

Operating and service instructions

for contractors

VIESMANN

Vitomax 200-LW

Type M64A

Oil/gas low pressure hot water boilers

Rated output 8.0 to 20.0 MW



VITOMAX 200-LW



Safety instructions



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

Safety instructions explained



Danger

This symbol warns against the risk of injury.



Please note

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

Note

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

Target group

These instructions are exclusively designed for qualified contractors.

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

Regulations

Observe the following when working on this system

- All legal instructions regarding the prevention of accidents
- All legal instructions regarding environmental protection
- Health and Safety at Work Act (BetrSichV) [Germany]

- The Code of Practice of relevant trade associations
- Directive 97/23/EC, as well as the relevant safety regulations of the following countries
 - Ⓓ DVGW, TRGI, TRF and VDE, TRD
 - Ⓐ KG, ABV, LRG-K, LRV-K, DKBG
 - ⒸⒽ SEV, SUVA, SVGW, SVTI, SWKI, VKF and EKAS Directive 1942: LPG, part 2

If you notice oil leaks and the smell of gas



Danger

Escaping fuel can lead to explosions which may result in very serious injuries.

- Do not smoke. Prevent naked flames and sparks. Do not press any switches for lights or electrical appliances.
- Close the quick-acting fuel valve and shut-off valve.
- Open windows and doors.
- Remove all people from the danger zone.
- Notify your gas or electricity supply utility from outside the building.
- Shut off the electricity supply to the building from a safe place (outside the building).

Safety instructions (cont.)

If you smell flue gas



Danger

- Flue gas can lead to life-threatening poisoning.
- Shut down system.
 - Ventilate boiler room.

Working on the system

- Close the fuel shut-off valve and secure against unintentional opening.
- Isolate the system from the power supply and check that it is no longer 'live', e.g. by removing the separate fuse or by means of a main isolator.
- Safeguard the system against unauthorised reconnection.



Please note

- Electronic assemblies can be damaged by electrostatic discharges.
- Before beginning work, touch earthed objects, such as water pipes, to discharge static loads.



Danger

- Risk of burning from hot surfaces so that
- steam line,
 - hot water line,
 - cleaning cover and closures/plugs at the boiler system,
 - boiler doors, as well as components behind the doors,
- can all become very hot. Observe safety in the workplace!

Repair work



Please note

- Repairing components that fulfil a safety function can compromise the safe operation of your system.
- Replace faulty components only with original Viessmann spare parts.

Auxiliary components, spare and wearing parts



Please note

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

Draining hot water



Please note

- The blow-down and T.D.S. water from boiler systems can reach temperatures of up to and over 100 °C.
- Set up the system in such a way that this water is cooled to a temperature of < 35 °C before being channelled into the drainage system. If necessary, consult the local water board.

Safety instructions (cont.)

Draining condensate from the flue gas side



Please note

When starting up the boiler system, or under certain operating conditions, condensate may build up in the flue passes, the flue gas collector and the downstream flues, including the chimney. The system user must provide suitable installations to safely drain such condensate.

Subject to the regulations in the country concerned, this condensate may need to be neutralised. In such cases, consult the local water board or the relevant authorities in the country of installation.

Technical safety information

Any damage to the boiler that could lead to risks requires an immediate boiler shutdown.

If the boiler or any vessels suffer large-scale damage, notify the installation/service company immediately before carrying out any repairs.

Observe all technical safety instructions.

In the case of damage, nothing should be altered before an inspection takes place unless it is to prevent further damage or to rescue somebody.

The boiler house must only be entered by authorised personnel. Always keep the boiler house clean, well lit and free from all objects that do not belong there and that might impair the operation. The use of any part of the system as a drying area is prohibited.

During operation, all required exits must be left unlocked and free from obstructions. The operating personnel must log all events, such as faults, adjustments, consumption of spare parts and repairs. A log must be maintained of all regular readings of the control instruments. Obvious signs at weld seams, leaking damaged areas, severe corrosion, unusual characteristics of operating instruments and system components as well as unusual noise inside the boiler must be notified immediately. Faults and defects on the system that cannot be remedied by experts locally must be notified to the manufacturer. Protect all boiler parts and control equipment from rain, water leaks and expelled steam. Any damage or leaks that occur should be repaired without delay. Apart from the relevant legal requirements, all practical instructions issued by our technical personnel to the operating personnel are applicable.

Technical safety information (cont.)

It is impossible to clarify and describe all potential cases of indicators and possible faults. After the system has been operated for a certain time, the regulations specified should therefore be supplemented in the light of experience gained.

Index

Operating instructions

Operating information

Operating tips.....	7
Shutdown.....	7
Maintenance information.....	9

Service instructions

Commissioning, inspection, maintenance

Steps - commissioning, inspection and maintenance.....	10
Further details regarding the individual steps.....	11

Water quality requirements

Water quality requirements.....	22
Using antifreeze in boilers.....	24

Parts lists	26
--------------------------	----

Commissioning/service reports	28
--	----

Keyword index	29
----------------------------	----

Operating tips

The boiler and heating systems must only be filled and operated with water corresponding to the water quality requirements (see chapter “Water quality requirements”). The system must be commissioned by the system installer or a qualified relevant expert authorised by the installer.

Record all actual values in a test report. These must be confirmed by the installer, commissioning expert and the system user.

Within 4 weeks of the combustion equipment being commissioned, the operator must notify the local flue gas inspector accordingly [check local regulations].

We recommend operating the boiler constantly at a boiler water temperature of 70 °C and at the required operating pressure. Even if no heat demand occurs for a longer period of time, it is still better to operate the boiler continuously.

In systems comprising several boilers, of which one is constantly used as a standby boiler, only change the operation over after longer intervals, e.g. during the annual inspection of the total system.



Operating instructions on preserving the water and hot gas sides

Shutdown

To prevent corrosion setting in, during idle periods when the boiler is not pressurised, preserve the boiler surfaces on the flue gas and water sides, subject to the length of the period during which the boiler is taken out of use. There is a differentiation between wet preservation (during which exposure to oxygen is to be avoided) and dry preservation (during which moisture levels are to be minimised).

Brief operational interruption (1 to 2 days)

Water side

Recommendation: Maintain the boiler pressure and temperature. If this is not possible and the boiler needs to be depressurised for several days, we recommend the following:

To prevent oxygen corrosion, approx. one hour before shutting the boiler down, add 2 to 3 times more oxygen binder than usual to the feedwater until the boiler is shut down.

Flue gas side

Keep the heating surfaces dry. Remove severe contamination as it binds moisture.

Shutdown (cont.)

Longer interruptions of operation

Water side

Wet preservation if no risk of frost*1 exists

1. Fill the boiler up to the highest possible level with treated feedwater. To prevent oxygen corrosion, add an oxygen binder to the boiler water (e.g. sodium sulphite) in accordance with the manufacturer's instructions. Test the oxygen binder concentration at least monthly and top up if required. For this, ensure a good admixing with the boiler water (thermal or mechanical agitation).
2. In multi boiler systems if only some boilers must be preserved, these can be filled with desalinated boiler water from the boilers that remain in use. This will also maintain the temperature.
3. Maintaining pressure in a fully filled boiler using nitrogen (preferably nitrogen 5.0) of 0.1 to 0.2 bar can prevent corrosion.

Dry preservation if there is a risk of frost*1 or prolonged idle period

Drain the boiler at 90 °C and then open the water connections.

Dry the boiler thoroughly and fill with desiccant (e.g. silica gel) in accordance with the manufacturer's details.

Ensure that the desiccant does not come into contact with the boiler material. Then close the boiler again. Check in regular intervals whether the desiccant is still able to absorb moisture.

Flue gas side

Thoroughly clean and dry the surfaces on the flue gas side.

Maintain the alkaline balance of the wash water (pH 8-9, in the case of ammonia pH 10).

After thoroughly drying the surfaces, preserve them with a thin film of graphite or varnish.

Keep the surfaces dry during the idle periods (by adding a desiccant such as silica gel or by air circulation via a connected dryer).

Further details

For further details, see the operating instructions for preservation on the water and hot gas side or the VdTÜV data-sheets (no. 1465, Oct. 1978) and the VGB (no. R116H, 1981) [or local regulations].

*1 See chapter "Using antifreeze in boilers"

Maintenance information

We recommend having the boiler system serviced regularly to ensure fault-free, efficient and environmentally responsible operation.

The boiler should be cleaned regularly to prevent the flue gas temperature rising with increasing contamination, which leads to higher energy consumption.

We recommend the installation of a flue gas thermometer. Monitoring the flue gas temperature highlights incorrect burner adjustment and the level of boiler contamination.

Excessive flue gas temperatures through contamination or altered burner adjustment reduce efficiency. Where necessary, clean the boiler or adjust the burner settings.

Steps - commissioning, inspection and maintenance

For further information regarding the individual steps, see the page indicated

				Page
			Commissioning steps	
			Inspection steps	
			Maintenance steps	
•	•	•	1. Commissioning the system.....	11
•	•	•	2. Shutting down the system.....	12
•	•	•	3. Removing the burner (if required).....	13
•	•	•	4. Opening the boiler doors.....	13
•	•	•	5. Opening the cleaning door and cleaning cover.....	14
•	•	•	6. Cleaning the heating surfaces and flue gas collector.	14
•	•	•	7. Checking all seals/gaskets and packing cords on the flue gas side	
•	•	•	8. Cleaning the sight glass.....	14
•	•	•	9. Checking thermal insulation parts and gaskets.....	15
•	•	•	10. Closing boiler doors.....	16
•	•	•	11. Fitting the cleaning door and cleaning cover.....	16
•	•	•	12. Installing the burner.....	17
•	•	•	13. Checking all water connections for leaks	
•	•	•	14. Checking the inspection ports for leaks.....	17
•	•	•	15. Checking the water chamber for deposits.....	19
•	•	•	16. Checking the water level and system pressure	
•	•	•	17. Checking the safety and control equipment	
•	•	•	18. Checking the safety valve.....	19
•	•	•	19. Checking all water connections for leaks after the boiler has been filled.....	19
•	•	•	20. Checking the water quality.....	20
•	•	•	21. Checking the thermal insulation	
•	•	•	22. Checking the installation room ventilation	
•	•	•	23. Checking the flue pipe for tightness	
•	•	•	24. Adjusting the burner.....	21

Further details regarding the individual steps

Commissioning the system



Details provided by the burner manufacturer and regarding accessories

1. Open the boiler doors and check that the turbulators (if fitted) are fully pushed into the hot gas flues.
2. Check that the installation room ventilation is unobstructed.
3. Filling the heating system with water and venting it.



Please note

Unsuitable water quality can damage the boiler body. Fill and operate the heating system with water that complies with the "Water quality guidelines" from page 22 onwards.

Note

Record the fill volume and total hardness on page 20.

4. Check the system pressure.
5. Check all fitted components, such as pipework, valves, controllers, pumps etc. for function and leaks.
6. Check the fuel supply for leaks and pressure.
7. Open the flue gas damper (if installed).
8. Check that the cleaning aperture on the flue outlet is closed.
9. Check that the dewatering line (if installed) is correctly connected to the condensate connection. The condensate connection must be sealed when not in use.
10. Open the shut-off valves in the oil lines (at the oil tank and filter) or open the gas shut-off valve.
11. Switch ON the main isolator, the ON/OFF switch for the boiler drives and burner in this order.



Burner manufacturer's operating instructions

12. Start the boiler at a low output (max. 30 %) and heat up to a temperature of approx. 30 K below the operating temperature. The condensate drains must be open and any condensate must be correctly collected or drained.
13. After the required flow temperature has been achieved, open the boiler return valve, the feedwater valve if required and then, very slowly, the boiler flow valve.
14. Only then, enable the full burner load.
15. While the system heats up, check the correct function of all control and safety equipment.
16. Observe the pressure and temperature test equipment.



Further details regarding the individual steps (cont.)

17. Check the fittings for leaks and tighten if required.

Closure	Dimensions	Torque
Hand-hole	100 mm x150 mm, M16	100 Nm

18. After approx. 50 hours, check the boiler doors and cleaning cover for leaks and retighten all screws (torque approx. 20 Nm).

Shutting down the system



Danger

Heating water escaping under pressure will injure bystanders. Only open connections and inspection ports on the heating water and flue gas side if the boiler has been depressurised and cooled.



Please note

Draining the boiler with a suction pump will create negative pressure inside the boiler. Only drain the boiler with a suction pump if the air vent valve is open.



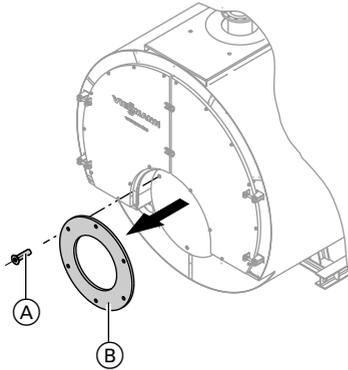
Please note

Hot water can cause damage. Never drain hot water into the drainage system. Ensure adequate cooling.

1. Shut down the burner.
2. Close the shut-off valves in the oil lines (at the oil tank and filter) or the gas shut-off valve.
3. Isolate the system from the power supply.
4. Close all valves.

Further details regarding the individual steps (cont.)

Removing the burner (if required)



1. Remove the fuel supply line.
For pressure-jet gas burner:
Remove the gas supply pipe.



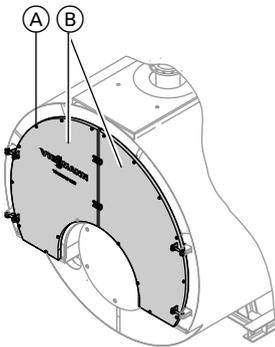
Danger

Escaping gas leads to a risk of explosion.

Test the tightness of all gas connections.

2. Undo screws (A) and remove burner with burner plate (B).

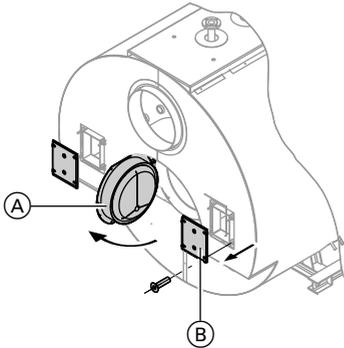
Opening the boiler doors



Undo screws (A) on boiler doors (B) and swing the doors open.

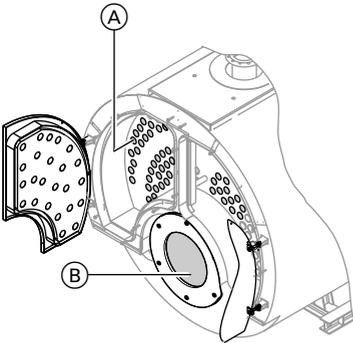
Further details regarding the individual steps (cont.)

Opening the cleaning door and cleaning cover



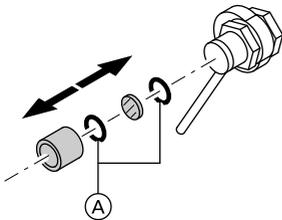
Undo nuts and remove cleaning cover (B). Open the cleaning door (A).

Cleaning the heating surfaces and flue gas collector



1. Clean flues (A), combustion chamber (B) and reversing chamber with suitable cleaning equipment and remove combustion residues.
2. Remove combustion residues from the flue gas collector (back).

Cleaning the sight glass

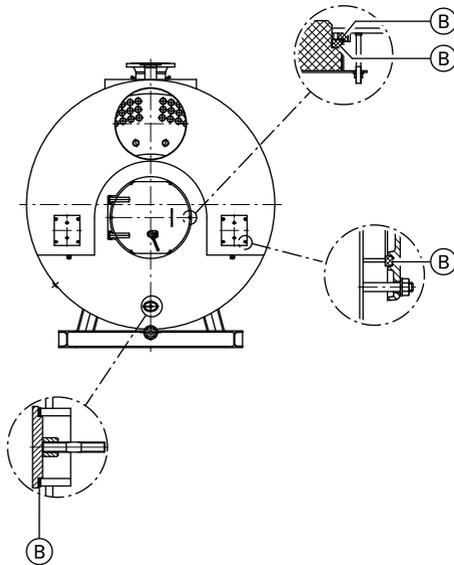
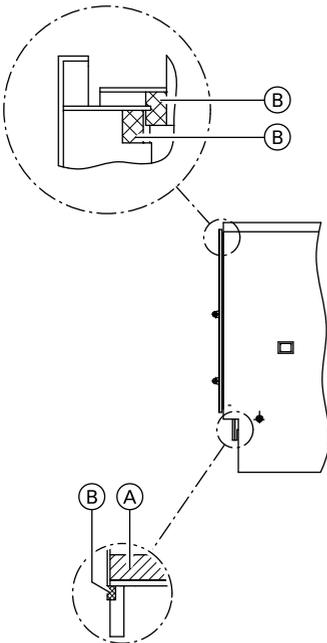
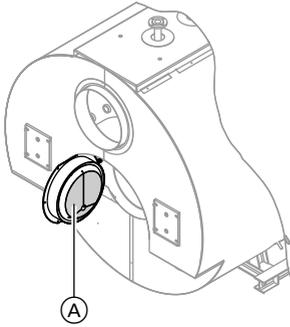


Check the sight glass with gaskets (A) for leaks and clean.

Further details regarding the individual steps (cont.)

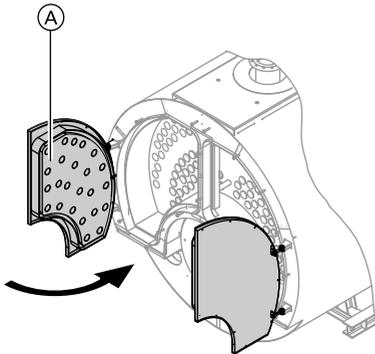
Checking thermal insulation parts and gaskets

Check thermal insulation parts (A) and gaskets (B).
Replace faulty parts.



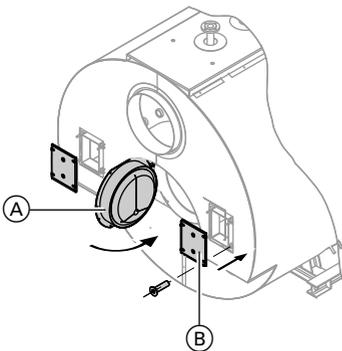
Further details regarding the individual steps (cont.)

Closing boiler doors



1. Close boiler doors (A).
2. Tighten boiler door screws evenly (torque approx. 20 Nm).

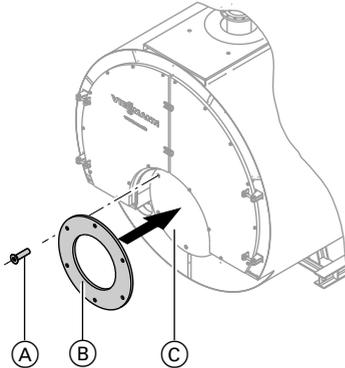
Fitting the cleaning door and cleaning cover



1. Secure both cleaning covers (B) so they seal.
2. Close cleaning door (A) and secure it so it seals.

Further details regarding the individual steps (cont.)

Installing the burner



1. Fit burner plate (B) with screws (A) to burner flange (C).
2. Seal annular gap (if present) between burner head and insulation rings with heat-resistant insulation material (see parts list).
3. For pressure-jet gas burner:
Fit the gas supply pipe.



Danger

Escaping gas leads to a risk of explosion.
Test the tightness of all gas connections.

Checking the inspection ports for leaks



Danger

Boiler components that are not thermally insulated can be subject to high temperatures that can cause burns.
Take care with hot surfaces.



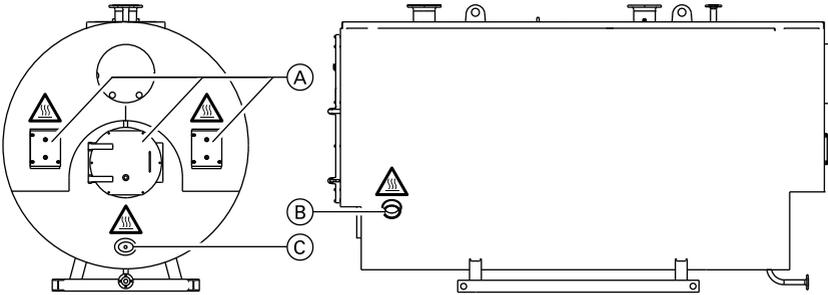
Installation instructions of the gasket manufacturer.

Note

Replace the gaskets every time the connections and inspection ports are opened.

Only use gaskets approved in accordance with TRD 401, appendix 1, VdTÜV [or local regulations].

Further details regarding the individual steps (cont.)



 Caution - hot surface

- (A) Cleaning apertures
- (B) Inspection port

(C) Handhole

Further details regarding the individual steps (cont.)

Checking the water chamber for deposits

1. Fully drain the boiler.



Danger

Heating water escaping under pressure will injure bystanders.

Only open connections and inspection ports on the heating water and flue gas side if the boiler has been depressurised and cooled.



Please note

Draining the boiler with a suction pump will create negative pressure inside the boiler. Only drain the boiler with a suction pump if the air vent valve is open.



Please note

Hot water can cause damage. Never drain hot water into the drainage system. Ensure adequate cooling.

2. Clean the water chamber (hose it out) and remove deposits via the drain. In case of harder deposits that cannot be removed by hosing down, carry out chemical cleaning using an approved descaling agent.
3. Clean sealing surfaces of the hand-hole cover and thread of the inspection port and replace the gaskets. Seal the thread using hemp. Retighten new gaskets after commissioning and check again after 24 hours run.

Checking the safety valve



Manufacturer's details

Checking all water connections for leaks after the boiler has been filled

Replace the gaskets every time a connection has been opened.

1. Clean the sealing face.

2. Replace the gasket.

3. Retighten all closures after commissioning.

Further details regarding the individual steps (cont.)

Adjusting the burner



Burner manufacturer's details

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

Permissible flow temperature 110 °C

Boiler size ^{*2}	Rated output		Resistance on flue gas side			
	HEL MW	Gas MW	HEL ^{*3}		Gas	
			Pa	mbar	Pa	mbar
1	7.75	8.00	1020	10.2	1130	11.3
2	8.55	10.00	900	9.0	1180	11.8
3	10.12	12.00	990	9.9	1570	15.7
4	11.78	14.20	850	8.5	1420	14.2
5	13.43	16.50	880	8.8	1540	15.4
6	15.09	20.00	920	9.2	1880	18.8

Permissible flow temperature 120 °C

Boiler size ^{*2}	Rated output		Resistance on flue gas side			
	HEL MW	Gas MW	HEL ^{*3}		Gas	
			Pa	mbar	Pa	mbar
1	7.75	8.00	1020	10.2	1130	11.3
2	8.55	10.00	900	9.0	1180	11.8
3	10.12	12.00	990	9.9	1570	15.7
4	11.78	14.20	850	8.5	1420	14.2
5	12.88	16.50	800	8.0	1540	15.4
6	12.88	16.74	650	6.5	1300	13.0

To protect the system against dew point corrosion, the full load must be set to the rated boiler output and must not be switched off during the summer months (full load at constant standby).

The minimum boiler water temperature is 70 °C. Adjust the return temperature raising facility to a minimum temperature of 50 °C (operation with oil) or to 55 °C (operation with gas).

^{*2} The last digit of the part number indicates the boiler size.

^{*3} With a maximum permissible combustion output

Water quality requirements

Heating systems with rated operating temperatures up to 100 °C (VDI 2035)

Water used in heating systems must meet the chemical values in the Drinking Water Ordinance [Germany]. If well water or similar is used, check its suitability before filling the system.

Prevent excessive scale build-up (calcium carbonate) on the heating surfaces. For heating systems with operating temperatures up to 100 °C, VDI Directive 2035 sheet 1 "Prevention of damage in hot water heating systems - scaling in DHW and hot water heating systems" applies [in Germany] with the following standard values. Please see the explanations in VDI Directive 2035 for further information.

Total output in kW	> 600
Total of alkaline earths mol/m ³	< 0.02
Total hardness in °dH	< 0.11

The standard values assume the following:

- The volume of fill and top-up water of the heating system during its service life will not exceed three times the water content of the heating system.
- The specific system volume is less than 20 l/kW 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 Sheet 2 have been implemented.

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

- The total of alkaline earths in the fill & top-up water exceeds the standard value.
- Higher fill & top-up water volumes are expected.

Observe the following during planning:

- Install shut-off valves in different sections. This prevents the need for draining the entire heating water in case of repairs or system expansion.
- Install a water meter to record the amount of the fill & top-up water. Enter the volume of water and the water hardness into the boiler service instructions.

Operating information:

- Commission the system step by step, starting with the lowest boiler output and at a high heating water flow rate. This prevents a localised concentration of limescale deposits on the boiler heating surfaces.
- During expansion or repair work, only drain the necessary sections.

Water quality requirements (cont.)

- Where water treatment is required, treat even the first fill of the heating systems prior to commissioning. This also applies to any subsequent filling, e.g. when adding top-up water, after a repair or after system expansion.
- Filters, dirt traps and other blow-down or separating facilities in the heating water circuit must be checked, cleaned and activated more frequently after commissioning or recommissioning, and later on as required, subject to the water treatment applied (e.g. water softening).

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

Any limescale deposits that have formed because the requirements to VDI Directive 2035 have not been observed will in most cases already have caused a reduction in the service life of the installed heating equipment. Removing the limescale deposits is one option for restoring operational viability. This measure must be carried out by the Viessmann Industrieservice or a specialist company. Inspect the heating system for possible damage prior to returning it into use. It is essential that the faulty operating parameters are corrected to prevent renewed formation of excessive scale deposits.

Prevention of damage through corrosion on the water side

The corrosion resistance of ferrous materials on the heating water side of heating systems and boilers depends on the absence of oxygen in the heating water.

The oxygen introduced into the heating system with the first fill and the top-up water reacts with the system materials without causing damage.

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

Opportunities for oxygen ingress during operation:

- Through open expansion vessels overflowing
- Through negative pressure in the system
- Through gas-permeable components

Sealed systems – e.g. systems with a diaphragm expansion vessel – offer good protection against the ingress of airborne oxygen into the system if they are correctly sized and operate at the correct pressure.

At every part of the heating system, even at the suction side of the pump and under all operating conditions, the system pressure should be above ambient atmospheric pressure.

Water quality requirements (cont.)

The pre-charge pressure of the diaphragm expansion vessel should be checked at least during the annual service.

The use of permeable components, e.g. plastic pipes that are permeable to gas 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 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 (5 - 10 mg/litre into the excess). The heating water should have a pH value between 9.0 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 of water treatment to Viessmann industrial services or an appropriate specialist. Further details can be found in VDI Directive 2035-2 and EN 14868.

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 or circuit water with antifreeze.

When doing so, observe the following:

- As a general principle, 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.

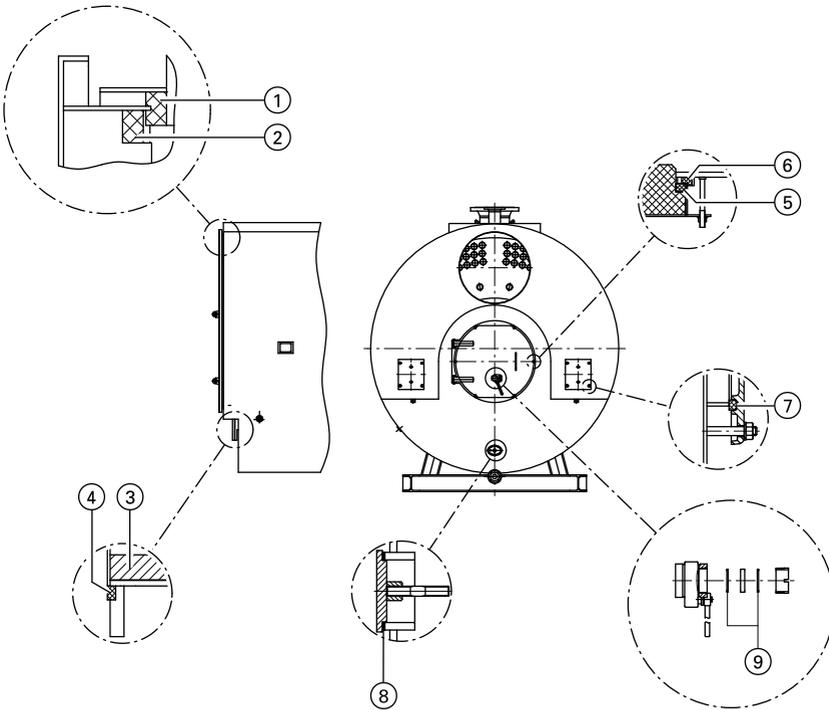
Using antifreeze in boilers (cont.)

- 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.
- 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 and feedwater must meet the requirements of VDI Directive 2035.
- The systems must be designed as sealed unvented systems, as the antifreeze inhibitors decrease rapidly if air-borne oxygen is allowed to enter.
- Diaphragm pressure compensation vessels must comply with DIN 4807.
- 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, cylinders 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.

Parts lists

When ordering spare parts:
Please enter the serial number and type,
as well as the number of articles
required.

Obtain standard parts from your local
supplier. A corresponding amount of
installation adhesive is provided.



Parts lists (cont.)

Pos.	Component	Boiler size ^{*2}					
		1	2	3	4	5	6
		Quantity	Quantity	Quantity	Quantity	Quantity	Quantity
1	Packing per boiler door						
2	Packing per boiler door						
3	Insulation ring						
4	Burner connection packing						
5	Cleaning cover packing						
6	Rear boiler floor packing						
7	Packing per cleaning aperture						
8	Handhole gasket 100 x 150 mm						
9	Seal ring set						

Please order individual parts from:

Viessmann Industrieservice

Tel.: 0049-30/6602 389

Fax.: 0049-30/6602 136

Email: industrieservice@viessmann.com

Internet: www.viessmann-industriekessel.de

Commissioning/service reports

	Commissioning	Service	Service
date:			
by:			

	Service	Service	Service
date:			
by:			

	Service	Service	Service
date:			
by:			

	Service	Service	Service
date:			
by:			

	Service	Service	Service
date:			
by:			

Keyword index

- A**
 Adjusting the burner.....21
 Anti-corrosion measures.....24
- B**
 Burner, removal.....13
- C**
 Checking gaskets.....15
 Checking the inspection ports.....17
 Checking thermal insulation parts.....15
 Checking the safety valve.....19
 Checking the water chamber.....19
 Checking water connections.....19
 Chemicals for corrosion protection...24
 Cleaning the flue gas collector.....14
 Cleaning the heating surfaces.....14
 Cleaning the sight glass.....14
 Commissioning.....7
 Commissioning the system.....11
 Corrosion on the water side (prevention).....23
- D**
 Diaphragm expansion vessel.....23
- E**
 Expansion vessel.....23
- F**
 Fill and top-up water.....20
 Filling the heating system with water. 11
 Fitting the cleaning door.....16
- I**
 Installing the burner.....17
- M**
 Maintenance information.....9
- O**
 Opening the boiler doors.....13
 Opening the cleaning door.....14
- S**
 Shutdown.....7
 Shutting down the system.....12
- T**
 Total alkaline earths.....11
 Total boiler water hardness.....11
 Total hardness of the boiler water.....20
- V**
 Venting the heating system.....11
- W**
 Water quality.....20, 22
 Water side corrosion (prevention).....23
 Water treatment.....24





Viessmann Werke GmbH&Co KG
D-35107 Allendorf
Telephone: +49 6452 70-0
Fax: +49 6452 70-2780
www.viessmann.com

Viessmann Limited
Hortonwood 30, Telford
Shropshire, TF1 7YP, GB
Telephone: +44 1952 675000
Fax: +44 1952 675040
E-mail: info-uk@viessmann.com

5727 529 GB Subject to technical modifications.



Printed on environmentally friendly,
chlorine-free bleached paper