

# Installation and maintenance instructions

ComfortLine  
FunctionLine

Steel boilers up to 63 kW



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# Reference symbols / Safety instructions

The following symbols are used in conjunction with these important instructions concerning personal safety and technical reliability.



"Safety instructions" are instructions with which you must comply exactly, to prevent injury and material losses.



Danger through "live" electrical components.  
Please note: Switch OFF the ON/OFF switch before removing the casing.

Never touch electrical components or contacts when the switch is in the ON position. This creates a risk of electrocution, which may cause injury or death.

The main supply terminals are "live" even when the ON/OFF switch is in the OFF position.

## Note

This indicates technical instructions which you must observe to prevent material losses and boiler malfunctions.

In addition to the installation instructions, operating instructions and adhesive labels are included or fitted to the boiler. These must also be observed.

## General

Authorised personnel should read these instructions before any installation, commissioning or maintenance work. Adhere to the instructions given in this document.

Non-observance of these installation instructions voids any guarantee offered by WOLF.

## Safety instructions

- Only use qualified and trained personnel for the installation, commissioning and maintenance of the boiler.
- In accordance with DIN EN 50110-1, work on electrical components (e.g. control units) may only be carried out by qualified electricians.
- The regulations of VDE/ÖVE and those of your local electricity supplier as well as all other local regulations are applicable to electrical installation work.
- Only operate the boiler within its output range which is stated in the specification supplied by WOLF.
- Appropriate use of the boiler refers to the exclusive use for hot water heating systems in accordance with DIN 4751.
- Never remove, bypass or otherwise disable any safety and monitoring equipment.
- The boiler may only be operated in perfect technical condition. Any faults and damage which may impact on safety which might limit the safe use of the equipment must be remedied immediately by a qualified contractor.
- Only replace faulty components or equipment with original WOLF spare parts.

# Standards / Regulations

## Standards and regulations

**Observe all current Building Regulations and other local requirements.**

Only recognised heating contractors may install WOLF boilers. This heating contractor will also be responsible for the proper installation and the commissioning of the heating system.

The boilers described in these installation instructions are low temperature boilers according to HeizAnIV and 92/42/EEC (Efficiency of Hot Water Boilers).

Locate the enclosed operating instructions in a clearly visible position in the boiler room.

Boilers may only be installed and operated in boiler rooms which are suitable according to the Landes-FeuVo [or local regulations].

The following regulations, rules and guidelines must be observed during installation:

- Boiler room guidelines or Building Regulations relating to the construction and installation of central boiler rooms and fuel storage facilities.
- Energy Savings Act (EnEG) and related directives (Heating Systems Order).

- DIN standards
  - DIN 1988 Technical rules for DHW installations
  - DIN 4701 Rules for calculating the heat demand of buildings
  - DIN 4751 Part 3 - Safety Equipment for heating systems with flow temperatures up to 95 °C
  - DIN 18160 Domestic chimneys
- VDE requirements:
  - VDE 0100 General information regarding the installation of HV systems with rated voltages up to 1000V
  - VDE 0105 Operation of HV systems, general considerations
  - VDE 0722 Electrical equipment of non-electrically heated heat generators
  - VDE 0470/ EN 60529 Protection through housings
  - EN 60335-1 Safety of electrical equipment for domestic use and similar purposes

**Note: Please read these instructions carefully before the installation and keep them in a safe place.**

## Steel boilers

according to DIN EN 303 as well as in accordance with EC Directive 90/396/EEC (gas consuming equipment), 73/23/EEC (Low Voltage Directive), 89/336/EEC (EMC Directive), 92/42/EEC (Efficiency of Hot Water Boilers) and 93/68/EEC (Identification Directive) for heating systems with heating circuit pumps and flow temperatures up to 110 °C and 3 bar permissible operating pressure in accordance with DIN 4751 and DHW cylinder pressure (max. 10 bar) in accordance with DIN 4753.

For the operation with pressure jet gas burners, the following gas device categories apply:

Country abbreviation	Country	Gas device category
DE	Germany	II <sub>2ELL3B/P</sub>
AT	Austria	II <sub>2H3B/P</sub>
LU	Luxembourg	I <sub>2E</sub> or I <sub>3+</sub>

The NO<sub>x</sub> limits required by the 1st BImSchV para. 7(2) are maintained.

## ComfortLine steel boilers



Oil and gas-fired steel boiler, type CNK  
(boiler plinth, accessory)



Oil and gas-fired steel boiler, type CNK-CB  
incl. DHW cylinder



Oil and gas-fired steel boiler, type CNU  
incl. pressure jet oil burner  
(boiler plinth, accessory)



Oil-fired steel Unit boiler, type CNU-CB  
incl. DHW cylinder  
and pressure jet oil burner

## FunctionLine steel boilers



Oil and gas-fired steel boilers, type FNK  
(boiler plinth, accessory)



Oil and gas-fired steel boiler, type FNK-FB/FE  
incl. DHW cylinder



Oil-fired steel Unit boiler, type FNU  
incl. pressure jet oil burner  
(boiler plinth, accessory)



Oil-fired steel Unit boiler, type FNU-FB/FE  
incl. DHW cylinder  
and pressure jet oil burner

# Installation

## General tips regarding location

- Install the boiler with or without the DHW cylinder on a level surface which is substantial enough to carry its weight.
- Position the boiler and DHW cylinder (if installed) horizontally or slightly rising towards the back to ensure adequate venting of any trapped air (level with adjustable feet).

### Note

Only install the boiler and DHW cylinder (if installed) in a room safe from the risk of frost. Drain the boiler, the DHW cylinder and the entire heating system if there is a risk of frost, when the system has been shutdown, to prevent pipes from bursting.

### Note

Boilers should not be installed in areas subject to aggressive vapours, very dusty or highly humid conditions (workshops, washrooms, hobby rooms etc.). This prevents the optimum burner function from being achieved.



The combustion air supplied to the pressure jet oil burner must be free from halogenated hydrocarbons (e.g. as contained in sprays, solvents, cleaning fluids, paints and adhesives). Under the most unfavourable conditions, these may lead to pitting of the boiler and even the flue gas system.



Never store or use combustible material or liquids near the boiler.



The ventilation air supply must be ensured and comply with local regulations or those relating to gas installations. We recommend that you supply the boiler with fresh air directly from the outside. An insufficient fresh air supply can lead to **fuel gas escaping, which represents a risk to life (poisoning/suffocation)**.

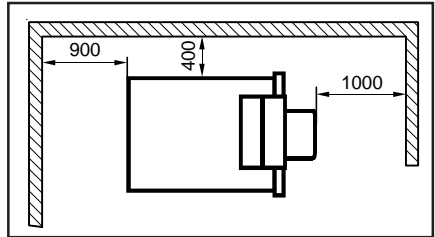


Clearances towards walls and combustible materials must comply with local fire regulations, and should be at least 200mm, otherwise there is a **high risk of fire**.



## Recommended minimum wall clearance

Maintain a minimum clearance between the boiler sides and walls of 400 mm to enable the boiler door with fitted burner to be opened. Ensure that sufficient space is available for cleaning and maintenance.



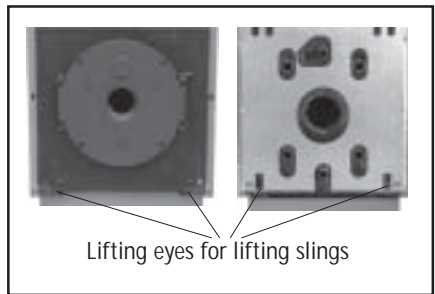
Recommended minimum wall clearance

## Transportation into the boiler room

To ease the transportation into the boiler room, lifting slings with lifting hooks are offered as accessories.

**Note**

Only lift the boiler using all four lifting slings.

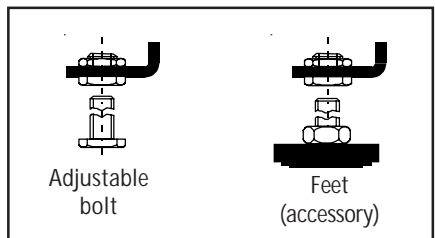


Lifting eyes for lifting slings

## Boiler installation on adjustable feet

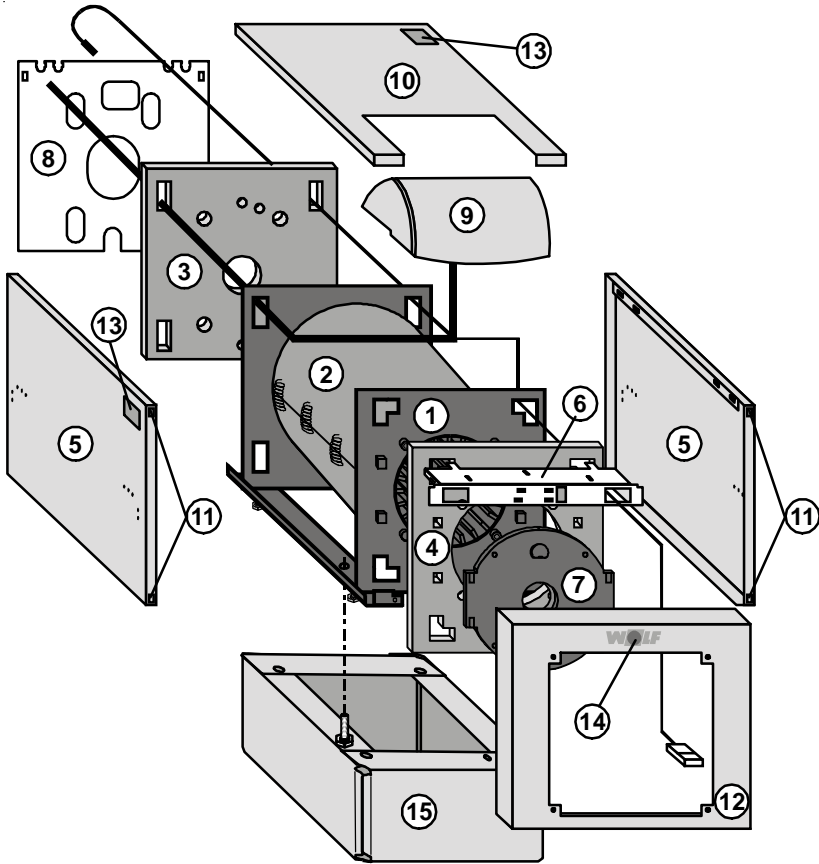
At the factory the boiler is equipped with four adjustable feet.

- Level the boiler with adjustable feet (accessory) horizontally or with a slight incline to the rear.



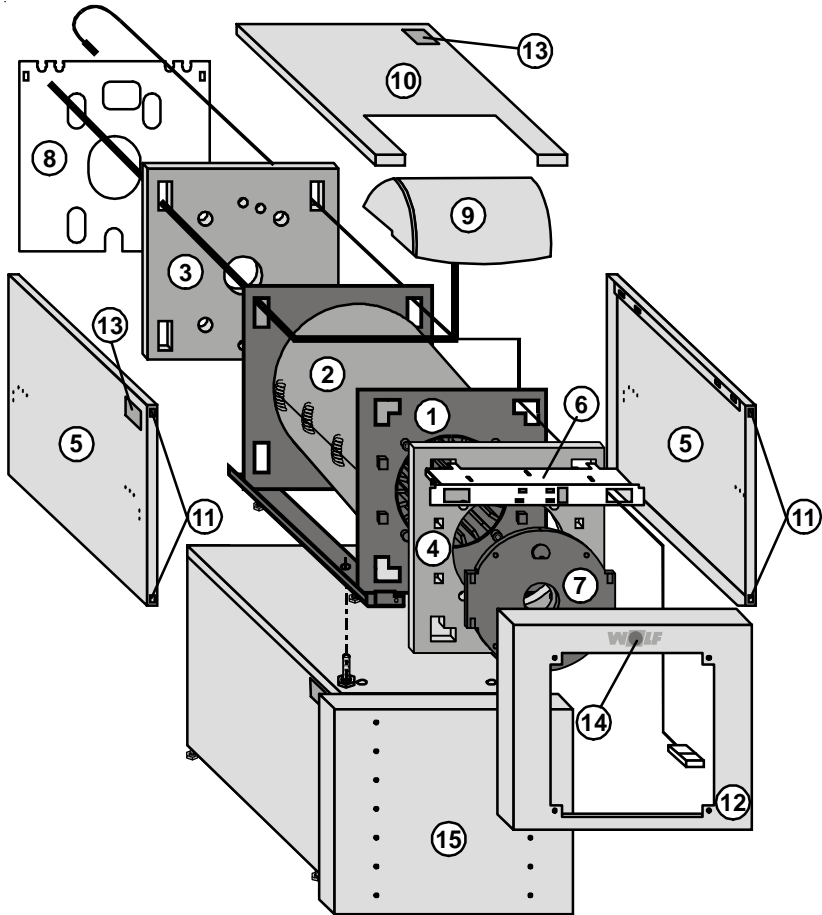
Adjustable bolt/ feet

## Boiler installation on a plinth



- |                                    |                        |
|------------------------------------|------------------------|
| ① Boiler                           | ⑨ Control unit housing |
| ② Thermal insulation, boiler       | ⑩ Casing cover         |
| ③ Thermal insulation, boiler back  | ⑪ Spring shackles      |
| ④ Thermal insulation, boiler front | ⑫ Front casing         |
| ⑤ Side casing                      | ⑬ Type plate           |
| ⑥ Control unit bracket             | ⑭ Wolf logo            |
| ⑦ Boiler door                      | ⑮ Plinth (accessory)   |
| ⑧ Back wall casing                 |                        |

## Boiler installation on a horizontal DHW cylinder

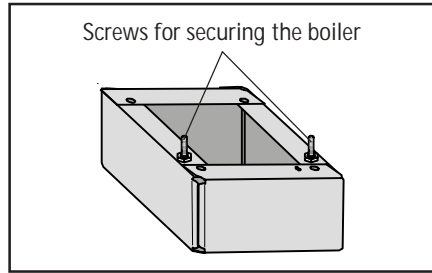


- |                                    |                           |
|------------------------------------|---------------------------|
| ① Boiler                           | ⑨ Control unit housing    |
| ② Thermal insulation, boiler       | ⑩ Casing cover            |
| ③ Thermal insulation, boiler back  | ⑪ Spring shackles         |
| ④ Thermal insulation, boiler front | ⑫ Front casing            |
| ⑤ Side casing                      | ⑬ Type plate              |
| ⑥ Control unit bracket             | ⑭ Wolf logo               |
| ⑦ Boiler door                      | ⑮ Horizontal DHW cylinder |
| ⑧ Back wall casing                 |                           |

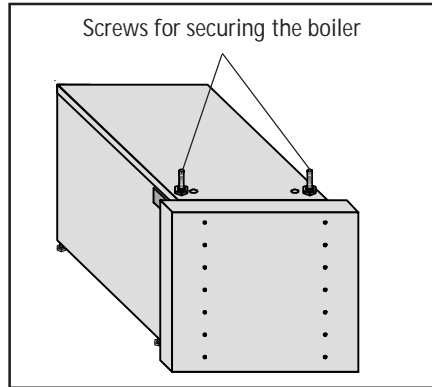
# Boiler assembly

## ① Boiler

- Install the plinth or the DHW cylinder in accordance with the enclosed installation instructions.
- Position the boiler with adjustable bolts fully inserted using the lifting slings on the fully assembled plinth or DHW cylinder.
- To secure the boiler to the plinth or DHW cylinder, tapped holes are provided at the front sides of the boiler. Additional fixings are not required.
- Check the horizontal level of the boiler together with the plinth and DHW cylinder and adjust, with a slight incline to the rear, if necessary.



Screws for securing the boiler to the plinth



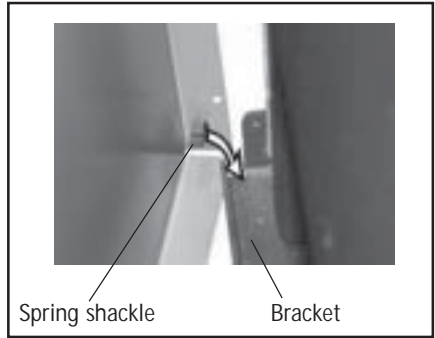
Fixing screws on the DHW cylinder

- ## ② Position the thermal boiler insulation
- around the boiler (overlapping) and secure with spring clips.

- ## ③ Position the thermal insulation for the boiler back
- over the rear connections and on the back wall of the boiler.

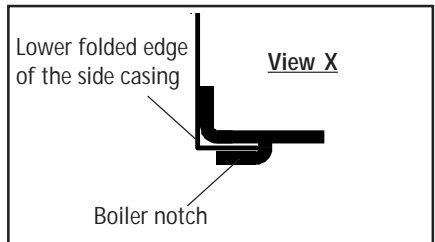
- ## ④ Position the thermal insulation for the boiler front
- loosely on the boiler

- 5 **Insert the side casing** into the boiler front pushing the spring shackles 11 behind the boiler bracket



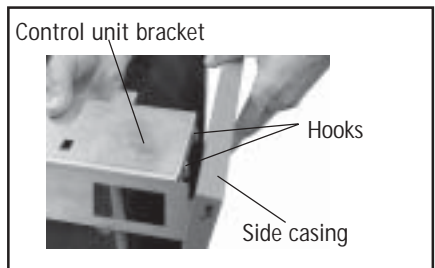
Side casing installation

and fit the lower folded edge into both notches (view X).



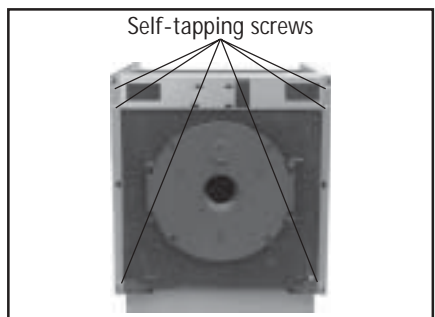
Side casing installation

- 6 **Locate the control unit bracket** centrally and push parallel forward, until both recesses in the side casing click into the control unit bracket tabs.



Control unit bracket installation

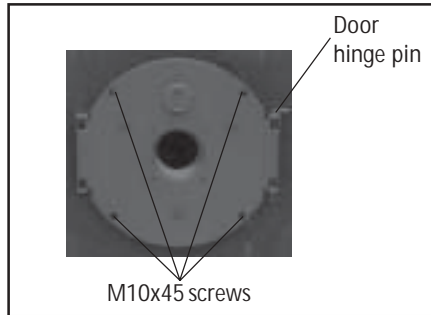
Secure the control unit bracket and side casing with the self-tapping screws supplied (6 no.).



Side casing fixing screws

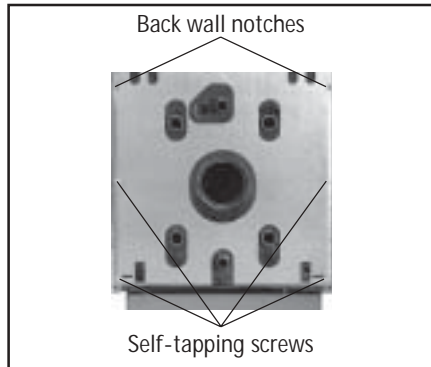
## Boiler assembly

- 7** **Fit the boiler door** with the four M10x45 screws and washers supplied. Insert the door hinge pins into the door bracket on the l.h. or r.h. side, subject to door opening.



Boiler door installation

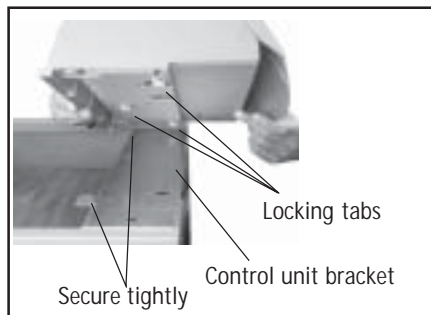
- 8** **Hook the back wall casing** with tabs into the notches in the side casing, and secure with the self-tapping screws (4 no.) supplied.



Rear wall installation

- 9** **Push the control unit housing** with locking tabs into the apertures in the control unit bracket and pull forward to its end stop. Secure the control unit housing with the two self-tapping screws supplied to the control unit at the l.h. and r.h. rear, working from top to bottom.

Route the boiler sensor to the rear and push into the sensor well in any arrangement, then secure with the circlip.

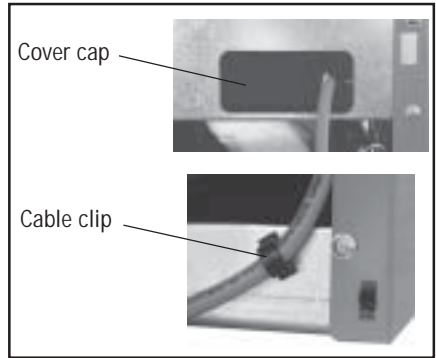


Control unit housing installation

- ⑨ Guide the burner cable through the aperture in the control unit bracket (l.h. or r.h. subject to boiler door opening).

Clip a cover cap into the control unit bracket to protect the burner cable.

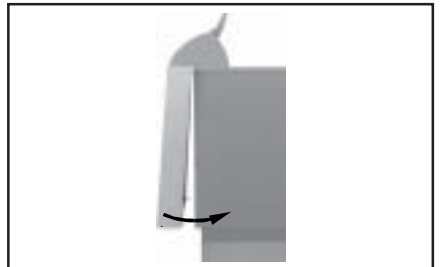
Secure the cable clip with the burner cable at the l.h. or r.h. side (bottom) of the boiler.



Burner cable holder

- ⑩ Position the casing cover onto both side casings and push towards the control unit bracket.

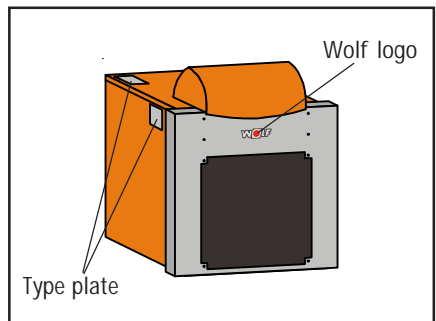
- ⑫ Push the front casing with open control unit lid with the profile screws against the **spring shackles** ⑪, until they click into place.



Front casing installation

- ⑬ Affix the type plate in a clearly visible position.

- ⑭ Clip the Wolf logo into the front casing (only for FunctionLine).



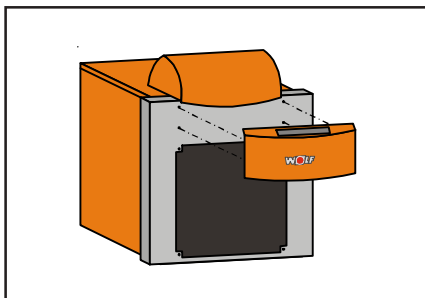
Type plate / Wolf logo

## ComfortLine decorative panel installation

In addition, all ComfortLine boilers require the following work to be undertaken.

### Decorative panel


Position the decorative panel with the document wallet on the holes and push against the front casing, until the clips click into place.

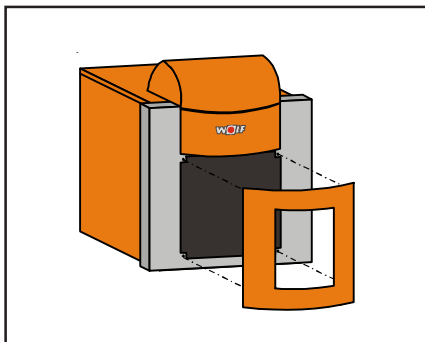


Decorative panel installation

### Decorative frame

(CNK 17-60 single boiler)

Click the plastic clips  (4 no., black) into the front casing. Position the decorative frame onto the clips and push down to their end stop.



Decorative panel installation, single boiler

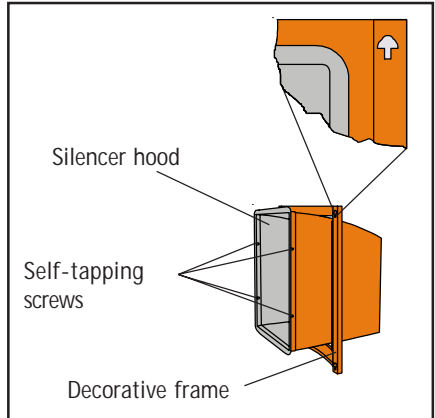


# ComfortLine decorative panel installation

## Decorative frame

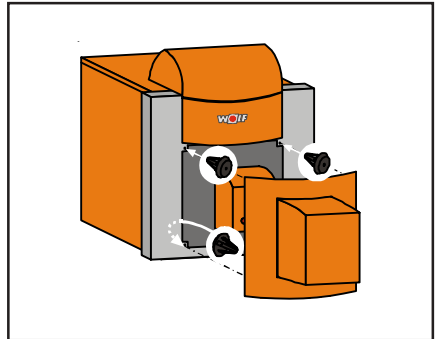
(CNU 17-32 Unit boiler)

With the dome at the top, push the silencer hood into the decorative frame, then secure the silencer hood with four self-tapping screws from the inside to the decorative frame.



Joining the decorative frame and the silencer hood


Click both top plastic clips (black) from the outside into the front casing. Click both lower plastic clips (black) from the inside into the front casing. Hook the decorative frame with the silencer hood into the top clips and secure in the lower plastic clips.

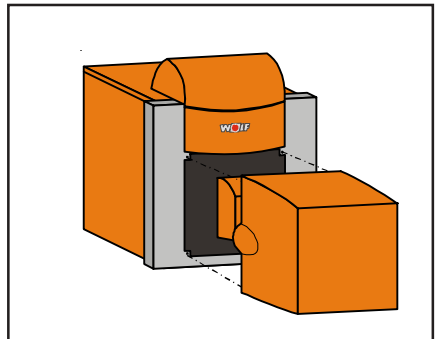


Decorative panel installation, Unit boiler

## Large silencer hood

(CNU 40-63 Unit boiler)

Click the plastic clips  (4 no., orange) into the front casing. Position the large silencer hood onto the clips and push down to their end stop.



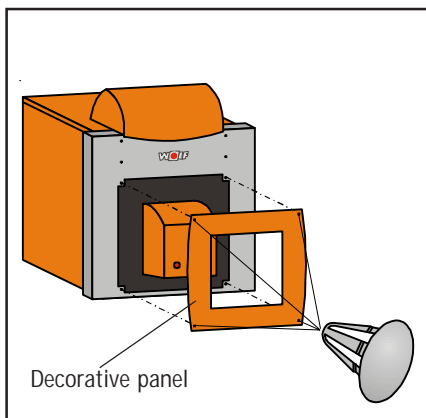
Large silencer hood installation

## FunctionLine decorative panel installation

For models FNU-TH/17/20/25, the following additional work should be undertaken.

### Decorative panel

Click the plastic clips  (4 no., grey) into the front casing.



Decorative panel installation

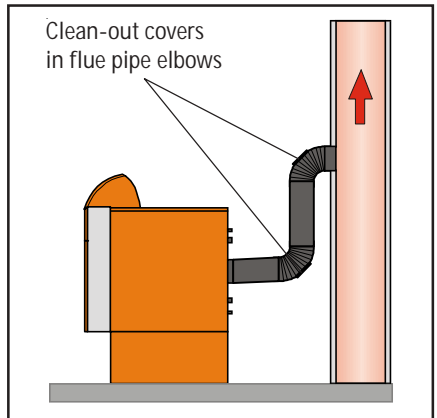
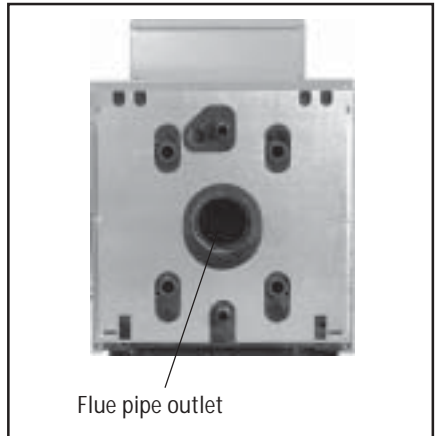
## Flue pipe installation

- The flue pipe cross-section must match that of the boiler flue outlet.
- Reducing the flue pipe size is only permitted, if the satisfactory function has been verified (by calculation) in accordance with DIN 4705.



Keep the flue pipe as short as possible and inclined towards the chimney stack.

- Thoroughly seal in the flue pipe.
- Use flue pipe elbows with clean-out covers to facilitate the cleaning of the flue pipe.



Clean-out covers

# Central heating boiler connections

Connect the heating flow and return to the respective boiler fittings. For connections, see below.

Install a check valve downstream of the boiler circuit pump(s) to prevent incorrect circulation.



Install a safety assembly comprising a safety valve with a response pressure of 3 bar and an automatic air-vent valve. The pipework between the boiler and the safety valve must not be able to be shut off. Severely excessive boiler pressure due to excessive boiler temperature, can burst the boiler body or the boiler pipework, which would lead to a sudden escape of hot water (**risk of scalding**).

Connect any underfloor heating system via a three or four-way mixer.

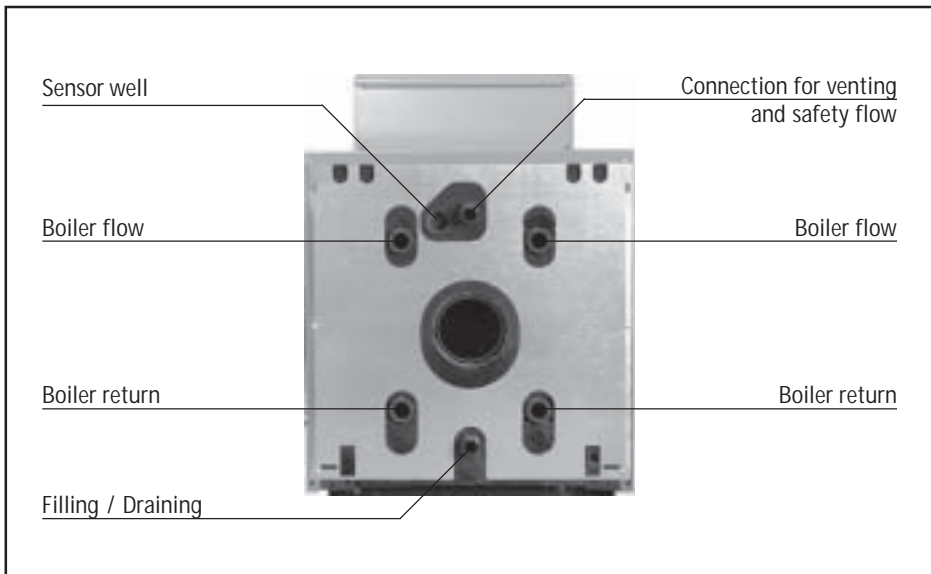
Provide system separation by means of a heat exchanger, when using pipes which are not impermeable to oxygen.

**Note** This boiler is only suitable for heating systems with pumped heating circuits. If no heating circuit pump has been installed, sufficient circulation through the radiators cannot be ensured, putting the room heating in question.

**Recommendation:** Convert open systems into sealed systems.

## Return temperature raising facility

**Note** Heating systems with large water volume (above 20 litres per kW output) require a return temperature of 30 °C, as otherwise the longer heat-up time of such systems would create condensate and run an increased risk of boiler body corrosion.



Central heating boiler connections

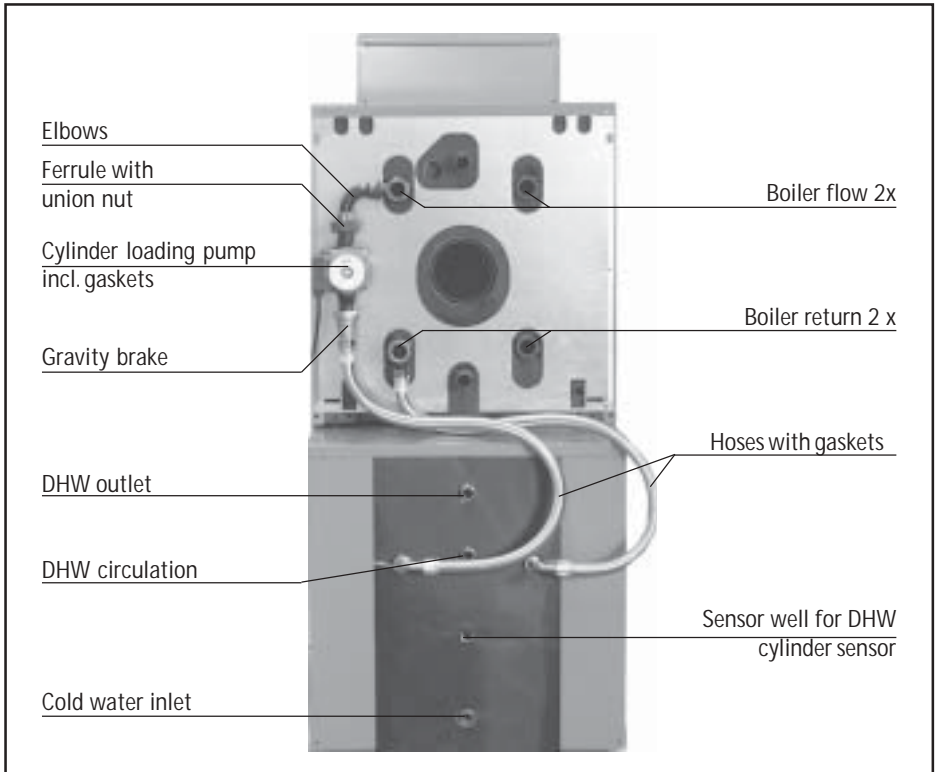
## DHW cylinder to boiler pipework

Install the pipework between the boiler and the DHW cylinder in accordance with the illustration below.

**Note**

The DHW cylinder loading pump must supply from the top to bottom.

Close any boiler flow and return connections which are not required with caps and gaskets supplied.



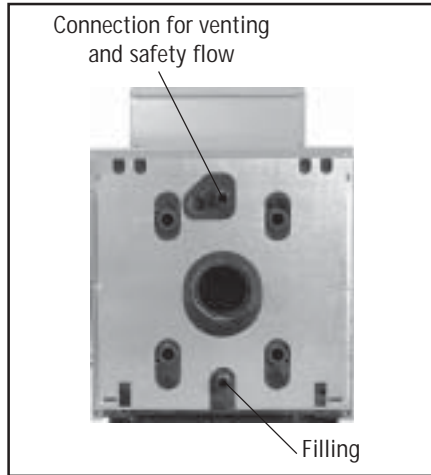
DHW cylinder to boiler pipework

## Filling the heating system

Fill the system and vent it properly to safeguard the perfect boiler function.

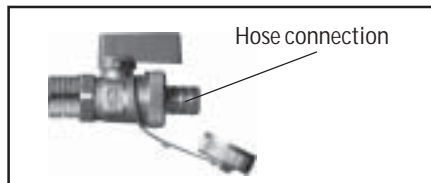
**Note** Before connecting the boiler to the heating system, flush the entire system to remove residues such as welding pearls, hemp, putty, etc. from the pipework.

**Note** The boiler and central heating system may only be filled, if a type-tested safety valve (opening pressure max. 3 bar) has been installed.



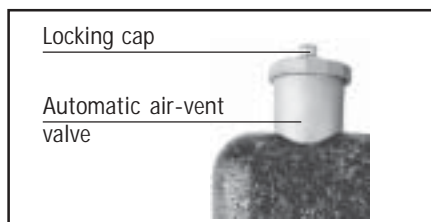
Filling the heating system

- Connect a water hose to the filling/drain valve (on-site).



Boiler fill and drain valve

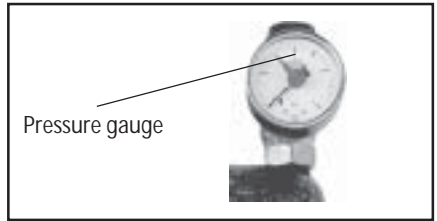
- Open the cap of the quick-action air-vent valve of the safety assembly (accessory) by one revolution, but do not remove the cap.
- With the boiler in a cold condition, fill the heating system slowly via the fill and drain valve, until 1 bar pressure is indicated. Inhibitors are not permissible.



Automatic air-vent valve

## Filling the heating system

- Observe the pressure gauge of the safety equipment assembly when filling the system with water.

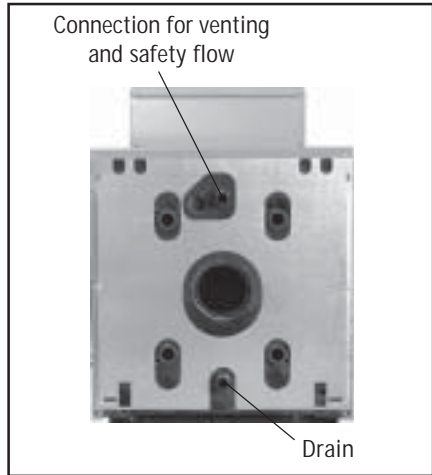


Safety assembly pressure gauge

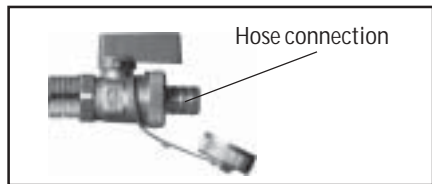
- For boilers with DHW cylinder, vent the heating coil at a system pressure of approximately 0.50 bar or less by starting the DHW cylinder loading pump (operating time approximately 2 minutes).
- Check the entire system for water leaks.
- Check the safety valve function.
- Ventilate the boiler (e.g. via an automatic air-vent valve).
- Fill the system to 1 bar pressure. In operation, the pressure gauge must indicate between 1 and 2.5 bar.
- Top up with water when the system pressure falls severely.
- In constant mode, the boiler automatically vents via the air-vent valve.

## Draining the heating system

- Switch OFF the heating system (see operating instructions) and let it cool down to a maximum of 40 °C, **to prevent the risk of scalding.**
- Open the drain tap on the boiler.
- Open the radiator bleed valves.
- Drain the heating water off.



Draining the heating system



Boiler fill and drain valve



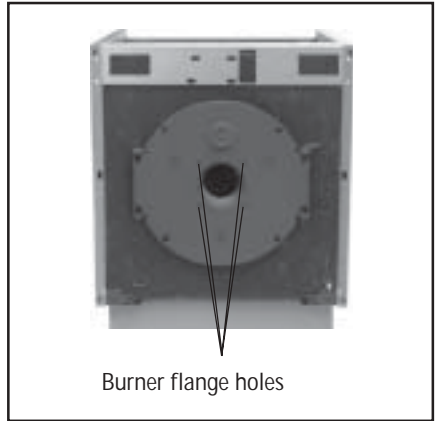
# Pressure jet oil burner installation / Electrical supply

## Pressure jet oil burner installation

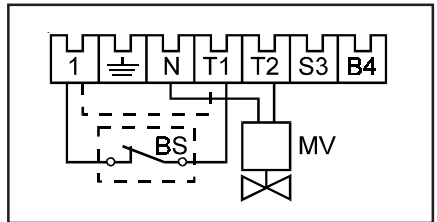
The Unit pressure jet oil burner installation instructions are included in the burner packaging.



Only use bolts when securing the burner to the boiler flange, whose thread penetrates the boiler flange by a maximum of 15 mm. Only use pressure jet gas burners compliant with EC Directive 90/396/EEC.



Boiler flange



Burner plug wiring diagram

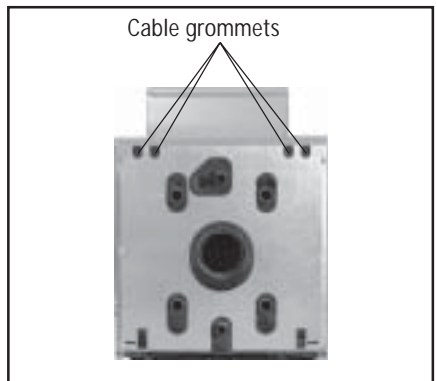
## Electrical supply

**Note**

Do not route sensor leads with 230 V mains cables.

Connect the heating circuit pump(s) and the DHW cylinder loading pump(s) on-site via contactor, if:

- The burner and pump draw more than 2 A each.
- The total control unit power consumption is exceeded.



Electrical supply

Observe the control unit installation and operating instructions.

## Initial start-up



**Only qualified personnel may carry out the commissioning and operation of the boiler and the instruction of the user.**

- Check the boiler and system for leaks. Close the water outlet - **risk of overheating and scalding.**
- Check that all flue gas accessories have been correctly installed.
- Open the shut-off valves on flow and return.
- Switch ON the system ON/OFF switch on the control unit.

**Note:**

When the heating system is started, the display of the weather-compensated control unit indicates all superfluous (not connected) sensors as fault messages.

For removing these fault messages see the control unit operating instructions.

- If the system water pressure falls below 1.0 bar, top up with water until a pressure of 1.0 to max. 2.5 bar has been achieved.
- An error code will flash in the display, if the boiler/burner fails to start properly. For details about error codes see the quick-start operating instructions.
- Instruct the customer in the operation of the boiler. Complete the commissioning log and hand over the instructions.
- Position the operating instructions in the boiler room where they are clearly visible.

## Saving energy

- Instruct the customer about energy-savings options.
- Use this opportunity for reducing the heating temperature night operation using control accessories.
- Adjust the temperature so you are comfortable; every degree of room temperature reduction will achieve energy savings of up to 5%.
- Reduce the room temperature in unoccupied rooms as far as possible; please observe frost protection.
- Ensure that all thermostatic radiator valves are fully opened in rooms where room thermostats are installed.  
The room thermostat must not be obstructed by furniture or curtains.

## Function checks

- During commissioning, check all control, regulating and safety equipment for their correct function and settings.

## Commissioning report

Commissioning steps	Test values and confirmation
1.) Water connections checked for leaks?	<input type="checkbox"/>
2.) Vented boiler and system?	<input type="checkbox"/>
3.) System pressure 1 - 2.5 bar?	<input type="checkbox"/>
4.) Function test carried out?	<input type="checkbox"/>
5.) Flue gas test:	<input type="checkbox"/>
Gross flue gas temperature	_____ $t_A$ [°C]
Ventilation air temperature	_____ $t_L$ [°C]
Net flue gas temperature	_____ $(t_A - t_L)$ [°C]
Carbon dioxide content (CO <sub>2</sub> ) or oxygen content (O <sub>2</sub> )	_____ %
Carbon monoxide content (CO), free of air	_____ ppm
6.) Casing fitted?	<input type="checkbox"/>
7.) System user trained, technical documents handed over?	<input type="checkbox"/>
8.) Confirm commissioning	_____ <input type="checkbox"/>

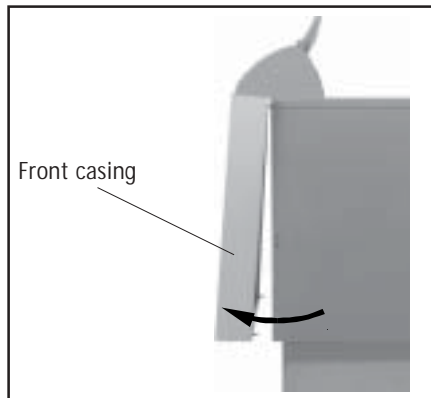
# Maintenance

## Note:

To ensure the reliable and safe function of a heating system, users are required to have it checked and cleaned on an annual basis by an approved heating contractor (check local regulations). Switch OFF the boiler when cleaning the boiler room.

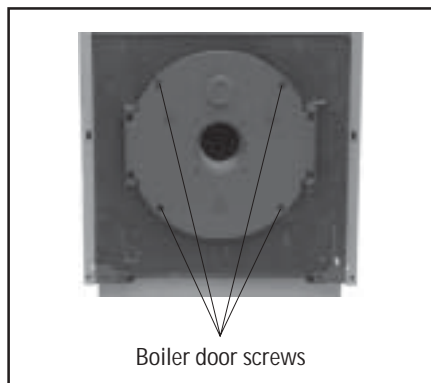
**We would recommend a maintenance contract.**

- Switch OFF the heating system (see operating instructions) and let it cool down.
- Remove the front casing from the boiler.



Front casing removal

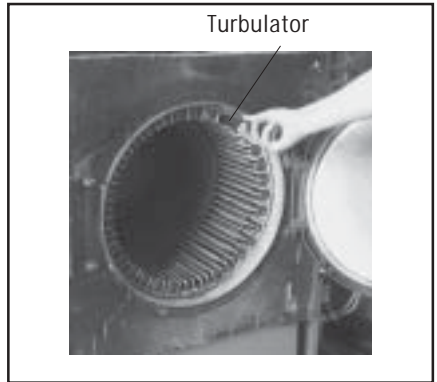
- Pull the burner plug.
- Release the boiler door screws.



Boiler door removal

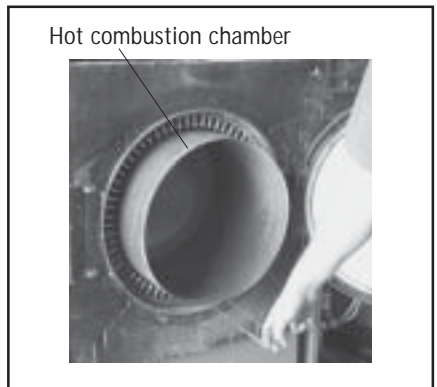
## Maintenance

- Open the boiler door.
- Pull out the turbulators (only for CNK-40/FNK-40 and CNK-63/FNK-63).

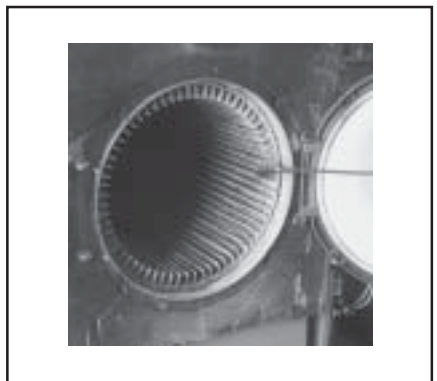


Turbulators

- Pull out the hot combustion chamber.



- Remove soot/sulphur deposits with the cleaning brush supplied.



Cleaning using the cleaning brush

- Assemble in reverse order.

# Maintenance log

- Please tick the maintenance steps carried out and enter the test values into this log.

Maintenance steps	Date	Date
1. Cleaned the boiler?	<input type="checkbox"/>	<input type="checkbox"/>
2. Leak test carried out during operation?	<input type="checkbox"/>	<input type="checkbox"/>
3. Function test carried out?	<input type="checkbox"/>	<input type="checkbox"/>
4. Flue gas test:	<input type="checkbox"/>	<input type="checkbox"/>
Gross flue gas temperature	$t_A$ [°C]    _____	$t_A$ [°C]    _____
Ventilation air temperature	$t_L$ [°C]    _____	$t_L$ [°C]    _____
Net flue gas temperature	$(t_A - t_L)$ [°C]    _____	$(t_A - t_L)$ [°C]    _____
Carbon dioxide content (CO <sub>2</sub> ) or	%    _____	%    _____
Oxygen content (O <sub>2</sub> )	%    _____	%    _____
Carbon monoxide content (CO), free of air	ppm    _____	ppm    _____
5. Confirm maintenance  (company stamp, signature)	<input type="checkbox"/>	<input type="checkbox"/>

# Maintenance log

Date	Date	Date	Date
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> $t_A$ [°C] _____ $t_L$ [°C] _____ $(t_A - t_L)$ [°C] _____ % _____ % _____ ppm _____	<input type="checkbox"/> $t_A$ [°C] _____ $t_L$ [°C] _____ $(t_A - t_L)$ [°C] _____ % _____ % _____ ppm _____	<input type="checkbox"/> $t_A$ [°C] _____ $t_L$ [°C] _____ $(t_A - t_L)$ [°C] _____ % _____ % _____ ppm _____	<input type="checkbox"/> $t_A$ [°C] _____ $t_L$ [°C] _____ $(t_A - t_L)$ [°C] _____ % _____ % _____ ppm _____
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## Specification

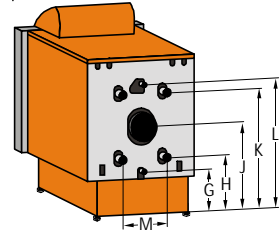
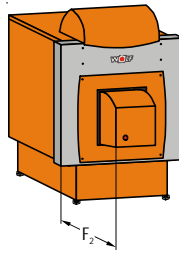
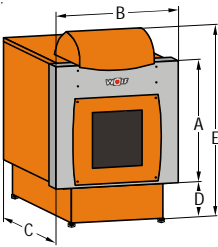
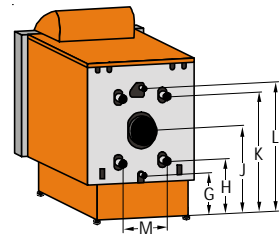
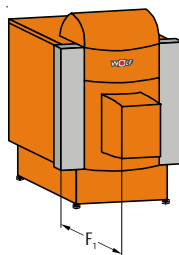
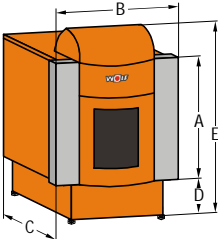
CNK / FNK / CNU-Premio / CNU-TH / FNU-TH		17	20	25	
CNK-CB / FNK-FB / CNU-Premio-CB CNU-TH-CB / FNU-TH-FB		17/155	20/155	25/155	
FNK-FE / FNU-TH-FE		17/155	20/155	25/155	
Output range	without burner	kW	14-17	17-20	20-25
	incl. Premio burner	kW	14-17	17-20	20-25
	incl. TH burner	kW	14-17	17-20	20-25
Set-up burner output		kW	16	19	23
DHW cylinder capacity CB & FB / FE		litres	155/150	155/150	155/150
Constant DHW cylinder output CB and FB		litres/h	410	490	615
	FE	litres/h	410	490	615
Performance factor CB and FB		NL <sub>60</sub>	2.7	2.8	3.0
	FE	NL <sub>60</sub>	2.7	2.8	3.0
Boiler water capacity		litres	51	51	58
Boiler gas content		litres	36	36	41
Heating water pressure drop (at $\Delta T=20K$ )		mbar	6	6	6
Max. permissible boiler pressure		bar	3	3	3
Max. permissible DHW cylinder pressure		bar	10	10	10
Rel. standby losses	Boiler	%	1.8	1.6	1.2
	Boiler+DHW cyl.	%	2.5	2.2	1.8
Required boiler draught		Pa	2	3	5
Flue gas temperature*		°C	160/180	160/180	150/170
Flue gas mass flow rate*		kg/h	24/29	29/34	34/42
Boiler flow		G	1½"	1½"	1½"
Boiler, safety return		G	1½"	1½"	1½"
Filling, draining,	(male thread)	R	1"	1"	1"
Venting, safety flow	(male thread)	R	1"	1"	1"
Flue pipe diameter		mm	129	129	129
Combustion chamber length incl. handle		mm	545	545	615
Weight	Boiler	kg	135	135	141
	Burner	kg	10	10	10
	CHW cylinder CB and FB	kg	66	66	66
	DHW cylinder FE	kg	98	98	98
Electrical supply max. current (ctrl. unit and acc.)					
Max. current (in total, excl. pumps)					
Switching capacity pumps, mixer, burner					
Control unit fuse (max. current)					
Optional connection for mixer motors					

\* Values for upper/lower boiler output, relative to a CO<sub>2</sub> content of 13% (fuel oil EL) and an average boiler water temperature of 60 °C. The chimney stack dimensions must be calculated in accordance with DIN 4705. For flue gas temperatures below 160 °C, connect the boiler to highly insulated chimney stacks (heat conductivity resistance class I acc. to DIN 18160 T1) or suitable, moisture-resistant flue gas systems, which have been type-approved.



25	32	32	40	50	63
25/200	32/155	32/200	40/200	50/200	63/200
25/200	32/155	32/200	40/200	-	-
20-25	28-32	28-32	32-40	40-50	50-63
20-25	28-32	28-32	32-40	40-50	50-60
20-25	28-32	28-32	32-40	40-48	50-63
23	29	29	36	45	55
200	155/150	200	200	200	200
615	780	780	980	1225	1225
615	720	780	930	-	-
4.5	3.2	4.8	4.9	5.0	5.0
4.2	3.2	4.4	4.5	-	-
58	68	68	68	105	105
41	61	61	61	130	130
6	10	10	10	22	22
3	3	3	3	3	3
10	10	10	10	10	10
1.2	1.1	1.1	0.9	0.9	0.7
2.0	1.4	1.7	1.3	1.4	1.1
5	5	5	7	7	8
150/170	190/200	190/200	170/185	170/190	165/180
34/42	47/54	47/54	54/68	68/85	85/107
1½"	1½"	1½"	1½"	1½"	1½"
1½"	1½"	1½"	1½"	1½"	1½"
1"	1"	1"	1"	1¼"	1¼"
1"	1"	1"	1"	1¼"	1¼"
129	149	149	149	179	179
615	665	665	665	845	845
141	169	169	169	258	258
10	10	10	15.5	15.5	15.5
83	66	83	83	83	83
121	98	121	121	-	-
230 V / 50 Hz / 10A					
5 VA					
15 VA					
230 V, 4(2) A each					
M 6.3 A					
230V, 50Hz, optimum time 4 - 7 minutes					

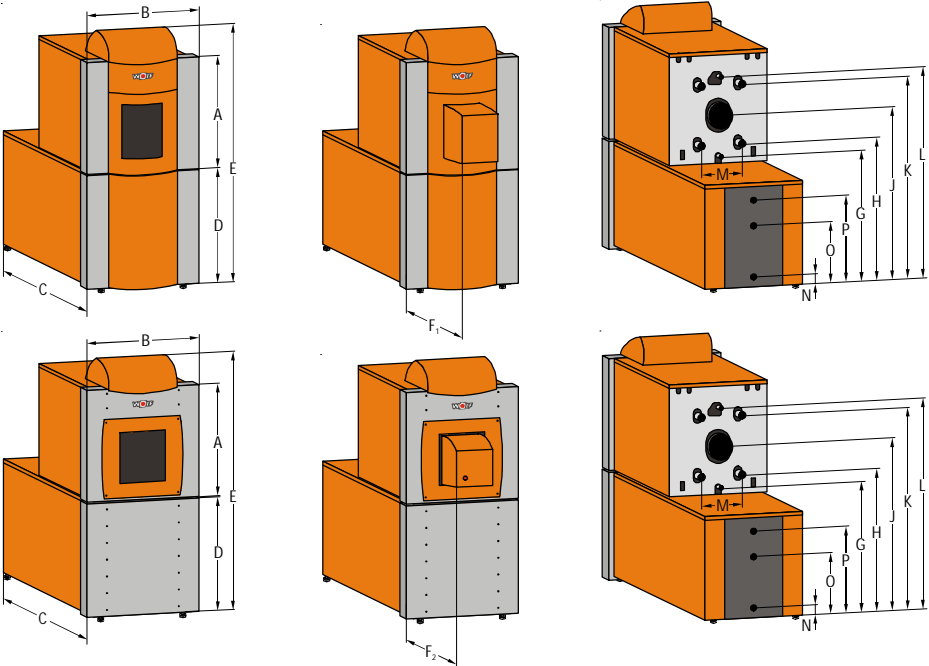
# Dimensions



CNK / FNK / CNU-Premio CNU-TH / FNU-TH		17	20	25	32	40	50	63
Boiler height	A mm	670	670	670	670	670	845	845
Width	B mm	660	660	660	660	660	760	760
Length	C mm	756	756	826	876	876	1056	1056
Plinth height	D mm	280	280	280	280	280	280	280
Overall height incl. control unit	E mm	1115	1115	1115	1115	1115	1290	1290
Silencer hood depth	F <sub>1</sub> mm	336	336	336	336	345	345	345
Burner hood depth	F <sub>2</sub> mm	265	265	265	265	210	235	250
Draining, filling	G mm	385	385	385	360	360	364	364
Central heating return	H mm	449	449	449	417	417	420	420
Smoke tube connector	J mm	607	607	607	607	607	657	657
Central heating flow	K mm	775	775	775	807	807	904	904
Exhaustion	L mm	828	828	828	853	853	949	949
Heating connections	M mm	260	260	260	260	260	300	300

Observe the height of adjustable feet/bolts 20 mm ±10mm.

## Dimensions



CNK-CB / FNK-FB / CNU-Premio-CB		17	20	25	32	40	50	63
CNU-TH-CB / FNU-TH-FB		17	20	25	32	40	50	63
FNK-FE / FNU-TH-FE		17	20	25	32	40	-	-
Boiler height	A mm	670	670	670	670	670	845	845
Width	B mm	660	660	660	660	660	760	760
Length of 155 l DHW cylinder	C mm	987	987	987	987	-	-	-
Length of 200 l DHW cylinder	C mm	-	-	1262	1262	1262	1262	1262
DHW cylinder height	D mm	625	625	625	625	625	625	625
Overall height incl. control unit	E mm	1460	1460	1460	1460	1460	1635	1635
Silencer hood depth	F <sub>1</sub> mm	336	336	336	336	345	345	345
Burner hood depth	F <sub>2</sub> mm	265	265	265	265	210	235	250
Draining, filling	G mm	730	730	730	705	705	709	709
Central heating return	H mm	794	794	794	762	762	765	765
Smoke tube connector	J mm	952	952	952	952	952	1002	1002
Central heating flow	K mm	1120	1120	1120	1152	1152	1249	1249
Exhaustion	L mm	1173	1173	1173	1198	1198	1294	1294
Heating connections	M mm	605	605	605	605	605	645	645
Cold water inlet	N mm	90	90	90	90	90	90	90
DHW circulation CB / FB	O mm	412	412	412	412	412	412	412
DHW circulation FE	O mm	312	312	312	312	312	-	-
DHW connection	P mm	534	534	534	534	534	534	534

Observe the height of adjustable feet/bolts 20 mm ±10mm.

# Troubleshooting

<b>Fault</b>	<b>Cause</b>	<b>Remedy</b>
Burner does not start or enters a fault state at the control unit	No voltage present	Fuse, electrical connections, Check the position of the ON/OFF switch and heating sys. emergency stop switch.
	Oil tank empty / Gas supply line shut off	Fill oil tank / open gas supply line.
	Burner fault	Press the reset button at burner control unit, (see burner installation instructions).
	Safety temperature cut-out activated	Press the reset button at the control unit.
	Oil filter clogged	Replace oil filter.
Heating circuit pump does not start	System in summer mode	Check summer/winter switch position.
	Heating circuit pump seized up	Turn the pump shaft with a screwdriver.
	Heating circuit pump faulty	Replace the heating circuit pump.
Cylinder loading pump does not run	DHW cylinder thermostat faulty	Check the safety thermostat and replace, if necessary.
	Cylinder loading pump seized up	Turn the pump shaft with a screwdriver.
	Cylinder loading pump faulty	Replace the DHW loading pump.
Heating system operational, but room temperature too low	Maximum boiler temperature set too low.	Raise maximum boiler temperature.
Heat-up takes too long	Heating water temperature too low (check at the DHW cylinder flow, not at the boiler)	Raise the temperature (adjust thermostat)
	Too little heating water (creates wider spread, i.e. return temperature too low)	Install larger DHW cylinder loading pump
	Indirect coil not vented	Vent indirect coil with loading pump OFF
	Indirect coil scaled up	Descale indirect coil
DHW temperature too low	Thermostat switches OFF too soon	Adjust thermostat
	Return temperature too low (e.g. spread too wide)	Install larger DHW cylinder loading pump