Installation and Operating Manual

H_2O – fireplace inserts

Mini Z1 H_2O
Mini Z1/Z1h H_2O XL
Varia 1V/1Vh H_2O
Varia 1V/1Vh H_2O XL
Varia 1V/1Vh H_2O XXL
Varia 2Lh/2Rh H_2O
Varia Ah H_2O
Varia A-FDh H_2O

Note:
Failure to comply with the instructions contained in the installation and operating manual will invalidate the warranty.

Where details contained in the supplementary assembly manual differ from the details in the installation manual, such details should only be taken into consideration if they impose more stringent requirements.

- We reserve the right to make technical modifications and accept no liability for any errors - Issued 06.2013

SPARTHERM
Feuerungstechnik GmbH
Maschweg 38

D - 49324 Melle

SPARTHERM®
Feuerungstechnik

Foreword / Our philosophy with regard to quality

You have decided to purchase a Spartherm product – we would like to thank you for placing your confidence in us.

In a world characterised by excess and mass production, the good name of our firm is inextricably linked to the credo of our owner, Gerhard Manfred Rokossa:
“High technical quality combined with modern design and on-site customer service carried out to the latter’s full satisfaction, in the expectation that the customer will then recommend us to others.”

To you and our partners in specialist dealerships, we offer first-class products that stir the emotions, appealing to that sense of security and comfort that we all feel. However, to ensure that we succeed in this, we recommend that you read the operating manual carefully to quickly familiarise yourself with your fireplace insert in all its details. In addition to information on how to use it, this manual also contains important maintenance and operating instructions for your safety and to ensure your fireplace insert retains its value.

It also contains valuable tips and advice to help you. In addition, we show you how to use your product in a way that will protect the environment..

If you have any further questions please contact your dealer.

A beautiful fire at all times.
Your Spartherm team
G.M. Rokossa

Contents Page

1. General information

Before assembling and installing the H_2O fireplace insert you should meet with the master chimney sweep responsible for such matters in your area. He will advise you on the building regulations and suitability of your chimney and will carry out the acceptance test on your fireplace insert. The chimney calculation is based on DIN EN 13384 using the value specifications table contained in this manual (see Specification 1.2)

Young children, the elderly and the frail, and pets: as with all heating devices, a guard should be fitted to protect the above because both the glass door and the fireplace covering can become very hot.

→ **Risk of burns**! ←

Never leave a fireplace unsupervised when the fire is burning or when it has just gone out. Do not leave the fireplace unattended for prolonged periods of time.

> **CAUTION: The protective glove supplied is designed only for protection from heat when operating the control handle and the cold hand. The glove is not fireproof.**

When assembling and operating your fireplace insert and when connecting it to the chimney you must ensure that you comply with national and European standards, the relevant country-specific and local guidelines and regulations, and in particular, in Germany, the relevant Heating Regulation (FeuVO) of the state where you live.

To make better utilisation of the high flue gas temperatures, a water heat exchanger is integrated in the linings and in the flue gas collector. A hot water storage tank or buffer storage tank, etc., can be heated with the hot water generated. If these or similar system components are not available then other structural measures must be taken to ensure safe, constant heat dissipation.

Generally speaking, the fireplace must be used with a door that closes automatically. No modifications to the closing device are permitted. No additional heat exchangers, supplementary heating surfaces, etc, which extract heat from the flue gas, may be incorporated into the connecting pipe to the chimney.

The H_2O fireplace insert is intended as an auxiliary heat generator for water heating systems in accordance with DIN EN 12828, since the nominal heat output is only maintained as long as the fireplace insert is stoked to its nominal heat output.

The fireplace may only be used with suitable combustion control systems adjusted as appropriate. Please consult Spartherm Feuerungstechnik GmbH as necessary.

Never use the H_2O fireplace insert without water.

1.1. Scope of supply

H_2O fireplace insert with the following characteristics:

- Fireplace insert with integrated water heat exchanger, vertical sliding door or hinged door.
- Safety heat exchanger and bleed valve(s)
- ¾" overheat discharge valve with ½" immersion sleeve and 4 m length of capillary tubing, e.g., SYR 3065 (Mini Z1 H_2O /XL, Varia 1V H_2O and Varia 1V H_2O XL/XLL)
- ¾" overheat discharge valve with ½" immersion sleeve and 4 m length of capillary tubing, e.g., Watts TST 2005 (Varia 2/L/2R H_2O)
- ¾" overheat discharge valve with ½" immersion sleeve and 2 m length of capillary tubing, e.g., Watts (Varia Ah H_2O and Varia A-FDh H_2O)
- Immersion sleeve for the thermostat switch
- 50 mm x 30 mm cleaning brush
- Flue gas connection (swivel)
- Thermostat switch for circulating pump, including capillary tubing (length = 1.5 m): JUMO, heatTHERM 602030 type
- Housing thermostat for circulating pump with capillary tubing (length = 2.0 m): Afriso GTK7/HK with 3.0 m of temperature-resistant connecting cable (Varia 2Lh / 2Rh H_2O, Varia Ah H_2O and Varia A-FDh H_2O)

The following components are available as an option:

- Load unit (ESBE, LTC 141 type)
- Accessories for the heating installations, e.g., safety valves, expansion vessels, pressure gauges, etc.
- S-Thermatik, combustion control system with temperature display, e.g., for the buffer storage tank temperature
- S-Thermatik, combustion controller allowing variable settings and up to five temperature indications.

1.2. Specification

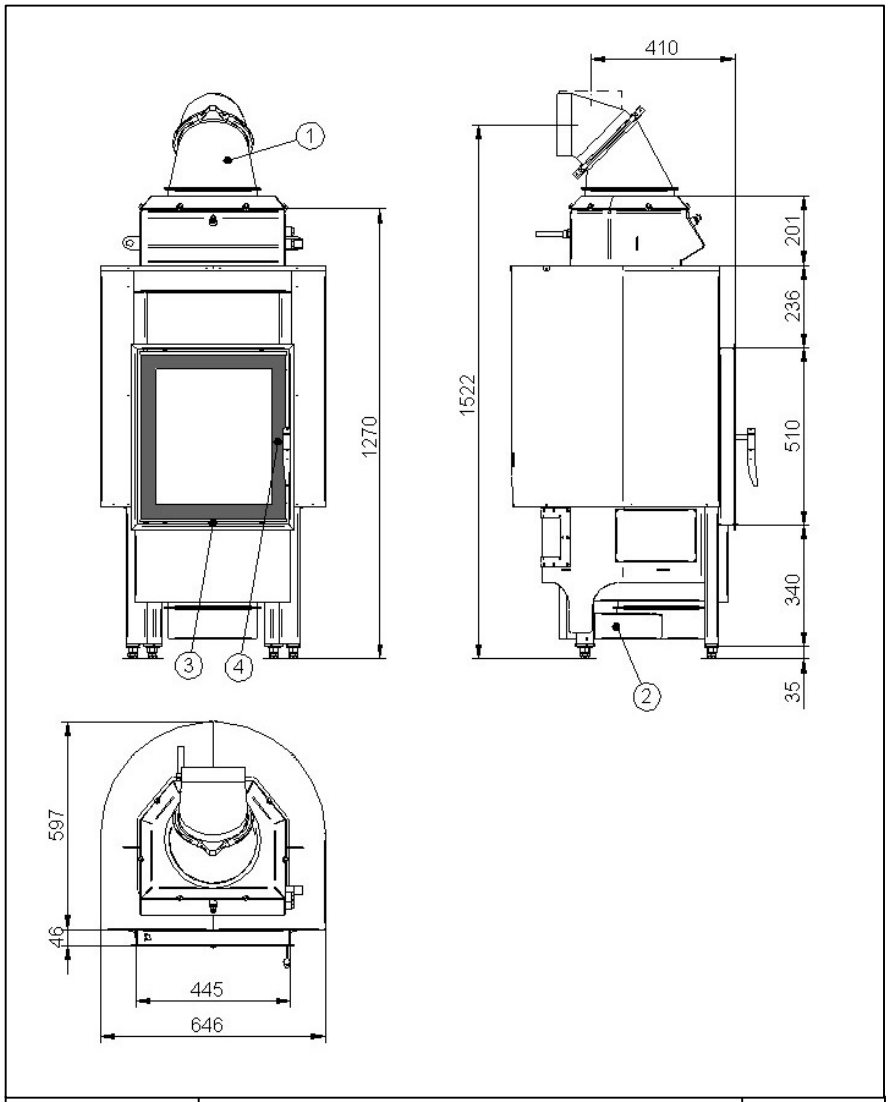
	Mini Z1 H_2O	Mini Z1 H_2O XL	Varia 1V H_2O	Varia 1V H_2O XL	Varia 1V H_2O XXL	Varia 2L/2R H_2O	Varia Ah H_2O	Varia A-FDh H_2O	Unit
permissible working overpressure	3,0								bar
Max. permissible feed temperature[1]	105								°C
Max. operating temperature	95								°C
Minimum feed temperature.	62								°C
Minimum return temperature	50						>80	>60	°C
Water flow resistance at 20 K temperature difference between feed and return at 10 K temperature difference between feed and return at 5 K temperature difference between feed and return	approx. 7 18 29	approx. 7 18 29	approx. 3 8 30	approx. 9 20 30	approx. 9 20 30	approx. 12 21 34	approx. 15 32 47	approx. 15 32 47	mbar
Minimum heating water flow rate	500	800	900	950	950	900	800	800	l/h
Minimum flow rate for overheat disharge valve	900								l/h
Water capacity	25	25	16	46	46	41	32	32	L

	Mini Z1 H_2O	Mini Z1/Z1h H_2O XL	Varia 1V/1Vh H_2O	Varia 1V/1Vh H_2O XL	Varia 1V/1Vh H_2O XXL	Varia 2Lh/ 2Rh H_2O	Varia Ah H_2O	Varia A-FDh H_2O	Unit
Weight (empty, without accessories)	235	235	245	330	350	380	395	396	kg
Nominal output range	4,9 – 9,1	7 – 13	7,7 – 14,3	10 – 18,7	14,8 – 27,5	10,3 – 19	7,3 – 13,5	7,3 – 13,5	kW
Nominal heat output	7,0	10,0	11,0	14,4	21,2	14,7	10,4	10,4	kW
Quantity of wood added per hour	2	2,9	3,7	4,2	5,8	5,7	2,8	2,8	kg/h
Water heating	5,5	8,0	5,5	10,0	15,5	8,4	7,7	7,3	kW
Proportion of water *	78	80	50	69	73	58	74	70	%
Average flue gas temperature *	235	245	280	207	173	264	210	210	°C
Minimum required manometric pressure **	12								Pa
Flue gas mass flow	6	7,5	9,6	15,0	19,0	12,2	8	12,2	g/s
Feed connection	¾	¾	¾	1 ½	1 ½	1	¾	¾	“IG
Return connection	¾	¾	¾	1 ½	1 ½	1	¾	¾	“IG
Safety heat exchanger – supply pipe	½“ IG	½“ AG	½“ AG	½“ AG	½“ AG	½“ AG	½“	½“	–
Safety heat exchanger - discharge	½“ IG	½“ AG	½“ AG	½“ AG	½“ AG	½“ AG	½“ AG	½“ AG	–

[1] The overheat discharge valve incorporated in the heating system will open the cold water feed at a flow temperature of approx. 95°C.

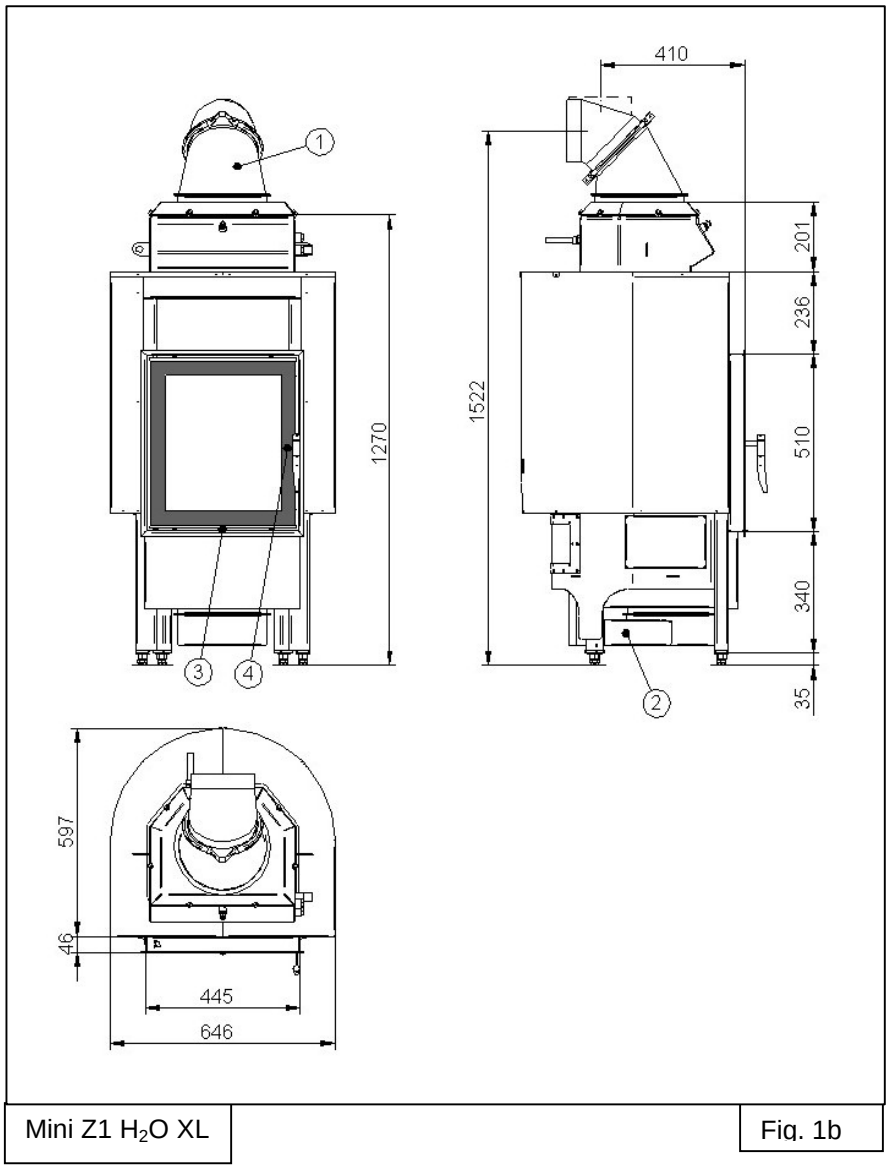
* The values shown represent the mean over a combustion period. These values apply under test conditions at nominal heat output, burning approx. 2.9 kg dry beech wood **per hour**.

** Higher draughts should be reduced to less than 30 Pa by appropriate measures, such as a secondary air device or air regulator.



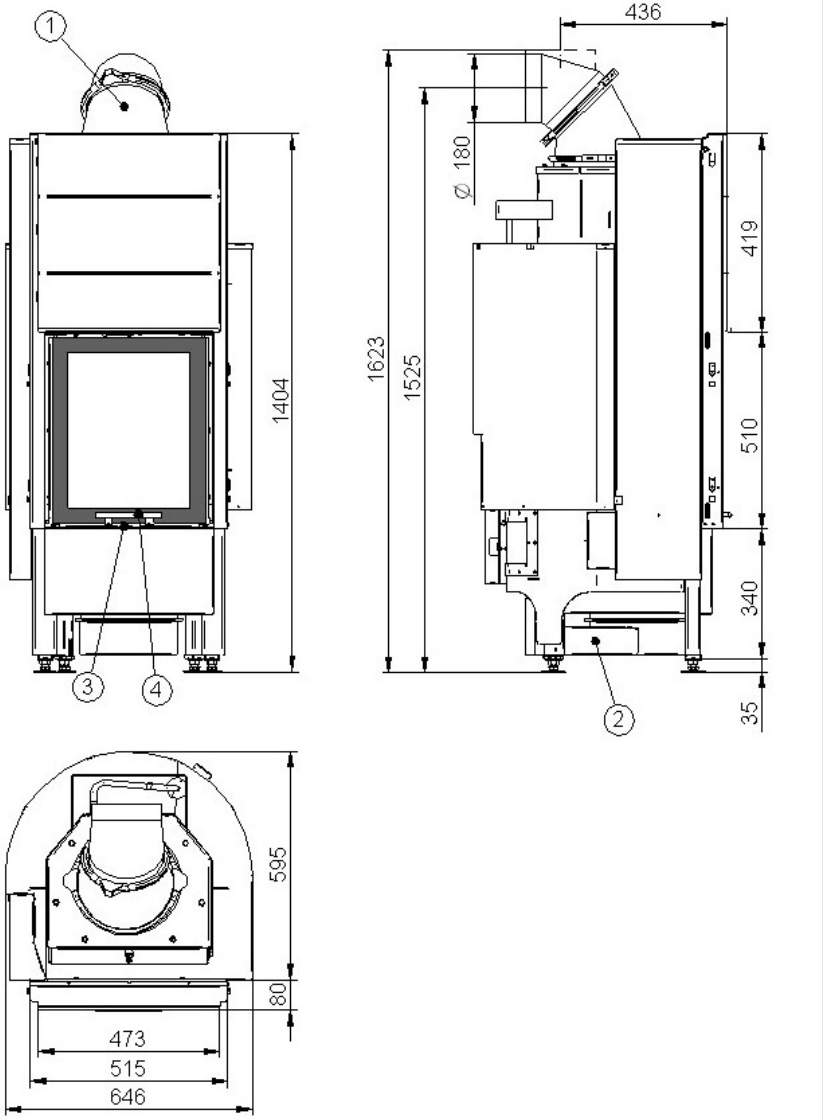
Mini Z1 H_2O

Fig. 1a



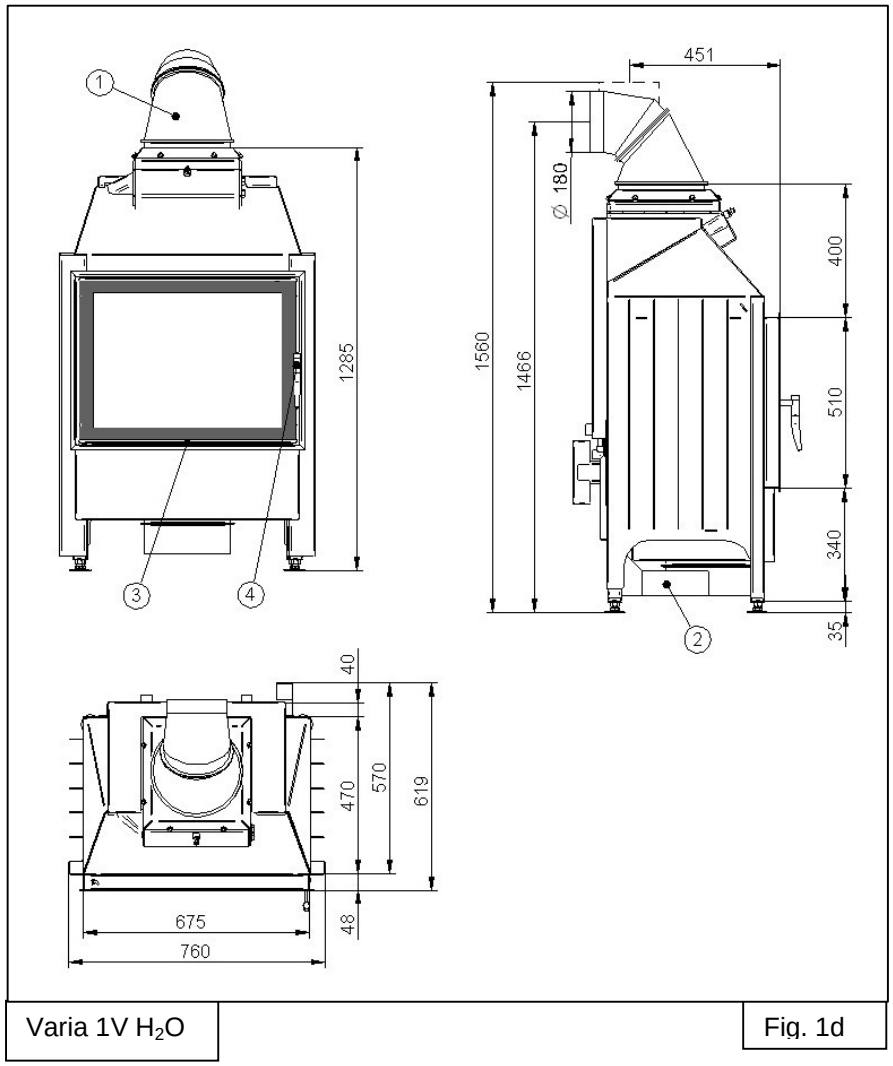
Mini Z1 H_2O XL

Fig. 1b



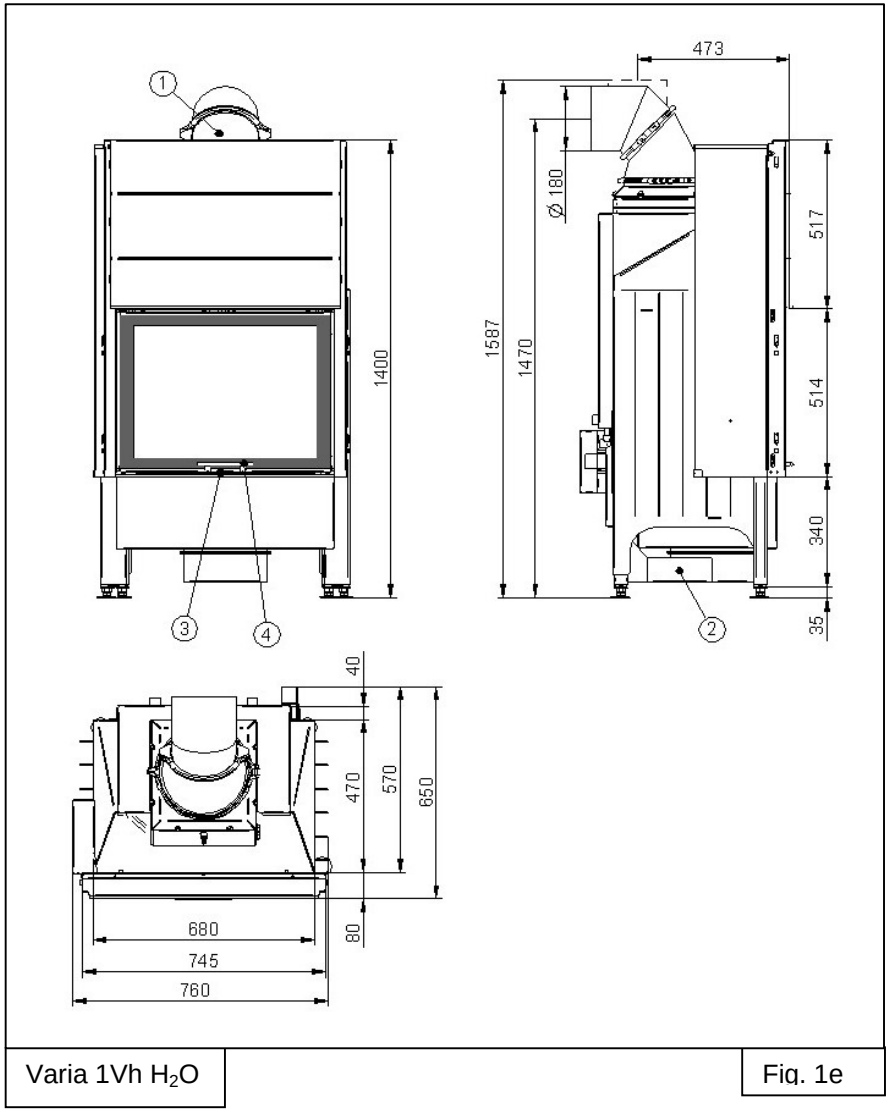
Mini Z1h H_2O XL

Fig. 1c



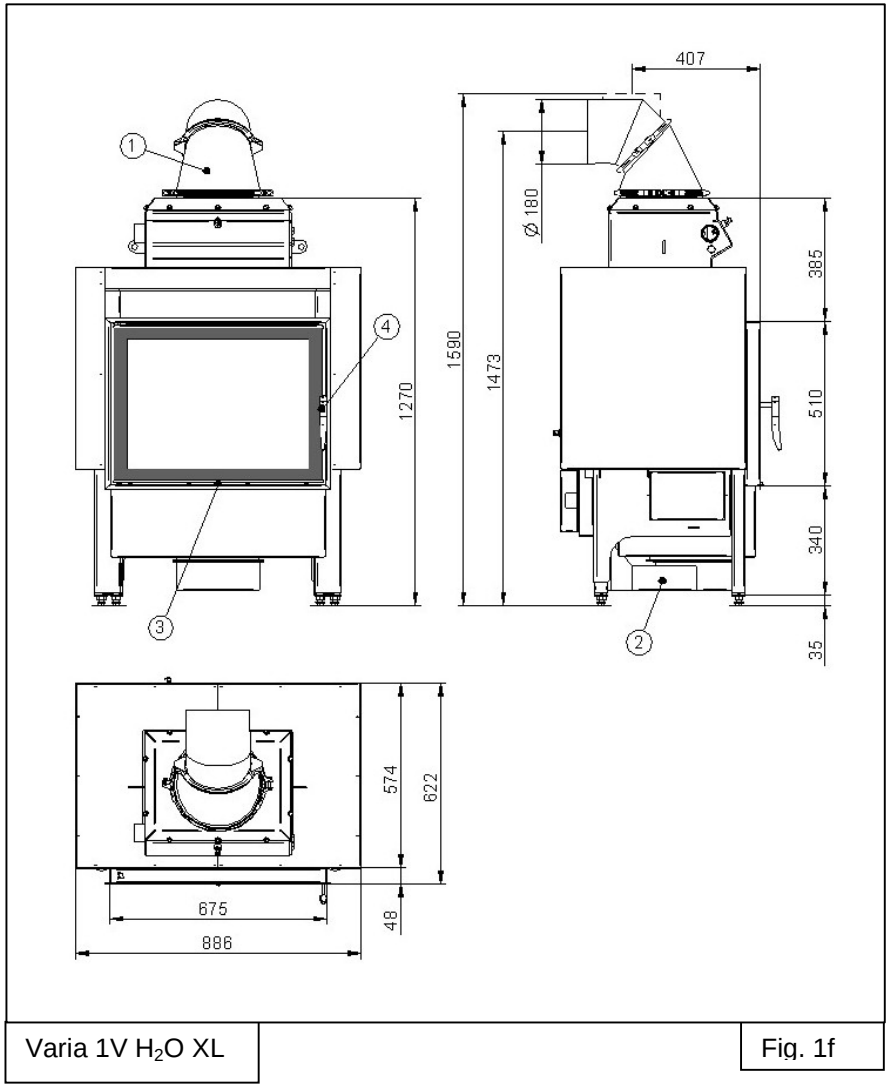
Varia 1V H_2O

Fig. 1d



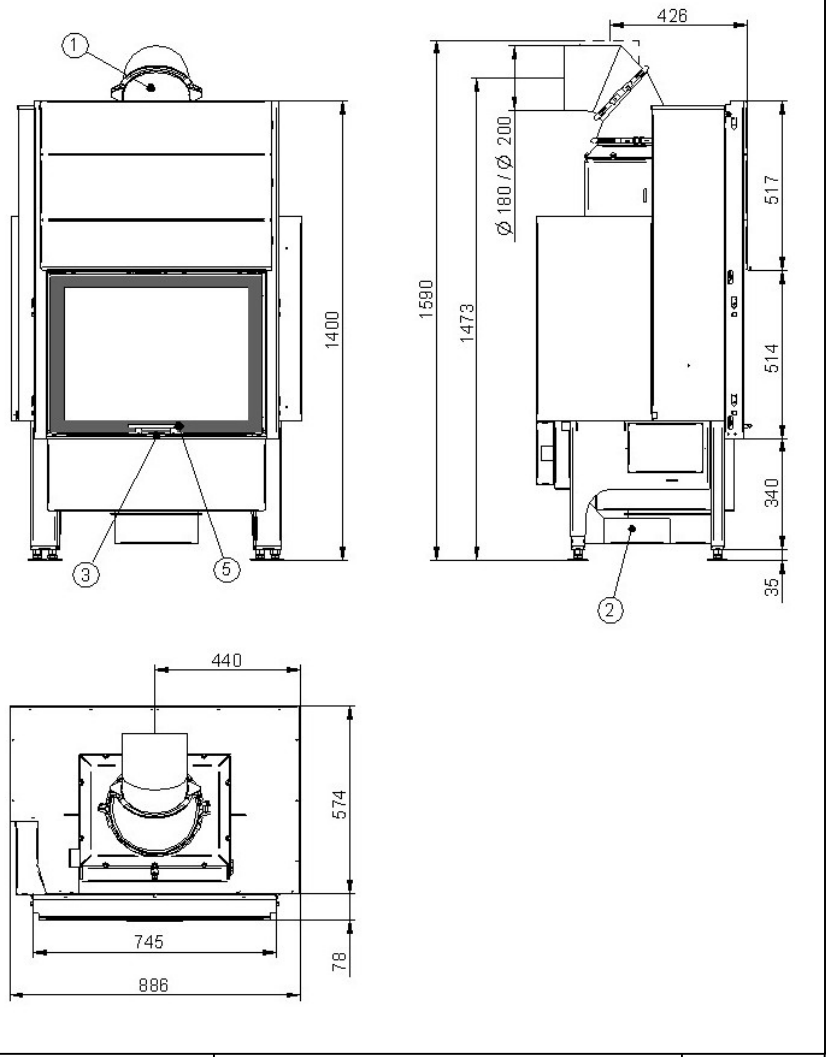
Varia 1Vh H_2O

Fig. 1e



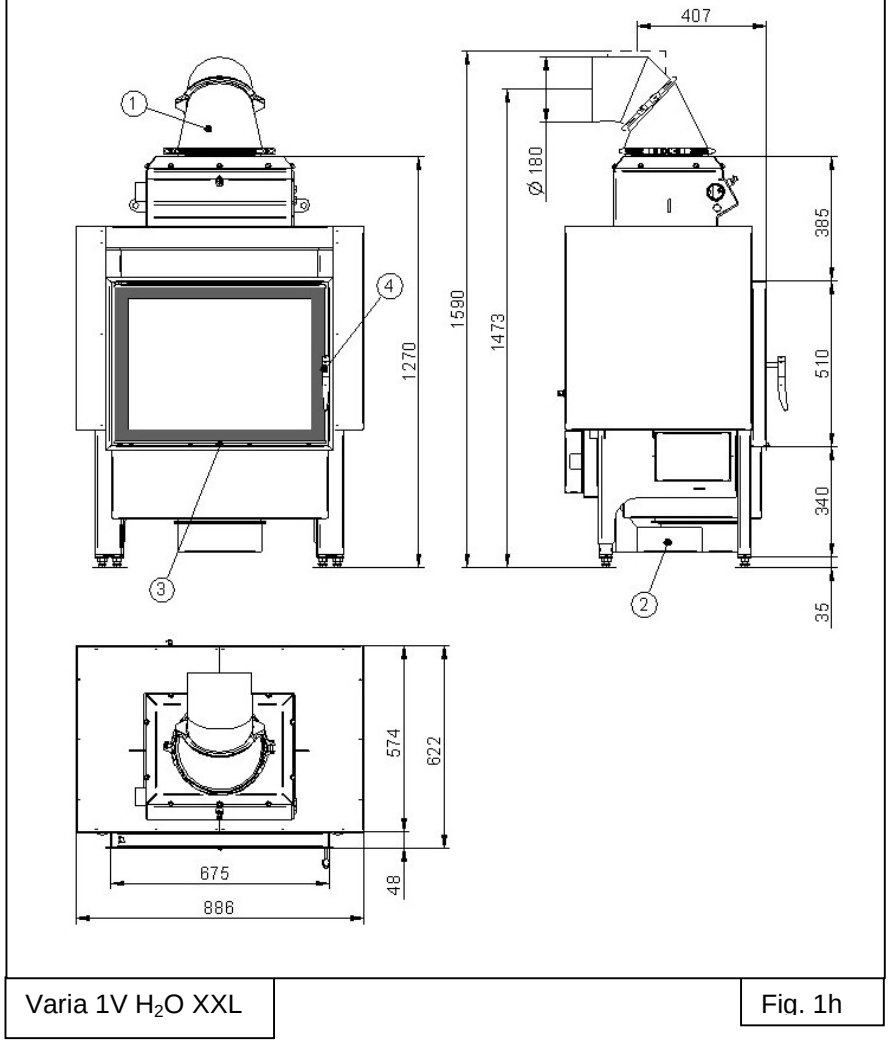
Varia 1V H_2O XL

Fig. 1f



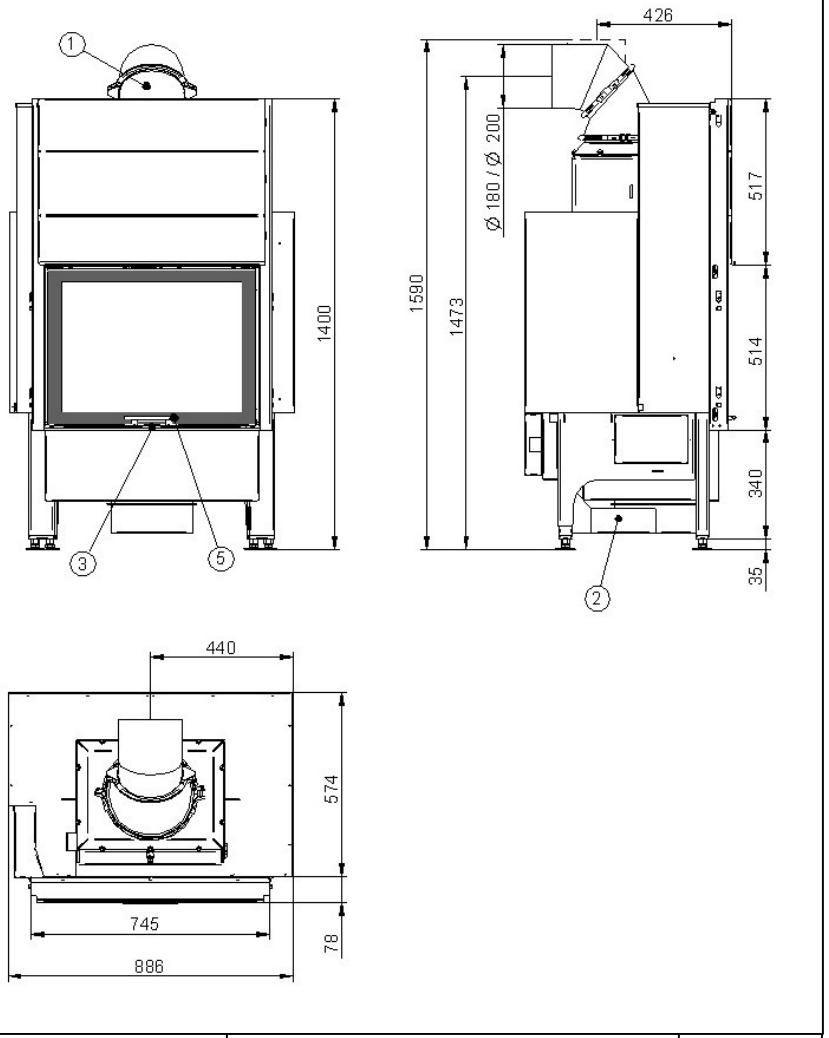
Varia 1Vh H_2O XL

Fig. 1g



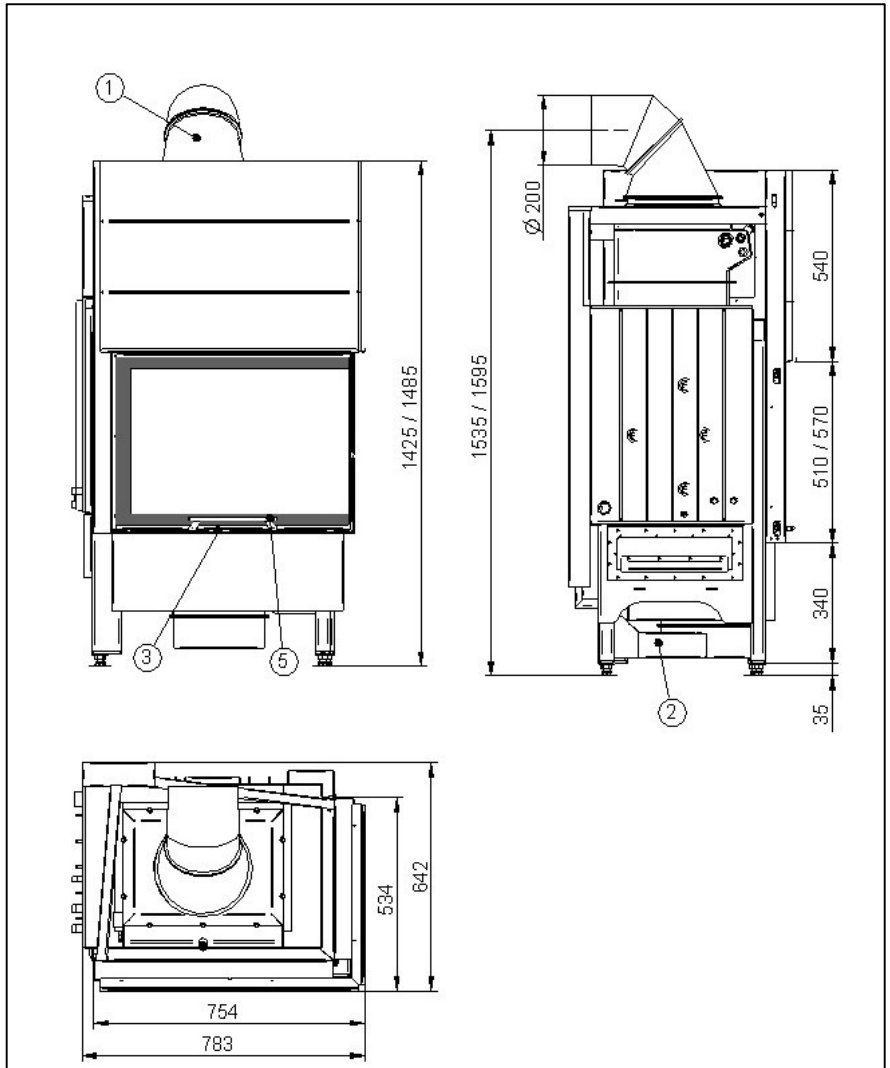
Varia 1V H_2O XXL

Fig. 1h



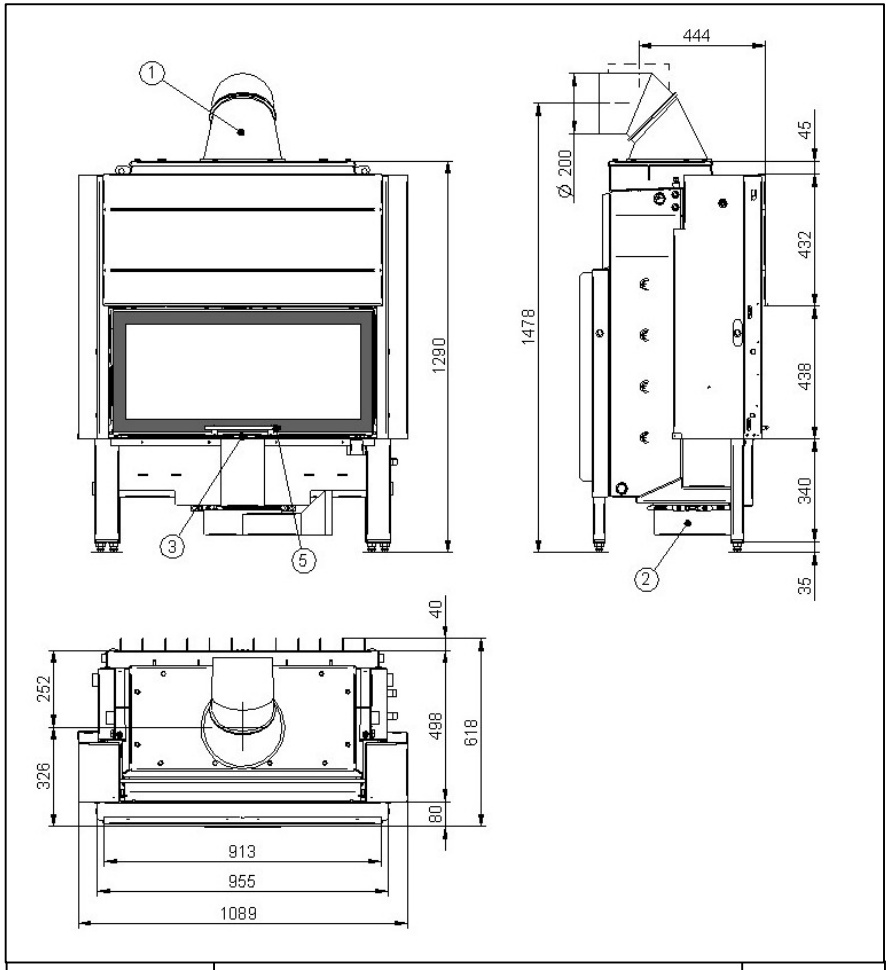
Varia 1Vh H_2O XXL

Fig. 1i



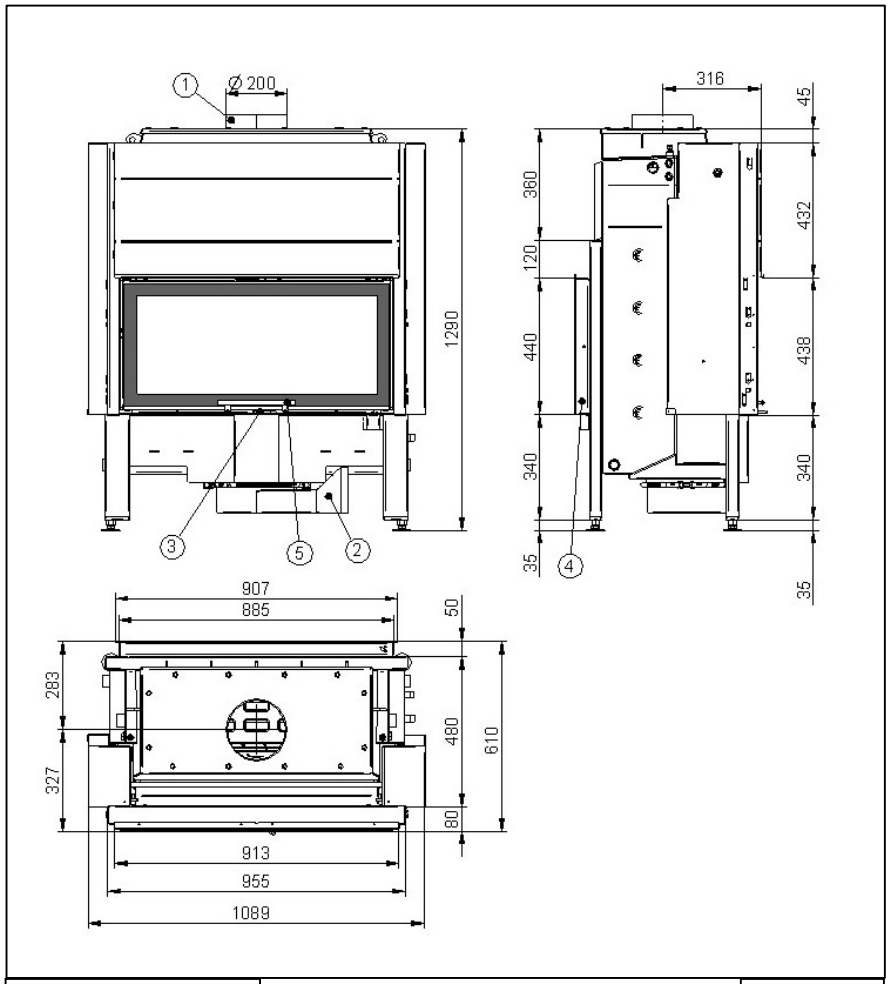
Varia 2Lh / 2Rh H_2O

Fig. 1j



Varia Ah H_2O

Fig. 1k



Varia A-FDh H_2O

Fig. 1l

1	Abgaskuppel
2	separater Verbrennungsluftstutzen Ø 150 mm
3	Luftstellhebel
4	Tür klappbar
5	Tür hochschiebbar

Heat insulating material thicknesses (according to AGI-Q 132).

	Base	**Mounting wall** (side / rear)	**Ceiling**
Mini Z1 H_2O, Mini Z1 H_2O XL and Mini Z1h H_2O XL	70 mm	103 mm	---
Varia 1V / 1Vh H_2O	55 mm	80 mm	---
Varia 1V / 1Vh H_2O XL Varia 1V / 1Vh H_2O XXL	80 mm	100 mm	80 mm
Varia 2Lh / 2Rh H_2O	0 mm	52 mm	60 mm
Varia Ah H_2O	0 mm	75 mm	0 mm
Varia A-FDh H_2O	0 mm	86 mm	0 mm

Further information on the heat insulating material thicknesses and materials is provided in the installation manual for fireplace inserts.

Rear ventilation dimensions between hearth and heat insulation: The rear ventilation dimension between the outer edge of the hearth insulation and the heat insulation of the heat chamber must be at least 30 mm and in the Varia Ah H_2O and Varia A-FDh H_2O it must be at least 60 mm.

2. Installation

Generally speaking, the water-heating components and the requisite safety devices, etc., must be installed by a specialist company. The H_2O fireplace insert must be installed in such a manner that all the components, including those behind the fireplace lining, are accessible and available for inspection at all times. After erection and connection of all services, and before mounting the heat chamber, the fireplace insert and associated heating installations must be checked for leaks by means of a pressure test.

For this purpose the H_2O fireplace insert must be aligned **horizontally** by adjusting the height of the fireplace insert feet, or provided with a slight upward gradient to the bleed plug at the front.

The H_2O fireplace insert must be installed in accordance with the installation manual for fireplace inserts.

2.1. Basic installation requirements

The H_2O fireplace insert may only be installed in thermostatically protected systems in accordance with DIN 4751 or DIN EN 12828. All connections to the heating system must, generally speaking, allow of being detached (e.g. in the form of a threaded connection). Only temperature-resistant pipes may be used inside the fireplace lining. When sealing materials are used, you must ensure that they are sufficiently resistant to the temperatures involved. Because of the position of the feed connection and the temperature sensors in the front area of the fireplace insert, an opening must be provided in the front of the heat chamber.

All safety devices must be installed in the “cold” area, or outside of the fireplace cover. The temperature resistance of the safety devices is not generally sufficient to allow their installation inside the fireplace cover.

All water-carrying components must be protected against frost.

During installation, always follow the installation and operating manuals for any additional components fitted.

During installation, connection and operation of the H_2O fireplace insert, always follow and apply all the requisite national and European standards and local regulations (DIN, DIN EN, regional building regulations, German state heating regulations, etc.).

HeizAnlV:	German Heating Systems Regulation
FeuVo:	(German State heating Regulation) Heating Regulation of the relevant German state
1. BImschV	(German Emissions Regulation) First Decree enacting ther German Federal Emissions Protection Act
EnEV	German Energy Saving Regulation
TROL	Technical Rules of the Tiled Stove and Air Heating Building Trade (ZVSHK)
DIN 1298 / EN 1856:	Connecting pieces for firing systems
DIN EN 13229	Fireplace inserts, including open fireplaces, for solid fuels
DIN EN 50165	Electrical equipment of non-electrical devices for domestic use and similar purposes – Safety requirements
DIN EN 13384	Calculation procedure for flue gas systems
DIN 18160-1/2	Flue gas systems / domestic chimneys
DIN EN 12828 / DIN 4751	Heating systems in buildings Planning of hot water installations
LBO	The building regulations of the German state in question
VDI 2035	Water conditioning for heating systems

No claim is made as to the completeness of this list of regulations.

Fireplaces should only be installed in rooms and at locations where the position, structural conditions and type of use will not create any hazards. The floor area of the room where the fireplace is installed must be of such a type and size that the fireplace can be correctly operated.

2.2. Electrical connection

Full electrical installation of the individual components of the heating system may only be carried out by an authorised specialist company. All the work must be carried out according to the VDE Regulations (e.g. VDE 0105, VDE 0116, VDE 0100 etc.) and the technical connection requirements of the local power supply company.

2.3. H_2O fireplace insert connections

The connections for the safety heat exchanger, the return and the rear bleed valve are located on the rear and can always be accessed through an inspection opening **(see Fig. 2a-2f)** via the combustion chamber. The connections for the feed, the front bleed valve and the immersion sleeves for the temperature sensors are all located at the side on the flue gas collector **(see Fig. Fig. 2a-2f**).

These require an opening to be provided in the fireplace cover to obtain access. For transport purposes the connections are provided with transport protection devices, which must be removed during installation. The connections are clearly marked and must not be used for any other purpose. Equally, the integrated safety device (safety heat exchanger) must not be used for heating water. We recommend the use of straight or angled radiator screw connections for the pipe connections.
If the protective anode (only Varia H2O XL and XXL) is installed in open heating systems, make sure it is accessible so that it can be easily replaced. The length of the anode must not exceed 30 cm (folding insert) from the first thread.

When installing the Varia Ah H_2O / A-FDh H_2O in an existing heating system we recommend a minimum nominal pipe width for heating pipes of: copper pipe, min. 28 x1.0 mm or steel pipe, min. 1” (DN25, 33.7 x 3.25 mm). Plastic pipes or composite pipes must not be used inside the heat chamber. If ‘temperature-resistant’ gaskets (>140°C) are used on metal pipes (press systems), these pipes must not be fitted within the radiant area of components carrying flue gas (distance of 200 mm). As a general rule, though, after dimensioning they should be connected up by a specialist company.

Mini Z1 H_2O, Mini Z1 H_2O XL, Mini Z1h H_2O XL

An inspection opening in the rear wall can be opened for access to the water connections of the Mini Z1 H_2O, Mini Z1 H_2O XL, Mini Z1h H_2O XL fireplace insert. The combustion chamber lining (side walls, rear wall, ash grill, ash pot and combustion chamber floor) must be removed for this purpose.

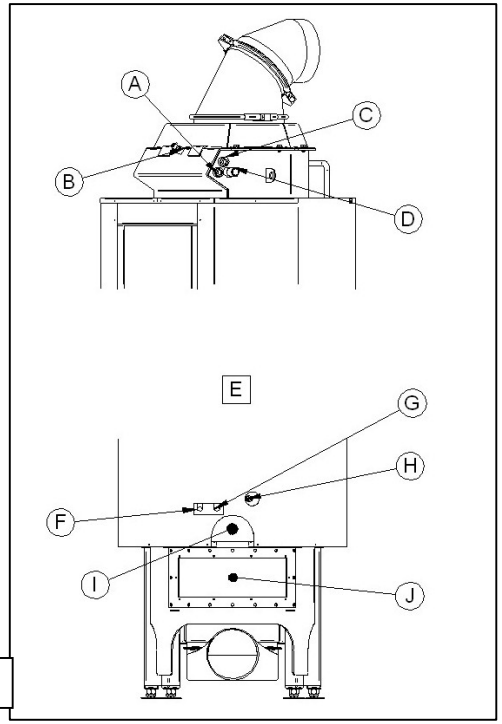


Fig. 2a

A	A immersion sleeve of pump thermostat
B	front bleed valve
C	immersion sleeve for overheat discharge valve
D	¾” feed
E	rear view
F	½” ‘discharge’of overheat discharge valve
G	½” ‘feed’ of overheat discharge valve
H	rear bleed valve
I	¾“ return
J	inspection opening

Varia 1V H_2O, Varia 1Vh H_2O

To facilitate access to the water connections of the Varia 1V H_2O, an inspection opening in the rear wall can be opened. The rear wall of the combustion chamber lining must be removed for this purpose. The sealing panel in the rear wall can then be unscrewed and removed (see Fig. 2b). The connections can then be examined.

After the inspection the sealing panel must be screwed back in place and the combustion chamber lining reassembled.

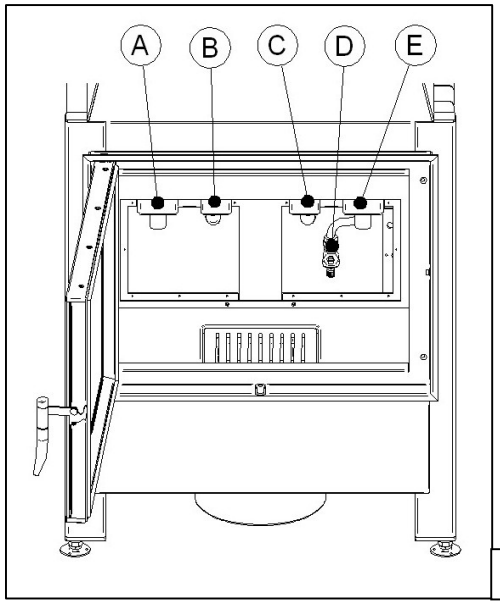


Fig. 2b

A	¾” feed
B	½” ‘discharge’of overheat discharge valve
C	½” ‘feed’ of overheat discharge valve
D	filling and drain fittings DN 15 (1/2”) optional
E	¾” return

Varia 1V H_2O XL, Varia 1Vh H_2O XL,
Varia 1V H_2O XXL, Varia 1Vh H_2O XXL

For access to the water connections of the Varia 1V H_2O XL an inspection opening in the rear wall can be opened **(see Fig. 2c)**. The combustion chamber lining (side walls, rear wall, ash grill, ash pot and combustion chamber floor) must be removed for this purpose. After the inspection the sealing panel must be screwed back in place and the combustion chamber lining reassembled and the combustion chamber lining installed.
Access to the feed connection and the front bleed valve must be provided through an opening in the heat chamber wall.

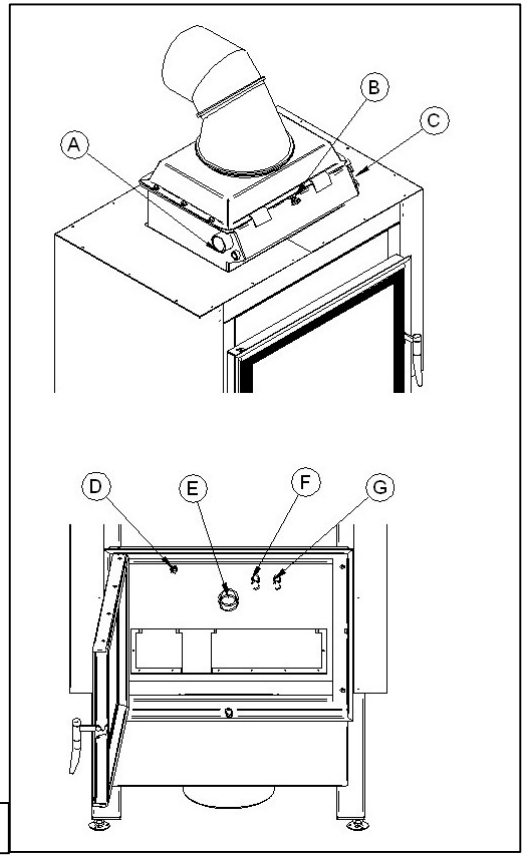


Fig. 2c

A	1 1/2" feed"
B	bleed valve
C	Immersion sleeves for thermal sensor
D	bleed valve
E	¾" return
F	½" 'feed' of overheat discharge valve
G	½" 'discharge' of overheat discharge valve

Varia 2Lh/2Rh H_2O

For access to the water connections of the Varia 2Lh/2Rh H_2O an inspection opening in the rear wall can be opened. The combustion chamber lining (side walls, rear wall, ash grill, ash pot and combustion chamber floor) must be removed for this purpose.
After the inspection, the sealing panel should be screwed back in place and the combustion chamber lining installed.

Access to the feed connection and front bleed valve must be provided through an opening in the heat chamber wall.

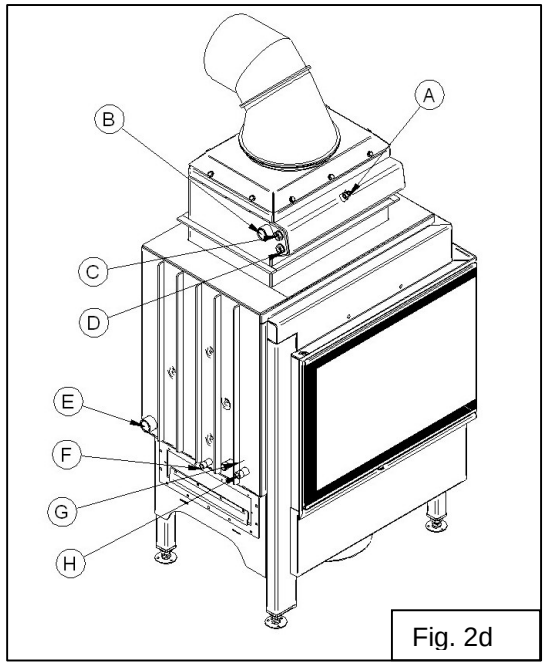
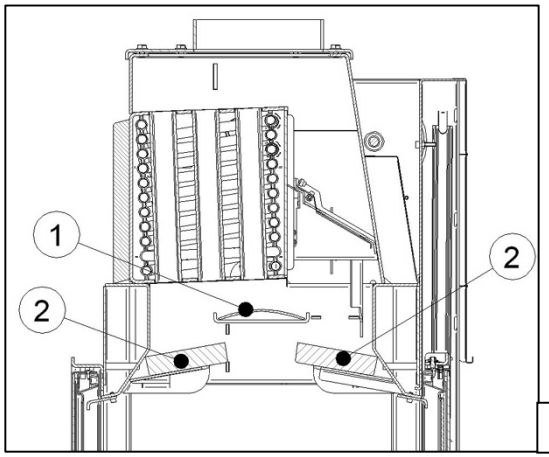


Fig. 2d

A	bleed valve
B	1" IG feed"
C	½" IG immersion sleeve for overheat discharge valve
D	½" IG immersion sleeve for pump thermostat
E	1" IG return connection
F	lower bleed valve
G	½" AG 'discharge'of overheat discharge valve
H	½" AG 'feed' of overheat discharge valve

Varia Ah H_2O und Varia A-FDh H_2O

For access to the water connections of the Varia Ah H2O / A-FDh H2O an opening has to be made in the fireplace cover. The deflector plate must rest against the side wall of the combustion chamber (see Fig. 2e).



1	Deflector plate (optional)
2	Baffle

Fig. 2e

Varia Ah H_2O

The connections for the safety heat exchanger are located at the bottom on the right-hand side. The feed and return, vent and temperature sensor connections are located at the top and bottom on both sides (see Fig. **2f**). An opening must be made in the fireplace cover for access to the connections and immersion sleeves (see Fig. 2e). The connections are fitted with plastic caps for protection during transport. **These caps must be removed during installation and replaced by suitable, permanently tight plugs**. The connections are clearly marked and must not be used for any other purpose. The integral safety device (safety heat exchanger) must not be used to heat water. We recommend the use of straight or angled radiator screw connections for the pipe connections.

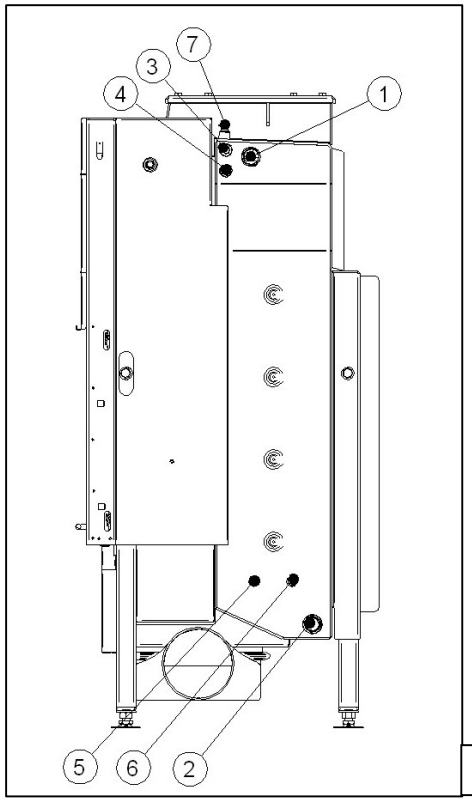


Fig. 2f

1	Feed	3/4"
2	Return	3/4"
3	Temperature sensor for overheat discharge valve	1/2"
4	Temperature sensor for thermostat switch	1/2"
5	Thermal safety heat exchanger outlet	1/2"
6	Thermal safety heat exchanger inlet	1/2"
7	Vent	3/8"

Varia A-FDh H_2O

The connections for the safety heat exchanger are located at the bottom on the right-hand side. The feed and return, vent and temperature sensor connections are located at the top and bottom on both sides (see Fig. **2g**). An opening must be made in the fireplace cover for access to the connections and immersion sleeves (see Fig. 2e). The connections are fitted with plastic caps for protection during transport. **These caps must**

be removed during installation and replaced by suitable, permanently tight plugs. The connections are clearly marked and must not be used for any other purpose. The integral safety device (safety heat exchanger) must not be used to heat water. We recommend the use of straight or angled radiator screw connections for the pipe connections.

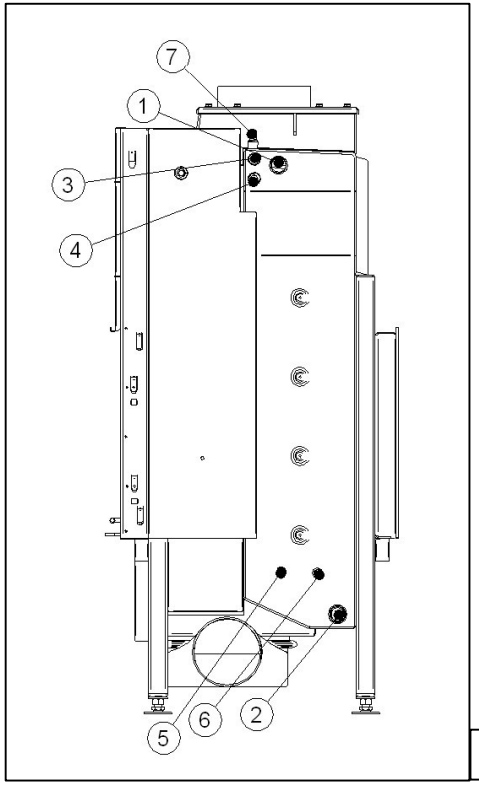


Fig. 2g

1	Feed	3/4"
2	Return	3/4"
3	Temperature sensor for overheat discharge valve	1/2"
4	Temperature sensor for thermostat switch	1/2"
5	Thermal safety heat exchanger outlet	1/2"
6	Thermal safety heat exchanger inlet	1/2"
7	Vent	3/8"

Note on all fireplace inserts:

Operation without a combustion chamber lining is not permitted

2.4. Minimum crosssections for convection air

The minimum cross-sections for the convection air (supply air and circulating air) in the lining or heat chamber must be executed as follows.

	Hot air:	Cold air:
Mini Z1 H_2O **Mini Z1 H_2O XL** **Mini Z1h H_2O XL**	500 cm²	500 cm²
Varia 1V H_2O **Varia 1Vh H_2O** **Varia 1V H_2O XL** **Varia 1Vh H_2O XL** **Varia 1V H_2O XXL** **Varia 1Vh H_2O XXL**	600 cm²	750 cm²
Varia 2Lh / 2Rh H_2O	600 cm²	750 cm²
Varia Ah H_2O	440 cm	400 cm²
Varia A-FDh H_2O	220 cm²	200 cm²

Generally speaking, the Technical Rules of the Tiled Oven and Air Heating Building Trade (TR-OL 2006) must be followed.

2.5. Bleeding

Two bleed valves are available for bleeding the water heat exchanger. For the Varia 1V/1Vh H_2O, only one bleed valve is provided, on the upper heat exchanger, and on the Varia Ah H_2O and Varia A-FDh H_2O the bleed valve is located at the top left and right. Firstly, the upper bleed valve (in the area of the flue gas collector) can be used. This requires that a sufficiently large opening be provided in the lining in the immediate vicinity. Secondly, the lower bleed valve (in the area of the connections on the rear) can be accessed through the inspection opening in the combustion chamber and this can be used. After commissioning, the insert must be bled several times because the heating water emits gases due to the high temperatures.

For the **Varia 1V H_2O**, a vent pipe fitted to the rear wall is available (see Fig. 3).

For this version the following additional information must be borne in mind when performing installation.

The TROL guidelines regarding the free cross-section of the vent openings and the maximum supply air temperatures of 75°C must always be followed. Lockable circulating and supply air openings are not recommended. This is to ensure that no heat accumulates inside the heating chamber. **(Fig. 3)**

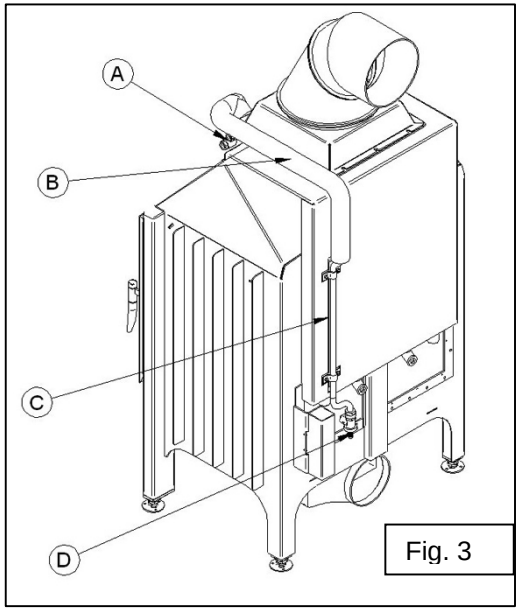


Fig. 3

If the vent pipe has been dismantled on the installation site to transport it, for example, make sure that for subsequent assembly the copper pipe in the lower area rests fully against the copper rail and the body. The tightness of the screw connection on the head section and correct seating of the heat insulation must then be checked.

A	Temperature sensor for the ½" thermostat switch and ½" overheat discharge valve
B	Vent pipe with isulation
C	Vent pipe with copper rail
D	filling and drain fittings DN 15 (1/2") optional

2.6. Safety valve

A component-tested safety valve (e.g., Syr type 1915), with a maximum response overpressure of **3.0 bar** must be installed **in the feed pipe** in the immediate vicinity of the H_2O fireplace insert. During installation, attention must be paid to the manufacturer's specifications (including ambient temperature) for the safety valve. A shutoff device must not be incorporated in the system between the safety valve and the H_2O fireplace insert as it could prevent the safety device from operating. Furthermore, all the required safety devices must be integrated throughout the system in such a manner as to ensure non-hazardous operation. A separate safety valve must still be fitted, even if there is one elsewhere in the system (make sure you comply with TRD 721).

2.7. Load unit

Generally speaking, the H_2O fireplace insert may **only** be operated with a suitable load unit. During operation the return temperature must be at least 55°C. On the Varia Ah H_2O and Varia A-FDh H_2O the return temperature must be at least 60°C.
To ensure this temperature is achieved, a circulating pump must be installed in such a manner that it does not cut in until a water temperature of 60-65°C has been reached in the heat exchanger. This must be implemented using the **pump thermostat** (supplied, e.g., JUMO heatTHERM or Afriso) (see section 3.9).

To avoid dropping below local dew points and resulting deposits on the water heat exchanger, a regulated load unit must generally be installed. The longer the pipe run between the load unit and the fireplace insert, the longer the temperature in the fireplace insert remains below the dew point, as the heating water first has to be heated when the system is fired up. We therefore recommend fitting the load unit in the immediate vicinity of the fireplace insert, ensuring it is readily accessible.

Please note: If there is no load unit fitted or it is not operating properly, we cannot accept claims under warranty or general liability for operating faults or corrosion damage (soot build-up, deposits, etc.) on the water heat exchanger or on the chimney, etc.

2.8. Overheat discharge valve

Since the heating for the H_2O fireplace insert is not automatic and cannot be quickly switched off, the hot water attachment must be equipped with an overheat discharge valve in accordance with DIN 4751 – Part 2 or DIN EN 12828 to prevent hazardous situations in the event of a fault, e.g., a power failure. A safety device is installed for this purpose in the H_2O fireplace insert (safety heat exchanger) to protect against overheating. This safety device must not be used as a water heater.

The overheat discharge valve supplied (e.g., SYR, type 3065) is tested and approved for a minimum water flow rate of 900 kg/h. The sensor on the capillary tubing must be inserted and permanently fixed in the connection opening of the H_2O fireplace insert (in the sealed-in immersion sleeve) that is marked accordingly.

The following points must always be observed during installation to ensure the safety device can work properly:

- During installation the enclosed installation and operating manual supplied by the overheat discharge valve manufacturer must be followed!
- The fittings of the overheat discharge valve may only be installed in the feed pipe. This is to ensure that there is no standing water in the safety heat exchanger when used as intended.
- The fittings of the overheat discharge valve must **not** be sited in the hot area of the heat chamber (convection chamber) of the fireplace system (max. ambient temperature 80°C). Select the position on the basis of the length of the capillary tubing.
- A minimum flow pressure of 2.0 bar must be available at the cold water intake. This pressure must be maintained at all times. Fluctuations in water system pressure must not occur. This means, for example, that supply from a domestic water system that is itself dependent on the mains supply is **not** permitted.
- A minimum water flow rate of approx. 900 kg/h must be ensured. It must not be possible to shut off this supply pipe.
- The heating insert must be aligned so that the front bleed valve is at the highest point.

All safety-relevant components must be integrated in the system in such a manner that checks may be carried out on their operation and for possible leaks at any time. The discharge of the overheat discharge valve must be executed in such a manner that a test may be carried out at any time (e.g. via an outlet with siphon).

2.9. Thermal pump control system

The fireplace insert must always be used with a load unit. A JUMO or Afriso thermostat switch is also supplied with the cell. This must be electrically integrated into the power supply of the load unit (circulating pump).
The appropriate rolled-up capillary tube should be unrolled and inserted into the marked immersion sleeve at the top front right/left and secured with the clip supplied. **Ensure there are no kinks in the capillary tube!**
This switch ensures that the circulating pump only cuts in if the water temperature is adequate and is switched off again if the temperature drops below the specified level. The connection is made as shown in **Fig. 4a-b**. Control of the circulating pump by means of a boiler control system or similar device is not recommended. During installation the enclosed installation and operating manual for the thermostat must be followed. The thermostat sensor must be inserted and permanently fixed in the connection opening of the H_2O fireplace insert (sealed immersion sleeve) that is marked accordingly.

The maximum loading capacity of the thermal pump control system is approx. **500 W** at 230 V AC.
The factory setting of the minimum thermostat can be adjusted by means of the control dial and has been preset to a range of approx. 62°C to approx. 72°C. The start-up temperature of the pump is set on this thermostat. Optionally, if conditions so warrant, the setting range can be adjusted by the company performing installation. If the control dial is removed, the setting range can be varied by moving the locking disc, which can be reseated in a different position by removing the screws. In the minimum setting (the locking disc is fastened through the holes marked “min”), the setting range can be adjusted from approx. 57°C to approx. 67°C.
Please note: The minimum setting of approx. 57°C may result in values below the dew point. The maximum setting (locking disc fastened through the holes marked “max.”) ranges from 67°C to 77°C.

The JUMO heatTHERM fittings must **not** be sited in the hot area of the heat chamber (convection chamber) of the fireplace (max. ambient temperature 80°C). Select the position in the cold area on the basis of the capillary tubing length!

The connection is made as shown in Fig. **4a** and **4b**.

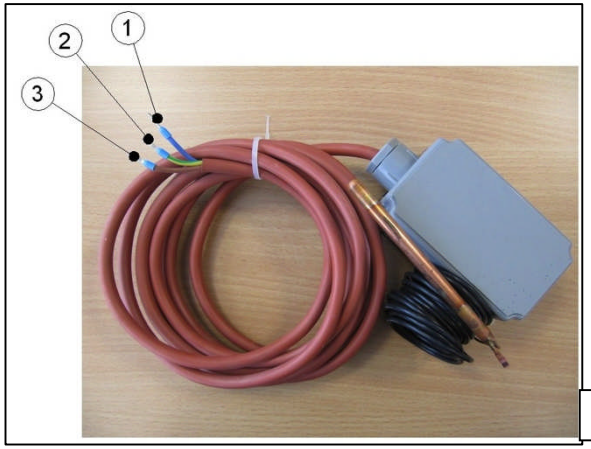


Fig. 4a

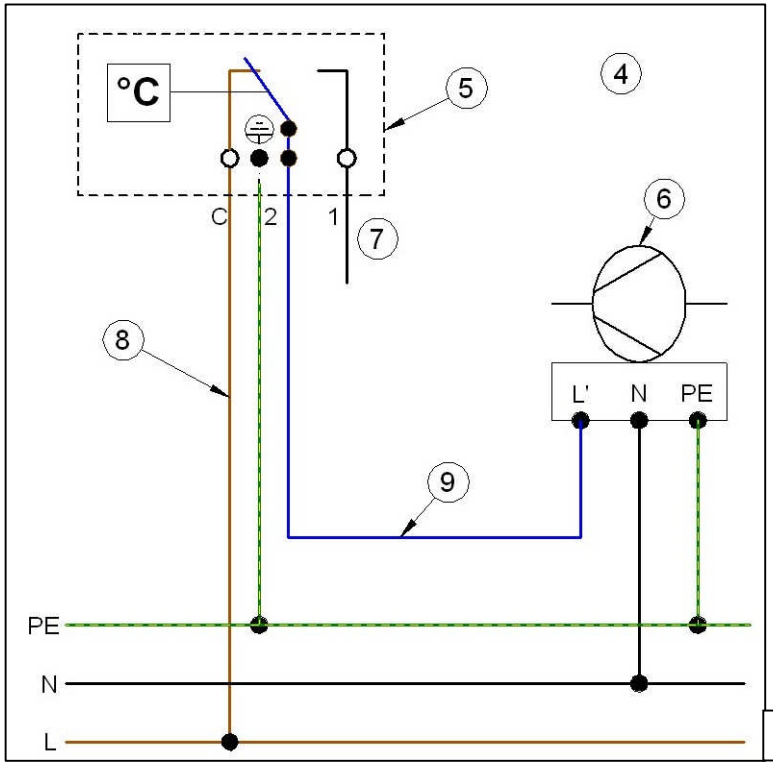


Fig. 4b

1	The blue wire is the connected phase (L`) and is phase wired to the circulating pump or load unit.
2	The green-and-yellow wire is wired to the protective conductor (earth) (PE) of the mains supply.
3	The brown wire is wired to phase (L) of the mains supply.
4	Thermostat pump control electrical connection
5	Pump control thermostat (e.g. Afriso), with approx. 3.0 m connecting cable 2x0.75 mm^2
6	Return temperature indication (circulating pump)
7	Terminal 1 not needed
8	Phase (L) brown wire
9	Connected phase (L`) blue wire

2.10. Incorporation into a heating system

Please note: The H_2O fireplace insert may only be installed in a complete system after detailed planning for the entire heating system according to relevant best industry practice and safety standards.
The correct dimensioning of the pumps, fittings, pipework, buffer storage tank and safety components, such as the safety valve and expansion vessel, is the responsibility of the design office and/or of the company carrying out installation.
Note that very high water outputs of approx. 20 kW can occur briefly during the combustion phase. The heating system should be dimensioned to take account of this.

The following calculation example may be helpful for dimensioning the buffer storage tank:

For the Mini Z1 H_2O:
The following assumptions were made in this case:

- Buffer storage tank size: 300 litres (approx. 300 kg of water)
- Water temperature in the storage tank initially: 30°C
- Final water temperature in the storage tank: 60°C
- Temperature difference 30°C (equivalent to 30 K)
- No heat extracted from the storage tank during heating by the Mini Z1 H_2O, and no heat losses from the system

$$Q = c_p \times m \times \Delta t$$

$$Q = 4{,}187 \frac{kJ}{kg \times K} \times 300\ kg \times 30\ K$$

$$Q = 37683\ kJ$$

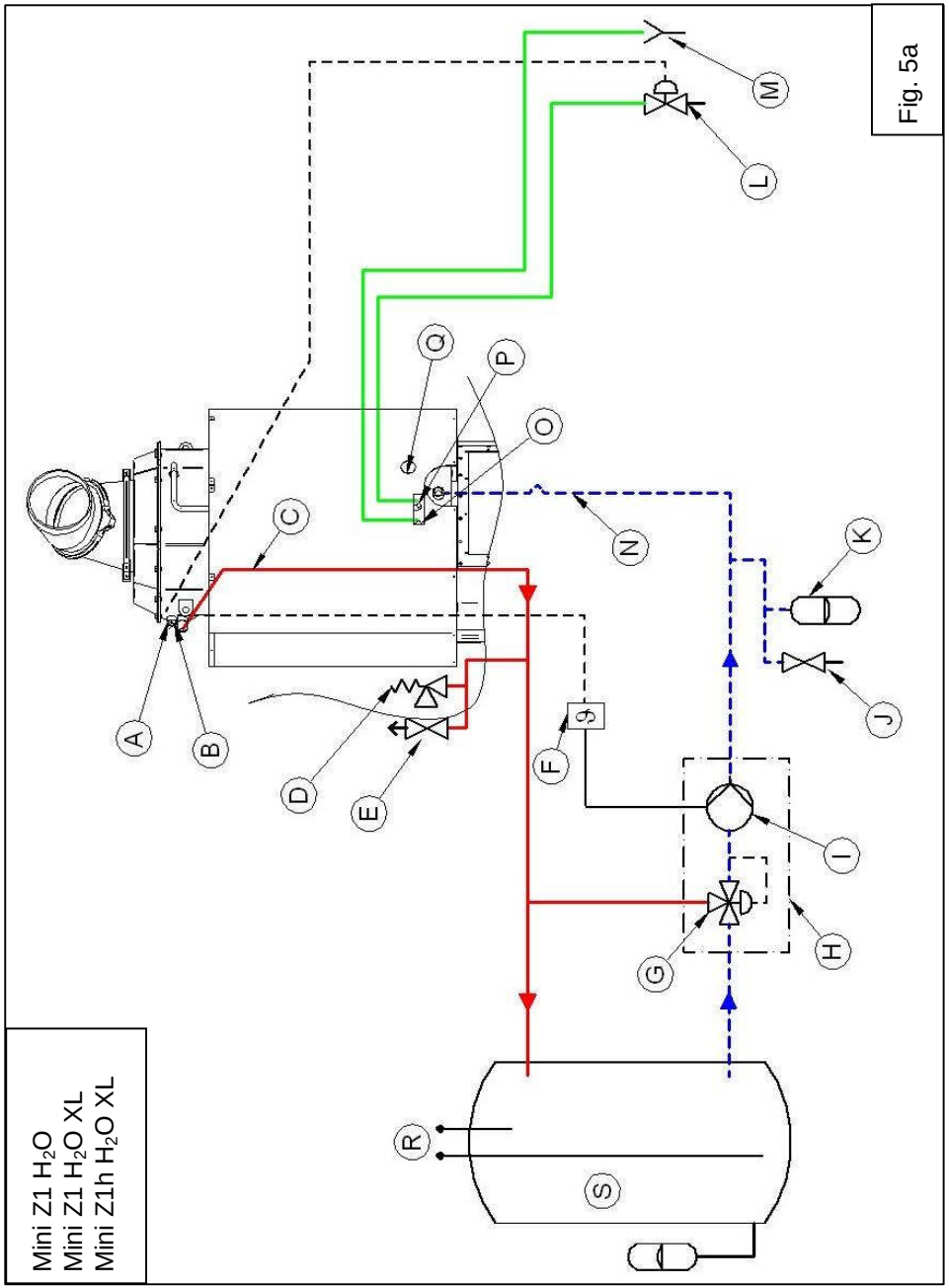
This means that a theoretical heat quantity of 37,683 kJ (= 37,683 kWs) is required to heat 300 litres of water in a storage tank from an assumed 30°C to 60°C (without accounting for any losses or heat extraction from the system). This heat quantity is equivalent to approx. 10.5 kWh.
However, if the heating system is suitably constructed, e.g., in the form of a stratified storage tank, heat utilisation can commence shortly after circulation starts in the Mini Z1 H_2O. In such a case, only the excess energy not required for heating is stored in the buffer storage tank.

Assuming, on average, output of approx. 5.5 kW from the H_2O fireplace insert, heating of the entire storage tank takes just under **2 hours**.

On very cold winter days the fireplace system may be in operation for as much as 12 hours or so. The thermal energy produced in such a case is then theoretically equivalent to 66 kWh. This thermal energy would then be sufficient to heat just under 1,900 litres of water (from 30°C to 60°C). However, heat is generally always extracted in such a situation so that there should be no overloading of the buffer storage tank (> 90°C).

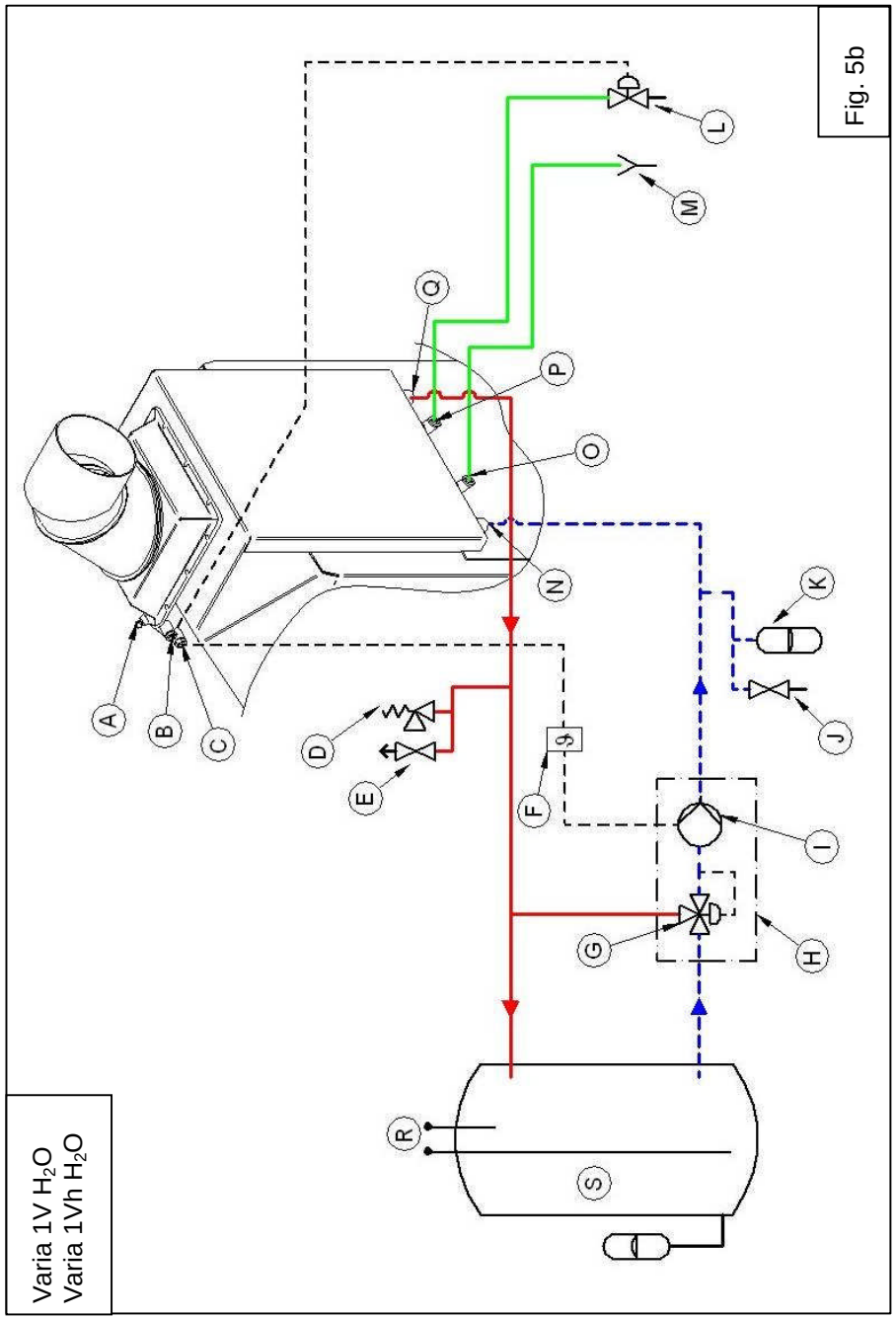
The assumptions, values and results for the other fireplace insert are listed below in the table:

	Mini Z1 H_2O	Mini Z1/Z1h H_2O XL	Varia 1V/1Vh H_2O	Varia 1V/1Vh H_2O XL	Varia 1V/1Vh H_2O XXL	Varia 2Lh/2Rh H_2O	Varia Ah H_2O	Varia A-FDh H_2O
Pufferspeichervolumen	300 Liter	500 Liter	300 Liter	750 Liter	1000 Liter	500 Liter	500 Liter	500 Liter
Notwendige Wärmemenge zur Erwärmung des ufferspeichers	10,5 kW	17,4 kW	10,5 kW	26,2 kW	35 kW	17,4 kW	20 kW	20 kW
Durchschnittliche angenommene Wasserleistung	5,5 kW	8 kW	5,5 kW	10 kW	15,5 kW	8,4 kW	7,3 kW	7,3 kW
Zeit zur Erwärmung des Pufferspeichers (bei 30K)	~2h	~2h	~2h	~3h	~2h	~2h	~2,5h	~2,5h
Wärmeenergie in 12h	66 kW	96 kW	66 kW	120 kW	186 kW	101 kW	85 kW	85 kW
Wärmemenge ausreichend für	1900 Liter	2750 Liter	1900 Liter	3400 Liter	5400 Liter	2900 Liter	2400 Liter	2400 Liter



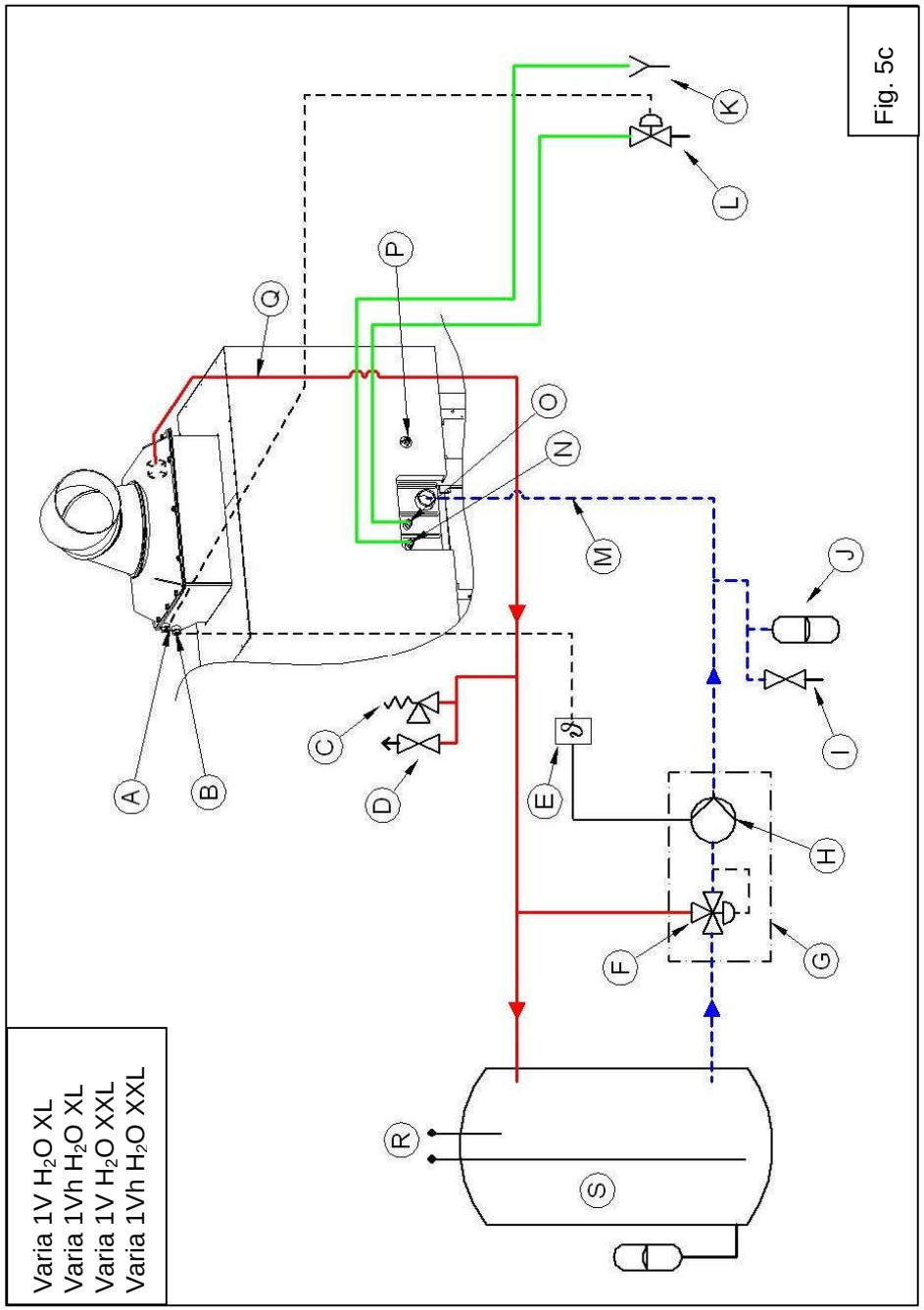
Possible variant for incorporating the Mini Z1 H_2O, Mini Z1 H_2O XL and Mini Z1h H_2O XL into a heating system (Fig. 5a).

A	temperature sensor for the ½“ overheat discharge valve
B	temperature sensor for the ½“ thermostat switch
C	¾“ feed
D	safety valve - 3 bar
E	bleed valve
F	pump thermostat switch (e.g. JUMO, heatTHERM)
G	Load unit
H	load unit fittings (e.g. ESBE; type LTC 141)
I	circulating pump
J	filling and drain fittings
K	expansion tank
L	safety fittings for the overheat discharge valve (e.g. SYR 3065)
M	discharge
N	¾“ return
O	discharge from ½” overheat discharge valve
P	supply to ½” overheat discharge valve
Q	3/8” bleed valve
R	heating system connection
S	load unit



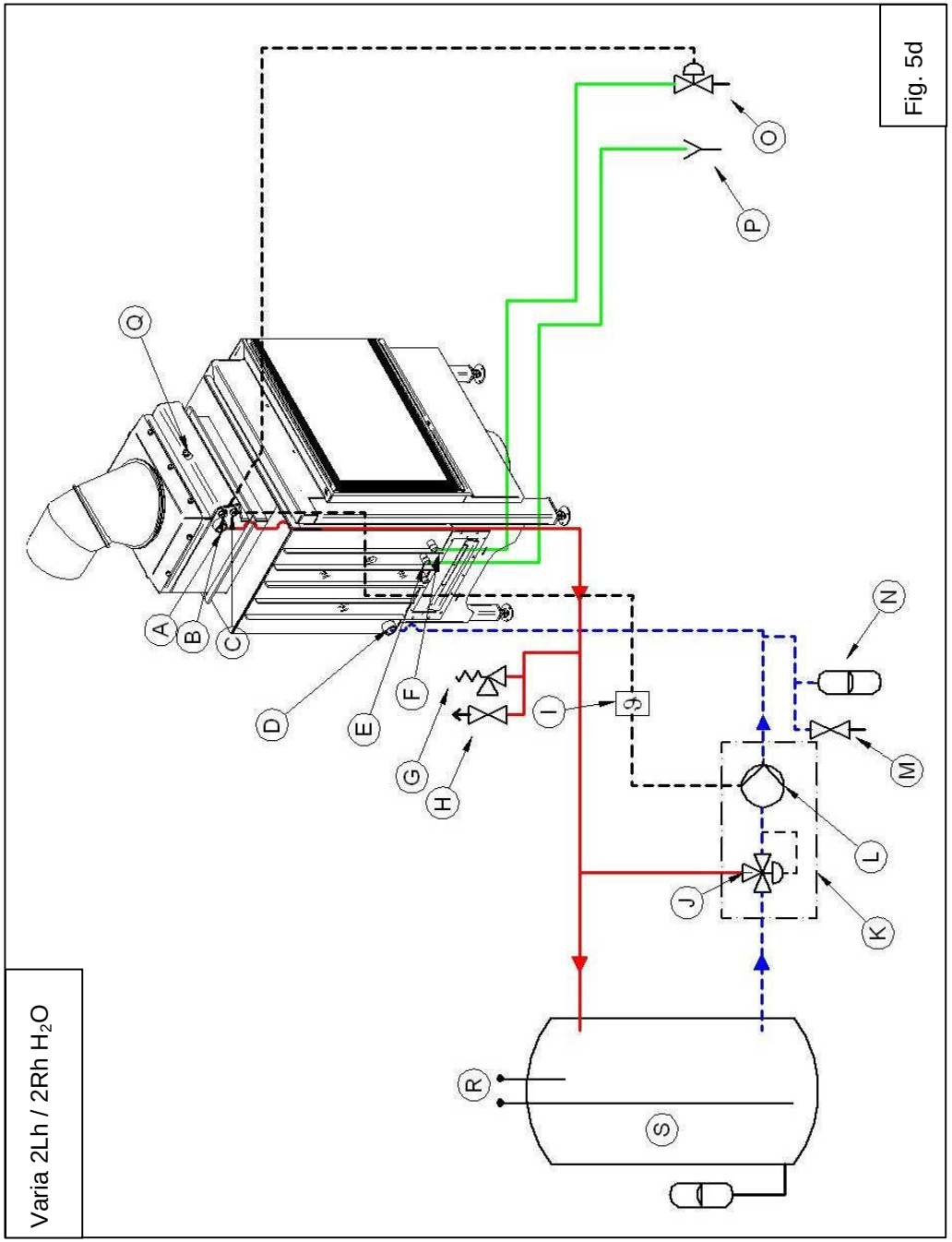
Possible variant for incorporating the Varia 1V H_2O and Varia 1Vh H_2O in a heating system (Fig. 5b).

A	3/8“ bleed valve
B	temperature sensor for the ½” overheat discharge valve
C	temperature sensor for the ½” thermostat switch
D	safety valve - 3 bar
E	return
F	pump thermostat switch (eg. JUMO, heatTHERM)
G	return
H	load unit fittings (e.g. ESBE; type LTC 141)
I	circulating pump
J	filling and drain fittings
K	expansion tank
L	safety fittings for the overheat discharge valve (e.g. SYR 3065)
M	discharge
N	¾” return
O	discharge from ½” overheat discharge valve
P	supply to ½” overheat discharge valve
Q	¾” feed
R	heating system connection
S	load unit



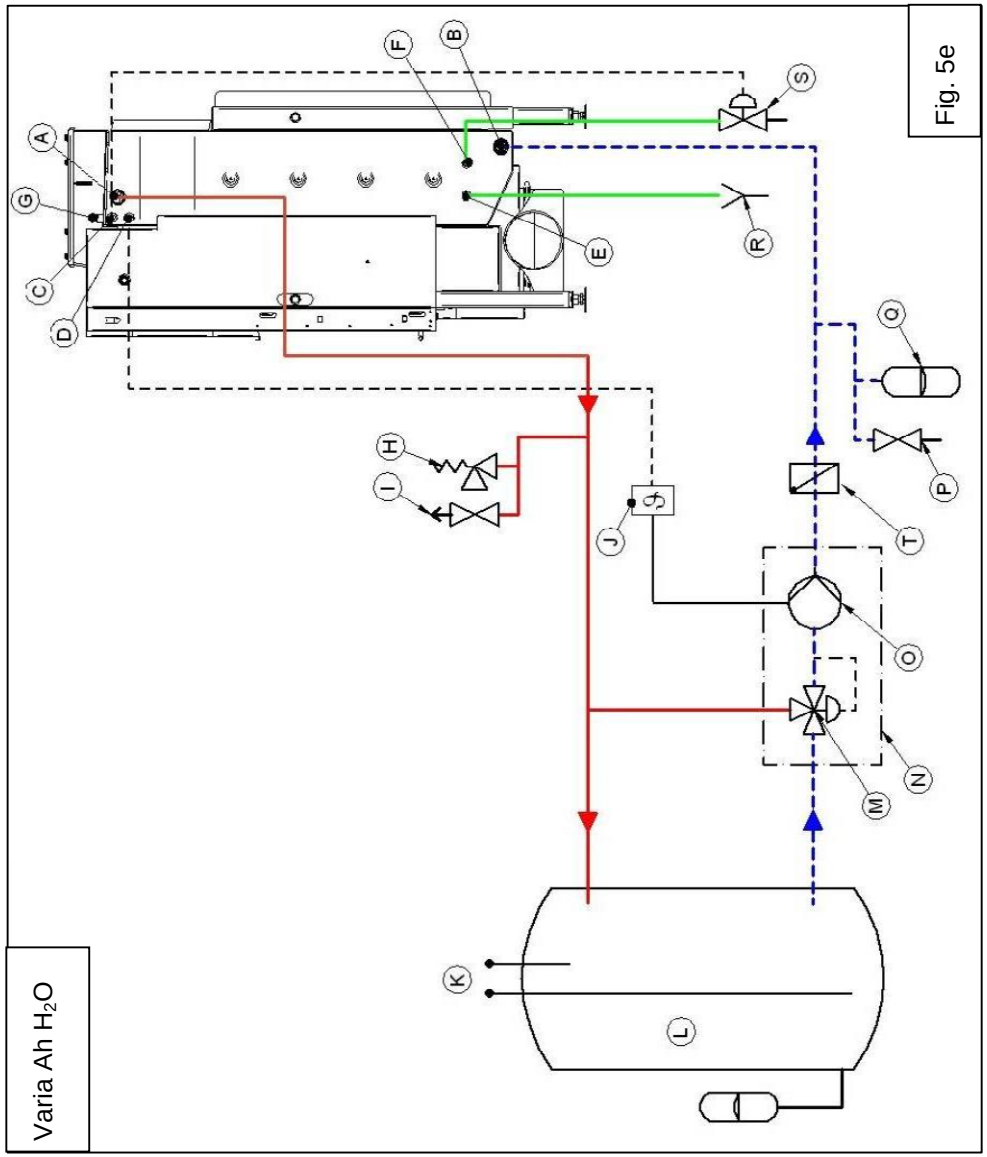
Possible variant for incorporating the Varia 1V H_2O XL, Varia 1Vh H_2O XL, Varia 1V H_2O XXL and Varia 1Vh H_2O XXL into a heating system (Fig. 5c).

A	temperature sensor for the ½“ overheat discharge valve
B	temperature sensor for the ½” thermostat switch
C	safety valve - 3 bar
D	bleed valve
E	pump thermostat switch (eg. JUMO, heatTHERM)
F	return
G	load unit fittings (e.g. ESBE; type LTC 141)
H	circulating pump
I	filling and drain fittings
J	expansion tank
K	discharge
L	safety fittings for the overheat discharge valve (e.g. SYR 3065)
M	½” return
N	discharge from ½” overheat discharge valve
O	supply to ½” overheat discharge valve
P	3/8” bleed valve
Q	1 ½” feed
R	heating system connection
S	load unit



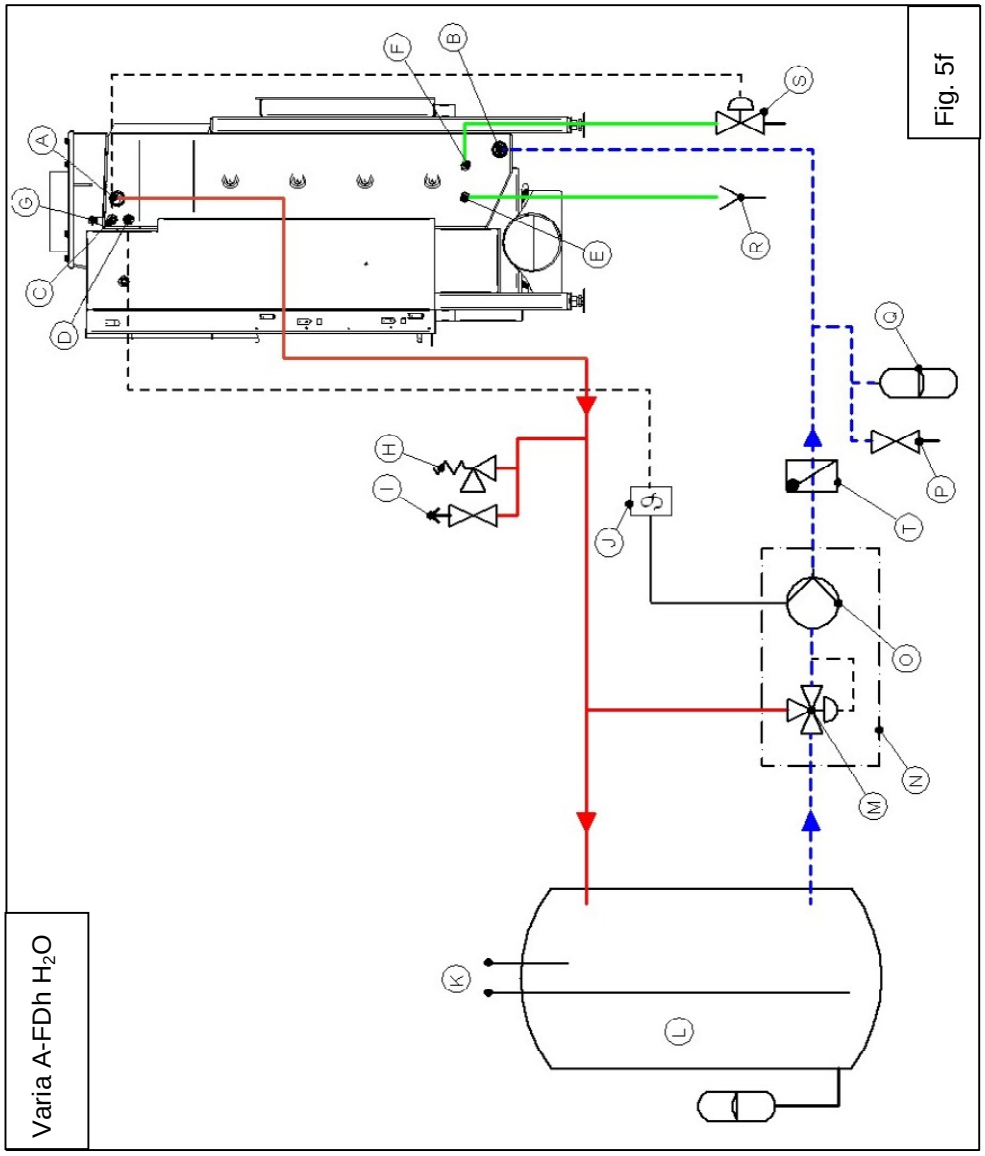
Possible variant for incorporating the Varia 2Lh / 2Rh H_2O into a heating system

A	¾” feed
B	temperature sensor for the ½” overheat discharge valve
C	temperature sensor for the ½” thermostat switch
D	¾” return
E	discharge from ½” overheat discharge valve
F	supply to ½” overheat discharge valve
G	safety valve - 3bar
H	bleed valve
I	pump thermostat switch (eg. JUMBO, heatTHERM)
J	return
K	load unit fittings (e.g. Fa. ESBE; type LTC 141)
L	circulating pump
M	filling and drain fittings
N	expansion tank
O	safety fittings for the overheat discharge valve (e.g. SYR 3065)
P	discharge
Q	3/8” bleed valve
R	heating system connection
S	load unit



Possible variant for incorporating the Varia Ah H_2O into a heating system (Fig. 5e).

A	¾” feed
B	¾” return
C	temperature sensor for the ½” overheat discharge valve
D	temperature sensor for the ½” overheat discharge valve
E	Thermal safety heat exchanger ½” ‘discharge’
F	Thermal safety heat exchanger ½” ‘feed’
G	bleed valve 3⁄8”
H	safety valve
I	bleed valve 3⁄8”
J	pump thermostat switch (e.g. JUMO, heatTHERM)
K	heating system connection
L	load unit
M	return
N	load unit fittings (e.g. Thermoventiler AB; type Laddomat 21)
O	circulating pump
P	filling and drain fittings
Q	expansion tank
R	discharge
S	safety fittings for the overheat discharge valve (e.g. SYR 3065)
T	Non-return valve



Possible variant for incorporating the Varia A-FDh H_2O into a heating system (Fig. 5f).

A	¾” feed
B	¾” return
C	temperature sensor for the ½” overheat discharge valve
D	temperature sensor for the ½” overheat discharge valve
E	Thermal safety heat exchanger ½” ‘discharge’
F	Thermal safety heat exchanger ½” ‘feed’
G	bleed valve 3⁄8”
H	safety valve
I	bleed valve 3⁄8”
J	pump thermostat switch (e.g. JUMO, heatTHERM)
K	heating system connection
L	load unit
M	return
N	load unit fittings (e.g. Thermoventiler AB; type Laddomat 21)
O	circulating pump
P	filling and drain fittings
Q	expansion tank
R	discharge
S	safety fittings for the overheat discharge valve (e.g. SYR 3065)
T	Non-return valve

Please note: Figures 2a – 2f show options for incorporating an H_2O fireplace insert into existing heating systems. However, these are no substitute for detailed planning of the installation by a specialist company.

2.11. Chimney connection / connecting piece

The H_2O fireplace insert is connected to the chimney by means of connecting pieces of sheet steel approx. 2 mm thick. These must conform to DIN 1298 or DIN EN 28160 or the country-specific regulations regarding the chimney/flue gas system. Care must be taken to ensure that the flue gas pipe is laid over the shortest distance, rising to the chimney. As far as possible, the flue gas pipe should not involve any bends or detours around objects in its path. Furthermore, the flue gas pipe must be connected to a bricked-in wall lining on the chimney and sealed. If necessary, the flue gas pipe must be secured with clamps to ensure adequate fixing. The connecting pieces must be sealed as necessary. If the flue gas pipe runs through components made of combustible materials, the flue gas pipe must be insulated in accordance with the relevant regulations. Generally speaking, the connecting pipe must be installed in such a manner that it may be cleaned at any time. This must be ensured by providing a suitable number of cleaning openings.
A measuring connection must be provided in an accessible position to allow the chimney ventilating pressure in the connecting pipe to be checked.

2.12. Height limitation / door stop

Only in the case of the Varia 2Lh/2Rh H_2O is the vertical sliding door fitted with a variable door stop. This is factory set to the middle position, i.e. the opening height is reduced by 50 mm.

If the opening height is to be further reduced (reduction in opening height by 100 mm) or increased (maximum opening), the stops on both sides of the door must be converted. These can also be reached through the gap between the glass and door cover after completion of the heating chamber.
The procedure for this involves the following steps:

Resetting the stop to maximum opening

1. Close the vertical sliding door so that the fixing screws can be reached **(see Fig. 6)**
2. Unscrew the M5x10 threaded screws on both sides of the unit using a 4 mm Allen key (spherical head). Fig. 7 view: from below, between glass and door cover.

3. Pull off the door stops in the direction of the red arrow. The stop may have become slightly stuck and will have to be “levered off” from below with a flat screwdriver.

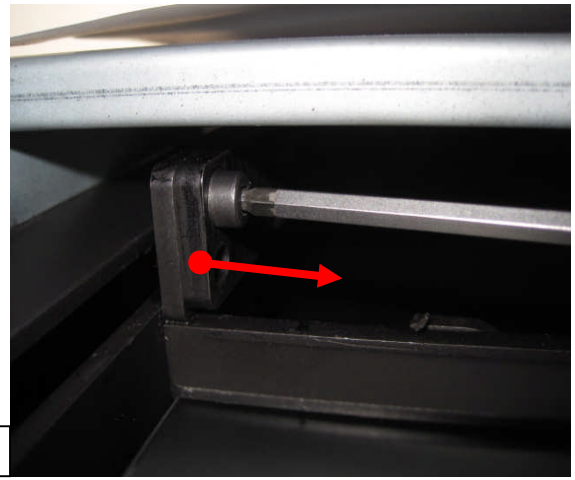


Abb. 6

4. The door stops are then no longer required but should be saved.

Resetting the stop to a 100 mm reduced opening height

This setting can be used if the flue gas system is not suitable for open operation when adding fuel. The air mass flow is reduced by reducing the opening height of the door.

1. Close the vertical sliding door so that the fixing screws can be reached.

2. Unscrew the M5x10 threaded screws on both sides of the unit with a 4 mm Allen key (spherical head).

3. Pull off the door stop in the direction of the red arrow. The stop may have become slightly stuck and will have to be levered off from below with a flat screwdriver.

4. Insert the door stop with the long lug facing the front of the unit. N.B. The door stops must not be swapped over by mistake.

Example on the Varia 2Rh H_2O:

unit left-hand side

unit right-hand side

* The door cover has only been removed as an aid to illustration.

3. Initial commissioning

Heat generating systems may only be erected and installed by specialist companies. Initial commissioning may only be carried out by an expert from the installation company. A certificate confirming proper installation and correct adjustment/operation of all the control and safety components must be submitted to the owner/operator of the system.

Initial commissioning may not be carried out until all the requisite components have been connected up, all the requisite safety devices integrated and made serviceable, the water heat exchanger flushed, filled, and the system bled. Operation without water, only partially filled, or with safety devices that are not serviceable, is not permitted.

On the first four occasions the fire is lit, it must be stoked with a maximum of 2.0 kg/hour of dry, thin wood (maximum circumference 25 cm). As a result the fireplace insert, the fireclay and the vermiculite are slowly tempered, and the moisture from any storage, transport, etc., slowly
evaporated off. If this is not done, the area between the glass panes may be contaminated and the fireclay crack.
Please note: condensate may appear underneath the fireplace insert. This does not indicate a leak.

Moreover, the operator must be instructed in detail in how to use the entire system, as well as its operation and maintenance, including all supplementary components. Furthermore, the operator must be informed of the measures required to maintain safe operation of the system. **Once the induction has been carried out this must be documented in the commissioning log**.
The installation and operating manual must always be retained and stored in an easily accessible place near the H_2O fireplace insert. Further instructions on operating the H_2O fireplace insert are given in the enclosed operating manual for Spartherm fireplace inserts.

The H_2O fireplace insert/heating systems must be filled and bled before being lit. The heating system pressure must be checked (~ 1.5 bar) at the same time. Bleeding must be carried out daily after commissioning. As soon as no further air is present the interval can be extended.

Risk of oxygen corrosion:
Constant presence of air in the fireplace insert is due to a leak in the customer's upstream pipework or incorrect positioning/dimensioning of the expansion vessel (diaphragm expansion vessel).

4. Operation

For operation, please refer also to the notes in the operating manual for our fireplace insert. The notes in this installation and operating manual relate to specific operation of a fireplace insert with integrated water heat exchanger.

- Generally speaking, the combustion chamber door must be used as a door that closes automatically. The door may only be opened to add firewood or, when cold, for cleaning. Tampering with the closing device is not permitted.

CAUTION: The protective glove supplied is designed only for protection from heat when operating the control handle and the cold hand. The glove is not fireproof!

- **There must be at least 80 cm between combustible components/furniture and the glass!**
- The fireplace insert is designed for burning dry, natural firewood with the bark still on, as well as wood briquettes. No other fuels may be used**.**
- Operation partially fuelled will result in low flue gas temperatures. This may lead to chimney damage if the H_2O fireplace insert is operated permanently with unsuitable chimney systems. For this reason we recommend that the quantity of wood added per hour during a day's use does not drop below 2.0 kg.
- The thermally actuated flue gas valve integrated in the heat exchanger of the H_2O fireplace insert automatically controls operation of the latter. When the flue gas temperature is sufficiently high (approx. 150°C), the flue gas valve closes automatically. This deflects the flue gas flow through the heat exchanger. When the flue gas temperature falls below this temperature again, the flue gas valve opens. For improved efficiency of the heat exchanger, the

H_2O fireplace insert should be lit and stoked as evenly as possible and the fire should not be allowed to subside to embers too often if uniform heat discharge from the heat exchanger is to be ensured and low chimney temperatures avoided.

- Double glazing (IR reflection): Infrared radiation from the combustion chamber is largely reflected by the application of oxidic coatings to the glass surface. These coatings generate a "Newton's Rings" phenomenon (similar to a rainbow), so-called IR reflection. Due to this colouring, the characteristic feature of "IR reflection" is visible and recognisable. This colouring cannot be removed.
- The following conditions are required for operating the fireplace insert at nominal heat output.
  - The fireplace insert has been heated up (the wood has already been replenished 2-3 times).
  - Combustion must take place with the door closed.
  - Chimney draught: 12 Pa
    14 Pa (Varia Ah H_2O and Varia A-Fdh H_2O)
  - Wood: dry beech firewood; (moisture content < 18%)
  - Rate at which wood is added: see point 1.2
  - Air setting: Around the middle setting; depending on local Conditions - may need to be adjusted slightly (see example).
  - For a combustion period of approx. 60 minutes, see point 1.2 for the total output of the fireplace insert. Example of rate of wood addition and air setting for the total output of the fireplace insert.

Example of rate of wood addition and air setting

5. Cleaning and maintenance

For cleaning, please also refer to the notes in the operating manual for the fireplace insert. The notes in this installation and operating manual relate only to the cleaning of the heat exchanger of the H_2O fireplace insert.

Please note that cleaning may result in dirtying of the room in which the unit is installed, as well as of clothing worn. We recommend that you protect the area around the fireplace insert opening from getting dirty by means of a plastic or fabric sheet**.**

5.1. Cleaning the heat exchanger

It is essential that the heat exchanger be cleaned. Only if the heat exchanger is cleaned and maintained regularly and properly can it operate fully effectively. Generally speaking, cleaning must be carried out when the unit is cold.
Since the heat exchanger cools the flue gases from the H_2O fireplace insert directly, and this is bound to result in deposits on the heat exchanger surfaces, these must be regularly cleaned with the brush supplied. The frequency of cleaning depends on several factors (intensity of use, duration of combustion, fuel, chimney draught, etc.) and is impossible to state absolutely. We recommend that cleaning be carried out about every 4 weeks. The cleaning intervals must be adapted to local conditions. When dry firewood is used and if our recommendations are followed, the cleaning intervals can be significantly extended. After the end of the heating season, thorough cleaning of all the components is required.

The heat exchanger must generally be cleaned through the combustion chamber of the fire cell. This requires opening the hearth door and removal of the flame deflector plate (flame baffle plate) from the combustion chamber. The thermally actuated flue gas valve is then removed through the combustion chamber **(see Fig. 7a).** To do this, hold the valve by the handle, tilt it slightly and pull down to remove. Residues may only be removed from the thermal flue gas valve with a cloth or brush. During this operation, no pressure should be exerted on the four wings of the flue gas valve as this could impair operation.

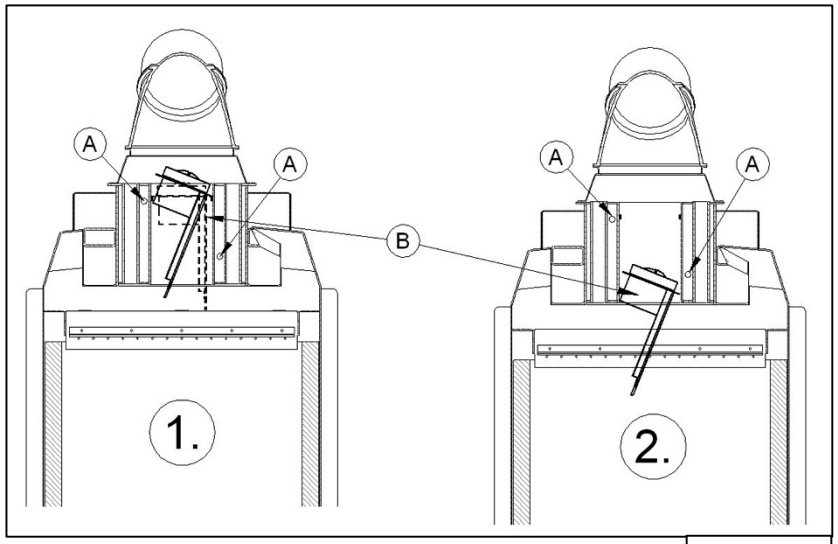
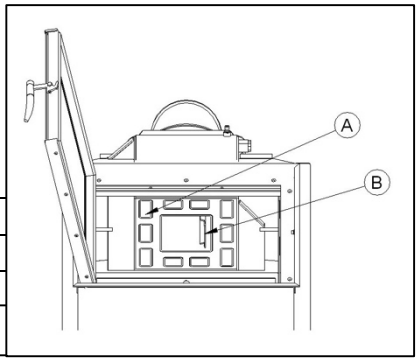


Fig. 7a

A	support
B	automatic flue gas valve with handle



A	heat exchanger tubes
B	flue gas valve handle

Fig. 7b

The heat exchanger tubes and the central duct as well as the outer surfaces of the heat exchanger and the smoke trap must be cleaned with the brush supplied or with a hand brush. The deposits will then automatically fall into the combustion chamber and can be removed from it using items generally available on the market (an ash shovel, ash broom or ash vacuum cleaner).

After cleaning, assembly is carried out in the reverse order. First, insert the thermal flue gas valve (introduce obliquely from below and place on the supports). Then insert the flame baffle plate so that the flue gas gap is on the side where the glass is.

5.2. Cleaning the double glazing

If the fireplace insert is fitted with double glazing, cleaning may be carried out by the operator only on the combustion chamber side and on the side facing the room in which it is installed, as indicated in the operating manual. If the internal panes within the glazing vacuum are dirty, cleaning may only be carried out by customer service or a trained specialist company.

5.3 Maintenance of the heat exchanger

The hydraulic pressure of the heating system must be checked at regular intervals during the heating season. The H_2O fireplace insert may only be operated when completely filled and bled.

A heating inspection of all the safety devices (overheat discharge valve, safety valve, etc.) and the other components must be carried out annually before the heating season. The notes in the installation and operating manuals of the respective component manufacturers must be adhered to. This check may only be carried out by a specialist company which is able to ensure proper functionality of the individual components. We recommend that you sign a service contract with your specialist company. The annual safety test (e.g. functional testing of the overheat discharge valve, the pump thermostat, safety valve, expansion vessel, etc.) should be carried out before the heating season. On performing the annual safety checks, your specialist company must document them in the commissioning log. In the event of a claim, evidence of the maintenance work carried out must be submitted to the service personnel.

6. Troubleshooting

Note: *The fireplace must not be used as a waste incinerator. Furthermore it is intended for non-continuous use. Nor can continuous combustion be achieved by extracting combustion air – attempting to do this is not permitted.*

You can remedy the following problems yourself:

Description of problem	Solution
Overheat discharge valve keeps cutting in (constant water outflow through the outlet). The water heat exchanger cannot discharge heat to the heating system.	• The buffer storage tank is “full”. Extract heat from storage tank • Check operation and setting of the pump thermostat and load unit • Set pump one increment higher (greater flow rate). • Circulating pump not running. Pump or power connection defective? • Return temperature too high, < 70°C. • Check whether shutoff devices are stuck. • Sufficient heating water present?
Overheat discharge valve dripping.	• Contamination of the overheat discharge valve. • Flush the overheat discharge valve by pressing the red cap on the fitting. • Inspect the seat of the connection seals and pistons (see manufacturer’s manual). • Where necessary, fit filters to the system upstream of the safety device (make sure minimum flow is maintained)

Gurgling noises, boiling noises in the water-carrying parts of the H_2O cell (air in the system)	• Check system pressure • Bleed the system at the bleed valve. In the case of newly filled or topped up systems it will take some time for all the air to escape. A single bleed operation is often not sufficient.
Radiators do not warm up.	• Close radiator thermostats once the set room temperature is reached. The convective heat of the hearth will spread through the surrounding air. • The heating system may be sluggish because of its configuration. It can take some time for the heating system to generate heat again. • Have the heating system balanced by a heating engineer. • Check the heat circulating pump for correct operation. • Bleed the system
Increased and more rapid contamination of the combustion chamber lining and glass ceramic. The combustion chamber lining no longer burns off material. It is difficult to light the fire	• Remove deposits in the heat ex-changer and in the connecting pipe to the chimney. • Light and stoke correctly, observe wood addition rate wood moisture content <20% • Check chimney draught • Inspect load unit.

If there are any further problems contact your fireplace manufac-turer/heating installer. Only spare parts supplied by the manufacturer may be used.

7. General warranty terms and conditions

7.1 Scope of Application

These General Warranty Terms and Conditions apply to the relationship between the manufacturer, Spartherm Feuerungstechnik GmbH, and the dealer/intermediary. They are not the same as the contract and warranty terms and conditions which the dealer/intermediary passes on or may pass on to its customers in a particular case.

7.2 General information

This quality manufactured product is state of the art.
The materials used were meticulously selected and are constantly checked, as is our entire production process.

Setting up or installing this product requires specialized knowledge. Our products may therefore only be installed and commissioned by specialized firms and in compliance with statutory regulations as amended.

7.3 Warranty period

The General Warranty Terms and Conditions apply only within the Federal Republic of Germany, and the European Union. The warranty period and scope of the warranty in accordance with these terms and conditions shall apply apart from the statutory guarantee, which remains unaffected.
Spartherm Feuerungstechnik GmbH gives a **5-year** warranty on:
- Basic body fireplace inserts
- Basic body stoves
- Basic body fireplace cassettes
- Basic body fireplace doors

Spartherm Feuerungstechnik GmbH gives a **24-month** warranty on elevating mechanisms, operating devices such as handles, adjustment levers, shock absorbers, electronic and electrical components such as

exhausters, governors, original spare parts, all purchased parts and safety devices.

Spartherm Feuerungstechnik GmbH gives a **6-month** warranty on wearing parts around the fire, such as fireclay bricks, vermiculite, fire grates, seals and glass ceramics.

7.4 Requirement of effectiveness for the warrany

The warranty period starts on the date of delivery to the dealer / intermediary. This must be verified from a document such as an invoice with the dealer/intermediary's confirmation of delivery. The warranty certificate relating to the product must be produced by the claimant when making a warranty claim.

If such proof is not produced Spartherm Feuerungstechnik GmbH shall not be obliged to honour the warranty.

7.5 Warranty exclusions

The warranty ofdoes not cover:
- wear and tear to the product
- Fireclay bricks/ vermiculite:

These are natural products subjected to expansion and contraction during the heating process. This may create cracks. For as long as the linings remain in position in the fire chamber and do not break up, they remain fully functional.
- the Surfaces:

Discoloration of the enamel or galvanized surfaces caused by thermal stress or overload.
- the elevating mechanism:

If the installation instructions are not correctly followed, resulting in overheating of the pulleys and bearings.
- the seals:

Reduced sealing due to thermal stress and hardening.
- the glass panesceramics:

Soiling caused by soot or burnt-in residues of burnt materials as well as visibly changed colour or other aspects due to thermal stress.
- improper transport and/or incorrect storage

- improper handling of fragile components such as glass and ceramics
- improper handling and/or use
- lack of maintenance
- incorrect installation or connection of the unit
- Non-observance of the installation and operating instructions
- technical modifications to our the unit by third parties

7.6 Defect remediation-/repairs

Notwithstanding the statutory guarantee, which shall take precedence over our warranty during the statutory guarantee periods, within the scope of our warranty we will remedy free of charge all defects demonstrably due to a material fault or manufacturing error, provided that the other terms and conditions of this warranty undertaking are observed.

In accordance with this warranty undertaking Spartherm Feuerungstechnik GmbH reserves the right either to rectify the defect or to replace the unit free of charge. Remediation of defects shall take preceden. This warranty undertaking expressly does not cover
further compensation exceeding the statutory guarantee.

7.7 Extension of warranty

In the case of performance in accordance with the terms of the warranty, whether remediation of defects or replacement of a unit, the warranty period shall be extended in respect of the replacement unit/components.

7.8 Spare parts

No spare parts other than those produced or recommended by the manufacturer shall be used.

7.9 Liability

Damage and compensation claims not based on a defective unit supplied by Spartherm Feuerungstechnik GmbH are excluded and are not covered by the warranty undertaking.
This does not apply to statutory warranty claims arising in a particular case.

7.10 Note

Your specialist dealer/contractor will gladly advise and assist you in matters not covered by our warranty terms and conditions and undertakings. We particularly advise you to have your fireplace insert/ stove serviced regularly by a stove fitter.

Technical data subject to change errors and omissions excepted.

8. For your information

9. Commissioning log

Date:_____			Unit no.: (see name plate)		
Name and address of stove operator:					
Name and address of heating installation company:					
Name and address of stove fitter:					
Heating system bled:			☐ Yes	☐ No	
Working pressure checked:			☐ Yes	☐ No	
System tested for leaks:			☐ Yes	☐ No	
All safety devices (overheat discharge valve, safety valve, diaphragm expansion vesssel) tested:			☐ Yes	☐ No	
Please enter temperatures between insert and load unit: Return temperature in °C Feed temperature in °C					
Visual inspection of the heating system:			☐ Yes	☐ No	
Functional test carried out:			☐ Yes	☐ No	
Stove operator instructed in its operation. Installation and operating manual issued:			Signatures: Installer	Stove fitter	Operator
Maintenance work carried out annually:					
Nature of the work:					
Name:					
Date:					
Signature:					

N.B. Keep in a safe place!

Please keep this manual togerher with a valid and clearly dated purchase receipt, and have the relevant documents ready to show our fitters whenever work is needed.