Installation instructions

for contractors

Vitocrossal 300
Type CU3
Gas fired condensing boiler with MatriX-compact gas burner,
open and **balanced** flue operation

VITOCROSSAL 300

5862 414 GB 8/2006

Dispose after installation.

Safety instructions

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

Safety instructions explained

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 qualified gas fitter.
- Work on electrical equipment must only be carried out by a qualified electrician.

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.

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.

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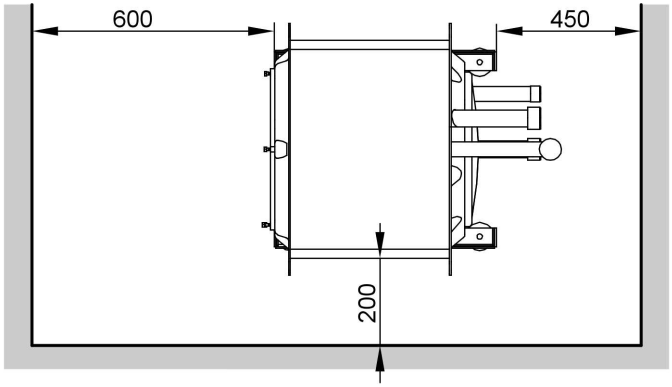
Preparing for installation

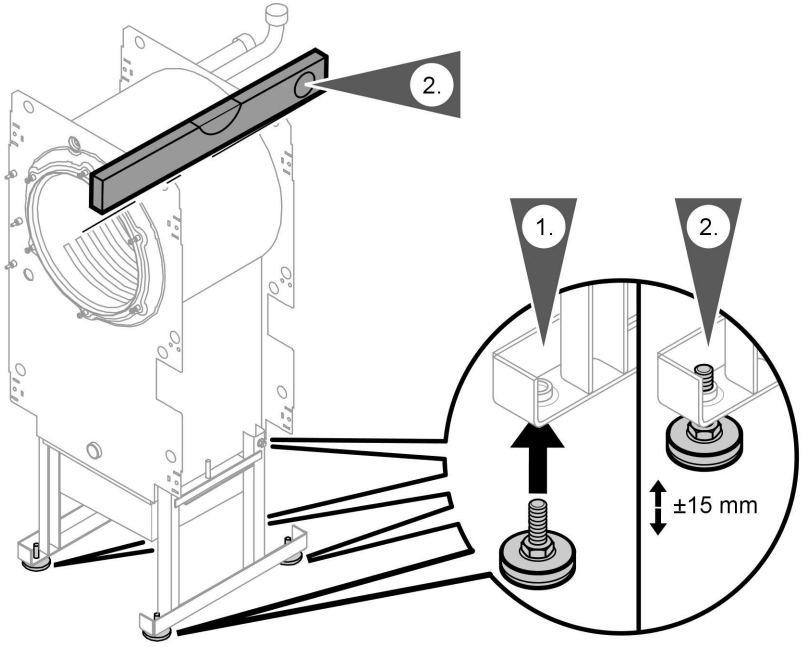
Clearance dimensions



Boiler positioning and levelling

! **Please note**
Damage on the flue outlet can lead to flue gas leaks.
Never lift or move the boiler at the flue outlet.

Note
A suitable condensate drain (max. 50 mm above floor level) must be available inside the boiler room, if the boiler is mounted at floor level.



Note
The adjustable feet are supplied in the type plate pack.

1. Insert the adjustable feet into the bottom rails.

Note
Extend the adjustable feet as far out of the rail as possible, if a neutralising system is installed.

2. Level the boiler with the adjustable feet with a slight incline towards the back (max. 5 mm over the depth of the boiler).

Note
Special foundations are not required.

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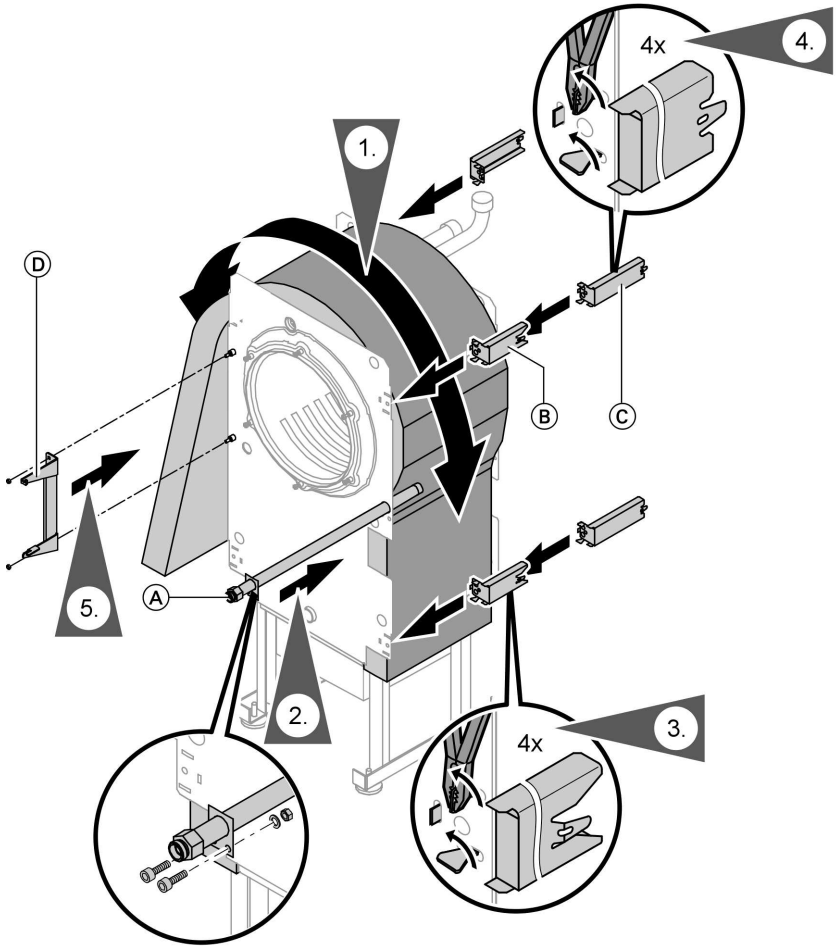
Fitting the thermal insulation

Note
All required components are included in the thermal insulation carton.



Ⓐ Gas supply pipe
Ⓑ Front retaining bracket (short)
Ⓒ Back retaining bracket (long)
Ⓓ Service retainer

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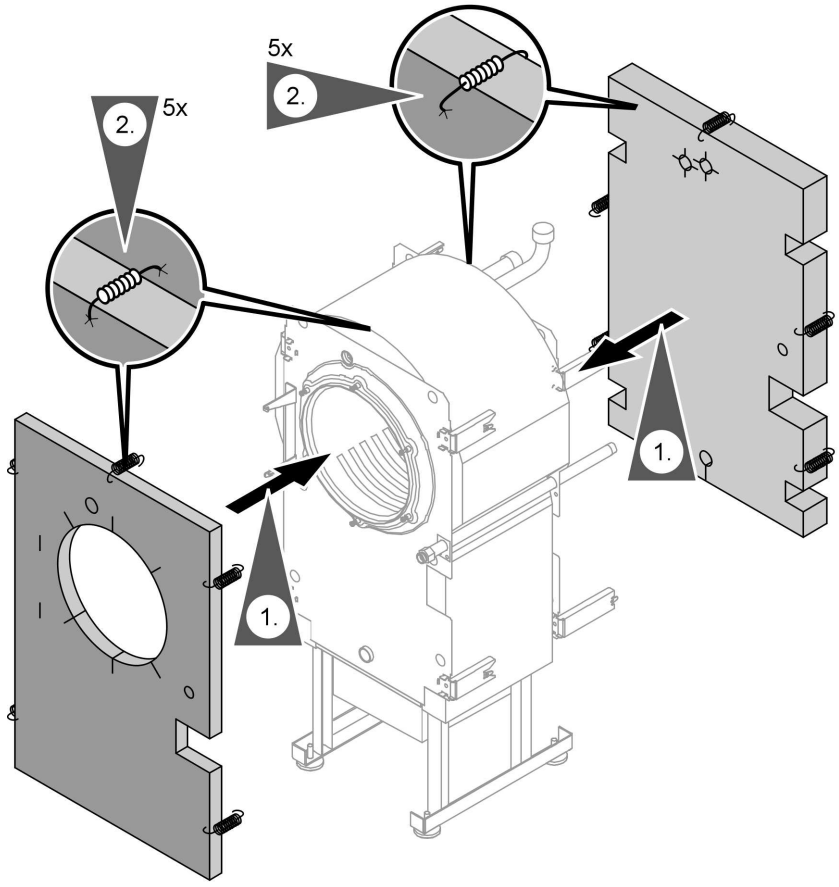
Fitting the thermal insulation (cont.)



Fitting the boiler flue connection and siphon

Note

27 and 35 kW: The boiler flue connection is supplied in the thermal insulation carton.

49 and 66 kW: The boiler flue connection is supplied inside the combustion chamber.

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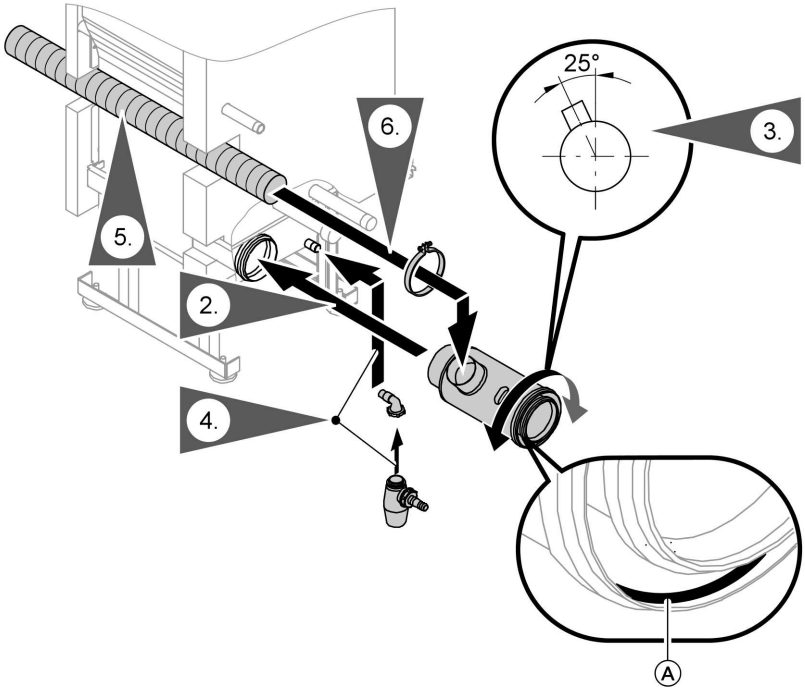
Fitting the boiler flue connection and siphon (cont.)



1. For open flue operation: Remove gasket Ⓐ from the boiler flue connection.

2. Push the boiler flue connection onto the flue outlet until it bottoms out.

3. Align the ventilation air aperture.

4. Seal the siphon into the condensate drain of the flue gas collector and tighten by hand.

5. Evenly stretch the ventilation air hose to the required length and insert into the recesses on the boiler body.

6. Secure the ventilation air hose with a hose clip on the boiler flue connection.

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Fitting the thermal insulation

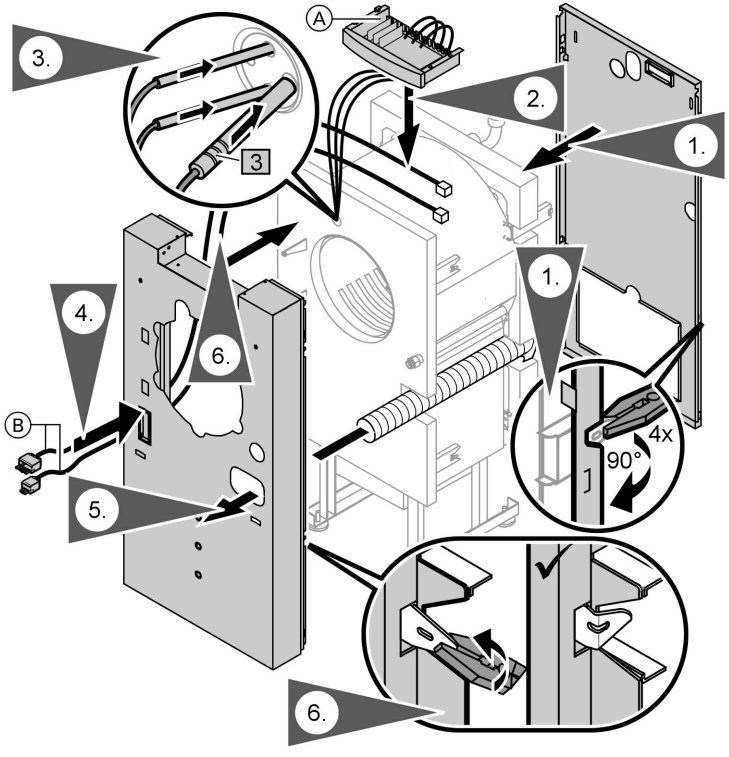
Note

- *The boiler water temperature sensor [3] is included in the control unit package.*
- *The burner cable [41] and extension together with plug [90] are supplied in a separate pack.*

! Please note

Damaged capillaries result in incorrect sensor functions. Never kink the capillary tubes.

Single boiler system

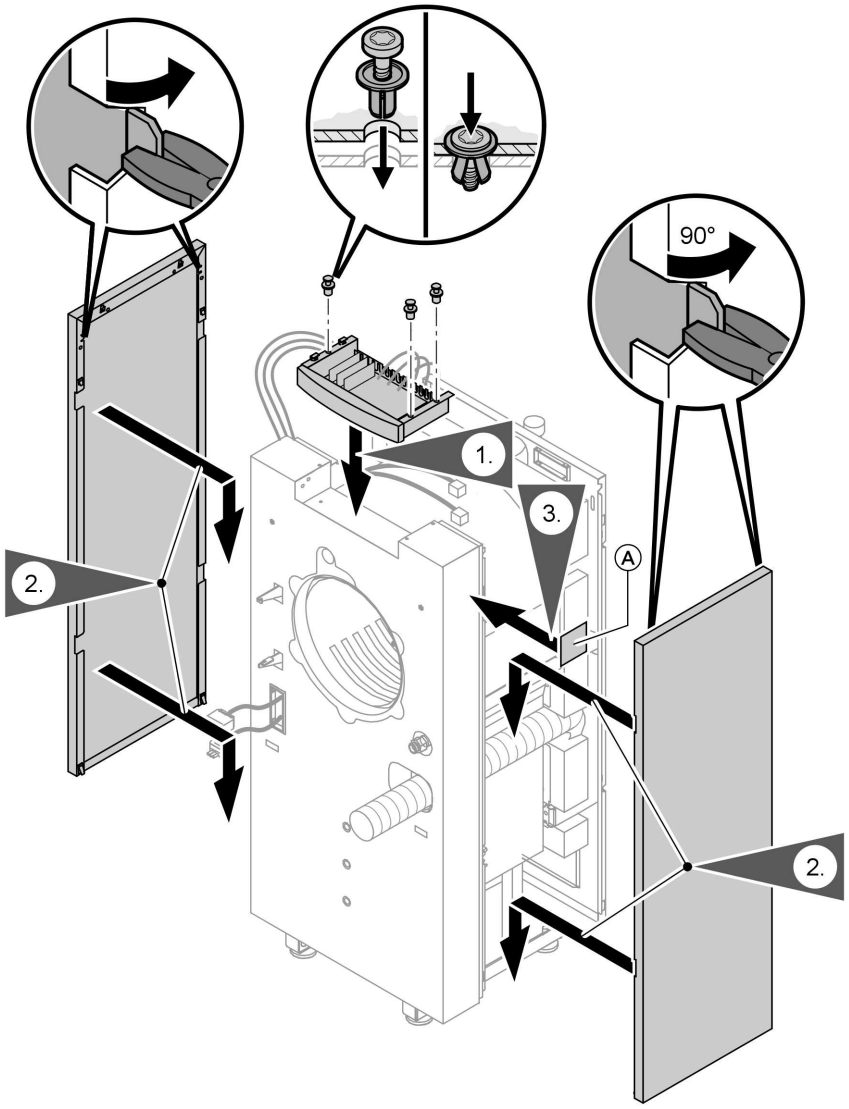


Ⓐ Control unit base

Ⓑ Burner cables [41] and [90]

Insert the probe and boiler water temperature sensor [3] as far as possible into the sensor well.

Fitting the thermal insulation (cont.)



Ⓐ Type plate

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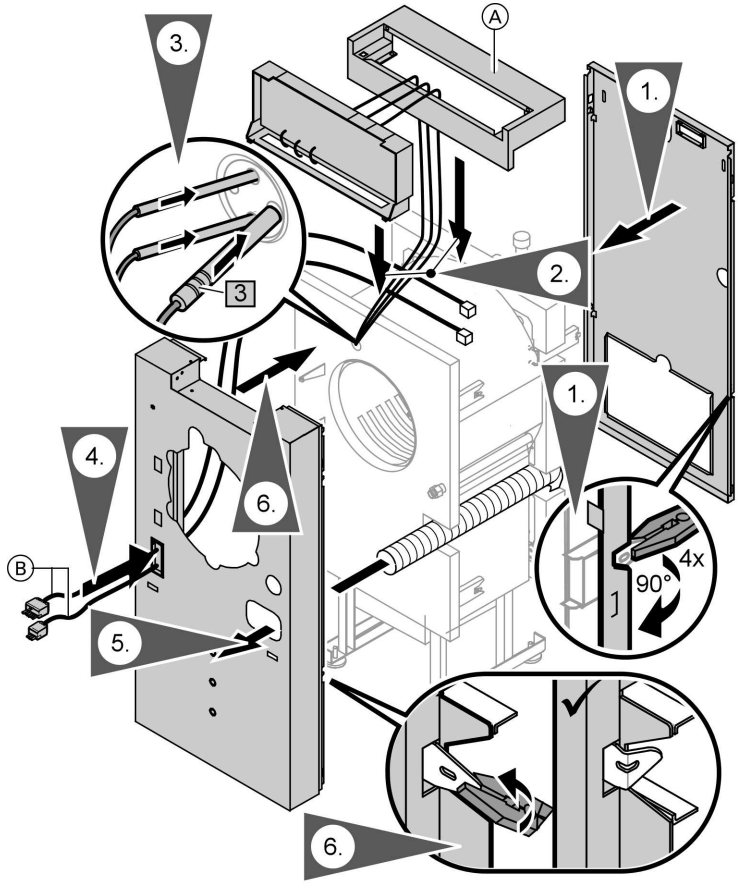
Fitting the thermal insulation (cont.)

Multi-boiler system

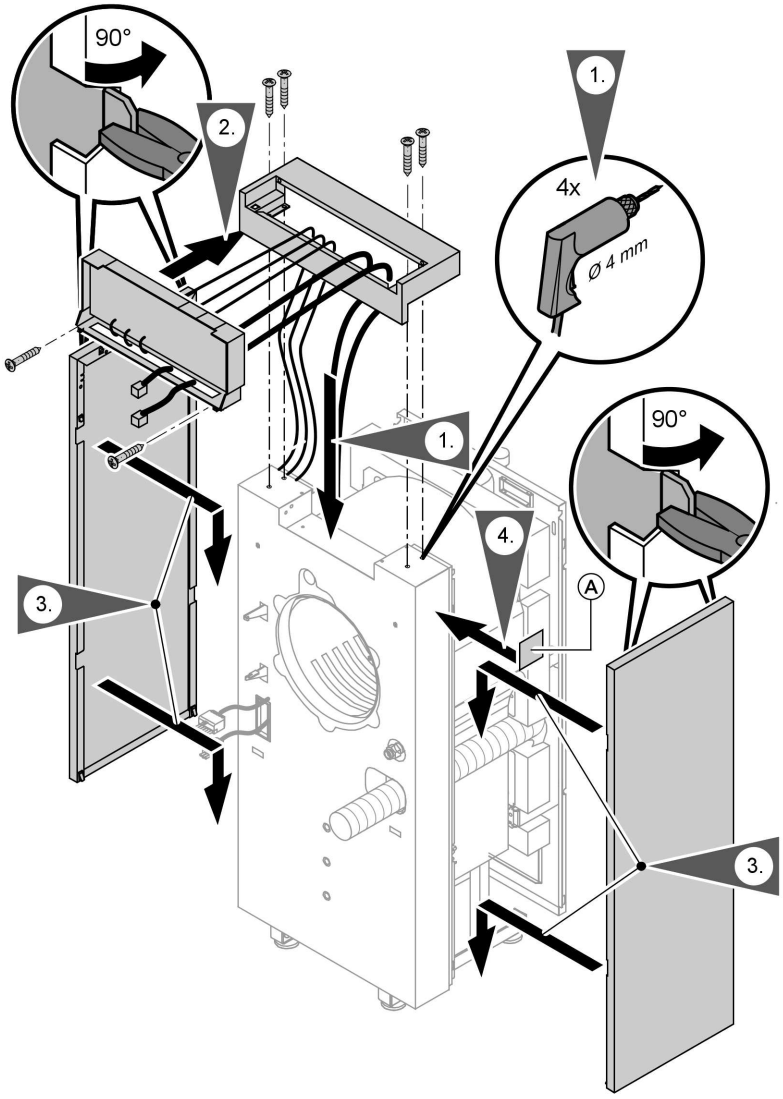


Ⓐ Control unit base

Ⓑ Burner cables 41 and 90

Insert the probe and boiler water temperature sensor 3 as far as possible into the sensor well.

Fitting the thermal insulation (cont.)



Ⓐ Type plate

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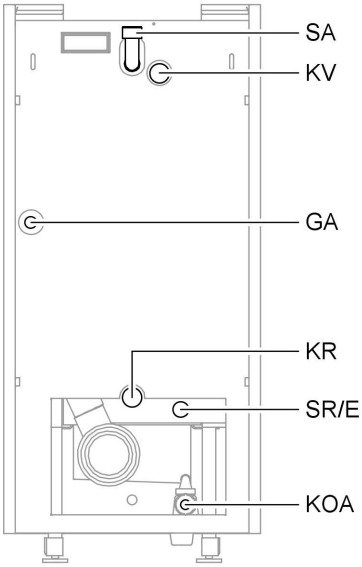
Heating water (primary) connection



GA Gas connection
KOA Condensate drain
KR Boiler return G 1½"
KV Boiler flow G 1½"
SA Safety connection (safety valve and air vent valve) G 1½"
SR/E Safety return and drain (diaphragm expansion vessel) R 1"

Note
The Vitocrossal is only suitable for pumped hot water heating systems. Never install four-way mixers, overflow valves or other flow/return bypass devices.
Never connect a heating return to the safety return.

Install all pipe connections free of load and torque stresses.

1. Flush the heating system thoroughly.

2. Connect the heating circuits.

Safety connections


Installation instructions, safety equipment block

1. Install the safety lines.

Min. cross-sections:
- Safety valve inlet connection
  – 27 and 35 kW*1 : DN 15 (R ½")
  – 49 and 66 kW*1 : DN 20 (R ¾")
- Blow-off line safety valve
  – 27 and 35 kW*1 : DN 20 (R ¾")
  – 49 and 66 kW*1 : DN 25 (R 1")
- Line to the diaphragm expansion vessel
  DN 20 (R ¾")

Note
Install all pipe connections free of load and torque stresses.

2. Check the primary connections for possible leaks.

Permiss. operating pressure: 3 bar
Test pressure: 4 bar

Low water indicator

Tests have verified that the requirements to EN 12828 are being met. This makes an additional low water indicator unnecessary.

Safety valve

Equip boilers with a safety valve that is type-tested according to TRD 721 [or local regulations], which must be marked in accordance with the relevant system.

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*1 *Output at T_V/T_R=50/30 °C*

Flue gas connection

Flue connection

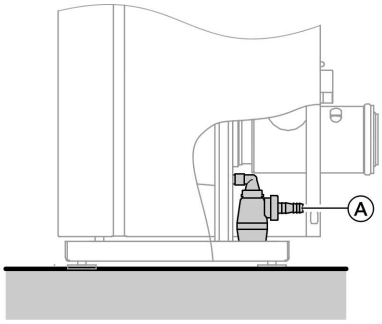
Connect the flue outlet via the shortest possible run to the chimney stack, maintaining a slight incline (min. 3°). Avoid sharp bends.

Flue gas system installation instructions

Flue outlet:
27 and 35 kW: ∅ 80 mm
49 and 66 kW: ∅ 110 mm

Ventilation air connection:
27 and 35 kW: ∅ 125 mm
49 and 66 kW: ∅ 150 mm

Condensate drain



- Connect the siphon with the plastic hose to the dewatering system.
- Route the condensate drain with a fall below the anti-flooding level of the flue gas header.
- The condensate drain Ⓐ must be able to be inspected.
- Connection external dia.∅: 19 mm

Neutralising system (if installed)

Locate the neutralising system behind the boiler and connect it with the condensate drain.
Connect the neutralising system to the sewer.

Installation instructions; neutralising system

Electrical connections and top panel installation

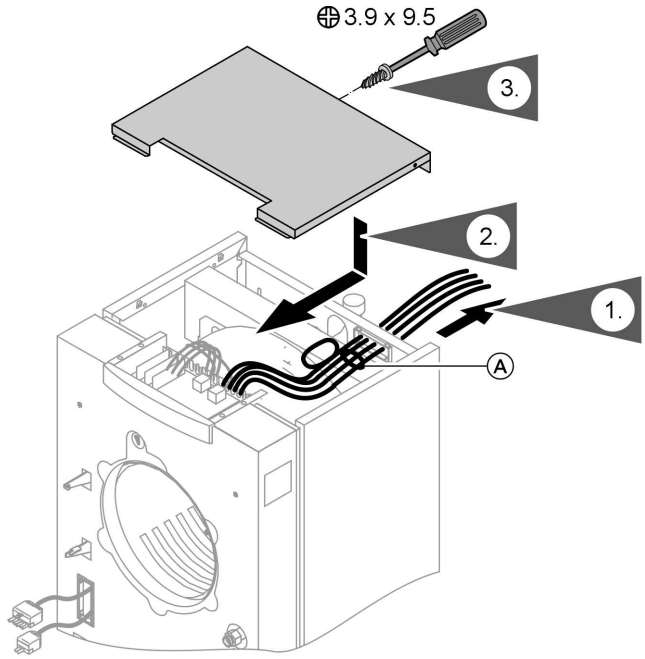
Connections to the control unit base

Installation instructions, boiler control unit

Note
The power supply cable is packed together with the control unit.

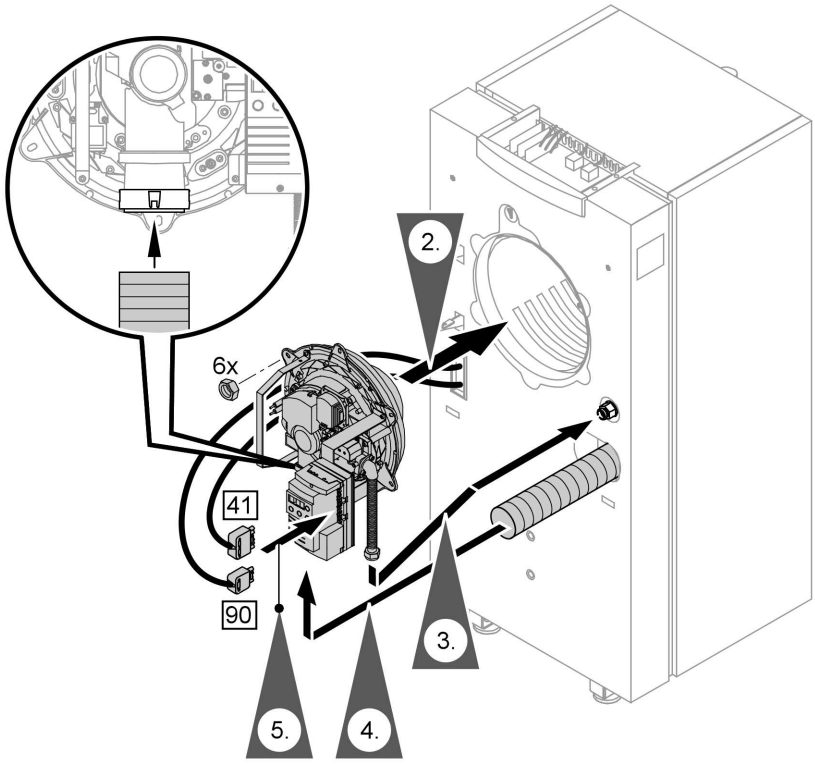
Control units for multi-boiler systems:
After the control unit installation is completed, clip the fascia supplied with the panel into the panel itself.

Top panel



Bundle the cables Ⓐ and secure them with cable ties.

Fitting the burner to the boiler door



1. Check the seating of the profiled gasket on the burner and correct, if required.

2. Install the burner, initially tighten the nuts by hand and then torque them diagonally with 4.5 Nm.

3. Connect the flexible gas pipe of the burner to the boiler gas supply pipe.

4. Push the ventilation air hose until it bottoms out on the burner air inlet connector.

5. Push burner plug [41] and extension with plug [90] into the burner control unit.

Burner connection on the gas supply side

1. Connect the mains gas according to TRGI 1986/1996 [or local regulations].
Gas supply pressure: 20 mbar

Max. permissible gas supply pressure: 57.5 mbar

Gas connection:
27 and 35 kW: R 1½"
49 and 66 kW: R 1¾"

2. Carry out a gas soundness test.

! **Please note**
Excessive test pressure may damage the burner and the gas valve.
Max. test pressure 150 mbar. If a higher pressure is required for the soundness tests, separate the burner and the gas train from the gas supply pipe, and undo the threaded fitting.

Note
It is insufficient to close the gas shut-off valve, as there would be a risk of pressure reaching the gas train.
Damage due to excessive test pressure is excluded from our warranty.

3. Vent the gas supply pipe.

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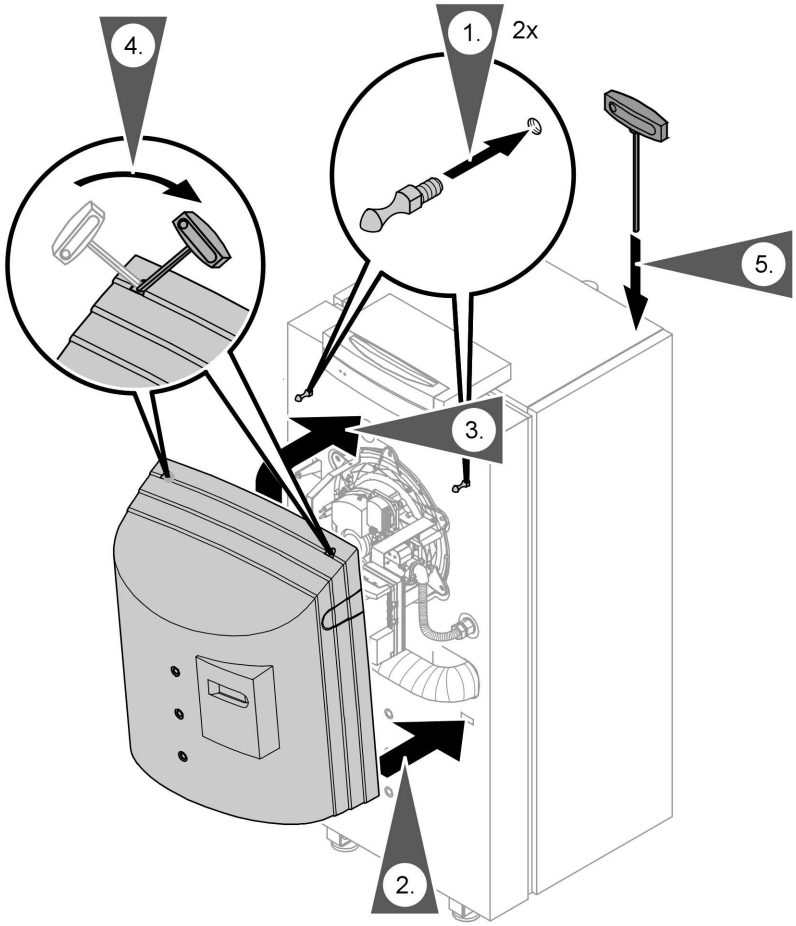
Fitting the burner hood



Commissioning and adjustment

Service instructions; boiler and boiler control unit

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5862 414 GB Subject to technical modifications.