



Installation and main- tenance instructions

Atromix

Atromix P 20 ... 28 – A/2 (H-
UA/MD)

TRANSLATION



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MD

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1 Safety

1.1 Action-related warnings

Classification of action-related warnings

The action-related warnings are classified in accordance with the severity of the possible danger using the following warning signs and signal words:

Warning symbols and signal words



Danger!

Imminent danger to life or risk of severe personal injury



Danger!

Risk of death from electric shock



Warning.

Risk of minor personal injury



Caution.

Risk of material or environmental damage

1.2 Intended use

There is a risk of injury or death to the user or others, or of damage to the product and other property in the event of improper use or use for which it is not intended.

The product is intended as a heat generator for sealed heating installations and for domestic hot water generation.

Depending on the unit type, the products referred to in these instructions must only be installed and operated in conjunction with the air/flue pipe accessories listed in the other applicable documents.

The use of the product in vehicles, such as mobile homes and caravans, is not classed as intended use. Units that are not classed as vehicles are those that are installed in a fixed and permanent location (known as "fixed installation").

Intended use includes the following:

- observance of accompanying operating, installation and maintenance instructions for the product and any other system components
- installing and setting up the product in accordance with the product and system approval
- compliance with all inspection and maintenance conditions listed in the instructions.

Intended use also covers installation in accordance with the IP code.

Any other use that is not specified in these instructions, or use beyond that specified in this document, shall be considered improper use. Any direct commercial or industrial use is also deemed to be improper.

Caution.

Improper use of any kind is prohibited.

1.3 General safety information

1.3.1 Risk caused by inadequate qualifications

The following work must only be carried out by competent persons who are sufficiently qualified to do so:

- Set-up
- Dismantling
- Installation
- Start-up
- Inspection and maintenance
- Repair
- Decommissioning
- ▶ Proceed in accordance with current technology.

1.3.2 Risk of death from escaping gas

What to do if you smell gas in the building:

- ▶ Avoid rooms that smell of gas.
- ▶ If possible, open doors and windows fully and ensure adequate ventilation.
- ▶ Do not use naked flames (e.g. lighters, matches).
- ▶ Do not smoke.
- ▶ Do not use any electrical switches, mains plugs, doorbells, telephones or other communication systems in the building.
- ▶ Close the emergency control valve or the main isolator.
- ▶ If possible, close the gas stopcock on the product.
- ▶ Warn other occupants in the building by yelling or banging on doors or walls.

1 Safety

- ▶ Leave the building immediately and ensure that others do not enter the building.
- ▶ Alert the police and fire brigade as soon as you are outside the building.
- ▶ Use a telephone outside the building to inform the emergency service department of the gas supply company.

1.3.3 Risk of death due to blocked or leaking flue gas routes

Installation errors, damage, tampering, impermissible installation sites or similar can cause flue gas to escape and result in a risk of poisoning.

What to do if you smell flue gas in the property:

- ▶ Open all accessible doors and windows fully to provide ventilation.
- ▶ Switch off the product.
- ▶ Check the flue gas routes in the product and the flue gas diversions.

1.3.4 Risk of poisoning and burns caused by escaping hot flue gases

- ▶ Only operate the product if the air/flue pipe has been completely installed.
- ▶ With the exception of short periods for testing purposes, only operate the product when the front casing is installed and closed.

1.3.5 Risk of death due to explosive and flammable materials

- ▶ Do not use the product in storage rooms that contain explosive or flammable substances (such as petrol, paper or paint).

1.3.6 Risk of death due to cabinet-type casing

Cabinet-type casing can give rise to dangerous situations when used on a product which is operated with an open flue.

- ▶ Ensure that the product is supplied with sufficient combustion air.

1.3.7 Risk of poisoning caused by insufficient combustion air supply

Condition: Open-flued operation

- ▶ Ensure that the air supply to the product's installation room is permanently unobstructed and sufficient in accordance with the relevant ventilation requirements.

1.3.8 Risk of death due to lack of safety devices

The basic diagrams included in this document do not show all safety devices required for correct installation.

- ▶ Install the necessary safety devices in the installation.
- ▶ Observe the applicable national and international laws, standards and directives.

1.3.9 Risk of death from electric shock

There is a risk of death from electric shock if you touch live components.

Before commencing work on the product:

- ▶ Unplug the mains plug.
- ▶ Or disconnect the product from the power supply by switching off all power supplies (electrical partition with a contact gap of at least 3 mm, e.g. fuse or circuit breaker).
- ▶ Secure against being switched back on again.
- ▶ Wait for at least 3 minutes until the capacitors have discharged.
- ▶ Check that there is no voltage.

1.3.10 Risk of burns or scalding caused by hot components

- ▶ Only carry out work on these components once they have cooled down.

1.3.11 Risk of death from escaping flue gas

If you operate the product with an empty condensate siphon, flue gas may escape into the room air.

- ▶ In order to operate the product, ensure that the condensate siphon is always full.

Condition: Permitted B23P unit types with condensate siphon (third-party accessory)

- Water seal level: ≥ 200 mm

1.3.12 Risk of injury due to the heavy weight of the product

- ▶ Make sure that the product is transported by at least two people.

1.3.13 Risk of corrosion damage due to unsuitable combustion and room air

Sprays, solvents, chlorinated cleaning agents, paint, adhesives, ammonia compounds, dust or similar substances may lead to corrosion on the product and in the flue system.

- ▶ Ensure that the supply of combustion air is always free of fluorine, chlorine, sulphur, dust, etc.
- ▶ Ensure that no chemical substances are stored at the installation site.
- ▶ If you are installing the product in hairdressing salons, painter's or joiner's workshops, cleaning businesses or similar locations, choose a separate installation room in which the room air is technically free of chemical substances.
- ▶ Ensure that the combustion air is not routed through chimneys which have previously been used with floor-standing oil-fired boilers, or with other boilers, which could cause soot to build up in the chimney.

1.3.14 Risk of material damage caused by leak detection sprays and fluids

Leak detection sprays and fluids block the filter for the mass flow sensor on the Venturi, thereby destroying the mass flow sensor.

- ▶ During repair work, do not apply any leak detection sprays or fluids to the covering cap on the filter for the Venturi.

1.3.15 Risk of material damage caused by using an unsuitable tool

- ▶ Use the correct tool.

1.3.16 Risk of material damage caused by frost

- ▶ Do not install the product in rooms prone to frost.

1.3.17 PERICOLI!

- ▶ Miros de gaz!
- ▶ Pericol de explozie și incendiu din cauza funcționării defecte!
- ▶ Pericol de intoxicație cu monoxid de carbon!
- ▶ Risc de arsuri termice!
- ▶ Apa de la robinet poate avea temperatură mare!
- ▶ Pericol de electrocutare!
- ▶ Pentru echipamente conectate la rețeaua electrică!
- ▶ Înainte de instalare citiți cu atenție instrucțiunea de instalare!
- ▶ Înainte de punerea în funcțiune citiți cu atenție instrucțiunea de exploatare!
- ▶ De instalat dispozitivul numai în încăperi ventilate corespunzător!
- ▶ Respectați cerințele de întreținere din instrucțiunea de exploatare!

1.4 Regulations (directives, laws, standards)

- ▶ Observe the national regulations, standards, directives, ordinances and laws.

2 Notes on the documentation

2 Notes on the documentation

2.1 Observing other applicable documents

- ▶ Always observe all the operating and installation instructions included with the system components.

2.2 Storing documents

- ▶ Pass these instructions and all other applicable documents on to the end user.

2.3 Validity of the instructions

These instructions apply only to:

Product article number

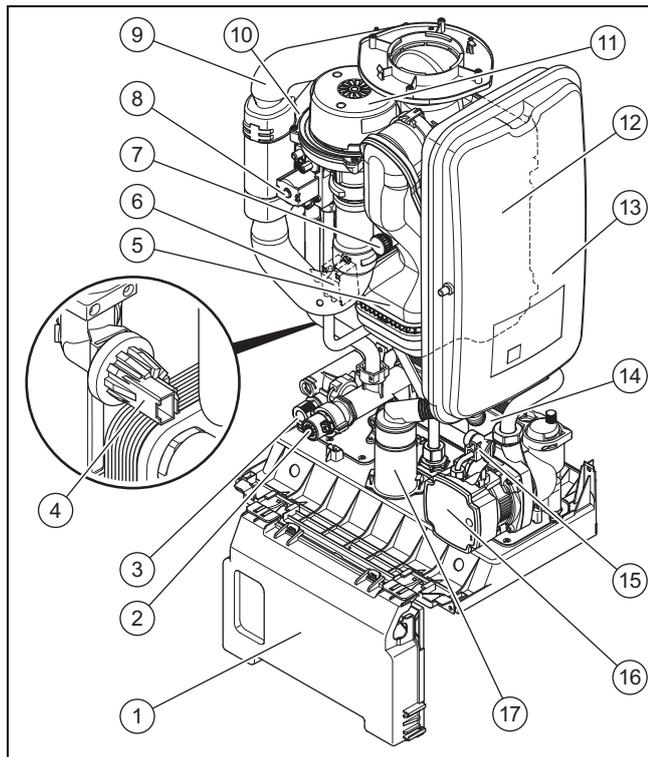
Atomix P 20 – A/2 (H-UA/MD)	0010036126
Atomix P 24 – A/2 (H-UA/MD)	0010036127
Atomix P 28 – A/2 (H-UA/MD)	0010036128

3 Product description

3.1 Product designation

The product is a Cazan în condensajie pe gaz.

3.2 Functional elements for the combi boiler



1	Electronics box	8	Gas valve assembly
2	Diverter valve	9	Air intake pipe
3	Heating circuit expansion relief valve	10	Ignition electrode
4	Pressure sensor	11	Fan
5	Flue pipe	12	Primary heat exchanger
6	Ignition transformer	13	Heating expansion vessel
7	Flue gas analysis point	14	Plate heat exchanger

15	Volume flow sensor	17	Condensate siphon
16	Heating pump		

3.3 Data plate

The data plate is mounted on the side of the product at the factory.

3.4 CE marking



The CE marking shows that the products comply with the basic requirements of the applicable directives as stated on the declaration of conformity.

The declaration of conformity can be viewed at the manufacturer's site.

3.5 National mark of conformity SM for the Republic of Moldova



The product's label showing the national conformity mark SM for the Republic of Moldova shows that the products have been put through a conformity assessment and that they comply with all the basic requirements from the standards documents of the Republic of Moldova that apply to them (the products).

3.6 Country of origin

Country of manufacture	Fabricat în Turcia
------------------------	--------------------

3.7 Regulations on packaging, transportation and storage

The products are delivered in the manufacturer's packaging.

The products are transported by road, by sea and by rail in accordance with the goods transport regulations that apply to the relative means of transport. During transportation, it is absolutely essential for the product to be firmly secured against moving horizontally and vertically.

Products that are not installed are stored in the manufacturer's packaging. The products must be stored under standard conditions in closed rooms that have natural air circulation (non-aggressive and dust-free environment, temperature gradients of -10 °C to +37 °C, up to 80% air humidity, without shocks or vibrations).

3.8 Duration of storage

- Duration of storage: 2 years from production date

3.9 Service life

If the regulations on transportation, storage, installation and operation are observed, the product's expected service life is 10 years from the date of installation.

3.10 Production date

You can find the production date (week, year) in the serial number on the identification plate:

- The third and fourth digit in the serial number specify the year of production (two digits).
- The fifth and sixth digit of the serial number specify the week of production (from 01 to 52).

4 Set-up

4.1 Unpacking the product

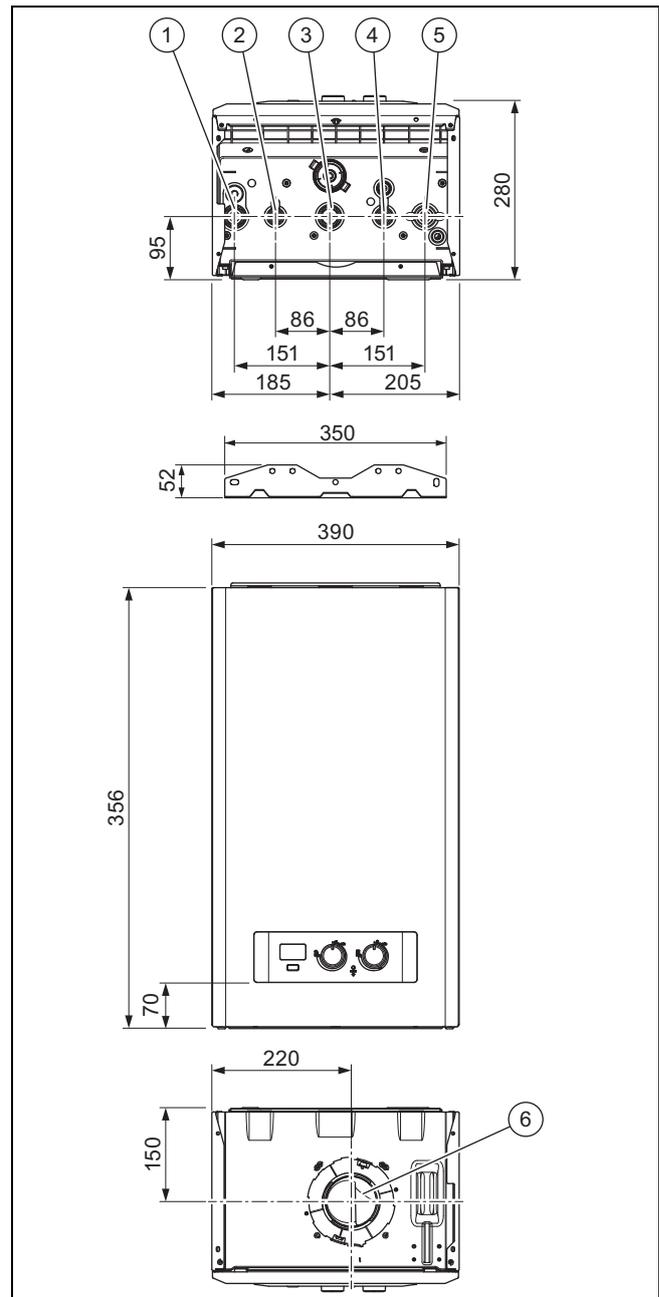
1. Remove the product from its box.
2. Remove the protective film from all of the product's components.

4.2 Checking the scope of delivery

- ▶ Check that the scope of delivery is complete and intact.

Number	Designation
1	Heat generator
1	Wall-mounting equipment
2	Screws with rawl plugs for the wall-mounting equipment
1	Flexible condensate discharge pipe
1	Flexible drain pipe for the expansion relief valve
6	1/2" and 3/4" seal in the bag
1	Mounting template
1	Enclosed documentation
1	Equipment connection piece

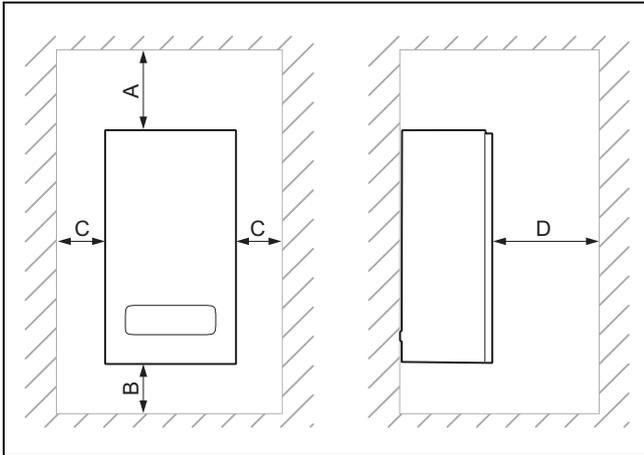
4.3 Dimensions



- | | | | |
|---|-------------------------------|---|--------------------------|
| 1 | Heating flow | 4 | Cold water connection |
| 2 | Domestic hot water connection | 5 | Heating return |
| 3 | Gas connection | 6 | Air/flue pipe connection |

4 Set-up

4.4 Minimum clearances



	Minimum clearance	
A		150 mm
B		150 mm
C		70 mm
D		600 mm

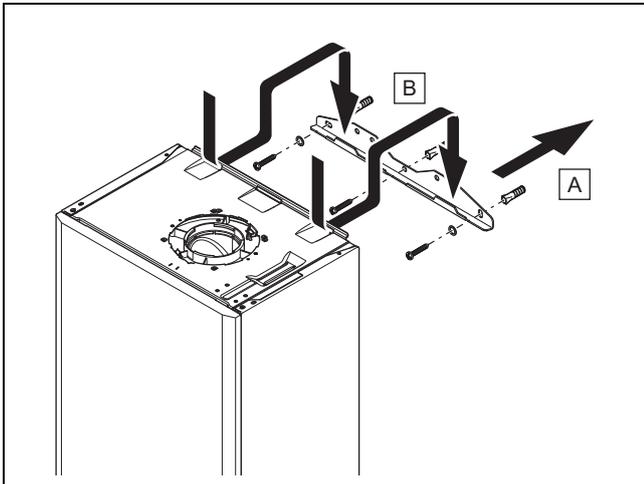
4.5 Clearance from combustible components

It is not necessary to maintain a clearance between the product and components made of combustible materials that goes beyond the minimum clearances (→ Page 8).

4.6 Using the mounting template

- ▶ Use the mounting template to ascertain the locations at which you need to drill holes.

4.7 Wall-mounting the product



1. Check whether the wall has sufficient load-bearing capacity to bear the operating weight of the product.
2. Check whether the wall is heat-sensitive. If the wall is heat-sensitive, you must insulate the wall sufficiently against heat.
3. Check if the supplied fixing material may be used for the wall.

Condition: The load-bearing capacity of the wall is sufficient, The fixing material may be used for the wall

- ▶ Wall-mount the product as described.

Condition: The load-bearing capacity of the wall is not sufficient

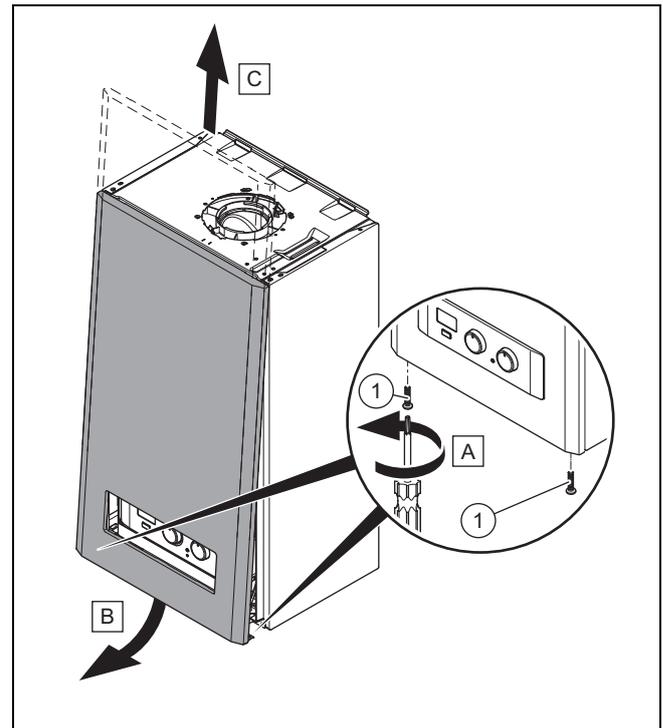
- ▶ Ensure that wall-mounting apparatus on-site has a sufficient load-bearing capacity. Use individual stands or primary walling, for example.
- ▶ Do not wall-mount the product if you cannot provide wall-mounting apparatus with a sufficient load-bearing capacity.

Condition: The fixing material may not be used for the wall

- ▶ Wall-mount the product as described using the permitted fixing material provided on-site.

4.8 Removing/installing the front casing

4.8.1 Removing the front casing



1. Undo the two screws (1).
2. Gently press the front casing backwards in the centre so that the latching lug is released.
3. Pull the front casing forwards at the bottom edge.
4. Lift the front casing upwards from the bracket.

4.8.2 Installing the front casing

- ▶ Refit the components in the reverse order.

4.9 Removing/installing the side section

4.9.1 Removing the side section



Caution.

Risk of material damage caused by mechanical deformation.

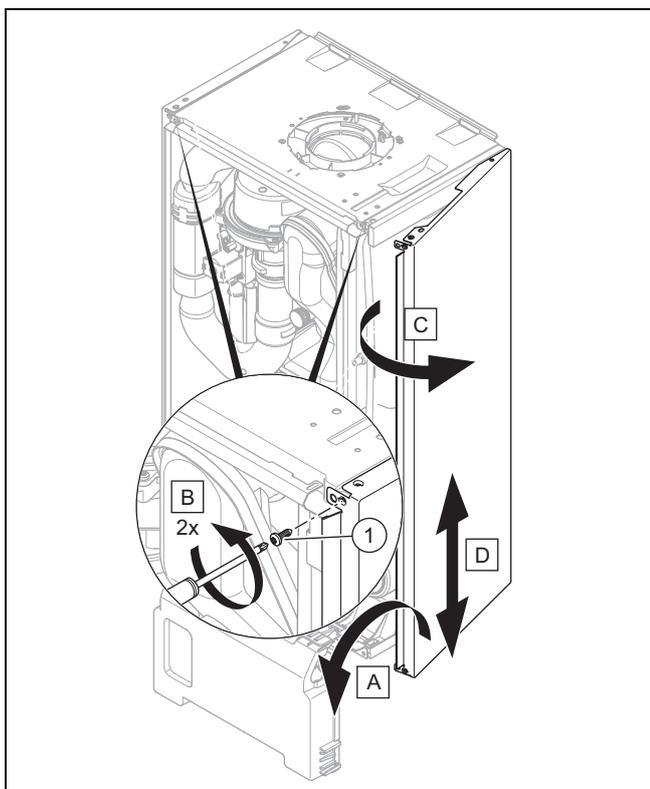
Removing **both** side sections may cause mechanical distortion in the product, which may cause damage to the piping, for example, and potentially result in leaks.

- ▶ Always only remove **one** side section – never both side sections at the same time.



Note

If there is sufficient lateral clearance (at least 70 mm), you can remove the side section to facilitate maintenance or repair work.



1. Hinge the electronics box forwards.
2. Hold on to the side section so that it cannot fall and unscrew both screws (1), one from the top and one from the bottom.
3. Tilt the side section to the outside and move it upwards and out.

4.9.2 Installing the side section

- ▶ Refit the components in the reverse order.

5 Installation



Danger!

Risk of scalding and/or damage due to incorrect installation leading to escaping water.

Mechanical stresses in the connection pipes may lead to leaks.

- ▶ Ensure that there is no mechanical stress when installing the connection pipes.



Caution.

Risk of material damage caused by residues in the pipelines.

Welding remnants, sealing residues, dirt or other residues in the pipelines may damage the product.

- ▶ Flush the heating installation thoroughly before installing the product.



Caution.

Risk of material damage caused by changes to the pipes that have already been connected.

- ▶ Only bend connection pipes if they have not yet been connected to the product.

5.1 Checking the gas meter

- ▶ Make sure that the existing gas meter is capable of passing the rate of gas supply required.

5.2 Descaling the water

Scale deposition increases as the water temperature increases.

- ▶ Descale the water as required.

5.3 Gas and water connections



Caution.

Risk of damage caused by incorrect gas installation.

Excess test pressure or operating pressure may cause damage to the gas valve assembly.

- ▶ Check the leak-tightness of the gas valve assembly using a maximum pressure of 11 kPa (110 mbar).



Caution.

Risk of material damage caused by corrosion

Due to non-diffusion-tight plastic pipes in the heating installation, air gets into the heating water. Air in the heating water causes corrosion in the heat generator circuit and in the product.

- ▶ If you use non-diffusion-tight plastic pipes in the heating installation, ensure that no air gets into the heat generator circuit.



Caution.

Risk of material damage due to heat transfer during soldering.

5 Installation

- ▶ Only solder connectors if the connectors are not yet screwed to the service valves.



Note

Apply heat insulation to the water pipes to the boiler outlet and to the installation.

Preliminary work

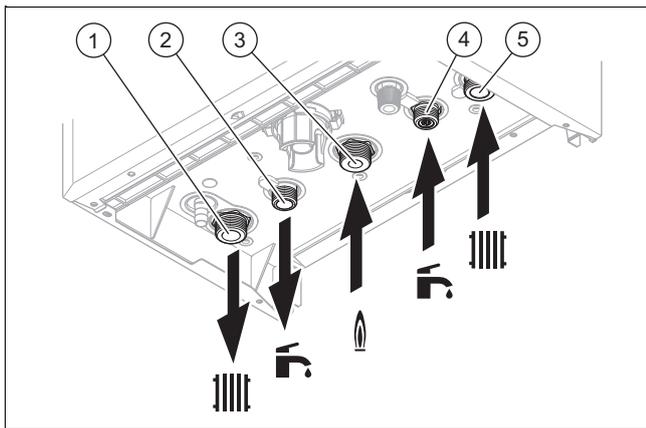
1. Check that the system volume and the volumetric capacity of the expansion vessel are compatible.
 - ▽ If the volume of the expansion vessel is insufficient for the installation.
 - ▶ Install an additional expansion vessel in the heating return, as close to the product as possible.
 - ▶ Install a non-return flap at the product's outlet (heating flow).
2. Ensure that the installation has the following components:

Working materials

A cold-water stopcock for the unit

A gas stopcock for the unit

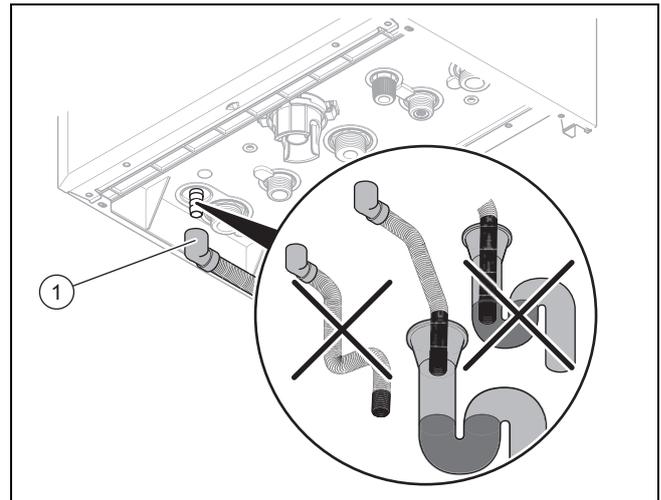
A filling/draining device in the heating installation



- | | | | |
|---|-------------------------------|---|--|
| 1 | Heating flow connection, G3/4 | 4 | Connection for the cold water pipe, G1/2 |
| 2 | Hot water connection, G1/2 | 5 | Heating return connection, G3/4 |
| 3 | Gas connection, G3/4 | | |

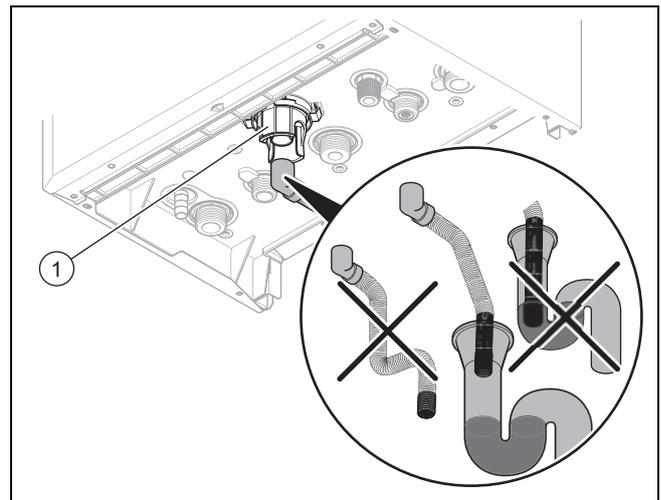
1. Connect the water and gas connections in accordance with the applicable standards.
2. Purge the gas pipe before start-up.
3. Check whether the connections (→ Page 18) are leak-tight.

5.4 Connecting the drain pipework for the expansion relief valve



- ▶ Ensure that the pipeline is visible.
- ▶ Connect the expansion relief valve (1) to a suitable discharge siphon. Use the plastic hose supplied to do this.
 - ◀ The components must be set up in such a way that you can see the water flowing out.

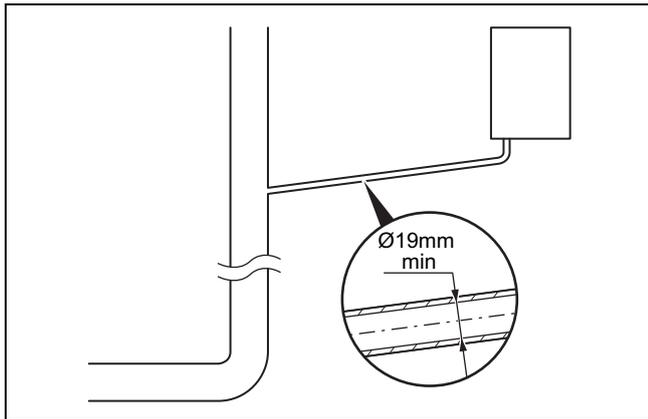
5.5 Connecting the condensate discharge pipe



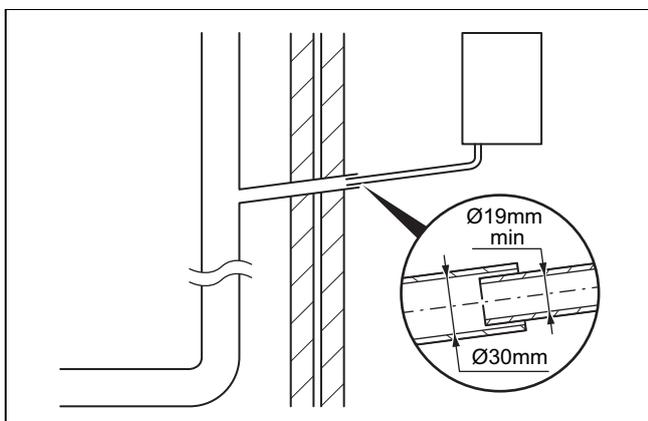
- ▶ Follow the instructions listed here and observe any legal directives and local regulations on condensate discharge.
- ▶ Use PVC or another material that is suitable for draining the non-neutralised condensate.
- ▶ If you cannot guarantee that the materials from which the drain pipework is made are suitable, install a system for neutralising the condensate.
- ▶ Ensure that the connection between the condensate discharge pipe and the drain hose is not leak-tight.
- ▶ Connect the condensate siphon (1). Use the plastic hose supplied to do this.

5.5.1 Condensate discharge systems

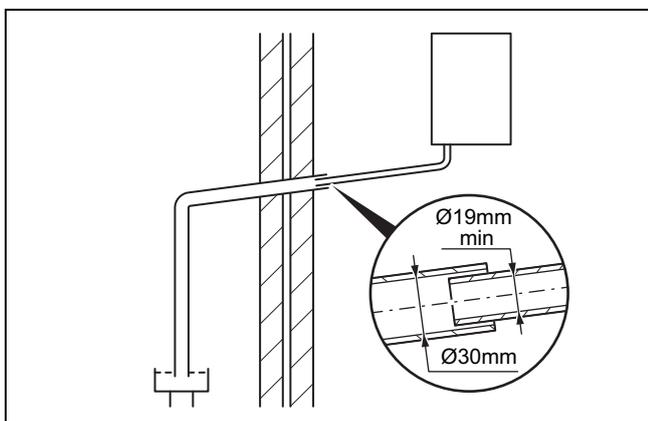
5.5.1.1 Internal drain and purging pipe



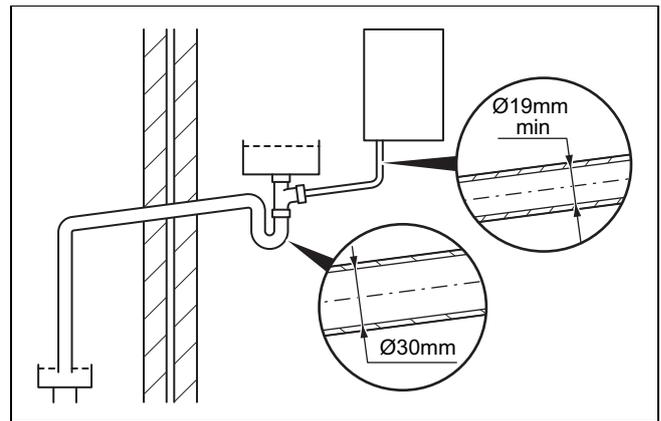
5.5.1.2 External drain and purging pipe



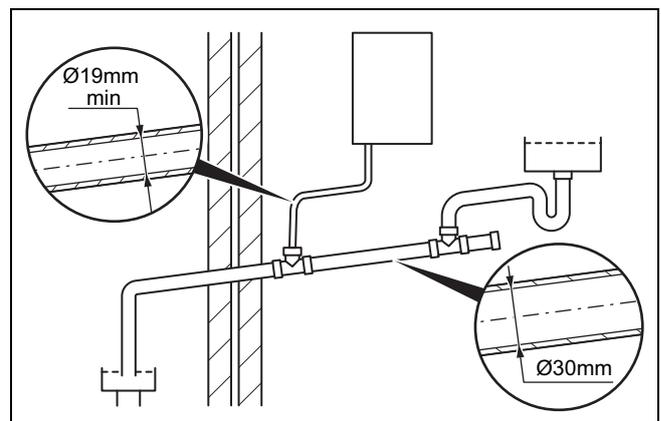
5.5.1.3 External drain to a gutter or a funnel



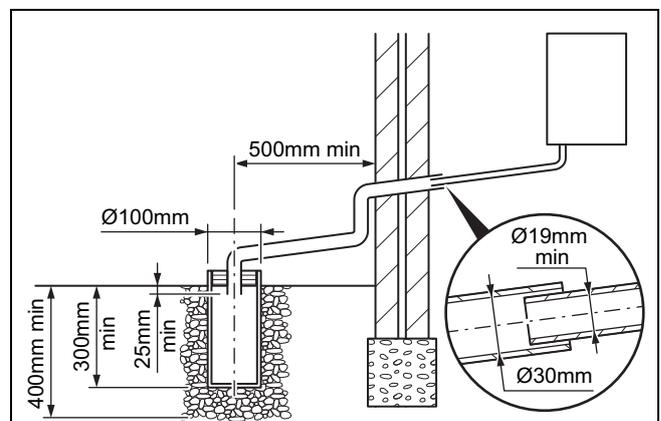
5.5.1.4 Internal drain in a combi sink outflow



5.5.1.5 Internal drain below a sink outflow

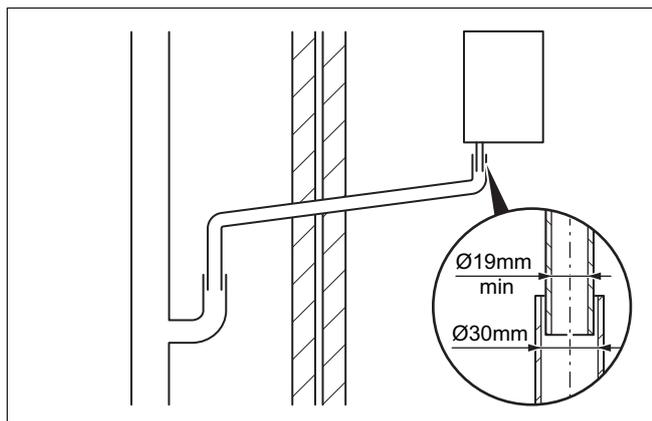


5.5.1.6 External drain to a soakaway



5 Installation

5.5.1.7 External drain to a rainwater drain pipe



5.6 Flue installation

5.6.1 Installing and connecting the air/flue pipe



Danger!

Risk of injury caused by unapproved air/flue pipes.

The heat generators are system-certified together with the original air/flue pipes. For installation type B23P, third-party accessories are also permitted. You can find out if the heat generator is permitted for B23P in the technical data.

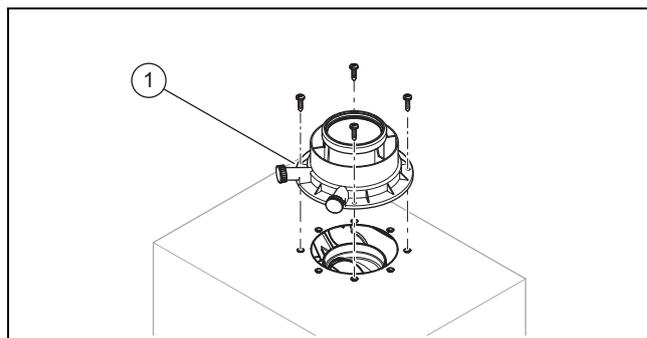
- ▶ Only use original air/flue pipes from the manufacturer.
- ▶ If third-party accessories are permitted for B23P, route the flue gas pipe connections properly, seal them and secure them against slipping out.

1. You can find out which air/flue pipes may be used by consulting the enclosed set-up instructions for the air/flue system.

Condition: Installation in damp rooms

- ▶ You must connect the product to a room-sealed air/flue system. The combustion air must not be taken from the installation site.
2. Install the air/flue pipe as described in the set-up instructions.

5.6.2 Installing the 60/100 mm or 80/125 mm connector



1. Position the connector (1) on the product.
2. Use the four screws to screw the connector in tightly.

5.7 Electrical installation

Only qualified electricians may carry out the electrical installation.



Danger!

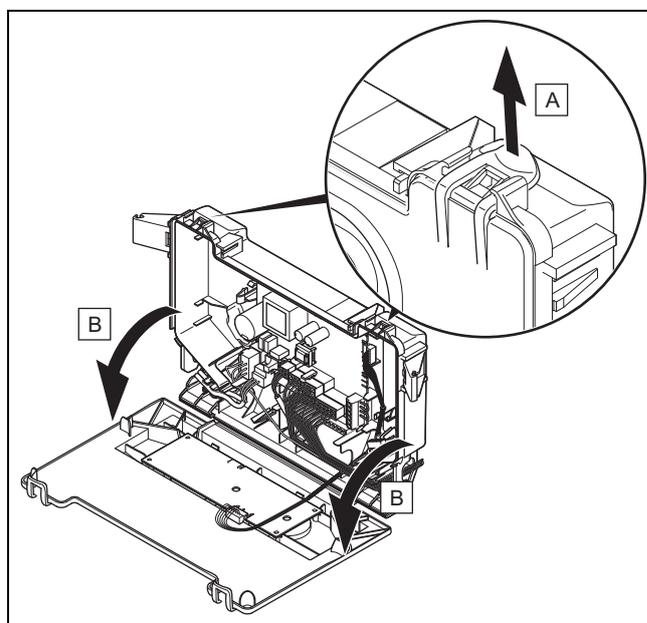
Risk of death from electric shock!

The power supply terminals L and N remain live even if the product is switched off:

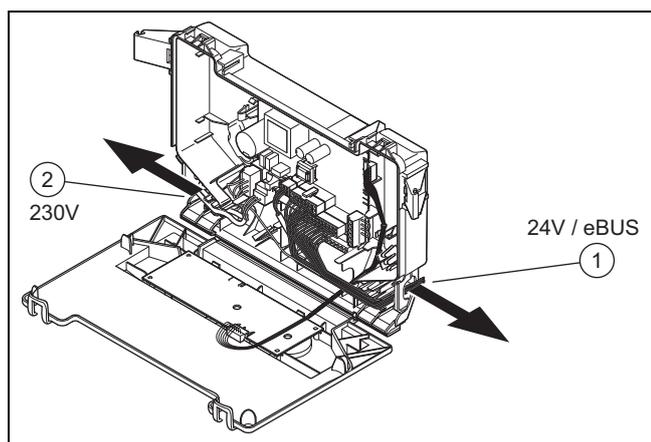
- ▶ Switch off the power supply.
- ▶ Secure the power supply against being switched back on.

- ▶ Make sure that the product is earthed.

5.7.1 Opening the electronics box



5.7.2 Cable route



1 24-V eBUS cable route 2 230 V cable route

5.7.3 General information about connecting cables



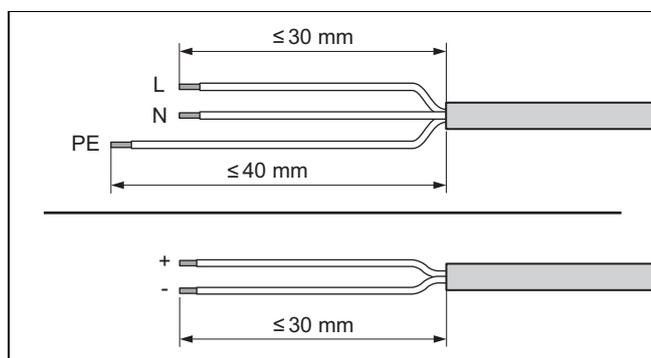
Caution.

Risk of material damage caused by incorrect installation.

Mains voltage at incorrect terminals and plug terminals may destroy the electronics.

- ▶ Do not connect any mains voltage to the eBUS (+/-) and RT 24 V terminals.
- ▶ Only connect the connection cable to the terminals marked for the purpose.

1. Route the connection cables of the components to be connected through the grommet provided on the underside of the product on the left.
2. Ensure that the grommet is plugged in correctly and that the cables have been routed correctly.
3. Ensure that the grommets envelop the connection cables tightly and with no visible gaps.
4. Use strain reliefs.
5. If required, shorten the connection cables.

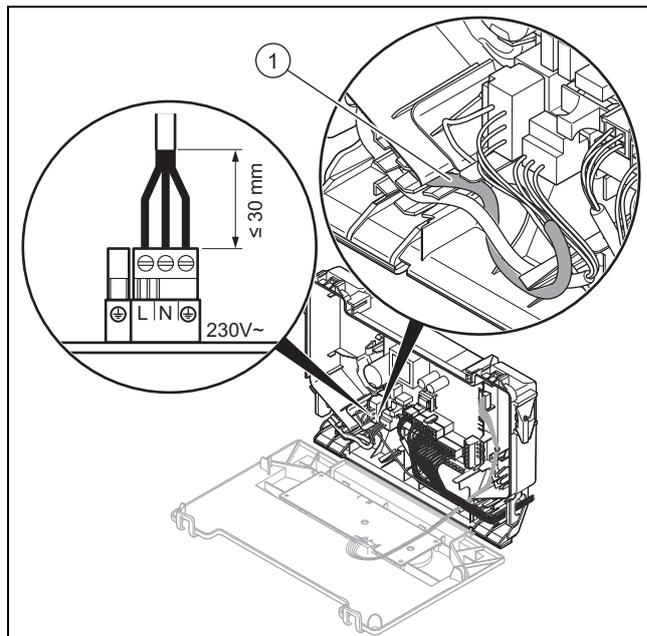


6. Strip the flexible cables as shown in the figure. In doing so, ensure that the insulation on the individual conductors is not damaged.
7. Only strip inner conductors just enough to establish stable connections.
8. To avoid short circuits resulting from loose individual wires, fit conductor end sleeves on the stripped ends of the conductors.

9. Screw the respective plug to the connection cable.
10. Check whether all conductors are inserted mechanically securely in the terminals of the plug. Remedy this if necessary.
11. Plug the plug into the associated PCB slot.
 - In doing so, observe the wiring diagram in the appendix.

5.7.4 Establishing the power supply

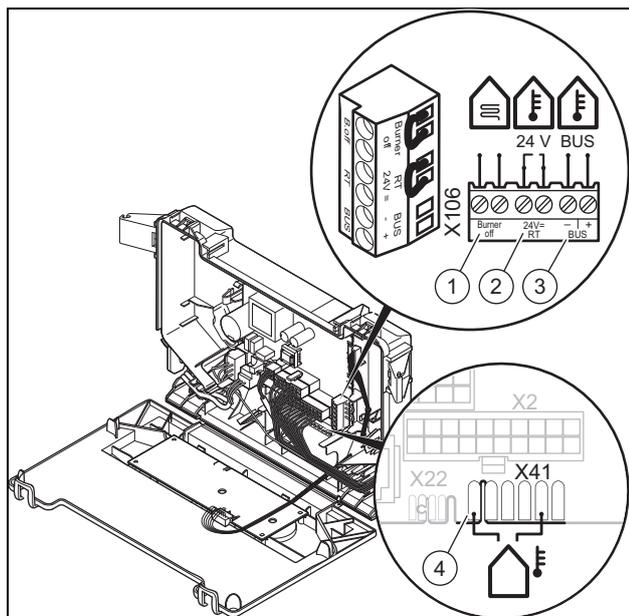
1. Observe all valid regulations.
2. Ensure that the nominal mains voltage is 230 V.



3. Attach a plug to the power supply cable.
4. Observe the flow of the power supply cable (1) in the electronics box in order to guarantee that there is no strain.
5. Insert the plug into the bush in the electronics box.
6. Insert the mains plug into the plug socket.
7. Make sure that access to the power supply is always available and is not covered or blocked.

6 Operation

5.7.5 Connecting controls to the electronics



- | | | | |
|---|---|---|-------------------------------------|
| 1 | Limit thermostat for underfloor heating | 3 | eBUS control or radio receiver unit |
| 2 | 24 V control | 4 | Outdoor temperature sensor, wired |
- Ensure that the product is voltage-free.
 - Connect the cables. (→ Page 13)
 - Connect the individual components depending on the installation type.

Condition: If installing a multi-circuit control.

- ▶ Change the pump mode (**d.18**) from Eco (intermittent pump operation) to Comfort (continuous pump operation).
- Close the electronics box.

6 Operation

6.1 Using diagnostics codes

You can use the parameters marked as adjustable in the table of diagnostics codes to adapt the product to the installation and customer requirements.

Overview of diagnostics codes (→ Page 26)

6.1.1 Activating diagnostics codes

- Press and hold the button for nine seconds.
 - ◀ is shown in the display.
- Turn the rotary knob to set the value.
 - ◀ The access code (**96**) is reserved for the competent person.
 - ◀ The access code (**35**) is reserved for the customer service.
- Press the button to confirm.
 - ◀ is shown in the display.

6.1.2 Setting a diagnostics code

- Turn the rotary knob to select the diagnostics code.
- Press the button to confirm.
 - ◀ The value and/or status of the diagnostics code is shown in the display.
- Turn the rotary knob to set the value.
- Press the button to confirm.
 - ◀ is shown in the display.
- Proceed accordingly for all parameters that need to be changed.
- Press and hold the button for three seconds to finish configuring the diagnostics codes.

6.2 Displaying the status codes

The status codes display the product's current operating mode.

Status codes – Overview (→ Page 30)

6.2.1 Calling up status codes

- Press and hold the button for five seconds.
 - ◀ is shown in the display.
- Press the button to exit this menu.

6.3 Using check programmes

By activating various check programmes, you can trigger various special functions on the product.

Check programmes – Overview (→ Page 26)

6.3.1 Activating check programmes

- Press and hold the button for seven seconds.
 - ◀ is shown in the display.
- Turn the rotary knob to select the check programme.
- Press the button to confirm.
 - ◀ The selected check programme is started.
- Press the button to finish the check programme.
- Press and hold the button for three seconds to finish the check programmes.



Note

If you do not press any button for 15 minutes, the current programme is automatically cancelled and the basic display is shown.

7 Start-up

7.1 Checking the installation

- ▶ Before initial start-up, use the start-up checklist in the appendix to check that the unit has been installed correctly.

7.2 Checking the gas type

Make sure that the product is set up correctly by checking the gas type. This ensures optimum combustion quality.

- ▶ Check the gas type as part of routine product maintenance work when replacing components, carrying out work on the gas route and carrying out a gas conversion.

7.3 Checking the factory setting

The product's combustion has been factory tested and is preset for operation with the gas group indicated on the data plate.

The product is only authorised to be operated with natural gas.

- ▶ Check the information about the gas type indicated on the data plate and compare this with the gas type available at the installation site.

Condition: The product design is **not compatible** with the local gas group

- ▶ Do not start up the product.

Condition: The product design is **compatible** with the local gas group

- ▶ Proceed as described below.

7.4 Checking and treating the heating water/filling and supplementary water



Caution.

Risk of material damage due to poor-quality heating water

- ▶ Ensure that the heating water is of sufficient quality.

- ▶ Before filling or topping up the installation, check the quality of the heating water.

Checking the quality of the heating water

- ▶ Remove a little water from the heating circuit.
- ▶ Check the appearance of the heating water.
- ▶ If you ascertain that it contains sedimentary materials, you must desludge the installation.
- ▶ Use a magnetic rod to check whether it contains magnetite (iron oxide).
- ▶ If you ascertain that it contains magnetite, clean the installation and apply suitable corrosion-inhibition measures, or fit a magnetic filter.
- ▶ Check the pH value of the removed water at 25 °C.
- ▶ If the value is below 6.5 or above 8.5, clean the installation and treat the heating water.
- ▶ Ensure that oxygen cannot get into the heating water.

Checking the filling and supplementary water

- ▶ Before filling the installation, measure the hardness of the filling and supplementary water.

Treating the filling and supplementary water

- ▶ Observe all applicable national regulations and technical rules when treating the filling and supplementary water.

Provided the national regulations and technical rules do not stipulate more stringent requirements, the following applies:

You must treat the heating water in the following cases

- If the entire filling and supplementary water quantity during the operating life of the system exceeds three times the nominal volume of the heating installation, or
- If the guideline values listed in the following table are not met, or
- If the pH value of the heating water is less than 6.5 or more than 8.5.

Total heating output	Water hardness at specific system volume ¹⁾					
	≤ 20 l/kW		> 20 l/kW ≤ 50 l/kW		> 50 l/kW	
kW	°dH	mol/m ³	°dH	mol/m ³	°dH	mol/m ³
< 50	< 16.8	< 3	11.2	2	0.11	0.02
> 50 to ≤ 200	11.2	2	8.4	1.5	0.11	0.02
> 200 to ≤ 600	8.4	1.5	0.11	0.02	0.11	0.02
> 600	0.11	0.02	0.11	0.02	0.11	0.02

1) Nominal capacity in litres/heating output; in the case of multi-boiler systems, the smallest single heating output is to be used.



Caution.

The use of unsuitable heating water may cause aluminium corrosion and a resulting lack of leak-tightness.

In contrast to steel, grey cast iron or copper, for example, aluminium reacts with alkaline heating water (pH value > 8.5) to produce substantial corrosion.

- ▶ When using aluminium, make sure that the pH value of the heating water is between 6.5 and a maximum of 8.5.



Caution.

Risk of material damage if the heating water is treated with unsuitable additives.

Unsuitable additives may cause changes in the components, noises in heating mode and possibly subsequent damage.

- ▶ Do not use any unsuitable antifreeze and corrosion inhibitors, biocides or sealants.

No incompatibility with our products has been detected to date with proper use of the following additives.

- ▶ When using additives, follow the manufacturer's instructions without exception.

We accept no liability for the compatibility of any additive or its effectiveness in the rest of the heating system.

7 Start-up

Additives for cleaning measures (subsequent flushing required)

- Adey MC3+
- Adey MC5
- Fernox F3
- Sentinel X 300
- Sentinel X 400

Additives intended to remain permanently in the installation

- Adey MC1+
- Fernox F1
- Fernox F2
- Sentinel X 100
- Sentinel X 200

Additives for frost protection intended to remain permanently in the installation

- Adey MC ZERO
- Fernox Antifreeze Alpha 11
- Sentinel X 500

- ▶ If you have used the above-mentioned additives, inform the end user about the measures that are required.
- ▶ Inform the end user about the measures required for frost protection.

7.5 Preventing low water pressure

The filling pressure should be between 0.05 and 0.27 MPa (0.5 and 2.7 bar).



Note

If the heating flow temperature is shown in the display, temporarily deactivate that heating mode in order to display the pressure.

If the heating installation extends over several storeys, higher filling pressures may be required to avoid air entering the heating installation.

If the water pressure falls below 0.05 MPa (0.5 bar), the value flashes in the display.

If the water pressure falls below 0.03 MPa (0.3 bar), the product switches off. The display shows 0.0 MPa (0.0 bar). Fault **F.22** is stored in the fault list.

- ▶ Top up the heating water to start the product up again.
 - ◁ The pressure value flashes in the display until a pressure of 0.05 MPa (0.5 bar) or higher has been reached.

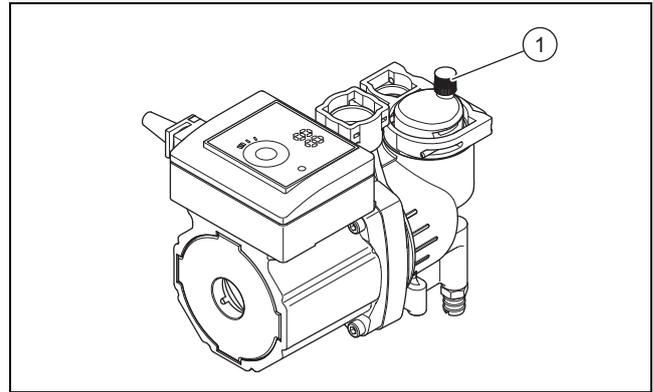
7.6 Switching on the product

- ▶ Switch on the product via the main switch installed on-site.

7.7 Filling the heating installation

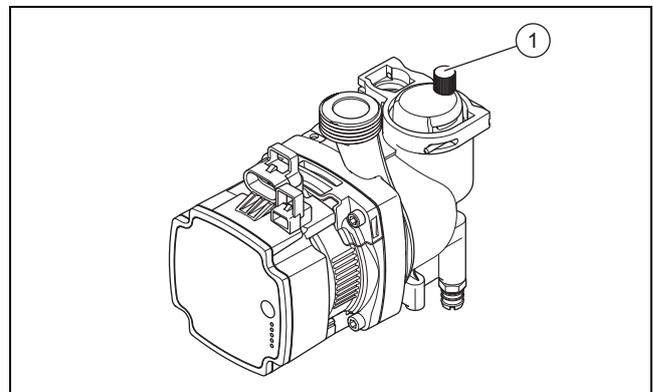
1. Flush the heating installation through.

Condition: Atromix P20, Atromix P24



- ▶ Remove the plug from the automatic air vent (1) on the pump by turning it twice.

Condition: Atromix P28



- ▶ Remove the plug from the automatic air vent (1) on the pump by turning it twice.
2. Fill with water until the required filling pressure is reached.
 - ◁ The product does not start up.
 - ◁ The heating system pressure flashes in the display.
 - ◁ If the pressure is lower than 0.05 MPa (0.5 bar) and is then increased above 0.07 MPa (0.7 bar) for longer than 15 seconds, an automatic air vent function is activated.
 3. Leave the pump's automatic air vent open.
 4. Ensure that the domestic hot water pressure corresponds to the required filling pressure. If it does not, refill the product.



Note

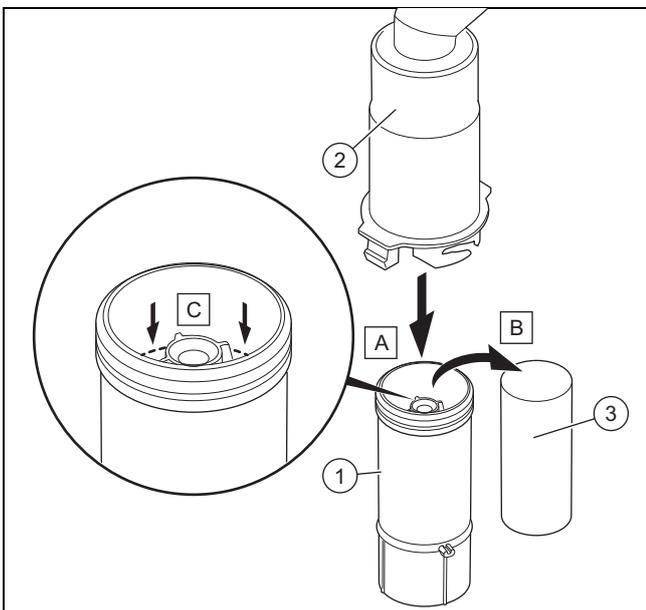
You can use the filling tap on the underside of the product to refill it.

5. Check that all connections are leak-tight.

7.8 Purging the heating installation

1. Before purging the circuit, ensure that the filling pressure in the heating installation is above the minimum level.
2. Open all thermostatic radiator valves.
3. Open all purging valves in the installation.
4. To purge the heating installation, select the check programme P.06.
 - ◁ The product does not start up.
5. Purge all of the radiators until water flows out of the purging valve without bubbles and the heating installation is filled with water.
6. Close all purging valves in the installation.
7. If there is still too much air in the heating installation at the end of the check programme P.06, restart the check programme.

7.9 Filling the condensate siphon



1. Unclip the lower section of the siphon (1) from the upper section of the siphon (2).
2. Remove the float (3).
3. Fill the lower section of the siphon with water up to 10 mm below the upper edge of the condensate discharge pipe.
4. Re-insert the float (3).



Note

Check that the float is present in the condensate siphon.

5. Clip the lower section of the siphon (1) into the upper section of the siphon (2).

7.10 Filling the domestic hot water circuit

1. Open the water tap to fill the domestic hot water circuit.
2. Close the water tap once the appropriate volume of water has flowed out.
 - ◁ The domestic hot water circuit is filled.
3. Check all connections and the entire system for leak-tightness.

7.11 Checking the gas setting

Only a qualified competent person is authorised to implement the settings on the gas valve assembly.

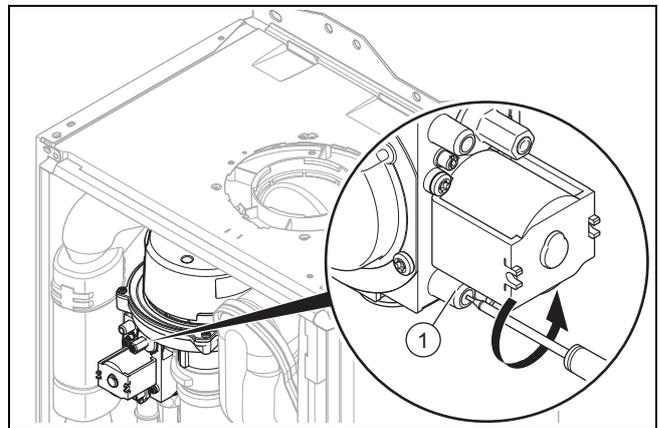
Each destroyed seal must be replaced.

The CO₂ adjusting screw must be sealed.

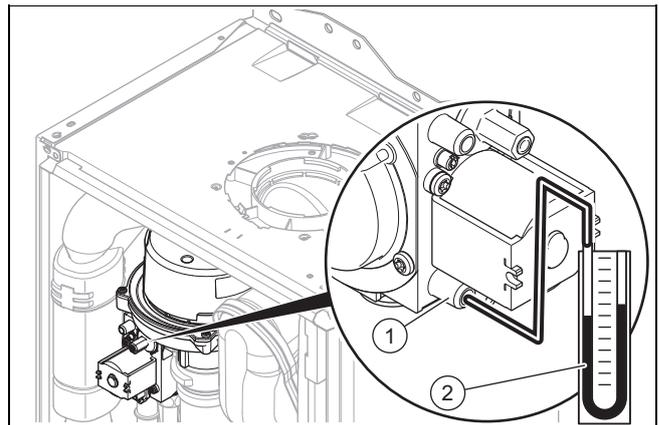
Never modify the factory setting of the gas pressure regulator of the gas valve assembly.

7.11.1 Checking the gas connection pressure (gas flow pressure)

1. Close the gas stopcock.



2. Use a screwdriver to undo the sealing screw on the test nipple (1) of the gas valve assembly.



3. Connect a manometer (2) to the test nipple (1).
4. Open the gas stopcock.
5. Start up the product with the check programme (P.01) and set the value.

7 Start-up

- Setting value for the programme P.01: 100

Check programmes – Overview (→ Page 26)

6. Measure the gas connection pressure against atmospheric pressure.

Permissible connection pressure

Moldova	Natural gas	G20	1.0 to 1.7 kPa (10.0 to 17.0 mbar)



Note

The connection pressure is measured at the gas valve assembly, meaning that the permissible minimum value may be 0.1 kPa (1 mbar) lower than the minimum value specified in the table.

Result:

Gas connection pressure **not** in the permissible range



Caution.

Risk of material damage and operating faults caused by incorrect gas connection pressure.

If the gas connection pressure lies outside the permissible range, this can cause operating faults in and damage to the product.

- ▶ Do not make any adjustments to the product.
- ▶ Do not start up the product.

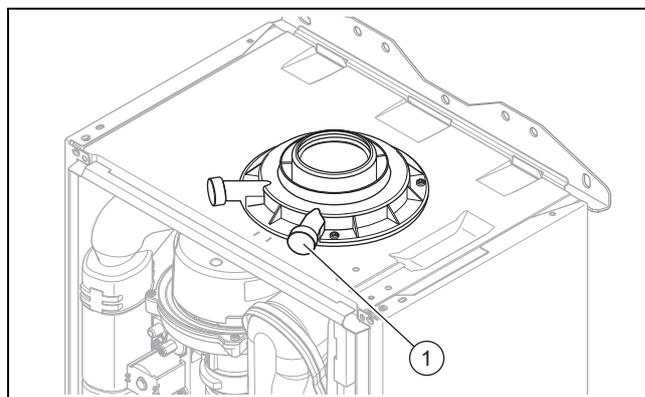
- ▶ If you are unable to remedy the fault, contact the gas supply company.

- ▶ Close the gas stopcock.

7. Decommission the product.
8. Close the gas stopcock.
9. Remove the manometer.
10. Tighten the screw on the test nipple (1).
11. Open the gas stopcock.
12. Check the test nipple for gas tightness.

7.11.2 Checking the CO₂ content

1. Start up the product with the check programme (P.01) and set the value.
 - Setting value for the programme P.01: 100
 Check programmes – Overview (→ Page 26)
2. Wait until the value that is read is stable.
 - Waiting period for reading a stable value: 5 min



3. Unscrew the cover from the flue gas analysis point (1).
4. Measure the CO₂ content at the flue gas analysis point (1).
5. Compare the measured value with the corresponding value in the table.

Checking the CO₂ content

Moldova
Removed front casing / installed front casing
Natural gas
H
9.2 ± 1 %

- ◁ The value is OK.
- ▽ The value is not OK; you cannot start up the product.
 - ▶ Inform Customer Service.

7.12 Checking leak-tightness

- ▶ Check the gas pipe, the heating circuit and the hot water circuit for leak-tightness.
- ▶ Check that the flue system has been installed correctly.

7.12.1 Checking the heating mode

1. Activate the heating mode on the user interface.
2. Turn all thermostatic valves on the radiators until they are fully open.
3. Allow the product to operate for at least 15 minutes.
4. Fill and purge the heating installation. (→ Page 16)
5. Purge the heating installation. (→ Page 17)
6. Activate the display for the current operating mode. (→ Page 14)

Status codes – Overview (→ Page 30)

 - ◁ If the product is working correctly, the display shows **S.04**.

7.12.2 Checking the domestic hot water generation

1. Activate the domestic hot water mode on the user interface.
2. Open a hot water tap completely.
3. Activate the display for the current operating mode. (→ Page 14)

Overview of diagnostics codes (→ Page 26)

- ◁ If the product is working correctly, the display shows **S.14**.

8 Adapting the unit to the heating installation

You can reset/change the system parameters (section "Using diagnostics codes").

Overview of diagnostics codes (→ Page 26)

8.1 Setting the burner anti-cycling time

To prevent frequent switching on and off of the burner and thus prevent energy losses, an electronic restart lockout is activated for a specific period each time the burner is switched off. The burner anti-cycling time is only active for the heating mode. Domestic hot water mode during a burner anti-cycling time does not affect the timing element.

8.1.1 Setting the burner anti-cycling time

- ▶ Set the diagnostics code. (→ Page 14)
Overview of diagnostics codes (→ Page 26)

8.1.2 Resetting the remaining burner anti-cycling time

- ▶ Press the fault clearance key.
◁ \rightarrow is shown in the display.

9 Handing over to the end user

- ▶ When you have finished the installation, attach the sticker supplied (in the end user's language) to the product cover.
- ▶ Explain to the end user how the safety devices work and where they are located.
- ▶ Inform the end user how to handle the product.
- ▶ In particular, draw attention to the safety warnings that the end user must follow.
- ▶ Inform the end user that they must have the product maintained in accordance with the specified intervals.
- ▶ Instruct the end user about measures taken for routing the combustion air supply and flue system.

10 Inspection and maintenance

10.1 Observing inspection and maintenance intervals

- ▶ Adhere to the minimum inspection and maintenance intervals. The inspection may require maintenance to be carried out earlier, depending on the results.
Inspection and maintenance work – Overview (→ Page 34)

10.2 Procuring spare parts

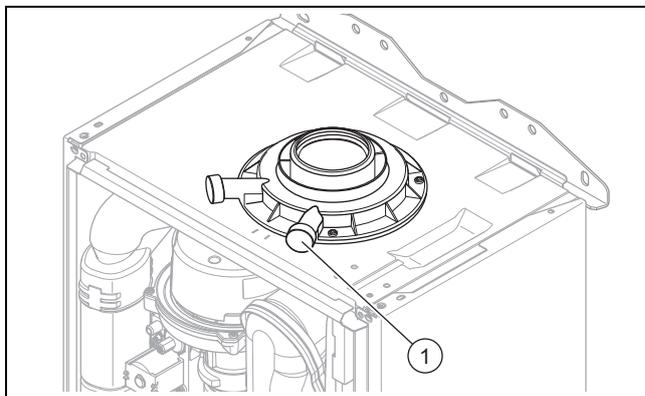
The original components of the product were also certified by the manufacturer as part of the declaration of conformity. If you use other, non-certified or unauthorised parts during maintenance or repair work, this may void the conformity of the product and it will therefore no longer comply with the applicable standards.

We strongly recommend that you use original spare parts from the manufacturer as this guarantees fault-free and safe operation of the product. To receive information about the available original spare parts, contact the contact address provided on the back page of these instructions.

- ▶ If you require spare parts for maintenance or repair work, use only the spare parts that are permitted for the product.

10.3 Checking the CO₂ content

1. Start up the product with the check programme (**P.01**) and set the value.
 - Setting value for the programme P.01: 100
Check programmes – Overview (→ Page 26)
2. Wait until the value that is read is stable.
 - Waiting period for reading a stable value: 5 min



3. Unscrew the cover from the flue gas analysis point (**1**).
4. Measure the CO₂ content at the flue gas analysis point (**1**).
5. Compare the measured value with the corresponding value in the table.

Checking the CO₂ content

Moldova
Removed front casing / installed front casing
Natural gas
H
9.2 ±1 %

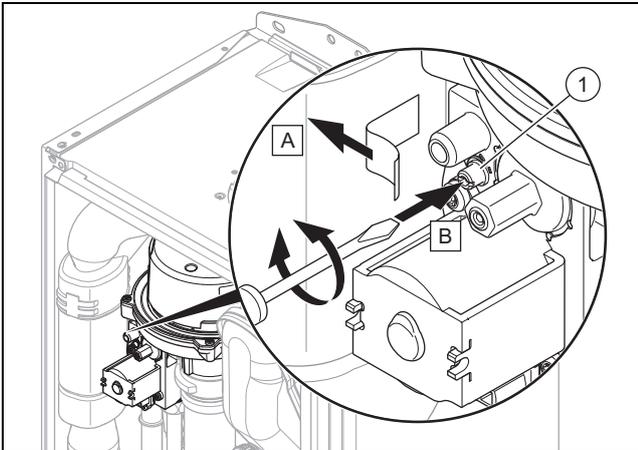
- ◁ The value is OK.

10 Inspection and maintenance

- ▽ The value is not OK; you cannot start up the product.
 - ▶ Set the CO₂ content. (→ Page 20)

10.4 Setting the CO₂ content

Condition: The CO₂ content must be adjusted



- ▶ Remove the sticker.
- ▶ Turn the screw (1) to set the CO₂ content (value with front casing removed).
 - ◁ To increase the CO₂ content: Turn anti-clockwise
 - ◁ To decrease the CO₂ content: Turn clockwise
- ▶ Only carry out the adjustment in increments of 1/8 turn and wait approximately 1 minute after each adjustment until the value has stabilised.
- ▶ Compare the measured value with the corresponding value in the table.

Setting the CO₂ content

	Moldova
	Removed front casing / installed front casing
	Natural gas
	H
CO ₂ at full load	9.2 ± 0.2 %
Set for Wobbe index W ₀	14.09 kW·h/m ³
O ₂ at full load	4.5 ± 1.8 vol. %
CO at full load	≤ 250 ppm
CO/CO ₂	≤ 0.0027

- ▽ If the setting is not in the specified adjustment range, you must not start up the product.
 - ▶ Inform Customer Service.
- ▶ Check whether the air-quality requirements with regard to carbon monoxide are fulfilled.
- ▶ Fit the front panel.

10.5 Removing the gas-air mixture unit

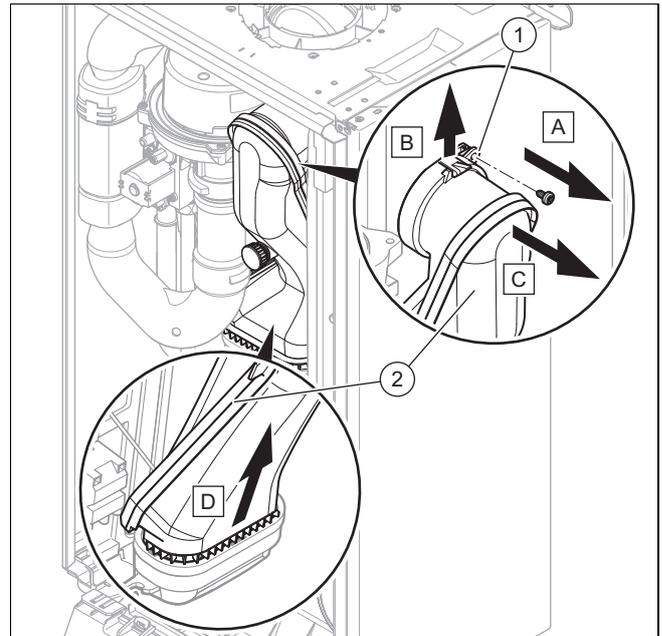


Note

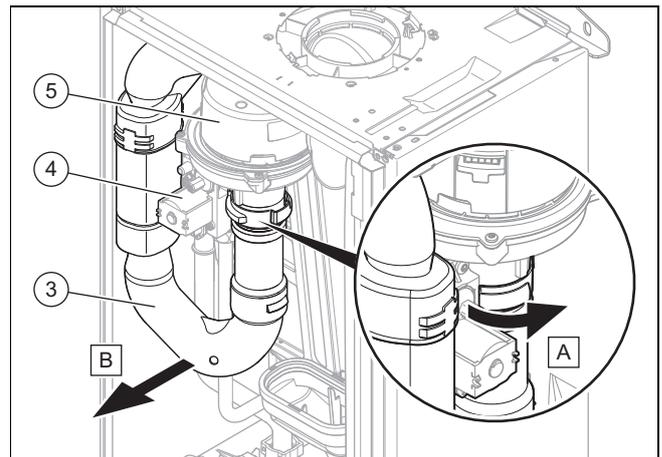
The gas-air mixture unit consists of three main components:

- Fan
- Gas valve assembly,
- Burner hood

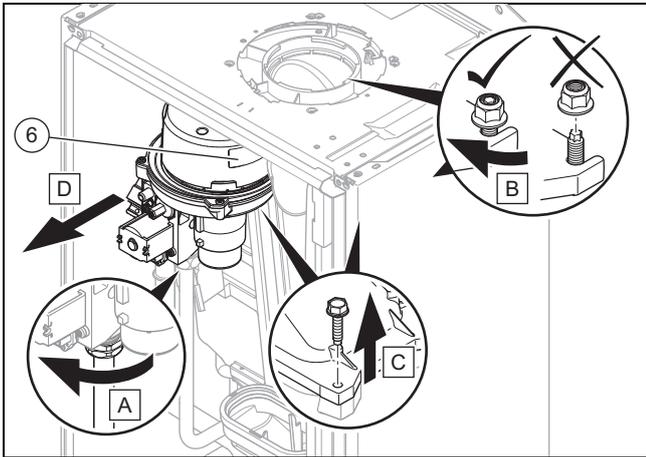
1. Switch off the product via the main switch.
2. Close the gas stopcock.
3. Remove the front casing. (→ Page 8)



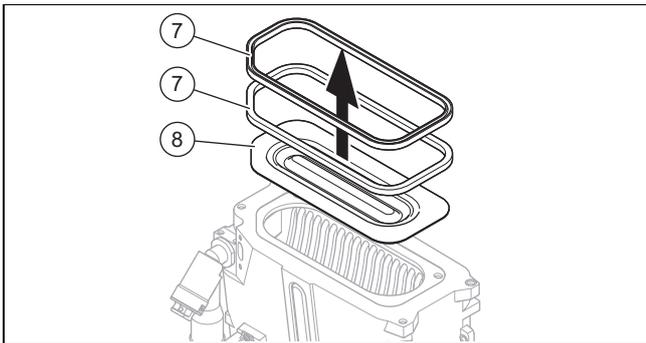
4. Remove the screw (1).
5. Push the clip upwards.
6. Remove the flue pipe (2).



7. Remove the air intake pipe (3).
8. Remove the plugs from the gas valve assembly (4) and from the fan (5).

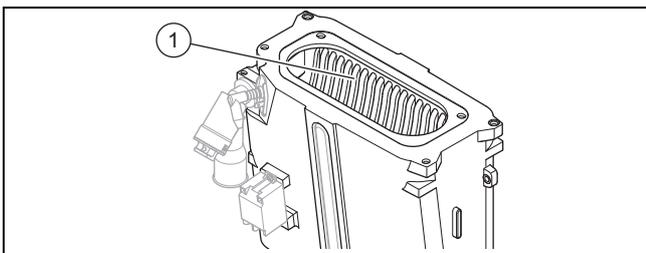


- Remove the gas-air mixture unit (6).



- Remove the burner seals (7) and the burner (8).
- Check the burner and the heat exchanger for damage and dirt.
- If necessary, clean or replace the components according to the following sections.
- Install the two new burner seals.

10.6 Cleaning the heat exchanger

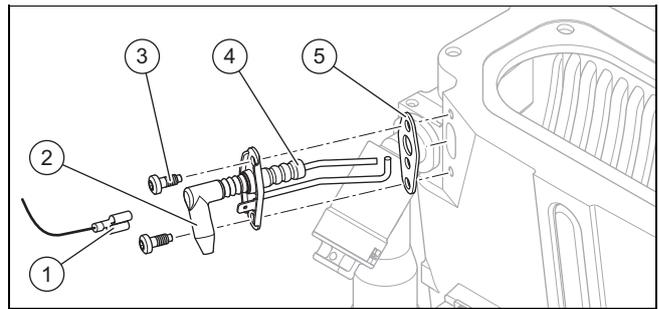


- Protect the open electronics box from spraying water.
- Clean the ribs of the heat exchanger (1) with water.
◀ The water runs out into the condensate tray.

10.7 Checking the burner

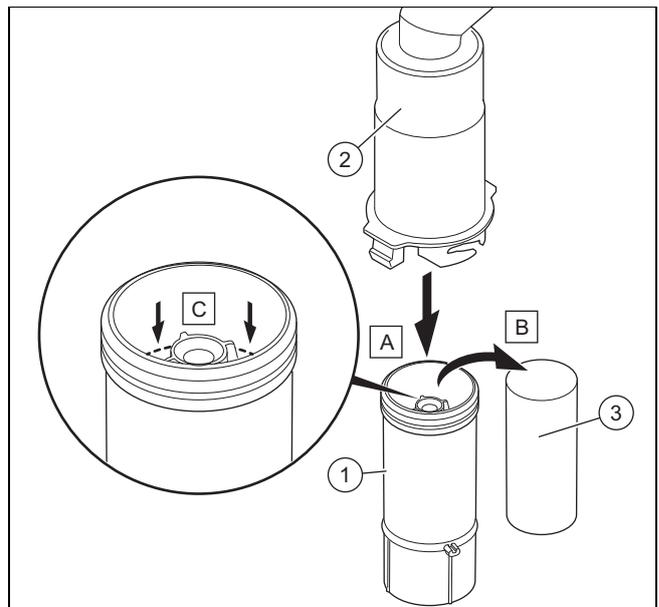
- Check the surface of the burner for possible damage. If you see any damage, replace the burner.
- Install the two new burner seals.

10.8 Checking the ignition electrode



- Disconnect the connection (2) and the earthing cable (1).
- Remove the fixing screws (3).
- Carefully remove the electrode from the combustion chamber.
- Check that the electrode ends (4) are undamaged.
- Check the electrode distance.
– Clearance for the ignition electrodes: 3.5 to 4.5 mm
- Make sure that the seal (5) is free from damage.
▽ If necessary, replace the seal.

10.9 Cleaning the condensate siphon



- Unclick the lower section of the siphon (1) from the upper section of the siphon (2).
- Remove the float (3).
- Flush out the float and lower section of the siphon with water.
- Fill the lower section of the siphon with water up to 10 mm below the upper edge of the condensate discharge pipe.
- Re-insert the float (3).



Note

Check whether the float is present in the condensate siphon.

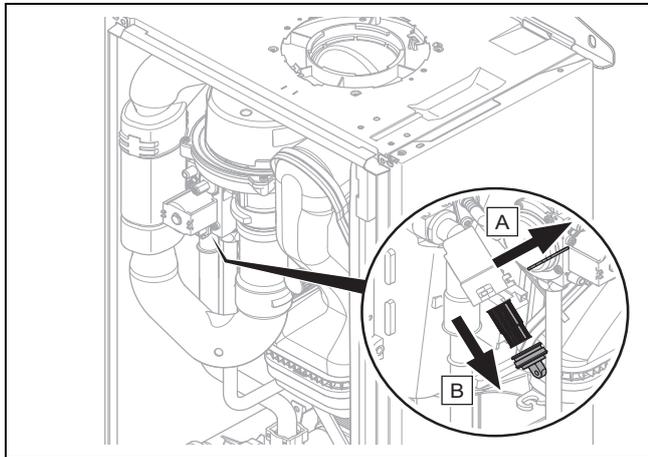
- Clip the lower section of the siphon (1) into the upper section of the siphon (2).

11 Troubleshooting

10.10 Cleaning the strainer in the cold water inlet

1. Close the main cold water supply line.
2. Drain the product on the domestic hot water side.
3. Remove the connector from the connection for the product's cold water pipe.
4. Clean the strainer in the cold water inlet without removing it.

10.11 Cleaning the heating filter



1. Drain the product. (→ Page 22)
2. Remove the clip.
3. Remove the heating filter and clean it.
4. Refit the components in the reverse order.

10.12 Installing the gas-air mixture unit

1. Install the burner.
2. Install two new burner seals in the burner hood.
3. Install the gas-air mixture unit.
4. Tighten the screws on the gas-air mixture unit.
 - Ideally to 7 Nm if a torque spanner is available.
5. Install the flue pipe.
6. Install the air intake pipe.

10.13 Draining the product

1. Close the service valves of the product.
2. Start check programme P.05 (→ Page 14).
Check programmes – Overview (→ Page 26)
3. Open the drain valves.
4. Make sure that the air vent cap on the internal pump is open so that the product can be drained fully.

10.14 Checking the pre-charge pressure of the expansion vessel

1. Drain the product. (→ Page 22)
2. Measure the pre-charge pressure of the expansion vessel at the vessel valve.

Condition: Pre-charge pressure < 0.075 MPa (0.75 bar)

- ▶ Top up the expansion vessel in accordance with the static height of the heating installation, ideally with nitrogen, otherwise with air. Check that the drain valve is open when topping up.

3. If water escapes from the valve of the expansion vessel, you must replace the expansion vessel. (→ Page 24)
4. Fill and purge the heating installation. (→ Page 16)

10.15 Completing inspection and maintenance work

1. Check the gas connection pressure (gas flow pressure). (→ Page 17)
2. Check the CO₂ content. (→ Page 19)

11 Troubleshooting

11.1 Rectifying faults

- ▶ If fault codes (**F.XX**) are present, refer to the table in the appendix for advice or use the check programme(s).
Overview of fault codes (→ Page 31)
Check programmes – Overview (→ Page 26)

If several faults are present at the same time, the fault codes are displayed alternately followed by the time at which the respective fault occurred.

- ▶ Press the fault clearance key.
- ▶ If you are unable to clear the fault code and it reappears despite several fault clearance attempts, contact customer service.

11.2 Calling up the fault memory

The last 10 fault codes are stored in the fault memory (together with the time at which the respective fault occurred and, after 24 hours, with the number of days).

- ▶ Press and hold  for three seconds.
Overview of fault codes (→ Page 31)
 - ◀ The fault codes are shown in the display in sequence.
- ▶ Press the  button to exit this menu.

11.3 Deleting the fault memory

1. Delete the fault memory using diagnostics code **d.94**.
2. Set the diagnostics code. (→ Page 14)
Overview of diagnostics codes (→ Page 26)

11.4 Resetting parameters to factory settings

1. Reset all parameters to the factory settings using diagnostics code **d.96**.
2. Set the diagnostics code. (→ Page 14)
Overview of diagnostics codes (→ Page 26)

11.5 Preparing the repair work

1. Switch off the product.
2. Disconnect the product from the electrical installation.
3. Remove the front casing.
4. Close the gas stopcock.
5. Close the service valves in the heating flow and in the heating return.
6. Close the service valve in the cold water pipe.
7. Drain the product if you want to replace water-bearing components of the product.
8. Ensure that water does not drip on live components (e.g. the electronics box).
9. Use only new seals and O-rings. Do not use any additional sealing materials.

11.6 Replacing defective components

11.6.1 Replacing the burner

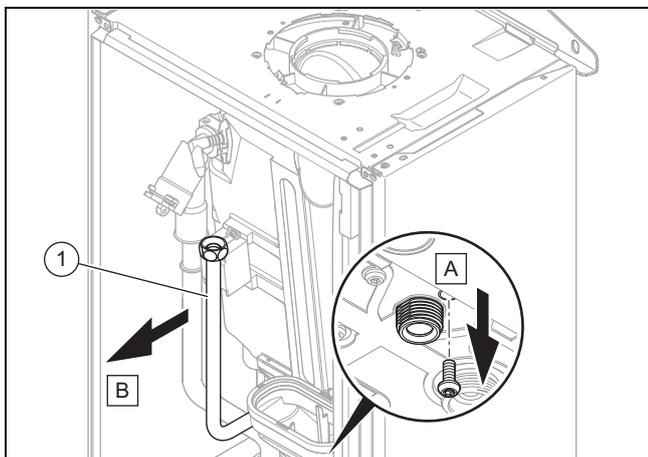
1. Remove the gas-air mixture unit. (→ Page 20)
2. Remove the burner seal.
3. Remove the burner.
4. Install the new burner complete with new burner seal on the heat exchanger.
5. Install the gas-air mixture unit. (→ Page 22)

11.6.2 Replacing the gas-air mixture unit

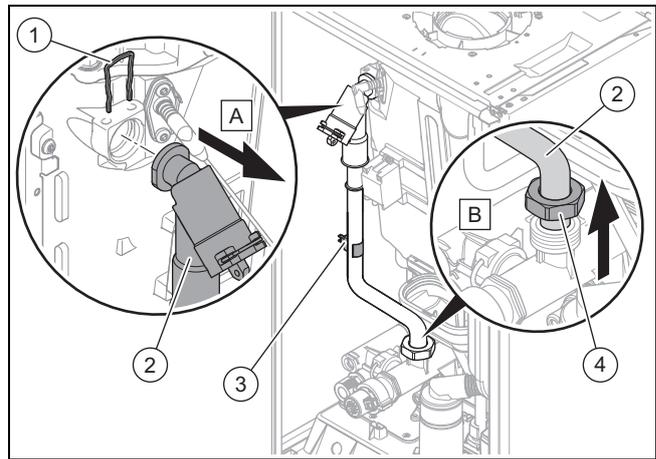
1. Remove the gas-air mixture unit. (→ Page 20)
2. Install the new gas-air mixture unit (→ Page 22).

11.6.3 Replacing the heat exchanger

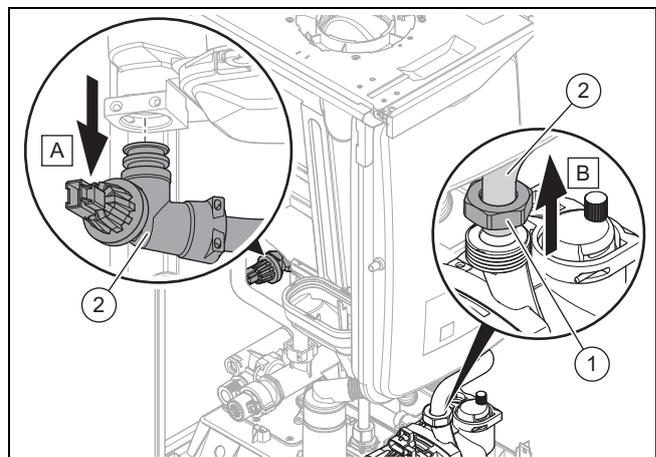
1. Remove the front casing. (→ Page 8)
2. Remove the gas-air mixture unit. (→ Page 20)



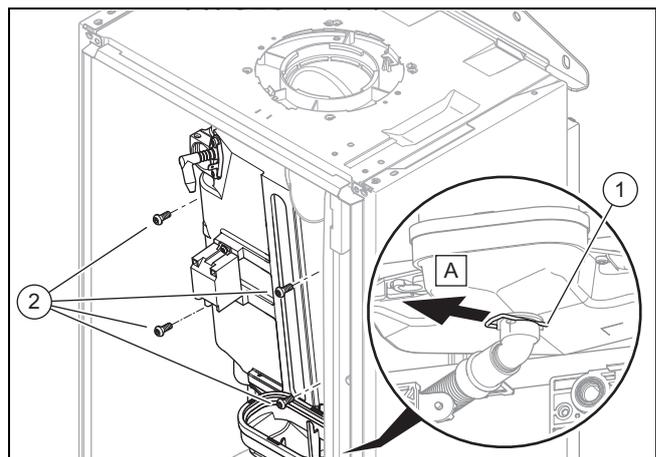
3. Remove the gas pipe (1).



4. Remove the temperature sensor (3).
5. Remove the upper clip (1).
6. Undo the nuts (4).
7. Remove the flow pipe (2).

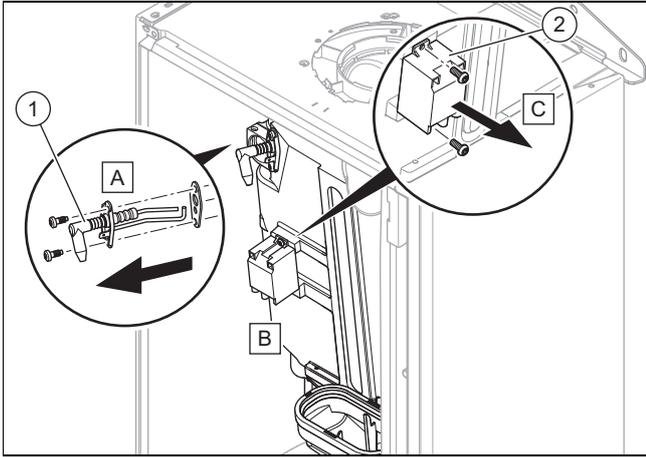


8. Undo the nuts (1).
9. Remove the return pipe (2).



10. Remove the clip underneath the condensate tray (1).
11. Undo the four screws (2).

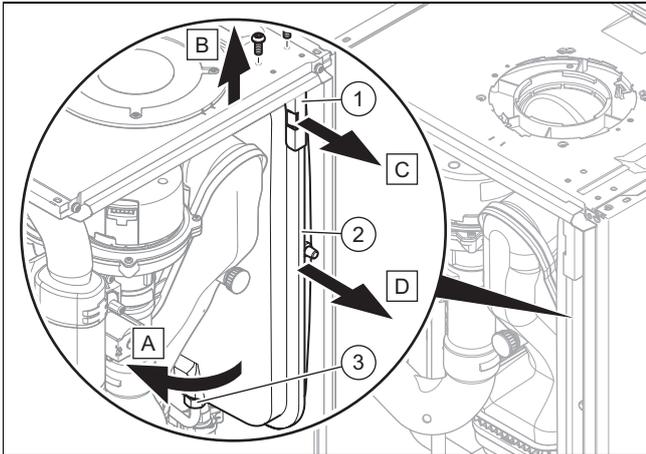
11 Troubleshooting



12. Remove the ignition electrode (1).
13. Lift the heat exchanger up slightly and remove it together with the condensate tray.
14. Remove the ignition transformer (2).
15. Install the new heat exchanger in reverse order.

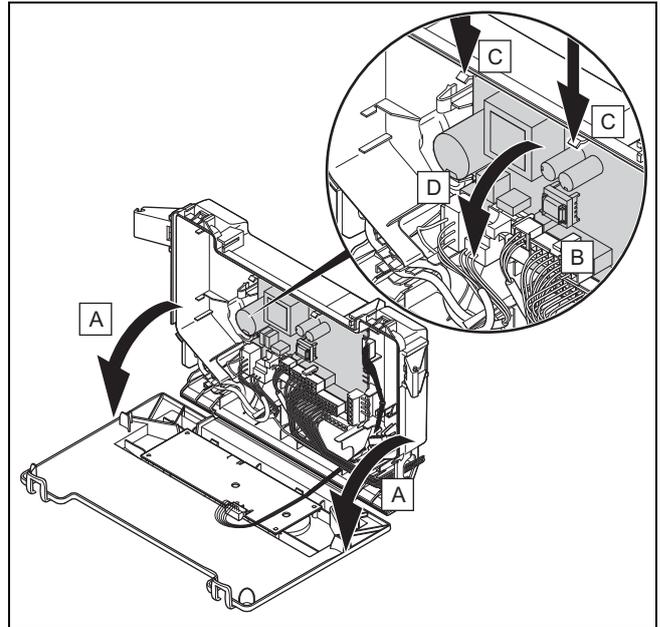
11.6.4 Replacing the expansion vessel

1. Drain the product. (→ Page 22)



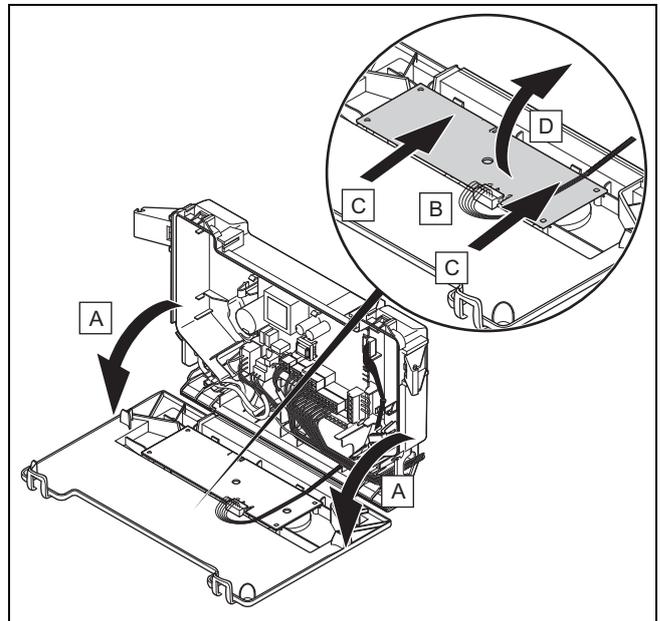
2. Undo the nut (3).
3. Remove both screws on the support plate (1).
4. Remove the support plate.
5. Pull out the expansion vessel (2) towards the front.
6. Insert the new expansion vessel into the product.
7. Screw the new expansion vessel to the water connection. To do this, use a new seal.
8. Attach the support plate using both screws.
9. Fill and purge the product (→ Page 16) and, if required, the heating installation.

11.6.5 Replacing the main PCB



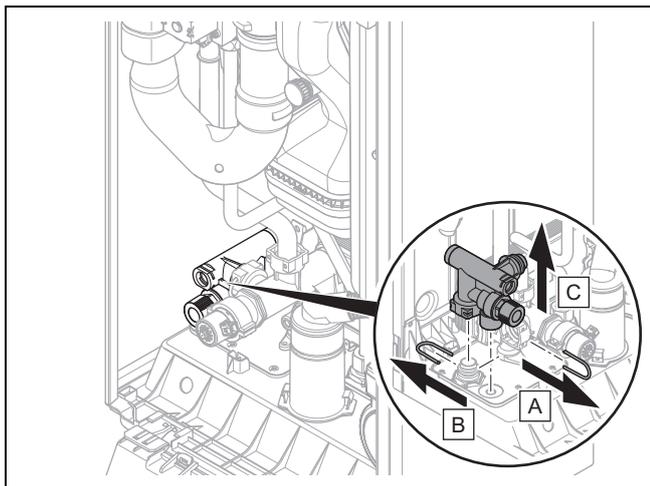
1. Open the electronics box. (→ Page 12)
2. Pull all of the plugs out from the PCB.
3. Undo the clips on the PCB.
4. Remove the PCB.
5. Install the new PCB in such a way that it clicks into the groove at the bottom and into the clip at the top.
6. Plug in the PCB plugs.
7. Close the electronics box.

11.6.6 Replacing the PCB for the user interface



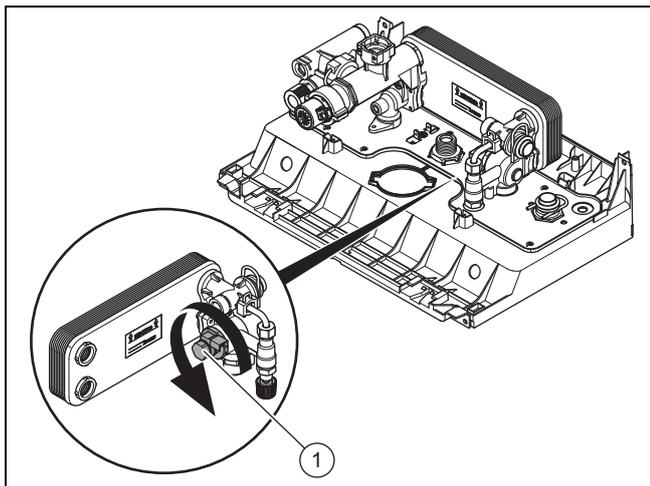
1. Open the electronics box. (→ Page 12)
2. Pull the plug out of the PCB.
3. Undo the clips on the PCB.
4. Remove the PCB.
5. Install the new PCB in such a way that it clicks into the groove at the bottom and into the clip at the top.
6. Plug in the PCB plug.
7. Close the electronics box.

11.6.7 Replacing the expansion relief valve



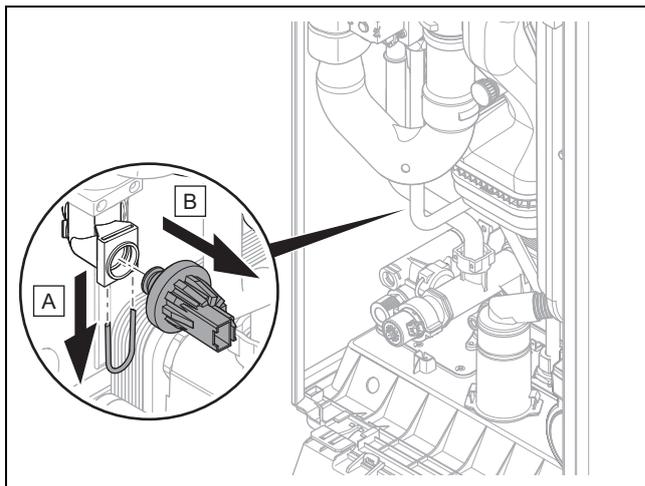
1. Remove the two clips.
2. Remove the assembly with the expansion relief valve.
3. Fit the assembly with the expansion relief valve with new O-rings.
4. Reattach the clips.

11.6.8 Replacing the volume flow sensor



1. Pull out the plug.
2. Remove the volume flow sensor (1).
3. Install the new volume flow sensor.
4. Plug in the plug.

11.6.9 Replace the pressure sensor



1. Pull out the plug.
2. Remove the clip.
3. Remove the pressure sensor.
4. Install the new pressure sensor.
5. Reattach the clip.

11.6.10 Replacing the power supply cable



Note

The cable must be replaced by the manufacturer, its customer service or suitably qualified persons in order to avoid danger.

- ▶ If the power supply cable is damaged, replace it in accordance with the recommendations for the power supply connection. (→ Page 13)
 - Cross-section of the power supply cable: 3 G 0,75 mm²

11.7 Completing repair work

- ▶ Check that the product works correctly and check for tightness (→ Page 18).

12 Decommissioning the product

- ▶ Switch off the product.
- ▶ Disconnect the product from the power grid.
- ▶ Close the gas stopcock.
- ▶ Close the cold-water stopcock.
- ▶ Drain the product. (→ Page 22)

13 Customer service

Datele de contact pentru serviciul nostru de asistență tehnică le găsiți la adresa indicată pe partea posterioară sau pe www.demirdokum.com.

Appendix

A Check programmes – Overview



Note

Since the programme table is used for various products, some programmes may not be visible for the product in question.

Display	Meaning
P.01	Burner operation on adjustable heat input: The product operates after ignition with the heat input set between "0" (0% = Pmin) and "100" (100% = Pmax). The function is active for 15 minutes.
P.02	Burner operation at ignition load: After ignition, the product works at ignition load. The function is active for 15 minutes.
P.03	The product runs in heating mode with the maximum heat input set using diagnostics code d.00.
P.04	Chimney sweep function: If there is a domestic hot water demand, the product runs in domestic hot water mode and at maximum heat input. If there is no domestic hot water demand, the product runs with the partial heat load that is set via diagnostics code d.00 and in heating mode. The function is active for 15 minutes.
P.05	Filling the product: The prioritising diverter valve moves to the mid-position. The burner and pump switch off (to fill or drain the product). If the pressure is lower than 0.03 MPa (0.3 bar) and then is above 0.05 MPa (0.5 bar) for longer than 15 seconds, the automatic purging function is activated. The function is active for 15 minutes.
P.06	Purging the heating circuit: The prioritising diverter valve is moved to the heating position. The function is activated in the heating circuit for 15 minutes. The pump runs and stops at regular intervals. If required, this function can be manually switched off.
P.07	Purging the domestic hot water circuit: The function is activated in the small domestic hot water circuit for 4 minutes and then in the heating circuit for 1 minute. The pump runs and stops at regular intervals. If required, this function can be manually switched off.
Automatic air vent function	Purging the product: If the pressure is lower than 0.03 MPa (0.3 bar) and then is above 0.05 MPa (0.5 bar) for longer than 15 seconds, the automatic purging function is activated. The function is activated in the small domestic hot water circuit for 4 minutes and then in the heating circuit for 1 minute. This function cannot be manually switched off.

B Overview of diagnostics codes



Note

Since the code table is used for various products, some codes may not be visible for the product in question.

Setting level	Values		Unit	Increment, select, explanation	Default setting	Own setting
	Min.	Max.				
d.00 Heating maximum output	–	–	kW	The maximum heating output varies depending on the product. → Section "Technical data"	→ Section "Technical data"	Adjustable
d.01 Pump overrun time in heating mode	1	60	min	1	5	Adjustable
d.02 Burner anti-cycling time in heating mode	2	60	min	1	20	Adjustable

Setting level	Values		Unit	Increment, select, explanation	Default setting	Own setting
	Min.	Max.				
d.04 Water temperature in the cylinder	Current value		°C	–	–	Not adjustable
d.05 Determined target heating flow temperature	Current value		°C	–	–	Not adjustable
d.06 Target domestic hot water temperature	Current value		°C	(Combi boiler only)	–	Not adjustable
d.07 Target temperature for the domestic hot water cylinder	Current value		°C	–	–	Not adjustable
d.08 Status of the 230 V thermostat	Current value		–	0 = Room thermostat open (no heat requirement) 1 = Room thermostat closed (heat requirement)	–	Not adjustable
d.09 Target heating flow temperature that is set on the eBUS room thermostat	Current value		–	–	–	Not adjustable
d.10 Status of the internal pump in the heating circuit	Current value		–	off / on	–	Not adjustable
d.11 Status of the heating circuit's shunt pump	Current value		–	off / on	–	Not adjustable
d.13 Status of the domestic hot water circuit's circulation pump	Current value		–	off / on	–	Not adjustable
d.15 Pump speed	Current value		%	–	–	Not adjustable
d.16 Status of the 24 V room thermostat	Current value		–	off = Heating off on = Heating on	–	Not adjustable
d.17 Heating control	–	–	–	off = Flow temperature on = Return temperature (adjustment for underfloor heating. If you have activated the return temperature control, the automatic heating output determination function is not active.)	0	Adjustable
d.18 Pump overrun operating mode	1	3	–	1 = Comfort (continuously operating pump) 3 = Eco (intermittent pump operation – for the dissipation of the residual heat after domestic hot water generation at an extremely low heat demand)	1	Adjustable
d.20 Maximum target domestic hot water temperature	50	60	°C	1	50	Adjustable
d.21 Status of the warm start for domestic hot water	Current value		–	off = Function deactivated on = Function activated and available	–	Not adjustable
d.22 Status of the DHW demand	Current value		–	off = No current requirement on = Current requirement	–	Not adjustable
d.23 Status of the heat demand	Current value		–	off = Heating off (Summer mode) on = Heating on	–	Not adjustable
d.24 Status of the pressure monitor	0	1	–	off = Not switched on = Switched	–	Not adjustable
d.25 Status of the requirement to reheat the cylinder or for the domestic hot water warm start from the eBUS thermostat	Current value		–	off = Function deactivated on = Function activated	–	Not adjustable

Setting level	Values		Unit	Increment, select, explanation	Default setting	Own setting
	Min.	Max.				
d.27 Function of relay 1 (multi-functional module)	1	10	–	1 = Circulation pump 2 = External pump 3 = Cylinder charging pump 4 = Extraction hood 5 = External solenoid valve 6 = External fault message 7 = Solar pump (omitted) 8 = eBUS remote control 9 = Anti-legionella pump 10 = Solar valve	1	Adjustable
d.28 Function of relay 2 (multi-functional module)	1	10	–	1 = Circulation pump 2 = External pump 3 = Cylinder charging pump 4 = Extraction hood 5 = External solenoid valve 6 = External fault message 7 = Solar pump (omitted) 8 = eBUS remote control 9 = Anti-legionella pump 10 = Solar valve	2	Adjustable
d.31 Automatic filling device	0	2	–	0 = Manual 1 = Semi-automatic 2 = Automatic	0	Adjustable
d.33 Fan speed target value	Current value		rpm	Fan speed = Display value x 100	–	Not adjustable
d.34 Value for the fan speed	Current value		rpm	Fan speed = Display value x 100	–	Not adjustable
d.35 Position of the prioritising diverter valve	Current value		–	0 = Heating 40 = Mid-position (parallel operation) 100 = Domestic hot water	–	Not adjustable
d.36 Value for the domestic hot water flow rate	Current value		l/h	–	–	Not adjustable
d.39 Water temperature in the solar circuit	Current value		°C	–	–	Not adjustable
d.40 Heating flow temperature	Current value		°C	–	–	Not adjustable
d.41 Heating return temperature	Current value		°C	–	–	Not adjustable
d.43 Heat curve	0.2	4	–	0.1	1.2	Adjustable
d.45 Value for the base point of the heat curve	15	30	–	1	20	Adjustable
d.47 Outdoor temperature	Current value		°C	–	–	Not adjustable
d.50 Correction of the minimum fan speed	0	3000	rpm	1 Fan speed = Display value x 10	600	Adjustable
d.51 Correction of the maximum fan speed	-2500	0	rpm	1 Fan speed = Display value x 10	-1000	Adjustable
d.58 Solar circuit reheating	0	3	–	0 = Boiler's anti-legionella function deactivated 3 = Domestic hot water activated (min. target value 60 °C)	0	Adjustable
d.60 Number of blocks by the temperature sensor	Current value		–	–	–	Not adjustable
d.61 Number of unsuccessful ignitions	Current value		–	–	–	Not adjustable
d.62 Night set-back	0	30	–	1	0	Adjustable
d.64 Average burner ignition time	Current value		s	–	–	Not adjustable

Setting level	Values		Unit	Increment, select, explanation	Default setting	Own setting
	Min.	Max.				
d.65 Maximum burner ignition time	Current value		s	–	–	Not adjustable
d.66 Activation of the warm start function for domestic hot water	–	–	–	off = Function deactivated on = Function activated	1	Adjustable
d.67 Remaining burner anti-cycling time (setting under d.02)	Current value		min	–	–	Not adjustable
d.68 Number of unsuccessful ignitions at 1st attempt	Current value		–	–	–	Not adjustable
d.69 Number of unsuccessful ignitions at 2nd attempt	Current value		–	–	–	Not adjustable
d.70 Function of the prioritising diverter valve	0	2	–	0 = Normal operating mode (DHW and heating mode) 1 = Mid-position (parallel operation) 2 = Permanent heating position	0	Adjustable
d.71 Maximum target heating flow temperature	45	80	°C	1	75	Adjustable
d.73 Correction of the domestic hot water warm start temperature	-15	5	K	1	0	Adjustable
d.75 Maximum cylinder post-heating time	20	90	min	1	45	Adjustable
d.77 Max. cylinder post-heating	–	–	kW	1 → Section "Technical data"	–	Adjustable
d.80 Running time in heating mode	Current value		h	–	–	Not adjustable
d.81 Running time in domestic hot water mode	Current value		h	–	–	Not adjustable
d.82 Number of burner ignitions in heating mode	Current value		–	Number of ignitions = Display value x 100	–	Not adjustable
d.83 Number of burner ignitions in domestic hot water mode	Current value		–	Number of ignitions = Display value x 100	–	Not adjustable
d.84 Maintenance in	0	3000	h	Number of hours = Display value x 10	300	Not adjustable
d.85 Increase in the min. output (heating and domestic hot water mode)	–	–	kW	1 → Section "Technical data"	–	Adjustable
d.88 Flow rate limit value for ignition in domestic hot water mode	0	1	–	0 = 1.5 l/hr (no delay) 1 = 3.7 l/hr (2 s delay)	0	Adjustable
d.90 Status of the eBUS room thermostat	Current value		–	off = Not connected on = Connected	–	Not adjustable
d.91 Status DCF77	Current value		–	–	–	Not adjustable
d.93 Setting the product code	0	99	–	1	–	Adjustable
d.94 Delete fault list	0	1	–	off = No on = Yes	–	Adjustable
d.95 Software versions	–	–	–	1 = Main PCB 2 = Interface PCB	–	Adjustable
d.96 Reset to factory settings	–	–	–	0 = No 1 = Yes	–	Adjustable
d.128 Heating minimum target value	10	75	°C	1	10	Adjustable

Setting level	Values		Unit	Increment, select, explanation	Default setting	Own setting
	Min.	Max.				
d.129 Domestic hot water minimum target value	35 (combi boiler) 45 (system boiler)	60	°C	1	35	Adjustable

C Status codes – Overview



Note

Since the code table is used for various products, some codes may not be visible for the product in question.

Status code	Meaning
Displays in heating mode	
S.0	Heating mode: No requirement
S.01	Heating mode: Fan prerun
S.02	Heating mode: Pump prerun
S.03	Heating mode: Burner ignition
S.04	Heating mode: Burner on
S.05	Heating mode: Pump/fan overrun
S.06	Heating mode: Fan overrun
S.07	Heating mode: Pump overrun
S.08	Heating mode: Temporary shutdown after heating procedure
Displays in domestic hot water mode	
S.10	Domestic hot water mode: Requirement
S.11	Domestic hot water mode: Fan prerun
S.13	Domestic hot water mode: Burner ignition
S.14	DHW mode: Burner on
S.15	DHW mode: Pump/fan overrun
S.16	DHW mode: Fan overrun
S.17	DHW mode: Pump overrun
Display in comfort mode with warm start or domestic hot water mode with cylinder	
S.20	Domestic hot water mode: Requirement
S.21	Domestic hot water mode: Fan prerun
S.22	Domestic hot water mode: Pump prerun
S.23	Domestic hot water mode: Burner ignition
S.24	DHW mode: Burner on
S.25	DHW mode: Pump/fan overrun
S.26	DHW mode: Fan overrun
S.27	DHW mode: Pump overrun
S.28	Domestic hot water mode: Temporary shutdown of the burner
Other displays	
S.30	Room thermostat is blocking heating mode.
S.31	No heating demand: Summer mode, eBUS control, waiting period
S.32	Fan waiting time: Fan speed outside of the tolerance values
S.33	Forced fan operation until the pressure monitor is switched
S.34	Frost protection active
S.39	Underfloor heating contact open
S.41	Water pressure too high

Status code	Meaning
S.42	Flue non-return flap closed
S.46	Frost protection mode (Comfort): Minimum load
S.53	Product in waiting period / operating block function due to water deficiency (flow/return spread too large)
S.54	Waiting period: Water deficiency in the circuit (flow/return spread too large)
S.76	Maintenance message: Check the water pressure
S.88	Product purging active
S.91	Maintenance: Demo mode
S.96	Automatic test programme: Return temperature sensor, heating demands blocked.
S.97	Automatic test programme: Water pressure sensor, heating demands blocked.
S.98	Automatic test programme: Return temperature sensor, heating demands blocked.
S.99	Internal automatic test programmes
S.108	Purging the combustion chamber, fan in operation
S.109	Product's standby mode activated

D Overview of fault codes



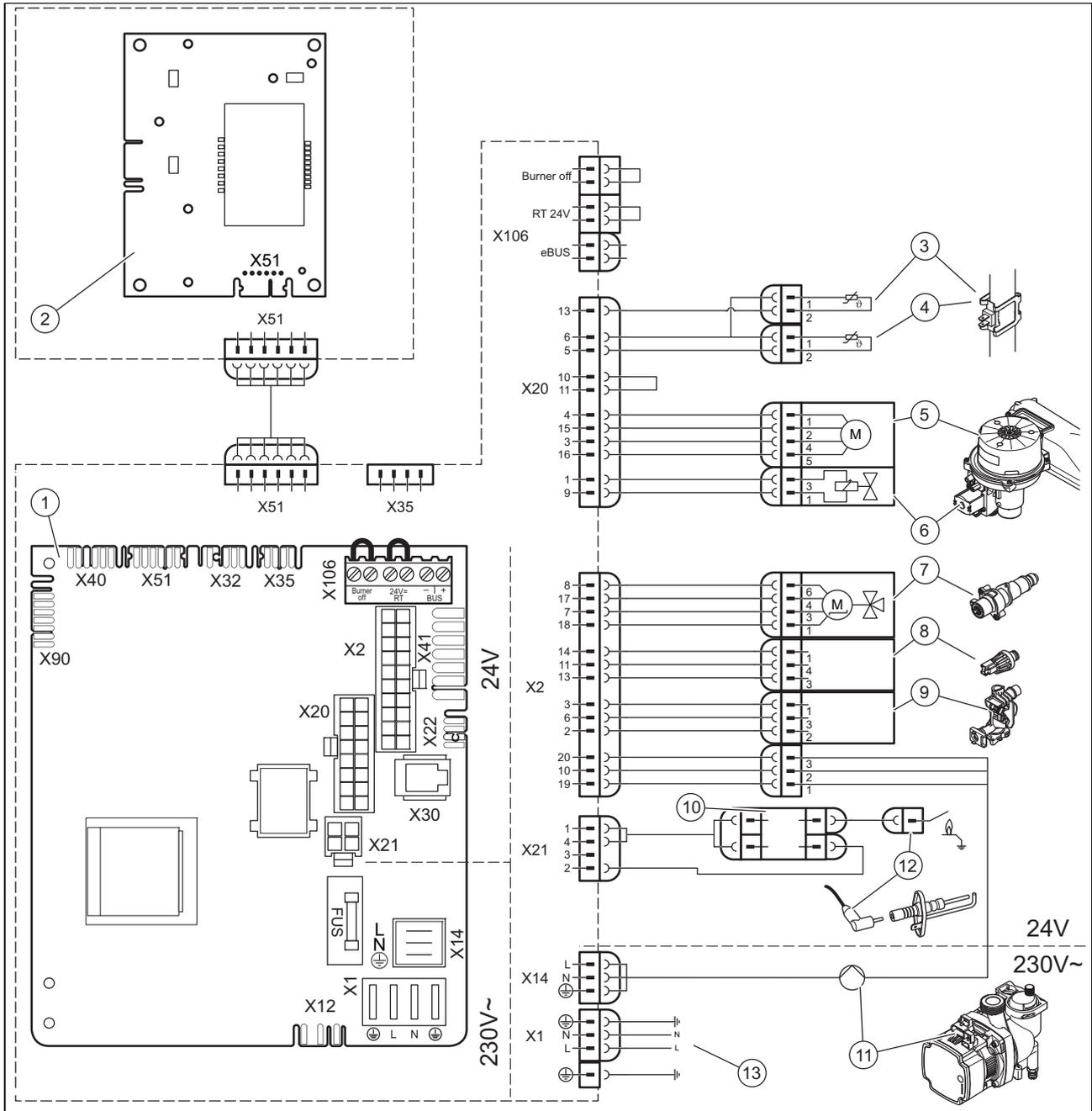
Note

Since the code table is used for various products, some codes may not be visible for the product in question.

Fault code	Meaning	Possible cause
F.00	Fault: Flow temperature sensor	NTC plug not plugged in or has come loose, multiple plug on the PCB not plugged in correctly, interruption in cable harness, NTC sensor defective
F.01	Fault: Return temperature sensor	NTC plug not plugged in or has come loose, multiple plug on the PCB not plugged in correctly, interruption in cable harness, NTC sensor defective
F.10	Short circuit: Flow temperature sensor	NTC sensor defective, short circuit in the cable harness, cable/housing
F.11	Short circuit: Return temperature sensor	NTC sensor defective, short circuit in the cable harness, cable/housing
F.12 and F.91	Short circuit: Cylinder temperature sensor	NTC sensor defective, short circuit in the cable harness, cable/housing
F.13	Short circuit: Temperature sensor for the domestic hot water cylinder	NTC sensor defective, short circuit in the cable harness, cable/housing
F.20	Safety shutdown: Overheating temperature reached	Incorrect earth connection between cable harness and product, flow or return NTC defective (loose connection), stray spark via ignition cable, ignition plug or ignition electrode
F.22	Safety shutdown: Water deficiency in the boiler	No or insufficient water in the product, water pressure sensor defective, cable to the pump or to the water pressure sensor loose/not connected/defective
F.23	Safety shutdown: Temperature spread too great (NTC1/NTC2)	Pump blocked, insufficient pump output, air in product, flow and return NTC sensors connected the wrong way round
F.24	Safety shutdown: Temperature rise too fast	Pump blocked, insufficient pump output, air in product, system pressure too low, non-return valve blocked/incorrectly installed
F.25	Safety shutdown: Flue gas temperature too high	Break in plug connection for optional flue gas safety cut-out (SCO), break in cable harness
F.27	Safety shutdown: Fault in flame detection	Moisture on the electronics, electronics (flame monitor) defective, gas solenoid valve leaking
F.28	Fault: Ignition unsuccessful when starting up	Gas meter defective or gas pressure switch has triggered, air in gas, gas flow pressure too low, thermal cut-out has triggered, incorrect gas injector, incorrect spare gas valve assembly, fault on the gas valve assembly, multiple plug on PCB incorrectly plugged in, break in cable harness, ignition system (ignition transformer, ignition cable, ignition plug, ignition electrode) defective, ionisation flow interrupted (cable, electrode), incorrect earthing of product, electronics defective Condensate siphon blocked
F.29	Fault: Flame loss	Gas supply temporarily stopped, flue gas recirculation, incorrect earthing of product, ignition transformer has spark failure Condensate siphon blocked

Fault code	Meaning	Possible cause
F.32	Fan frost protection function active: Fan speed outside the tolerance values	Plug on fan not correctly plugged in, multiple plug on PCB not correctly plugged in, break in cable harness, fan blocked, Hall sensor defective, electronics defective
F.49	eBUS fault: Voltage too low	Short circuit on eBUS, eBUS overload or two power supplies with different polarities on the eBUS
F.61	Fault: Gas valve assembly control	Short circuit/short-to-ground in cable harness to gas valve assembly, gas valve assembly defective (coils shorted to earth), electronics defective
F.62	Fault: Gas valve switch-off control	Delayed switch-off of gas valve assembly, delayed extinguishing of flame signal, gas valve assembly leaking, electronics defective
F.63	Fault: EEPROM	Electronics defective
F.64	Fault: Electronics / sensor / analogue-to-digital converter	Flow or return NTC short circuited, electronics defective
F.65	Fault: Electronics temperature too high	Electronics overheating due to external influences, electronics defective
F.67	Value sent back by ASIC is incorrect (flame signal)	Implausible flame signal, electronics defective
F.68	Fault: Unstable flame (analogue input)	Air in gas, gas flow pressure too low, incorrect air ratio, incorrect gas injector, ionisation flow interruption (cable, electrode)
F.70	Invalid product code (DSN)	Display and PCB replaced at same time and Device Specific Number not reset, wrong or missing output coding resistor
F.71	Fault: Flow/return temperature sensor	Flow temperature sensor signalling constant value: Flow temperature sensor incorrectly positioned on flow pipe, flow temperature sensor defective
F.72	Fault: Deviation in the water pressure sensor/return temperature sensor	Flow/return NTC temperature difference too great → flow and/or return temperature sensor defective
F.73	Fault: Water pressure sensor not connected or has short-circuited	Interruption/short circuit of water pressure sensor, interruption/short circuit to GND in supply pipe to water pressure sensor or water pressure sensor defective
F.74	Fault: Electrical problem in the water pressure sensor	Line to water pressure sensor has a short circuit to 5 V/24 V or internal fault in the water pressure sensor
F.75	Fault: Pressure sensor	Pressure switch defective
F.76	The safety cut-out in the primary heat exchanger is defective	Safety cut-out feedback does not match the gas valve assembly feedback
F.77	Fault: Condensate or smoke	No response, flue non-return flap defective
F.78	Interruption to DHW outlet sensor at external control	UK link box is connected, but domestic hot water NTC not bridged
F.83	Fault: Dry fire	When the burner starts, the temperature change registered at the flow or return temperature sensor is non-existent or too small: Insufficient water in the product, the flow or return temperature sensor is not in the correct position on the pipe
F.84	Fault: Flow/return temperature sensor	Values not consistent, difference < -6 K Flow and return temperature sensors signalling implausible values: Flow and return temperature sensors have been inverted, flow and return temperature sensors have not been correctly installed
F.85	Fault: Temperature sensor	The flow and/or return temperature sensors have been installed on the same pipe/incorrect pipe Temperature sensor not connected or is connected incorrectly
F.86	Fault: Underfloor heating contact	Underfloor heating contact open, sensor disconnected or defective
F.87	Fault: Electrodes	Electrodes not connected or they are connected incorrectly, short circuit in the cable harness
F.88	Fault: Gas valve assembly	Gas valve assembly not connected or it is connected incorrectly, short circuit in the cable harness
F.89	Fault: Pump	Pump not connected or it is connected incorrectly, incorrect pump connected, short circuit in the cable harness
F.97	Fault: Main PCB self-test failed	Main PCB defective
Connection	No communication between the main PCB and the user interface	Electronics defective

E Wiring diagram: Combi boiler



- | | | | |
|---|--|----|--|
| 1 | Main PCB | 8 | Pressure sensor |
| 2 | Interface PCB | 9 | Flow rate sensor |
| 3 | Temperature sensor on the heating flow | 10 | External ignition transformer |
| 4 | Temperature sensor on the heating return | 11 | Heating pump |
| 5 | Fan | 12 | Ionisation and ignition electrode |
| 6 | Gas valve assembly | 13 | Main power supply and connection for 230 V control |
| 7 | Diverter valve | | |

F Inspection and maintenance work – Overview

The table below lists the manufacturer requirements with respect to minimum inspection and maintenance intervals. If national regulations and directives require shorter inspection and maintenance intervals, you should observe these instead of the intervals listed in the table.

No.	Work	Inspection (annual)	Maintenance (At least every two years)
1	Check the air/flue pipe for leak-tightness and to ensure that it is fastened correctly. Make sure that it is not blocked or damaged and has been installed in accordance with the relevant set-up instructions.	X	X
2	Check the general condition of the product. Remove dirt from the product and from the vacuum chamber.	X	X
3	Visually inspect the general condition of the heat exchanger. In doing so, pay particular attention to signs of corrosion, rust and other defects. If you notice any damage, carry out maintenance work.	X	X
4	Check the gas connection pressure at maximum heat input. If the gas connection pressure is not within the correct range, carry out maintenance work.	X	X
5	Check the CO ₂ content (the air ratio) of the product and, if necessary, adjust it. Keep a record of this.	X	X
6	Disconnect the product from the power grid. Check that the electrical plug connections and other connections are seated correctly and correct these if necessary.	X	X
7	Close the gas stopcock and the service valves.	X	X
8	Drain the product on the water side. Check the pre-charge pressure of the expansion vessel and, if required, top up the expansion vessel (approx. 0.03 MPa/0.3 bar below the system filling pressure).		X
9	Remove the gas-air mixture unit.		X
10	Check the seals in the combustion area. If you see any damage, replace the seals. Replace both burner seals each time it is opened and accordingly each time maintenance work is carried out.		X
11	Clean the heat exchanger.		X
12	Check the burner for damage and replace it if necessary.		X
13	Check the condensate siphon in the product, clean and fill if necessary.	X	X
14	Install the gas-air mixture unit. Caution: Replace the seals.		X
15	If the water volume is insufficient or the outlet temperature is not reached, replace the secondary heat exchanger if necessary.		X
16	Clean the strainer in the cold water inlet. Replace the strainer if impurities can no longer be removed or if the strainer is damaged. In this case, also check the impeller sensor for dirt and damage, clean the sensor (do not use compressed air for this) and replace the sensor if it is damaged.		X
17	Open the gas stopcock, reconnect the product to the power grid and switch the product on.	X	X
18	Open the service valves, fill up the product/heating installation to 0.05-0.3 MPa/0.5-3.0 bar (depending on the static height of the heating installation) and start purging programme P.XX .		X
19	Perform a test operation of the product and heating installation, including domestic hot water generation, and purge the system once more if necessary.	X	X
20	Visually inspect the ignition and burner behaviour.	X	X
21	Check the CO ₂ content (the air ratio) of the product again.		X
22	Check the product for gas, flue gas, domestic hot water and condensate leaks, and eliminate these leaks, if necessary.	X	X
23	Record the inspection/maintenance work carried out.	X	X

G Start-up checklist

Natural gas installation conditions

- The approval document for the natural gas connection is available
- An approval document from the gas supply company is available for the case in which the boiler is replaced (if the gas supply company requests this)
- A leak-tightness test has been carried out (with leak detection spray)

Liquefied petroleum gas installation conditions

- The boiler can only be operated with propane gas – not with butane gas. The unit has been installed in accordance with the regulations
- If using propane gas, a gas detector with automatic cut-off system has been installed
- Has a leak-tightness test been carried out? (with leak detection spray)

Boiler installation conditions

- If the gas supply company allows the boiler to be installed on a balcony: The boiler is then installed in a closed cupboard
- When installing in a closed cupboard: Is sufficient aeration available above and below it
- When installing in a closed cupboard: The minimum clearances have been complied with: 10 cm to side , 3 cm to the front
- Check the installation site: The product must not be installed above heat generators, such as cookers, ovens or heating elements

Installation conditions for the heating installation

- The system pressure is sufficient
- A filter that is compatible with the pipe diameter is installed in the return (pipe diameter, see technical data)
- A stopcock that is compatible with the pipe diameter is installed upstream of the filter (pipe diameter, see technical data)
- Stopcocks are installed in the flow and return and in the cold water inlet
- A hose is installed on the expansion relief valve and is connected to the waste-water pipework
- A drain cock is installed in the heating installation

Domestic hot water circuit

- A dirt filter is installed in the cold water inlet
- A 1/2" stopcock is installed upstream of the dirt filter
- A stopcock is either only installed in the cold water inlet or is installed in the cold water inlet and the domestic hot water outlet



Note

If a stopcock is already installed in the cold water inlet, only one additional stopcock is required in the domestic hot water outlet

Use dummy plugs to seal connections that are not required.

Use a pressure regulator if the supply pressure is ≥ 8 bar.

Requirements for the air/flue system

- The opening for the flue pipework is outside (the opening must not be in the area of the insulation, the aeration or the lighting in the building)
- The clearance between the opening and windows, walls, etc. is sufficient (see appendix)
- For the installation of the air/flue pipe, original Demir Döküm extensions have been used together with original Demir Döküm accessories
- The minimum clearances to all shaft openings have been complied with (see appendix)
- The flue pipe is routed outwards with an upwards gradient of 2%
- The opening for the flue pipework is outside a balcony (see appendix)



Note

The clearance between the hermetically sealed flue pipework and any wall must not be greater than 20 cm.

Condensate discharge connection

- The boiler's condensate discharge pipe is connected to the waste-water pipework via a siphon (the condensate discharge pipe must be connected to a closed waste-water system)
- The siphon been filled with water
- The condensate discharge pipe is correctly connected to the waste-water pipework in order to prevent contact with the end user's skin or other sensitive body parts

Electrical installation

- An earthed plug socket is located 50 cm from the boiler or a circuit breaker with a 4 A fuse is installed



Note

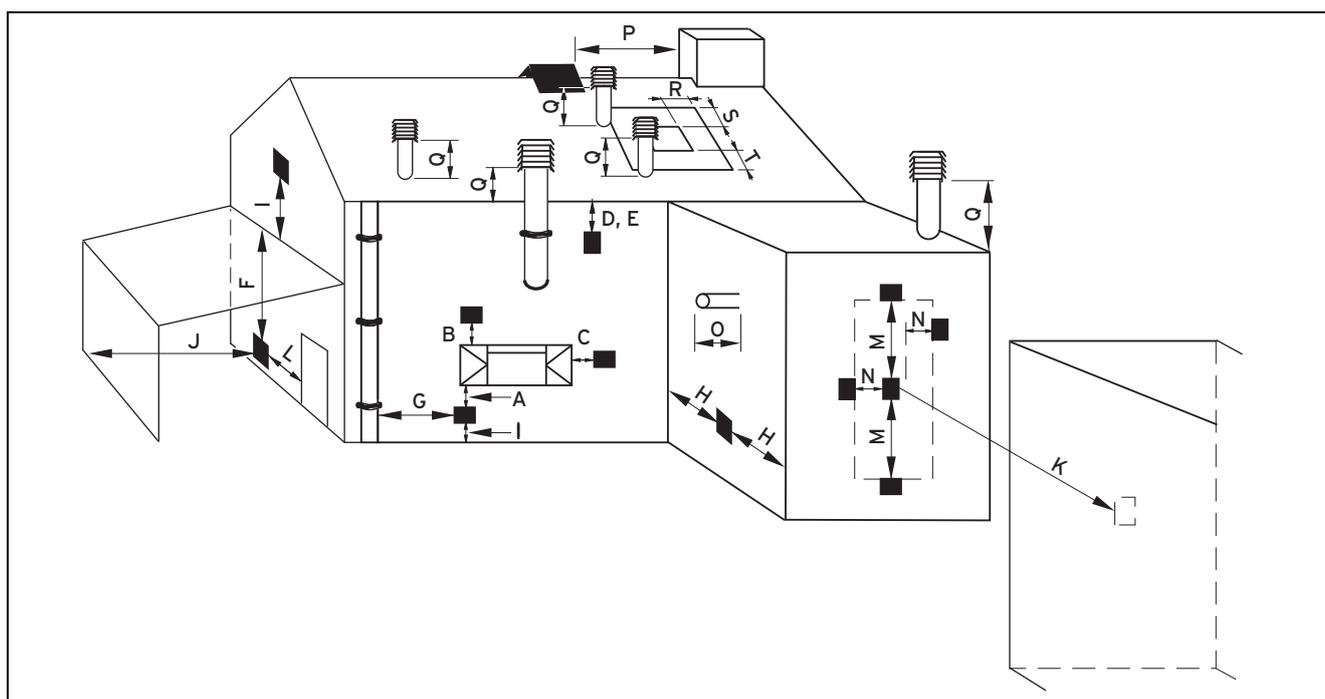
The earthing plug or the circuit breaker must not be below the boiler.
The boiler must not be connected to an extension cable.

- At locations at which there is no earthing connection: The earth line and neutral line must not be connected to each other. An earth cable is routed in these cases
- When installing in buildings with a residual-current circuit breaker: The functioning of the fault-current circuit breaker is checked during the installation

Connecting the room thermostat

- A cable (2 x 0.5 mm) is routed between the wired room thermostat and the boiler (the room thermostat must be connected by DemirDöküm's Service department)
- The room thermostat is installed and the thermostat cable is routed in accordance with the information specified in the DemirDöküm set-up instructions (cables must be connected by DemirDöküm's Service department)

H Minimum clearances for the air/flue gas installation



	Installation site	Minimum dimensions
A	Directly below an opening, air bricks, opening windows, etc., that can be opened.	300 mm
B	Above an opening, air bricks, opening windows, etc., that can be opened.	300 mm
C	Horizontally to an opening, air bricks, opening windows, etc., that can be opened.	300 mm
D	Below temperature-sensitive building components, e.g. plastic gutters, down pipes or wastewater pipes	75 mm
E	Below eaves	200 mm
F	Below balconies or car port roofs	200 mm
G	From vertical wastewater pipes or down pipes	150 mm

	Installation site	Minimum dimensions
H	From external or internal corners	200 mm
I	Above floors, roofs or balconies	300 mm
J	From a surface facing a terminal	600 mm
K	From a terminal facing a terminal	1200 mm
L	From an opening in the car port (e.g. door, window) which leads into the dwelling	1200 mm
M	Vertical from a terminal on the same wall	1500 mm
N	Horizontal from a terminal on the same wall	300 mm
O	From the wall on which the terminal has been installed	0 mm
P	From a vertical structure on the roof	N/A
Q	Above the roof area	300 mm
R	Horizontal from adjacent windows on pitched or flat roofs	600 mm
S	Above adjacent windows on pitched or flat roofs	600 mm
T	Below adjacent windows on pitched or flat roofs	2000 mm

I Pipe lengths for the air/flue pipe

I.1 Length of the B23P type air/flue pipe

Validity: B23P air/flue gas pipe

	B23P air/flue gas pipe
	Max. L1 + L2
Atomix P 20 – A/2 (H-UA/MD)	30 m
Atomix P 24 – A/2 (H-UA/MD)	30 m
Atomix P 28 – A/2 (H-UA/MD)	30 m

J Technical data

Technical data – Heating

	Atomix P 20 – A/2 (H-UA/MD)	Atomix P 24 – A/2 (H-UA/MD)	Atomix P 28 – A/2 (H-UA/MD)
Maximum heating flow temperature	75 °C	75 °C	75 °C
Max. flow temperature adjustment range (default setting: 75 °C)	10 to 80 °C	10 to 80 °C	10 to 80 °C
Maximum permissible pressure	0.25 MPa (2.50 bar)	0.25 MPa (2.50 bar)	0.25 MPa (2.50 bar)
Nominal water flow ($\Delta T = 30 \text{ K}$)	573 l/h	688 l/h	803 l/h
Approximate value for the condensate volume (pH value between 3.5 and 4.0) at 50/30 °C	1.84 l/h	2.47 l/h	2.55 l/h

Technical data – G20 power/load G20

The lowest nominal heat output may be higher than the value in the technical data, depending on the design of the installation and the current operating mode.

	Atromix P 20 – A/2 (H-UA/MD)	Atromix P 24 – A/2 (H-UA/MD)	Atromix P 28 – A/2 (H-UA/MD)
Maximum heat output	20.0 kW	24.1 kW	27.6 kW
Effective output range (P) at 50/30 °C	5.4 to 21.1 kW	6.3 to 25.4 kW	7.4 to 29.1 kW
Effective output range (P) at 80/60 °C	5.0 to 20.0 kW	5.9 to 24.1 kW	7.0 to 27.6 kW
Domestic hot water heat output range (P)	5.0 to 20.0 kW	5.9 to 24.1 kW	7.0 to 27.6 kW
Maximum heat input – heating (Q max.)	20.4 kW	24.7 kW	28.3 kW
Minimum heat input – heat- ing (Q min.)	5.1 kW	6.1 kW	7.2 kW
Maximum heat input – do- mestic hot water (Q max.)	20.4 kW	24.7 kW	28.3 kW
Minimum heat input – do- mestic hot water (Q min.)	5.1 kW	6.1 kW	7.2 kW

Technical data – Domestic hot water

	Atromix P 20 – A/2 (H-UA/MD)	Atromix P 24 – A/2 (H-UA/MD)	Atromix P 28 – A/2 (H-UA/MD)
Specific flow rate (D) (ΔT = 30 K) in accordance with EN 13203	9.6 l/min	11.4 l/min	13.2 l/min
Continuous flow rate (ΔT = 35 K)	488 l/h	581 l/h	684 l/h
Minimum permissible pres- sure	0.03 MPa (0.30 bar)	0.03 MPa (0.30 bar)	0.03 MPa (0.30 bar)
Maximum permissible pressure	0.8 MPa (8.0 bar)	0.8 MPa (8.0 bar)	0.8 MPa (8.0 bar)
Temperature range	35 to 60 °C	35 to 60 °C	35 to 60 °C
Flow rate limiter	8 l/min	8 l/min	10 l/min

Technical data – General

	Atromix P 20 – A/2 (H-UA/MD)	Atromix P 24 – A/2 (H-UA/MD)	Atromix P 28 – A/2 (H-UA/MD)
Gas category	I _{2H}	I _{2H}	I _{2H}
Diameter of the gas pipe	3/4 inch	3/4 inch	3/4 inch
Diameter of the heating connections	3/4 inch	3/4 inch	3/4 inch
Expansion relief valve con- nector (min.)	7 mm	7 mm	7 mm
Condensate discharge pipe (min.)	21.5 mm	21.5 mm	21.5 mm
G20 gas supply pressure	2.0 kPa (20.0 mbar)	2.0 kPa (20.0 mbar)	2.0 kPa (20.0 mbar)
Gas flow at P max. – do- mestic hot water (G20)	2.3 m ³ /h	2.7 m ³ /h	3.1 m ³ /h
CE number (PIN)	CE-0063CP3646	CE-0063CP3646	CE-0063CP3646
Released system types	C13, C33, C43, C53, C83, B23P, B33	C13, C33, C43, C53, C83, B23P, B33	C13, C33, C43, C53, C83, B23P, B33
Flue gas temperature Q min./Q max.	54 to 65 °C	56 to 69 °C	57 to 74 °C
Flue gas mass flow rate Q min./Q max.	2.24 to 8.88 g/s	2.74 to 10.64 g/s	3.16 to 12.14 g/s
Nominal efficiency at 80/60 °C	98.0 %	97.7 %	97.6 %
Nominal efficiency at 50/30 °C	103.6 %	102.6 %	102.9 %

	Atromix P 20 – A/2 (H-UA/MD)	Atromix P 24 – A/2 (H-UA/MD)	Atromix P 28 – A/2 (H-UA/MD)
Nominal efficiency in partial load mode (30%) at 40/30 °C	109.1 %	108.7 %	108.8 %
NOx class	6	6	6
Product dimensions, width	390 mm	390 mm	390 mm
Product dimensions, depth	280 mm	280 mm	280 mm
Product dimensions, height	702 mm	702 mm	702 mm
Net weight	29.2 kg	29.9 kg	29.9 kg
Weight when filled with water	33.2 kg	34.4 kg	34.4 kg

Technical data – Electrics

	Atromix P 20 – A/2 (H-UA/MD)	Atromix P 24 – A/2 (H-UA/MD)	Atromix P 28 – A/2 (H-UA/MD)
Electrical connection	230 V / 50 Hz	230 V / 50 Hz	230 V / 50 Hz
Built-in fuse (slow-blow)	T2/2A, 250V	T2/2A, 250V	T2/2A, 250V
Max. electrical power consumption	100 W	100 W	110 W
IP rating	IPX4D	IPX4D	IPX4D

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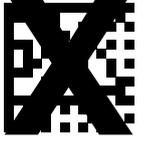
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Manufacturer/Supplier

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