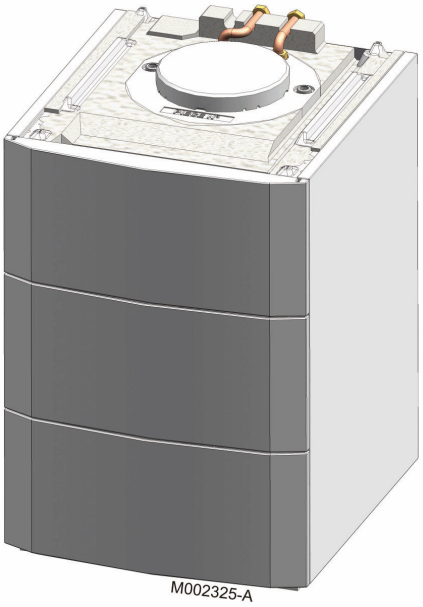
EN

Domestic hot water tank

160 SL



Installation, User and Service Manual

Contents

1 Introduction

1.1 Symbols used

In these instructions, various danger levels are employed to draw the user's attention to particular information. In so doing, we wish to safeguard the user's safety, obviate hazards and guarantee correct operation of the appliance.

DANGER

Risk of a dangerous situation causing serious physical injury.

WARNING

Risk of a dangerous situation causing slight physical injury.

CAUTION

Risk of material damage.

Signals important information.

☞ Signals a referral to other instructions or other pages in the instructions.

1.2 Abbreviations

- **CFC**: Chlorofluorocarbon
- **DHW**: Domestic hot water
- **ICA**: Impressed current anode

1.3 General

1.3.1. Manufacturer's liability

Our products are manufactured in compliance with the requirements of the various applicable European Directives. They are therefore delivered with CE marking and all relevant documentation.

In the interest of customers, we are continuously endeavouring to make improvements in product quality. All the specifications stated in this document are therefore subject to change without notice.

Our liability as the manufacturer may not be invoked in the following cases:

- Failure to abide by the instructions on using the appliance.
- Faulty or insufficient maintenance of the appliance.
- Failure to abide by the instructions on installing the appliance.

1.3.2. Installer's liability

The installer is responsible for the installation and inital start up of the appliance. The installer must respect the following instructions:

- Read and follow the instructions given in the manuals provided with the appliance.
- Carry out installation in compliance with the prevailing legislation and standards.
- Perform the initial start up and carry out any checks necessary.
- Explain the installation to the user.
- If a maintenance is necessary, warn the user of the obligation to check the appliance and maintain it in good working order.
- Give all the instruction manuals to the user.

1.3.3. User's liability

To guarantee optimum operation of the appliance, the user must respect the following instructions:

- Read and follow the instructions given in the manuals provided with the appliance.
- Call on qualified professionals to carry out installation and initial start up.
- Get your installer to explain your installation to you.
- To carry out inspections and maintenance required by a qualified professional.
- Keep the instruction manuals in good condition close to the appliance.

This appliance is not intended to be used by persons (including children) whose physcial, sensory or mental capacity is impaired or persons with no experience or knowledge, unless they have the benefit, through the intermediary of a person responsible for their safety, of supervision or prior instructions regarding use of the appliance. Care should be taken to ensure that children do not play with the appliance.

1.4 Homologations

1.4.1. Certifications

This product complies to the requirements to the european directives and following standards:

- 2006/95/EC Low Voltage Directive.
  Reference Standard: EN 60.335.1.
- 2004/108/EC Electromagnetic Compatibility Directive.
  Reference Standards: EN 50.081.1, EN 50.082.1, EN 55.014

1.4.2. Directive 97/23/EC

This product conforms to the requirements of european directive 97 / 23 / EC, article 3, paragraph 3, on pressure equipment.

1.4.3. Factory test

Before leaving the factory, each appliance is tested for the following:

- Water tightness
- Air tightness

2 Safety instructions and recommendations

2.1 Safety instructions

CAUTION

Before any work, switch off the mains supply to the appliance.

CAUTION

In order to limit the risk of being scalded, the installation of a thermostatic mixing valve on the domestic hot water flow piping is compulsory.

2.2 Recommendations

CAUTION

Do not neglect to service the appliance. Service the appliance regularly to ensure that it operates correctly.

WARNING

Only qualified professionals are authorised to work on the appliance and the installation.

WARNING

Heating water and domestic water must not come into contact with each other. Domestic water must not circulate via the exchanger.

- To take advantage of the guarantee, no modifications must be made to the appliance.
- To reduce heat losses as much as possible, insulate the pipes.

Casing components
Only remove the casing for maintenance and repair operations. Put the casing back in place after maintenance and repair operations.

Instructions stickers
The instructions and warnings affixed to the appliance must never be removed or covered and must remain legible during the entire lifespan of the appliance. Immediately replace damaged or illegible instructions and warning stickers.

3 Technical description

3.1 General description

The domestic hot water tank is delivered ready for connection to a boiler:

- AGC 10/15 - AGC 15 - AGC 25 - AGC 35
- GSCR 15 - GSCR 25 - GSCR 35
- CALORA TOWER GAS 15S DE- CALORA TOWER GAS 25S DE- CALORA TOWER GAS 35S DE
- CALORA TOWER OIL 18 - CALORA TOWER OIL 24 - CALORA TOWER OIL 30 - CALORA TOWER OIL 18LS - CALORA TOWER OIL 24LS - CALORA TOWER OIL 30LS

Main parts:

- The tank is made of high quality steel and is lined with food safety quality enamel vitrified at 850°C, which protects the tank from corrosion.
- The tank is protected against corrosion by an impressed current titanium anode (Titan Active System ®).
- The coil-shaped heat exchanger welded into the tank is made of smooth piping, its external surface, which comes into contact with drinking water, being enamelled.
- The appliance is insulated by CFC-free polyurethane foam, which reduces heat losses to a minimum.
- The outside casing is made of painted steel sheeting.

3.2 Technical specifications

3.2.1. Characteristics of the DHW calorifier

DHW tank 160SL		
Primary circuit (heating water)		
Maximum operating temperature	°C	95
Maximum operating pressure	bar	3
Exchanger capacity	l	7.3
Exchange surface	m^2	1.1
Secondary circuit (domestic water)		
Maximum operating temperature	°C	95
Maximum operating pressure	bar	10
Water content	l	160
Weight		
Shipping weight (Foam coated domestic hot water tank)	kg	83

Performances related to the boiler type		Gas fired floor-standing condensing boiler (1)			
		10/15 kW	15 kW	25 kW	35 kW
Power exchanged	kW	15	15	28	32
Flow per hour (ΔT = 35°C)(2)	l/h	370	370	690	790
Draw-off capacity	l/10 mm	200	200	240	245
Specific flow (ΔT = 30°C)(3)	l/min	20	20	24	24.5
Q_p : Primary flow rate	m^3/h	1.1	1.1	1.1	1.5

(1) Depending on the country in which the boiler is installed
(2) Domestic cold water inlet: 10 °C - Domestic hot water outlet: 45 °C - Primary circuit (heating water): 80 °C
(3) Domestic cold water inlet: 10 °C - Domestic hot water outlet: 40 °C - Primary circuit (heating water): 80 °C - Tank temperature: 60 °C

Performances related to the boiler type		Floor-standing condensing oil boiler (1)		
		18 kW	24 kW	30 kW
Power exchanged	kW	18	24	30
Flow per hour (ΔT = 35°C)(2)	l/h	440	590	740
Specific flow (ΔT = 30°C)(3)	l/min	21	23.5	24
Draw-off capacity(3)	l/10 mm	230	235	240
Q_p : Primary flow rate	m^3/h	1.0	1.0	1.1

(1) Depending on the country in which the boiler is installed
(2) Domestic cold water inlet: 10 °C - Domestic hot water outlet: 45 °C - Primary circuit (heating water): 80 °C
(3) Domestic cold water inlet: 10 °C - Domestic hot water outlet: 40 °C - Primary circuit (heating water): 80 °C - Tank temperature: 60 °C

3.2.2. Specifications of the DHW sensor

Temperature in °C	10	20	25	30	40	50	60	70	80
Resistance in ohm	19691	12474	10000	8080	5372	3661	2536	1794	1290

4 Installation

4.1 Regulations governing installation

CAUTION

Installation of the appliance must be done by a qualified engineer in accordance with prevailing local and national regulations.

CAUTION

The installation must comply in all matters to the standards and rules which govern the work and interventions in individual and collective homes, and other constructions.

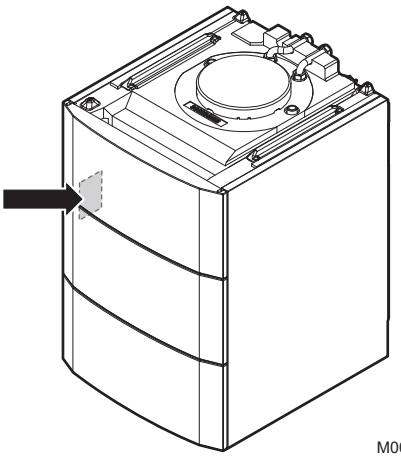
4.2 Package list

4.2.1. Standard delivery

The delivery includes:

- Complete calorifier
- Domestic hot water sensor
- ICA cable
- DHW tank installation, operating and service manual

4.3 Choice of the location



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4.3.1. Data plate

The rating plate must be accessible at all times.
The rating plate identifies the product and provides the following information:

- DHW calorifier type
- Manufacturing date (Year - Week)
- Serial number.

4.3.2. Location of the appliance

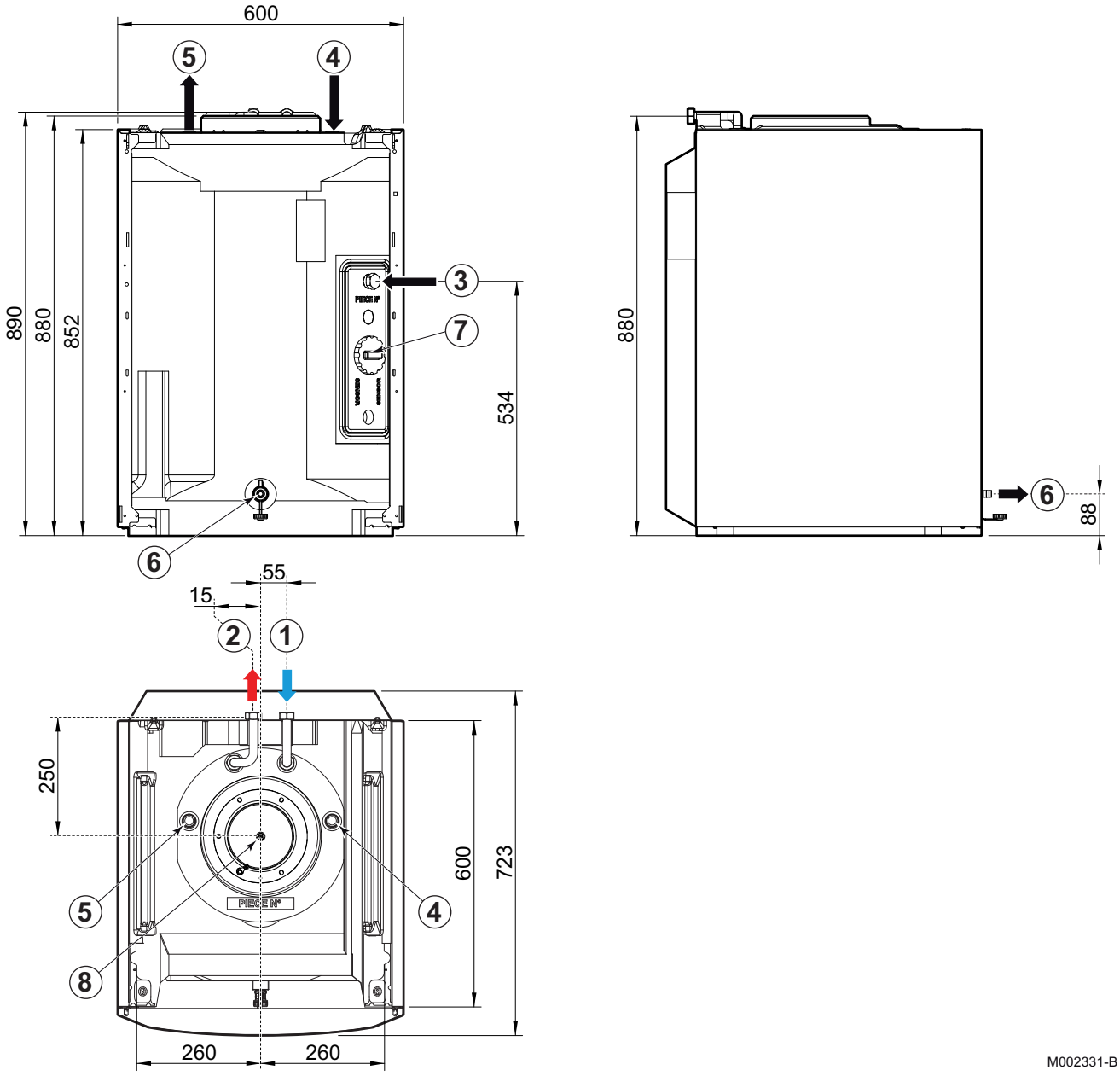
The DHW tank should be installed beside (right or left) or under the boiler (depending on the installation and the space available).

☞ To ascertain to space to be allowed around the appliance in order to facilitate access and maintenance, refer to the boiler's installation and service manual.

The installer must respect the following instructions:

- Install the appliance in frost-free premises.
- Place the appliance on a base frame to facilitate cleaning of the premises.
- Install the appliance as close as possible to the drawing off points in order to minimise energy losses through the pipes.

4.3.3. Main dimensions



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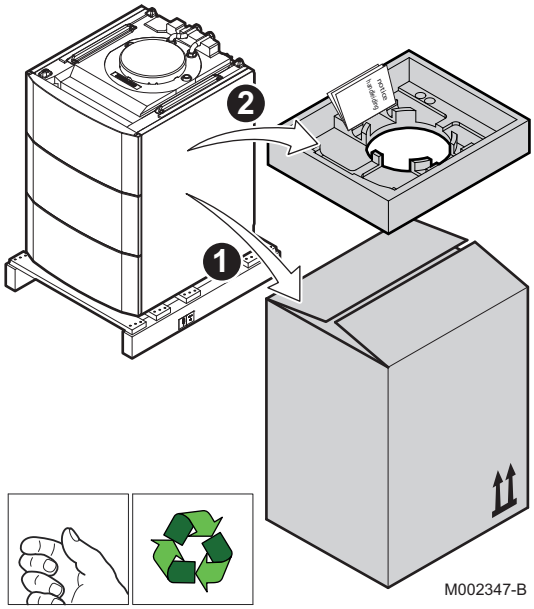
① Domestic cold water inlet G 3/4"
② Secondary domestic hot water flow G 3/4"
③ Location for recirculation loop G 3/4" (Option)
④ Primary boiler flow G 3/4"
⑤ Primary boiler return G 3/4"
⑥ Drain cock 1/2"
⑦ Location for DHW sensor
⑧ Impressed current anode

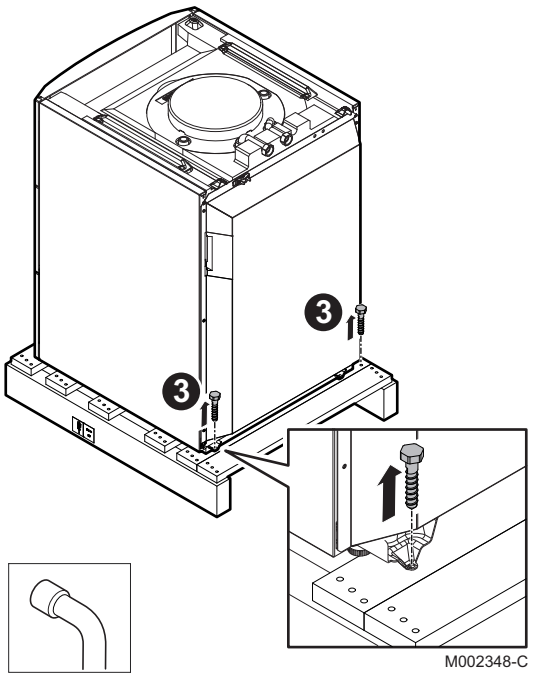
4.4 Positioning the appliance



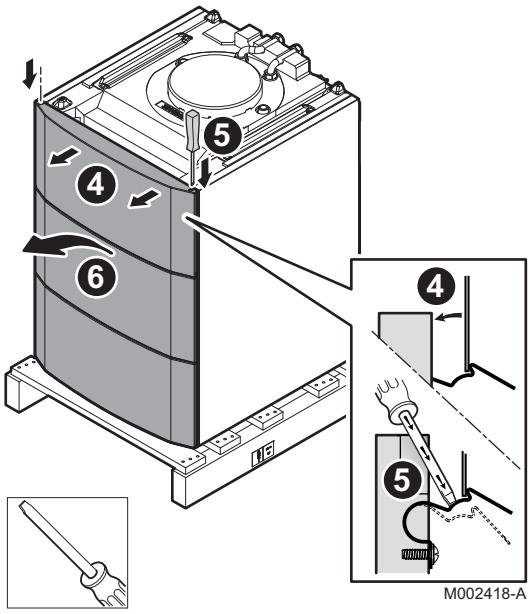
CAUTION

- Have 2 people on hand.
- Handle the appliance with gloves.

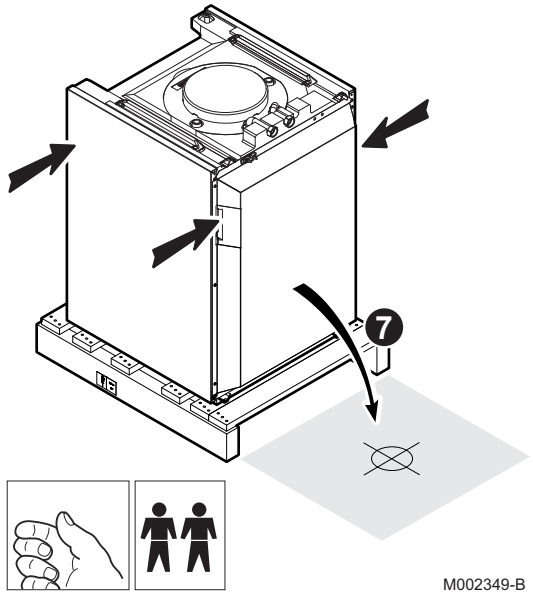
1. Remove the packaging from the DHW tank, leaving the tank on the pallet used for transport.
2. Remove the protective packaging.



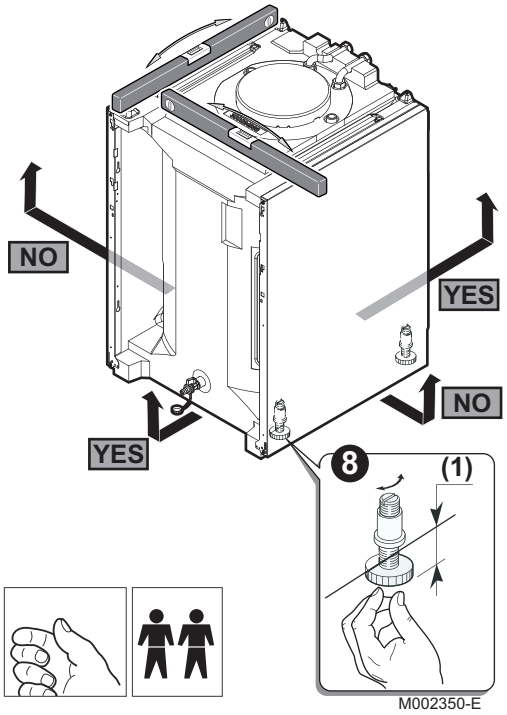
3. Unscrew the 2 screws at the back of the tank (securing the tank to the pallet).



4. Open the front panel by pulling forwards until it reaches the safety catch.
5. Insert a screwdriver to unclip the springs at both ends.
6. Remove the front panel.

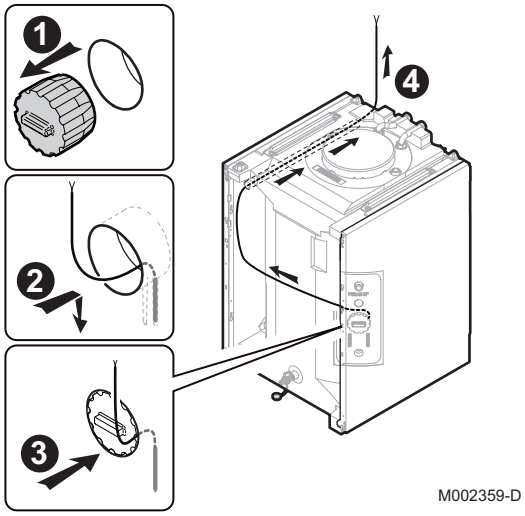


7. Lift the DHW tank and place it on the ground.



8. Level the DHW tank using the adjustable feet.
   (1) Adjustment range: 0 to 20 mm

4.5 Fitting the DHW sensor



1. Take out the insulation.
2. Put the DHW sensor in place.
3. Put the insulation back in place.
4. Route the cable through the cable feed-through to the back of the DHW tank.

4.6 Hydraulic connections

4.6.1. Connecting the primary boiler circuit

☞ Refer to the connecting kit manual.

4.6.2. Hydraulic connection of the secondary drinking water circuit

When making the connections, it is imperative that the standards and corresponding local directives are respected.

These domestic hot water tanks can operate at a maximum operating pressure of 10 bars. The recommended operating pressure is under 7 bar.

■ Specific precautions

Before making the connection, **rinse the drinking water inlet pipes** in order not to introduce metal or other particles into the appliance's tank.

■ Provision for Switzerland

Make the connections according to the instructions of the Société Suisse de l'Industrie du Gaz et des Eaux. Comply with local instructions from water distribution plants.

■ Safety valve

CAUTION

In compliance with the safety rules, fit a sealed safety valve to the domestic cold water tank inlet.

France: We recommend NF-marked hydraulic membrance safety control units.

- Integrate the safety valve in the cold water circuit.
- Install the safety valve close to the tank in a place which is easy to access.

■ Size

The safety device and its connection to the DHW tank must be of at least the same diameter as the domestic cold water supply pipe of the tank domestic circuit.

There must be no cut-off element between the valve or the safety unit and the domestic hot water tank.

The safety device drain pipe must have a uniform and sufficient gradient and its diameter must be at least equal to that of the outlet opening of the safety device (to prevent the flow of water being hindered if the pressure is too high).

The outlet pipe in the valve or safety assembly must not be blocked.

Germany: Define the dimensions of the safety valve in accordance with the DIN 1988 standard.

Capacity (litres)	Dimension of the valve Min. dimension of the inlet connection	Heating output (kW) (max)
< 200	R or Rp 1/2	75
200 to 1000	R or Rp 3/4	150

Fit the safety valve above the tank to avoid draining the tank during servicing.

Install a drainage valve at the lowest point on the tank.

■ Isolating valves

Hydraulically isolate the primary and secondary circuits using stop valves to facilitate maintenance operations on the unit. The valves make it possible to carry out maintenance on the tank and its components without draining the entire installation.

These valves are also used to isolate the tank unit when conducting a pressurised check on the leak tightness of the installation if the test pressure is greater than the admissible operating pressure.

CAUTION

If the mains pipes are made of copper, fit a sleeve made of steel, cast iron or any other insulating material between the tank's hot water outlet and the pipes to prevent corrosion to the connection.

■ Connecting the domestic cold water

Make the connection to the cold water supply according to the hydraulic installation diagram.

☞ Refer to the installation and maintenance instructions of the boiler

Install a water drain in the boiler room and a funnel-siphon for the safety unit.

The components used for the connection to the cold water supply must comply with the prevailing standards and regulations in the country concerned. Fit a one-way valve to the domestic cold water circuit.

Make the connection to the cold water supply according to the hydraulic installation diagram. ☞ Refer to the installation and maintenance instructions of the boiler

Install a water drain in the boiler room and a funnel-siphon for the safety unit.

The components used for the connection to the cold water supply must comply with the prevailing standards and regulations in the country concerned. Fit a one-way valve to the domestic cold water circuit.

■ Pressure reducer

If the mains pressure exceeds 80% of the valve or safety unit setpoint (e.g.: 5.5 bar for a safety unit set at 7 bar), a pressure reducer must be fitted upstream of the appliance. Install the pressure reducer downstream the water meter in such a way as to ensure the same pressure in all of the installation pipes.

■ Measures to take to prevent hot water flow reversal

Fit a one-way valve to the domestic cold water circuit.

4.7 Electrical connections

4.7.1. Recommendations

WARNING

- Only qualified professionnals may carry out electrical connections, always with the power off.
- Earth the appliance before making any electrical connections.

Make the electrical connections of the appliance according to:

- The instructions of the prevailing standards,
- The instructions on the circuit diagrams provided with the appliance,
- The recommendations in the instructions.

Belgium: The earthing must comply with the RGEI standard.

Germany: The earth connection shall comply with standard VDE 0190.

France: The earth connection shall comply with standard NFC 15.100.

Other countries: The earthing shall comply with local standards.

CAUTION

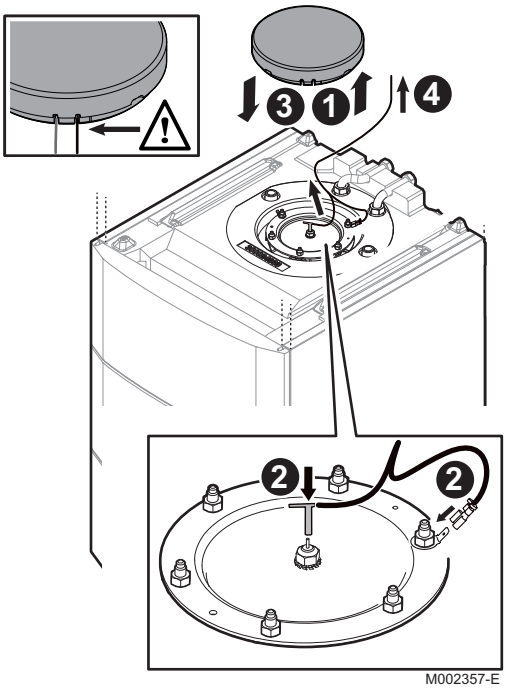
- Separate the sensor cables from the 230/400 V circuit cables.
- The installation must be fitted with a main switch.

4.7.2. Connecting the domestic hot water sensor

Connect the DHW sensor to the corresponding terminal block on the boiler (Terminal S.ECS).

See chapter: "Description of the boiler's terminal block", page 19.

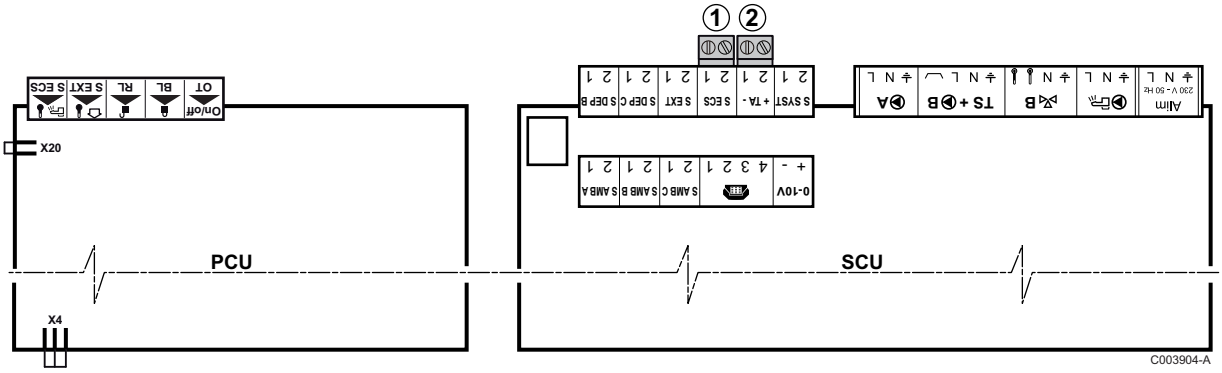
4.7.3. Connecting the impressed current anode



1. Remove the inspection trap insulation.
2. Connect the connectors on the titanium anode cable.
3. Put the inspection trap insulation back in place, feeding the cables into the notches.
4. Route the cable to the back of the tank.
5. Connect the titanium anode cable to the corresponding terminal block on the boiler (Terminal TA-).
   See chapter: "Description of the boiler's terminal block", page 19

4.7.4. Description of the boiler's terminal block

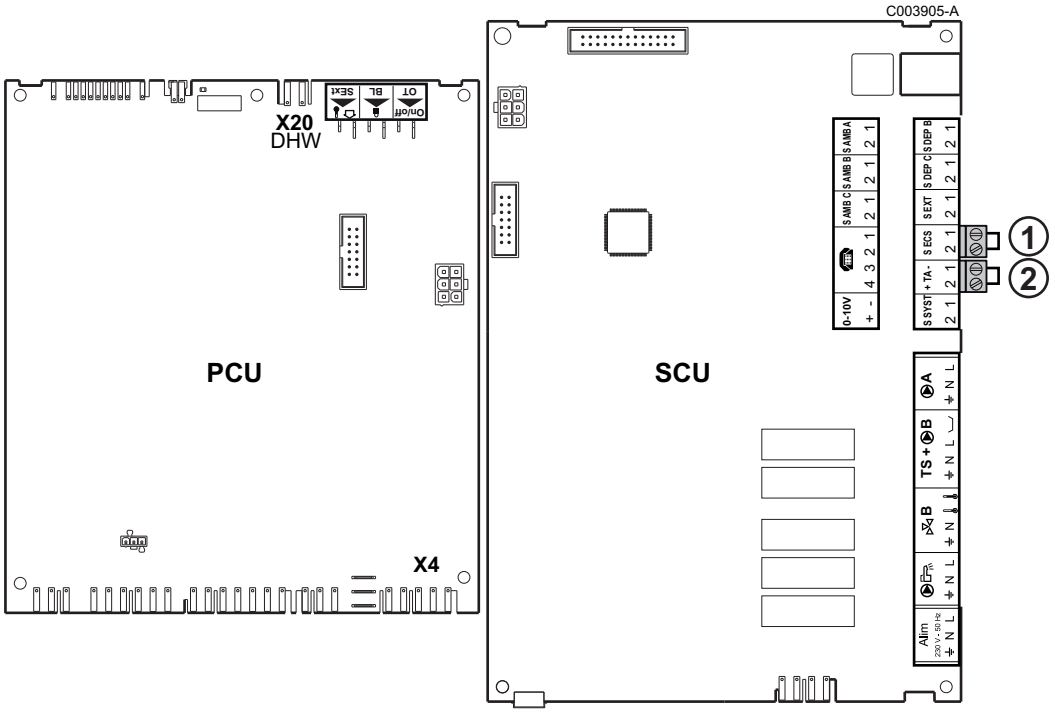
■ Gas fired floor-standing condensing boiler



① **S.ECS**: Connect the DHW sensor.

② **TA-**: Connect the DHW tank anode.

■ **Floor-standing condensing oil boiler**



① **S.ECS**: Connect the DHW sensor.

② **TA-**: Connect the DHW tank anode.

4.8 Filling the system

4.8.1. Filling the secondary DHW circuit

Carefully degas the DHW tank and the distribution network in order to eliminate noises and hammering caused by trapped air moving in the pipes during draw-off.

1. Completely fill the DHW tank via the cold water inlet pipe, leaving the hot water valve open.
   Close this valve only when the flow is regular and there are no noises or hammering in the pipes.
2. Then successively degas all the hot water pipes by opening the corresponding valves.

These operations also make it possible to rinse and clean the hot water pipes located at the DHW tank outlet.

CAUTION

Completely vent the appliance and the installation for optimum running.

4.8.2. Filling the primary boiler circuit

☞ Refer to the installation and maintenance instructions of the boiler

5 Commissioning

5.1 Check points before commissioning

5.1.1. Hydraulic circuits

■ **Secondary circuit (domestic water)**

Inspect all the connections in the system for leaks..

■ **Primary boiler circuit**

Inspect all the connections in the system for leaks..
☞ Refer to the connecting kit manual.

5.1.2. Electrical connection

- Check that the sensors are correctly fitted and connected.
- Check the electrical connections, particularly the earth.

5.2 Putting the appliance into operation

CAUTION

Initial commissioning must be done by a qualified professional.

CAUTION

During the heating process, a certain amount of water may flow through the valve or safety unit, this is caused by water expansion. This phenomenon is completely normal and must in no event be hindered.

6 Checking and maintenance

6.1 General instructions

CAUTION

- Maintenance operations must be done by a qualified engineer.
- Only original spare parts must be used.

6.2 Impressed current anode

No maintenance operations are required on an impressed current anode.

CAUTION

The boiler control panel must be switched on to ensure that the impressed current anode operates.

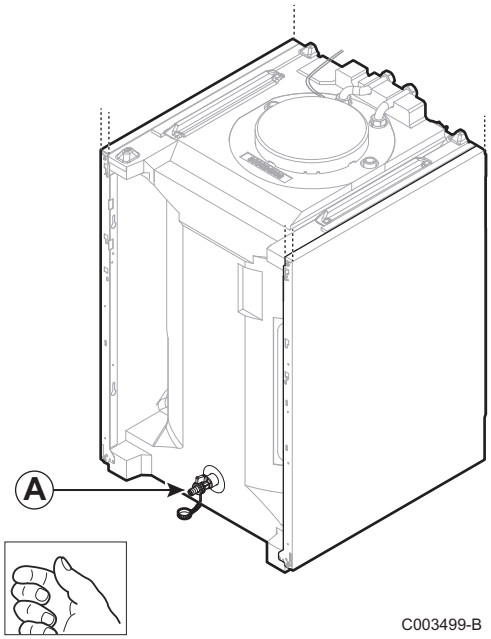
6.3 Safety valve or safety unit

The valve or safety assembly must be operated at least **once a month** in order to ensure that it is operating correctly and to prevent possible overpressure which would damage the DHW tank.

WARNING

Failure to comply with this maintenance rule may cause deterioration of the DHW tank and the cancellation of the guarantee.

6.4 Draining the installation



A Drain cock

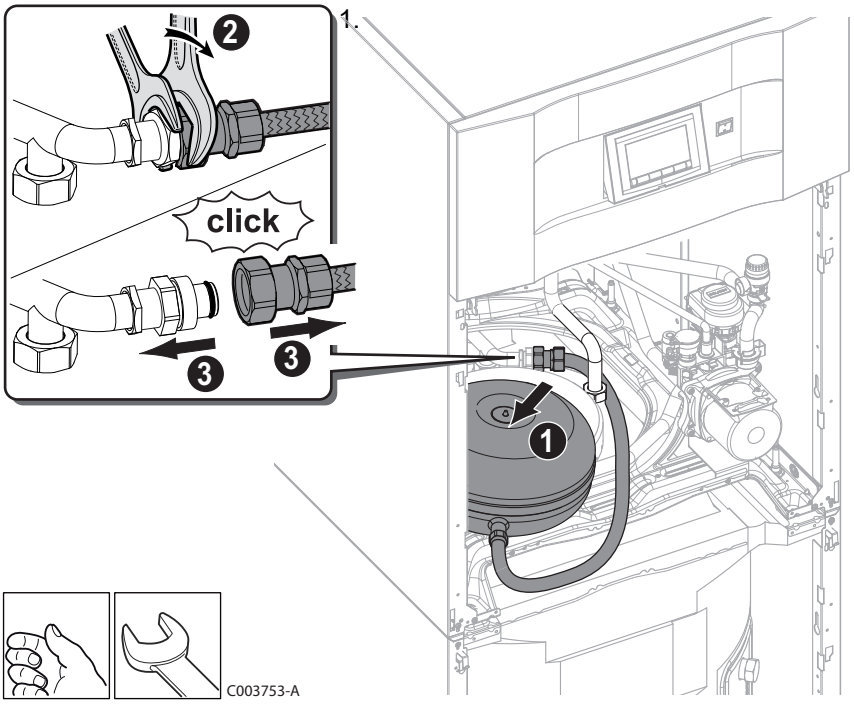
1. Turn off the domestic cold water inlet.
2. Open the drainage valve (A).
3. Open a hot water tap to completely drain the installation.

6.5 Specific maintenance operations

The DHW tank does not need to be drained to perform these operations.

Only concerns gas-fired floor-standing condensing boilers.

If the installation is fitted with a DHW expansion vessel, proceed as follows to disconnect it.



1. Remove the DHW expansion vessel.
2. Uncrew the snap coupling.

3. Disconnect the two parts.
4. Proceed with the desired maintenance operation.
5. To re-assemble, proceed in reverse order.

6.6 Cleaning the casing material

Clean the outside of appliances using a damp cloth and a mild detergent.

6.7 Maintenance form

No.	Date	Checks made	Remarks	By	Signature

7 Spare parts

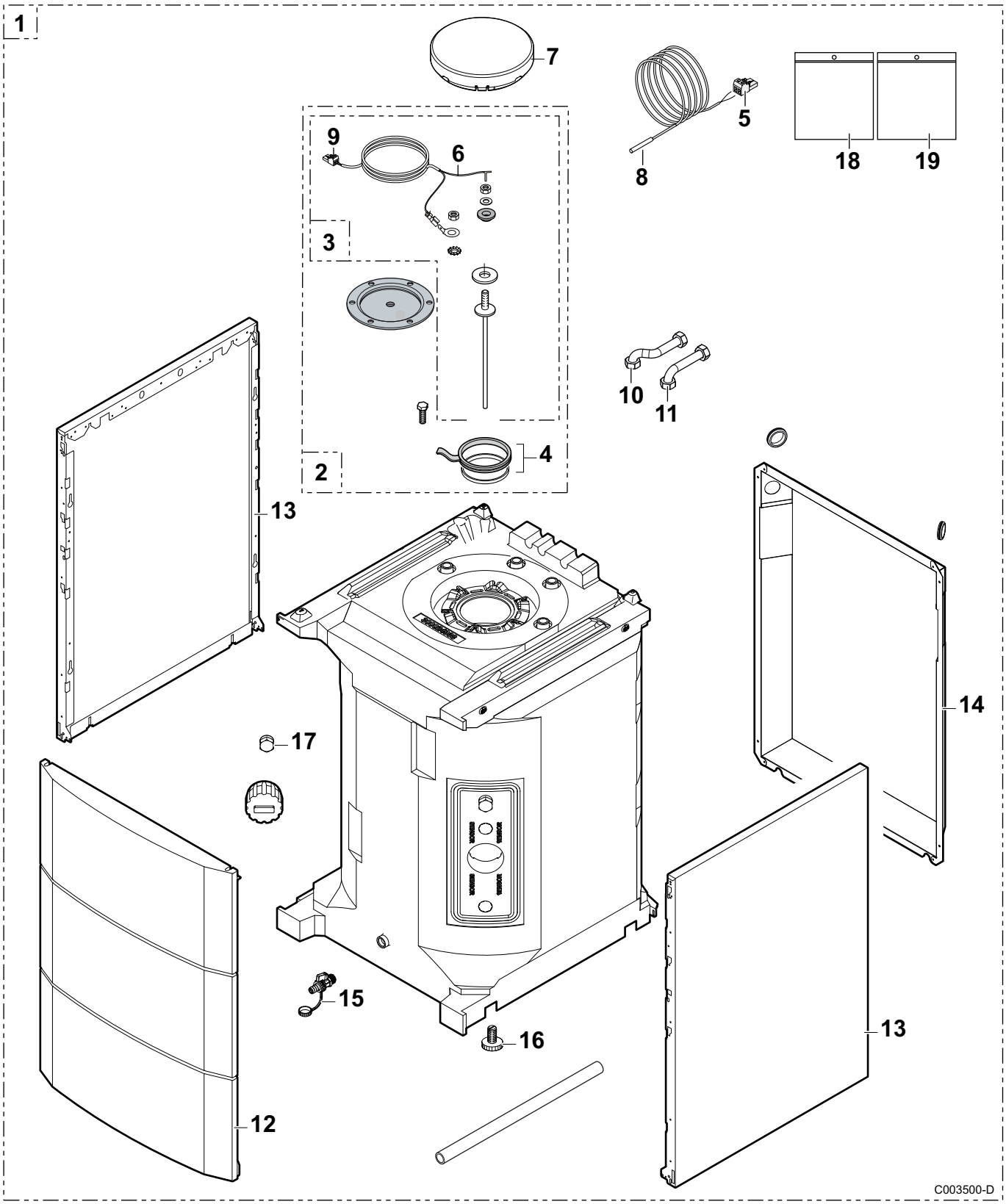
7.1 General

When it is observed subsequent to inspection or maintenance work that a component in the appliance needs to be replaced, use only original spare parts or recommended spare parts and equipment.

To order a spare part, give the reference number shown on the list.

7.2 Spare parts

Spare parts list reference: 300026901-002-B



Markers	Reference	Description
1	100016428	Foam coated domestic hot water tank 160SL
2	89490548	Enamelled stopper
3	200011817	Impressed current anode
4	89705511	Gasket 7 mm + Retainer ring 5 mm
5	300008957	2 PIN DHW probe connector
6	200011579	ACI anode cable - Length 2,5 m

Markers	Reference	Description
7	300024943	Insulation, buffer tank
8	95362448	KVT60 sensor - Length 5 m
9	30008956	2-pin connector ICA
10	300024941	Domestic hot water pipe
11	300024942	Domestic cold water pipe
12	200019243	Front panel
13	300024462	Side panel
14	300024982	Rear panel
15	94902073	Drain cock 1/2"
16	300024451	Adjustable foot M8x45
17	94950143	Cap G 3/4
18	200019651	DHW tank screw bag
19	200019652	DHW tank gasket bag

8 Warranty

8.1 General

You have just purchased one of our appliances and we thank you for the trust you have placed in our products.

Please note that your appliance will provide good service for a longer period of time if it is regularly checked and maintained.

Your fitter and our customer support network are at your disposal at all times.

8.2 Warranty terms

France: The following provisions are not exlcusive of the buyer being able to benefit from the legal warranty stipulated in Articles 1641 to 1648 of the Civil Code.

Belgium: The following provisions regarding the contractual warranty are not exclusive of the buyer being able to benefit from the legal provisions applicable in Belgium regarding hidden defects.

Switzerland: The application of the warranty is subject to the terms and conditions of sale, delivery and warranty of the company marketing products.

Portugal: The following provisions do not adversely affect consumers' rights, as laid down in Decree-Law 67/2003 of 8 April amended by Decree-Law 84/2008 of 21 May, warranties relating to sales of consumer goods and other implementing rules.

Other countries: The following provisions are not exclusive of the buyer being able benefit from the legal provisions applicable regarding hidden defects in the buyer's country.

Starting from the purchase date shown on the original fitter's invoice, your appliance has a contractual guarantee against any manufacturing defect.

The length of the guarantee is mentioned in the price catalogue. The manufacturer is not liable for any improper use of the appliance or failure to maintain or install the unit correctly (the user shall take care to ensure that the system is installed by a qualified engineer).

In particular, the manufacturer shall not be held responsible for any damage, loss or injury caused by installations which do not comply with the following:

- applicable local laws and regulations,
- specific requirements relating to the installation, such as national and/or local regulations,
- the manufacturer's instructions, in particular those relating to the regular maintenance of the unit,
- the rules of the profession.

The warranty is limited to the exchange or repair of such parts as have been recognised to be faulty by our technical department and does not cover labour, travel and carriage costs.

The warranty shall not apply to the replacement or repair of parts damaged by normal wear and tear, negligence, repairs by unqualified parties, faulty or insufficient monitoring and maintenance, faulty power supply or the use of unsuitable fuel.

Sub-assemblies such as motors, pumps, electric valves etc. are guaranteed only if they have never been dismantled.

The legislation laid down by european directive 99/44/EEC, transposed by legislative decree No. 24 of 2 February 2002 published in O.J. No. 57 of 8 March 2002, continues to apply.

CE

15/03/2012

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