

Installation & Servicing Instructions

A200S A203C
A320S A325C
 A325ECX



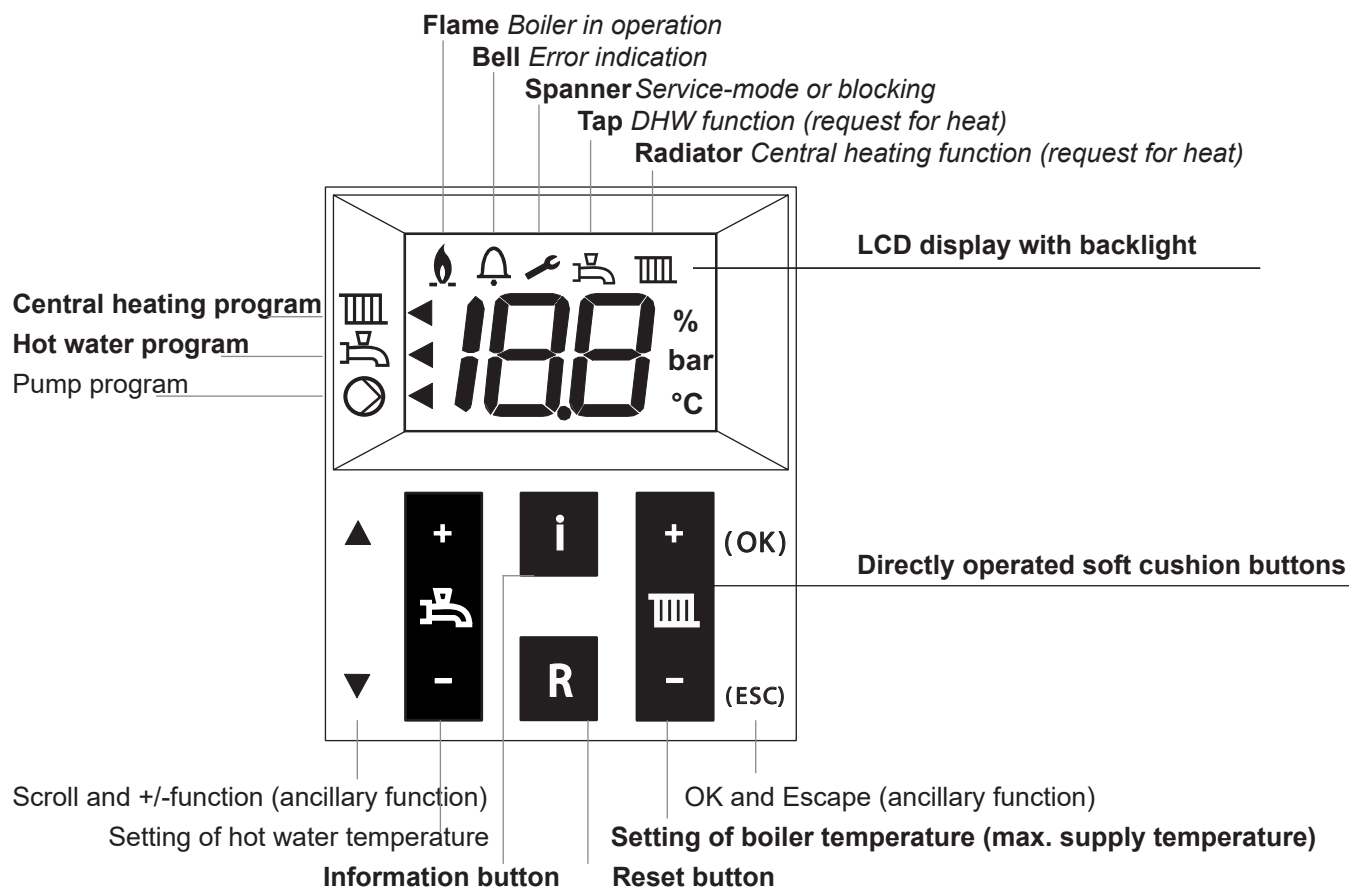
Boiler	G.C No
A200S	41-310-14
A320S	41-310-17
A203C	47-310-15
A325C	47-310-17
A325ECX	47-310-18

CE PIN 0063BT3195



These instructions are to be retained by the user.

Explanation of the control panel and buttons



Information on the water pressure:

The default view of the display shows the water pressure (bar) in the CH system.

If the water pressure gets too low it is indicated as follows:



Water pressure is too low (<1.0 bar).
 Bell symbol visible and c1 18.
 Power is reduced by 20%.
 The installation should be refilled.

Press the i-button until A6.

or

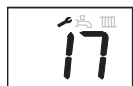
The actual water pressure will be shown



Water pressure is too low (<0.7 bar).
 Bell symbol visible and c1 18.
 The boiler is taken out of operation.
 The installation should be refilled.



After the installation has been refilled and if the pressure was below 0.7 bar the de-aeration program will start. This will last for approx 7 mins.



If the water pressure is too high, it will be displayed as follows:

Water pressure is too high (> 3.0 bar).
 Bell symbol visible and c1 17.
 The boiler is taken out of operation.
 The installation pressure should be reduced
 by draining water from the heating system.

Contents

1	Introduction	4
2	Rules	4
3	Delivery package.....	6
4	Boiler description.....	6
5	Mounting the boiler.....	8
6	Connecting the boiler	9
6.1	Central heating system	9
6.2	Expansion vessel	10
6.3	Water quality	11
6.4	Heating systems with plastic pipes	13
6.5	Gas connection	13
6.4	Hot water supply (DHW Combi boilers)	14
6.6	Condensation drain pipe	15
6.7	Flue gas exhaust system and air supply system	17
6.7.1	Dimensioning of the flue gas and air intake duct	21
7	External hot water cylinders (Solo boilers).....	22
8	Electrical connection	22
8.1	Room thermostat and controls.....	23
8.1.1	Detailed information about the connections possibilities	24
8.2	Electrical diagram Solo boiler	26
8.3	Electrical diagram Combi boiler	27
9	Filling and bleeding of boiler and CH installation	28
9.1	Hot water supply	29
10	Boiler controls	29
9.1	Controls and explanation of the functions.....	30
11	Commissioning the boiler	31
11.1	Hot water supply	31
11.2	CH system	31
11.3	Pump function	31
11.4	Settings	32
11.5	Activating the factory setting (green button function).....	34
12	Isolating the boiler	35
13	Commissioning.....	35
13.1	Checking the O ₂	36
13.2	Maintenance activities.....	37
13.3	User's instructions.....	39
13.4	Maintenance frequency.....	39
13.5	Warranty.....	39
14	Error message	40
Annexe A	Technical specifications	41
Annexe B	Additives	42
Annexe C	Dimensions	43
Annexe D	Declaration of Conformity	44
Annexe E	Kiwa certificate	45
Benchmark Checklist.....		46
Service Record.....		47



Work on the installation should only be carried out by qualified personnel with calibrated equipment and appropriate tools.



1 Introduction

These instructions describe the functioning, installation, use and primary maintenance of ATAG central heating boilers for the United Kingdom and Ireland. Where necessary the different regulations for each country are separately described.

These instructions are intended for the use of Gas Safe registered installers or registered Bord Gais installers in connection with the installation and putting into operation of ATAG boilers. It is advisable to read these instructions thoroughly, well in advance of installation. Separate instructions for use are supplied with the boiler for users of ATAG central heating boilers. ATAG is not liable for the consequences of mistakes or shortcomings which have found their way into the installation instructions or user's manual. Further, ATAG reserves the right to alter its products without prior notification.



When delivering the boiler, give the customer clear instructions concerning its use; present the customer with the user's manual and card.

Each boiler is fitted with an identification plate. Consult the details on this plate to verify whether the boiler is compliant with its intended location, e.g.: gas type, power source and exhaust classification.

On completion of the installation the installer or commissioning engineer must fill out and complete the Benchmark Commissioning Checklist found on page 41 of this manual and hand this to the customer for future record keeping. The Benchmark Service Record must also be completed by the service agent following each service call, and return to the customer. A copy of the Benchmark Commissioning Checklist must be returned to ATAG Heating along with the warranty registration card to register the appliance for the standard warranty benefits.

Relevant Installation, Service and User manuals:

- ATAG Duopass Flue system guide

2 Rules

The following regulations apply to installation of ATAG central heating boilers:

Legislation and Regulations.

Gas Safety (Installation and Use). All gas appliances must by law, be installed by a competent person, eg. Members of Gas Safe Register and in accordance with the current Gas Safety Regulation. Failure to install appliance correctly could lead to prosecution.

All Gas Safe registered installers carry a Gas Safe ID card and have a registration number. You can call Gas Safe Register directly on 0800 408 5577.

In addition to the above regulations this appliance must be installed in compliance with the current IEE Regulations, the Building Standards (Scotland Consolidation) Regulations. Regulations and bye laws of the Local Water Authority and the Current Health and Safety Regulation.

The Benchmark Scheme

Benchmark places responsibilities on both manufacturers and installers. The purpose is to ensure that customers are provided with the correct equipment for their needs, that it is installed, commissioned and serviced in accordance with the manufacturer's instructions by competent persons and that it meets the requirements of the appropriate Building Regulations. The Benchmark Checklist can be used to demonstrate compliance with Building Regulations and should be provided to the customer for future reference.

Installers are required to carry out installation, commissioning and servicing work in accordance with the Benchmark Code of Practice which is available from the Heating and Hotwater Industry Council who manage and promote the Scheme.

Visit www.centralheating.co.uk for more information.



Ireland:

- Irish standard 813
- Domestic gas installations

The current Electricity at Work Regulation must be complied with and also be in accordance with the relevant and current editions of the British Standards.

The ATAG A boiler is a certified appliance and must not be modified or installed in any way contrary to this Installation Manual. Manufacturers instructions must not be taken, in any way, as overriding statutory obligations.

The ATAG A is a central heating boiler with an optional integrated hot water function. These boilers must be connected according to these instructions and all installation norms in respect of the part of the boiler to be connected.



The device may be operated only by authorized persons who have been instructed on the operation and use of the device. Improper use may cause damage to the device and / or to the connected installation.



The appliance is not to be used by children or persons with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instructions.



Children being supervised are not to play with the appliance.

Observe the following rules of safety:

- All work on the boiler must take place in a dry environment.
- ATAG boilers may never be in operation without their housing, except in connection with maintenance or adjustments (see Chapter 13 and 14).
- Never allow electrical or electronic components to come into contact with water.

Carry out the following tasks in connection with maintenance, etc. to an already-installed boiler:

- Shut down all programs
- Close the gas tap
- Remove the plug from the wall socket
- Close the stop cock of the boiler's intake connection

Take note of the following when maintenance or adjustments are needed:

- The boiler must be able to function during these activities; for this reason, the boiler's supply voltage, gas pressure and water pressure must be maintained. Ensure that there is not a source of potential danger during these activities.



Following maintenance or other activities; always check the installation of all parts through which gas flows (using leak-search spray).

The following (safety) symbols may be encountered in these installation instructions and on the boiler:



This symbol indicates that the boiler must be stored away from frost.



This symbol indicates that the packaging and/or contents can be damaged as a result of insufficient care taken during transport.



This symbol indicates that, whilst still in its packaging, the boiler must be protected from weather conditions during transport and storage.



KEY-symbol. This symbol indicates that assembly or dismantling, must be carried out.



ATTENTION symbol. This symbol indicates that extra attention must be paid in connection with a particular operation.



Useful tip or advice

3 Delivery package

The boiler is delivered ready for use. The delivery package is composed as follows:

- Boiler with cover;
- Automatic air vent (in boiler);
- Safety valve 3 bar
- Three way valve (in boiler, only Combi);
- Expansion vessel 8 Litre / 0,8 bar or 12 Litre / 1 bar (in boiler);
- Flow restrictor;
- Commissioning valves with drainpoint (CH 2x, 1x DHW cold)
- Gas isolating valve;
- Flue non return valve (pre-assembled in boiler)
- 230V switched live electrical cable;
- Suspension bracket;
- Fittings consisting of plugs and screws;
- Drawing template;
- Installation instruction;
- User manual;
- Warranty Card and Benchmark logbook.

The ATAG A is mainly equipped with 230V electrical components.

The following components are not present in the boiler as a standard and should be included in the installation according to the requirements (supplied by third parties):

- Filling loop;
- Automatic by-pass;
- External controls.

4 Boiler description

Room sealed boiler

The boiler retrieves its combustion air from the outside then discharges the flue gasses to the outside.

Condensing

Retrieves heat from the flue gasses. Water condensates on the heat exchanger.

Modulating

Higher or lower burning according to the heat demand.

Stainless Steel

Super solid kind of steel which keeps its quality for life. It will not rust or erode in contrast to composition materials, like aluminium.

The ATAG A is a room sealed, condensing and modulating CH boiler equipped with an integrated hot water supply.

The boiler is equipped with a compact stainless steel heat exchanger with smooth pipes. It is a well thought-out principle using sustainable materials.

The boiler burns (natural) gas to supply heat. This heat is transferred in the heat exchanger to the water in the CH installation. The rapid cooling off of the flue gases causes condensation. This results in a very high efficiency. The condensate that is formed, has no negative impact on the heat exchanger and its operation, and is removed through the internal siphon.

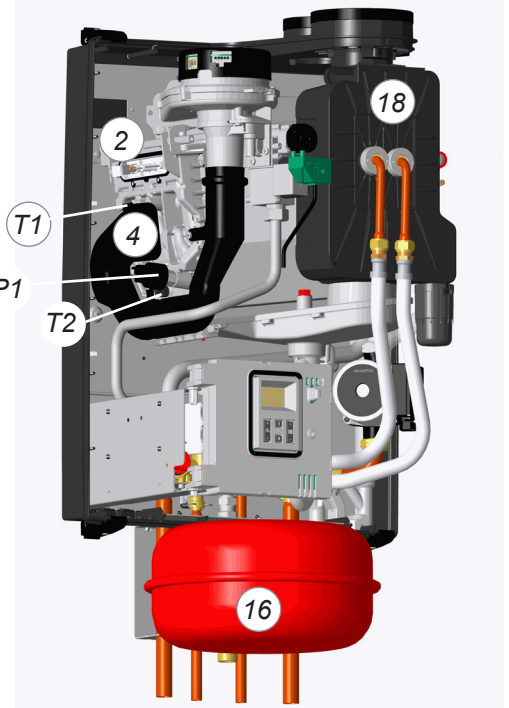
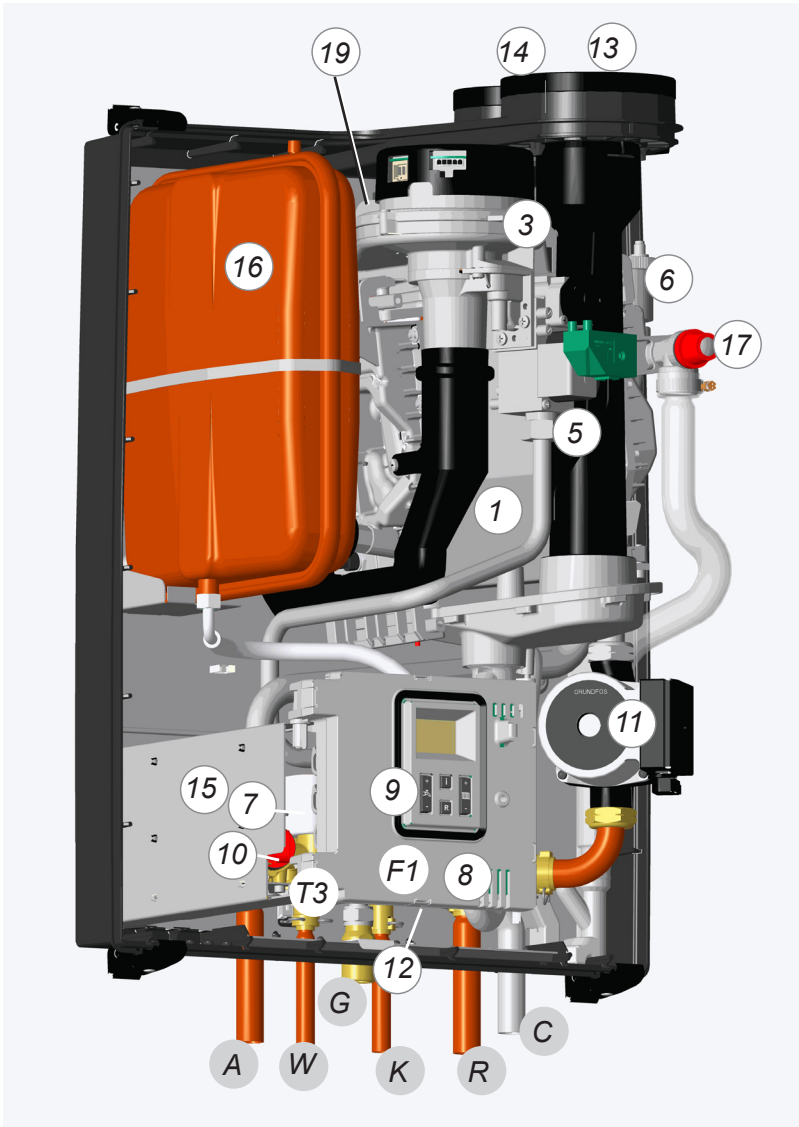
The boiler is equipped with an intelligent control system: CMS (Control Management System). Each boiler anticipates the heat demand of the heating installation or hot water demand. This will cause the boiler to tune its capacity to the installation. This means that the boiler will function longer and at a low level.

If an outside sensor is connected, the control system is able to function, depending on the weather. This means that the control system measures the outside temperature and the supply water temperature. On the basis of this information the control system calculates optimum supply water temperature required for the installation.

The boiler has been tested according to valid CE standards and has a CE certificate and SEDBUK A-rating.

Statement: No banned materials including asbestos, mercury, CFC's have or will be included in the product.

A



ATAG A

Figure 4.a

1 Heat exchanger	9 Control panel	17 Safety valve
2 Ignition unit	10 Three-way valve	18 DHW Economiser
3 Fan unit	11 Circulation pump (A-label)	19 Flue non return valve
4 Air supply damper	12 Flow restrictor	
5 Gas block	13 Flue gas exhaust	
6 Automatic de-aerator	14 Combustion air supply	
7 DHW plate heat exchanger	15 Information plate	
8 Control Management System	16 Expansion vessel	

T1 Flow sensor	A Flow pipe CH	
T2 Return sensor	R Return pipe CH	
T3 Hot water sensor	C Condensation / safety valve	
F1 DHW Flow sensor	discharge pipe	
P1 Water pressure sensor	K Cold water pipe	
G Gas pipe	W Hot water pipe	

5 Mounting the boiler



Install the boiler in a well-ventilated boiler room in accordance to the actual local regulations BS5440-2:2000.

The installation location of the CH-boiler(s) has to be, and remain, frost-free. The boiler casing is splash water tight (IPX4D) and is suitable to be installed in e.g. a bathroom.

It is NOT necessary to have a purpose provided air vent in the room or internal space in which the boiler is installed. Neither is it necessary to ventilate a cupboard or compartment in which the boiler is installed, due to the extremely low surface temperature of the boiler casing during operation. Therefore the requirements of BS 6798, Clause 12, and BS5440:2 may be disregarded.

The boiler can be mounted practically to any wall with the suspension bracket and the enclosed fixing equipment. The wall must be flat and of sufficient strength in order to be able to carry the boiler weight with its water content.

Above the boiler there must be at least 250 mm working space in order to be able to fit a coaxial flue system or a twin supply. On the left side of the boiler at least 50 mm and on the right side 10 mm must be reserved to allow fitting or removing of casing. The location of the boiler can be determined by using the template.

Before hanging up the boiler remove the cover of the boiler first. The cover is also the air cabinet and is attached to the rear wall with four quick fasteners (A, B, C and D) (see figure 5.a).



Secure the quick fasteners with the screws (A, B, C and D) at the back of the cover.

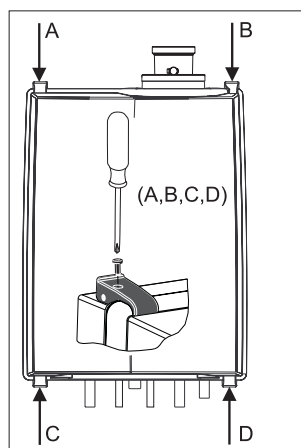


Figure 5.a



Lift the boiler only by the boilers rear wall.

Lifting and carrying precautions:

- Lift only a manageable weight, or ask for help.
- When lifting the boiler, bend the knees, and keep the back straight and feet apart.
- Do not lift and twist at the same time.
- Lift and carry the boiler close to the body.
- Wear protective clothing and gloves to protect from any sharp edges.

6 Connecting the boiler

The boiler has the following connection pipes;

- The central heating pipes.
These can be connected to the installation by means of compression fittings / adapter fittings;
- The gas pipe.
It is provided with a female thread into which the tail piece of the gas valve can be screwed;
- The condensation drain pipe.
It consists of a 22mm plastic pipe. The drain pipe can be connected to this by means of an open connection. If the open connection is fitted in a different location, then the pipe can be lengthened by means of a 32 mm PVC sleeve;
- The flue gas exhaust system and air supply system.
It consists of a concentric connection 60/100 mm.
- Cold and hot water pipes.
Only Combi boilers: *These consist of 15 mm copper pipe and can be connected to the installation by means of compression fittings / adapter fittings.*



It is recommended that isolation valves are fitted to all heating and hot water connections to facilitate ease of future maintenance.



It is advisable to spray-clean all of the boiler's connecting pipes and/or to spray-clean/blow-clean the installation before connecting it to the boiler.

6.1 Central heating system

Connect the central heating system according to the current regulations.

The boiler pipes can be connected to the installation by means of compression fittings. For connecting to thick-walled pipe (welded or fitted), adapters should be used.



When removing the plastic sealing caps from the pipes, contaminated testing water may be released.

The boiler has a self-adjusting and self-protecting control system for the load. This involves checking the temperature difference between the supply and return water. Table 6.1.a shows the water displacement of the circulation pump can deliver for a particular installation resistance.

Boiler type	Pump type	Water flow rate at ΔT 20°C		Permissible installation resistance	
		l/min	l/h	kPa	mbar
A203C	UPM2 15-70	12,7	760	25	250
A325C	UPM2 15-70	20,3	1220	25	250
A325ECX	UPM2 15-70	20,3	1220	25	250
A200S	UPM2 15-70	12,7	760	25	250
A320S	UPM2 15-70	20,3	1220	25	250

Installation resistance

table 6.1.a

If the installation resistance is higher than the value stated, the control system will adjust the load until a temperature difference between supply and return water is reached that is acceptable for the control system.

When the temperature difference still remains too high the boiler will switch itself off and wait until the high temperature differential between the flow and return water has decreased again.

The control system will, if an unacceptable temperature difference is detected, repeatedly try to establish a water flow. If this does not succeed, the boiler will block itself (c1 54).

If all, or a substantial part of the radiators have thermostatic radiator valves or if 2-port zone valve are installed, an automatic by-pass valve must be used to prevent flow rate problems. The automatic by-pass valve used should have the same diameter as the connecting diameter of the supply and return pipe of the boiler. A decrease of pipe diameter between boiler and by-pass is not allowed. See also Annex C.



The boiler is NOT equipped with a built-in internal filter.

Advice: ATAG Heating UK Ltd recommend the installation of an in-line filter installed into the heating return as close to the boiler as possible. ATAG Heating UK Ltd recommend the use of either:

Adey Magnaclean filters

or

Fernox TF1.



The boiler is not suitable for installations that are equipped with “open” expansion tanks.



Additives in the installation water are only permitted in consultation with the country distributor. See chapter 6.3 for detailed information.

6.2 Expansion vessel

The boiler is equipped with a built-in expansion vessel.

The A203C and A200S have a capacity of 8 litres with a pre-pressure charge 0.8 bar, whilst the A325C, A325ECX and A320S have a capacity of 12 litres with a pre-pressure charge of 1 bar. If the expansion vessel size is insufficient for the CH system, an additional expansion must be installed. The additional expansion vessel should, together with the built-in expansion vessel, be sized to the water content of the installation. The pre-pressure charge depends on the height of the installation above the installed expansion vessel. See Table 6.2.a.

installation height above the expansion vessel	pre-charge pressure of the expansion vessel
5 m	0,5 bar
10 m	1,0 bar
15 m	1,5 bar

expansion vessel

table 6.2.a



The expansion vessel should be connected as closely as possible in the return near the boiler.

6.3 Water quality

Fill the installation with drinking water.

In most cases, a heating system can be filled with water according to national standards for water and its treatment of this water not necessary.

In order to avoid problems with the CH-installations, the quality of the filling water has to meet the specifications mentioned in table 6.3.a:

If the filling water does not meet the required specifications, you are advised to treat the water to such an extent that it does meet the required specifications.



The warranty becomes invalid, if the installation has not been flushed and/or the quality of the filling water does not meet the specifications recommended by ATAG Heating UK Ltd. Always contact ATAG Heating UK Ltd in advance, if things are not clear or you wish to discuss any deviations. Without approval, the warranty becomes invalid.

Installation:

- The use of groundwater, demi-water and distilled water is prohibited. (on the next page you will find an explanation of these definitions)
- If the drinking water quality meets the specifications mentioned in table 6.3.a, you can start flushing the installation before installing the device.
- Whilst flushing, corrosion products (magnetite), fitting products, cutting oil and other undesirable products have to be removed.
- Another possibility is to remove the pollution by installing a filter. The filter type has to fit the type and grain size of the pollution. ATAG Heating UK Ltd recommends filter usage.
- In this case, the whole piping system should be taken into consideration.
- The CH-installation has to be properly vented before using the system. For that purpose, we refer to the commissioning chapter.
- If a regular water top up is required (>5% on an annual basis), then there is a structural problem and an installer has to solve the problem. Regularly adding fresh water to the system also adds additional calcium and oxygen implying that magnetite and calcium residues can continue. The result may be blockages and/or leakages.
- The use of anti-freeze and other additives requires periodical quality checks of the filling water in accordance with the period laid down by the additives supplier.
- Chemical additions are to be avoided and should only be used after ATAG Heating UK Ltd has approved their corresponding use.
- Should you wish to achieve the required water quality by using chemical additives, then this is your own responsibility. The warranty on the product delivered by ATAG Heating UK Ltd expires, if the water quality does not meet ATAG Heating's specifications or the chemical additives have not been approved by ATAG Heating UK Ltd.
- On installation and during additions or changes at a later stage, ATAG Heating UK Ltd recommends to keep a record of the type of water used, its quality at the time, and if applicable, which additives and quantities were added.

Parameter	Value
Water type	Potable water Softened water
pH	6.0-8.5
Conductivity (at 20°C in µS/cm)	Max. 2500
Iron (ppm)	Max. 0.2
Hardness (°dH):	
Installation volume/capacity <20 l/kW	1-12
Installation volume/capacity ≥20 l/kW	1-7
Oxygen	No oxygen diffusion allowed during operation. Max. 5% filling water addition annually
Corrosion inhibitors	Refer to Additives Attachment
pH increasing or lowering agents	Refer to Additives Attachment
Anti-freeze additives	Refer to Additives Attachment
Other chemical additives	Refer to Additives Attachment
Solid substances	Not allowed
Residues of processing water not forming part of the drinking water	Not allowed

table 6.3.a

Water quality in DHW facility

Parameter	Value
Water type	Potable water
pH	7.0-9.5
Conductivity (at 20°C in µS/cm)	Max. 2500
Chloride (ppm)	Max. 150
Iron (ppm)	Max. 0.2
Hardness (°dH)	1-12
Number of bacterial colonies at 22°C (number/ml). pr EN ISO 6222	Max. 100

table 6.3.b

- When the amount of chloride is above the required specifications mentioned above in table 6.3.b, it is necessary to apply an active anode in case of the use of a DHW cylinder. If this is not met it will void the warranty for DHW parts of the installation.
- When the amount of chloride is above the required specifications mentioned above in table 6.3.b, in case of the use of a combi boiler will void the warranty for DHW parts of the boiler.

Water type definition:

- Potable water: Tap water compliant with the European drinking water guideline: 98/83/EG dated 3 November 1998.
- Softened water: Water with partly de-ionised calcium and magnesium.
- Demi-water: Virtually completely demineralised water (very low conductivity)
- Distilled water: Water no longer containing minerals.

6.4 Heating systems with plastic pipes

When connecting or using an underfloor heating system, designed with plastic pipes, or plastic pipes are used elsewhere in the installation, one should ensure that the plastic pipes used comply with the DIN 4726/4729 standard. It is set out in this standard that the pipes may not have oxygen permeability higher than 0.1 g/m³.d at 40°C. If the system does not comply with this DIN standard, the underfloor heating component will have to be separated from the central heating appliance by means of a plate exchanger.



No recourse can be made to the terms of the warranty in the event of failure to observe the regulations pertaining to plastic underfloor heating pipes.

6.5 Gas connection

The appliance pipe is fitted with an internal thread, into which the tail piece of the gas tap can be screwed.

United Kingdom:

The gas supply must comply to the current Gas Safety, Installation & Use Regulations.

Ireland:

- Irish standard 813
- Domestic gas installations

The connection to the appliance must include a suitable method of disconnection and a gas control cock must be installed adjacent to the appliance for isolation purposes. The nominal inlet working gas pressure measured at the appliance should be 20 mbar for Nat gas (G20).



Make sure that the gas pipe work does not contain dirt, particularly with new pipes.



LPG

When the boiler has to be converted from natural gas to LPG, ATAG provides special kits for this purpose. Special instructions are supplied with the kit.



Always check the installation of all of the parts through which gas flows (using leak-search spray)

6.6 Hot water supply (DHW Combi boilers)

Connection of the drinking water installation should be done according to the national water laws.

The ATAG A Combi boilers are fitted with a stainless steel plate heat exchanger for producing domestic hot water. The boiler does not have a hot water store and in case of a demand for hot water the boiler will heat the domestic water flowing through the plate heat exchanger up to 60°C instantaneous.

The water mains installation must comply with the British water regulations.



In regions with a water hardness value higher than 267 ppm (2,67 mmol/l), calcium deposits should be removed from the plate heat exchanger on a regular basis. If problems occur when using sanitary water with a chlorine content higher than 150 mg/l, no recourse can be made to the terms of the warranty.

In order to prevent calcification ATAG recommends installing a water softener. ATAG recommends the use of AlphaPhos for cleaning plate heat exchangers.

The hardness of the water is variable in Great Britain and Ireland. The water company can provide exact information about this.



The domestic water pipes can be connected to the installation by means of compression fittings / adapter fittings. The cold water inlet on the Combi boilers must be provided with the following (counted in the water flow direction):

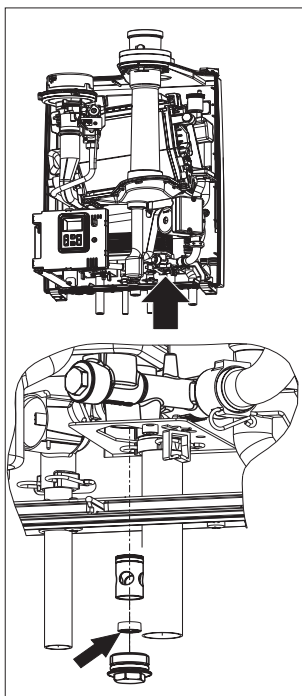
- Dosing valve (supplied),
- Safety group,
- Expansion vessel 6 bar (potable water, blue).

In the cold water pipe in the boiler a flow restrictor (supplied loose) can be installed if required. The flow restrictor ensures that a quantity of water supplied has a guaranteed temperature of 60 °C (assuming a cold water temperature of 10°C). The amount of water is virtually unaffected by the water pressure.

After installation, check the hot water flow rate with a fully opened hot water tap,

If required the flow restrictor can be fitted as follows:

- Turn off the mains water supply to the boiler
- Open a hot water tap to depressurise the hot water pipe
- Remove the boilers front cover
- Undo with a closed wrench or size 15 ring spanner the flow restrictor plug fitting
- Insert the flow restrictor according figure 6.6.a. O-ring should point downwards
- Refit the plug fitting
- Turn on mains water inlet and purge water through all taps
- Replace the boilers front cover.



flow restrictor

Figure 6.6.a

6.7 Condensation drain pipe

ATAG Condensing boilers have the top SEDBUK band A Classification for high energy efficiency in heating and domestic hot water.

All ATAG wall hung gas fired condensing boilers contain a siphonic condensate trap to collect and release condensate.

The amount of condensate formed is determined by the type of boilers and the water temperature produced by the boiler.

Condensate pipework.

Use plastic pipework of a diameter no less than 20 mm.

Routing of the pipework.

Wherever possible, the condensate pipework should be routed internally to prevent freezing.

The condensate pipework must fall at least 50mm per metre towards the outlet and take the shortest possible route

Support the pipe at least every 50 cm for near horizontal sections and 1 metre for vertical sections

External pipework

The pipework should be kept to a minimum and the route as vertical as possible. Do not exceed 3 metres outside the dwelling.

The condensate pipe must be run using suitable corrosion resistant materials (eg. plastic).

Terminate as close to the ground or drain as possible (below the grating and above the water level) while still allowing for safe dispersal of the condensate.

Connection of a condensate drainage pipe to a drain may be subject to local building controls.

Pipework subjected to extreme cold or wind chill conditions should be in a 40mm diameter pipe.

Protect all external pipework with weather resistant insulation and, if necessary, box in, to reduce the risk of freezing.

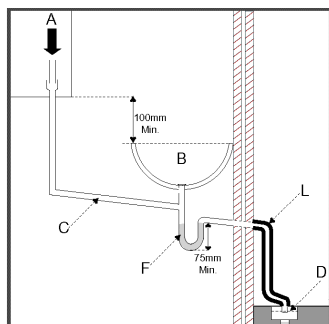
Making it safe.

Condensate pipework must not leak, freeze or block up.

Condensate traps must be filled before firing the boiler to prevent the possibility of potential harmful flue products evacuating via the condensate route.

Do not dispose condensate into a water recovery system where it is reclaimed for reuse.

Condensate can be discharged into a rainwater hopper which is part of a sewer carrying both rain water and foul water.



Final discharge options.

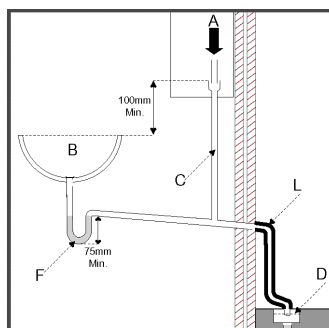
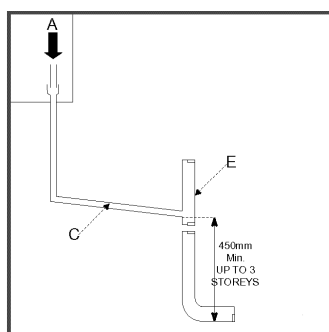
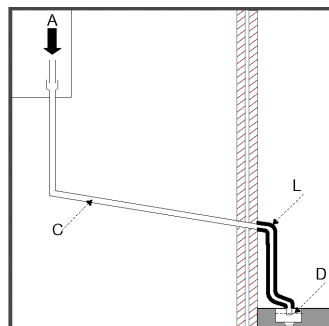
The condensate pipe can only terminate into any one of the five areas as shown in the diagrams on this page.



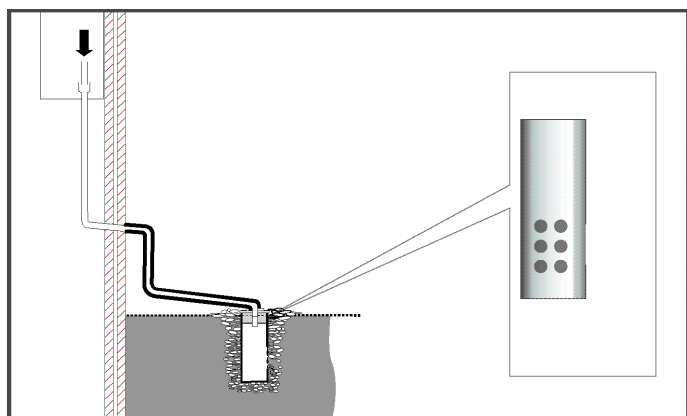
Draining of the condensation water to the external rain guttering is not permitted in view of the danger of freezing.



Before putting the boiler into operation fill the siphon with 300 ml of water.



- A - Condensate from boiler siphon/trap
- B - Sink with internal overflow
- C - 20mm dia. Plastic condensate pipe
- D - External drain or gully
- E - Internal soil and vent stack.
- F - Servicable condensate trap (75mm min.)
- G - 300mm x 100mm dia. sealed plastic tube.
- H - Ground level
- J - Drainage holes facing away from the building
- K - Lime stone chippings
- L - Weather resistant insulation



Drain requirements

Figure 6.7.a

6.8 Flue gas exhaust system and air supply system

The flue gas exhaust system and air supply system consists of:

- Flue gas pipe;
- Air supply pipe;
- Roof or wall terminal.

The flue gas exhaust system and air supply system must comply with:

United Kingdom:

The flue gas outlet and air supply installation must comply with the current regulation requirements. IG UP 10 and BS 715.

Ireland:

- Irish standard is 813 section 9.10.1

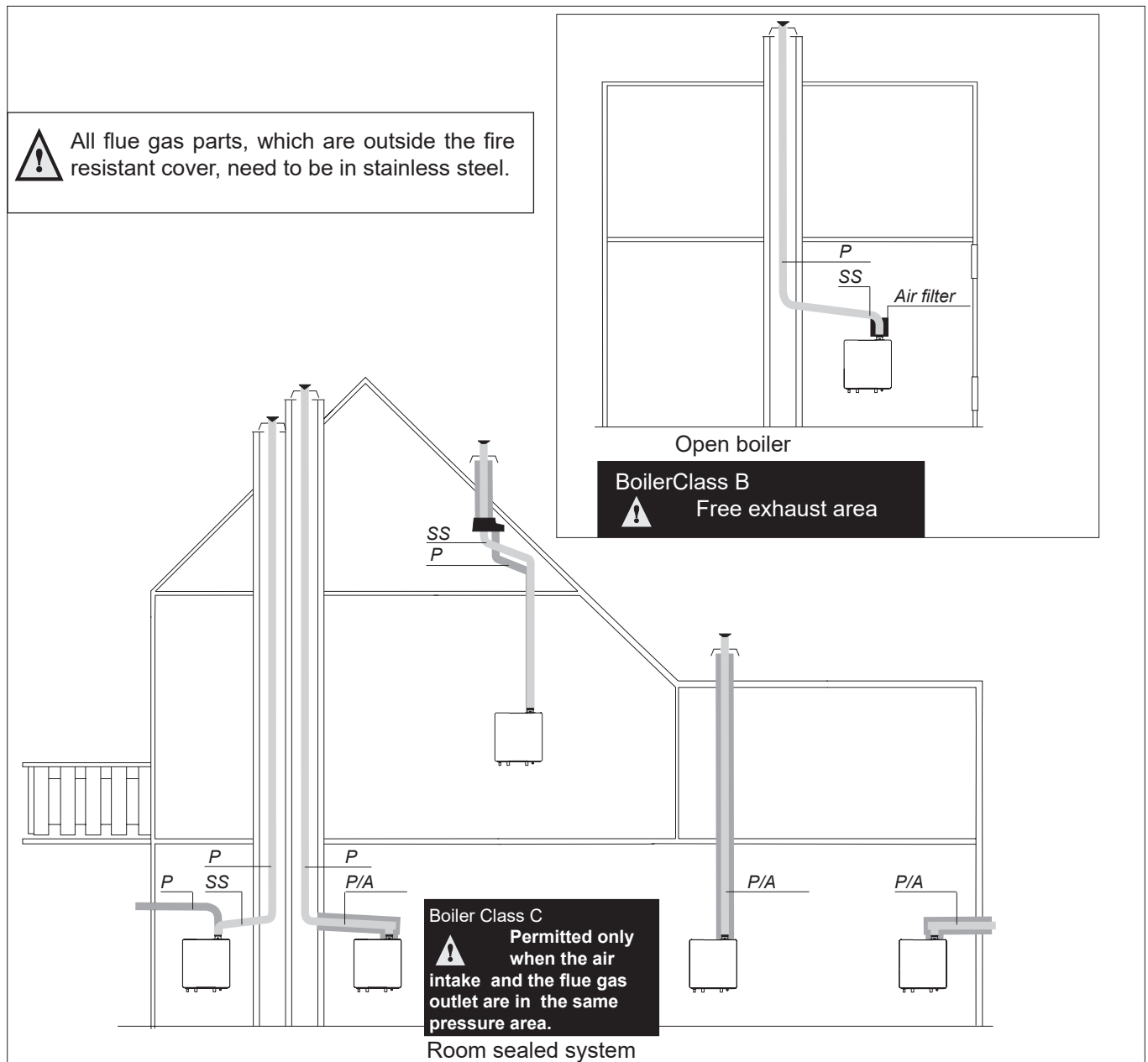


The ATAG A boilers as described in this manual are pre fitted with a flue non return valve. Contact ATAG if you want to use the boiler with a common combined flue system.

Permittance upfront from ATAG is required otherwise no recourse can be made.



All flue gas parts, which are outside the fire resistant cover, need to be in stainless steel.



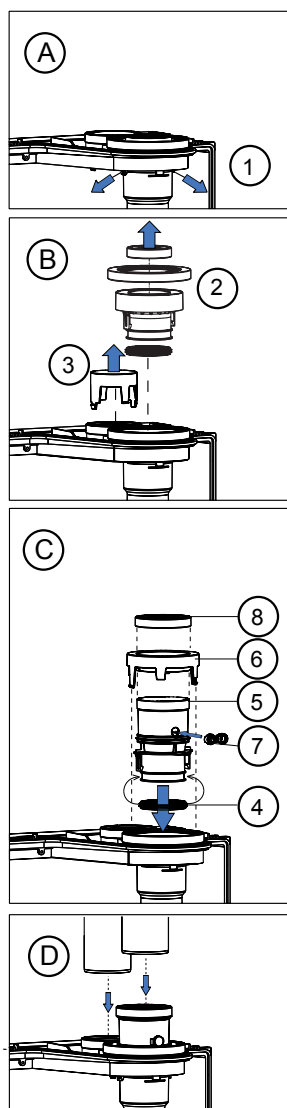
Open boiler and room sealed system

Figure 6.8.a

The appliance concentric connection diameter is 60/100 mm, to which the flue gas outlet and air supply system can be fitted, with or without elbow pieces. The maximum permissible pipe length is set out in Table 6.8.1.a.

Boiler conversion from concentric to parallel

It is also possible to use a parallel pipe connection of 2x 80 mm. In this case a conversion kit 'concentric to parallel' should be ordered. Art.nr. S4440520.



A. 1. Push the 2 clips slightly outwards.

B. 2. Pull the concentric adapter out of the boiler.

3. Press the cover in the connection at the back from inside out.

C. 4. Pull the rubber seal around the bottom of the flue connector.

5. Push the flue connector in the boiler, in the boiler flue pipe until 'CLICK'.

6. Push the $\varnothing 125$ mm cover over the flue connector in the $\varnothing 125$ mm opening until 'CLICK'.

7. Push the rubber plug in open position in the O₂ measuring opening and close the stop.

8. Push the gasket around the top of the flue connector.

D. Connect the parallel flue gas and air intake system (2x $\varnothing 80$ mm).

boiler conversion from
concentric to parallel
Figure 6.8.b



We suggest you design a simple flue gas system and air supply system using table 6. For further information about the available components of the flue gas and air supply system we recommend you consult the Duopass Flue system literature.

The ATAG flue gas system is meant, and designed, solely for the use on ATAG central heating boilers adjusted to Nat gas or LPG. The maximum flue gas temperatures are below 70°C (full load 80/60°C)

The proper operation may be adversely influenced by changes of or adjustments to the correct set up.

Possible warranty claims will not be honoured if incorrect changes result in non compliance with the installation manual or local rules and regulations.

The flue gas systems described in this document are solely suited for ATAG central heating boilers of the ATAG boiler range. For this purpose the CE Certificate has been supplemented under the Gastec nr: 0063BR3405, 0063BQ3021, 0063AS3538 and 0063AU3110. 0063BQ3021, 0063BT3195 en 0063CM3648

The flue gas system should be built up using only ATAG program products. Combinations with other brands or systems are, without written permission from ATAG Heating, not permitted.

The terminal should be located where dispersal of combustion products is not unimpeded and with due regard for the damage or discolouration that might occur to parts of the building in the vicinity (see fig 6.8.c).

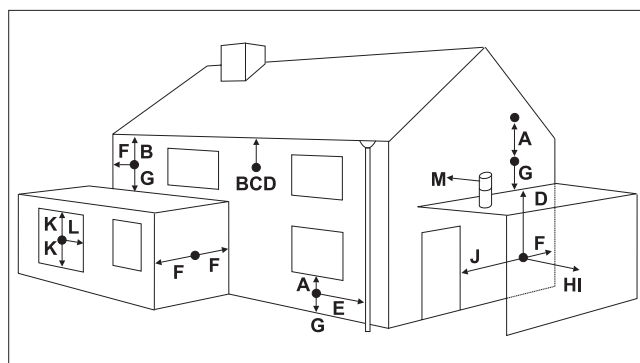
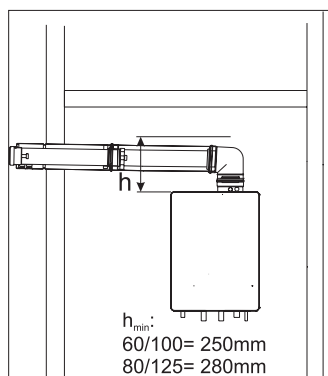


Figure 6.8.c

terminal position for fan assisted boiler		minimum distance
A	directly below an open window or other opening (e.g. air brick)	mm 300
B	below gutters, soil pipes or drain pipes	mm 75
C	below eaves	mm 200
D	below balconies or car port roof	mm 200
E	from vertical drain pipes and soil pipes	mm 75
F	from internal or external corners	mm 300
G	above ground or below balcony level	mm 300
H	from a surface facing a terminal	mm 600
I	from a terminal facing a terminal	mm 1200
J	from an opening in the car port (e.g. door window) into dwelling	mm 1200
K	vertically from a terminal on the same wall	mm 1500
L	horizontally from a terminal on the same wall	mm 300
M	horizontally from a vertical terminal to a wall	mm 300

Dimensions

table 6.8.a



Installation height Figure 6.8.d

In certain weather conditions condensation may also accumulate on the outside of the air inlet pipe. Such conditions must be considered and where necessary insulation of the inlet pipe may be required.

In cold and/or humid weather water vapour may condense on leaving the flue terminal. The effect of such 'plumeing' must be considered.

The terminal must not be located in a place where it is likely to cause a nuisance. For protection of combustibles, refer to IS 813 section 9.10.1. where the terminal is less than 2m (6.6ft) above a pavement or platform to which people have access (including) any balcony or flat roof. The terminal must be protected by a guard of durable material. A suitable guard is available from the country distributor.



Where a terminal is fitted below a window which is hinged at the top, and where the hinge axis is horizontal, and the window opens outwards, the terminal shall be 1m below the bottom of the window opening.



If the boiler is to be located under stairs, a smoke alarm meeting the requirements of I.S. 409 or equivalent must be fitted.



The flue must be terminated in a place not likely to cause a nuisance.

For horizontal sections, the outlet system should always be fitted on an incline (50 mm/m) sloping down towards the appliance so that no condensation water is able to accumulate in the outlet system. The chances of icicles forming on the roof outlet is minimised by causing the condensation water to run back towards the appliance. In the case of horizontal outlets the inlet system should be fitted on an incline sloping down towards the outside to prevent rainwater from coming in.

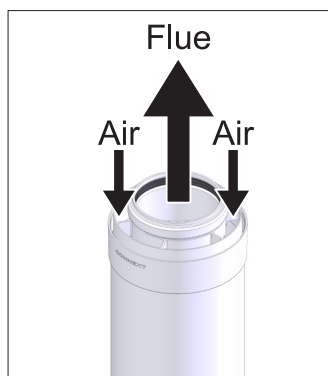
The appliance produces a white wisp of condensate (plumeing). This wisp of condensation is harmless, but can be unattractive, particularly in the case of outlets in outside walls. For wall terminals a plume management kit is available as an option.

Cutting the pipe goes as follows:

- Cut just as much from the air intake part as from the flue gas part using a hand saw;
- Take off the burrs from the cutting edge to prevent cutting the seals;

When mounting the flue gas system, pay attention to the flow direction (See figure 6.8.e). It is not permitted to mount a system upside down and will lead to complaints.

Use a soap solvent or special grease to simplify the fitting.



Flow direction

Figure 6.8.e

6.8.1 Dimensioning of the flue gas and air intake duct

The flue diameter is determined by the total length of the run, including for the connection pipe, elbows fittings and terminal covers etc and the type and number of boilers installed into the system.

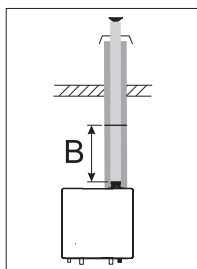
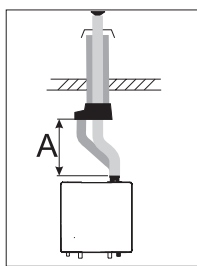
An undersized flue pipe can lead to disorders. Look at table 6.8.1.a for the choice of the system and the correct diameter. The table below shows the maximum flue lengths with the different boiler outputs. A longer flue gas length can be achieved by increasing the diameter to \varnothing 100mm.

Explanation table 6.8.1.a:

Two pipe flue gas system: maximum noted length = distance between boiler and terminal A

Concentric flue gas system: maximum noted length = distance between boiler and terminal B

When using bends the noted value behind every bend should be deducted from the maximum straight length.



Two pipe flue system + chimney lining ø80 and ø100mm				
	ø80mm	A in m	ø100mm	A in m
A200S	Maximum straight length 80	35,5	Maximum straight length 100	40
A203C	87° bend resistance length	-1,4	87° bend resistance length	-2,1
	45° bend resistance length	-0,9	45° bend resistance length	-2
A320S	Maximum straight length 80	24	Maximum straight length 100	40
A325C	87° bend resistance length	-1,4	87° bend resistance length	-2,1
A325ECX	45° bend resistance length	-0,9	45° bend resistance length	-2

Concentric flue system ø80/125 and ø100/150mm				
	ø80/125mm	B in m	ø100/150mm	B in m
A200S	Maximum straight length 80/125	30	Maximum straight length 100/150	40
A203C	87° bend resistance length	-3	87° bend resistance length	-1,7
	45° bend resistance length	-1,9	45° bend resistance length	-1,3
A320S	Maximum straight length 80/125	18	Maximum straight length 100/150	32
A325C	87° bend resistance length	-3	87° bend resistance length	-1,7
A325ECX	45° bend resistance length	-1,9	45° bend resistance length	-1,3

Concentric flue system ø60/100mm				
	ø60/100mm	B in m	Correction factor fan speed See chapter 'Settings'	Par. 683
A200S	Maximum straight length 60/100	15	Correction factor 15 meter	6
A203C	87° bend resistance length	-1,9	Correction factor 12 meter	4
	45° bend resistance length	-1,3	Correction factor 10 meter	3
			Correction factor 8 meter	2
			Correction factor 6 meter	1
			Correction factor 4 meter	0
A320S	Maximum straight length 60/100	15	Correction factor 15 meter	12
A325C	87° bend resistance length	-1,9	Correction factor 12 meter	9
A325ECX	45° bend resistance length	-1,3	Correction factor 10 meter	7
			Correction factor 8 meter	5
			Correction factor 6 meter	4
			Correction factor 4 meter	2

Example:

An A203C with a concentric flue gas system ø60/100mm has according to the table a maximum flue straight length of 15m. In the system that is going to be put in there are 2 x 45° bends, so the maximum flue gas length is
 $15 - (2 \times -1,3) = 12,4$ meters.

When using a concentric flue system ø60/100mm or flex ø60mm with a maximum length between 4 and 15 meters a correction must be made to the fan speed by adjusting Parameter 683 according to the table. Fill out the correction factor on the sticker below the control panel. See chapter 'Settings' how to adjust a parameter setting.

Flex ø60mm * (clean chimney □ 200mm)				
	ø60mm	in m	Correction factor fan speed See chapter 'Settings'	Par. 683
A200S	Maximum straight length 60/100	14	Correction factor 14 meter	5
A203C	45° bend resistance length *	-1,6	Correction factor 10 meter	4
	30° bend resistance length *	-1	Correction factor 5 meter	1
	terminal resistance length *	-2	Correction factor 0 meter	0
A320S	Maximum straight length 60/100	15	Correction factor 14 meter	20
A325C	45° bend resistance length *	-1,6	Correction factor 10 meter	17
A325ECX	30° bend resistance length *	-1	Correction factor 5 meter	11
	terminal resistance length *	-2	Correction factor 0 meter	0

* Contact supplier for details

Dimensions flue gas system and air supply system

Table 6.8.1.a

NOTE! ADJUSTED PARAMETER SETTING FOR FAN SPEED

- See Installation instructions for more details -

Correction factor fan speed (parameter 683)

Adjusted by

Date

Example correction factor sticker

7 External hot water cylinders (Solo boilers)

Depending of the comfort preferences different external hot water cylinders can be connected to the system boiler. The choice of the cylinder depends on the coil output. The coil output must comply with the boiler output.

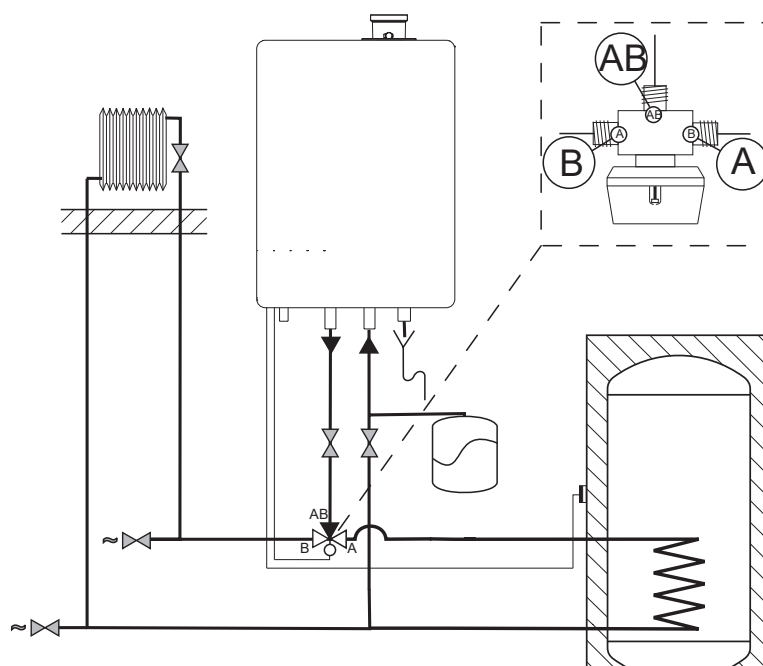
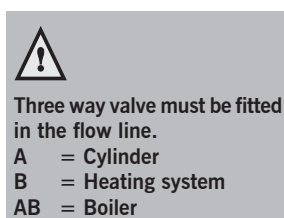
The A-Series is provided with an internal DHW control. The electrical connection can be made in the boiler. To connect a cylinder to the A-Series boiler you need to order the following optional articles:

- AA00030U ATAG 230V three way valve with 22mm compression fittings and
- AA05204U ATAG cylinder sensor.

Only these articles are suitable for this purpose. Please contact ATAG Heating Ltd.

The wiring of the three way valve and cylinder sensor must be connected to the boiler according the instructions supplied with these articles. See also page 23-25.

If desired a DHW on/off thermostat (volt free) can be used instead of the DHW sensor. Use the separate 2-core connector on the back of the control unit for this connection. See also page 23-25.



ATAG A solo with external cylinder

Figure 7.a

8 Electrical connection

The appliance complies with the actual directives.

The installation must providing:

- a 230V -50Hz mains electrical supply is required fused externally at 5A.
- a deviation on the grid of 230V (+10% or -15%) and 50Hz

The installation must continue to comply with:

United Kingdom:

- the national rules for electrical installations.

Ireland:

- the ECTI national rules for electrical installations

The appliance must be connected to an earthed socket. this must be visible and within reach.

The following general stipulations also apply:

- No changes may be made to the wiring of the appliance;
- All connections should be designed in accordance with the enclosed regulations.;

The power supply cable for all boilers must be supplied and fitted by the installer to connection terminal X21.

8.1 Room thermostat and controls

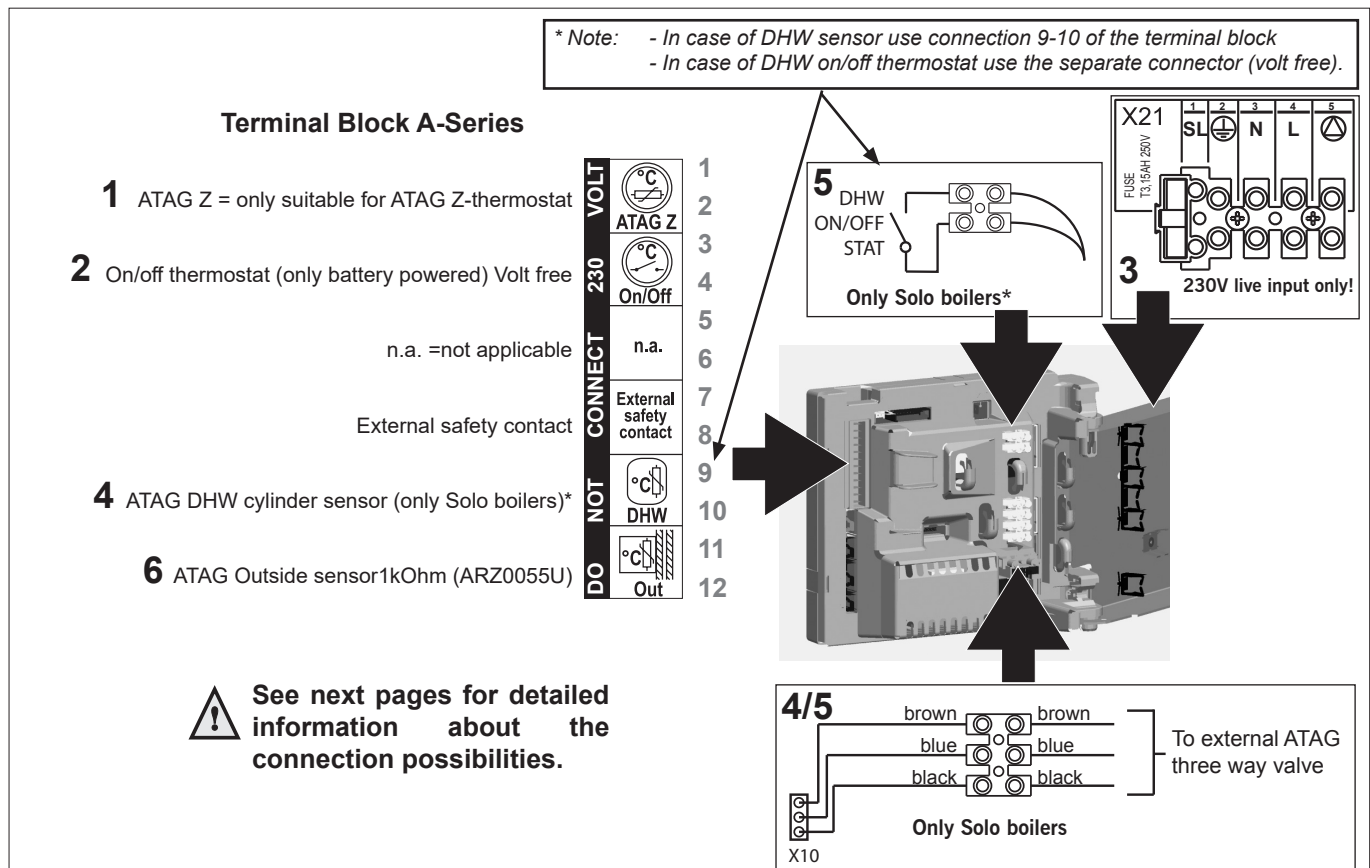
The ATAG A has a number of connections possibilities for thermostats and controls:

1. For optimal use of the boilers control ATAG advises:
Position 1 and 2: ATAG Z thermostat;
BrainZ for system boilers, WiZe for combination boilers.
2. As an alternative:
Position 3 and 4: Only battery powered on/off room thermostats (volt free).

The thermostat must have a 2-wire connection. The room thermostat has to be connected to the terminal block. Use the screw connector that has been connected onto the terminal block. Lead the cable from the room thermostat along the upper cable hooks of the housing and the hing bracket.

3. 230Volt: Connect the 230Volt switched live to terminals X21.
Note the polarity!

See next pages for detailed information about the connection possibilities.
For more detailed questions about components that have not been supplied by ATAG, contact the vendor concerned.



8.1.1 Detailed information about the connection possibilities.

Options 1, 2 and 3 are single options and may not be combined.

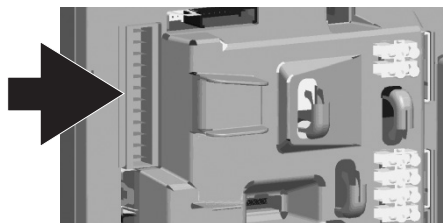
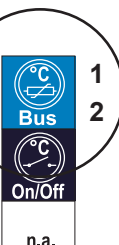
1



Solo or Combi boiler with ATAG BrainZ or WiZe room thermostat.

- Connect wiring to the blue connector on position 1 and 2.

Do not connect 230V!



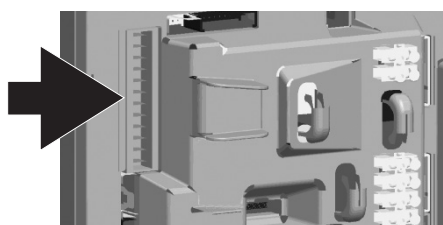
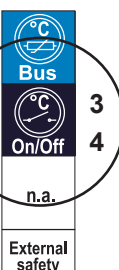
2



Solo or Combi boiler with Volt free on/off room thermostat.

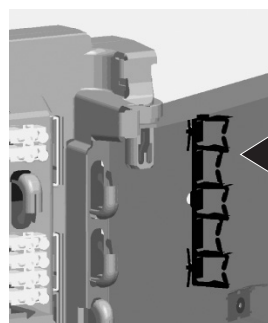
- Connect wiring to the black connector on position 3 and 4.

Do not connect 230V!



3

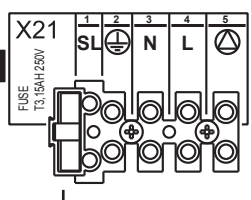
230V



230V live input from heating controls.

- The power supply cable for all boilers must be supplied and fitted by the installer to connection terminal X21. See also the electrical diagram on page 26.

Note the polarity!



230V live input. Note the polarity!

4

Solo boiler with external DHW cylinder and sensor control.

- Connect wiring of the optional external 3 way valve to the 3-core screw connector at the back of the control board
- Choose the right sensor from DHW sensor set AA05204U
- Connect wiring of the optional cylinder sensor T3 to the yellow connector on position 9 and 10. **Do not connect 230V!**

AA05204U

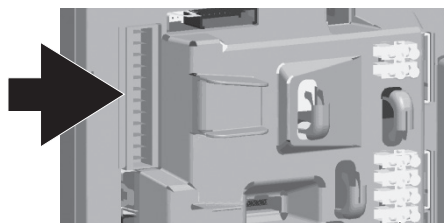
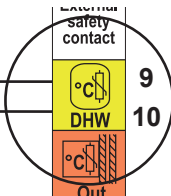
Cylinder sensor with
M5 female connection



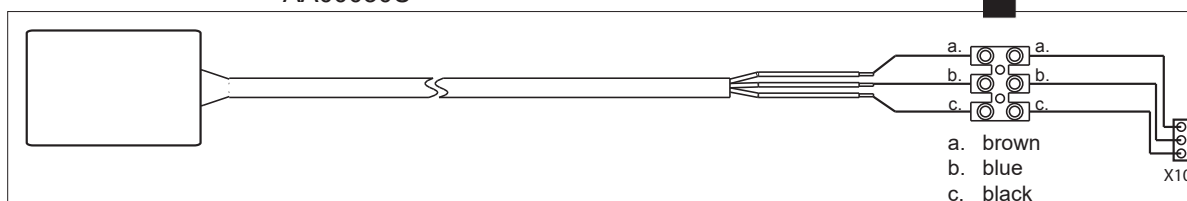
Cylinder sensor for phyle



See also chapter 7.



AA00030U



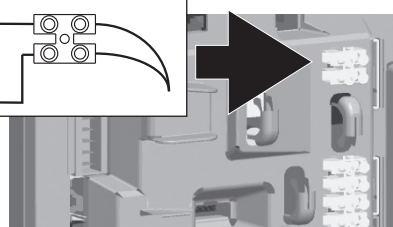
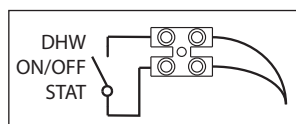
5

Solo boiler with external DHW cylinder and on/off thermostat control.

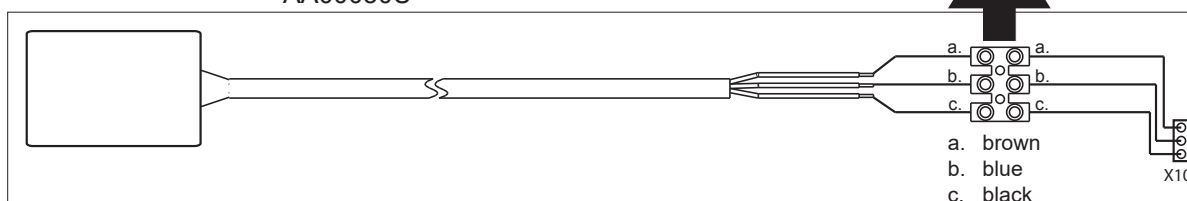
- Connect wiring of the optional external 3 way valve to 3-core screw connector at the back of the control board
- Connect wiring of the optional cylinder thermostat to the 2-core screw connector at the back of the control board. **Volt-free! Do not connect 230V!**

See also chapter 7.

Cylinder on/off thermostat
(third party delivery)



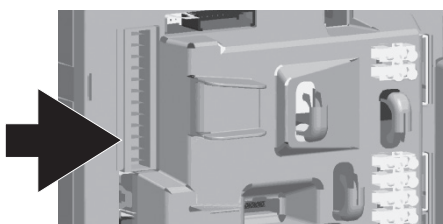
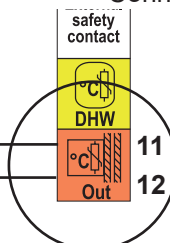
AA00030U



6

Weather dependant boiler control (independently of selected thermostat control)

- Connect outside sensor ARZ0055U to the orange connector on position 11 and 12.



8.2 Electrical diagram Solo boilers

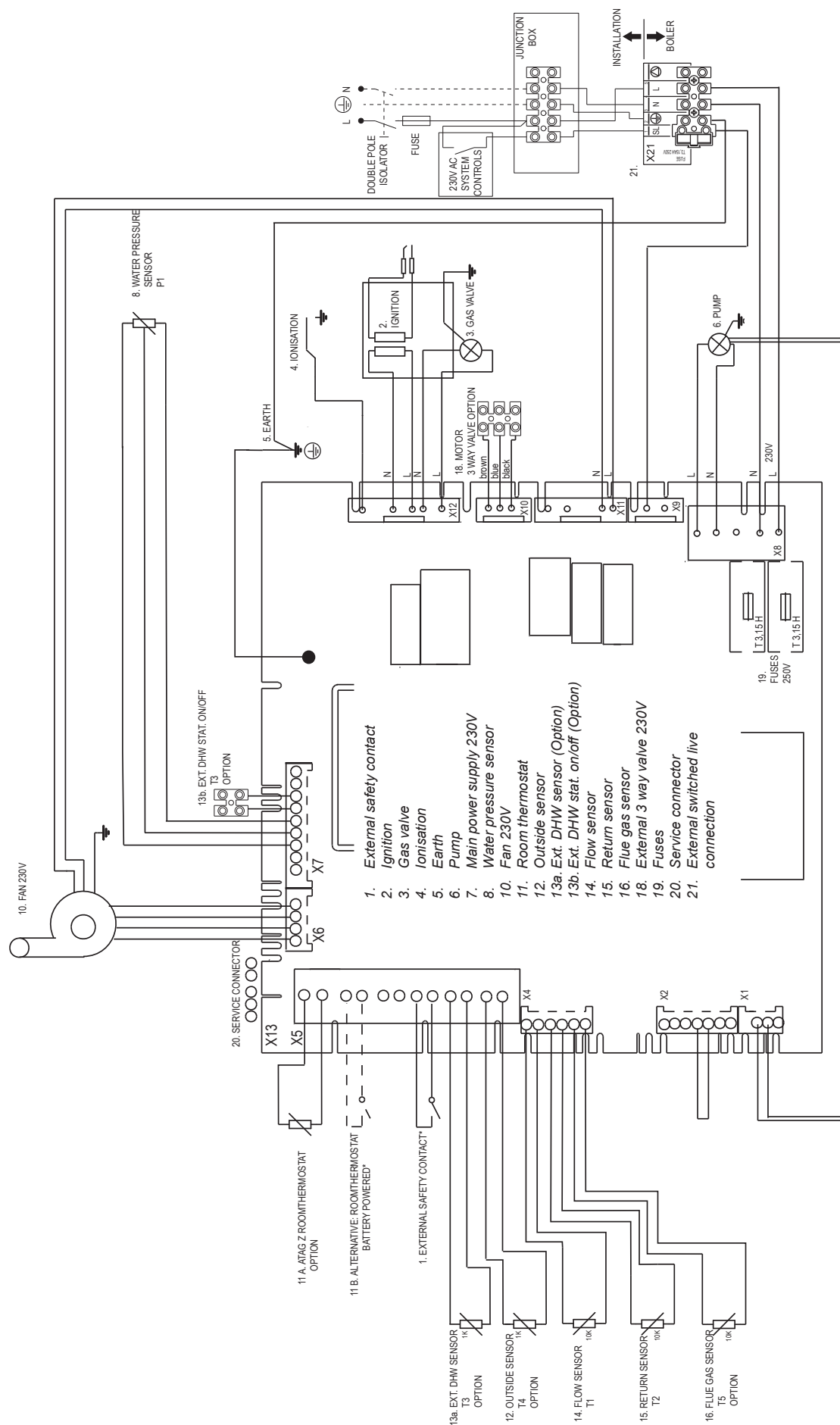


Figure 8.2.a

8.3 Electrical diagram Combi boilers

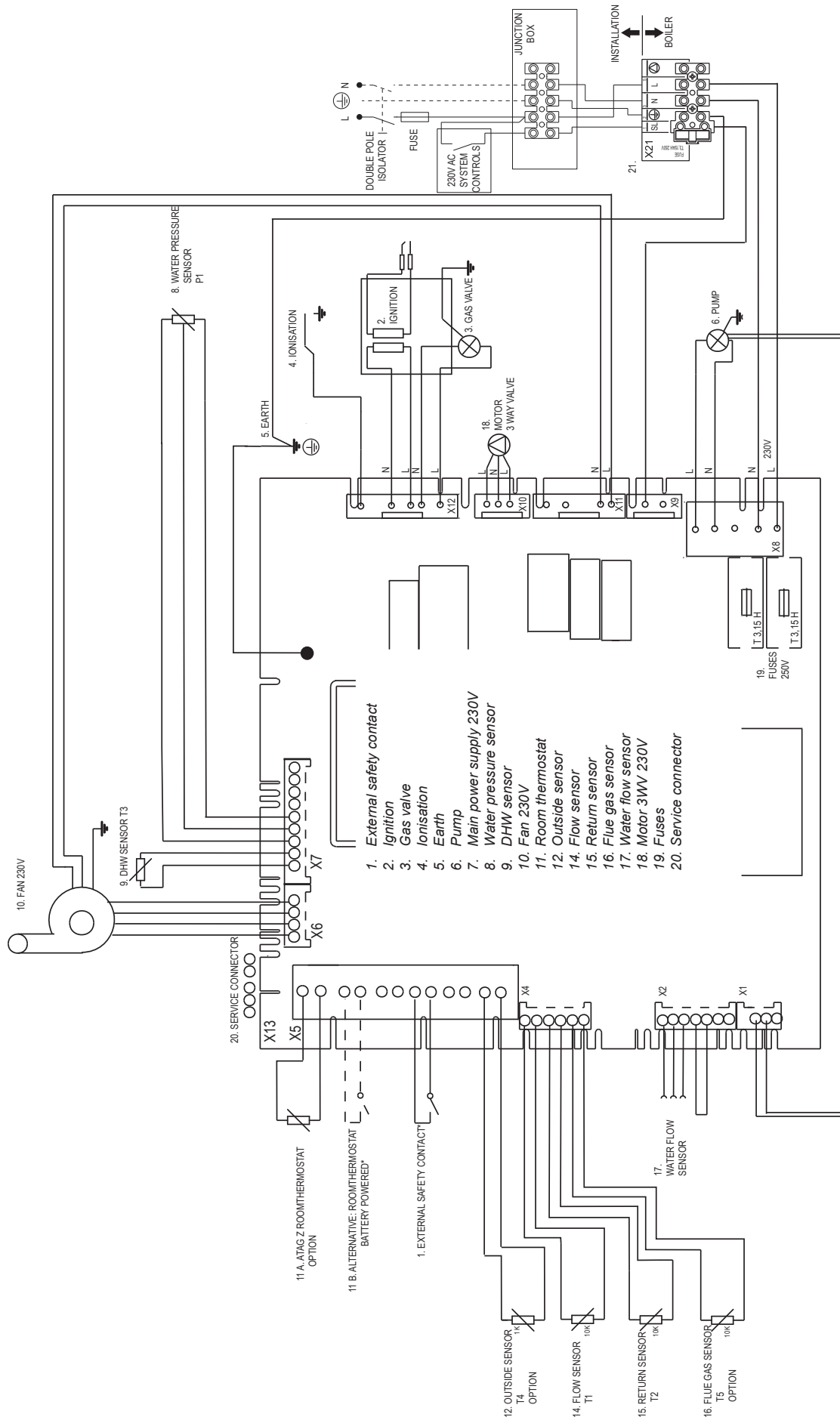


Figure 8.3.a

9 Filling and bleeding of boiler and CH installation

The central heating installation needs to be filled with potable water. For filling or topping up the installation use the filling loop according to the following procedure:

- 1 Turn on the boiler mains electrical supply;
- 2 the start up procedure the display will read c1 18 (low water pressure).
- 3 Connect and open the filling loop;
- 4 Slowly fill the system up to 1.2 – 1.5 bar;
(press the i button until A6 is displayed.
Water pressure: value on the display increases)
- 5 Close the filling loop;
- 6 C1 05 appears on the display the moment the pressure exceeds 1.3 bar;
- 7 The 7 minute de-aeration cycle begins;
- 8 Vent the entire heating installation starting at the lowest point;
- 9 Check the water pressure and top up if necessary to 1.2 – 1.5 bar;
- 10 Disconnect and cap the filling loop;
- 11 Following the completion of the 7 minute de-aeration cycle [C1 05] the boiler will switch on for the enabled program.



It may take some time before all the air has disappeared from a filled installation. Certainly during the first week sounds may be audible that indicate air. The automatic air vent in the boiler will let this air escape, causing the water pressure to drop during this period and water will need to be refilled again.

9.1 Hot water supply (combination boilers)

Fill the hot water supply by opening the cold mains isolation valve.

Bleed the hot water installation by opening all hot water taps one at a time. Leave each tap to run until all air has disappeared from the supply.

Flush with a minimum of 10 litres to rinse any residual contaminants from the hot supply and boiler.

Before the plug is inserted into the wall socket, it helps to know the operation of the boiler in advance. On this page the controls are described in short. The next page describes the button functions and the symbols on the display.

The boiler is equipped with self-managing control system, the so-called Control Management System. This control system takes over a large part of the manual settings, which simplifies the start-up on the installation considerably.

After filling the installation the automatic de-aeration program is activated. The automatic de-aeration program lasts for approx. 7 minutes and stops automatically. Then the boiler will switch on for the enabled program (CH or HW)(See 'Filling and bleeding boiler and installation').

Hot water controls (combination boilers)

If hot water is tapped the flow sensor measures (F1) the amount tapped. Depending on the desired tap water temperature and tap volume the controls will calculate a supply temperature. This realises the desired water temperature in an efficient way. The hot water sensor (T3) will adjust any minor deviations caused by fluctuations in the supply tap water temperature so that even under these circumstances the desired temperature is reached.

CH controls

With a demand from the heating controls after DHW demand, the boiler activates its 1 minute delay period. This is to prevent the heat exchanger from losing its heat too quickly in the event of a hot water demand. Then the pump starts and after 30 seconds the gradient control becomes active. The starting point of the gradient control is the currently existing supply temperature. A Delta-T control (25K) ensures a stable control according to heat request.

If the supply temperature is below the T-set value of 20°C the boiler will immediately start.

If during a demand from the heating the burner switches off, because the desired flow temperature is exceeded, there will be an anti-cycle time in operation for 5 minutes. This means that the burner switches on again after 5 minutes if there is still a demand from the heating.

In case of weather-dependent controls (1kOhm outside sensor ARZ0055U connected) a daily temperature is set instead of a supply temperature. Control will take place according to the heating line.

The ATAG A is equipped with boiler sensors of 10kOhm. The resistance value and corresponding temperature are shown in the accompanying table.

Resistance table sensors ATAG A

Outside sensor T4		Flow sensor T1	
		Return sensor T2	
		DHW sensor T3	
		Flue sensor T5	
NTC1k (25°C)		NTC10k (25°C)	
Temperature [°C]	Resistance [Ohm]	Temperature [°C]	Resistance [Ohm]
-10	4.574	-10	55.047
-9	4.358	0	32.555
-8	4.152	10	19.873
-7	3.958	12	18.069
-6	3.774	14	16.447
-5	3.600	16	14.988
-4	3.435	18	13.674
-3	3.279	20	12.488
-2	3.131	22	11.417
-1	2.990	24	10.449
0	2.857	26	9.573
1	2.730	28	8.779
2	2.610	30	8.059
3	2.496	32	7.406
4	2.387	34	6.811
5	2.284	36	6.271
6	2.186	38	5.779
7	2.093	40	5.330
8	2.004	42	4.921
9	1.920	44	4.547
10	1.840	46	4.205
11	1.763	48	3.892
12	1.690	50	3.605
13	1.621	52	3.343
14	1.555	54	3.102
15	1.492	56	2.880
16	1.433	58	2.677
17	1.375	60	2.490
18	1.320	62	2.318
19	1.268	64	2.159
20	1.218	66	2.013
21	1.170	68	1.878
22	1.125	70	1.753
23	1.081	72	1.638
24	1.040	74	1.531
25	1.000	76	1.433
26	962	78	1.341
27	926	80	1.256
28	892	82	1.178
29	858	84	1.105
30	827	86	1.037
35	687	88	974
40	575	90	915

Resistance table

table 10.a

10.1 Controls and explanation of the functions

Hot water



Setting the hot water temperature:

Briefly press + or - ; the display will show the flashing preset value;

Briefly press + or - to change the set value. Each change becomes active directly.

Hot water program OFF: Press - until the lowest value is reached and then press - again. The display is showing -- and the middle ["<"] is off.

Switching on works in reverse order.

Central heating



Setting the CH water temperature:

Briefly press + or - ; the display will show the flashing preset value;

Briefly press + or - to change the set value. Each change becomes active directly.

CH program OFF: Press - until the lowest value is reached and then press - again. The display is showing - and the upper ["<"] is off.

Switching on works in reverse order.

Information(i)-button

Requesting current data:

Briefly press the i-button (or the scroll button) in order to obtain the following value:



A0 = Flow water temperature

A1 = Return water temperature

A2 = Hot water temperature

A4 = Flue gas temperature (only if a flue gas sensor is connected)

A5 = Outside temperature (only if an outside sensor is connected)

A6 = Water pressure

A9 = Rpms of fan

To return to the standard view press ESC.



Reset button

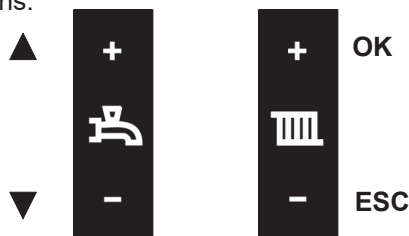
The reset button allows the boiler to restart if a malfunction has occurred.

In case of a failure the ["BELL"] symbol is displayed with a Cx xx code.

In other cases the Reset button does not function and will not respond to operation. See 15 for a brief overview of codes.

Some buttons have ancillary functions. These ancillary functions are activated only if, according to the procedure described in Section 11.4, settings need to be changed or data retrieved from the CMS.

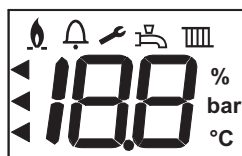
Ancillary functions:



DHW Button: Scroll function ('scrolling' through parameters)

CH button: OK and ESC function (OK= confirm, ESC= back to standard display)

11 Commissioning the boiler



Segmenttest



De-aeration program active



Standard view with device in operation for CH

Make sure before the boiler is put into operation that the boiler and installation have been fully bled. Bleed the gas line and open the gas valve of the boiler. The boiler requires no adjustment of the burner pressure and quantity, because it is self-regulatory and has been set in the factory and should not be reset.

Insert the plug into the wall socket;

There is a start-up procedure with a segment test of the display;

The lights come on and after the segment test go out again;

If the water pressure falls below 1.0 bar c1 18 will appear in the display;

This will disappear again the moment the water pressure is higher than 1.3 bar and the de-aeration program will start (c 1 05).

This will take approx. 7 minutes and will be followed by the standard view.

The boiler will switch on immediately to reach the desired pre-heat temperature of the hot water supply (Comfort setting).

11.1 Hot water supply



The DHW program is always active after start-up.

This is indicated by the middle ◀.

If there is hot water request, this is indicated by and the hot water supply will be activated. The circulation pump will start circulating and the boiler will switch on . By default the hot water supply is set to Comfort. A change to Eco is possible by means of Parameter 684. See chapter 11.4.

11.2 CH system



The CH program is always active after start-up.

This is indicated by the upper ◀.

If there is heat request, it is indicated by and the heating will be put into operation . The circulation pump will switch on and the boiler will switch on after 1 to 2 minutes.

11.3 Pump function



By default the boiler is set in such a manner that the pump will switch on in case of a heat request for CH or DHW. Switching on and off is managed entirely by the control system.

Danger of frost

If there is danger of frost damage to the CH installation and there is no outside sensor connected, it is advisable to let the pump run continuously.

With Parameter 684 the pump can be switched on continuously. See chapter 11.4.

If the pump is set too continuously this is displayed with the lowest ◀ in combination with or .

If an outside sensor is connected, then the controls will regulate the pump:

- In case of outside temperatures between +1.5 and -5°C the pump will run for 10 minutes every 6 hours.
- In case of outside temperatures below -5°C the pump will run in frost protection mode.

11.4 Settings

When the boiler is installed, it is in principle ready to be put into service. All settings of the control system are already programmed for a heating system with radiators/convectors with a flow temperature of 75°C. The settings are described in the parameter chapter on page 30.

There may be cases that the settings have to be changed, for example:

- Lower flow temperature

Use the parameter chapter to set the boiler according to the situation.

If in doubt, check with ATAG Heating Ltd.

To change a setting, proceed as follows:

Changing the settings

STEP 1

Press the OK button for 3 seconds.

The display shows 'P6 (alternated with) 81';

STEP 2

Press the OK button for 3 seconds again.

The display shows 'on' shortly followed by 'P5 18';

You now have access to the parameter chapter.

The various parameters are described in the following pages.

To change a parameter, proceed as follows:

Basic actions:

With the Scroll buttons you 'browse' through the parameters, in which you can change values

With the Esc button you can always return to the default display

With the OK button you confirm the selected parameter or set the value



STEP 3

Press the Scroll button to select another parameter;

STEP 4

Press the OK button if you want to change the selected parameter;

STEP 5

Adjust the value if desired / possible with the + or - button

STEP 6

Briefly press the OK button to confirm the new setting.

The display shows the selected parameter again

STEP 7

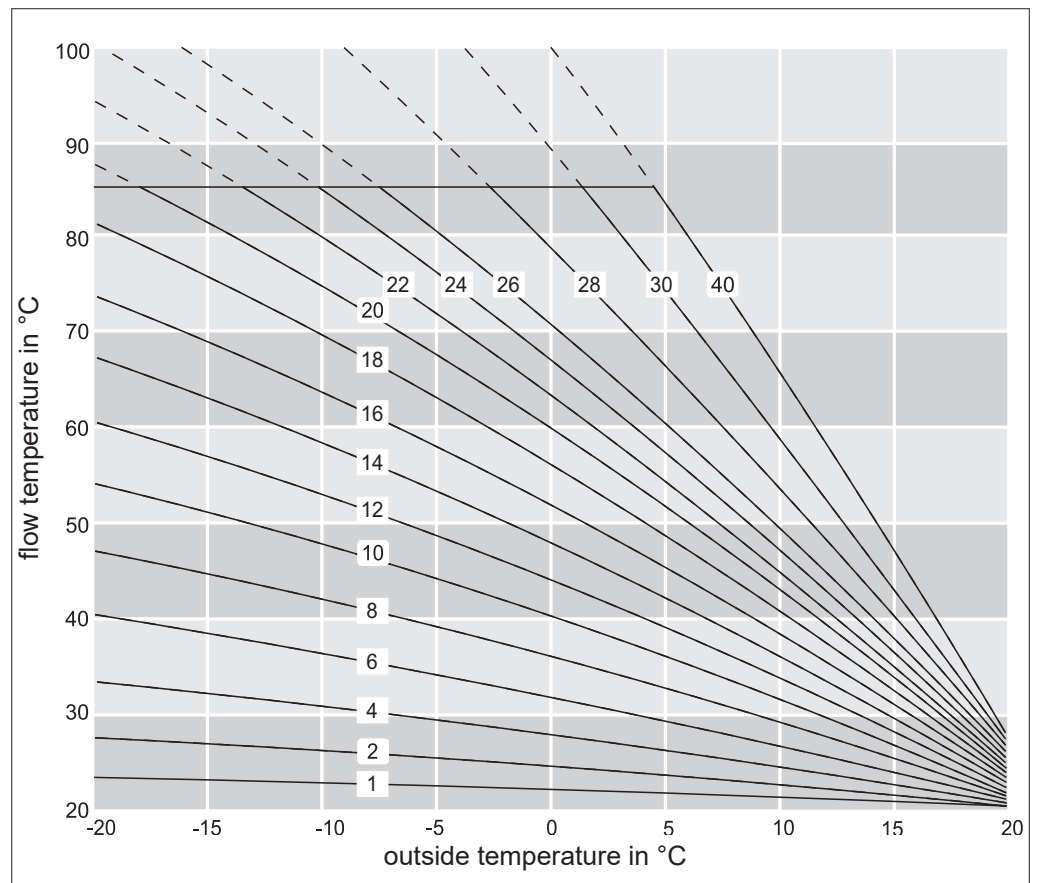
Press the ESC button until the default display is shown again:



If during 8 minutes no button is used automatically, the default display is automatically shown on the screen.

Parameter-chapter			
PARA	Factory	Description	Range
518	5	Gradient speed CH	0 - 15 (0=off)
520	5	Night decrease temperature (only active at 100% weather dependant): <i>The day temperature will be decreased by this value</i>	0 - 10 K
532	24	Heating line CH-water temperature (see also heating line graph)	10 - 40
541	max.	Maximum power CH in % <i>Can only be reduced. 0 = low load</i>	0 - max
555		Outside sensor functions (only when outside sensor is connected):	
	off	b0 and b1: no function b2: off = weather dependant control with room thermostata leading and outside temperature on the background on = 100% weather dependant control according day and night heating line <i>contact open = night heating line; contact closed = day heating line; When ON par. 520 is active</i> b3: no function	on - off
	on	b4: frost protection CH <i>from +1.5°C until -5: 10 min./ 6 hour pump on; < -5 °C pump continuously.</i> b5 t/m b7: no function	on - off
637	4,6	Do not change	
651*	1	Do not change	
652*	0	Quick selection CH installation:	
		CH Tmax: 85°C; Gradient: 5; Heating line 24	1
		CH Tmax: 70°C; Gradient: 5; Heating line 19	2
		CH Tmax: 60°C; Gradient: 4; Heating line 15	3
		CH Tmax: 50°C; Gradient: 3; Heating line 11	4
		<i>This parameter copies the choosen value over CH Tmax., P518 and P532. It is a quick selection, where the separate values will be independantly adjustable. After selection this parameter will always show 0.</i>	
680	0	Service-parameter. Do not change	
681	off	Green button function Dependant of the level the factory settings at selection b7 and OK will be set back, <i>P651 excluded.</i>	on - off
682	off	Dynamic functions:	
	off	b0: Do not change b1 until b6: no function	
	off	b7: confirmation Service-parameter	on - off
683	0%	Correction factor fan speed for ø60/100 flue system See table at flue lenghtes. <i>The adjusted value will increase the fan range with that percentage. Write down this value on the sticker on the boiler.</i>	OSS1: 0-15% OSS2: 0-30%
684	off	Pump function:	
	on	b0: pump automatic(= off) or continuously (= on) b1: DHW function eco (= off) or comfort (= on) <i>When both selected ON than function 'pump continously' is leading in case of frost danger</i>	on - off on - off
687	4,0	Do not change	

* Note When an adjustment is made and it is confirmed with OK the boiler will restart and the de-aerationprogramm will start.



heating line

Grafic 11.4.a

11.5 Activating the factory setting (green button function)

To re-activate the factory settings, proceed as follows (this will undo all changed settings):

- Select P6 81, according to the procedure described in chapter 11.4;
- Select b7;
- Press OK. The screen is showing 'off';
- Select 'on';
- Press OK.

The screen then shows P6 81 and the factory settings are active again.

12 Isolating the boiler

In some situations it may happen that the entire boiler has to be deactivated. With the 2 function buttons for the DHW program and the CH program the boiler is put out of service.



Hot water program OFF: Press – until the lowest value is reached and then press – again. The display shows -- and the middle is off.

Switching on with the + button takes place in reverse order.



CH program OFF: Press – until the lowest value is reached and then press – again. The display is showing -- and the upper is off.

Switching on with the + button takes place in reverse order.

ATAG recommends to leave the plug in the wall socket, so that the circulation pump and the three-way valve are activated automatically once every 24 hours in order to prevent jamming.



If there is danger of frost it is advisable in this case to drain the boiler and/or installation.

13 Commissioning



Work on the installation and/or boiler should only be carried out by qualified personnel with calibrated equipment and appropriate tools.



At the time of commissioning, complete all relevant sections of the Benchmark Checklist located on the inside back pages of the document.

For maintenance of the boiler the cover has to be removed. Unscrew the 4 locking screws from the quick fasteners, unlock the quick fasteners and remove the cover in a forward motion.

Changing settings, such as the burner pressure and the amount of air flow, is superfluous. Only in case of a failure or when replacing the gas block, venturi and/or fan, the O₂ percentage should be checked.





Always check all gas carrying parts for leaks (with a leak detection spray) after (maintenance) work to the boiler.

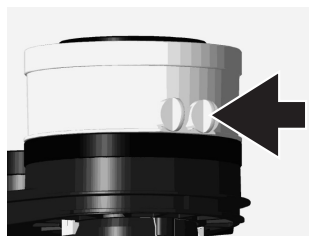
13.1 Checking the O₂ and CO/CO₂



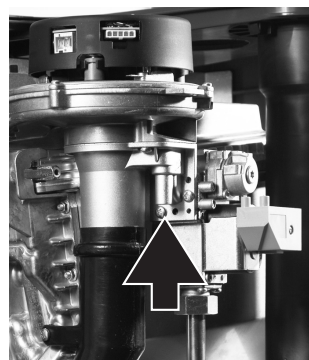
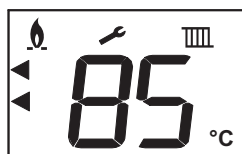
The O₂ percentage is set in the factory. This has to be checked during inspection, maintenance and in case of a failure.

This can be verified by means of the following action:

- Set the external controls to call for heat;
 - Make sure the boiler is operational and can get rid of the heat it produces;
 - Calibrate the O₂ gauge;
 - Place the lance of the O₂ gauge into the flue gas test point (see Figure 13.1.a);
 - Press both + buttons for 6 seconds;
 - When the flame symbol appears in the display press both + buttons again for 6 seconds;
 - The display shows the supply water temperature ( appears in the display);
The boiler will switch to 50% of the heating capacity
 - Press 1x the i button;
the display shows 50% (heating capacity)
 - Press on the + button () until the maximum value (100%) has been reached;
 - Leave measuring O₂ to the measuring equipment.
- | | | |
|--|--------------------|----------------|
| | Natural gas | Propane |
| - O ₂ percentage at full load = | 4,7% (+/-0,2%) | 5,1% (+/-0,2%) |
| - CO/CO ₂ ratio less than | 0.004% | |
- If required, you may turn the setting screw to set the correct O₂ percentage.
(refer to Figure 13.1.b).




Measuring point O₂
Figure 13.1.a




Adjustment screw O₂
Figure 13.1.b

Finally, the O₂ percentage at low load must be checked:

- Press on the - button () until the minimum value (0%) has been reached (low load)
 - Leave measuring O₂ to the measuring equipment and check if the measured O₂ percentage on low load is between following values:
- | | | |
|--|--------------------|----------------|
| | Natural gas | Propane |
| - O ₂ percentage at <u>low load</u> between | 5,0% and 7,0% | 5,1% and 7,0% |
| - CO/CO ₂ ratio less than | 0.004% | |

Contact ATAG Heating when the measured values is outside this range.

End of measuring:

- Press the ESC button ( button).
The device switches off.
The display shows for 2 seconds C1 80 or C1 81.
This completes the procedure.

13.2 Maintenance activities

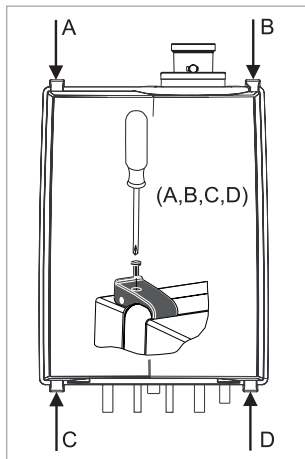


Figure 13.2.a

Only to be carried out in the event that the CO, CO₂ and/or ratio figures are incorrect.

Required tools:

- Cross head screwdriver
- ATAG T-handle key set with 3 bits (hex key 4mm, hex key 5mm and cross head PZ2)
- Open end wrench 8mm

In order to perform maintenance, the following actions have to be taken:

- switch off the boiler;
- remove the screws from the 4 quick fasteners A, B, C and D (see fig. 13.2.a);
- unlock the 4 quick fasteners A, B, C and D and remove the cover in a forward motion.

Air box/cover

The cover also doubles as air box:

- Clean the air box/cover with a cloth and a non-abrasive cleaner;

Fan unit and burner cassette (see fig. 13.2.b-f)

- dismantle the igniter(1) by means of the screw of the gas block;
- pull out the plug connections (2) of the fan;
- unscrew the coupling (3) of the gas block;
- replace the gas block gasket (O-ring) with a new one, if required;
- unscrew the front crosshead screw (4) from the air supply dampener;
- A325ECX only: unscrew the siphon from the economiser (13), check for pollution, clean it and fit the siphon back on the economiser.
- unscrew (5) the siphon (6) and pull it downwards from the condensate tray;
- turn the left (7) and right (8) clamp bar of the condensate tray with the hex key a quarter turn and pull these out in a forward motion. Note the direction of rotation (red control cams);
- slide the flue pipe (11) or the economiser (A325ECX only) about 1 cm upwards;
- push the condensate tray (12) gently downwards and pull it out from the boiler;
- Pull the flue pipe (11) or economiser (A325ECX only) downwards out of the boiler;
- A325ECX only: hang the economiser with the metal hook on the metal bracket behind the control unit (see fig. 13.2.d)
- now turn the left (9) and right (10) clamp bars with the hex key a quarter turn and pull these out in a forward motion. Mind the direction of rotation (red control cams);
- now remove the complete fan unit with the gas block from the heat exchanger in a forward motion;

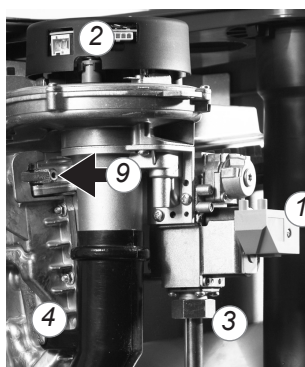


Figure 13.2.b

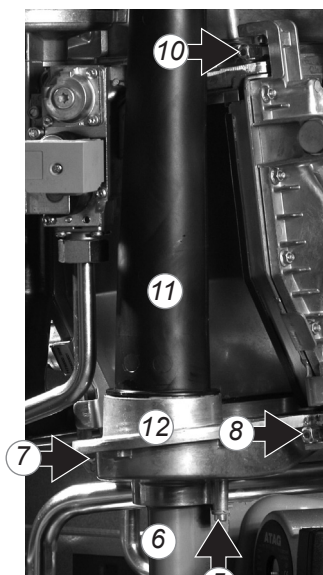
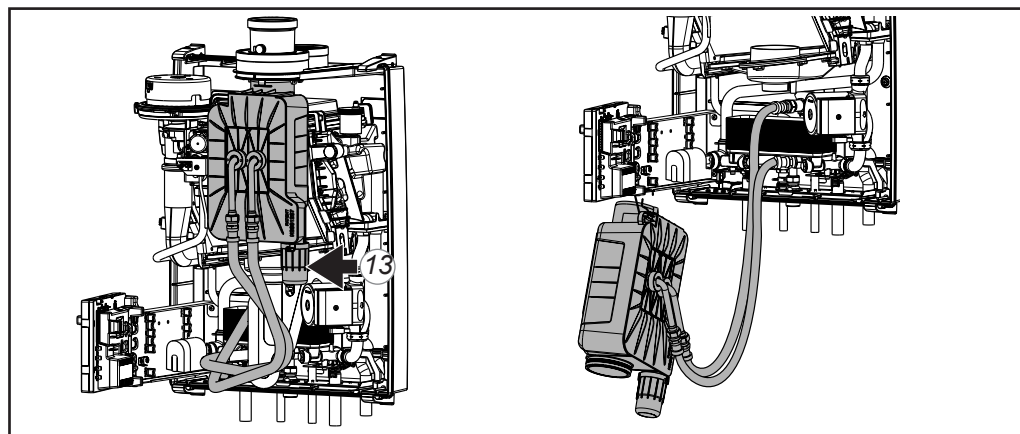


Figure 13.2.c



A325ECX with Economiser

Figure 13.2.d

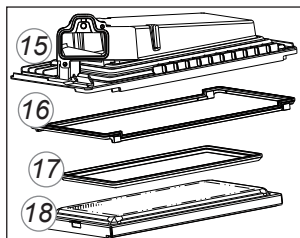
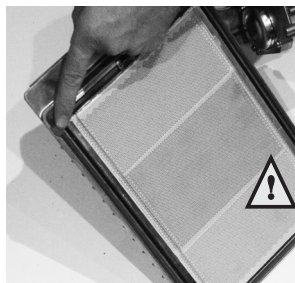


figure 13.2.e



Position gasket

figure 13.2.f

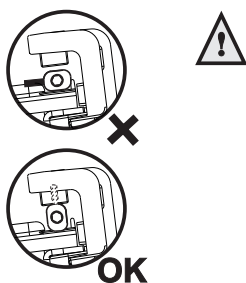


figure 13.3.i

- Remove the burner cassette (18) from the ventilator unit;
- Check the burner cassette for wear and tear, pollution and any breakages. Clean the burner cassette with a soft brush and vacuum cleaner. In the case of breakages, always replace the complete burner cassette (18);
- Replace the gasket (17) between the burner (18) and upper casing (15), if required;
- Replace the gasket (16) between the upper casing (15) and exchanger, if required.

Heat exchanger

- Check the heat exchanger for pollution. Clean it, if necessary, with a soft brush and a vacuum cleaner. Avoid any pollution falling down.
Top-flushing the exchanger with water is not allowed.

Reassembly takes place in reverse order.

During installation pay attention to the correct position of the clamp bars. These have to be in a vertical position.

Ignition electrode

Replacing the ignition electrode is necessary when the pins are worn. If the inspection hole is damaged, the entire ignition electrode has to be replaced. It is replaced as follows:

- take away the plug connections on the ignition electrode;
- push the clips on either side of the electrode outwards and take away the electrode;
- remove and replace the gasket;

Reassembly takes place in reverse order.

Siphon and condensation tray (see fig. 13.2.j-l)

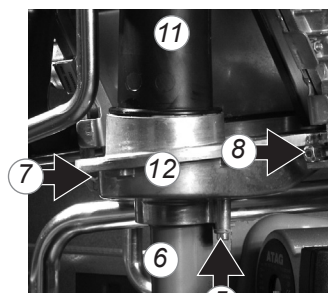


Figure 13.2.j

- first disassemble the siphon cup (6).
Check it for pollution. If no serious pollution is found in the siphon cup, it is not necessary to disassemble the condensation tray or clean it. If the siphon cup shows serious pollution, the condensation reservoir should be cleaned as well.
- check the O-rings of the siphon cup and replace them if necessary.
- clean the parts by rinsing them with water.
- grease the O-rings again with acid-free O-ring grease to simplify the reassembly.
- If a leakage has occurred to the siphon, replace the entire siphon;
- remove the plug from the flue gas sensor, if any.
- turn the left (7) and right (8) lamp bar of the condensate tray with the hex key a quarter turn and pull these out in a forward motion. Note the direction of rotation (red control cams);
- slide the flue pipe (11) or the economiser (A325ECX only) about 1 cm upwards;
- A325ECX only: hang the economiser with the metal hook on the metal bracket behind the control unit (see fig. 13.2.d)
- now push the condensation tray (11) gently down and take it away in a forward motion;
- replace the condensation tray gasket by a new one.
- clean the polluted condensation tray with water and a hard brush.
- Check the condensation tray for leaks.

Reassembly takes place in reverse order.

Pay attention that the gasket seals completely all around during reassembly of the condensation reservoir.

During installation pay attention to the correct position of the clamp bars. These have to be in a vertical position.

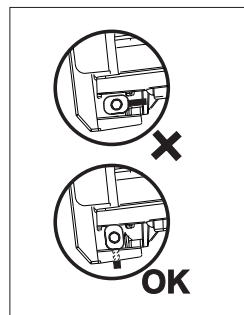


Figure 13.2.k

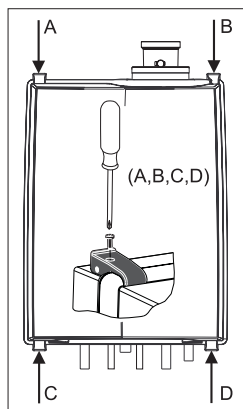


Figure 13.2.1



Always replace the gaskets of the removed parts during maintenance, if required.

Put the boiler back into operation and carry out a flue gas analysis (see page 34).



Always put back the cover after (maintenance) work and secure it with screws A, B, C and D.



In the event that parts require replacement, use only genuine parts supplied by ATAG Heating UK Ltd.

Please contact your installer or ATAG Heating UK Ltd. for further details. Contact details can be found on the back page of this manual.



After servicing, complete the relevant Service Interval Record section of the Benchmark Checklist located on the inside back page of the document.

13.3 User's instructions

Advise the user that for continued efficient and safe operation, the boiler should be serviced at least once a year by qualified servicing company. It is important and strongly recommended that arrangements are made for a maintenance agreement with a qualified servicing company to ensure regular servicing of the boiler.

Please contact ATAG Heating UK Ltd. for further details. Contact details can be found on the back page of this manual.

13.4 Maintenance frequency

ATAG Heating UK Ltd advises an annual inspection, with a full strip down service as required, depending on the CO, CO₂ and ratio figures.

13.5 Warranty

For the warranty conditions we refer to the Warranty Card that is supplied with the boiler.

14 Error message

A detected failure is indicated on the display in blocking or error messages.



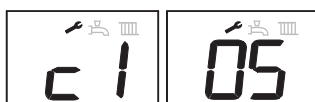
- **Blocking** code with spanner symbol

Error is temporary and will cancel itself or will lock the boiler after several attempts (error)



- **Error** code with bell symbol

Error means a lock on the boiler and can only be remedied by a reset and/or intervention by a service technician.



Example of display of error message

C 10	Outside sensor error (e.g. open, short circuit, outside of range)
C 20	Flow sensor error (e.g. open, short circuit, outside of range)
C 40	Return sensor error (e.g. open, short circuit, outside of range)
C 50	Wiring fault: Connector X7 not connected correctly. Low voltage wiring harness defect
C 78	Water pressure outside of range or not connected or if water pressure is OK: Pump failure
C1 05	Venting program active
C1 10	Safety temperature exceeded
C1 11	Maximum temperature exceeded
C1 17	Pressure too high (> 3 bar) or pump pressure increase too high
C1 18	Pressure too low (< 0.7 bar) or pump pressure increase too low (no pump detection)
C1 19	Link on X2 position 4 and 5 missing
C1 29	Fan error (fan does not start up)
C1 33	no flame after 5 ignition attempts
C1 51	fan error (speed control is not achieved or is outside of range) or error control unit
C1 52	Para 555 b0 is changed from 0 to 1 instead of b2. Change back through green button function (installer level Para 681 b7)
C1 54	flow increases to fast ΔT to large, return > supply
C1 56	Pump failure
C1 80	No error: shortly visible when leaving chimney sweep function
C1 81	No error: shortly visible when leaving commissioning mode

Annex A Technical specifications

Technical specifications Natural gas

Boiler type	ATAG A-Series					
	A203C	Combi A325C	A325ECX	Solo A200S A320S		
Type heat exchanger	OSS1	OSS2	OSS2	OSS1	OSS2	
Input CH Gross (Hs)	kW	20	32	32	20	32
Q _n Input CH Net (Hi)	kW	18	28,8	28,8	18	28,8
Q _{nw} Input DHW Net (Hi)	kW	23,4	34,2	34,2		
Efficiency DHW, year	%	83,2	85,9	95,1		
Efficiency class according BED		★★★★	★★★★	★★★★	★★★★	★★★★
Efficiency according EN677 (36/30°C part load, Gross)	%	109,2	109,7	109,7	109,2	109,7
Efficiency according EN677 (80/60°C full load, Gross)	%	97,9	97,9	97,9	97,9	97,9
Modulation range CH (capacity 80/60°C)	kW	4,4 - 17,6	6,1 - 28,2	6,1 - 28,7	4,4 - 17,6	6,1 - 28,2
Modulation range CH (capacity 50/30°C)	kW	4,9 - 19,3	6,8 - 30,9	6,8 - 30,9	4,9 - 19,3	6,8 - 30,9
Nox class EN483		6				
Nox according to EN483 and EN15420 (year measurement)	mg/kWh	22,93	23,92	23,92	22,93	23,92
Nox at 0% O ₂ according to EN483 and EN15420	mg/m ³	26,14	27,27	27,27	26,14	27,27
Nox at 3% O ₂ according to EN483 and EN15420	mg/m ³	22,14	23,44	23,44	22,14	23,44
O ₂	%	4,7				
CO	ppm	100				
Flue gas non-return valve present		yes	yes	yes	yes	yes
Temperature class for PP flue		T100				
Appliance type		B ₂₃ B ₃₃ C ₁₃ C ₃₃ C ₄₃ C ₅₃ C ₆₃ C ₉₃				
Flue gas temp. CH (80/60°C on full load)	°C	68	68	58,7	68	68
Flue gas temp. CH (50/30°C on low load)	°C	31	31	30,5	31	31
Categories		II2H3P				
Gas consumption G20 CH (DHW) (at 1013 mbar/15°C)	m ³ /h	1,91 (2,48)	3,05 (3,62)	3,05 (3,62)	1,91	3,05
Electr. power consumption max.	W	77	84	91	77	84
Electr. power consumption part load	W	28	29	29	28	29
Electr. power consumption stand by	W	3,7	3,7	3,7	3,7	3,7
Current	V/Hz	230 +10 %-15 % / 50Hz				
Degree of protection acc. EN 60529		IPX4D (IPX0D for B ₂₃ & B ₃₃)				
Weight (empty)	kg	37,5	42,5	45,5	34,5	39
Width	mm	500	500	500	500	500
Height	mm	650	870	870	650	870
Depth	mm	395	395	395	395	395
Water content CH	l	3,3	4,8	4,8	3,3	4,8
Water content DHW	l	0,5	0,7	0,7		
Overrun time pump CH	sec	60				
Overrun time pump DHW	sec	20	20	20		
Content expansion vessel	l	8	12	12	8	12
Pre-charge pressure exp. Vessel	bar	0,8	1	1	0,8	1
P _{MS} Water pressure CH min./max.	bar	1 / 2,5				
P _{MW} Water pressure DHW min./max.	bar	1/8				
Flow temperature max.	°C	85				
Pump type Grundfos	UPM2	15-70	15-70	15-70	15-70	15-70
Available pump height CH	kPa	25	25	25	25	25
DHW flow (at ΔT = 35°C)	l/min	9,3	14,3	15,0		
DHW flow (at ΔT = 28°C)	l/min	11,6	17,9	18,8		
Max. DHW temperature (T _{in} =10°C)	°C	60	60	60		
CE product identification number(PIN)		0063BT3195				

Technical specifications Propane gas

Boiler type	A203C	A325C	A325ECX	A200S	A320S
Heat exchanger type	OSS1	OSS2	OSS2	OSS1	OSS2
CO ₂	%	10,4	10,4	10,4	10,4
O ₂	%	5,1	5,1	5,1	5,1
Restriction diameter	mm	4,15	5,2	5,2	4,15
Pre pressure	mbar	see type plate propane			
Load Net (Hi)	kW	16,5 (24,0)	28,8 (34,2)	28,8 (34,2)	16,5
Gas consumption	kg/h	1,28 (1,86)	2,24 (2,70)	2,24 (2,70)	1,28
Gas consumption	m ³ /h	0,67 (0,98)	1,17 (1,39)	1,17 (1,39)	0,67
Modulation range(80/60°C)	kW	9,8-16,2	15,7-28,2	15,7-28,2	9,8-16,2
Modulation range(50/30°C)	kW	10,6-17,6	17,0-30,8	17,0-30,8	10,6-17,6

ErP specifications according to European Directive 2010/30/EU

Boiler type	A203C	Combi A325C	A325ECX	Solo A200S A320S	
Declared load profile DHW	XL	XL	XXL		
Seasonal space heating energy efficiency class	A	A	A	A	A
Water heating energy efficiency class	A	A	A		
Rated heat output of preferential heater (P _n)	kW	18	28	29	18
Annual energy consumption (Q _{IE})	GJ	6	9	9	6
Annual power consumption (AEC)	kWh	49	54	53	
Annual fuel consumption (AFC)	GJ	18	17	20	
Seasonal space heating energy efficiency of the preferential heater (η _s)	%	93	94	94	93
Water heating energy efficiency (η _{WH})	%	83	84	93	
Sound power level, indoors (L _{WA})	dB	39	49	49	39

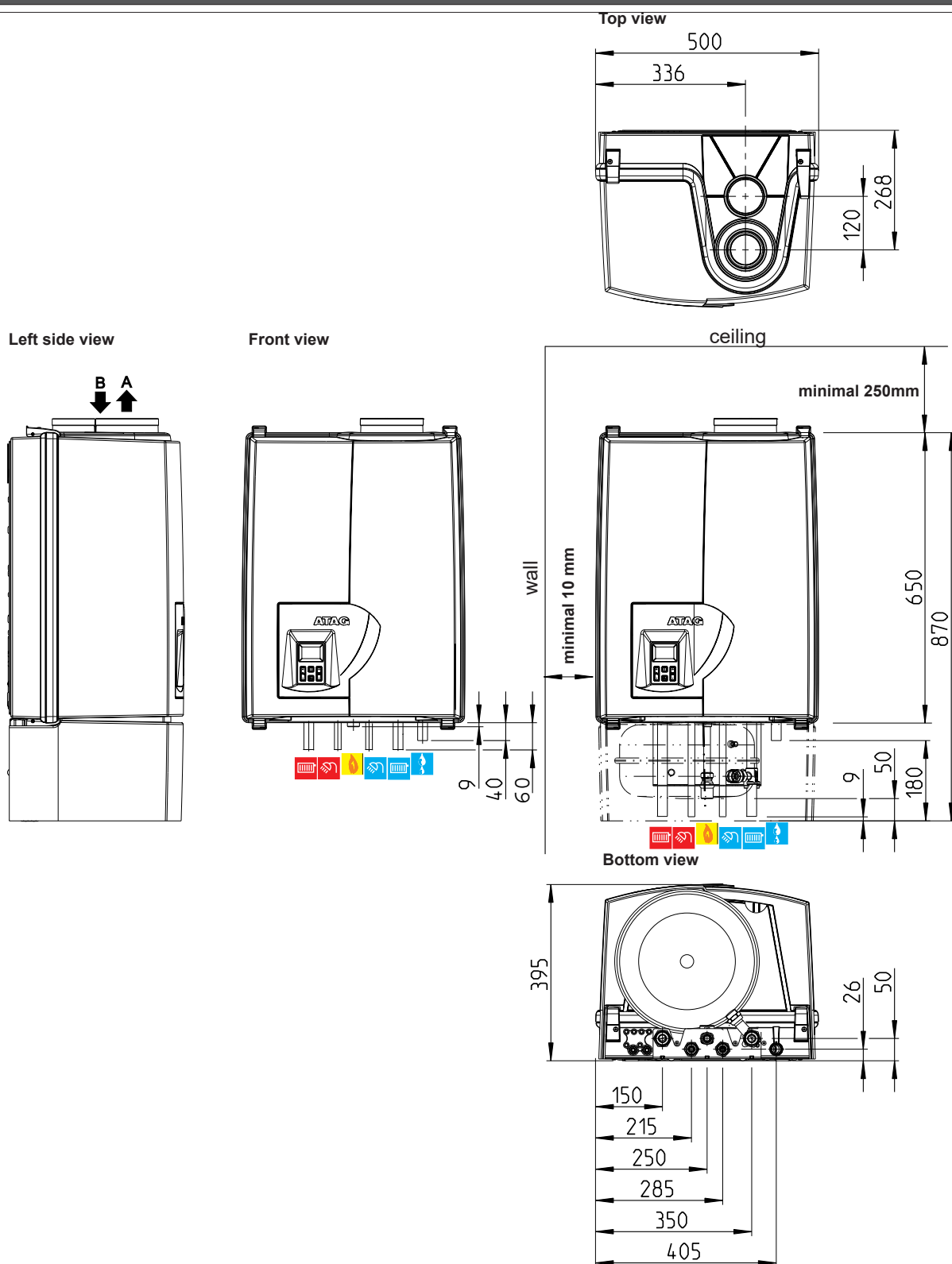
Annex B System water additives






When the filling water requirements as referred to in chapter Water Quality have been met, certain additives are allowed for the below mentioned applications and related dosage. Warranty on ATAG delivered installation products expires, if these additives and concentrations are not used in accordance with this annex.

Additive type	Supplier and specifications	Max. concentration	Application
Corrosion inhibitors	Sentinel X100 Corrosion resistant protection agent of CH systems Kiwa certified	1-2 l/100 litres CH water content	Aqueous solution of organic and inorganic agents preventing corrosion and scale forming
	Fernox F1 Protector Corrosion resistant protection agent of CH systems Kiwa certified KIWA-ATA K62581, Belgaqua certified Cat III	500 ml can or 265 ml Express / 100 litres CH water content	Preventing corrosion and scale forming
Anti-freeze	Kalsbeek Monopropyleneglycol / propane-1,2-diol + inhibitors AKWA-Colpro KIWA-ATA Nr. 2104/1	50% w/w	Anti-freeze
	Tyfocor L Monopropyleneglycol / propane-1,2-diol + inhibitors	50% w/w	Anti-freeze
	Sentinel X500 Monopropyleneglycol + inhibitors Kiwa certified	20-50% w/w	Anti-freeze
	Fernox Alphi 11 Monopropyleneglycol + inhibitors Kiwa certified KIWA-ATA K62581, Belgaqua certified Cat III	25-50% w/w	Anti-freeze in combination with F1 Protector
System cleaners	Sentinel X300 Solution of phosphate, organic heterocyclic compounds, polymers and organic bases Kiwa certified	1 litre / 100 litres	For new CH installations Removes oils/grease and flow control agents
	Sentinel X400 Solution of synthetic organic polymers	1-2 litres / 100 litres	For cleaning existing CH-installations Removes sediments.
	Sentinel X800 Jetflo Aqueous emulsion of dispersants, moistening agents and inhibitors	1-2 litres / 100 litres	For cleaning new and existing CH-installations Removes iron and lime-related sediments.
	Fernox F3 Cleaner Liquid pH neutral universal cleaner for pre-commissioning new systems	500 ml / 100 litres	For cleaning new and existing CH-installations Removes sludge, limescale and other debris.
	Fernox F5 Cleaner, Express pH neutral universal cleaner concentrate for pre-commissioning new systems	295 / 100 litres	For cleaning new and existing CH-installations Removes sludge, limescale and other debris.

ATAG support the use of inhibitors suitable for mixed metal applications that keep the pH level between 6 and 8. Dosage levels as per manufacturers instructions. Preferred inhibitor suppliers are Fernox and Sentinel.

Annex C Dimensions



				ATAG A-Series				
				A203C	Combi A325C	A325ECX	Solo A200S	A320S
	Flue gas / Air intake	A/B	mm	60/100	60/100	60/100	60/100	60/100
	Gas connection		mm	½" int.	½" int.	½" int.	½" int.	½" int.
	CH Flow connection		mm	22	22	22	22	22
	CH Return connection		mm	22	22	22	22	22
	Combined condensate & Safety valve connection		mm	22	22	22	22	22
	Cold water connection		mm	15	15	15	n.a.	n.a.
	DHW connection		mm	15	15	15	n.a.	n.a.

CE DECLARATION OF CONFORMITY

Hereby declares ATAG Verwarming Nederland BV that,

the condensing boiler types: ATAG

A203C
A325C
A325ECX

A200S
A320S

are in conformity with the following standards:

EU Gas Appliance Regulation	2016/426/EU	EN 15502-1:	2012
		EN 15502-2-1:	2012
		EN 60335-1:	2011
		EN 60335-2-102:	2010
Boiler Efficiency Directive	92/42/EEC	EN 15502-2-2:	2014
Low Voltage Directive	2014/35/EU	EN 60335-1:	2011
		EN 60335-2-102:	2010
EMC Directive	2014/30/EU	EN 61000-3-2:	2013
		EN 61000-3-3:	2014
		EN 60335-2-102:	2010
		EN 55014-1:	2011
		EN 55014-2:	2008
Ecodesign Directive	2009/125/EC	EN 13203-2:	2014
		EN 15036-1:	2006
		EN 15502-1:	2012
		regulation (EU) 813/2013	

This product is designated with CE number:

CE – 0063BT3195

and that the products are in conformity with EC type-examination certificate number E0430, as stated by KIWA-Gastec Certification BV, Apeldoorn, The Netherlands.

Date : 16 April 2018

Signature :

Full name : Drs. C. Berlo
CEO

ATAG
Verwarming

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GAS BOILER SYSTEM COMMISSIONING CHECKLIST

This Commissioning Checklist is to be completed in full by the competent person who commissioned the boiler as a means of demonstrating compliance with the appropriate Building Regulations and then handed to the customer to keep for future reference.

Failure to install and commission according to the manufacturer's instructions and complete this Benchmark Commissioning Checklist will invalidate the warranty. This does not affect the customer's statutory rights.

Customer name:				Telephone number:			
Address:							
Boiler make and model:							
Boiler serial number:							
Commissioned by (PRINT NAME):				Gas Safe register number:			
Company name:				Telephone number:			
Company address:							
				Commissioning date:			
To be completed by the customer on receipt of a Building Regulations Compliance Certificate*							
Building Regulations Notification Number (if applicable):							
CONTROLS (tick the appropriate boxes)							
Time and temperature control to heating		Room thermostat and programmer/timer		Programmable room thermostat			
		Load/weather compensation		Optimum start control			
Time and temperature control to hot water		Cylinder thermostat and programmer/timer		Combination Boiler			
Heating zone valves		Fitted		Not required			
Hot water zone valves		Fitted		Not required			
Thermostatic radiator valves		Fitted		Not required			
Automatic bypass to system		Fitted		Not required			
Boiler interlock				Provided			
ALL SYSTEMS							
The system has been flushed and cleaned in accordance with BS7593 and boiler manufacturer's instructions						Yes	
What system cleaner was used?							
What inhibitor was used?						Quantity litres	
Has a primary water system filter been installed?						Yes No	
CENTRAL HEATING MODE measure and record:							
Gas rate		m³/hr		OR		ft³/hr	
Burner operating pressure (if applicable)		mbar		OR Gas inlet pressure		mbar	
Central heating flow temperature						°C	
Central heating return temperature						°C	
COMBINATION BOILERS ONLY							
Is the installation in a hard water area (above 200ppm)?						Yes No	
If yes, and if required by the manufacturer, has a water scale reducer been fitted?						Yes No	
What type of scale reducer has been fitted?							
DOMESTIC HOT WATER MODE Measure and Record:							
Gas rate		m³/hr		OR		ft³/hr	
Burner operating pressure (at maximum rate)		mbar		OR Gas inlet pressure at maximum rate		mbar	
Cold water inlet temperature						°C	
Hot water has been checked at all outlets						Yes Temperature °C	
Water flow rate						l/min	
CONDENSING BOILERS ONLY							
The condensate drain has been installed in accordance with the manufacturer's instructions and/or BS5546/BS6798						Yes	
ALL INSTALLATIONS							
Record the following:		At max. rate: CO ppm		AND CO/CO₂ Ratio			
		At min. rate: (where possible) CO ppm		AND CO/CO₂ Ratio			
The heating and hot water system complies with the appropriate Building Regulations						Yes	
The boiler and associated products have been installed and commissioned in accordance with the manufacturer's instructions						Yes	
The operation of the boiler and system controls have been demonstrated to and understood by the customer						Yes	
The manufacturer's literature, including Benchmark Checklist and Service Record, has been explained and left with the customer						Yes	
Commissioning Engineer's Signature							
Customer's Signature							
(To confirm satisfactory demonstration and receipt of manufacturer's literature)							

SERVICE RECORD

It is recommended that your heating system is serviced regularly and that the appropriate Service Interval Record is completed.

Service Provider

Before completing the appropriate Service Record below, please ensure you have carried out the service as described in the manufacturer's instructions. Always use the manufacturer's specified spare part when replacing controls.

SERVICE 01					Date:
Engineer name:					
Company name:					
Telephone No:					
Gas safe register No:					
Record:	At max. rate:	CO	ppm	AND	CO ₂ %
	At min. rate: (Where Possible)	CO	ppm	AND	CO ₂ %
Comments:					
Signature					

SERVICE 03					Date:
Engineer name:					
Company name:					
Telephone No:					
Gas safe register No:					
Record:	At max. rate:	CO	ppm	AND	CO ₂ %
	At min. rate: (Where Possible)	CO	ppm	AND	CO ₂ %
Comments:					
Signature					

SERVICE 05					Date:
Engineer name:					
Company name:					
Telephone No:					
Gas safe register No:					
Record:	At max. rate:	CO	ppm	AND	CO ₂ %
	At min. rate: (Where Possible)	CO	ppm	AND	CO ₂ %
Comments:					
Signature					

SERVICE 07					Date:
Engineer name:					
Company name:					
Telephone No:					
Gas safe register No:					
Record:	At max. rate:	CO	ppm	AND	CO ₂ %
	At min. rate: (Where Possible)	CO	ppm	AND	CO ₂ %
Comments:					
Signature					

SERVICE 09					Date:
Engineer name:					
Company name:					
Telephone No:					
Gas safe register No:					
Record:	At max. rate:	CO	ppm	AND	CO ₂ %
	At min. rate: (Where Possible)	CO	ppm	AND	CO ₂ %
Comments:					
Signature					

SERVICE 02					Date:
Engineer name:					
Company name:					
Telephone No:					
Gas safe register No:					
Record:	At max. rate:	CO	ppm	AND	CO ₂ %
	At min. rate: (Where Possible)	CO	ppm	AND	CO ₂ %
Comments:					
Signature					

SERVICE 04					Date:
Engineer name:					
Company name:					
Telephone No:					
Gas safe register No:					
Record:	At max. rate:	CO	ppm	AND	CO ₂ %
	At min. rate: (Where Possible)	CO	ppm	AND	CO ₂ %
Comments:					
Signature					

SERVICE 06					Date:
Engineer name:					
Company name:					
Telephone No:					
Gas safe register No:					
Record:	At max. rate:	CO	ppm	AND	CO ₂ %
	At min. rate: (Where Possible)	CO	ppm	AND	CO ₂ %
Comments:					
Signature					

SERVICE 08					Date:
Engineer name:					
Company name:					
Telephone No:					
Gas safe register No:					
Record:	At max. rate:	CO	ppm	AND	CO ₂ %
	At min. rate: (Where Possible)	CO	ppm	AND	CO ₂ %
Comments:					
Signature					

SERVICE 10					Date:
Engineer name:					
Company name:					
Telephone No:					
Gas safe register No:					
Record:	At max. rate:	CO	ppm	AND	CO ₂ %
	At min. rate: (Where Possible)	CO	ppm	AND	CO ₂ %
Comments:					
Signature					

*All installations in England and Wales must be notified to Local Authority Building Control (LABC) either directly or through a Competent Persons Scheme. A Building Regulations Compliance Certificate will then be issued to the customer.





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UK WATER SUPPLY
REGULATIONS



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E. & O. E.

This renewed publication cancels all previous installation instructions. The company reserves the right to change the specifications and dimensions without prior notice.