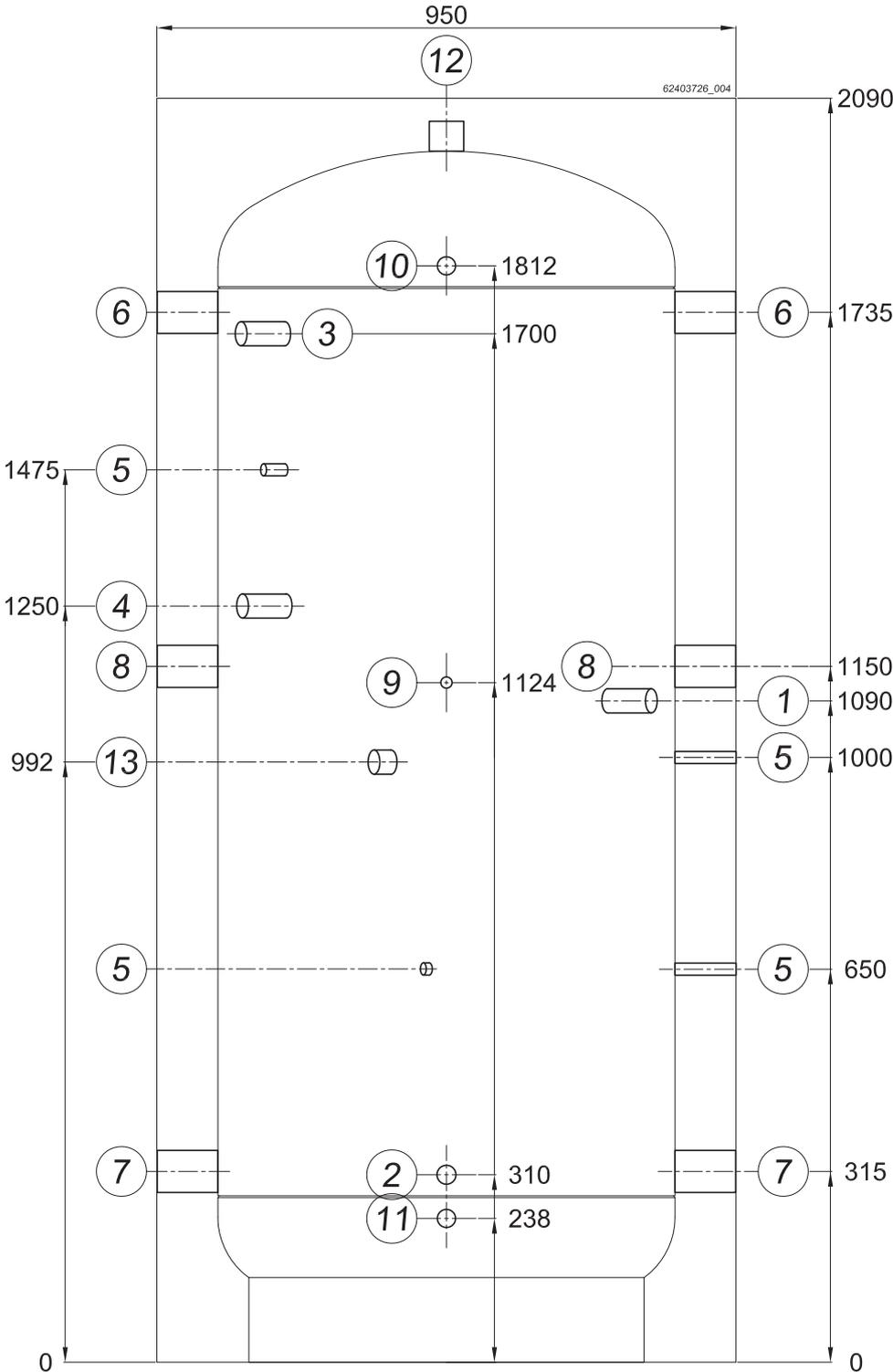


Figure 3-4 - Dimensions and centre to centre distances MULTItank 800

3 - DIMENSIONS AND CONNECTIONS

3.5 - MULTItank 1000 dimensions and connections



WARNING! Install a drain valve to facilitate the draining of the tank.

- 1 - Solar delivery (1");
- 2 - Solar return (1");
- 3 - Boiler delivery (1");
- 4 - Boiler return (1");
- 5 - Temperature sensor;
- 6 - Hot water outlet (2");
- 7 - Cold water inlet (2");
- 8 - DHW secondary return (2");
- 9 - Electronic anode rode;
- 10 - Hot water outlet (1"1/4)
- 11 - Cold water inlet (1"1/4)
- 12 - Hot water outlet (1"1/2)
- 13 - Recirculation (1")

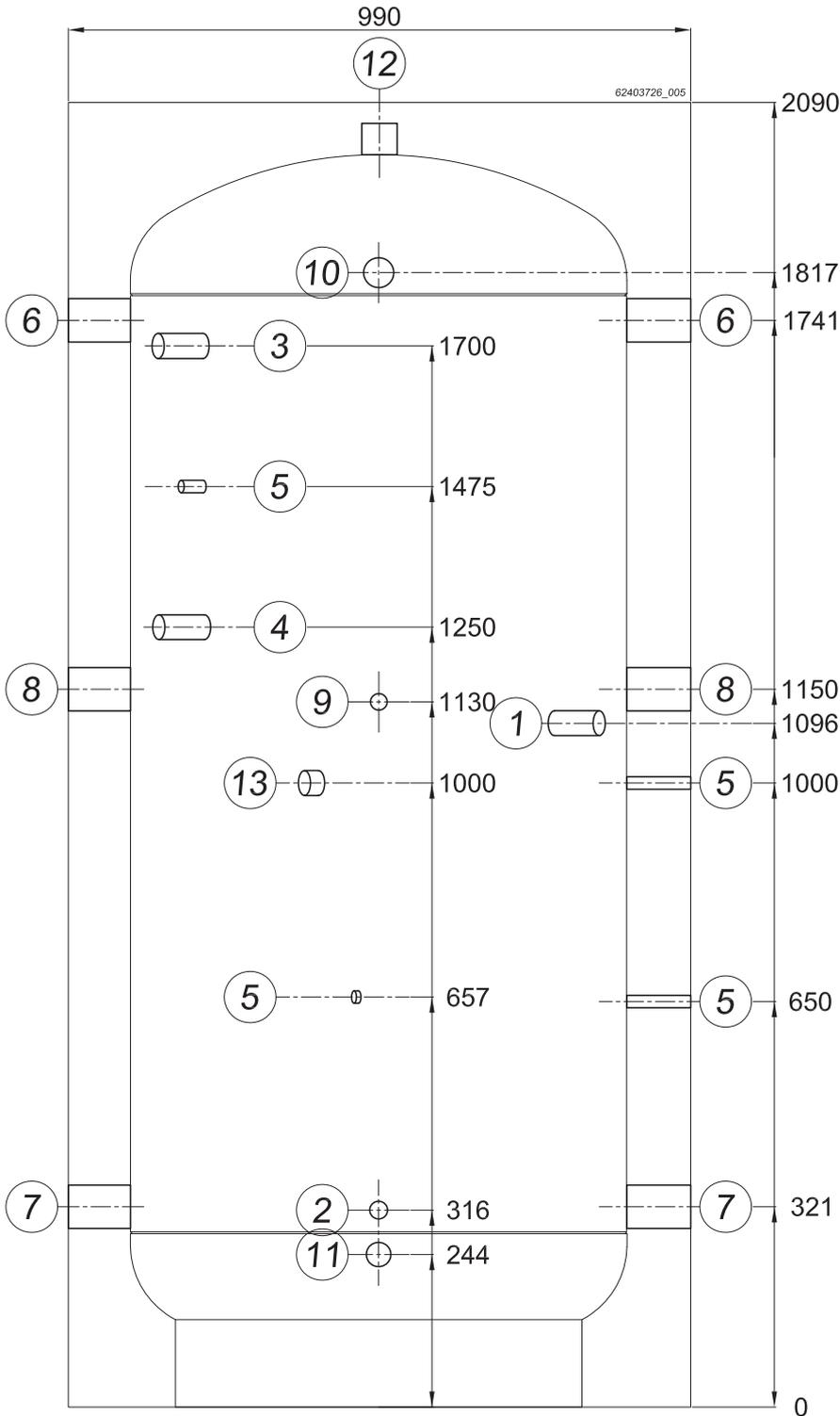


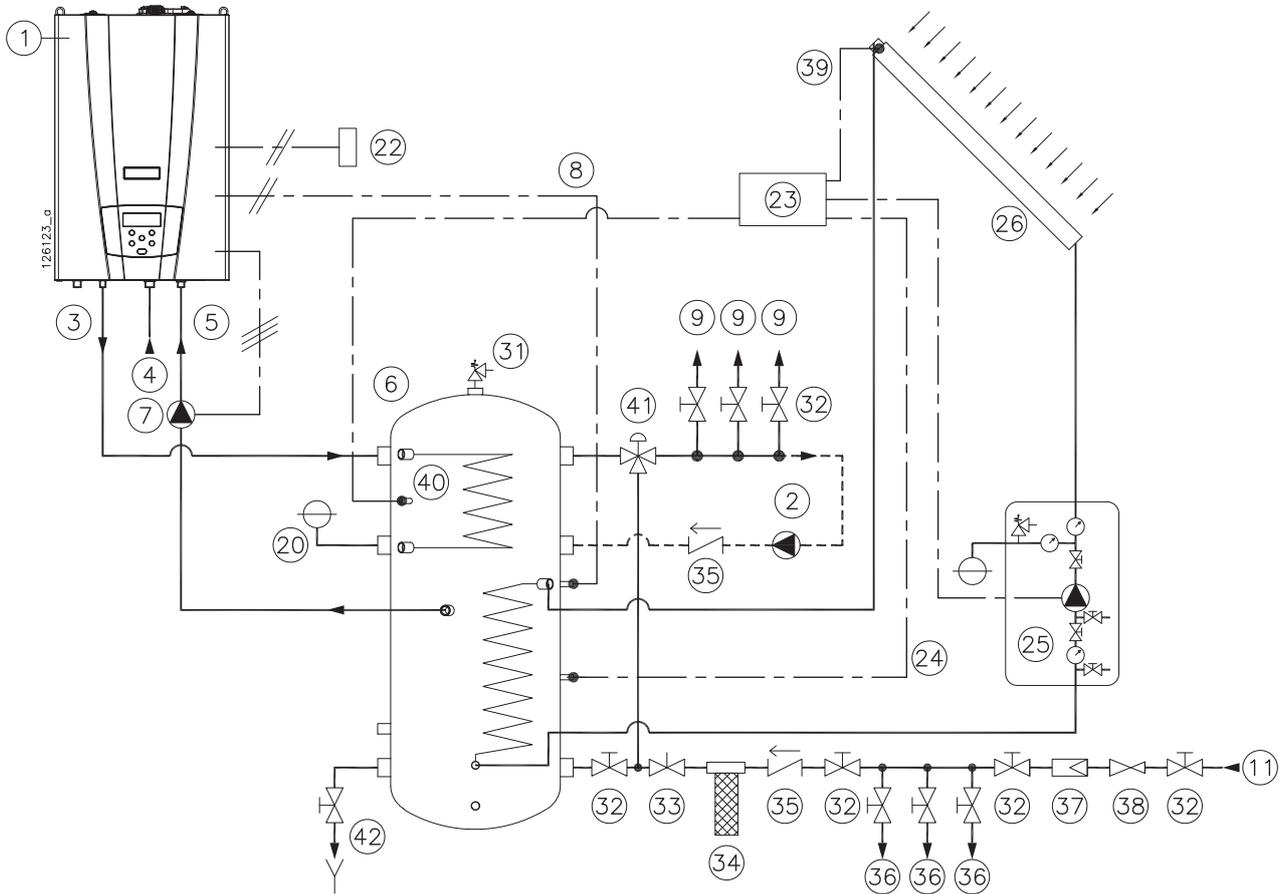
Figure 3-5 - Dimensions and centre to centre distances MULTItank 1000

4 - OPERATION

4.1 - Examples of installation

Some examples of the connection of MULTITANK water heaters and storage tanks are shown below:

Example of connection between water heater model **AGUADENS 16, 22 or 37** and **MULTITANK** storage tank (See fig. 4-1).



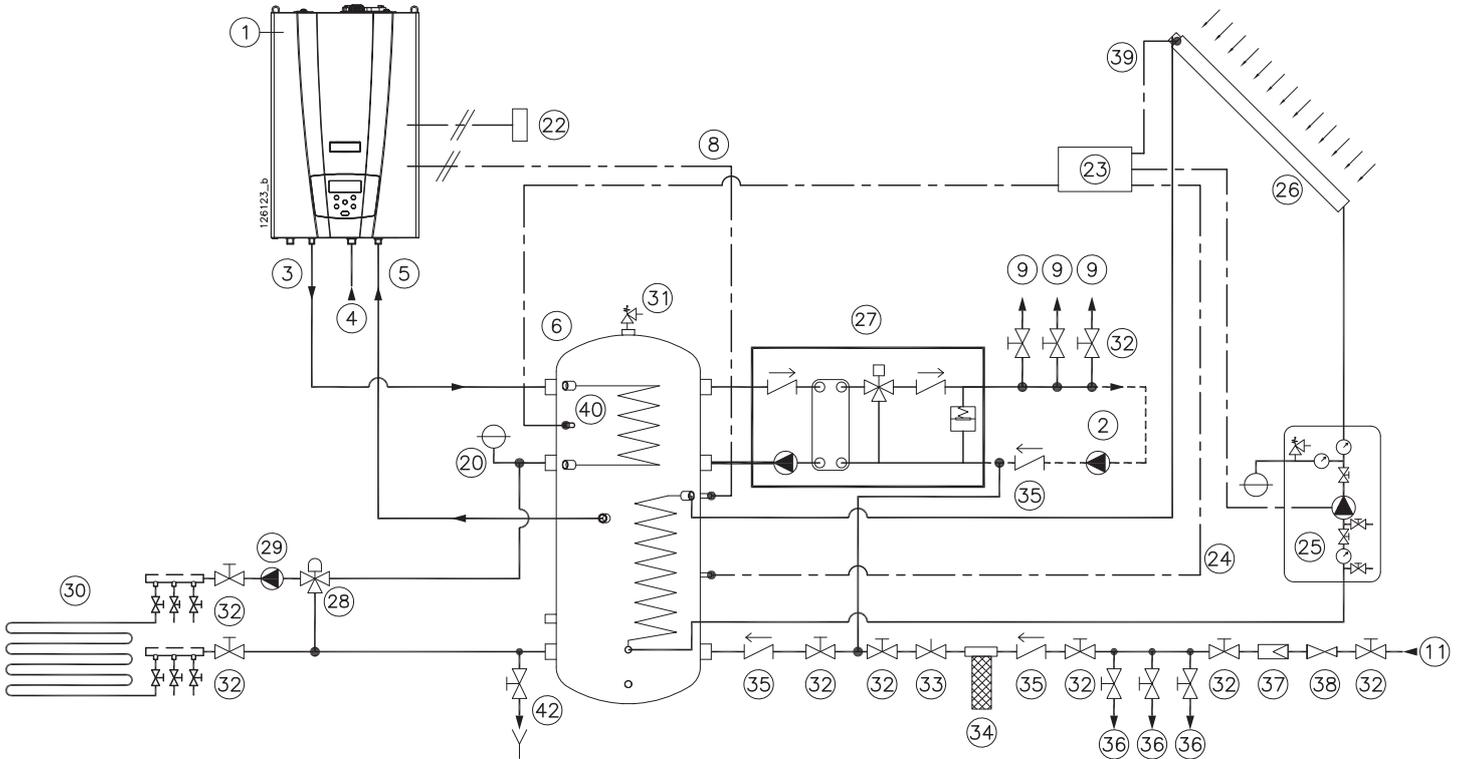
KEY to figure 4-1

- | | |
|---|--|
| 1.- AGUADENS 16, 22 or 37 water heater | 23.- Solar control unit (on request) |
| 2.- Recirculation pump (responsibility of installer) | 24.- Storage tank solar sensor S2 (on request) |
| 3.- Hot water outlet | 25.- Solar safety and charge group (on request) |
| 4.- Gas inlet | 26.- Solar panels (on request) |
| 5.- Cold water inlet | 27.- ----- |
| 6.- MULTITANK storage tank model | 28.- ----- |
| 7.- Storage tank loading pump (responsibility of installer) | 29.- ----- |
| 8.- Storage tank sensor (from water heater) | 30.- ----- |
| 9.- DHW uses | 31.- Storage tank safety valve (responsibility of the installer) |
| 10.- ----- | 32.- Isolation valve (responsibility of installer) |
| 11.- Domestic cold water inlet | 33.- Valve to adjust flow rate (responsibility of installer) |
| 12.- ----- | 34.- Water softener (responsibility of installer) |
| 13.- ----- | 35.- Check valve (responsibility of installer) |
| 14.- ----- | 36.- Cold water usage (responsibility of installer) |
| 15.- ----- | 37.- Impurity filter (responsibility of installer) |
| 16.- ----- | 38.- Pressure reducer (responsibility of installer) |
| 17.- ----- | 39.- S1 solar delivery sensor (from solar control unit) |
| 18.- ----- | 40.- S3 storage tank solar sensor (from solar control unit) |
| 19.- ----- | 41 = Mixing valve (responsibility of installer) |
| 20.- Expansion tank (responsibility of the installer) | 42 = Drain (responsibility of installer) |
| 21.- ----- | |
| 22.- Remote control (on request) | |

Figure 4-1 - Connection between water heater AGUADENS 16 or 22 and MULTITANK.

4 - OPERATION

Example of connection between boiler and **MULTITANK** storage tank used as PUFFER (See fig. 4-2).



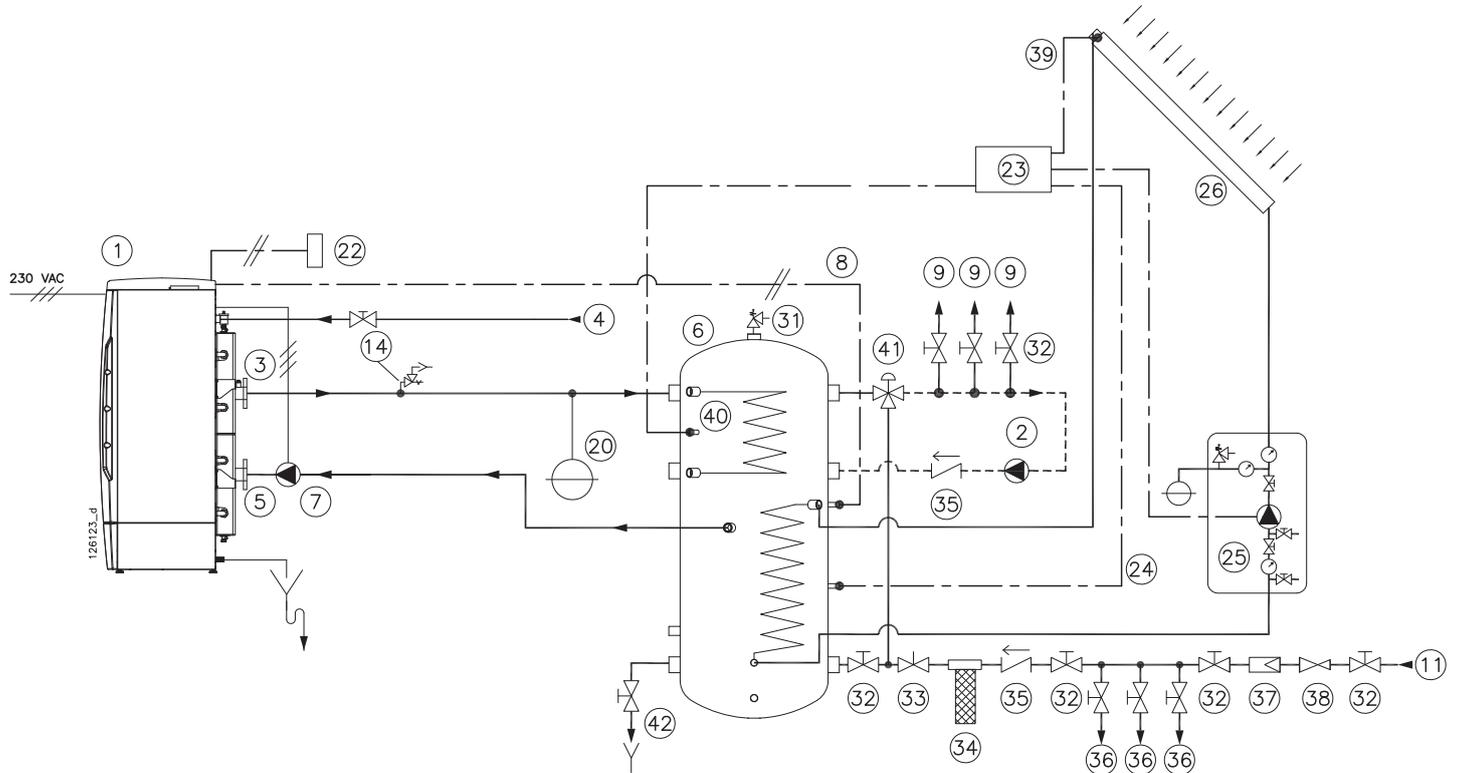
KEY to figure 4-2

- | | |
|---|--|
| 1.- COSMOGAS boiler central heating only | 22.- Remote control (on request) |
| 2.- Recirculation pump (responsibility of installer) | 23.- Solar control unit (on request) |
| 3 - Boiler supply | 24.- Storage tank solar sensor S2 (on request) |
| 4.- Gas inlet | 25.- Solar safety and charge group (on request) |
| 5 - Boiler return | 26.- Solar panels (on request) |
| 6.- MULTITANK storage tank model | 27.- Rapid producer of DHW (on request) |
| 7.- ----- | 28.- Mixing valve (responsibility of installer) |
| 8.- Storage tank sensor (from boiler) | 29.- Heating pump (responsibility of installer) |
| 9.- DHW uses | 30.- Heating (responsibility of installer) |
| 10.- ----- | 31.- Storage tank safety valve (responsibility of the installer) |
| 11.- Domestic cold water inlet | 32.- Isolation valve (responsibility of installer) |
| 12.- ----- | 33.- Valve to adjust flow rate (responsibility of installer) |
| 13.- ----- | 34.- Water softener (responsibility of installer) |
| 14.- ----- | 35.- Check valve (responsibility of installer) |
| 15.- ----- | 36.- Cold water usage (responsibility of installer) |
| 16.- ----- | 37.- Impurity filter (responsibility of installer) |
| 17.- ----- | 38.- Pressure reducer (responsibility of installer) |
| 18.- ----- | 39.- S1 solar delivery sensor (from solar control unit) |
| 19.- ----- | 40.- S3 storage tank solar sensor (from solar control unit) |
| 20.- Expansion tank (responsibility of the installer) | 41 = Mixing valve (responsibility of installer) |
| 21.- ----- | 42 = Drain (responsibility of installer) |

Figure 4-2 - Connection between boiler just for central heating and MULTITANK storage tank used as PUFFER.

4 - OPERATION

Example of connection between **AGUADENS 60T-280T** water heater and **MULTITANK** storage tank (See fig. 4-3).



KEY to figure 3-4

- | | |
|---|--|
| <ul style="list-style-type: none"> 1.- AGUADENS 60T-280T water heater 2.- Recirculation pump (responsibility of installer) 3.- Hot water outlet 4.- Gas inlet 5.- Cold water inlet 6.- MULTITANK storage tank model 7.- Storage tank loading pump (responsibility of installer) 8.- Storage tank sensor (from water heater) 9.- DHW uses 10.- ----- 11.- Domestic cold water inlet 14.- Safety relief valve (responsibility of the installer) 20.- Expansion tank (responsibility of the installer) 21.- ----- 22.- Remote control (on request) 23.- Solar control unit (on request) 24.- Storage tank solar sensor S2 (on request) 25.- Solar safety and charge group (on request) 26.- Solar panels (on request) 27.- ----- 28.- ----- 29.- ----- 30.- ----- | <ul style="list-style-type: none"> 31.- Storage tank safety valve (responsibility of the installer) 32.- Isolation valve (responsibility of installer) 33.- Valve to adjust flow rate (responsibility of installer) 34.- Water softener (responsibility of installer) 35.- Check valve (responsibility of installer) 36.- Cold water usage (responsibility of installer) 37.- Impurity filter (responsibility of installer) 38.- Pressure reducer (responsibility of installer) 39.- S1 solar delivery sensor (from solar control unit) 40.- S3 storage tank solar sensor (from solar control unit) 41 = Mixing valve (responsibility of installer) 42 = Drain (responsibility of installer) |
|---|--|

Figure 4-3 - Connection between AGUADENS 60T-280T water heater and MULTITANK storage tank.

5 - INSTALLATION

5.1 - Minimum distances to be observed

For both installation and maintenance, it is necessary to leave free spaces around the storage tank, as shown in figure 5-1.

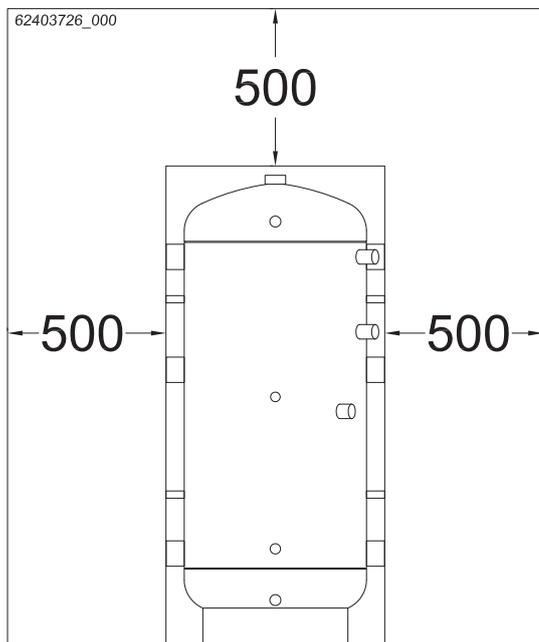


Figure 5-1 - Minimum distances to be observed

5.2 - Selection of place of installation

 **WARNING!** The unit must be installed only on a horizontal surface that will take its weight, take into account the weight in service of the storage tank (see section 8 technical specifications) plus the hot water heater if it's the type with a base, both full of water (for details relating to the hot water heater see its installation manual).

Determine the room and the right position for installation, taking the following factors into account:

- dimensions and weight of the unit;
- connection to water supply;
- connection of domestic hot water system;
- any eventual connection of storage tank drain (recommended);
- any eventual connection of storage tank safety valve drain (recommended);
- any eventual connection of storage hot water heater safety valve drain (recommended);
- connection to electric power supply of electronic anode (if present);

- As far as the hot water heater's connections are concerned, see the instructions in its installation manual.

 This storage tank must be installed in a place where any leakage of water that comes from it, from the joints between pipes or from any discharge from the safety valve, cannot cause any damage to materials or things below it.

5.3 - Installation of electronic anode rod



WARNING! The presence and correct operation of the electronic anode rod is indispensable to protect the storage tank from corrosion.

The electronic anode rod is supplied already installed in the storage tank.

The position of the electronic anode rod in the storage tank is shown in section 3. Follow the instructions in the control unit and the cables supplied with the storage tank to make the electrical connection. To check correct operation, follow the steps described in section 7.1.1.

5.4 - Storage tank earthing



WARNING! For correct operation of the electronic anode rod the storage tank must be "earthed". If the earthing is not carried out correctly the protection of the tank cannot be guaranteed.

5.5 - Domestic hot and cold water



WARNING! Install a filter with a mesh not wider than 0.5 mm² in the domestic cold water inlet.



WARNING! Read the water heater installation manual for the treatment of the domestic hot and cold water.

6 - USE

6.1 - Important information



WARNING! We would remind you that the assembly, adjustment and maintenance of the electrical and hydraulic connections of your unit can only be carried out by a professionally qualified engineer.

- ☞ In the event of a breakdown or poor operation, disconnect the unit and do not attempt any repair or direct intervention. Contact a professionally qualified engineer.
- ☞ To ensure the efficiency of the unit and its correct operation, periodic maintenance must be carried out by a professionally qualified engineer.
- ☞ The engineer will explain the operation and use of the unit to the user.
- ☞ The user must know how to fill and empty the system.

6.2 - Troubleshooting

In case of water leaks

- ☞ Close the house's main cold water valve;
- ☞ Call a professionally qualified engineer.

If no DHW is produced

- ☞ Check the hot water/boiler is not paused.



WARNING! If after these checks the DHW is still cold, do not try to solve the problem yourself, but call a professionally qualified engineer.

6.3 - Operations prior to commissioning the system

6.3.1 - Valves opening check

Any valves on the hot and cold water must be open.

6.4 - Control panel

The storage tank does not have a control panel, for any adjustment follow the directions in the installation, use and maintenance manual of the water heater/boiler it is used with.

6.5 - Switch-on procedure

See the directions given in the installation, use and maintenance manual of the water heater/boiler it is used with.

6.6 - Switch-off procedure

If the storage tank is not to be used for a relatively short time (a few weeks and when there is no risk of frost), just turn off the water heater/boiler as described in its installation, use and maintenance manual. If there is a risk of frost during the time the storage tank is not being used, the system must be drained, proceeding as follows:

- ☞ Follow the procedure to drain the domestic hot water circuit described in section 7.1.2;

6.7 - Anti-frost precautions



WARNING! The anti-frost protection service offered by the unit connected to the storage tank cannot guarantee anti-frost protection to the storage tank, central heating system, DHW system, or the building served or parts of it.

If you are not using the storage tank for a long period (more than a year), we recommend you to drain it following the procedure described in section 7.1.2.

6.8 - Anti-Legionella

For the preparation of DHW the storage tank must be connected to a special device thanks to which a cycle of disinfection against the Legionella bacterium is offered. This cycle takes the storage tank up to a temperature of 60°C (temperature at which the Legionella bacterium dies) after two hours of electric power supply and at least once a week. For this reason the water (at some times) may reach users at a higher temperature than that set with the relevant command.



WARNING! A domestic hot water temperature greater than 51°C can cause injury or damage, even of a permanent nature, to people and animals and things. In particular, children, the elderly and the disabled must be protected against any possible risks of scalds, by inserting devices that limit the temperature of use of the DHW to users.

7 - MAINTENANCE

7.1 - Maintenance



WARNING! The maintenance of the device must be carried out only by a professionally qualified engineer.

7.1.1 - Electronic anode rod status check

All the storage tanks have a protective electronic anode rod fitted as standard, for correct operation just check the LEDs present on it. The table showing how to interpret the LEDs is given below:



WARNING! The device includes two LEDs that signal in real time the protection status or any eventual malfunctions. See the following table for the visual warnings.

L1 (RED)	L2 (GREEN)	DEVICE STATUS	SOLUTION
OFF	OFF	Not powered	Check power supply to the device
OFF	ON	Operating - Correct position	/
ON	OFF	Anode rod short circuit Anode rod not connected	Check the metal part of the anode rod is not in contact with the metal parts of the storage tank; Check the connection of the anode rod; Check it is correctly earthed;

Table of electronic anode rod operation

7 - MAINTENANCE

7.1.2 - Drain the storage tank

To drain the storage tank, proceed as follows:

- ☞ turn off the house's main cold water valve;
- ☞ turn on all the valve present, for both hot and cold water;
- ☞ open the storage tank drain valve provided by the installer;
- ☞ make sure that at least one of these is at a lower height than the level of the storage tank or turn on the storage tank drain valve (if there is one, responsibility of the installer);
- ☞ Once all the water has been drained, close the drain valve again;



WARNING! The addition of chemical additives such as antifreeze or anything else into the DHW circuit is absolutely forbidden.



WARNING! As far as the maintenance of the hot water heater used with the storage tank is concerned, refer to its installation manual.

8 - TECHNICAL SPECIFICATIONS

MULTItank TECHNICAL DATA	UM	200	300
Capacity	l	223	320
Heating fluid		Water	Water
Heated fluid		Water	Water
Storage tank material		Fe 360 + double glass-lined DIN 4753	
Storage tank thickness	mm	2,5	2,5
Coils material		Fe 360 NBK	Fe 360 NBK
Coils thickness	mm	2	2
Maximum coil pressure	bar	10	10
Upper coil exchange surface	m ²	0.6	0.6
Upper coil water content	l	4.2	4.2
Lower coil exchange surface	m ²	0.6	1.2
Lower coil water content	l	4.2	8.4
Material for outer cover		PVC	PVC
Material for lid		ABS	ABS
Colour of outer cover		White	White
Colour of lid		Black	Black
Material for insulation		Rigid PU foam (CFC-free)	Rigid PU foam (CFC-free)
Thickness of insulation	mm	50	50
Heat dispersion (Reg. 811/2013)	W	63	70
Maximum operating pressure of DHW	bar	10	10
Hydraulic test	bar	15	15
Maximum operating temperature	°C	95	95
Protective anode rode		Electronic	Electronic
Storage tank weight empty	kg	72	96
Storage tank weight at full load	kg	305	430
Dimensions (Diameter x Height)	mm	600 x 1332	650 x 1532

8 - TECHNICAL SPECIFICATIONS

500	800	1000
518	750	905
Water	Water	Water
Water	Water	Water
Fe 360 + double glass-lined DIN 4753		
3	4	4
Fe 360 NBK	Fe 360 NBK	Fe 360 NBK
2	2	2
10	10	10
1.2	1.8	1.8
8.4	12.6	12.6
1.8	2.4	3.0
12.6	16.8	21.0
PVC	PVC	PVC
ABS	ABS	ABS
White	White	White
Black	Black	Black
Rigid PU foam (CFC-free)	Polyester fibre (class M1/B1)	Polyester fibre (class M1/B1)
50	100	100
94	127	142
10	10	10
15	15	15
95	95	95
Electronic	Electronic	Electronic
135	198	212
675	980	1150
750 x 1777	950 x 2090	990 x 2090

10 - CE DECLARATION OF COMPLIANCE

The undersigned company **COSMOGAS S.r.L.**, with registered office in via L. Da Vinci n° 16 - 47014 Meldola (FC) ITALY,

DECLARES

under its own responsibility that the product:

WARRANTY No.
UNIT MODEL
DATE OF MANUFACTURE

the subject of this declaration, complies with the requirements of Directives: Low Voltage, (**2014/35/UE**) and Electromagnetic Compatibility, (**2014/30/UE**).

Monitoring of the product was carried out by the body shown on form "C".

(The warranty number corresponds to the registration number)

This declaration is issued as stipulated by the afore-mentioned Directives.

Meldola (FC) ITALY, (Date of manufacture).



Alessandrini Arturo
Sole Director



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