Service instructions

for heating engineers

Vitocrossal 200
Type CM2
Gas fired condensing boiler

For applicability, see the last page

VITOCROSSAL 200

5692 599 GB 7/2005

Please keep safe

Safety instructions

Please follow these safety instructions closely to prevent accidents and material losses.

Safety instructions explained

Danger
This symbol warns against the risk of injury.

Please note
This symbol warns against the risk of material losses and environmental pollution.

Note
Details identified by the word "Note" contain additional information.

Target group

These instructions are exclusively designed for qualified personnel.

- Work on gas appliances must only be carried out by a registered gas fitter.
- Work on electrical equipment must only be carried out by a qualified electrician.
- The system must be commissioned by the system installer or a qualified person authorised by the installer.

Regulations

Observe the following when working on this system

- all legal instructions regarding the prevention of accidents,
- all legal instructions regarding environmental protection,
- the Code of Practice of relevant trade associations,
- all current safety regulations as defined by DIN, EN, DVGW, TRGI, TRF, VDE and all locally applicable standards.

If you smell gas

Danger
Escaping gas can lead to explosions which may lead to serious injury.

- Never smoke. Prevent naked flames and sparks.
  Never switch lights or electrical appliances ON or OFF.
- Close the gas shut-off valve.
- Open windows and doors.
- Remove all people from the danger zone.
- Notify your gas or electricity supplier from outside the building.
- Shut off the electricity supply to the building from a safe place (outside the building).

If you smell flue gas

Danger
Flue gas can lead to life-threatening poisoning.

- Shut down the heating system.
- Ventilate the boiler room.
- Close doors to the living space.

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Safety instructions (cont.)

Working on the system

- Isolate the system from the power supply and check that it is no longer 'live', e.g. by removing a separate fuse or by means of a mains isolator.
- Safeguard the system against unauthorised reconnection.
- When using gas as fuel, also close the main gas shut-off valve and safeguard against unauthorised reopening.

Repair work

Please note
Repairing components which fulfil a safety function can compromise the safe operation of your heating system.
Replace faulty components only with original Viessmann spare parts.

Ancillary components, spare and wearing parts

Please note
Spare and wearing parts which have not been tested together with the heating system can compromise its function. Installing non-authorised components and non-approved modifications or conversions can compromise safety and may invalidate our warranty.
For replacements, use only original spare parts supplied or approved by Viessmann.

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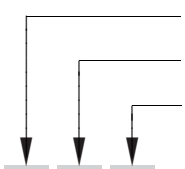
Steps – initial start-up, inspection and maintenance

For further information regarding individual steps, see the pages indicated.



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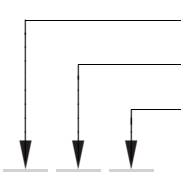
Steps – initial start-up, inspection and . . . (cont.)



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Further details regarding the individual steps

Checking the high limit safety cut-out setting

The high limit safety cut-out must **not** be set higher than 110 °C; if required, set it to a maximum of 110 °C.

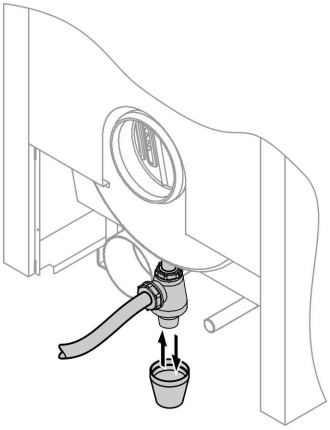
Control unit installation and service instructions

Filling the heating system with water and venting the system

Record the fill volume and concentration of calcium hydrogen carbonate on page 29.

Note
Observe the "water quality requirements" on page 61.

Filling the siphon with water

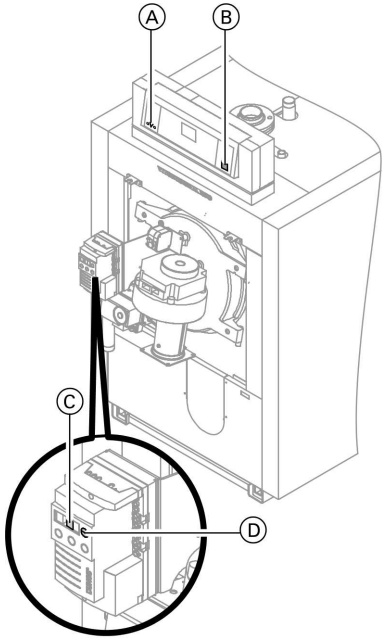


1. Release the siphon and fill with water (otherwise flue gas may escape).
2. Check that the condensate can freely drain.
3. Refit the siphon.

Starting the heating system

Control unit operating and service instructions, and neutralising system operating instructions

Further details regarding the individual steps (cont.)



1. Check the heating system pressure.
Permissible boiler operating pressure: 4 bar

2. For open flue operation: Check that the boiler room ventilation aperture is open.

3. Check the gas supply pressure.

4. Check that the cleaning aperture on the flue outlet is closed.

5. Open the gas supply line shut-off valves.

6. Switch ON the mains isolator (outside the installation room).

7. Switch ON the system ON/OFF switch Ⓑ at the control unit. If fault indicator lamp Ⓐ at the control unit illuminates and burner control unit display Ⓒ flashes, first press reset button Ⓓ at the burner control unit.

Note
The system can enter a fault state during commissioning, if insufficient gas is in the supply line (the fault indicator at the control unit illuminates). Vent the gas supply line again and reset the burner control unit.

8. Match the coding at the boiler control unit according to the table on page 54.

Control unit installation and service instructions

Further details regarding the individual steps (cont.)

9. Check the function of the neutralising system.


Neutralising system operating instructions

10. Check all gaskets/seals and plugs and retighten, if necessary.

Note
We recommend you check all heating water connections after approx. 500 hours for leaks (see page 22).

11. Check the boiler door and clean-out cover a few days after commissioning and retighten all screws.

Checking the gas type

1. Determine the gas type and Wobbe index (Wo) from your gas supplier.
- With the natural gas E setting, the boiler can be operated in the Wobbe index range 12.0 to 16.1 kWh/m^3 (43.2 to 58.0 MJ/m^3).
- With the natural gas LL setting, the boiler can be operated in the Wobbe index range 10.0 to 13.1 kWh/m^3 (36.0 to 47.2 MJ/m^3).

2. The burner is set up in the factory for natural gas E. If required, convert the burner in accordance with details provided by your gas supplier to a different gas type (see page 9).

3. Record the gas type in the service report (on page 60).

Conversion to natural gas LL

Conversion for 87 kW

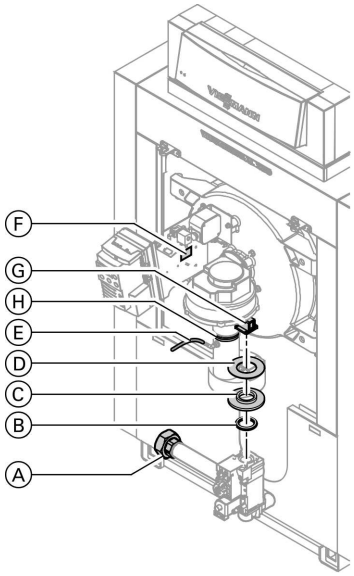
1. Close the gas shut-off valve.

2. Switch OFF the system ON/OFF switch at the control unit.

Further details regarding the individual steps (cont.)

3. Switch OFF the mains isolator (outside the installation room) or the power supply and prevent unauthorised reconnection.

4. Undo fitting Ⓐ.



5. Remove the venturi mixer tube Ⓗ from the gas fan.
   Pull off the compensation line Ⓔ when operating the boiler in balanced flue mode.

6. Release the gas combination valve from flange Ⓖ.

7. Remove restrictor Ⓒ with gasket Ⓓ from venturi mixer tube Ⓗ.

8. Secure the gas combination valve (without restrictor Ⓒ and without gasket Ⓓ, but including O-ring Ⓑ) at flange Ⓖ.

9. Secure venturi mixer tube Ⓗ at the gas fan.
   Push compensation line Ⓔ onto the mixer tube when operating the boiler in balanced flue mode.

10. Fit and tighten fitting Ⓐ.

11. Affix enclosed label "Adjusted to ..." Ⓕ above the existing label.

12. Start the burner (see page 7).

Danger
Escaping gas leads to a risk of explosions.
Check all fittings for soundness.

Conversion for 115 to 311 kW

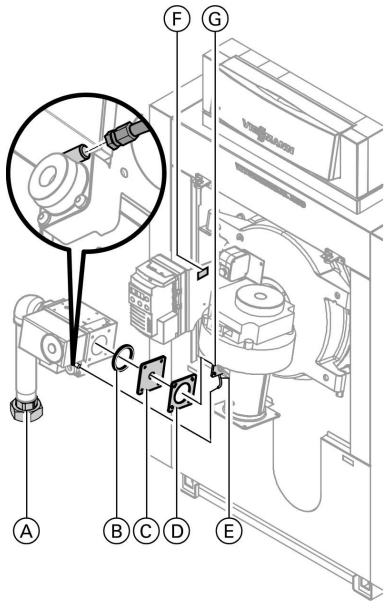
1. Close the gas shut-off valve.

2. Switch OFF the system ON/OFF switch at the control unit.

3. Switch OFF the mains isolator (outside the installation room) or the power supply and prevent unauthorised reconnection.

Further details regarding the individual steps (cont.)

4. Undo fitting Ⓐ.



5. Only for 246 and 311 kW: Pull compensation hose Ⓖ from the gas combination valve.

6. Release the gas combination valve from flange Ⓔ.

7. Remove restrictor Ⓒ with rubber cork gasket Ⓓ.

8. Secure the gas combination valve (without restrictor Ⓒ and without rubber cork gasket Ⓓ, but including O-ring Ⓑ) at flange Ⓔ; replace the factory-fitted screws M 5 × 16 with M 5 × 12 (in the pack).

9. Secure and tighten fitting Ⓐ.

10. Only for 246 and 311 kW: Push compensation hose Ⓖ onto the gas combination valve.

11. Affix enclosed label "Adjusted to ..." Ⓕ above the existing label.

12. Start the burner (see page 7).

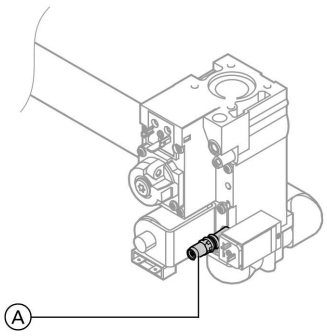
Danger
Escaping gas leads to a risk of explosions.
Check all fittings for soundness.

Further details regarding the individual steps (cont.)

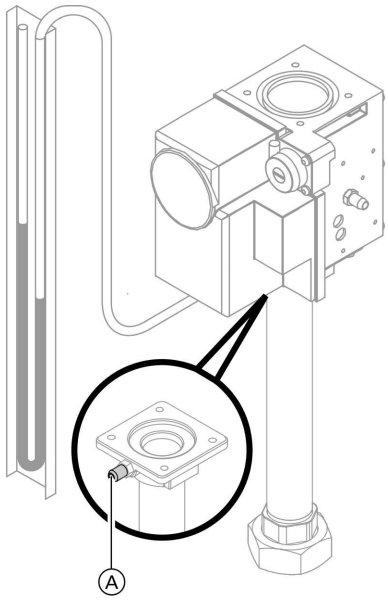
Checking the static and the supply pressure

Static pressure

87 kW



115 to 311 kW



1. Close the gas shut-off valve.
2. Undo the screw inside test connector Ⓐ, but do not remove.
3. Connect the pressure tester at test connector Ⓐ.
4. Open the gas shut-off valve.
5. Check the static pressure (max. 60 mbar).
6. Record the actual value in the report (on page 60).

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Further details regarding the individual steps (cont.)

Supply pressure

1. Start the burner.

Note
For commissioning, see page 7. Switch the burner to maximum output. For this, activate the emissions test switch at the control unit.

2. Check the supply pressure (flow pressure), see table on page 13.

Note
The supply pressure (flow pressure) should be between 20 and 50 mbar. The gas pressure switch is factory-set to 10 mbar. Never alter this setting.

3. Record the actual value in the report (on page 60).

4. Close the gas shut-off valve.

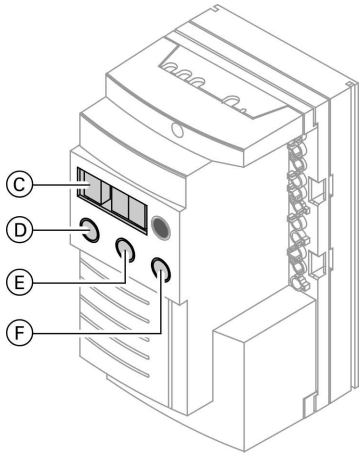
5. Remove the pressure tester and close test connector Ⓐ.

Supply pressure (flow pressure)	Measures
below 15 mbar	Make no adjustments and contact the gas supply company
15 to 20 mbar	Please note: The boiler may only be operated temporarily with these settings (emergency mode). Notify your gas supply company.
20 to 50 mbar	Start the boiler
above 50 mbar	Install a separate gas pressure valve with zero off upstream in the boiler system, and regulate the pressure to 20 mbar. Notify your gas supply company.

Further details regarding the individual steps (cont.)

Checking the CO_2 content

Preparing the test



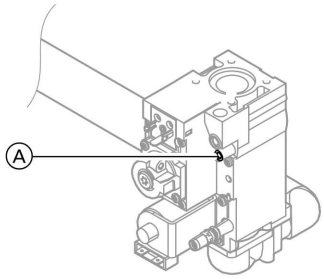
1. Open the gas shut-off valve.
2. Start the burner.
3. Press "S"Ⓔ and "-"Ⓓ simultaneously.
   Display Ⓒ will then show the following:
   - under status: "d" (= control stop)
   - under service: Modulation level in % ("00." = 100 % = upper output, "00" = 0 % = lower output)

CO_2 test at the upper output (87 kW)

1. Press "+"Ⓕ until the service display has incremented to "00." (= 100 %).
2. Check the CO_2 content at the flue pipe.

Burner output in kW	Permissible CO_2 content in %
87	9.0 (±0.3)

Further details regarding the individual steps (cont.)

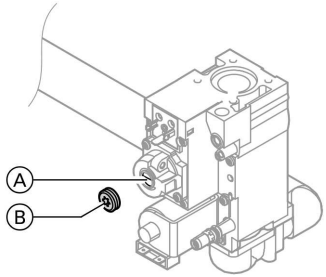


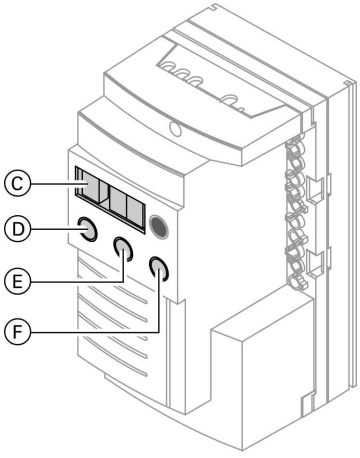
3. If the CO_2 content must be adjusted:
Turn adjusting screw Ⓐ in small increments until the CO_2 content reaches the stipulated range.
- Turning clockwise
  → CO_2 content **drops**
- Turning anti-clockwise
  → CO_2 content **rises**

Note
The adjusting screw has no end stop. The starting postion will be reached again after four turns.

4. Record the actual value in the report (on page 60).

CO_2 test at the lower output (87 kW)





1. Press "-" Ⓓ until the service display has decremented to "00" (lower output).

Further details regarding the individual steps (cont.)

2. Check the CO_2 content at the flue pipe. For permissible CO_2 content, see the table on page 14.

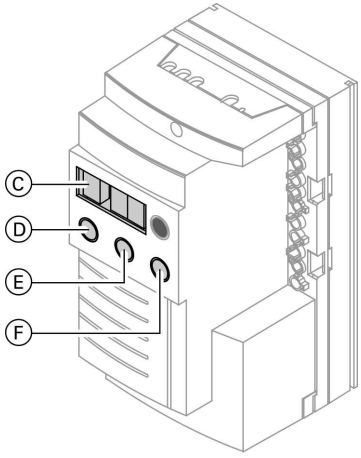
3. If the CO_2 content must be adjusted:
- Remove cover Ⓑ.
- Turn adjusting screw Ⓐ in small increments (Torx 40) until the CO_2 content reaches the stipulated range:
  – Turning clockwise
  → CO_2 content **rises**
  – Turning anti-clockwise
  → CO_2 content **drops**

4. Record the actual value in the report (on page 60).

Recheck the values
Regulate to the upper and lower output using the burner control unit. If the values do not match the permissible CO_2 content according to the table on page 14, repeat the steps for the upper and lower output.

5. Press "S"Ⓔ and "-"Ⓓ simultaneously. The burner is now in operating mode.

CO_2 test at the upper output (115 kW to 311 kW)

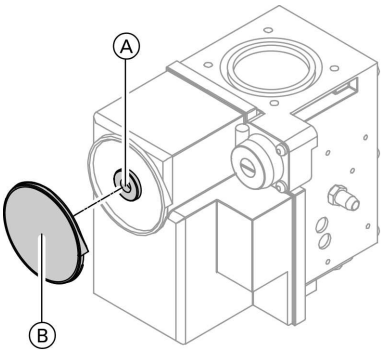


1. Press "+"Ⓕ until the service display has incremented to "00." (= 100 %).

2. Check the CO_2 content at the flue pipe.

Burner output in kW	Permissible CO_2 content in %
115	9.0 (±0.3)
142	9.0 (±0.3)
186	9.0 (±0.3)
246	8.8 (±0.3)
311	8.8 (±0.3)

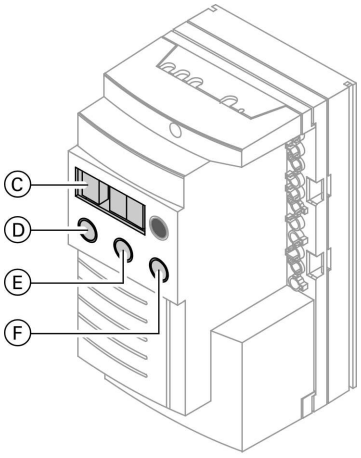
Further details regarding the individual steps (cont.)



3. If the CO_2 content must be adjusted:
   - Remove cap Ⓑ.
   - Turn adjusting screw Ⓐ in small increments (3 mm Allen key) until the CO_2 content reaches the stipulated range:
     – Turning clockwise
     → CO_2 content **drops**
     – Turning anti-clockwise
     → CO_2 content **rises**

4. Record the actual value in the report (on page 60).

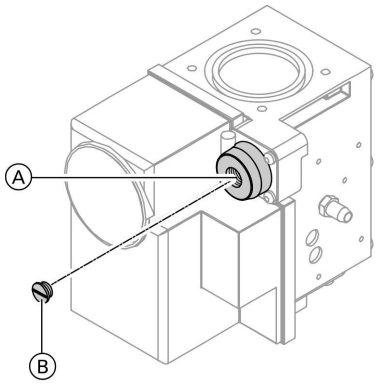
CO_2 test at the lower output (115 kW to 311 kW)



1. Press "-"Ⓓ until the service display has decremented to "00" (lower output).

2. Check the CO_2 content at the flue pipe. For permissible CO_2 content, see the table on page 16.

Further details regarding the individual steps (cont.)



3. If the CO_2 content must be adjusted:
- Remove cover Ⓑ.
- Turn adjusting screw Ⓐ in small increments (Torx 40) until the CO_2 content reaches the stipulated range:
  – Turning clockwise
  → CO_2 content **rises**
  – Turning anti-clockwise
  → CO_2 content **drops**

4. Record the actual value in the report (on page 60).

Recheck the values
Regulate to the upper and lower output using the burner control unit. If the values do not match the permissible CO_2 content according to the table on page 16, repeat the steps for the upper and lower output.

5. Press "S"Ⓔ and "-"Ⓓ simultaneously. The burner is now in operating mode.

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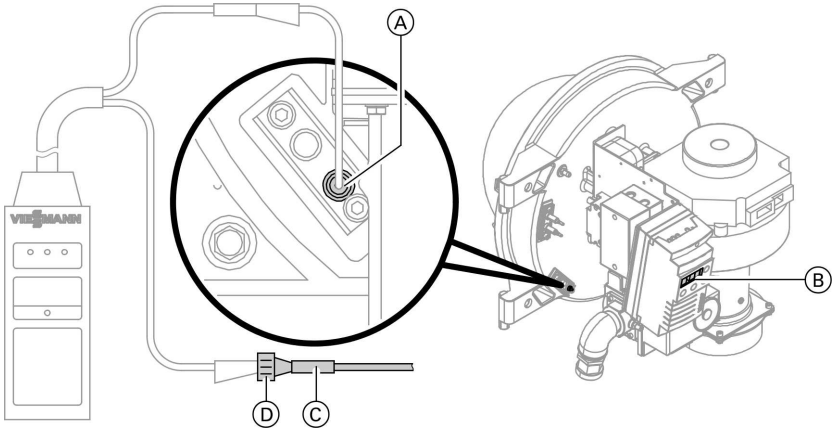
Further details regarding the individual steps (cont.)

Checking the ionisation current



1. Switch OFF the mains isolator.

2. Pull ionisation current cable plug Ⓒ.

3. Switch ON the mains isolator. There must be a fault shutdown after the burner has tried to start. The fault code "F 25" flashes in display Ⓑ.

4. Switch OFF the mains isolator.

Note
Test cable no.1 is required when checking with Testomatik-Gas. You can also carry out this test with a megohmmeter.

5. Push ionisation current cable plug Ⓒ into adaptor Ⓓ.

6. Push test cable socket Ⓐ onto the ionisation electrode.

7. Switch the mains isolator ON and press the reset button.

8. Check the ionisation current.

Note
Approx. 2 to 3 s after the gas valve has been opened and during operation, the ionisation current should be at least 6 µA.

9. Record the actual value in the report (on page 60).

10. Switch the mains isolator OFF, remove the test equipment and reconnect the ionisation cable plug connections.

11. Switch ON the mains isolator.

Further details regarding the individual steps (cont.)

Shutting down the heating system

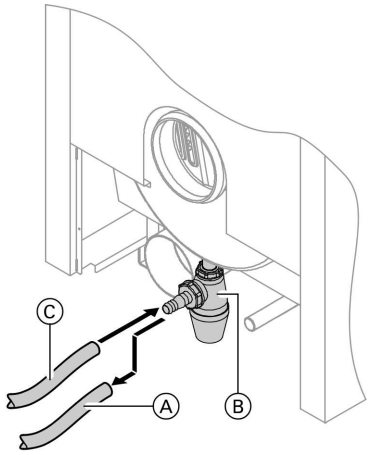
1. Switch OFF the mains isolator or the power supply and safeguard against unauthorised reconnection.
2. Pull plug-connector 41 and 90 from the burner.
3. Close the gas shut-off valve.

Opening the boiler door

1. Remove the gas supply pipe.
2. Undo the four screws on the boiler door and open the door.

! **Please note**
Scratches inside the combustion chamber can lead to corrosion.
Never put tools or other objects into the combustion chamber.

Separating the neutralising system (if installed) from the boiler and connecting the drain hose



1. Separate hose Ⓐ to the neutralising system from siphon Ⓑ.
2. Connect drain or cleaning hose Ⓒ to the siphon and run it into a sewer.

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Further details regarding the individual steps (cont.)

Cleaning the combustion chamber and heating surfaces

Thoroughly clean the combustion chamber and heating surfaces with a water jet.

! **Please note**
Scratches on parts which are in contact with flue gases can lead to corrosion.
Only use plastic brushes, NOT wire brushes or sharp objects.

For normal cleaning, flush the heating surfaces with a water jet. However, you may use cleaning agents if you notice stubborn residues, surface discolouration or soot deposits.
For this, observe the following:

- Only use solvent-free cleaning agents. Ensure that no cleaning agent enters between the boiler body and the thermal insulation.
- Remove soot deposits with alkaline cleaning agents with additional surfactants (e.g. Fauch 600).
- Remove coatings and surface discolouration (yellow-brown) with slightly acidic, chloride-free cleaning agents based on phosphoric acid (e.g. Antox 75 E).
- Remove loose deposits from the boiler; flush the heating surfaces and the flue gas collector thoroughly with a water jet.


Cleaning agent manufacturer's details.

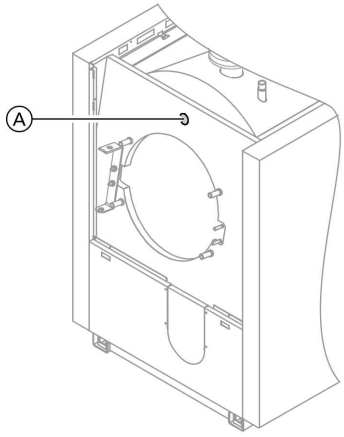
Note
"Fauch 600" and "Antox 75 E"
Manufacturer
Hebro Chemie GmbH
Rostocker Straße 40
D -41199 Mönchengladbach

Checking gaskets and thermal insulation components

1. Check gaskets and the packing cord in the boiler door for damage.
2. Check the thermal insulation components of the boiler door for possible damage.
3. Replace all faulty parts.

Further details regarding the individual steps (cont.)

Checking all primary connections and the sensor well for leaks



Ⓐ Sensor well

Note
Also check the connections to control equipment and to the minimum pressure switch (low water indicator) for leaks.

Cleaning and reconnecting the condensate drain system

Note
Clean the inside of the condensate drain system at least annually.

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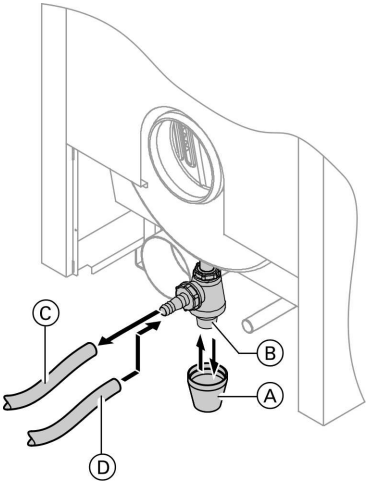
Further details regarding the individual steps (cont.)



1. Pull drain or cleaning hose Ⓒ off.
2. Clean the inside of the condensate drain system (hose, pipe).
3. Clean the neutralising system (if installed) in accordance with the manufacturer's instructions.

   Neutralising system operating instructions

   Note
   You can obtain neutralising agent from Viessmann quoting part no. 9521 702.
4. Release and flush lower part Ⓐ of siphons Ⓑ.
5. Fill lower part Ⓐ of siphon Ⓑ with water and reassemble.
6. Refit hose Ⓓ of the neutralising system to the siphon.

Checking the condensate drain and the neutralising system (if installed)

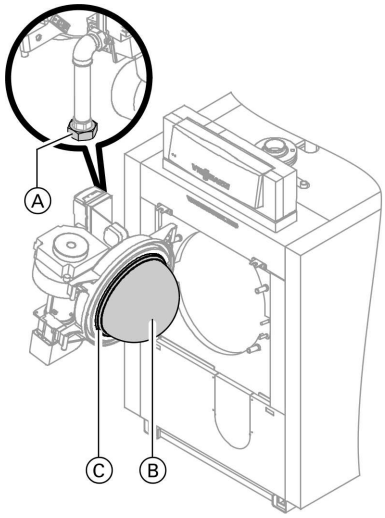
Fill water into the combustion chamber.

Note
The water must flow from the condensate drain without back pressure.

If necessary, clean the condensate drain again.

Further details regarding the individual steps (cont.)

Checking the burner gauze assembly

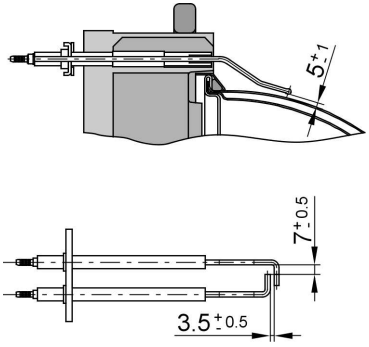


1. Undo fitting Ⓐ on the gas supply pipe.
2. Undo the screws on the boiler door and open the door.
3. Check the wire mesh of burner gauze assembly Ⓑ and thermal protection ring Ⓒ for damage. Slight wavy deformations of burner gauze assembly Ⓑ are OK.
4. Replace burner gauze assembly Ⓑ and thermal protection ring Ⓒ, if required.

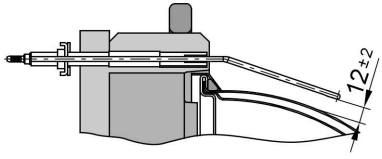
Installation instructions
Burner component replacement

Checking the ignition and ionisation electrodes

Ignition electrodes



Ionisation electrode



Check the ignition electrodes and the ionisation electrode for correct gap towards the burner gauze assembly and damage (replace, if required).

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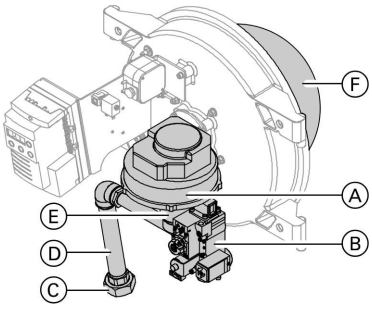
Further details regarding the individual steps (cont.)

Closing the boiler door

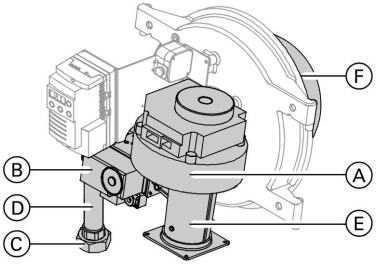
Note
Tighten the boiler door screws evenly across with a torque of approx. 18 Nm.

Cleaning the burner

87 kW



115 to 311 kW



1. Undo fitting Ⓒ on gas supply pipe Ⓓ.
2. Remove venturi mixer tube Ⓔ from gas fan Ⓐ.
3. Remove venturi mixer tube Ⓔ with gas combination valve Ⓑ and gas supply pipe Ⓓ.

   Note
   For larger burners (246 to 311 kW), the rotary damper at position Ⓔ is also fitted with a drive.

4. Pull the connecting cables "100" and "100a" off fan Ⓐ and remove fan Ⓐ.

   Note
   Ensure that the gasket between the fan housing and the boiler door is correctly positioned.

5. Clean the fan housing and impeller with compressed air.
6. If required, vacuum the inside of burner gauze assembly Ⓕ.

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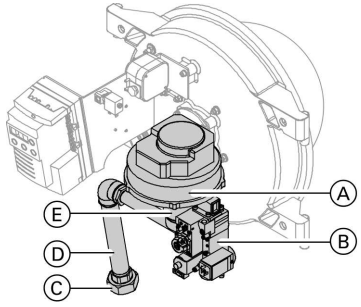
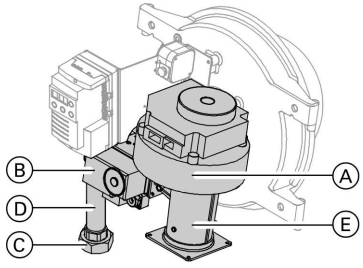
Further details regarding the individual steps (cont.)

Burner installation

87 kW



115 to 311 kW



1. Install fan Ⓐ.

Note
Ensure the gasket between the fan housing and the boiler door is correctly positioned.

2. Push the connecting cables "100" and "100a" onto the fan.

3. Secure venturi mixer tube Ⓔ with gas combination valve Ⓑ and gas supply pipe Ⓓ on fan Ⓐ.

Note
For larger burners (246 to 311 kW), the rotary damper at position Ⓔ is also fitted with a drive.

4. Tighten fitting Ⓒ on gas supply pipe Ⓓ.

Danger
Escaping gas leads to a risk of explosions.
Check the fitting and gasket between the fan housing and the boiler door for soundness.

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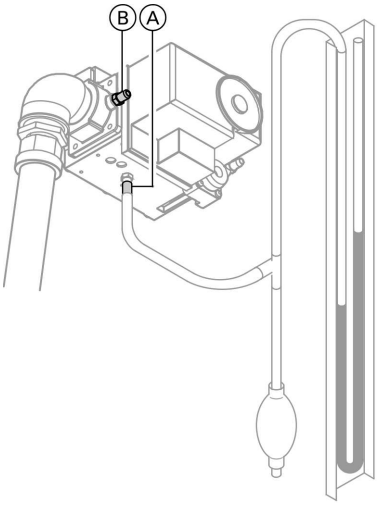
Further details regarding the individual steps (cont.)

Checking both gas train valves for soundness (for 115 to 311 kW)



1. Close the gas shut-off valve.
2. Release the screw inside test connector Ⓑ, but do not remove.
3. Release the screw inside test connector Ⓐ, but do not remove.
4. Connect the pressure tester with the manual pump at test connector Ⓐ.
5. Gently activate the manual pump to build a test pressure of approx. 50 mbar.
6. Wait approx. 5 min for the temperature to level out and then observe the display on the pressure tester:
   If, within 5 min, the displayed pressure does not drop by more than 1 mbar, then the gas combination valve is sound.
   Otherwise it leaks. In that case, return the gas combination valve to Viessmann Werke for tests.
7. After the test, close both test connectors by tightening the respective screws.

Danger
Escaping gas leads to a risk of explosions.
Check the test connector for soundness.

Checking all gas connections for soundness

Danger
Escaping gas leads to a risk of explosions.
Always carry out the following steps.

1. Insert new gaskets in all gas fittings which have been opened and tighten those fittings afterwards.
2. Open the gas shut-off valve.
3. Check the inlet seals of the gas combination valve for soundness.

Further details regarding the individual steps (cont.)

4. Start the burner (see page 7).
5. Check the outlet seals of the gas combination valve and fittings between the fan and the boiler door and between the fan and the venturi pipe for soundness.

Implementing final tests

1. Carry out the finals tests according to the notes on page 14 to 19.
2. Record the actual values in the report (on page 60).

Checking the water quality

For water quality requirements, see page 61.
Enter the volume of top-up water and the respective calcium hydrogen carbonate concentration [$Ca(HCO_3)_2$] into the table.

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Further details regarding the individual steps (cont.)

Fill water m^3	Top-up water m^3	Counter m^3	Total water volume m^3	Concentration [$Ca(HCO_3)_2$] mol/m^3	Water treatment		Date
					Medium	Metering volume	
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Max. fill volume: ..... m^3

Checking the diaphragm expansion vessel and system pressure

Note
Observe the diaphragm expansion vessel manufacturer's instructions. Carry out this test on a cold system.

1. Drain the system until the pressure gauge indicates "0" or close the cap valve on the diaphragm expansion vessel and reduce the pressure in the diaphragm expansion vessel.
2. If the inlet pressure of the diaphragm expansion vessel is lower than the static system pressure, top up with nitrogen until the inlet pressure is raised by 0.1 to 0.2 bar.

Further details regarding the individual steps (cont.)

3. Top up your heating system with water and vent until the filling pressure of a cool system is 0.1 to 0.2 bar higher than the inlet pressure of the diaphragm expansion vessel.
   Permissible operating pressure: 4 bar

Checking the mixer for obstructions and leaks

1. Remove the motorised lever from the mixer handle.
2. Check the mixer for ease of operation.
3. Check the mixer for leaks. Replace the O-rings if the mixer leaks.
4. Snap the motorised lever into place.

Instructing the system user

The installer must instruct the user in the operation of the system.

Operating and service documents

1. Complete and detach the customer registration card:
   - Hand the system user this part for safekeeping.
   - Retain the heating engineer's part.
2. File all parts lists, operating and service instructions in the folder and hand this over to the system user.

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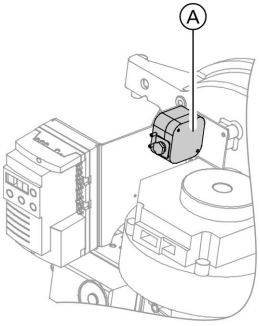
Air pressure switch

Function



The air pressure switch Ⓐ signal is assessed under the following operating conditions:

- prior to the fan start (idle state check)
- in the pre-purge phase
- in control mode, as far as at least a starting output is produced. Outputs which are lower than the starting output are not monitored.

Fault shutdown

The air pressure switch triggers a fault shutdown of the burner control unit (see page 00) under the following circumstances:

- if the idle state check is not successful after 5 attempts (anti-cycling function) (i.e the air pressure switch contact does not open within 30 s)
- if, during the pre-purge phase, the minimum volume flow is not produced (fault shutdown via the anti-cycling function)
- if, during the control mode, the air pressure switch fails or the air pressure lies outside the permissible range

The fault shutdown is shown with fault display "L" on the burner control unit (see page 00 and 37), and **cannot** be rectified by pressing the reset button.

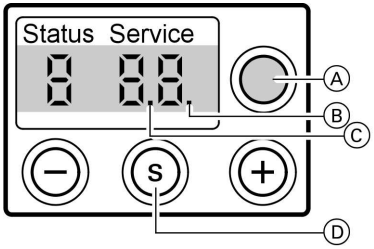
The fault shutdown can only be rectified by shutting down the burner control unit through switching off the **ON/OFF switch at the control unit**.
Before the burner control unit is set to fault ("L") through a signal from the air pressure switch, a re-start will be initiated 5 times every 2 hours. If these attempts are unsuccessful, the burner control unit will be set to fault ("L"). This indicates a serious fault.
The fault shutdown through the air pressure switch ("L") will not be displayed as fault by the **control unit**, as it is (like a shortage of gas "A") classified by the control unit as a maintenance matter.
The air pressure switch is always set to 1.0 mbar. This guarantees hygienic combustion. This will also ensure a minimum pre-purge, as the air pressure switch still responds at minimum output.

Burner control unit

Display and programming unit

Function

A display and programming unit is integrated into the burner control unit. The display indicates the respective operating conditions, the service and parameter conditions as well as all fault and error messages.

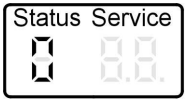


The display comprises three elements of seven segments each. Four keys enable adjustments to be made at the different operating levels.
A DIP switch at the back of the display and programming unit enables burner parameters to be configured (for settings, see page 35).

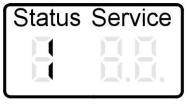
Ⓐ Reset button
Ⓑ Decimal point (will be shown if a display value exceeds 99)
Ⓒ Memory LED (will be displayed if a value is saved)
Ⓓ Selection key

Operating display

In standard mode, the display shows the current operating conditions. The same applies after pressing the reset button following a fault display.
The following displays are scrolled through automatically. In case of faults, see the message codes on page 40.



Standby



Start
Heat demand
System tests

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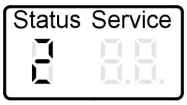
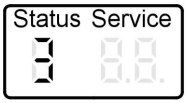
Burner control unit (cont.)

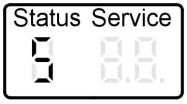


Idle state check
Fan spin

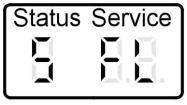


Pre-purge

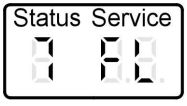
Pre-ignition



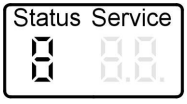
Safety time



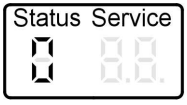
Flame established



Operation with flame



Post-purge



Standby

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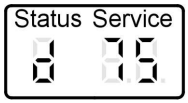
Burner control unit (cont.)

Display	Status (single digit)	Service (two digit)	See
Operating display in standard mode	Current operating condition, see pages 32 and 33	Display "FL" if a flame signal is present	Page 33
Operating display for operation deviating from the standard condition	Message code "A" or "L", see the table on page 40	—	—
Service display	Message code "d", see page 34	Actual level of modulation	Page 34
Fault display	Message code "F", see the table on page 40, display flashes	Fault code display flashes, see page 40	Page 40

Manual mode and service display

To call up the service display and for manual mode, a heat demand must be issued by the control unit. The service display shows the current level of modulation in %.

Display:
"d 00" lower output
"d 00." upper output (with the full stop behind the last digit)



1. Press ⊖ and Ⓢ simultaneously; the burner enters manual mode. The display shows "d" under status.
2. Adjust the lower output: Press ⊖, until "d 00" is shown.
3. Adjust the upper output: Press ⊕, until "d 00." is shown.
4. Press ⊖ and Ⓢ simultaneously; the burner returns to modulating mode.

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Burner control unit (cont.)

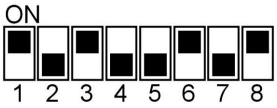
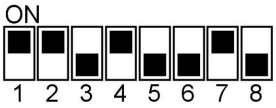
DIP switch setting or parameter set

The DIP switch (at the back of the display and programming unit) is factory-set to the rated output of the burner. A change to this factory setting is only required for operation with reduced output.

Note
If another parameter set is selected, this must be acknowledged (see page 36).

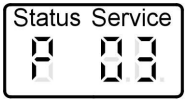
Setting **Rated burner output**	**Setting** **Reduced burner output**
Parameter set 0 ≙ 87 kW 	Parameter set 6 not possible
Parameter set 1 ≙ 115 kW 	Parameter set 7 not possible
Parameter set 2 ≙ 142 kW 	Parameter set 8 ≙ 100 kW 
Parameter set 3 ≙ 186 kW 	Parameter set 9 ≙ 130 kW 

Burner control unit (cont.)

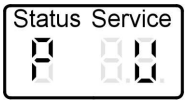
Setting Rated burner output	Setting Reduced burner output
Parameter set 4 ≙ 246 kW 	Parameter set 10 ≙ 173 kW 
Parameter set 5 ≙ 311 kW 	Parameter set 11 ≙ 218 kW 

Acknowledging a parameter set

A flashing "P" is shown under "Status", if a parameter set is changed via the DIP switch or if the burner control unit has been replaced. The figures under Service show the set parameters (see page 35).



"U" will appear under "Service" if an invalid DIP switch setting is selected.



1. Check the DIP switch setting; if required, change it in accordance with page 35.

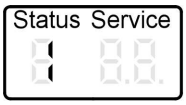
Burner control unit (cont.)

2. Press ⊖ and ⊕ simultaneously for approx. 2 s.
The selected parameter setting has been accepted when "P" no longer flashes and the memory LED illuminates.

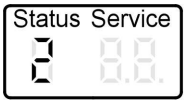
3. Press the reset button.
Then the operating display will be shown again.

Displaying the selected parameter set

This display will be terminated if no key is pressed within 20 s.



1. Press Ⓢ and ⊕ simultaneously.

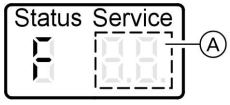


2. Press Ⓢ.
The selected parameter set is displayed under "Service".

3. Press Ⓢ and ⊕ simultaneously.
Then the operating display will be shown again.

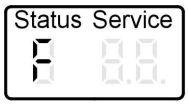
Fault display

The fault display will be activated automatically if the burner control unit switches to a fault state. The most recent fault will then be displayed under "Service". The light segments of the display will flash.



Ⓐ Fault code of the most recent fault

Burner control unit (cont.)



1. Press ⊕.
   The operating phase, under which the fault has occurred, is displayed under "Service" as long as this key is held down. (value "01" to "21". See flow chart on page 46).

2. Press ⊖.
   The additional fault information will be displayed under "Service" for as long as this key is held down.

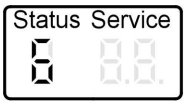
3. Press the reset button.
   Then the operating display will be shown again.

Fault memory

The most recent six faults are saved and may be called up. The order of scans ranges from the most recent to the earlier fault codes. The fault memory display will be terminated if no key is pressed within 20 s.

1. Press the reset button and ⊕ simultaneously.
   The most recent fault will be displayed:
   "1" will be displayed under "Status".
   The fault code is displayed under "Service".

Burner control unit (cont.)



2. Press Ⓢ to scan the penultimate to the sixth from last fault.

Display under "Status"	Fault
1	most recent fault
.	.
.	.
.	.
6	sixth from last fault

The relevant fault code is displayed under "Service".

3. Press Ⓢ.
Then the operating display will be shown again.

Diagnosis

Faults with indication on the display and programming unit

Message codes

Message code	System characteristics	Cause	Remedy
A	Burner OFF	Gas pressure switch fault	Check the gas pressure switch
A	Burner OFF	Lack of gas	Notify your gas supply company
A	Burner is in a fault state	See fault code	See fault code steps
L	Air pressure switch responds during operation	Flue gas back pressure, condensate banked up	Check condensate drain, remove flue gas back pressure, reset the burner control unit in accordance with the details on page 31.
P	System OFF	Incorrect parameter set selected	See acknowledging a parameter set, page 36.

General process error

Fault code	System characteristics	Cause	Remedy
20	Fan pressure is produced during the air pressure switch idle state check	Wind influence on fan	Check the flue gas draught (chimney).
20	The air pressure switch contact is not in the idle state	Air pressure switch faulty	Replace the air pressure switch.
21	Air pressure switch shows no air pressure, fan does not operate	Air pressure switch faulty	Replace the air pressure switch.
21	Fan does not run	Fans are faulty, cables are faulty or broken	Check cables and replace the fan, if required.

Diagnosis (cont.)

Fault code	System characteristics	Cause	Remedy
22	The gas pressure switch signals no gas pressure during the safety period	Gas shut-off valve closed, gas pressure switch faulty	Open the gas shut-off valve and check the gas supply pressure; clean the gas filter, if required.
25	No flame signal after the safety period; the ionisation flame monitor reports no flame signal	Ionisation electrode incorrectly adjusted	Adjust the ionisation electrode (see page 24).
25	No flame signal after the safety period; the ionisation flame monitor reports no flame signal	Ignition electrodes incorrectly adjusted	Adjust the ignition electrodes (see page 24).
25	No flame signal after the safety period; the ionisation flame monitor reports no flame signal	Insulation body of the ignition electrodes cracked	Replace the ignition electrodes.
25	No flame signal after the safety period; the ionisation flame monitor reports no flame signal	Incorrect gas type selected	Adjust the gas type (see page 9).
25	No flame signal after the safety period; the ionisation flame monitor reports no flame signal	The gas combination valve does not open	Check the gas combination valve and replace it, if required.
25	No flame signal after the safety period; the ionisation flame monitor reports no flame signal	Combustion characteristics not ideal	Adjust the burner (see from page 14).

Diagnosis (cont.)

Fault code	System characteristics	Cause	Remedy
25	No flame signal after the safety period; the ionisation flame monitor reports no flame signal	Incorrect parameter set selected	Adjust the parameter set (see page 35 to 36).
26	The ionisation flame monitor reports external light ingress during the start or after the post-purge	Ignition cables short-circuited	Remove the short circuit.
26	The ionisation flame monitor reports external light ingress during the start or after the post-purge	Short circuit at the ionisation cables or electrode	Remove the short circuit.
26	The ionisation flame monitor reports external light ingress during the start or after the post-purge	Gas combination valve leaks	Replace the gas combination valve.
26	The ionisation flame monitor reports external light ingress during the start or after the post-purge	Incorrect parameter set selected	Adjust the parameter set (see page 35 to 36).
27	Flame extinguishes during operation	Incorrect gas type selected	Adjust the gas type (see page 9).
27	Flame extinguishes during operation	Burner gauze assembly faulty	Replace the burner gauze assembly.
27	Flame extinguishes during operation	Incorrect parameter set selected	Adjust the parameter set (see page 35).
27	Flame extinguishes during operation	Combustion characteristics not ideal	Adjust the burner (see from page 14).
29	Burner control unit fault	Internal fault of the gas pressure switch input	Replace the burner control unit.

Diagnosis (cont.)

Fault code	System characteristics	Cause	Remedy
2A	Burner control unit fault	Internal fault of the gas pressure switch input	Replace the burner control unit.
2b	Burner control unit fault	Internal flame monitor fault	Replace the burner control unit.
2C	Burner control unit fault	Fault during test of safety inputs	Replace the burner control unit.
2d	Burner control unit fault	Internal low voltage monitor fault	Replace the burner control unit.
2E	Burner control unit fault	Internal voltage failure monitor fault	Replace the burner control unit
2F	Burner control unit fault	Internal heat demand fault	Replace the burner control unit.
2H	Burner control unit fault	Strapping plug break [47] safety chain	Check the strapping plug [47].
31	Burner control unit fault	Error in feedback from gas safety valves, output relay does not respond	Replace the burner control unit.
32	Burner control unit fault	Error in feedback from auxiliary start-up valve, output relay does not respond	Replace the burner control unit.
35	Burner control unit fault	Error in feedback from ignition, output relay does not respond	Replace the burner control unit.
36	Fan speed during start-up or during operation is outside the set range for longer than 5 s; the speed for ignition setting or start-up output in operation is not reached	The fan is faulty; cable "100a" is faulty or broken	Check the cables and replace cable "100a" or the fan, if required.

Diagnosis (cont.)

Fault code	System characteristics	Cause	Remedy
37	The fan does not reach its set speed	The fan is faulty; cable "100" or "100a" is faulty or broken; the fan is blocked by a foreign body	Check cable "100" or "100a"; if required, replace the cable or fan or remove foreign bodies.
42	Burner control unit remains in start-up position, no start in spite of heat demand	Safety chain broken	Check jumper B2 (plug 47) of the safety chain at the burner control unit.
4E	Burner control unit fault	Internal fault	Replace the burner control unit.
Scrolling display: 1 - 2 - 3 - 4 - 5 - 7	Constant start attempt	Cores "L1" and "N" at the power supply terminals of the control unit interchanged	Check the power supply and interchange the cores.

Internal system fault

Internal system faults are created if a perfect program sequence can no longer be guaranteed.

Fault code	System characteristics	Cause	Remedy
01 and 02, 04 to 15, 70 to 79, 7A, FF	Fault in the burner control unit area	Internal system fault	Replace the burner control unit.
FF	Fault in the burner control unit area	EEPROM	Have your system tested for EMC interference.

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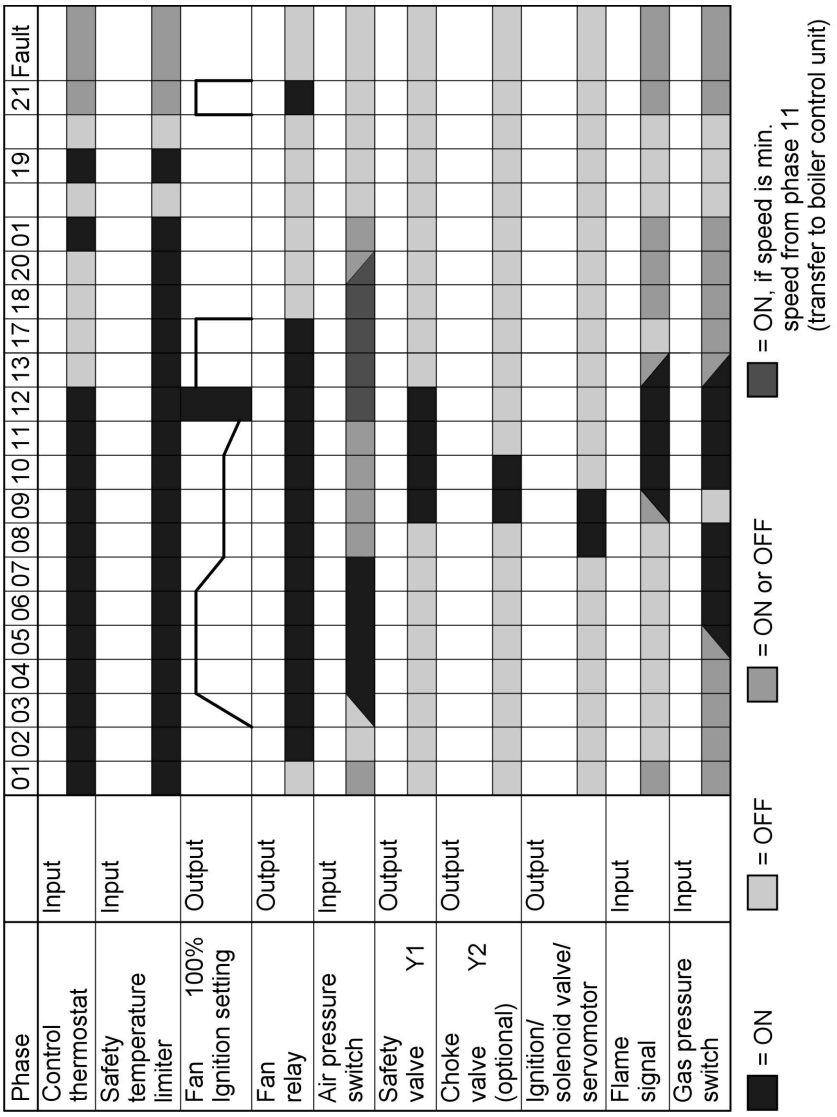
Diagnosis (cont.)

Faults without fault display

Fault	Cause	Measures
Combustion fault through pulsation	Excessive gas throughput	Adjust the gas throughput in accordance with the rated boiler output
	Air shortage or excess	Adjust the gas throughput in accordance with the rated boiler output.
	Condensate backup in flue gas system	Check the condensate drain.
	Incorrect flue draught	Check flue draught.
Burner restarts and switches off after the safety period has expired	Cores "L1" and "N" at the power supply terminals of the control unit interchanged	Check the power supply and interchange the cores.
CO is formed or burner is very sooty	Air shortage or excess	Adjust correctly. Check the ventilation of the boiler room.
	Insufficient chimney draught	Check the flue gas system.
CO_2 content too low	Incorrect setting	Check that burner has been adjusted for the correct gas type and change the gas restrictor, if required (see from page 9). Adjust the burner in accordance with the details on page 14.
Excessive flue gas temperature	Excessive gas throughput	Adjust the gas throughput in accordance with the rated boiler output (see supply values, page 62). Check the condition of the secondary heating surfaces of the boiler and clean them, if required.
Whining noises	Incorrect CO_2 settings	Adjust the burner in accordance with the details on page 14.

Gas burner control unit flow chart



After the controller issues a heat demand, the following program sequence will be run:

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Gas burner control unit flow chart (cont.)

Phase		Duration
01	Test for heat demand	1 s
02	Checking the idle state of the air pressure switch and the fan	1 to 30 s
03	Fan ramps up to speed (a fault shutdown will be initiated if the air pressure switch does not signal within this time scale, that the air pressure has reached a defined range or if the fan does not reach its set speed)	1 to 30 s
04	Pre-purge I	5 s
05	Pre-purge II	1 s
06	Pre-purge III	30 s
07	Ignition setting (the burner control unit will enter a fault state if the fan does not achieve its set speed)	1 to 30 s
08	Pre-ignition	2 s
09	Start-up safety time (safety time A) (safety valves enabled at the beginning of safety time A, safety time < 1 s); (no gas pressure switch monitoring)	2 to 10 s
10	Stabilising the flame in the ignition position	20 to 60 s
11	Changing to the control mode (ramps to the set speed selected at the control unit)	1 to 30 s
12	Operation (the system will be restarted after expiry of this time)	max. 23:59 h
13	Afterburn time	max. 30 s
17	Post-purge	1 to 60 s
18	Restart blocking time	0 s
19	Gas shortage position	max. 30 min
20	Standby (a restart follows a heat demand and the system restarts after expiry of this time)	max. 23:59 h
in case of fault shutdown from phase 09:		
21	Fan run-on before lockout	5 s

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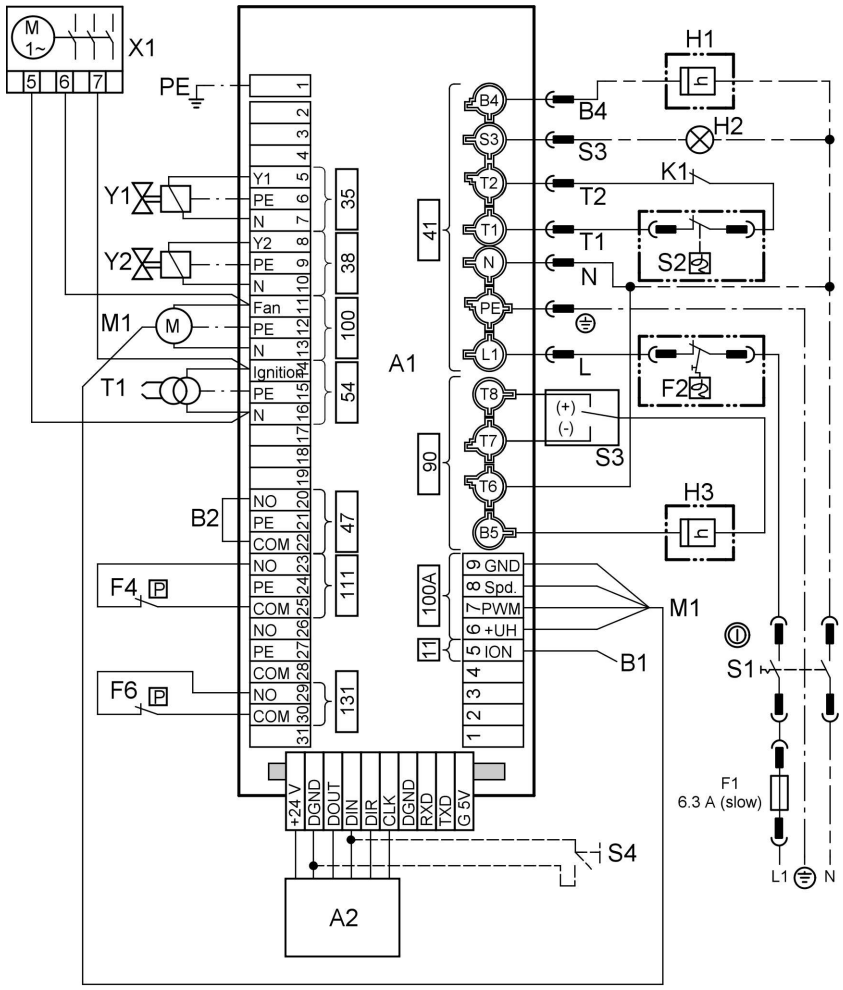
Burner control unit connection diagram



A1 Burner control unit MPA 51
A2 Display unit with reset function
B1 Flame monitoring via an ionisation current
B2 Safety chain jumper
F1 Line fuse
F2 High limit safety cut-out
F4 Minimum pressure, gas pressure switch
F6 Air pressure switch
H1 Hours run counter, total
H2 Fault indication
H3 Hours run counter, modulation, lower/upper rated output

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Burner control unit connection diagram (cont.)

K1 Relay contact
M1 Fan motor with PWM control and feedback
S1 ON/OFF switch (inside the control unit)
S2 Control thermostat
S3 Output controller (inside the control unit)
T1 Ignition unit
X1 Servomotor for rotary valve damper (for 246 and 311 kW)
Y1 Gas fuel safety valve
Y2 Choke valve (for 87, 142 and 186 kW)

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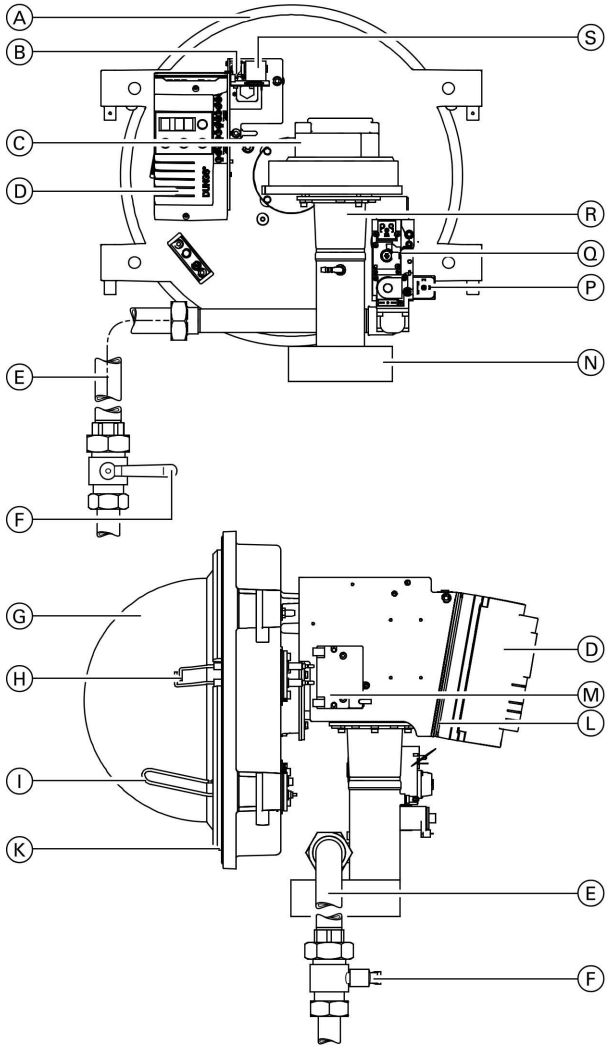
Component overview

Pressure-jet gas burner, type VMA III, 87 kW



Ⓐ Boiler door
Ⓑ Air pressure switch
Ⓒ Fan
Ⓓ Display and programming unit

Component overview (cont.)

Ⓔ Gas supply pipe
Ⓕ Gas shut-off valve
Ⓖ Flame body
Ⓗ Ignition electrodes
Ⓘ Ionisation electrode
Ⓚ Thermal insulation block
Ⓛ Burner control unit
Ⓜ Ignition unit
Ⓝ Inlet adaptor for balanced flue operation (option)
Ⓟ Gas pressure switch
Ⓠ Gas combination valve
Ⓡ Venturi mixing pipe
Ⓢ Choke valve

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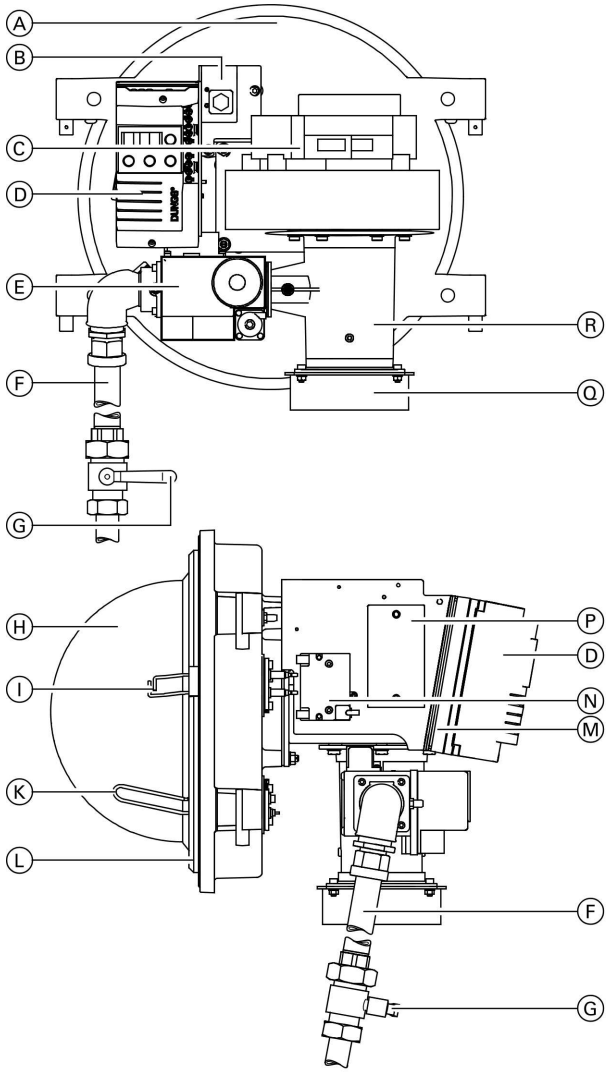
Component overview (cont.)

Pressure-jet gas burner, type VMA III, 115 to 311 kW



Ⓐ Boiler door
Ⓑ Air pressure switch
Ⓒ Fan
Ⓓ Display and programming unit

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Component overview (cont.)

Ⓔ Gas combination valve
Ⓕ Gas supply pipe
Ⓖ Gas shut-off valve
Ⓗ Flame body
Ⓘ Ignition electrodes
Ⓚ Ionisation electrode
Ⓛ Thermal insulation block
Ⓜ Burner control unit
Ⓝ Ignition unit
Ⓟ Suppressor box
Ⓠ Inlet adaptor for balanced flue operation (for 115, 142 and 186 kW)
Ⓡ Venturi mixing pipe

Not shown: choke valve for 142 and 186 kW and rotary valve damper for 246 and 311 kW.

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Adjusting codes at the control unit


Vitotronic service instructions

In conjunction with the following control units:
- Vitotronic 100, type GC1
- Vitotronic 200, type GW1
- Vitotronic 300, type GW2

Coding address	Rated output of the MatriX radiant burner in kW						Coding card
	87	115	142	186	246	311	
02	2	2	2	2	2	2	1041
05	0	0	0	0	0	0	
08	80	5	30	70	25	85	
09	0	1	1	1	2	2	
15	20	20	20	20	20	20	
0A	33	33	33	33	33	33	

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Parts lists

Spare parts information
Quote the type and serial no. (see type plate) and the item no. of the required part (as per this parts list).
Obtain standard parts from your local supplier.

001 Flue gas box
002 Flue gas box gasket
003 Siphon
004 Hinge bracket
101 Boiler door
102 Boiler door thermal insulation parts
104 Fixing parts
105 Flame body
106 Graphite gasket
108 Ignition unit
109 Ignition cable
112 Ionisation lead
113 Burner control unit
114 Display and programming unit for burner control unit
115 Cable entry for burner control unit
116 Cable harness (servomotor, fan and ignition transformer) for 246 and 311 kW
Ignition unit connecting cable for 87, 115, 142 and 186 kW
117 Gas fan connecting cable
118 Gas train connecting cables
119 Air pressure switch with connecting cable
120 2/2-way solenoid valve (only for 87, 142 and 186 kW)
121 Servomotor (only for 246 and 311 kW)
122 Gas fan
123 Choke box (not for 87 kW)
124 Rotary valve damper (only for 246 and 311 kW)
125 Articulated rod (only for 246 and 311 kW)
126 Venturi mixing pipe
127 E gas restrictor
128 Gas combination valve
129 Gas pressure switch (only for 87 kW)
130 Burner hood
131 Hood fixing pack
200 Front top panel
201 Front bottom panel
202 Back top panel
203 Back bottom panel
204 Side panel r.h. front and l.h. back
205 Side panel l.h. front and r.h. back
206 R.h. top panel
207 L.h. top panel
208 Control unit cover strip
209 Insulating casing
210 Back insulating mat
211 Front insulating mat
212 R.h. and l.h. cover panel
213 Vitocrossal 200 logo
214 Edge protector

Wearing parts
107 Ignition electrode block
110 Ionisation electrode
111 Electrode block gasket

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Parts lists (cont.)

Parts not shown

103 Small parts comprising:
- a Threaded connector
- b Cheese-head screw M6 x 10
- c 6.4 mm washer
- d Hexagon screw M5 x 16
- e 5.3 mm washer
- f Oval head screw A M4 x 45
- g Screw EJOT-PT KBL 40
- h Countersunk screw M8 x 16
- i Cheese-head screw M4 x 20
- j Hose 6 x 1.5 320 mm
- k Threaded elbow fitting
- l Compensation line connection
- m Cheese-head screw A M3 x 10
- n 3.2 mm washer
- o Cheese-head screw M5 x 40
- p 4.3 mm washer
- q Stud M8 x 20
- r Hexagon screw M8 x 16
- s 8.4 mm washer
- t Cheese-head screw Z4 M4 x 12
- u Cheese-head screw M5 x 12
- v Hexagon screw M5 x 16
- w 5.3 mm washer

132 Set of additional parts for RLU operation

133 Enriching nozzle
300 Thermal insulation pack
301 Touch-up spray, Vitosilver
302 Touch-up paint stick, Vitosilver
303 Installation instructions
304 Service instructions

Ⓐ MatriX burner type plate
Ⓑ Label "Adjusted to ..."
Ⓒ Burner cable (see parts list in the service instructions of the boiler control unit)
Ⓓ Boiler control unit (see parts list in the service instructions of the boiler control unit)
Ⓔ Type plate, optionally l.h. or r.h. side

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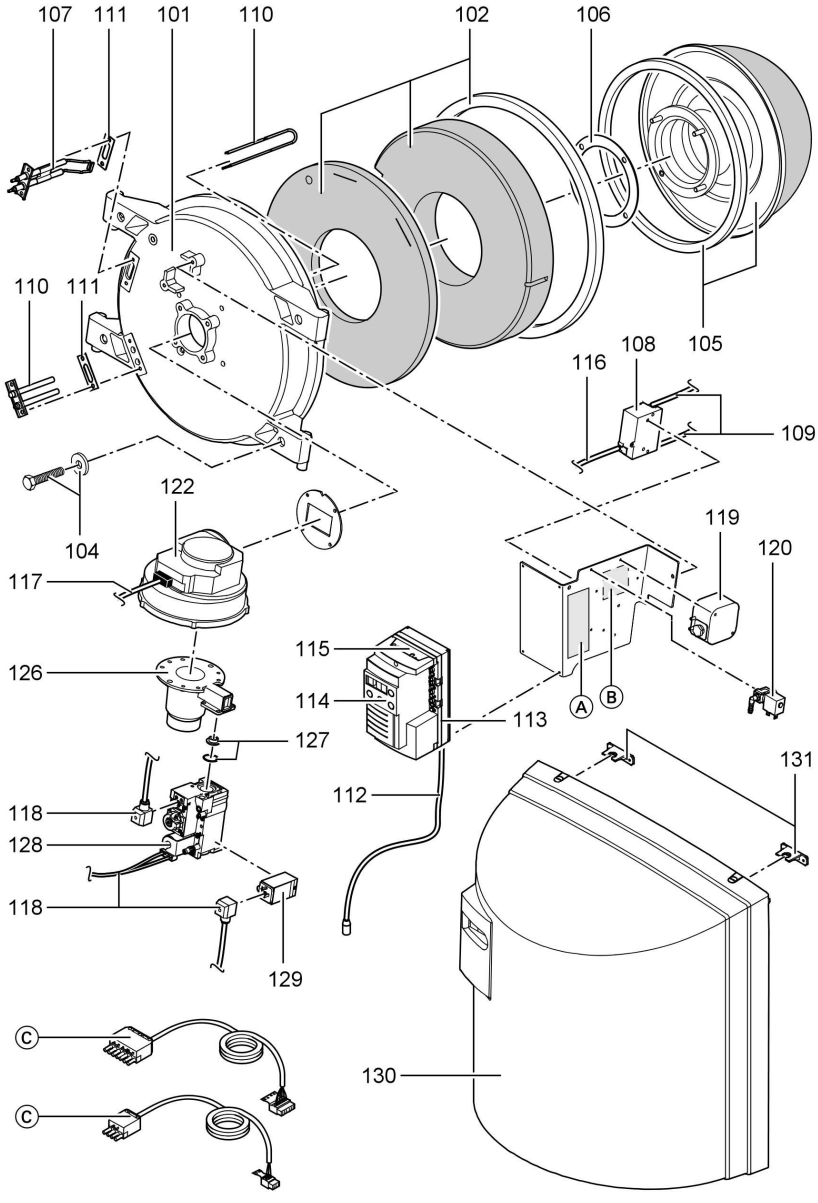
Parts lists (cont.)

MatriX burner 87 kW



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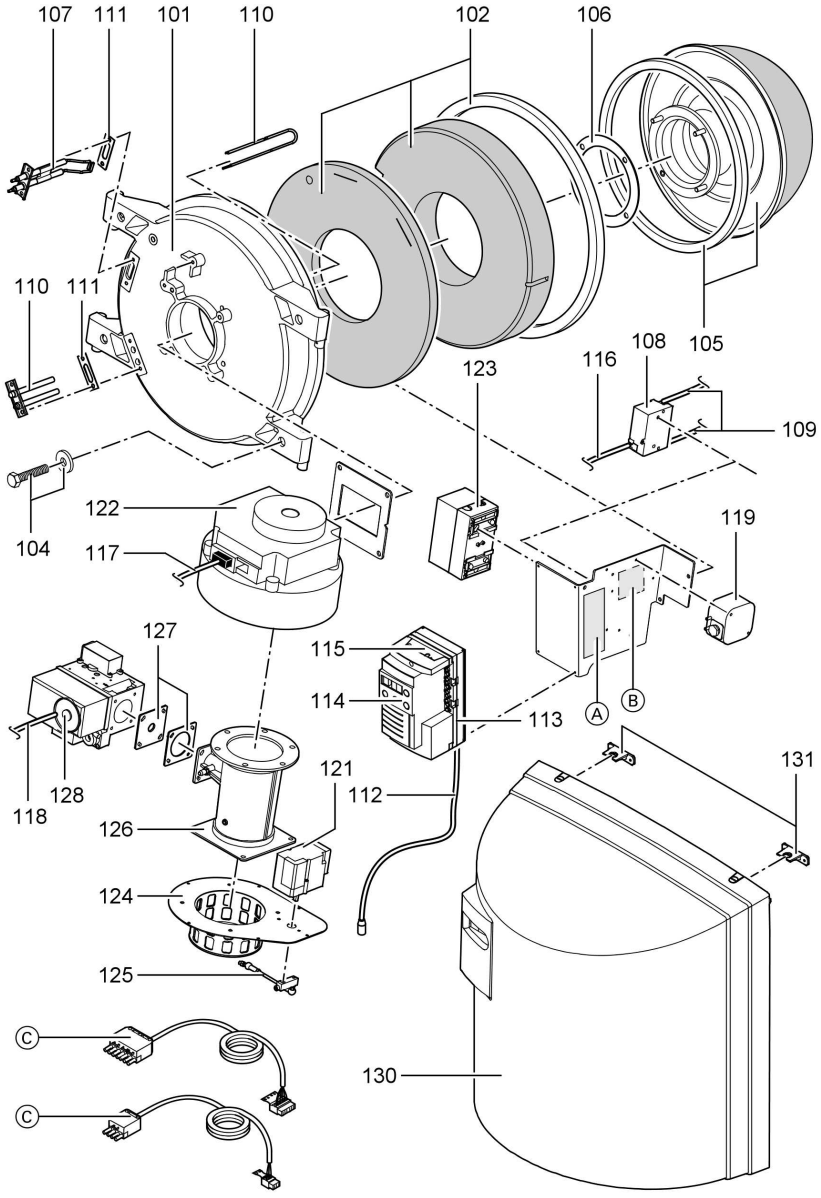
Parts lists (cont.)

MatriX burner 115 to 311 kW



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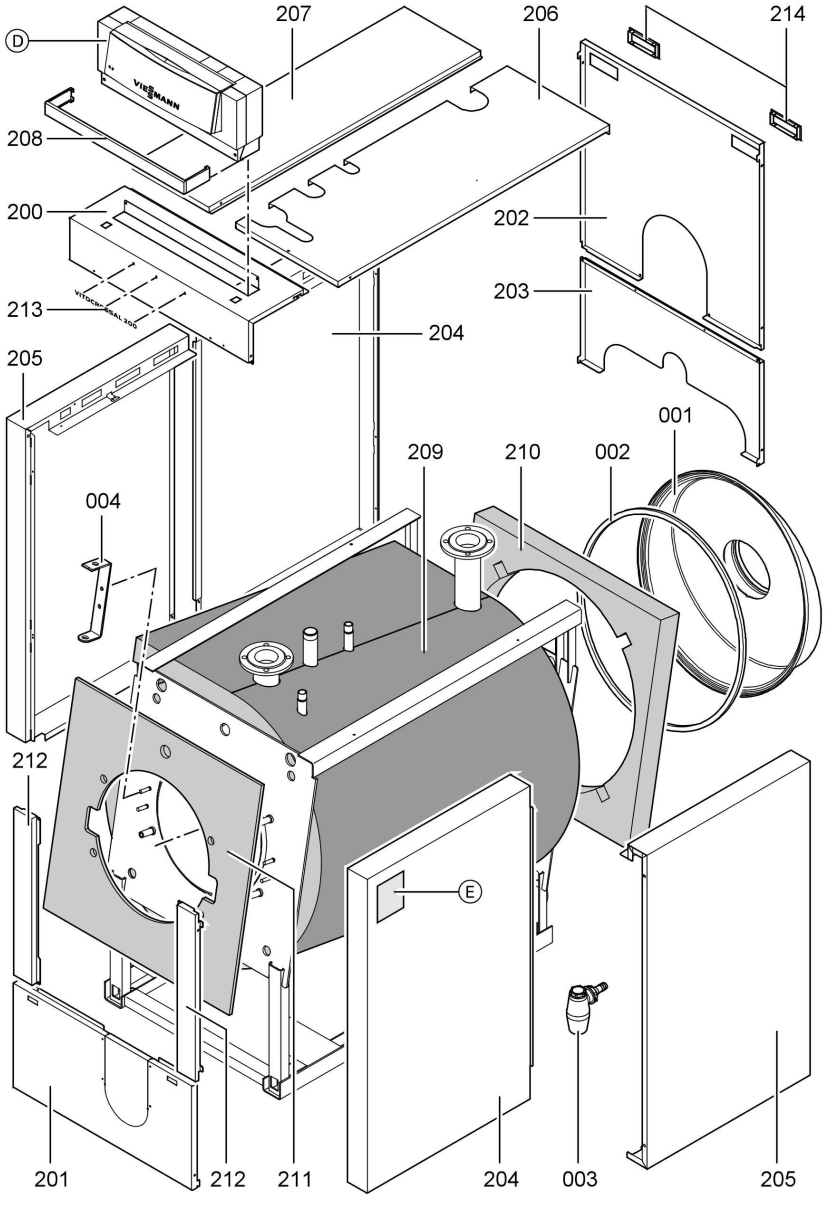
Parts lists (cont.)

Vitocrossal 200, type CM2, 87 to 311 kW



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Report

Setting and test values			Initial start-up	Service
Static pressure		*mbar*		
Supply pressure (flow pressure)				
☐ for natural gas E		*mbar*		
☐ for natural gas LL		*mbar*		
Tick gas type				
Carbon dioxide content CO_2				
■ at the upper rated output	actual	*% vol.*		
	set	*% vol.*		
■ at the lower rated output	actual	*% vol.*		
	set	*% vol.*		
Oxygen content O_2				
■ at the upper rated output	actual	*% vol.*		
	set	*% vol.*		
■ at the lower rated output	actual	*% vol.*		
	set	*% vol.*		
Carbon monoxide content CO	actual	*ppm*		
	set	*ppm*		
Gross flue gas temperature	actual	*°C*		
	set	*°C*		
Ionisation current		*µA*		
Draught	actual	*hPa*		
	set	*hPa*		

Water quality requirements

Note
Maintaining the following requirements is necessary to safeguard your warranty rights.
The manufacturer's warranty excludes damage due to corrosion and scaling.

Water quality requirements (cont.)

Boiler water requirements

Total rated output of the heating system [$\dot{Q}$]	Calcium hydrogen carbonate concentration [$Ca(HCO_3)_2$] of the fill and top-up water	Maximum permissible fill and top-up water volume [V_{max}]
$\dot{Q} \leq 100$ kW	no requirements*1	no requirements*1
100 kW < $\dot{Q} \leq$ 350 kW	$Ca(HCO_3)_2$ ≤ 2.0 mol/m³	V_{max} [m³] = three times system volume (or calculation V_{max} see below)
100 kW < $\dot{Q} \leq$ 350 kW	$Ca(HCO_3)_2$ ≤ 1.5 mol/m³	
1000 kW < $\dot{Q}$	—	$V\ max\ [m^3] = \frac{0.0313 \times \dot{Q}\ [kW]}{Ca(HCO_3)_2\ [mol/m^3]}$

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*1 *The requirements for systems with $\dot{Q}$ 100 kW apply to the replacement of the boilers in existing systems with originally $\dot{Q}$ > 100 kW and a system water volume ≥ 20 litres/kW.*

Specification

Gas fired boiler, category I_{2ELL}

Rated output							
T_V/T_R = 40/30 °C	kW	29-87	38-115	47-142	47-186	82-246	104-311
T_V/T_R = 80/60 °C	kW	27-80	36-105	43-130	43-170	75-225	95-285
Rated output	kW	27-82	36-108	45-134	44-175	77-292	98-299
Product ID		CE-0085 BQ 0021					
Connection values*1 Relative to the max. load with gas with H_{uB}							
Natural gas E 9.45 kWh/m^3 (34.01 MJ/m^3)	m^3/h	2.8-8.7	3.8-11.5	4.7-14.2	4.6-18.6	8.1-24.6	10.3-31.0
Natural gas LL 8.13 kWh/m^3 (29.25 MJ/m^3)	m^3/h	3.3-10.1	4.4-13.3	5.5-16.5	5.4-21.5	9.4-28.6	12.0-36.1
Product parameters (according to EnEV)							
Efficiency η at							
■ 100 % of rated output	%	97.2	97.2	97.1	97.3	97.5	97.6
■ 30 % of rated output	%	107.3	107.1	107.4	107.5	108.0	107.9
Standby loss $q_{B,70}$ (boiler)	%	0.6	0.6	0.5	0.5	0.4	0.4
Power consumption*2 at							
■ Upper rated output	W	85	150	195	280	340	395
■ Lower rated output	W	35	50	55	55	60	65

**1 The supply values are only for reference (e.g. in the gas contract application) or to estimate the volumetric supplementary check of the settings.*
Because of factory settings, the gas pressure must not be altered from these values.
Reference: 15 °C, 1013 mbar

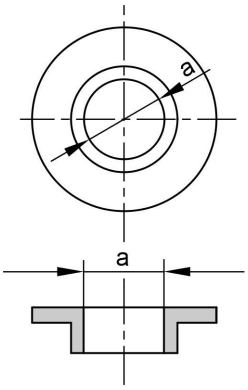
**2 Standard characteristics*

Specification (cont.)

MatriX radiant burner

Rated output of the boiler							
T_V/T_R = 40/30 °C	kW	29-87	38-115	47-142	47-186	82-246	104-311
T_V/T_R = 80/60 °C	kW	27-80	36-105	43-130	43-170	75-225	95-285
Burner type		VMA III-1	VMA III-2	VMA III-3	VMA III-4	VMA III-5	VMA III-6
Voltage	V	230					
Frequency	Hz	50					
Power consumption	W	75	140	185	270	330	385
Motor speed	rpm	4832	4384	5088	5568	5952	6080
Modulation range	%	33-100	33-100	33-100	25-100	33-100	33-100

Gas restrictor dimensions (natural gas E) for 87 kW



Rated output	**Dimension a** mm
87 kW	10.6

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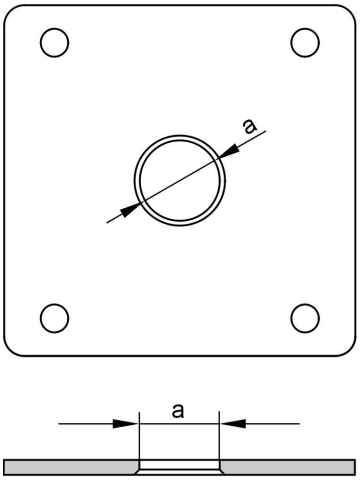
Specification (cont.)

Gas restrictor dimensions (natural gas E) for 115 to 311 kW



Rated output	**Dimension a** mm
115 kW	12.9
142 kW	12.9
186 kW	16.0
246 kW	15.7
311 kW	16.8

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Declaration of conformity

We, Viessmann Werke GmbH&Co KG, D-35107 Allendorf, confirm as sole responsible body that the product **Vitocrossal 200 with MatriX radiant burner** complies with the following standards:

EN 297	EN 55 014
EN 483	EN 55 104
EN 303	EN 60 335
EN 676	EN 61 000-3-2
EN 677	EN 61 000-3-3
EN 50 165	TRD 702

This product is designated with CE-**0085** in accordance with the following Directives:

73/ 23/EEC
89/336/EEC
90/396/EEC
92/ 42/EEC

This product meets the requirements of the Efficiency Directive (92/42/EEC) for **Condensing boilers**.

The product characteristics determined as system values for the product **Vitocrossal 200** as part of EC type testing according to the Efficiency Directive (see specification table), can be utilised to assess the energy consumption of heating and ventilation equipment to DIN V 4701–10 which is specified by the EnEV [Germany].
This boiler meets the requirements of all current TRD regulations.

Allendorf 05.07.05

Viessmann Werke GmbH&Co KG

pp. Manfred Sommer

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Manufacturer's certificate according to the 1st BImSchV [Germany]

We, Viessmann Werke GmbH&Co KG, D-35107 Allendorf, confirm that the following product meets the NO_x limits specified by the 1st BImSchV paragraph 7 (2) [Germany]:

Vitocrossal 200, type CM2 incl. MatriX radiant burner

Allendorf 05.07.05

Viessmann Werke GmbH&Co KG

pp. Manfred Sommer

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Applicability

from serial no.
7185 861 5 00001 ⌴⌴⌴
7185 862 5 00001 ⌴⌴⌴
7185 863 5 00001 ⌴⌴⌴
7185 864 5 00001 ⌴⌴⌴
7185 865 5 00001 ⌴⌴⌴
7185 866 5 00001 ⌴⌴⌴

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Printed on environmentally-friendly, chlorine-free bleached paper

5692 599 GB Subject to technical modifications.