



Operating Manual

Fireplace inserts



PREFACE - QUALITY PHILOSOPHY

You have decided in favour of a SPARTHERM fireplace - thank you for your confidence in our company.

In a world of abundance and mass production, our company stands for the values expressed by our founder, Gerhard Manfred Rokossa:

“High technical quality combined with contemporary design and service to our customers, to their satisfaction and for their word-of-mouth recommendation to others.”

Together with our specialist retail partners, we offer you first-class products that will touch your customers emotionally, and will inspire feelings such as a feeling of security, safety and comfort. To achieve this, we recommend that you read the operating instructions carefully in order to get a quick and comprehensive overview of your fireplace insert.

In addition to information on use, these operating instructions also include important details on care and operation to guarantee your safety and to maintain the value of your fireplace insert as well as useful tips and guidance. In addition, we show you how to operate your fireplace insert in an environmentally aware manner.

For further enquiries, please contact your specialist dealer / fireplace installer.

We wish you a great deal of pleasure with your fireplace insert!
As well as a lovely fire at all times.

Your Spartherm Team

CONTENTS OF OPERATING INSTRUCTIONS

1.	Certified Quality	4	5.	Service and maintenance	19
1.1	Closing function of the door	4	5.1	Type plate	19
1.1.1	Conversion of closing function on the fire door	5	5.2	Ash pan and grate	19
2.	Fuel	5	5.3	Window	19
2.1	Wood	5	5.4	Cleaning and maintenance	19
2.1.1	CO ₂ -neutrality	5	5.5	SmartClose door lock	20
2.1.2	Types of Wood	5	6.	Help	21
2.1.3	Quantities of wood	6	6.1	Chimney fire	22
3.	Burning	7	7.	Disassembly	23
3.1	Initial start-up	7	7.1	Safety information for disassembly	23
3.2	Heating and firing	7	7.2	Dismantling the unit	23
3.2.1	Ignition (down burn)	7	8.	Disposal	23
3.3	Firing/adding wood	10	8.1	Disposing of the packaging	23
4.	Technical information	10	8.2	Disposing of the unit	23
4.1	Heating during the transition period	10	9.	Appendix	24
4.2	Operation with open door	11	9.1	Accessories	24
4.3	Combustion air – recirculating air – Fresh air	11	9.2	Standards and regulations	24
4.4	Fire safety / in the fireplace	11	9.3	Declarations of conformity	24
4.4.1	Special fire safety precautions relating to floor coverings in the fireplace vicinity	11			
4.4.2	Special precautions for the fire protection of adjacent components constructed of flammable materials	13			
4.4.3	Fireplace inserts - area of direct radiant heat	14			
4.5	Cleaning of vertically-oriented sliding doors	16			
4.5.1	Cleaning of round or angled vertically sliding doors	17			
4.5.2	Cleaning angled doors (the 3-sided arte model)	17			

1. CERTIFIED QUALITY

OUR FIREPLACE INSERTS ARE CERTIFIED WITH A CE MARK IN ACCORDANCE WITH THE TYPE TEST DEFINED IN DIN EN 13229. DECLARATION OF PERFORMANCE IS AVAILABLE AND CAN BE VIEWED AT WWW.SPARTHERM.COM

The locking mechanism on the model with self-closing door must not be tampered with. Interference with the mechanism renders both the warranty and operating licence invalid. The warranty and operating licence are also rendered invalid if the customer modifies the technology of any other area of the fireplace insert. The desired model should be clarified with you by your specialist dealer before you place an order.

These operating instructions comply with the provisions outlined in EN 18896 'Solid-fuel fireplaces'. National and regional regulations, methods of installation or materials may deviate from this version, intended only as an example, and must be observed in all cases. Our fireplace inserts are fire areas for sustained fires, i.e. the regular adding of fuel enables them to remain lit for extended periods. Our fireplace inserts are not suitable for continuous fires, i.e. ones where regular adding of fresh fuel is not required.

Naturally, our fireplace inserts are subject to our own in-house quality criteria, from the incoming goods inspection through to final inspection prior to leaving the factory.

1.1 CLOSING FUNCTION OF THE DOOR

The suitability of a fire area for multiple occupancy (i.e. two or more fireplaces being connected to the same stack or chimney) depends upon whether or not the door is self-closing:

Self-closing door function: fire area is suitable for multiple occupancy (as described above).

No self-closing door function: multiple occupancy is not permitted, i.e. the fire area must be connected to its own stack or chimney.

Note: when a stack or chimney has multiple fireplaces connected to it, it must be constructed and designed in the appropriate manner.

A distinction to make is between fire places with open or closed chimneys. An 'open chimney' in Germany is not subject to the emission requirements defined in 1.BImSchV, but can only be used 'occasionally'. The manufacturer defines the operating method for the fire area and also determines if the device can be operated properly in an 'open' situation and can therefore be considered to be an 'open chimney': open operation is permitted, according to the manufacturer if the open fireplace/chimney is only used on an occasional basis. On the other hand, the manufacturer does not permit continuous operation of an open chimney. The manufacturer does permit operation with a closed chimney: no restriction on operation.

Note: the old terms of 'Type A1' or 'Bauart A' that originated in the now obsolete standard DIN 18895 often gave rise to confusion between the aforementioned features, and therefore no longer apply today.

Without exception, Spartherm fireplace inserts must be operated in a closed manner (intended use), i.e. with the exceptions of adding fuel or cleaning, the doors on the fireplace insert must remain closed at all times.

When operating in a single-occupancy chimney (i.e. one fire area per chimney or stack) the operator is free to choose between a self-closing fireplace insert or one on which the fire door does not have a self-closing fire door. The operator is always responsible for ensuring that the fire door closes in the intended manner when the fireplace insert is in operation, and this requirement must be observed at all times.

1.1.1 CONVERSION OF CLOSING FUNCTION ON THE FIRE DOOR

Vertically-oriented Spartherm fireplace inserts are supplied without a self-closing loading door, while fireplace inserts with hinged doors are produced with a self-closing loading door. On vertically-oriented sliding fireplace inserts without self-closing fire doors, the type of door closing mechanism can be converted into a self-closing one by removing the door counterweights. Folding fireplace inserts with self-closing fire doors can be converted into inserts without self-closing fire doors by relieving tension on the door closing springs.

For the correct conversion procedure for each type of door closing mechanism, please refer to the relevant installation manual for fireplace inserts.

2. FUEL

2.1 WOOD

2.1.1 CO₂-NEUTRALITY

Wood has no debts to nature. The foundation 'Wald in Not' ['Forest in Distress'] formulated this very aptly as follows: 'Wood is stored solar energy'. It is produced sustainably in our forests from solar energy, carbon dioxide, water and dissolved nutrients. Heating with wood therefore means heating according to the cycle of nature. With the help of the energy of the sun and through the growth of trees in our forests, the carbon dioxide released by combustion is stored back in the trees' timber. This timber is then available again as raw material (also refer to www.wald-in-not.de).

Conclusion: When wood burning, nature remains in balance. German Law legislates for the sustainable management of forests. It therefore makes sound economic and ecological sense to burn wood in this manner.)

2.1.2 TYPES OF WOOD

The different types of wood all contain roughly the same amount of heat energy per net kg of wood mass. However, each type of wood has a different volume for a given weight because the cellular structure of the wood varies in terms of cell size and density. This fact is depicted in the technical values by raw density. In this case, the wood does not contain any water, and wood is weighed by the 1 m³.

The best wood for starting a fire are those with a low density because they light easier, whereas for adding more fuel to an existing fire, wood with a higher density is more suitable.

Wood hardness	Type of wood*	Gross density in kg/m ³
Softwood	Poplar	370
	Spruce	380
	Fir	380
	Pine	430
Hardwood	Beech	580
	Ash	580
	Oak	630

* Other domestic types of wood can be used too, but they are not readily available commercially, nor in large quantities.

Due to the fact that operation of a fireplace insert, depending on the design of the tiled stove or plaster stove (e.g. used for heating, as an oven or for ducted hot air and other uses), involves different requirements for operation (the amount of fuel to add, the refuelling interval, etc.), you should obtain advice and guidance from the fireplace installer before using your fireplace insert for the first time.

Here are a few tips and items of information:

- The best fuel is air-dried, untreated firewood with a residual humidity of ≤ 18 %.

- The wood should be stored in a protected, dry and well ventilated place.
- If the wood is too wet, it will not provide such effective heating, the chimney will soot up and the window will soil more rapidly.
- No open operation with conifer timber containing resin. These types of wood tend to produce sparks.

Our fireplace inserts are designed for operation with firewood and wood briquettes in acc. with DIN 51731. The use of other fuels is not permitted.

Never any under circumstances should you burn any of the following:

- wet timber, bark offcuts, nut shells or similar woody plant parts
- MDF or coated board materials
- paper, paperboard and old clothes
- plastics and foams
- wood treated with a timber preserving agent
- solid or liquid non-wood materials
- flammable liquids

2.1.3 QUANTITIES OF WOOD

Nominal heat output* in kW	Wood feed quantity** in kg/h	Images
5,0 - 6,9	1,5 - 2,3	
7,0 - 9,9	2,3 - 3,3	
10,0 - 12,9	3,3 - 4,3	
13,0 - 15,9	4,3 - 5,3	
16,0 - 21,0	5,3 - 7,2	

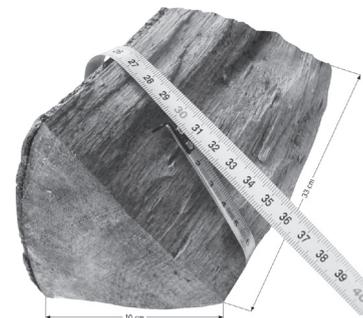
* Please refer to the type plate for the applicable nominal heat output, e.g. for the Varia model range.

** The actual quantity of wood depends on the type of wood and its related properties.

Wood feed quantity based on the example of the Varia 1V-51-4S

Nominal heat output 11.0 kW

Wood feed quantity 3.3 - 4.3 kg/h (± 30%)



We always recommend that you burn split firewood in your fireplace insert. Triangular-section firewood made of beech with a radius of 10 cm and a length of 33 cm weighs about 2.0 kg. The circumferential edge dimension should be approx. 30 cm. The wood feed quantity can vary by ± 30%.

Note: on larger fireplace inserts with a combustion chamber width of approx. 60 cm, the firewood can also be about 50 cm in length.

If the quantity added is exceeded consistently by more than 30%, this can damage the fireplace insert or the chimney. If the quantity of wood drops too far below the recommended level, low combustion room temperature can lead to poor burn-up and to sooting up of the window. Please do not drop more than 30% below the recommended quantity of wood. After setting up the fireplace insert, only light a moderate fire initially. This enables you to avoid cracks in the combustion chamber covering (which may still contain residual humidity before the first firing). The amount burned should be increased gradually over 3 to 5 firings to about 30% above nominal heating capacity.

3. BURNING

3.1 INITIAL START-UP

- Check to ensure that all of the documents and accessories enclosed with the fireplace insert are removed from the combustion chamber.
- The enclosed heat-resistant glove is only intended to provide protection from the heat when using the operating handle, the 'cold hand' and the damper lever. The glove is not fire-proof.
- Combustion air, depending on the type of fireplace insert, is either regulated by means of the 'cold hand' (see chapter „3.2 Heating and firing“) or without tools, using the telescopically extending operating handle.



Example for an air regulation lever used without tools with a insert

- Read the operating instructions thoroughly to learn details about fuels and other relevant topics (see chapter „2.1 Wood“).
- Initial start-up (commissioning) should be performed in consultation with the fireplace installer who constructed the fireplace unit, or (better) with his on-site assistance. All cladding parts must be completely dried to prevent cracks or damage.

- If you have no external combustion air inlet, ensure you have a sufficient supply of air to the installation space to prevent any negative pressure from occurring in that space, and to ensure that no flue gases enter the space. **CAUTION!** On controlled ventilation systems, bathroom ventilation systems and fume extractor fans without a recirculating mode, there is also a risk of negative pressure (vacuum)!!!
- Note contents of chapter „3.2 Heating and firing“.
- During this first burn, unpleasant odours may be produced. This is because the anti-corrosion coating inside the combustion chamber is burning into the steel surface. This is not a health hazard, but it does smell unpleasant. Ensure sufficient ventilation in the installation space.

CAUTION! During a burning operation, the surfaces of the window panes and cladding components can become very hot: Risk of burn injuries!

3.2 HEATING AND FIRING

A good combustion requires correctly prepared fuel, the correct combustion temperature for each burn-up phase and a suitable supply of oxygen to enable the system to function in an environmentally friendly and energy-efficient manner.

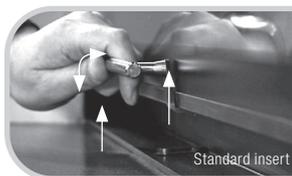
3.2.1 IGNITION (DOWN BURN)

Principle: This firing method is a simple and effective way to reduce the emissions from fire areas. The stack of wood burns downwards, from top to bottom. With this firing method, all gases pass through the hot combustion zone (flames) above the stack, enabling complete combustion to take place. The wood further down is heated up gradually, gas flows outwards and burns in the hot combustion zone. The result is combustion that runs much more uniformly than when setting a fire from the bottom of the stack of wood.

Caution: The important thing about this process is that it prevents rapid burn-up in a downwards direction. The lighting of firewood in fire areas, and the correct stacking of that firewood together with initial observation of the fire in respect of finding the most suitable setting for combustion air all requires a certain level of experience.

Procedure:

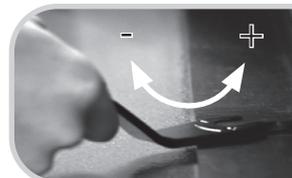
1. Open the combustion chamber door (swivel or slide upwards).



Standard device door slide up to open



2. Start by stacking wood crosswise on the ash left on the grate. Use the thicker firewood at the bottom, with progressively thinner wood towards the top of the stack.



3. Open the combustion air inlet fully. Using the "cold hand", turn the actuating lever into initial combustion position (+).

Depending on the length of firewood and the dimensions of the combustion chamber, narrow fireplace inserts are filled with firewood that points towards the front. Wide fireplace inserts are filled with the longitudinal side facing forwards, i.e. with the firewood arranged sideways. Note the wood feed quantities defined in chapter „2.1.3 Quantities of wood“.



Two or three starting aids (e.g. wood wool impregnated with wax) are placed between the layers of initial firewood.

4. For the highest layer, sufficiently thin kindling is laid. Softwood is recommended here (e.g. fir)



5. Light a match and ignite the starting aids with it.



6. Then close the door. Depending on vacuum in the chimney, it may prove helpful to leave the door on the fireplace insert about 3 cm open to enable the fire to light properly



7. The initial wood now ignites rapidly and the upper, thinner sticks of firewood start to burn brightly. You should now close the fire door completely.

The quantity of kindling should be selected to enable high temperatures to be reached, which enables the chimney to develop a draught quickly.

After 3-5 minutes, close the door on the fireplace insert.



8a. For this, the actuating lever is moved into about middle position (primary air closed). If the flames now become weak, open the actuating lever slightly further (turn clockwise (+)).



8b. Or close even further (turn anticlockwise (-)) if the fire grows very quickly.

8. Once the upper, thinner firewood has been burned completely, and the fire reaches down to the next layer, you must reduce the flow of combustion air.



9. Once the fire has reached the lowest layer of firewood, the air flow can be reduced even further.



10. The fuel will burn down to a pile of hot embers.



11. Provided that there are sufficient hot embers, you can continue adding fresh firewood.

During this phase it may be advisable to regulate the volume of air several times. With a little experience with the characteristics of your own fireplace insert, you will soon find the correct setting accurately.

After adding firewood, the combustion air must once again be opened fully in order to burn the additional wood rapidly. This causes high combustion temperatures to be reached again almost immediately, the key to complete and environment-friendly combustion.



12. If no more firewood is to be added, the actuating lever can be closed completely using the 'cold hand' as soon as there are only a few remaining hot embers.

Depending on the type and quantity of wood, remaining embers and chimney draught, this reheating phase may take about 5 minutes, until the combustion air, in a way similar to that described in Point 8, can be restricted.

End of the combustion process!

3.3 FIRING/ADDING WOOD

- Depending on weather condition, move the actuating lever more of less into centre position or slightly above it (closing the supply of air). This always depends on experience and on prevailing conditions on location.
- Do not open the doors forcefully or gases may enter your living room through a suddenly produced negative pressure. At first, open the door slowly and only a crack.
- Putting fresh firewood onto hot embers prevents the possible release of smoke when the door is opened.
- Typical intervals for adding firewood are 30 to 60 minutes approx., which ensures that the fireplace insert can be operated continuously.
- When adding fresh firewood, completely cover the hot embers.
- Depending on how much firewood you add, you may move the actuating lever completely to the right for a few minutes until that fresh firewood is burning brightly.
- After adding fresh firewood, never choke off the flow of combustion air. Risk of explosion!
- Never repeatedly put more than the recommended amount of wood onto the fire.
- This also applies whenever the fireplace system is not operational
- Never close the actuating lever completely during the burn-up process (risk of explosion).



The end of the burning process is achieved when the wood has burned completely, and no smoldering or incomplete combustion can occur. Now the actuating lever can be closed (left position).

4. TECHNICAL INFORMATION

4.1 HEATING DURING THE TRANSITION PERIOD

The basic requirement for correct fireplace system function is the draught produced by your chimney (pressure head). This is dependent on the outside temperature and therefore, to a large extent, on the season. Higher ambient temperatures during the shoulder seasons (spring and fall) can lead to weaker draughts and consequently, poorer combustion or more smoke production.

What can you do to help prevent this?

- Empty the ash can and grate before lighting a fire. Place grate with embossed engraving facing downwards.
- If the chimney draught is less than this, a larger 'initial burn' should be created. Obtain the advise of your fireplace installer or chimney sweep.
- Once the fire has started, shift the air supply lever as far to the right (maximum air flow) as necessary . The fire must be provided with sufficient combustion air to stabilize the draught, but not so much that the wood burns away too quickly.
- As combustion begins to die back, do not be tempted to shift the actuating lever too far to the left, as this can cause the column of stable air in your chimney to collapse and the fire to smolder in the fireplace insert.
- If combustion air is closed off too soon, and if the embers are completely covered when new firewood is added, this can cause explosive combustion (i.e. an explosion)!
- To prevent the bed of embers piling up to high, the ash should carefully be removed to prevent the grate from clogging up and to enable combustion air to flow into the fire without obstruction.

4.2 OPERATION WITH OPEN DOOR

- Open operating mode is only permitted if the fireplace unit was inspected and approved for this purpose. The technical data in the installation manual (separate attachment) provide this information.
- In acc. with BImSchV (Bundes Immissionschutz Verordnung) open fire areas can only be operated in Germany on an occasional basis.
- Fireplace systems may only be operated in open mode when supervised, in order to reduce the risk of fire due to flying sparks or hot embers.
- During open mode operation, only burn normal firewood, i.e. avoid conifer wood that contains resin.

4.3 COMBUSTION AIR – RECIRCULATING AIR – FRESH AIR

- The combustion air line must always be unobstructed.
- To prevent a buildup of heat in the device, the existing air outlet grilles or openings must be clear and open when a fire is being lit.
- In the area of direct radiation from a fireplace insert, measured from the front edge of the fire area opening and no objects made of combustible materials must be set up (also refer to chapter '10 Technical Data' in the related installation manual for fireplace inserts).
- Objects made of combustible materials must not be placed on free surfaces of the fire area.
- No devices that generate a vacuum on the same floor / same combination of rooms (e.g. extractor fans in the kitchen). This would entail a risk of smoke ingress in the living room.
- Outside the area of direct radiation, do not place any combustible objects or materials on the chimney cladding within a distance of 5 cm if the surface temperature reaches or may reach $>85^{\circ}\text{C}$.
- Please note that any fireplace gets very hot indeed when in operation. heat-resistant glove provided and the 'cold hand' operating handle.
- In Germany, all fireplaces must be operated in acc. with BImSchV legislation.

4.4 FIRE SAFETY / IN THE FIREPLACE

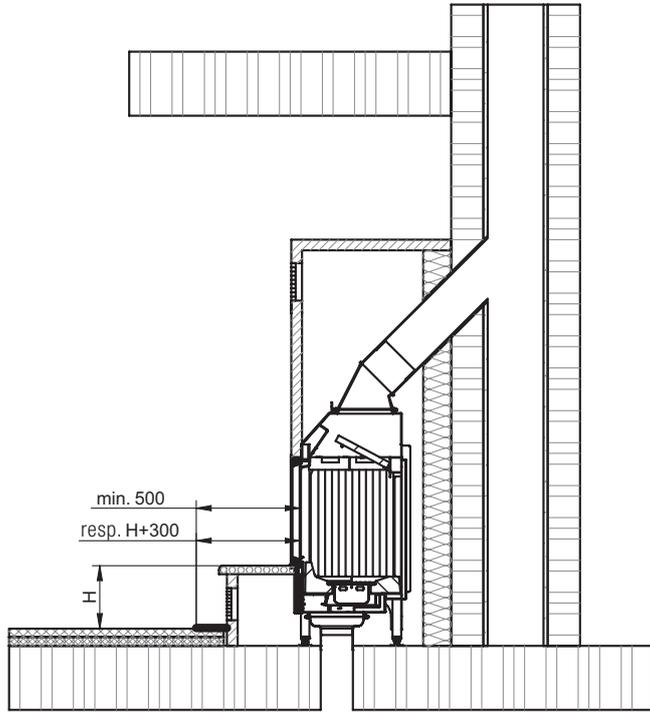
4.4.1 SPECIAL FIRE SAFETY PRECAUTIONS RELATING TO FLOOR COVERINGS IN THE FIREPLACE VICINITY

Floor coverings that are not fireproof (e.g. carpets and parquet flooring etc.) must be protected from spark emission using a covering made from non-flammable materials (e.g. refractory glass, natural stone, tiles, slabs, marble, granite or other mineral-based construction materials). If this material is metal, it must be at least 1 mm thick. The flooring must be fastened down and secured against sideward movement.

In front of fireplaces that are run with open combustion chamber door the spark protection material needs to cover a surface corresponding to the height of the combustion chamber base above floor level (H) + 300mm (minimum at least 500mm) to the front and the height of the combustion chamber base above floor level (H) + 200mm (minimum at least 300mm) to the side. If a log guard (not included) with a height of at least 10 cm is fitted, the minimum distances listed above are sufficient and can be measured from the log guard.

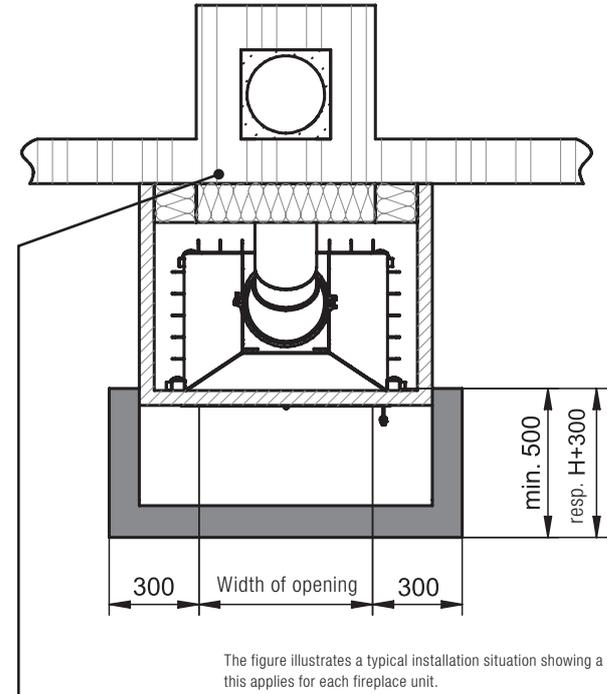
In Addition, The Area Starting From The Straight Radiation Area Of The Effective Furnace Opening Must Be Protected By 300 Mm To The Left And To The Right (See Figure).

Please discuss whether and how the chimney flank must be insulated in its installation situation with your responsible stove fitter and the chimney sweep.



The figure illustrates a typical installation situation showing a and this applies for each fireplace unit.

In addition, the area starting from the straight radiation area of the effective firebox opening must be protected by 300 mm to the left and to the right (see illustration).

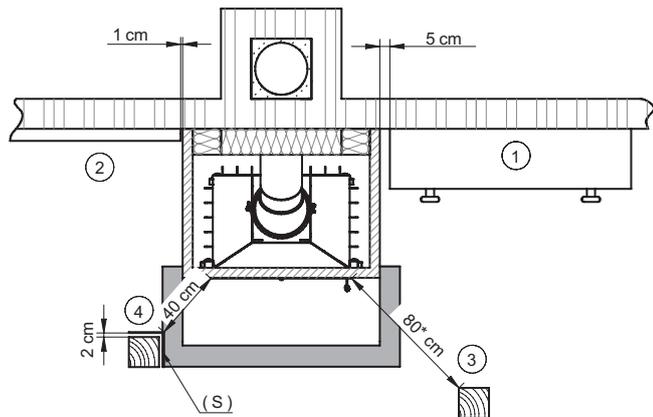


The figure illustrates a typical installation situation showing a and this applies for each fireplace unit.

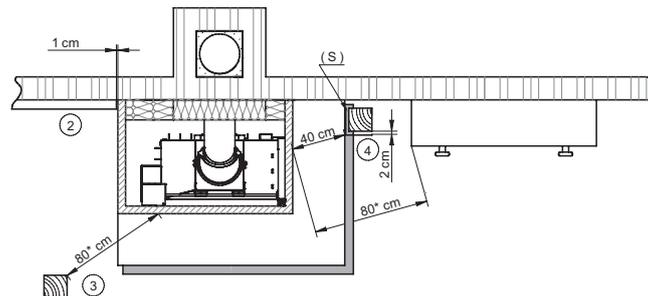
Please discuss whether and how the chimney flank must be insulated in your installation situation with your responsible stove fitter and the chimney sweep.

4.4.2 SPECIAL PRECAUTIONS FOR THE FIRE PROTECTION OF ADJACENT COMPONENTS CONSTRUCTED OF FLAMMABLE MATERIALS

1. A distance of at least 5 cm has to be maintained between built-in furniture (e.g. cupboards) and the fireplace cladding.
2. A clearance of at least 1 cm is recommended for components with small contact areas (wall, floor or ceiling cladding). Wallpapers are not considered to be combustible construction materials.
3. A clearance of at least 80 cm must be maintained between the front and sides of the firebox opening and all flammable fixtures or built-in furniture units, unless stated otherwise in component-specific safety instructions.



* The required minimum distance can vary depending on the model



*The required minimum distance can vary depending on the model please read under point 4.4.3

4. When arranging ventilated thermal radiation protection down both sides (S), a distance of just 40 cm is sufficient. The ventilated distance to the radiant heat protecting device must be (S) at least 2 cm.

4.4.3 FIREPLACE INSERTS - AREA OF DIRECT RADIANT HEAT

Fireplace Insert	kW	Distance in the area of direct radiant heat of the view pane [mm]		
		front	side	rear

Straight				
Mini R1V	5.2	800	–	–
Mini R1V NSHF	6.2	800	–	–
Mini Z1	7.0	800	–	–
Mini Z1 NSHF	10.0	800	–	–
Mini S	7.0	800	–	–
Mini Sh	7.0	800	–	–
Varia 1V 51	11.0	1900	–	–
Varia 1V 57	11.0	1900	–	–
Varia 1V 51 NSHF	17.0	1800	–	–
Varia 1V 57 NSHF	17.0	1800	–	–
Varia 1Vh 51	11.0	1900	–	–
Varia 1Vh 57	11.0	1900	–	–
Varia 1Vh 51 NSHF	17.0	1800	–	–
Varia 1Vh 57 NSHF	17.0	1800	–	–
Varia 1V-87h	9.5	2300	–	–
Varia 1V-87h NSHF	10.9	2200	–	–
Varia 1V-100h	10.4	2400	–	–
Varia Sh	11.0	800	–	–
Varia AS	7.0	1400	–	–
Varia AS NSHF	11.0	1400	–	–
Varia ASH	7.0	1400	–	–
Varia ASH NSHF	11.0	1400	–	–
Varia Ah	10.4	800	–	–
Varia Bh	10.4	1500	–	–
Varia Bh S	9.0	1500	–	–
Varia B-120h	15.0	800	–	–
Arte 1Vh-66	6.6	1750	–	–
Arte 1Vh-66 NSHF	10.4	1750	–	–
Arte Bh	11.0	800	–	–

Fireplace Insert	kW	Distance in the area of direct radiant heat of the view pane [mm]		
		front	side	rear

Tunnel				
Mini S-FDh	6.0	800	–	800
Varia FD	11.6	1700	–	1700
Varia FDh 51	11.6	1700	–	1700
Varia FDh 57	11.6	1700	–	1700
Varia FD-87h	10.6	1790	–	1790
Varia FD-87h NSHF	11.1	1780	–	1780
Varia AS-FDh	7.0	1000	–	1000
Varia AS-FDh NSHF	11.0	1000	–	1000
Varia A-FDh	10.4	1100	–	1100
Varia B-FDh	11.0	800	–	800

L-Form				
Mini 2L/2R	7.0	900	900	–
Mini 2LRh 51	7.0	900	900	–
Mini 2LRh 57	7.0	900	900	–
Varia 2L-55 / 2R-55	7.0	800	800	–
Varia 2L-55h / Varia 2R-55h	7.0	800	800	–
Varia 2L-62 / Varia 2R-62	6.9	1000	700	–
Varia 2L-62 / Varia 2R-62 NSHF	10.0	1100	700	–
Varia 2L-62h / Varia 2R-62h	6.9	1000	700	–
Varia 2L-62h / Varia 2R-62h NSHF	10.0	1100	700	–
Varia 2L-68h / 2R-68h	9.6	1400	1200	–
Varia 2L-68h / 2R-68h NSHF	9.9	1500	1200	–
Varia 2Lh / 2Rh 51	11.0	800	800	–
Varia 2Lh / 2Rh 57	11.0	800	800	–
Varia 2Lh / 2Rh 51 NSHF	12.0	800	800	–
Varia 2Lh / 2Rh 57 NSHF	12.0	800	800	–
Varia 2Lh / 2Rh 51 S	7.0	800	800	–
Varia 2Lh / 2Rh 57 S	7.0	800	800	–
Varia AS-2Lh / AS-2Rh	7.0	1300	1300	–
Varia 2L-80h / Varia 2R-80h	10.4	1800	1800	–
Varia 2L-100h / 2R-100h	11.0	800	800	–
Arte 2LRh-66	6.4	1200	1200	–
Arte 2LRh-66 NSHF	10.4	1000	1000	–

Fireplace Insert	kW	Distance in the area of direct radiant heat of the view pane [mm]		
		front	side	rear

U-Form				
Varia AS-3RLh	8.4	1500	800	–
Varia Ch	9.0	800	800	–
Arte U-50h	9.3	850	1000	–
Arte U-70h	11.4	850	1100	–
Arte U-90h (Ø 200)	13.0	800	800	–
Arte U-90h (Ø 250)	13.0	800	800	–
Arte 3RL-60h (Ø 200)	10.0	1180	880	–
Arte 3RL-60h (Ø 250)	10.0	1180	880	–
Arte 3RL-80h (Ø 200)	11.4	1440	900	–
Arte 3RL-80h (Ø 250)	11.4	1440	900	–
Arte 3RL-100h	11.0	800	800	–

Round				
Speedy Ph	7.0	800	–	–

RLU				
Mini R1V RLU	5.2	800	–	–
Mini Z1 RLU	7.0	800	–	–
Mini S RLU	7.0	800	–	–
Mini Sh RLU	7.0	800	–	–
Varia 1V RLU 51	11.0	1800	–	–
Varia 1V RLU 57	11.0	1800	–	–
Varia 1V S RLU 51	7.0	800	–	–
Varia 1V S RLU 57	7.0	800	–	–
Varia 1Vh RLU 51	11.0	1900	–	–
Varia 1Vh RLU 57	11.0	1900	–	–
Varia AS RLU	7.0	1400	–	–
Varia ASh RLU	7.0	1400	–	–
Varia Sh RLU	11.0	800	–	–
Varia M-80h RLU	9.0	800	–	–
Varia Bh RLU	10.4	1500	–	–
Arte 1Vh-66 RLU	6.6	1750	–	–
Varia FD RLU	11.6	1700	–	1700
Varia 2L-55h / 2R-55h RLU	7.0	800	800	–
Varia 2L-62h / 2R-62h RLU	6.9	1000	700	–

Fireplace Insert	kW	Distance in the area of direct radiant heat of the view pane [mm]		
		front	side	rear

H₂O				
Varia 1V H ₂ O	8.0	1500	–	–
Varia 1V H ₂ O XL	9.0	1500	–	–
Varia 1V H ₂ O XXL	15.0	1500	–	–
Varia 1Vh H ₂ O	8.0	1500	–	–
Varia 1Vh H ₂ O XL	9.0	1500	–	–
Varia 1Vh H ₂ O XXL	15.0	1500	–	–
Varia Ah H ₂ O	10.4	800	–	–
Varia FD H ₂ O	10.0	800	–	–
Varia FDh H ₂ O	10.0	800	–	–
Varia A-FDh H ₂ O	10.4	800	–	–
Varia 2L-55h / 2R-55h H ₂ O	7.0	800	800	–
Varia 2Lh / 2Rh H ₂ O	10.4	800	800	–

Classic				
Renova B-Air (mit Mauerhals)	8.8	1000	–	–
Nova F-Air (mit Frontblende)	10.1	1000	–	–
Renova Cs-42 Scheitholz	6.5	1100	–	–
Renova Cs-42 Braunkohle	6.5	1100	–	–
Renova Cs-50 Scheitholz	7.0	1100	–	–
Renova Cs-50 Braunkohle	7.0	1100	–	–
Renova C-44 Scheitholz	8.5	1000	–	–
Renova C-44 Braunkohle	7.8	1000	–	–

4.5 CLEANING OF VERTICALLY-ORIENTED SLIDING DOORS

All cleaning of the glass ceramic pane must be carried out while it is cold (fireplace unit not burning and cooled down, no hot ash in the combustion chamber).

Opening of the fire door:

1. Close the firebox door (pull it fully downwards!).
2. Move the 'cold hand' from the left-hand side to the central locking position above the firebox door.



3. The door can now be tilted up.



4. With one hand on the door handle, gently tip the fire door downwards, at the same time supporting it with the other hand.

The glass window can now be cleaned in accordance with the operating instructions.

Closing the fire door:

1. Carefully close the fire door.
2. Move the lock above the door using the 'cold hand', turning the lock fully backwards to its limit position. This is important since otherwise the lock can scrape against the hood and the door will not seal properly



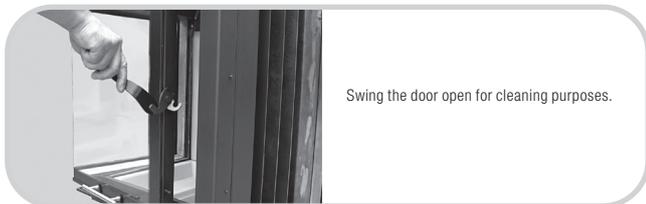
3. Test the function of the door by sliding it upwards and re-check the upper lock to ensure that the locking mechanism is fully closed, i.e. at its limit position.

When opening and closing the door, use the handle / "cold hand". Do not apply pressure to the glass (risk of breakage).

4.5.1 CLEANING OF ROUND OR ANGLED VERTICALLY SLIDING DOORS

Close the firebox door (pull it fully downwards). Place the 'cold hand' on the sliding rail lock above the firebox door. (Caution! One-sided or two-sided, depending on model)

With a clockwise turning motion, you slide the retaining bolt on the lock through 90 degrees to the front (below the door cover).



Closing the firebox door:

1. Close the firebox door carefully and keep it lightly pressed in.
2. Move the 'cold hand' to the right-hand side of the door and, positioning it on the lock, turn the lock fully downwards.
3. Turn the locking mechanism anti-clockwise in order to free the sliding rails.
4. Test the function of the door by sliding it upwards and re-check that the locking mechanism is fully closed, i.e. at its limit position.

After cleaning, re-close the firebox door, replace the 'cold hand' on the square nut, close the door by pressing on the frame (not on the glass) and lock it by turning the 'cold hand' fully downwards. Do not forget to reset the slide rail locking mechanism.

4.5.2 CLEANING ANGLED DOORS (THE 3-SIDED ARTE MODEL)

Cleaning must always be executed in a cooled-down state!

Opening of the fire door:

1. Close the firebox door (slide it fully downwards!).
2. Swivel out the locking mechanism on the sliding rail lock using the 'cold hand' above the firebox door, to right and left. The door is now locked in its lowest position.



There is a second bolt on the opposite side.

3. Unlock the side door locks by hand or with the help of the 'cold hand' using a turning movement, paying attention to the sequence of actions!



First unfasten the lower fastening



Then turn and open the upper opening.

4. Swivel the fireplace doors to left and/or right. The glass window can now be cleaned in accordance with the operating instructions.



Only touch the frame of the door

Closing the firebox door:

1. Close the firebox door carefully, lifting the door slightly while doing so and pressing it against the fixed-position glass element.
2. Lock the top and bottom door locks by hand or with the help of the 'cold hand'. Remove the 'cold hand'. Important: First fasten the top lock, then the bottom one.
3. Turn the locks on the sliding rails above the door back to their limit stops.

Caution: When opening and closing the door, only grip the door frame. Never exert pressure on the window panels. (risk of breakage!)

5. SERVICE AND MAINTENANCE

CAUTION! Never clean your fireplace insert while it is hot or warm..

5.1 TYPE PLATE

The type plate can be found on your warranty certificate and on your fireplace insert below the ash pan and/or the ash box. It includes technical data and information. The type plate must not be removed as it confirms the testing of the device and is required for the acceptance procedure and annual inspections by the chimney sweep.

5.2 ASH PAN AND GRATE

- Clean and empty the grate and ash pan at regular intervals, adapted to suit your use of the fireplace. CAUTION! Ash can keep embers hot for up to 24 hrs.
- The ash cone in the ash pan must not reach or block the slots in the grate.
- Always have the engraved side of grate facing downwards, located in the recess in the bottom of the fireplace insert.

5.3 WINDOW

The way to ensure that your window panel remains soot free for as long as possible is

- to use dry firewood (chapter „2.1.2 Types of wood“).
- to control combustion through adjustments to the flow of combustion air (chapter „3. Burning“).
- to keep the fireplace insert at the highest possible combustion temperature
- to have the correct amount of draught in the chimney
- to add the right amount of wood for the operating range.

Gradual sooting up of the window is entirely normal and does not constitute grounds for a complaint. Clean the inside of the window regularly using the window cleaning agent provided to prevent particles of soot from burning in too much (after approx. 8-12 operating hours)!

5.4 CLEANING AND MAINTENANCE

The fire area, the hot gas draught and the flue should be cleaned at regular intervals. Specifically, whenever there is any extended interruption in operation of the fireplace, ensure that the chimney is not blocked.

For other conditions, refer to table:

What	How often	What with?
Outside of fireplace insert and heating chamber	as required, min. once a year	Brush, vacuum cleaner or ash extractor
Glass pane	based on fire behaviour, for optimum visibility, we recommend after 8-12 hours of operation	You can easily clean the glass panel with a commercially available cleaning agent for fireplace glass. Use dry cloth to wipe. No scouring. Please do avoid that excess cleaning agent enters between door frame and glass panel. This might cause the hardening of the sealing compound between glass panel and door frame. A hardened sealing compound might lead to damages of door and glass. Suitable cleaning agents for fireplace glass are available at your specialist dealer.
Decor finishes in chrome or gold	as required	Use dilute soapy lye and soft cloth. Do not use abrasive agents. Do not polish!
Stainless steel surfaces	as required	Stainless steel cleaning product and a soft cloth.
Painted surfaces	as required	Damp cloth without cleaning agent with abrasive substances.
Hot air grille	as required	Duster or vacuum cleaner
Ash pan and grate	as required	Empty by hand or using special ash extractor
Air space below ash pan	as required	Vacuum cleaner or ash extractor
Adapter between fireplace insert and chimney	as required min. once a year	Brush, ash extractor

5.5 SMARTCLOSE DOOR LOCK

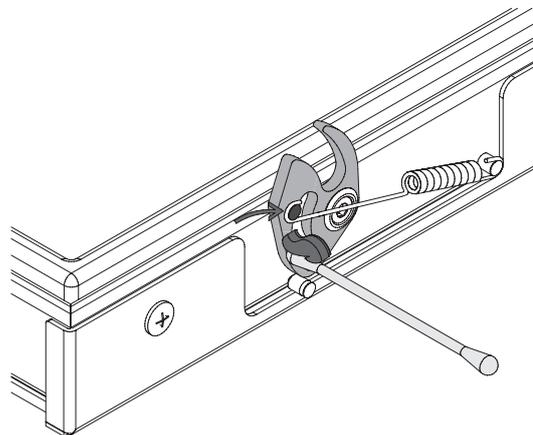
Fireplace inserts with **SmartClose** door locking mechanisms must be lubricated at regular intervals to assure problem-free operation (once per heating season). Upon delivery, the package includes a tube of special stove lubricating compound.

This lubricating compound is applied to facilitate ease of movement of heavy fire doors, and to prevent noise caused by opening and closing those fire doors.

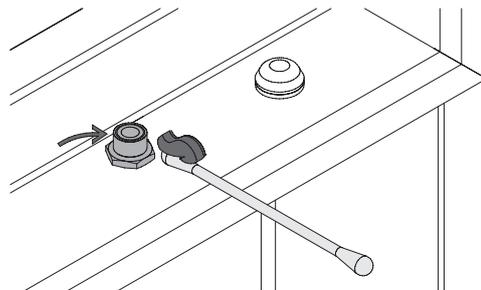
The lubricating compound must be applied at least once a year to the spring connection on the SmartClose and its associated roller. Fireplaces used frequently or very frequently, it may be necessary to shorten this lubrication interval. Depending on the type of fireplace insert, the door lock springs may be located below and/or above the fire door. In order to lubricate the lock, you may use a standard cotton swab as an aid.

To apply the lubricant compound, proceed as follows:

Open and secure the fire door; Apply a little lubricant compound to the cotton swab and use it to coat the spring support on the door lock; Turn the locating roller on the body of the stove during this application process. Open and close the fire door a few times and, if necessary, apply the lubricant compound once again.



Caution: Ensure that no copper lubricant compound makes contact with cladding parts or similar items! Remove dirt and grime straightaway with a cotton cloth. Never operate the equipment during intervening periods.



6. HELP

Problem	Cause, explanation	Chapter, note	Solution
Glass becomes sooted heavily, rapidly and unevenly.	You did not use the correct combustion materials.	2.	Use natural, bulky bits of timber compliant with BImSchV §3 (German legislation).
	The ambient temperature is above about 15°C. The weather conditions are unfavorable (e.g. fog). These weather conditions occur most frequently in spring and fall.	4.1	Fill the fireplace with a small amount of fuel and light it with the damper fully open (max. air flow).
	There is a temperature inversion. That means that the upper layers of the atmosphere are warmer than the lower layers.	4.1	Fill the fireplace with a small amount of fuel and light it with the damper fully open (max. air flow).
	The combustion air controller is not fully opened.	3.2.1	Move the air actuating lever into its far right-hand position.
	The external combustion air line is not free.	4.3	Clean the combustion air line.
	Combustion air is too heavily restricted. This means that soot accumulates quickly, within just half an hour. (It is normal for the fireplace unit to become progressively dirtier from operation. When driving, a car window becomes dirty, too!)	3.2.1	Check the position of the air lever and, if necessary, open up the combustion air flow rate fully to bring the fireplace unit up to operating temperature.
	The seating of a gasket / door seal is not perfect.	-	Check all seals, e.g. open the fire door and press the seal fully into the door profile.
	The wood is not dry enough.	2.	Measure the residual humidity in the wood used with a humidity detector. The recommended residual humidity is 20% or less.
	Not enough wood has been added. (an insufficient amount of wood can result in temperatures in the stove not being high enough).	2.1.3	The proper amount of wood per hour can be found in the technical data.
The chimney draught is too strong / too weak.	-	Observe the situation. The draught characteristics can be affected by the prevailing weather pattern. If the glass continues to soot up badly, inform your chimney sweep.	
Fire is difficult to ignite	You did not use the correct combustion materials.	2.	Use natural, bulky bits of timber compliant with BImSchV §3 (German legislation).
	The wood is not dry enough.	2.	Measure the residual humidity in the wood used with a humidity detector. The recommended residual humidity is 20% or less.
	The wood too thick.	2.	Use small-sized timber to light the fire. For firewood, use only split wood that is not thicker than about 8 cm at its thickest point. The optimum length of firewood is approximately 20 - 25 cm. In the case of prolonged heating, do not add too much wood. Instead, it is better to add smaller quantities of wood.
	A sufficient air supply is not assured.	3.	For heating or for adding more firewood, move the actuating lever fully to the right.
	The ambient temperature is above about 15°C. The weather conditions are unfavorable (e.g. fog). This is referred to as an intervening period.	4.1	Fill the fireplace with a small amount of fuel and light it with the damper fully open (max. air flow).
	There is a temperature inversion. That means that the upper layers of the atmosphere are warmer than the lower layers.	4.1	Fill the fireplace with a small amount of fuel and light it with the damper fully open (max. air flow).
	The combustion air controller is not fully opened.	3.2.1	Move the air actuating lever into its far right-hand position.
	The external combustion air line is not free.	4.3	Clean the combustion air line.
	The chimney is not free.	-	Inform the chimney sweep.
There is not enough vacuum in the chimney.	-	Light a small fire in the fireplace, following advice from your fireplace installer or chimney sweep.	

Problem	Cause, explanation	Chapter, note	Solution
Smoke escapes when adding wood	Air-extracting equipment is switched on, e.g. kitchen extractor fan.	3.1	Ensure that all air-extracting equipment is switched off.
	Wood added prematurely, on top of unburned wood.	3.3	Do not add fresh firewood until there is a bed of hot embers in the combustion chamber.
	The chimney is not free.	-	Inform the chimney sweep.
	Your fireplace has not already reached its operating temperature.	3.2.1	Burn down remaining wood until it forms a bed of hot embers, then add smaller pieces of firewood.
	The door has been opened too wide.	3.3	Open the door slowly and carefully.
Excessively rapid burn-up / rate of wood consumption is too high.	The diameter of your stack of wood is too small.	2.1.3	The ideal diameter for a stack of wood is about 25 cm.
	The chimney draught is too strong.	-	Inform the chimney sweep. Perhaps increase combustion air flow to counteract choking action.
	The combustion air flow has not been reduced.	3.2.1	Leave the actuating lever in about its center position.
	Ever since the initial blaze, the fire door has been slightly open.	3.2.1	Close the fire door!
	The recommended wood feed rate has not been observed.	2.1.3	The proper amount of wood feed per hour for your stove can be found in the technical data.

6.1 CHIMNEY FIRE

The chimney must be cleaned regularly (in Germany e.g. by the district chimney sweep) to prevent the formation of a soot layer in the chimney. Sparks that are produced during the combustion of wood and enter the chimney can ignite the soot layer.

Signs of a burning chimney:

- Flames blaze from the chimney mouth.
- Strong flying sparks..
- Smoke and odour nuisance.
- Chimney Cheeks Become Very Hot.

In case of chimney fire:

- Alert the fire brigade via the emergency call number.
- Remove flammable objects from the vicinity of the chimney.
- Under no circumstances should water be used to extinguish!

Due to the high temperatures, even a small amount of extinguishing water can generate an extremely large amount of water vapour. The resulting pressure endangers persons and can cause damage to the building or the furnace system.

7. DISASSEMBLY

7.1 SAFETY INFORMATION FOR DISASSEMBLY

⚠ WARNING! Danger due to non-adherence to disassembly instructions!

Incorrect disassembly of the unit may lead to severe injuries. this chapter contains important information for safe disassembly of the unit.

- Carefully read this chapter prior to disassembly.
- Adhere to the safety information.
- perform the disassembly work as described.

Only qualified personnel may disassemble the unit. electrical work may only be performed by qualified electricians.

To prevent danger, always adhere to the following requirements:

- The unit and other parts that you may come in contact with have cooled down for a sufficient period (e.g. several days).
- No heat or glowing embers remain in the firebox.
- The surroundings of the stove system are protected, e.g. by means of covers for the floor and furniture.

Prior to disassembly, clean the unit and the stove system. For cleaning work, remove the baffle plate from the firebox. „5.4 Cleaning“ Page 19.

7.2 DISMANTLING THE UNIT

- Remove all connections between the stove system and the chimney.
- Remove all pipes from the flue gas routing system.
- If installed, remove all pipes from the combustion air line.

8. DISPOSAL

8.1 DISPOSING OF THE PACKAGING

⚠ ATTENTION! Risk of environmental damage caused by improper disposal of the packaging!

- Do not dispose of the packaging with the normal household waste.
- Ensure that the packaging is recycled in a proper, environment-friendly manner.

The packaging is intended to protect the unit from transport damage. the packaging materials have been selected based on their environment-friendly characteristics and are made of recyclable materials. the packaging materials can be returned to the raw material cycle after use.



8.2 DISPOSING OF THE UNIT

⚠ ATTENTION! Risk of environmental damage caused by improper disposal of the unit!

- Do not dispose of the unit with the normal household waste.
 - Ensure that the unit is recycled in a proper, environment-friendly manner
- Dispose of the unit according to the legal regulations through a specialised disposal company or your local disposal facilities.



9. APPENDIX

9.1 ACCESSORIES

Combustion control S-Thermatik Neo

Secondary air control S-Kamatik 2

Electric door lift SESAM III (or opening and closing the firebox door)

Warm air fan S-Vent

Underpressure control S-USI II

Heat accumulator, Thermobox, Helix, Aufsatzaggregat, eboris-akku

If required and for additional information (e.g. brochures, spare parts, price lists): Please contact the manufacturer or a specialist shop.

www.spartherm.com

You can find warranty conditions at www.spartherm.com

9.2 STANDARDS AND REGULATIONS

Relevant regulations – without claim to completeness:

- **FeuVo:** Firing installation regulation of the respective German state.
- **LBO:** State construction regulations or fire protection regulations.
- **VKF:** Association of Fire insurances of the Cantons (Switzerland).
- **LRV:** Clean air act (Switzerland).
- **1. BImSchV:** First directive for implementation of the German Federal Immission Control Act.
- **TROL:** professional regulations of the tiled stove and air heater construction trade (ZVSHK).
- **DIN 1298 / DIN EN 1856:** Connecting flue pipes for heat generating systems.
- **DIN EN 13229:** Fireplace inserts fired by solid fuel.
- **DIN 18896:** Fireplaces fired by solid fuel. technical specifications for installation and operation.
- **DIN EN 13384:** Calculation methods for chimneys.
- **DIN 18160-1/2:** Flue gas systems/chimneys.
- **DIN 4751 / DIN EN 12828:** Heating systems in buildings - design for water-based heating systems.
- **VDI 2035:** Water treatment for heating systems.
- **Art. 15a:** Federal Constitutional law (Austria).

9.3 DECLARATIONS OF CONFORMITY

The design and operating behaviour of this product complies with the European directives and the additional national requirements. This compliance is certified by the CE label.

A declaration of performance in line with Directive EU 305/2011 is available on the manufacturer's website:

<https://www.spartherm.com>

10. ECODESIGN

Models (Fuel: Wood logs, Moisture content ≤ 25 %)	Auxiliary electricity consumption (kW)			Direct heat output (kW)	Seasonal space heating energy efficiency η_{S}	$\eta_{\text{th,nom}}$ [%]:	Emissions at nominal heat output(*)				EEI (*)
	At nominal heat output $e_{\text{l,max}}$	At minimum heat output $e_{\text{l,min}}$	In standby mode $e_{\text{l,SB}}$				PM	OGC	CO	NO _x	
	[x] mg/Nm ³ (13 % O ₂)										
Mini R1V	0	0	0	5,2	70	80	40	120	1250	200	A
Mini R1V NSHF	0	0	0	6,2	77,8	>85	40	120	1250	200	A+
Mini Z1	0	0	0	7	68,1	>78	40	120	1250	200	A
Mini Z1 NSHF	0	0	0	10	77,3	>85	40	120	1250	200	A+
Mini S	0	0	0	7	68,1	>78	40	120	1250	200	A
Mini Sh	0	0	0	7	68,1	>78	40	120	1250	200	A
Varia 1V 51	0	0	0	11	72	>80	40	120	1250	200	A+
Varia 1V 57	0	0	0	11	73	>80	40	120	1250	200	A+
Varia 1V 51 NSHF	0	0	0	17	78	>85	40	120	1250	200	A+
Varia 1V 57 NSHF	0	0	0	17	77	>85	40	120	1250	200	A+
Varia 1V 51 T	0,004	0,004	0,003	11	70,8	>80	40	120	1250	200	A+
Varia 1V 57 T	0,004	0,004	0,003	10,8	71,8	>80	40	120	1250	200	A+
Varia 1Vh 51	0	0	0	11	72	>80	40	120	1250	200	A+
Varia 1Vh 57	0	0	0	11	73	>80	40	120	1250	200	A+
Varia 1Vh 51 NSHF	0	0	0	17	78	>85	40	120	1250	200	A+
Varia 1Vh 57 NSHF	0	0	0	17	77	>85	40	120	1250	200	A+
Varia 1Vh 51 T	0,004	0,004	0,003	11	70,8	>80	40	120	1250	200	A+
Varia 1Vh 57 T	0,004	0,004	0,003	10,8	71,8	>80	40	120	1250	200	A+
Varia 1V-87h	0	0	0	9,5	72	>80	40	120	1250	200	A+
Varia 1V-87h NSHF	0	0	0	10,9	78	>85	40	120	1250	200	A+
Varia 1V-87h T	0,004	0,004	0,003	9,5	70,8	>80	40	120	1250	200	A+

(*) PM = Particulate matter, OGC = organic gaseous compounds, CO = Carbon monoxide, NO_x = Nitrogen oxides, EEI = Energy consumption-Index

Models (Fuel: Wood logs, Moisture content ≤ 25 %)	Auxiliary electricity consumption(kW)			Direct heat output (kW)	Seasonal space heating energy efficiencyη _s	η _{th,nom} [x%]:	Emissions at nominal heat output(*)				EEI (*)
	At nominal heat output el _{max}	At minimum heat output el _{min}	In standby mode el _{SB}				PM	OGC	CO	NO _x	
Varia 1V-100h	0	0	0	10,4	70	80	40	120	1250	200	A
Varia Sh	0	0	0	10,5	71	>80	40	120	1250	200	A+
Varia Sh T	0,004	0,004	0,003	10,5	70,8	>80	40	120	1250	200	A+
Varia AS	0	0	0	7	71,4	>80	40	120	1250	200	A+
Varia AS NSHF	0	0	0	11	77	>85	40	120	1250	200	A+
Varia ASh	0	0	0	7	71,4	>80	40	120	1250	200	A+
Varia ASh NSHF	0	0	0	11	77	>85	40	120	1250	200	A+
Varia Ah	0	0	0	10,4	70,1	>80	40	120	1250	200	A
Varia Bh	0	0	0	10,4	68,2	>78	40	120	1250	200	A
Varia Bh S	0	0	0	9	68,6	>78	40	120	1250	200	A
Varia B-120h	0	0	0	15	68	78	40	120	1250	200	A
Arte 1Vh-66	0	0	0	6,6	77	>85	40	120	1250	200	A+
Arte 1Vh-66 NSHF	0	0	0	10,4	79	>85	40	120	1250	200	A+
Arte Bh	0	0	0	11	68,6	>78	40	120	1250	200	A
Mini S-FDh	0	0	0	6	68,3	>78	40	120	1250	200	A
Varia FD	0	0	0	11,6	70	80	40	120	1250	200	A
Varia FDh 51	0	0	0	11,6	70	80	40	120	1250	200	A
Varia FDh 57	0	0	0	11,6	70	80	40	120	1250	200	A
Varia FD-87h	0	0	0	10,6	72	>80	40	120	1250	200	A+
Varia FD-87h NSHF	0	0	0	11,1	77	>85	40	120	1250	200	A+
Varia FD-87h T	0,004	0,004	0,003	10,6	70,8	>80	40	120	1250	200	A+

(*) PM = Particulate matter, OGC = organic gaseous compounds, CO = Carbon monoxide, NO_x = Nitrogen oxides, EEI = Energy consumption-Index

Models (Fuel: Wood logs, Moisture content ≤ 25 %)	Auxiliary electricity consumption(kW)			Direct heat output (kW)	Seasonal space heating energy efficiencyη _{sp}	η _{th,nom} [x%]:	Emissions at nominal heat output(*)				EEI (*)
	At nominal heat output e _{l,max}	At minimum heat output e _{l,min}	In standby mode e _{l,SB}				PM	OGC	CO	NO _x	
Varia AS-FDh	0	0	0	7	70,3	>80	40	120	1250	200	A
Varia AS-FDh NSHF	0	0	0	11	80,5	>85	40	120	1250	200	A+
Varia A-FDh	0	0	0	10,4	70,3	>80	40	120	1250	200	A
Varia B-FDh	0	0	0	11	69	79	40	120	1250	200	A
Mini 2L/2R	0	0	0	7	70	80	40	120	1250	200	A
Mini 2LRh 51	0	0	0	7	70	80	40	120	1250	200	A
Mini 2LRh 57	0	0	0	7	70	80	40	120	1250	200	A
Varia 2L-55 / 2R-55	0	0	0	7	70	80	40	120	1250	200	A
Varia 2L-55h / Varia 2R-55h	0	0	0	7	70	80	40	120	1250	200	A
Varia 2L-62 / Varia 2R-62	0	0	0	6,9	72	>80	40	120	1250	200	A+
Varia 2L-62 / Varia 2R-62 NSHF	0	0	0	10	78	>85	40	120	1250	200	A+
Varia 2L-62 / Varia 2R-62 T	0,004	0,004	0,003	7,1	71,7	>80	40	120	1250	200	A+
Varia 2L-62h / Varia 2R-62h	0	0	0	6,9	72	>80	40	120	1250	200	A+
Varia 2L-62h / Varia 2R-62h NSHF	0	0	0	10	78	>85	40	120	1250	200	A+
Varia 2L-62h / Varia 2R-62h T	0,004	0,004	0,003	7,1	71,7	>80	40	120	1250	200	A+
Varia 2L-68h / 2R-68h	0	0	0	9,6	72	>80	40	120	1250	200	A+
Varia 2L-68h / 2R-68h NSHF	0	0	0	9,9	77	>85	40	120	1250	200	A+
Varia 2L-68h / 2R-68h T	0,004	0,004	0,003	9,7	72,8	>80	40	120	1250	200	A+
Varia 2Lh / 2Rh 51	0	0	0	10,5	71	>80	40	120	1250	200	A+
Varia 2Lh / 2Rh 57	0	0	0	10,5	71	>80	40	120	1250	200	A+
Varia 2Lh / 2Rh 51 NSHF	0	0	0	12	77	>85	40	120	1250	200	A+

(*) PM = Particulate matter, OGC = organic gaseous compounds, CO = Carbon monoxide, NO_x = Nitrogen oxides, EEI = Energy consumption-Index

Models (Fuel: Wood logs, Moisture content ≤ 25 %)	Auxiliary electricity consumption(kW)			Direct heat output (kW)	Seasonal space heating energy efficiencyη _{sp}	η _{th,nom} [%]:	Emissions at nominal heat output(*)				EEI (*)
	At nominal heat output e _{l,max}	At minimum heat output e _{l,min}	In standby mode e _{l,SB}				PM	OGC	CO	NO _x	
Varia 2Lh / 2Rh 57 NSHF	0	0	0	12	77	>85	40	120	1250	200	A+
Varia 2Lh / 2Rh 51 T	0,004	0,004	0,003	10,5	70,8	>80	40	120	1250	200	A+
Varia 2Lh / 2Rh 57 T	0,004	0,004	0,003	10,5	70,8	>80	40	120	1250	200	A+
Varia AS-2Lh / AS-2Rh	0	0	0	7	70	80	40	120	1250	200	A
Varia 2L-80h / Varia 2R-80h	0	0	0	11	73	>80	40	120	1250	200	A+
Varia 2L-80h / Varia 2R-80h T	0,004	0,004	0,003	11	70,8	>80	40	120	1250	200	A+
Varia 2L-100h / 2R-100h	0	0	0	12,3	71	>80	40	120	1250	200	A+
Varia 2L-100h / 2R-100h T	0,004	0,004	0,003	11,6	69,8	80	40	120	1250	200	A
Arte 2LRh-66	0	0	0	6,4	72	>80	40	120	1250	200	A+
Arte 2LRh-66 NSHF	0	0	0	10,4	79	>85	40	120	1250	200	A+
Varia AS-3RLh	0	0	0	8,4	70	80	40	120	1250	200	A
Varia Ch	0	0	0	9	69,6	>79	40	120	1250	200	A
Arte U-50h	0	0	0	9,3	71	>80	40	120	1250	200	A+
Arte U-50h T	0,004	0,004	0,003	9,3	72,8	>80	40	120	1250	200	A+
Arte U-70h	0	0	0	11,4	71	>80	40	120	1250	200	A+
Arte U-70h T	0,004	0,004	0,003	11,6	70,8	>80	40	120	1250	200	A+
Arte U-90h (Ø 200)	0	0	0	13	68,1	>78	40	120	1250	200	A
Arte U-90h (Ø 250)	0	0	0	13	68,1	>78	40	120	1250	200	A
Arte 3RL-60h (Ø 200)	0	0	0	10	71	>80	40	120	1250	200	A+
Arte 3RL-60h (Ø 250)	0	0	0	10	71	>80	40	120	1250	200	A+
Arte 3RL-60h T	0,004	0,004	0,003	10	70,8	>80	40	120	1250	200	A+

(*) PM = Particulate matter, OGC = organic gaseous compounds, CO = Carbon monoxide, NO_x = Nitrogen oxides, EEI = Energy consumption-Index

Models (Fuel: Wood logs, Moisture content ≤ 25 %)	Auxiliary electricity consumption(kW)			Direct heat output (kW)	Seasonal space heating energy efficiencyη _{sp}	η _{th,nom} [x%]:	Emissions at nominal heat output(*)				EEI (*)
	At nominal heat output e _{l,max}	At minimum heat output e _{l,min}	In standby mode e _{l,SB}				PM	OGC	CO	NO _x	
Arte 3RL-80h (Ø 200)	0	0	0	11,4	70	80	40	120	1250	200	A
Arte 3RL-80h (Ø 250)	0	0	0	11,4	70	80	40	120	1250	200	A
Arte 3RL-80h T	0,004	0,004	0,003	12,3	69,8	80	40	120	1250	200	A
Arte 3RL-100h	0	0	0	11	68,2	>78	40	120	1250	200	A
Speedy Ph	0	0	0	7	71	>80	40	120	1250	200	A+
Mini R1V RLU	0	0	0	5,2	70	80	40	120	1250	200	A
Mini Z1 RLU	0	0	0	7	68,1	>78	40	120	1250	200	A
Mini S RLU	0	0	0	7	68,1	>78	40	120	1250	200	A
Mini Sh RLU	0	0	0	7	68,1	>78	40	120	1250	200	A
Varia 1V RLU 51	0	0	0	11	70,1	>80	40	120	1250	200	A
Varia 1V RLU 57	0	0	0	11	70,3	>80	40	120	1250	200	A
Varia 1V S RLU 51	0	0	0	7	73,1	>80	40	120	1250	200	A+
Varia 1V S RLU 57	0	0	0	7	73,1	>80	40	120	1250	200	A+
Varia 1Vh RLU 51	0	0	0	11	72	>80	40	120	1250	200	A+
Varia 1Vh RLU 57	0	0	0	11	73	>80	40	120	1250	200	A+
Varia AS RLU	0	0	0	7	71,4	>80	40	120	1250	200	A+
Varia ASh RLU	0	0	0	7	71,4	>80	40	120	1250	200	A+
Varia Sh RLU	0	0	0	10,5	71	>80	40	120	1250	200	A+
Varia M-80h RLU	0	0	0	9	68,1	>78	40	120	1250	200	A
Varia Bh RLU	0	0	0	10,4	68,2	>78	40	120	1250	200	A
Arte 1Vh-66 RLU	0	0	0	6,6	77	>85	40	120	1250	200	A+

(*) PM = Particulate matter, OGC = organic gaseous compounds, CO = Carbon monoxide, NO_x = Nitrogen oxides, EEI = Energy consumption-Index

Models (Fuel: Wood logs, Moisture content ≤ 25 %)	Auxiliary electricity consumption(kW)			Direct heat output (kW)	Seasonal space heating energy efficiencyη _{sp}	η _{th,nom} [x%]:	Emissions at nominal heat output(*)				EEI (*)
	At nominal heat output el _{max}	At minimum heat output el _{min}	In standby mode el _{SB}				PM	OGC	CO	NO _x	
							[x] mg/Nm ³ (13 % O ₂)				
Varia FD RLU	0	0	0	11,6	70	80	40	120	1250	200	A
Varia 2L-55h / 2R-55h RLU	0	0	0	7	70,3	>80	40	120	1250	200	A
Varia 2L-62h / 2R-62h RLU	0	0	0	6,9	72	>80	40	120	1250	200	A+

Models H ₂ O (Fuel: Wood logs, Moisture content ≤ 25 %)	Auxiliary electricity consumption(kW)			Wärmeleistung (kW)		Seasonal space heating energy efficiencyη _{sp}	η _{th,nom} [x%]:	Emissions at nominal heat output(*)				EEI (*)
	At nominal heat output el _{max}	At minimum heat output el _{min}	In standby mode el _{SB}	Direkt	Indirekt (wasser- seitig)			PM	OGC	CO	NO _x	
				[x] mg/Nm ³ (13 % O ₂)								
Varia 1V H ₂ O	0	0	0	3	5	74,9	>80	40	120	1250	200	A+
Varia 1V H ₂ O XL	0	0	0	3	6	75,9	>85	40	120	1250	200	A+
Varia 1V H ₂ O XXL	0	0	0	4	11	75,1	>85	40	120	1250	200	A+
Varia 1Vh H ₂ O	0	0	0	3	5	74,9	>85	40	120	1250	200	A+
Varia 1Vh H ₂ O XL	0	0	0	3	6	75,9	>85	40	120	1250	200	A+
Varia 1Vh H ₂ O XXL	0	0	0	4	11	75,1	>85	40	120	1250	200	A+
Varia Ah H ₂ O	0	0	0	3,2	7,2	76,3	>85	40	120	1250	200	A+
Varia FD H ₂ O	0	0	0	3,6	6,4	72	>80	40	120	1250	200	A+
Varia FDh H ₂ O	0	0	0	3,6	6,4	72	>80	40	120	1250	200	A+
Varia A-FDh H ₂ O	0	0	0	4,2	6,2	72,5	>80	40	120	1250	200	A+
Varia 2L-55h / 2R-55h H ₂ O	0	0	0	2,8	4,2	75,3	>85	40	120	1250	200	A+
Varia 2Lh /2Rh H ₂ O	0	0	0	4,5	5,9	71,9	>80	40	120	1250	200	A+

(*) PM = Particulate matter, OGC = organic gaseous compounds, CO = Carbon monoxide, NO_x = Nitrogen oxides, EEI = Energy consumption-Index

