

Vitoplex 200
Type SX2A, 90 to 560 kW
Oil/gas boiler



VITOPLEX 200



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 intended for qualified contractors.

- Work on gas installations may only be carried out by a registered gas fitter.
- Work on electrical equipment may 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 to be observed

- National installation regulations
- Statutory regulations for the prevention of accidents
- Statutory regulations for environmental protection
- Codes of practice of the relevant trade associations
- All current safety regulations as defined by DIN, EN, DVGW, TRGI, TRF, VDE and all locally applicable standards
 - Ⓐ ÖNORM, EN, ÖVGW G K directives, ÖVGW-TRF and ÖVE
 - Ⓒ SEV, SUVA, SVGW, SVTI, SWKI, VKF and EKAS guideline 1942: LPG, part 2

Safety instructions for working on the system

Working on the system

- Where gas is used as the fuel, close the main gas shut-off valve and safeguard it against unintentional reopening.
- Isolate the system from the power supply, e.g. by removing the separate fuse or by means of a mains isolator, and check that it is no longer live.
- Safeguard the system against reconnection.
- Wear suitable personal protective equipment when carrying out any work.



Danger

Hot surfaces and fluids can lead to burns or scalding.

- Before maintenance and service work, switch OFF the appliance and let it cool down.
- Never touch hot surfaces on the boiler, burner, flue system or pipework.



Please note

Electronic assemblies can be damaged by electrostatic discharge.

Prior to commencing work, touch earthed objects such as heating or water pipes to discharge static loads.

Repair work



Please note

Repairing components that fulfil a safety function can compromise the safe operation of the system.

Replace faulty components only with genuine Viessmann spare parts.

Safety instructions (cont.)

Auxiliary components, spare and wearing parts



Please note

Spare and wearing parts that have not been tested together with the system can compromise its function. Installing non-authorised components and making 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.

Safety instructions for operating the system

If you smell gas



Danger

Escaping gas can lead to explosions which may result in serious injury.

- Do not 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.
- Evacuate any people from the danger zone.
- Notify your gas or electricity supply utility from outside the building.
- Have the power supply to the building shut off 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 installation site.
- Close doors to living spaces to prevent flue gases from spreading.

What to do if water escapes from the appliance



Danger

If water escapes from the appliance there is a risk of electrocution.

Switch OFF the heating system at the external isolator (e.g. fuse box, domestic distribution board).



Danger

If water escapes from the appliance there is a risk of scalding.

Never touch hot heating water.

Condensate



Danger

Contact with condensate can be harmful to health.

Never let condensate touch your skin or eyes and do not swallow it.

Flue systems and combustion air

Ensure that flue systems are clear and cannot be sealed, for instance due to accumulation of condensate or other external causes.

Avoid continuous condensate disposal with a wind protector.

Ensure an adequate supply of combustion air.

Inform system users that subsequent modifications to the building characteristics are not permissible (e.g. cable/pipework routing, cladding or partitions).



Danger

Leaking or blocked flue systems, or an inadequate supply of combustion air can cause life threatening poisoning from carbon monoxide in the flue gas.

Ensure the flue system is in good working order. Vents for supplying combustion air must be non-sealable.

Extractors

Operating appliances that exhaust air to the outside (extractor hoods, extractors, air conditioning units, etc.) can create negative pressure. If the boiler is operated at the same time, this can lead to a reverse flow of flue gas.



Danger










The simultaneous operation of the boiler and appliances that exhausts air to the outside can result in life threatening poisoning due to a reverse flow of flue gas.

Fit an interlock circuit or take suitable steps to ensure an adequate supply of combustion air.







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Symbols

Symbol	Meaning
	Reference to other document containing further information
	Step in a diagram: The numbers correspond to the order in which the steps are carried out.
	Warning of material losses and environmental pollution
	Live electrical area
	Pay particular attention.
	<ul style="list-style-type: none"> Component must audibly click into place. or Acoustic signal
	<ul style="list-style-type: none"> Fit new component. or In conjunction with a tool: Clean the surface.
	Dispose of component correctly.
	Dispose of component at a suitable collection point. Do not dispose of component in domestic waste.

The steps in connection with commissioning, inspection and maintenance are found in the "Commissioning, inspection and maintenance" section and identified as follows:

Symbol	Meaning
	Steps required during commissioning
	Not required during commissioning
	Steps required during inspection
	Not required during inspection
	Steps required during maintenance
	Not required during maintenance

Intended use

The appliance is only intended to be installed and operated in sealed unvented heating systems that comply with EN 12828, with due attention paid to the associated installation, service and operating instructions as well as the details in the datasheet. It is only designed for the heating up of heating water.

Commercial or industrial usage for a purpose other than the heating up of heating water shall be deemed inappropriate.

Intended use presupposes that a fixed installation in conjunction with permissible components designed for this purpose has been carried out.

Every other use will be deemed to be inappropriate. Any resulting losses are excluded from the manufacturer's liability.

Any usage beyond this must be approved by the manufacturer for the individual case.

Intended use also includes the adherence to maintenance and inspection intervals.

Product information

Vitoplex 200, type SX2A

- Fuels: Fuel oil and natural gas
- Permissible operating pressure: Up to 560 kW 4 bar (0.4 MPa); from 700 kW 6 bar (0.6 MPa)
- Rated heating output 90 to 560 kW



Steps - commissioning, inspection and maintenance

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Commissioning the system



Operating and service instructions for the control unit and the burner

1. Check that the turbulators are fully inserted into the hot gas flues (see page 10); open the boiler door for this.
2. Check that the ventilation air aperture in the installation room is open.
3. Fill the heating system with water and vent the system.
Permissible operating pressure: 4 bar (0.4 MPa)
4. Enter the amount of fill water and the water hardness in the table in the appendix on page 25.
5. Check the system pressure.
6. Check the oil level or the gas supply pressure.
7. Open the flue gas damper (if installed).
8. Check that the cleaning aperture on the flue outlet is closed.
9. Open the shut-off valves in the oil or gas line.



Please note

Scaling and boiler damage may result if the system is not operated with fully softened heating water.
Operate boilers only with softened water. Observe the instructions in chapter "Water quality requirements".

10. Switch ON the mains isolator, the switch for the heating circuit pump and the burner ON/OFF switch, in that order. Observe the burner manufacturer's operating instructions.
11. The dew point range must be cleared as quickly as possible. To do so, prevent any heat supply to the consumers when heating the system from cold. This also applies when restarting after maintenance and cleaning work.



Please note

During boiler heat-up, unpleasant fumes and odours can result from outgassing from the thermal insulation, the thermal block and the paint.
Ventilate the room during commissioning.

12. Once the flow temperature has been reached, successively switch on the heat consumers. Switch the burner over to automatic mode.

Note

When testing the flue gas for CO, internal gases being expelled from the thermal block can result in higher values. Continue to operate the boiler until a decline can be clearly recognised.

13. Check all gaskets and plugs, and retighten if necessary.
14. Check the boiler door and cleaning cover after approx. 50 hours run. Tighten the screws.



Shutting down the system



Danger

Opening the connections on the heating water side whilst the boiler is under pressure can result in injuries.
First depressurise the boiler.
Only drain the boiler with a suction pump when the air vent valve is open.



Closing the Vitoair draught stabiliser (if installed)

1. Start the burner.
2. Shut the system down while pre-purge is active. The control disc is closed.



Opening the boiler door and cleaning cover

Note

On gas burners, disconnect the gas supply pipe.



Opening the boiler door and cleaning cover (cont.)

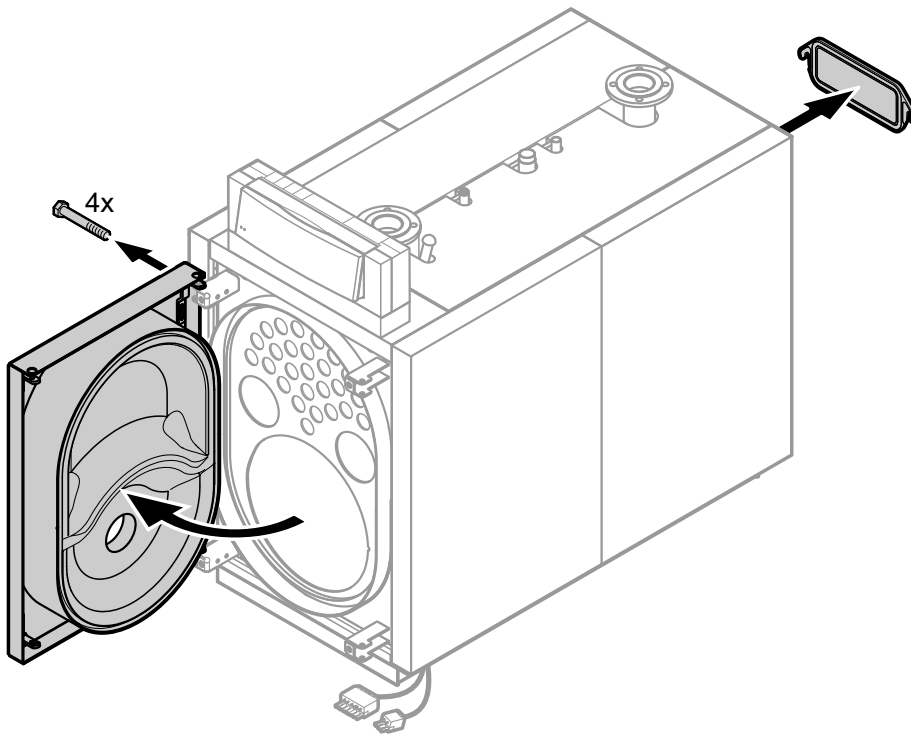


Fig. 1



Cleaning the turbulators, heating surface, flue outlet and flue pipe

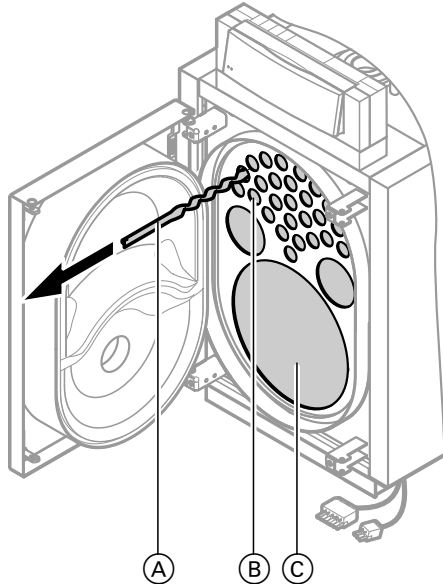


Fig. 2

1. Remove turbulators (A) without applying force.
2. Clean flues (B) and combustion chamber (C) with the brush.
Remove combustion residues with a vacuum cleaner.



Cleaning the turbulators, heating surface, flue... (cont.)

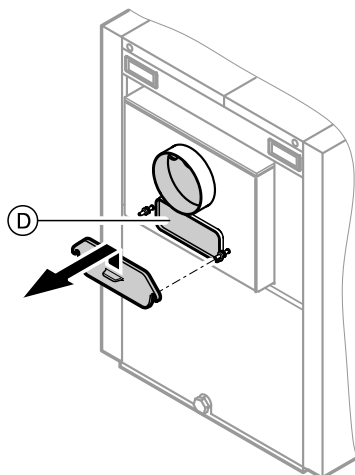


Fig. 3

3. Use a vacuum cleaner to remove combustion residues from the flue and the flue outlet through cleaning aperture ① in the flue outlet.



Checking all gaskets and packing cords on the flue gas side



Checking the thermal insulation components on the boiler door



Danger

When working with high temperature insulation materials that contain zirconium or aluminium silicate ceramic fibres, fibre dust may develop. This fibre dust can be harmful to health.

Only trained personnel may adjust or replace the insulation. Wear suitable protective clothing, especially breathing equipment and safety goggles.



Inserting the turbulators



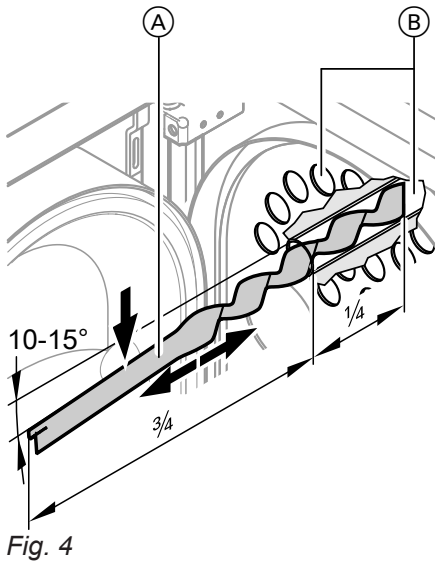
Please note

Burner adjustments and specific system conditions can cause the turbulators to move forward, which may result in them being burnt. This can also lead to damage to the thermal insulation on the boiler door.

Before insertion, the turbulators must be slightly bent (see steps).



Inserting the turbulators (cont.)



1. Push turbulators ① approx. $\frac{1}{4}$ of their length into hot gas flues ②.
2. Bend turbulators approx. $10 - 15^\circ$.
3. Push the turbulators into the hot gas flues as far as they will go. When doing this, check the pre-stressing.

Note

Ensure that turbulators cannot easily be pulled out of the hot gas flues.



Securing the boiler door and cleaning cover

Note

On gas burners, mount the gas supply pipe.



Danger

Escaping gas leads to a risk of explosion.
Check all gas connections for tightness.

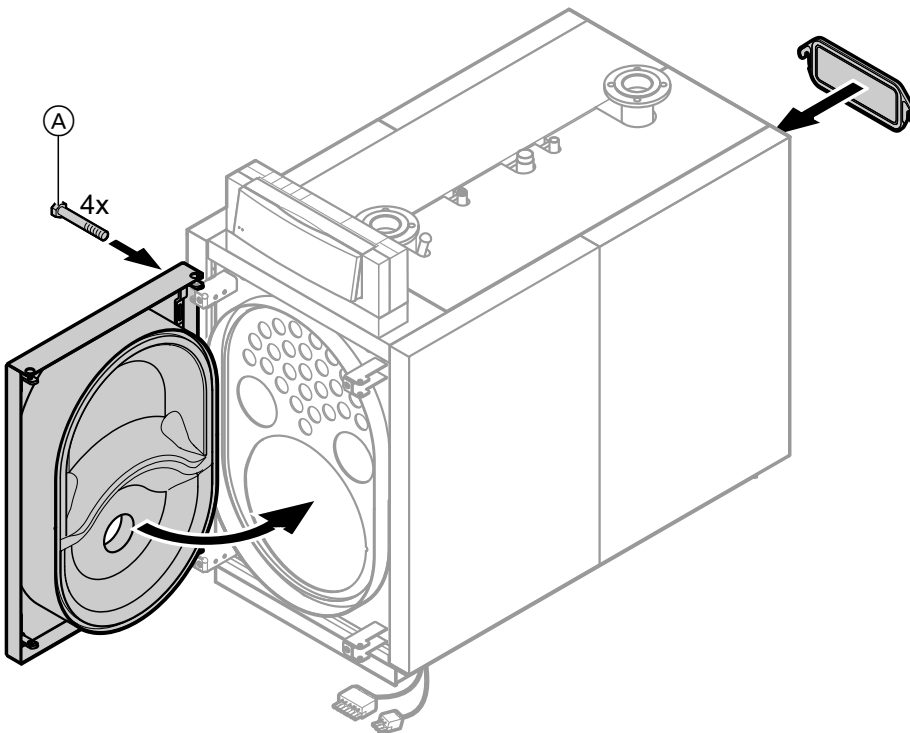


Fig. 5

	Torque
Boiler door ①	25 Nm
Cleaning cover screws	7 Nm



Danger

Leaks can result in a risk of poisoning through escaping gas.
Check gaskets carefully.



Checking connections and sensor well on the heating water side for tightness



Checking the function of safety equipment

Check safety valves, water level and pressure limiter in accordance with manufacturer's instructions.



Checking the function of the pressure switch



Installation instructions, pressure switch set



Checking the expansion vessel and system pressure



Expansion vessel manufacturer's instructions

Note

Carry out this test on a cold system.

Expansion vessel

1. Drain the system until the pressure gauge indicates "0" or close the cap valve on the expansion vessel and reduce the pressure in the expansion vessel.

Note

The pre-charge pressure of the expansion vessel (p_0) is made up of the static system pressure (p_{st}) (= static head) and a supplement ($p_0 = p_{st} + \text{supplement}$).

The supplement depends on the high limit safety cut-out setting.

- 100 °C: Supplement 0.2 bar (0.02 MPa)
- 110 °C: Supplement 0.7 bar (0.07 MPa)

2. If the pre-charge pressure of the expansion vessel is lower than the static system pressure, top up with nitrogen until the pre-charge pressure is 0.1 to 0.2 bar (0.01 to 0.02 MPa) higher.
The static pressure corresponds to the static head.
3. Top up with softened water*¹ until the charge pressure of the cooled system is 0.1 to 0.2 bar (0.01 to 0.02 MPa) higher than the pre-charge pressure of the expansion vessel.
Permiss. operating pressure: 4 bar (0.4 MPa)

Pump controlled pressure maintaining systems



Please note

Pressure fluctuations may cause damage to the boiler or to other system components. In heating systems with automatic pressure maintaining systems, and in particular pump controlled systems with integral deaeration, we recommend the installation of a diaphragm expansion vessel for individual boiler protection. This reduces the frequency and level of pressure fluctuations. This contributes considerably to improved operational reliability and a longer service life of the system components.



Please note

The ingress of oxygen can result in system damage as a consequence of oxygen corrosion. Only use pump controlled pressure maintaining systems that are sealed against corrosion. The pressure maintaining systems must be protected against oxygen ingress into the heating water. Pump controlled pressure maintaining systems with atmospheric deaeration through cyclical pressure release bring about central post-ventilation of the heating system. They do not provide oxygen removal in the sense of corrosion protection as described in VDI 2035 Part 2.

Boiler output	kW	Up to 300	Up to 500	Up to 1000
Expansion vessel	litres	50	80	140

*1 For water quality requirements, see page 22.



Checking the expansion vessel and system... (cont.)

Observe the manufacturer's instructions. Limit pressure fluctuations to the lowest possible differential. Cyclical pressure fluctuations and more significant pressure differentials point towards a system fault. Immediately remedy such system faults, otherwise other heating system components may suffer damage.



Checking the setting of the temperature controller if a building management system is used (DCC system)



Please note

Shutting down from full load can result in high material stress and material damage to the boiler.

If a system with a higher ranking building management system takes over the temperature control of the boiler, adjust the settings at the temperature controller TR. Set the electronic temperature controller TR to at least 10 K below the mechanical temperature controller TR of the Vitotronic.



Checking the firm seating of electrical plug-in connections and cable grommets



Checking the thermal insulation



Checking the water quality

Observe the instructions in chapter "Water quality requirements". Enter the amount of top-up water and the total hardness of the feed and boiler water into the table in the appendix on page 25.

The total hardness of the feed and top-up water must not exceed 0.11 °dH (total value of alkaline earths $\leq 0.02 \text{ mol/m}^3$).

The pH value should be between 9 and 10.5.



Cleaning the sight glass in the boiler door

Sight glass with ventilation facility

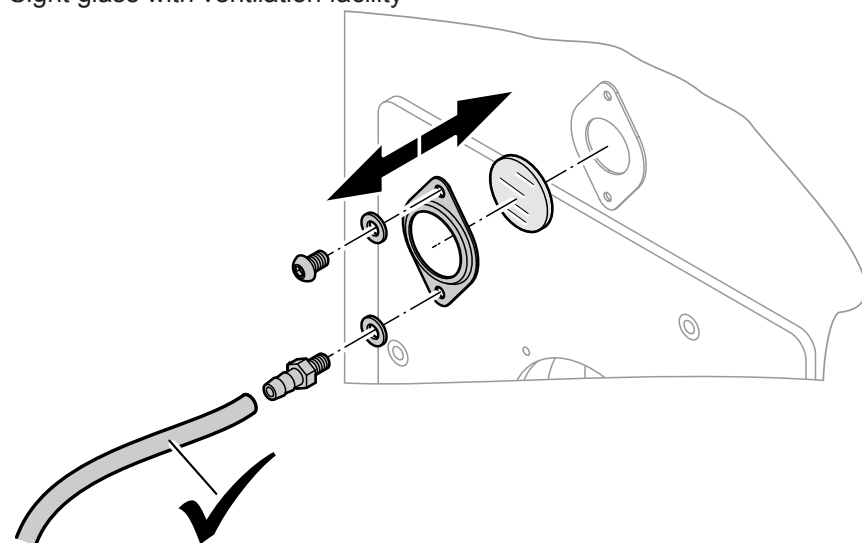


Fig. 6

Check the gaskets and hose connection for tightness.



Checking the mixer for ease of operation and tightness

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 is leaking.
4. Snap the motorised lever into place.



Checking the function of the return temperature raising facility (if installed)



Checking the installation room ventilation



Checking the flue pipe for tightness



Checking the Vitoair draught stabiliser (if installed)

Release the latch on the control disc.

The control disc must swing freely during burner operation.



Adjusting the burner



Burner service instructions or separate documentation by the burner manufacturer

Adjust the maximum oil or gas throughput of the burner to the rated boiler heating output.



Adjusting the burner (cont.)

Rated heating output	Pressure drop on the hot gas side	
	kW	Pa mbar
90	60	0.6
120	80	0.8
150	100	1.0
200	200	2.0
270	180	1.8
350	310	3.1

Rated heating output	Pressure drop on the hot gas side	
	kW	Pa mbar
440	280	2.8
560	400	4.0

To protect the system against dew point corrosion, burner stage 2 (full heating output) must be set to the rated boiler heating output. It must remain switched on, even during the summer months (burner stage 2 on constant standby).

Partial load operation

Set the minimum heating output for the base load stage according to the conditions of the flue system. Note that the flue system must be suitable for the low flue gas temperatures that may occur.

This extends the service life and reduces running costs.

In the case of frequent cycling in standby mode and for partial loads below 40 % we recommend the following:

- Insulate the flue gas collector.
- Install a motorised flue gas damper.
- Set the minimum runtime for the boiler to 10 minutes.

Operation with burner load ≥ 60 %

The minimum boiler water temperature for oil operation is 50 °C and for gas operation 60 °C. To protect the boiler, the minimum heating output at the base load stage is set to 60 % of rated heating output.

A minimum flue gas temperature is required for the base load stage, the value of which is subject to the design of the flue system.

Rated heating output	Minimum heating output to be set (burner stage 1)	
	kW	kW
90	54	
120	72	
150	90	
200	120	
270	162	
350	210	
440	264	
560	336	

Operation with burner load ≥ 40 % and < 60 %

The minimum system temperatures (flow/return) are 60/50 °C for oil operation and 70/60 °C for gas operation.



Adjusting the burner (cont.)

Operation with burner load < 40 %

The minimum system temperatures (flow/return) are 60/55 °C for oil operation and 70/65 °C for gas operation.



Instructing the system user

The installer should 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 their section for safekeeping.
 - Retain the heating contractor's section.
2. File all parts lists, operating and service instructions in the folder and hand this over to the system user.
The installation instructions can be disposed of after the installation is complete.

Ordering parts

The following details are required when ordering parts:

- Serial no. (see type plate (A))
- Position number of the part from this parts list

Parts not shown

Pos.	Part
300	Installation instructions
301	Service instructions
302	Thermal insulation, small parts
303	Touch-up spray paint, Vitosilver
304	Touch-up paint stick, Vitosilver
305	Flame tube gasket
306	Sight glass plug, accessories

Parts list

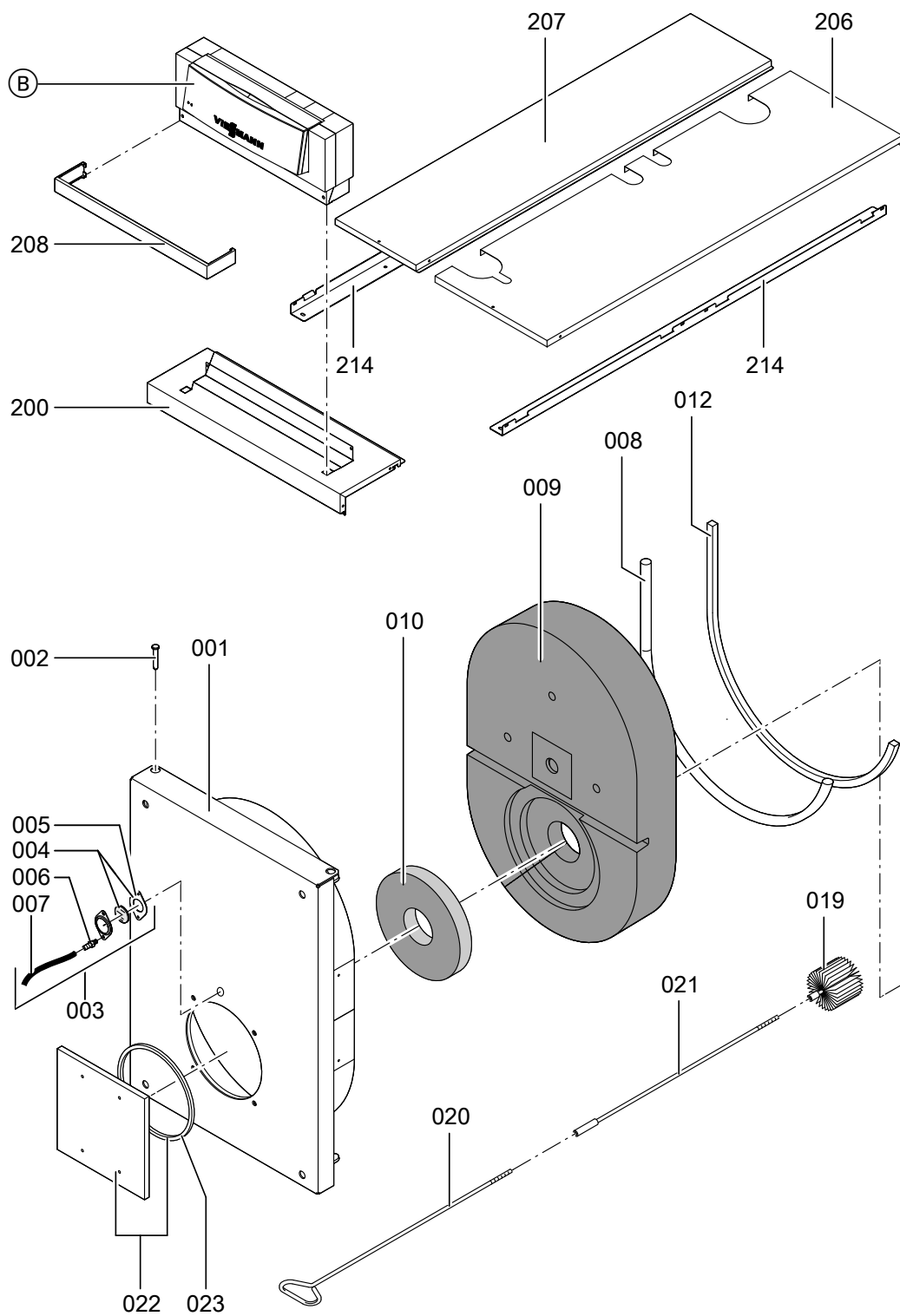


Fig. 7

- (B) Boiler control unit, see service instructions for boiler control unit

Parts list (cont.)

Pos.	Part
001	Boiler door
002	Studs
003	Sight glass parts, comprising: pos. 004 to 007
004	Parts for sight glass frame
005	Gasket
006	Hose nozzle
007	Plastic hose
008	Hose pack Ø 18 mm
009	Thermal insulation block
010	Thermal insulation mat
012	Packing GF 20 x 15 mm
019	Cleaning brush (<i>wearing part</i>)
020	Brush handle
021	Extension piece
022	Burner plate ^{*2}
023	Burner plate gasket ^{*2}
214	Fixing rail, top



Parts list

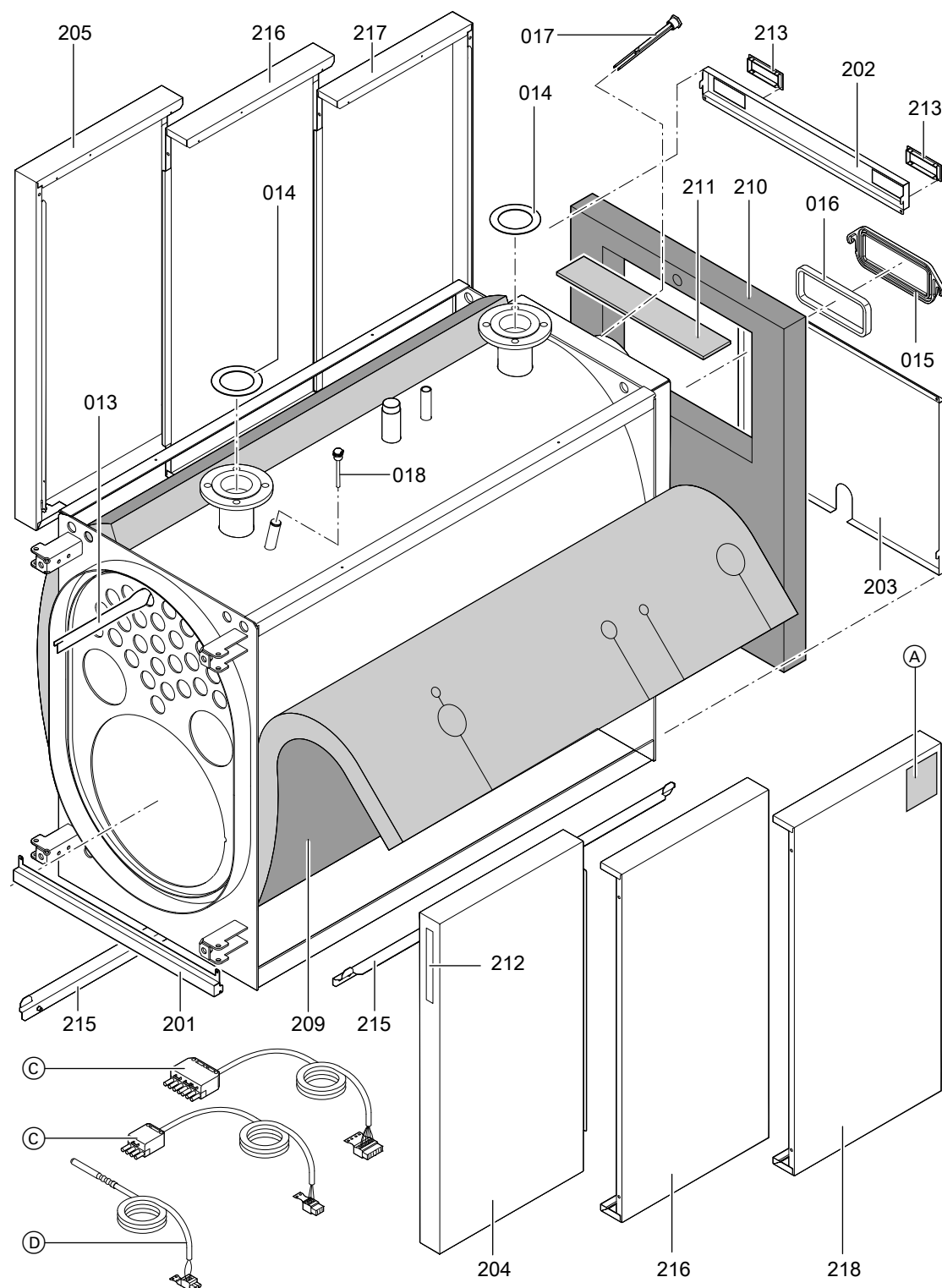


Fig. 8

- (A) Type plate, on either the r.h. or l.h. side
- (C) Burner cable, see service instructions for boiler control unit
- (D) Therm-Control temperature sensor

Parts list (cont.)**Note on position 103**

Rated heating output in kW	90	120	150	200	270	350	440	560
Number	14	14	19	19	24	26	32	38

Pos.	Part
013	Turbulator
014	Gasket
015	Cleaning cover
016	Cleaning cover gasket
017	Sensor well, boiler water temperature sensor
018	Therm-Control sensor well
200	Front panel, top
201	Front panel, bottom
202	Back panel, top
203	Back panel, bottom
204	Side panel, front right (with pos. 212)
205	Side panel, front left
206	Top panel, right
207	Top panel, left
208	Control unit fascia
209	Thermal insulation jacket
210	Thermal insulation mat, back
211	Thermal insulation mat, flue gas collector
212	Vitoplex 200 logo
213	Edge protector
215	Fixing rail, bottom
216	Side panel, centre (only from 440 kW)
217	Side panel, back right
218	Side panel, back left

Water quality requirements

Note

Observation of the following requirements is a necessary condition for safeguarding your warranty rights. The warranty excludes damage due to water and scaling.

Prevention of damage due to scaling

Prevent excessive scale build-up (calcium carbonate) on the heating surfaces. For heating systems with operating temperatures up to 100 °C, Guideline VDI 2035 Part 1 "Prevention of damage in water heating installations - Scale formation in domestic hot water supply installations and water heating installations" applies together with the following standard values. See the relevant explanations in the original text of the guideline.

Total heating output kW	Total alkaline earths mol/m ³	Total hardness °dH
> 50 to ≤ 200	≤ 2.0	≤ 11.2
> 200 to ≤ 600	≤ 1.5	≤ 8.4
> 600	< 0.02	< 0.11

The standard values assume the following:

- The total volume of fill and top-up water will not exceed 3 times the water capacity of the heating system during its service life.
- The specific system volume is less than 20 l/kW heating output. In multi boiler systems, apply the output of the smallest boiler.
- All measures to prevent corrosion on the water side in accordance with VDI 2035 Part 2 have been implemented.

Soften the fill and top-up water in heating systems operating under the following conditions:

- The total of alkaline earths in the fill and top-up water exceeds the standard value.
- Higher fill and top-up water volumes are expected.
- The specific system volume is greater than 20 l/kW heating output. In multi boiler systems, apply the output of the smallest boiler.
- In systems > 50 kW, install a water meter to record the volume of fill and top-up water. Enter the volume of fill water and the water hardness into the boiler maintenance checklists.
- For systems with a specific system volume in excess of 20 l/kW heating output (in multi boiler systems apply the output of the smallest boiler), apply the requirements of the next higher category of total output (in accordance with the table). In the case of severe excess (> 50 l/kW), soften the water down to a total of alkaline earths of ≤ 0.02 mol/m³.

Operating information:

- During expansion or repair work, only drain the necessary pipework sections.
- Check, clean and activate filters, dirt traps and other blow-down or separating facilities in the heating water circuit more frequently after commissioning or in the case of new installations; later on subject to the water treatment applied (e.g. water softening).
- **No further** steps are required during commissioning if you fill the heating system **with fully softened water**.

If the heating system is filled, **not with fully softened water**, but with water that meets the requirements in the above table, **also observe the following during commissioning**:

- Commission the system step by step, starting with the lowest boiler output and a high heating water flow rate. This prevents localised concentration of limescale deposits on the boiler heating surfaces.
- In multi boiler systems, start all boilers simultaneously to prevent the total amount of limescale deposits settling in the heat exchanger of just one boiler.
- Where water treatment is required, treat even the first fill of the heating system prior to commissioning. This also applies to any subsequent filling, e.g. when adding top-up water or after a repair, or for any system expansion.

The build-up of limescale deposits on the heating surfaces will be minimised if these instructions are followed.

If limescale deposits have formed because of a failure to observe the requirements of Guideline VDI 2035 the service life of the installed heating appliances will, in most cases, already have been reduced.

Water quality requirements (cont.)

Removing the limescale deposits is one option for restoring operational viability. This measure must be carried out by a qualified contractor. Inspect the heating system for possible damage prior to returning it into use.

It is essential that the incorrect operating parameters are corrected to prevent renewed formation of excessive scale deposits.

Prevention of damage due to corrosion on the water side

The corrosion resistance of ferrous materials on the heating water side of heating systems and heat generators depends on the absence of oxygen in the heating water. The oxygen introduced into the heating system with the first fill and subsequent top-ups reacts with the system materials without causing damage.

The characteristic blackening of the water after a certain time in operation indicates that there is no more free oxygen present. The technical rules and in particular Guideline VDI 2035-2 therefore recommend that heating systems are designed and operated so that a constant ingress of oxygen into the heating water is prevented.

During operation, oxygen can only enter due to:

- Open expansion vessels receiving a flow
- Negative pressure in the system
- Gas-permeable components

Sealed unvented systems – e.g. with an expansion vessel – offer good protection against the ingress of airborne oxygen into the system, if correctly sized and operating at the correct pressure.

Under all operating conditions and at all points in the heating system, including the intake side of the pump, the pressure must be higher than atmospheric pressure. Check the pre-charge pressure of the expansion vessel at least during the annual service. For pressure maintaining systems, see page 12.

The use of gas-permeable components, e.g. permeable plastic pipes in underfloor heating systems, should be avoided. Provide system separation if such components are nevertheless used. This must separate the water flowing through the plastic pipes from other heating circuits, e.g. from the boiler, by the provision of a corrosion-resistant heat exchanger.

No further anti-corrosion measures are required for sealed unvented hot water heating systems, subject to the above points being observed. However, take additional precautions where there is a risk of oxygen ingress, for example by adding oxygen binder sodium sulphite (surplus of 5 - 10 mg/l). The pH value of the heating water should be between 9 and 10.5.

Different conditions apply to systems that contain aluminium components.

Where chemicals are used as part of the corrosion protection, we recommend that the manufacturer of the chemicals issues a certificate of suitability of the additives with regard to the boiler materials and the materials of the other heating system components. We recommend you refer questions regarding water treatment to a qualified contractor.

For further details, see VDI 2035-2 and EN 14868 guidelines.

Using antifreeze in boilers

Viessmann boilers are designed and built for water as a heat transfer medium. To protect boiler systems from frost, it may be necessary to treat the boiler water or circulating water with antifreeze.

When doing so, observe the following:

- In general, follow the specifications given by the antifreeze manufacturer.
- The properties of antifreeze and water are very different.
- The temperature stability of the antifreeze must be sufficient for the particular application.
- Check the compatibility with sealing materials. If other sealing materials are used, take this into account when designing the system.
- Antifreeze developed especially for heating systems contains inhibitors and buffer substances for corrosion protection as well as glycol. When using antifreeze, always observe the manufacturer's instructions regarding minimum and maximum concentrations.
- The concentration must never fall below the prescribed minimum level, subject to the required frost protection temperature. Check and adjust the pH value and frost protection (measure the density) regularly, at least once a year, according to the manufacturer's instructions.
- Check with the relevant supplier whether antifreeze may affect system components that are not part of the boiler, such as pumps, electrically and pneumatically driven valves, other types of valves, gaskets, etc.
- If the system is filled with antifreeze, it must be marked accordingly.

Using antifreeze in boilers (cont.)

- If a boiler system is changed to operate without antifreeze, flush the system in order to remove all traces of the antifreeze.
- The quality of the boiler water and feedwater must meet the requirements of Directive VDI 2035.
- The systems must be designed as sealed unvented systems, as the antifreeze inhibitors decrease rapidly if airborne oxygen is allowed to enter.
- Diaphragm expansion vessels must comply with DIN 4807 [or local regulations].
- Solder connections should preferably be made with Ag or Cu hard solder. If liquids containing chlorides are used for soft soldering, any deposits must be removed from the circuit afterwards through thorough flushing. A higher chloride content in the heat transfer medium can cause corrosion damage.
- Only use oxygen diffusion-resistant hoses or metal hoses for flexible connections.
- Never equip the system on the primary side with zinc-plated heat exchangers, containers or pipes as zinc can be corroded by glycol/water mixtures.
- To avoid the risk of corrosion, ensure that there is no difference in electrical potential between system components that are in contact with antifreeze.
- Route all pipes in such a way that circulation cannot be interrupted by gas cushions or deposits.
- The water circuit must always be filled up to the highest point with the heat transfer medium.
- After filling, ensure there are no more air cushions in the system. When the temperature falls, gas cushions form negative pressure and this can draw air into the system.
- After initial filling and commissioning, but after 14 days at the latest, clean the integral dirt trap so the heat transfer medium can flow freely.
- Following any losses through leaks or drawing off, top up the antifreeze solution according to the concentration already in place. Establish the volume of antifreeze as a check.

[illegible]

	Commissioning	Maintenance/service	Maintenance/service
Date:			
By:			
	Commissioning	Maintenance/service	Maintenance/service
Date:			
By:			
	Commissioning	Maintenance/service	Maintenance/service
Date:			
By:			
	Commissioning	Maintenance/service	Maintenance/service
Date:			
By:			

Maintenance/service report (cont.)

	Commissioning	Maintenance/service	Maintenance/service
Date:			
By:			

Specification

Rated heating output	kW	90	120	150	200	270	350	440	560
Rated heat input	kW	98	130	163	217	293	380	478	609
Permiss. flow temperature (= safety temperature)	°C	110 (up to 120 °C on request)							
Permiss. operating temper- ature	°C	95							
Permiss. operating pres- sure	bar	4							
	kPa	400							
Pressure drop on the hot gas side	Pa	60	80	100	200	180	310	280	400
	mbar	0.6	0.8	1.0	2.0	1.8	3.1	2.8	4.0
Boiler body dimensions									
Length excl. boiler door	mm	1195	1400	1385	1580	1600	1800	1825	1970
Width	mm	575	575	650	650	730	730	865	865
Height (incl. connectors)	mm	1145	1145	1180	1180	1285	1285	1455	1455
Overall dimensions									
Length excl. burner	mm	1260	1460	1445	1640	1660	1860	1885	2030
Length incl. burner and hood, depending on burner make	mm	1660	1860	1865	2060	2085	–	–	–
Width	mm	755	755	825	825	905	905	1040	1040
Height incl. boiler control unit	mm	1315	1315	1350	1350	1460	1460	1625	1625
Maintenance height (control unit)	mm	1485	1485	1520	1520	1630	1630	1795	1795
Foundation									
Length	mm	1000	1200	1200	1400	1400	1650	1650	1800
Width	mm	760	760	830	830	900	900	1040	1040
Combustion chamber di- ameter	mm	380	380	400	400	480	480	570	570
Combustion chamber length	mm	800	1000	1000	1200	1200	1400	1400	1550
Weight									
Boiler body	kg	315	365	415	460	585	700	895	1100
Weight incl. thermal insula- tion and boiler control unit	kg	360	410	465	510	635	760	960	1170
Weight incl. thermal insula- tion, boiler control unit and burner	kg	390	440	495	540	665	–	–	–
Capacity boiler water	litres	180	210	255	300	400	445	600	635
Boiler connections									
Boiler flow and return	PN 6 DN	65	65	65	65	65	80	100	100
Safety connection (safety valve) (male thread)	R	1¼	1¼	1¼	1¼	1¼	1¼	1½	1½
Drain (male thread)	R	1¼							

Specification

Specification (cont.)

Rated heating output	kW	90	120	150	200	270	350	440	560						
Flue gas parameters ^{*3}															
Temperature (at 60 °C boiler water temperature)															
▪ At rated heating output	°C									180					
▪ At partial load	°C									125					
Temperature (at 80 °C boiler water temperature)	°C									195					
Flue gas mass flow rate															
▪ For natural gas	kg/h									1.5225 x combustion output in kW					
▪ For fuel oil EL	kg/h									1.5 x combustion output in kW					
Required draught	Pa/ mbar	0													
Flue gas connection	Ø mm	180	180	200	200	200	200	250	250						
Standard seasonal efficiency [to DIN] (for operation with fuel oil) For heating system temperature 75/60 °C	%	89 (H _s) [gross cv]													
Standby loss q _{B,70}	%	0.40	0.35	0.30	0.30	0.25	0.25	0.22	0.20						
Rated heating output															
Boiler with Vitotrans 300															
▪ Gas operation	kW									98.7	131.4	164.3	219.0	295.6	383.3
▪ Oil operation	kW	95.8	127.8	159.8	213.0	287.5	372.7	466.4	593.5						
Pressure drop on the hot gas side															
Boiler with Vitotrans 300															
	Pa									125	145	185	285	280	410
	mbar	1.25	1.45	1.85	2.85	2.80	4.10	3.85	5.05						
Total length	mm	1990		2290		2570		2950							
Boiler with Vitotrans 300 excl. burner															

^{*3} Values for calculating the size of the flue system to EN 13384, relative to 13.2 % CO₂ for fuel oil EL and 10 % CO₂ for natural gas.

Flue gas temperatures as actual gross values at 20 °C combustion air temperature.

The details for partial load refer to an output of 60 % of rated heating output. If the partial load differs (depending on operating mode), calculate the flue gas mass flow rate accordingly.

Final decommissioning and disposal

Viessmann products can be recycled. Components and substances from the system are not part of ordinary household waste.

For decommissioning the system, isolate the system from the power supply and allow components to cool down where appropriate.
All components must be disposed of correctly.

EU Declaration of Conformity

We, Viessmann Werke GmbH & Co. KG, D-35107 Allendorf, declare as sole responsible body that the named product complies with the European directives and supplementary national requirements in terms of its design and operational characteristics.

This product meets the requirements of the Efficiency Directive (92/42/EEC).

The product characteristics determined as system values for the product **Vitoplex 200, type SX2A** (see "Specification" table), can be utilised to assess the energy efficiency of heating and ventilation systems in buildings to DIN V 4701-10 which is specified by the EnEV [Germany].

Conformity has been verified with the CE designation. Using the serial number, the full Declaration of Conformity can be found on the following website:

www.viessmann.co.uk/eu-conformity


Manufacturer's certificate

We, Viessmann Werke GmbH & Co. KG, D-35107 Allendorf, confirm that the product **Vitoplex 200, type SX2A**, complies with the following conditions stipulated by the 1st German Immissions Order (BImSchV):

- NO_x limits according to paragraph 6 (1)
- Flue gas loss of no more than 9 % according to paragraph 10 (1)
- Standard seasonal efficiency [to DIN] of at least 94 % in accordance with paragraph 6 (2)

Allendorf, 1 December 2017

Viessmann Werke GmbH & Co. KG



Authorised signatory Reiner Jansen
Head of Strategic Quality Management

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