

Wood-burning sauna stoves **Installation and operation manual**

Fornax VPR-14
Etna VPR-22
Etna VPR-22-WT



FORNAX VPR-14



ETNA VPR-22



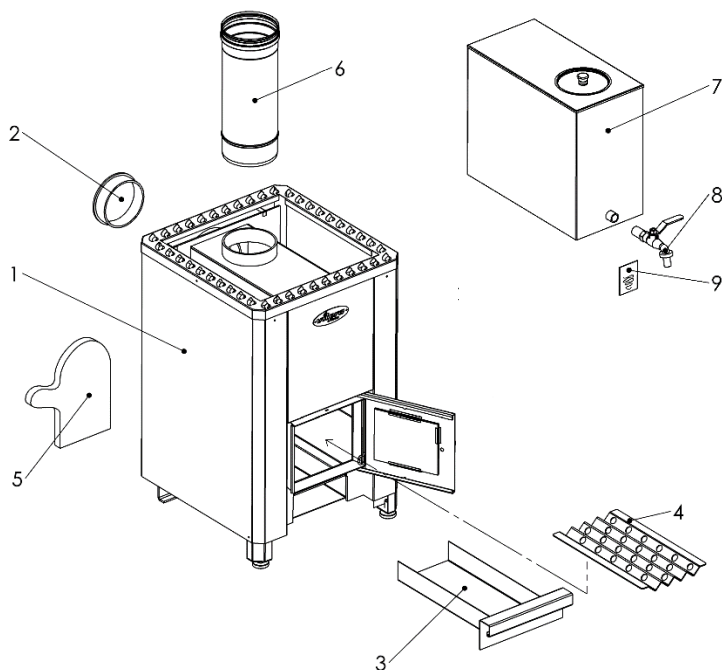
ETNA VPR-22-WT

Sauna stove shall be installed and operated in accordance with the national legislation and the requirements set out in this manual. If requirements in national legislation and this manual vary, it is necessary to follow the more stringent requirements.

Welcome to Vilpra Sauna!

We congratulate you on your selection and welcome you to the growing user base of Vilpra Sauna stoves. We have done our best regarding quality, elegance, and technique so that our products will live up to your expectations. Please carefully familiarise yourself with these instructions before the installation and operation of the stove. Correct installation and operation help to utilise all the features of the Vilpra Sauna stove enjoyably and safely, and also assures the longevity of the stove. We wish you pleasant sauna moments!

1. Contents of the package



1. Sauna stove
2. Plug
3. Ashpan
4. Bottom grate
5. Protective glove
6. Chimney connection pipe L-0,33 m, Ø 115 mm
7. Water tank (VPR-22-WT only)
8. Water tap (VPR-22-WT only)
9. Pipe sealing cord (VPR-22-WT only)
10. Installation and operation manual

2. Technical information

Table 1

	Fornax VPR-14	Etna VPR-22	Etna VPR-22-WT
Volume of the sauna room, m ³	7-13	10-24	10-24
Bottom grate	mild steel	mild steel	mild steel
Number of flue outlets	2	2	2
Flue socket diameter, mm	115	115	115
Required temperature class of chimney	T600	T600	T600
Height + adjustable legs, mm	670 + 0-10	730 + 0-10	730 + 0-10
Width, mm	420	420	420
Length, mm	440	520	660
Weight without stones, kg	50	70	75
Load of stones, kg	30-35	40-50	40-50
Size of stones, cm	Ø10-15	Ø10-15	Ø10-15
Water tank volume, l	-	-	22
Maximum length of wood logs, cm	34	38	36
Max refuelling at a time, kg	3,7	5,9	5,9
Combustion air setting	Ashpan 50 mm opened	Ashpan 50 mm opened	Ashpan 20 mm opened

3. Declaration of performance (DoP)

Table 2



DECLARATION OF PERFORMANCE No. DoP-VPR001

- Unique identification code of the product-type:
Multi-firing sauna stoves fired by natural wood logs
Product type: VPR-14, VPR-22, VPR-22-WT
- Intended use/es: **Space heating in residential buildings**
- Manufacturer:



Vilniaus g. 11, Izabelinės k., LT-14200 Vilniaus r. sav.
Lithuania / Lietuva

- Authorised representative: -
- System/s of AVCP: **System 3**
- Harmonised standard: **EN 15821:2010**
Notified body/ies: **No. 1015 – Strojirenský zkušební ústav, s.p.**
- Declared performance/s:

Essential characteristics	Performance			Harmonised technical specification
	VPR-14	VPR-22	VPR-22-WT	
				EN 15821:2010
Safety distance to combustible materials	Minimum distances, in mm Rear wall = 500 Side walls = 500 Ceiling = 1430 Front wall = 1000	Minimum distances, in mm Rear wall = 500 Side walls = 500 Ceiling = 1370 Front wall = 1000	Minimum distances, in mm Rear wall = 500 Side walls = 500 Ceiling = 1370 Front wall = 1000	
Fire safety (initiation, risk to adjacent elements)	Pass	Pass	Pass	
Emission of combustible products	Pass	Pass	Pass	
Surface temperature	Pass	Pass	Pass	
Release of dangerous substances	NPD	NPD	NPD	
Cleanability	Pass	Pass	Pass	
Flue gas temperature	430 °C	340 °C	367 °C	
Mechanical resistance	Pass	Pass	Pass	
Carbon monoxide emission (CO – at 13% O ₂)	Pass, 0.40 %	Pass, 0.58 %	Pass, 0.37 %	
Total efficiency	Pass, 66 %	Pass, 66 %	Pass, 73 %	
Flue draught	13 Pa	12 Pa	10 Pa	
Refuelling loads	5.1 kg/h	7.9 kg/h	7.4 kg/h	
Nominal heat output	14.0 kW	22.0 kW	22.0 kW	
Space heating output	14.2 kW	22.1 kW	23.1 kW	
Flue gases mass flow	13.1 g/s	27,1 g/s	18.1 g/s	
Durability	Pass	Pass	Pass	

The performance of the product identified above is in conformity with the set of declared performance/s. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Atitikties vadovas Linas Juzelskis
Vilniaus g. 11, Izabelinės k., Vilniaus r., Lithuania / Lietuva

2020-03-23

4. Installation instructions

Sauna stove shall be installed and operated in accordance with the national legislation and the requirements set out in this manual. If requirements in national legislation and this manual vary, it is necessary to follow the more stringent requirements.

Sauna stove is intended for heating a sauna. The sauna stove must not be modified without the manufacturer's consent.

4.1. Before installation

4.1.1. Suitability of the stove for the sauna

Check the suitability of the stove for the sauna, refer to the minimum and maximum volume of the sauna room (Table 1). The heating of the sauna room depends on the volume and wall materials of the sauna and the heat output of the stove. Please note, that non-insulated wall materials like bricks, tiles, concrete, and glass increase the heat output requirements of the stove. To ensure sufficient heat output, for every non-insulated wall surface (glass, concrete, rock) 2 m³ must be added to the volume of the sauna during the calculation. If the sauna walls are made of solid timber, the volume of the sauna room in cubic meters is multiplied by 1.5.

4.1.2. Initial heating of stove outside

The frame of the Vilpra Sauna stove has been painted with heat-resistant paint. During the initial heating, the painted surfaces of the stove may smoke and give off harmful substances. Because of this, we recommend that the stove is heated outside for the first time. If heating outside is not possible, ensure efficient ventilation of the sauna room during the initial heating to reduce odours and harmful fumes. The initial heating is always done without stones, and a metal tube must be installed on the chimney flue prior to heating (minimum 2 m) so that the draft needed for burning is created. During the initial heating, 1 to 2 loads of wood should be burned; thus, the corrosion-protective preservatives are removed from the surfaces of the stove.

The heat-resistant paint of the stove reaches its final hardness only during the initial heating. Prior to this, rubbing and wiping of painted surfaces must be avoided and caution must be followed while moving and treating the stove.

The stove may cause smells of paint in the sauna room, which will, however, disappear within a short period of time.

4.1.3. Ventilation of wood-burning sauna

Efficient ventilation of the sauna room is a requirement for an enjoyable sauna moment. Traditional ventilation may be deployed by having the air supply to the floor level near the stove and by installing an exhaust valve to the ceiling level, as far as possible away from the stove. The stove itself circulates the air efficiently, in which case the exhaust valve is only needed mainly to remove moisture after sauna.

The air supply air fed to the floor level moves between the hot inside part and the mantle of the stove. The heated air rises through the stove and heats the sauna room. Because the burning wood needs plenty of air, the fireplace forms a suction that causes circulation with the rising draught in the sauna room.

4.2. Protection and safety distances of structures

4.2.1. Safety distances and functionality of installation location

When situating the stove, the safety distances from the sauna structures must be considered for the sake of preventing fires and operational safety. The minimum safety distances between the stove and combustible materials are defined during the tests according to EN 15821:2010 (see Table 2).

Sufficient working space around the stove enhances the ease of operation. We recommend at least 1000 mm width and depth of free working space around the stove. The stove must always be situated a sufficient distance from combustible and sensitive materials. In wall niches, sufficient ventilation space must be allowed from all walls and at least 125 mm distance between non-combustible materials and the stove.

Note! Electric appliances or wires may not be situated within the safety distances of the stove

4.2.2. Protection of sidewalls

Note! This section gives an example on how the safety distances between the stove and combustible materials can be reduced by using protection shields. Sauna stove shall be installed and operated in accordance with the national legislation and the requirements set out in this manual. If requirements in national legislation and this manual vary, it is necessary to follow the more stringent requirements.

During installation, the below-mentioned safety distances to wooden walls, sauna benches, and other combustible materials must be complied with.

4.2.2.1. The distance between vertical surfaces of the stove and unprotected wooden structures must be at least 500 mm (see Picture 1).

4.2.2.2. The safety distance mentioned above may be reduced by up to 250 mm with single light protection (see Picture 2). Single light protection is, for example, a non-combustible fibre-reinforced cement slab with a thickness of at least 7 mm or sheet metal of at least 1 mm that has been attached to the wall with sufficient density. A ventilation gap of at least 30 mm must be left between the protected wooden surface and the protective plate.

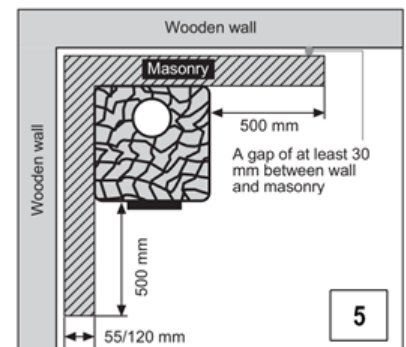
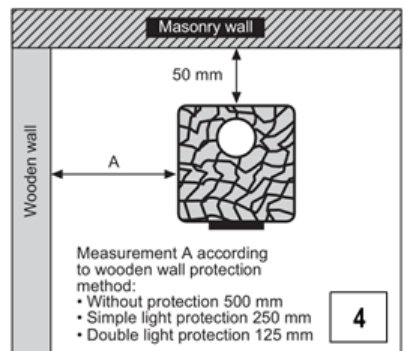
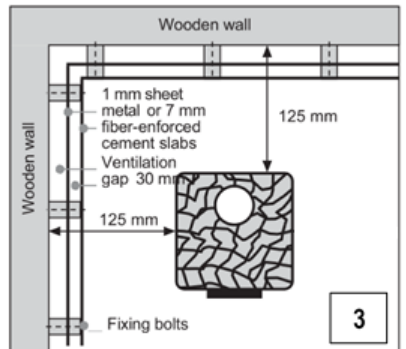
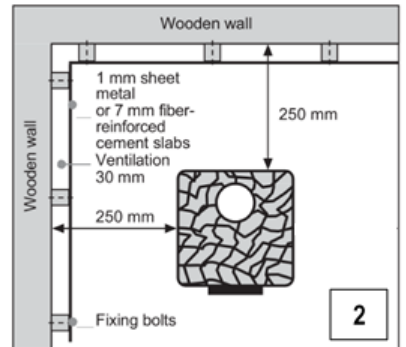
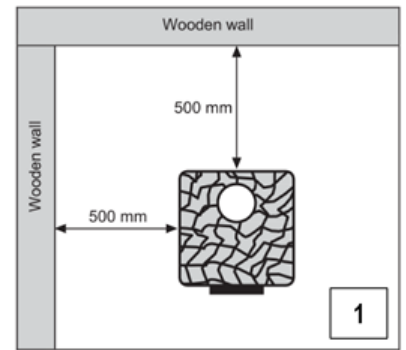
4.2.2.3. The safety distance mentioned in item 4.2.2.1 may be reduced to 125 mm with double light protection (see Picture 3). Double light protection may be, for example, two sheets mentioned in the previous part, in which case a ventilation gap of 30 mm must be left between the wall and the sheets.

4.2.2.4. When installing, a ventilation gap of at least 50 mm must be kept near masonry or other stone structured walls between vertical surfaces and the walls of the stove (see Picture 4). Measurement A of Picture 4 is chosen according to the protection method of the wooden surfaces:

<i>Without protection</i>	500 mm
<i>Single light protection</i>	250 mm
<i>Double light protection</i>	125 mm
<i>Protection structures must not touch the floor or ceiling</i>	

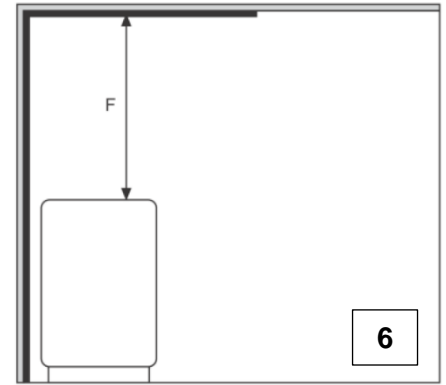
For this purpose, a Vilpra Sauna protection wall as an accessory is available for purchase at a Vilpra Sauna merchant.

4.2.2.5. In the protection of sidewalls, masonry is an option for sheet structures. An equivalent of the single light protection may be deployed using masonry with a thickness of 55 mm (see Picture 5). An equivalent of double light protection may be the use of masonry with a thickness of 120 mm. The masonry must be open at the sides and at least 30 mm away from the protected surface. In addition, it must reach at least 600 mm higher than the upper surface of the stove and must fulfil the safety distance directive of 500 mm in a lateral direction.



4.2.3. Protection of roof

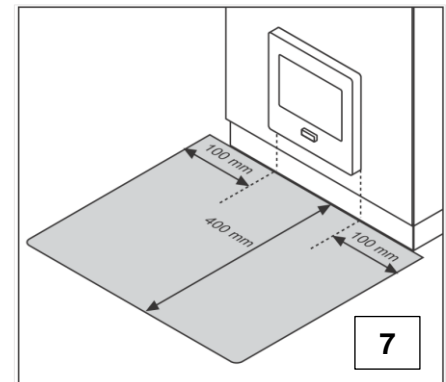
Separate protection for the roof is not needed if the distance between the upper surface of the stove and the ceiling (distance F as shown in the picture 6) is equal or higher to 1430 mm for the stove type Fornax VPR-14, and 1370 mm for the stove types Etna VPR-22 and Etna VPR-22-WT (see Table 2). If the distance is less than mentioned above, valid fire directives must be complied with. If needed, contact the fire department of your residential area.



4.2.4. Protection of floor

Items 4.2.2.1. – 4.2.2.5 does not apply to the floor in front of the stove if the structure of the floor has been deployed with non-combustible materials. The floor must be protected with a metal sheet which is placed tightly against the floor and stove. The protection located at the front of the stove must reach at least 100 mm to either sides of the stove door and 400 mm to the front of the door, see Picture 7.

Valid national fire directives must be complied with. If needed, contact the fire department of your residential area.



4.2.5. Protection of walls

The inside walls of the sauna must be protected if the wooden walls in the vicinity of the stove are closer than the permitted safety distances, and the walls are made of combustible materials like panels, planks, or timber. For details of protection, see section 4.2.2. Protection of sidewalls.

It is typical for all wooden surfaces of the sauna room to darken over time - vast changes in temperature speed up the darkening. Darkening may occur in a short time in a wood preservative-treated wood surface on top of the stove as many wood preservatives are more vulnerable to higher temperatures than untreated wood.

The fine-grained materials released from the stone parts of the stove may also darken the wooden surface near the stove. By following this installation and operation manual of the stove it will ensure that the stove does not heat the surfaces of the sauna room to a dangerously hot level. The highest permitted temperature for the wall and ceiling surfaces is +145 °C. When choosing the surface material, it is recommended to consider that all non-insulated glass and stone surfaces increase the power demand requirements of the stove (see section 4.1.1).

4.2.6. Platform of stove

The stove must be placed on a stable, sturdy non-combustible floor platform. The foundation and floor structure must withstand the weight of the stove and prevent an excessive increase in temperature in the structures surrounding the stove. When there is a wooden floor in the sauna room, a concrete slab with a thickness of 50 mm or Vilpra Sauna Protection under the wood stove must be used. A tiled floor must, if needed, be protected before the installation of the stove. For this purpose, a Vilpra Sauna Protection under the wood stove as an accessory is available for purchase at a Vilpra Sauna merchant.

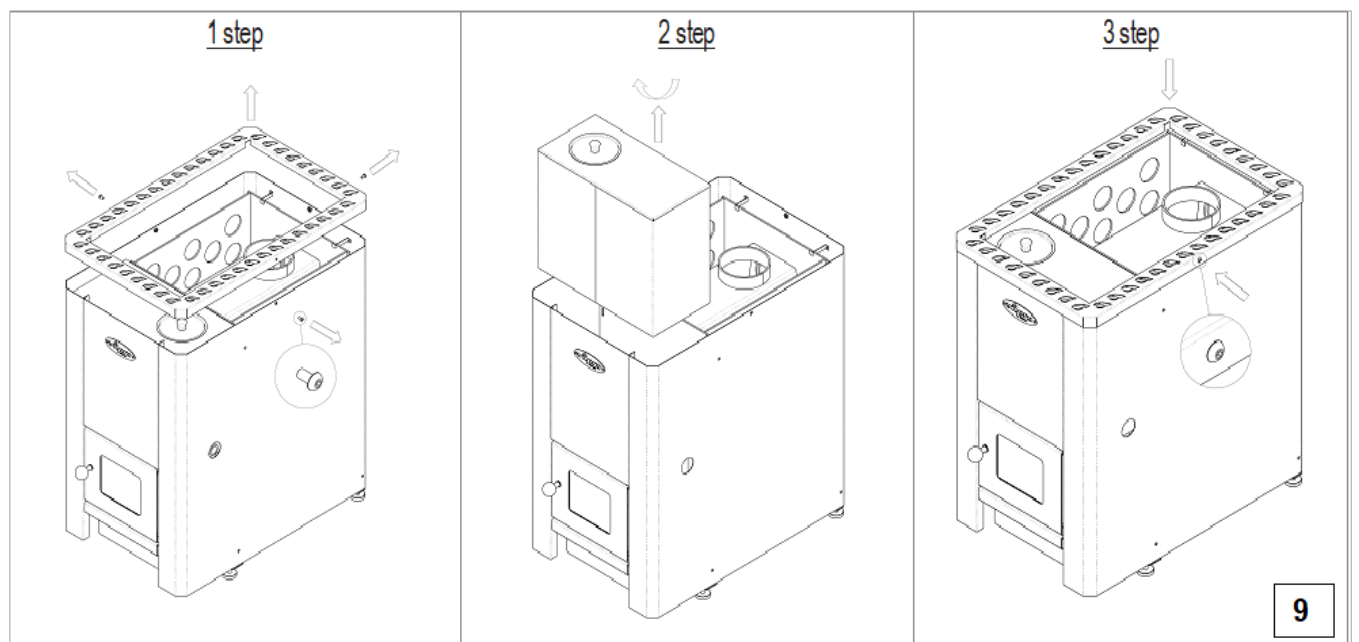
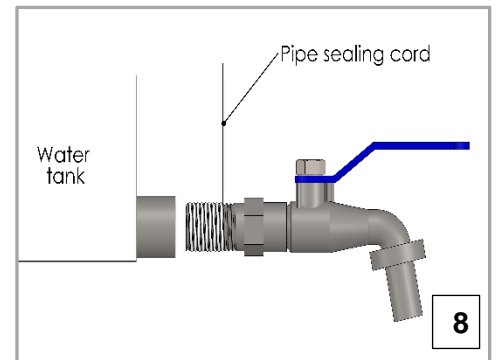
4.3. Installation of stove

4.3.1. Adjustable legs

The adjustable feet of the stove help with the installation on an inclined floor surface varying in evenness. The adjustment range of the legs is 10 mm. Ensure that the stove is levelled, and all the adjustable legs are firmly on the floor.

4.3.2. Installation of stove containing water tank

The stove type VPR-22-WT is equipped with a front water tank. This stove is equipped with a 22-litre water tank made of high-quality stainless steel. The water tap may be installed either on the left or right side of the stove. Follow the steps shown in the Picture 9 to change the side of the water tap installation. Before installation of the water tap seal the thread of tap with the pipe sealing cord, which is included in the package of the stove (see Picture 8).



The tank functions best and retains its features for longer if:

- The stove is never heated while the water tank is empty.;
- Only fresh water, i.e., drinking water is used in the water tank (avoid sea water or acidic and ferrous water, usage of cleaning agents is prohibited);
- To prevent sediments, and the freezing of water, the water tank must be emptied and dried if the stove is not being used for long periods of time.

The surfaces of the water tank are maintained with stainless steel cleaner. Ferrous water may form rust-like spots on the surfaces of the tank. The spots may be removed by using stainless steel cleaner.

Note! Avoid burns – beware of the boiling water and steam rising from the hot water tank! Do not touch the surfaces of the tank or stove when sauna is heating!

4.3.3. External tank for water heating

An external tank for water heating may be installed on wood-burning stoves (see Picture 10 and Picture 15). The Vilpra Sauna external tank for water heating is an accessory that is available for purchase at a Vilpra Sauna merchant.

4.3.4. Stove connection to a chimney

There is a flue outlet for the chimney connection both on the top and back of the stove. A plug is included in the stove package, with which the unnecessary flue outlet must be tightly closed.

For connection of stove to a chimney follow the safety distances and protection requirements in the section 4.2. T600 temperature class connecting flue pipes, flue liners or double wall insulated chimneys must be used. L=0,33 m, Ø 115 mm chimney connection pipe by which the stove is connected to the chimney flue is included in the stove package. The diameter of the chimney shall not be smaller than flue socket diameter of the stove, it is optimal when diameters are equal. The stove is not suitable for installation in a shared flue system. Follow installation instructions of chimney products. The connection of the sauna stove to the chimney and chimney installation must be made by a qualified installer. For the best performance, installation of a damper is recommended.

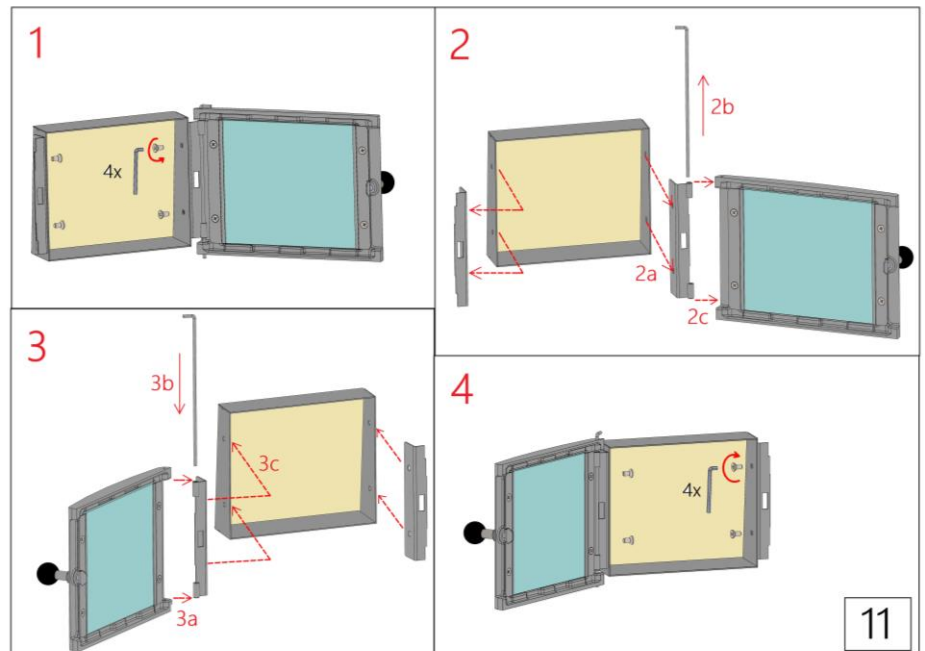
We recommend using Vilpra connecting flue pipes, flue liners or double wall DW50-M Sauna insulated chimney products. Chimney installation examples are presented in Pictures 10, 12 to 16.

The gap between the masonry chimney flue and the connection pipe must be insulated with a fireproof material like mineral wool.



4.3.5. Changing of the opening direction of the door

The opening direction of the stove door may be altered following steps from 1 to 4 (see Picture 11).

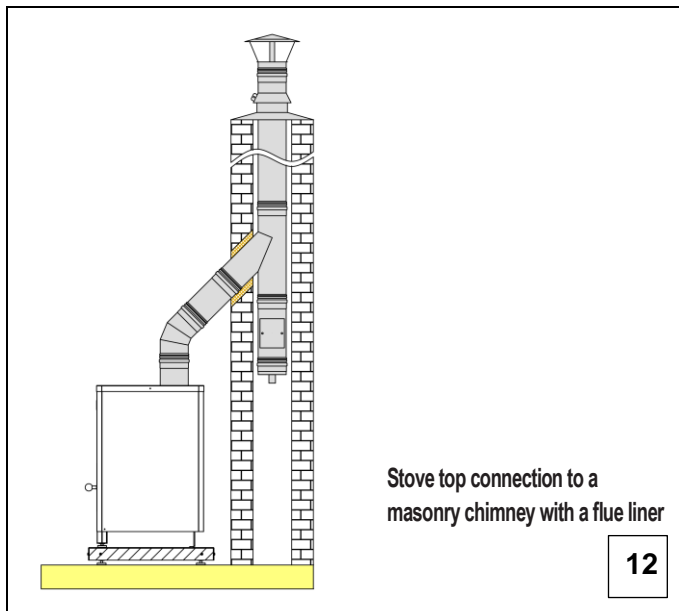


4.3.6. Sauna stones

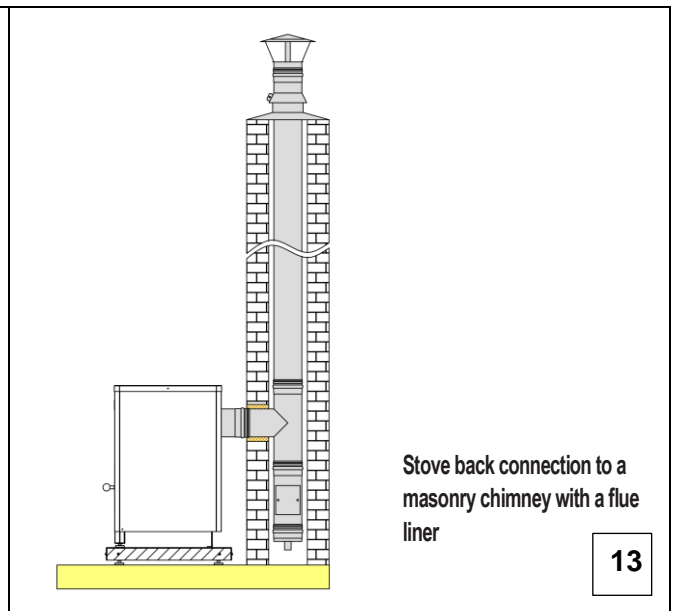
Ensure that the stove is levelled, and all the adjustable legs are firmly on the floor before inserting sauna stones.

Attention should be paid to the choice of the sauna stones. We recommend stones that are of consistent quality and which both properly and safely fit for usage on the stoves. If needed, the stone dust must be washed away from the sauna stones prior to placing them on the stove. Place large stones on the bottom of the stone space in a way that air circulates between the stones. The small stones are placed on the top because they absorb heat efficiently, even when further away from the heat source. The number of stones, together with the temperature of the sauna, affect the moisture of the sauna. A larger amount of stones and a lower sauna temperature produce more moisture in the sauna.

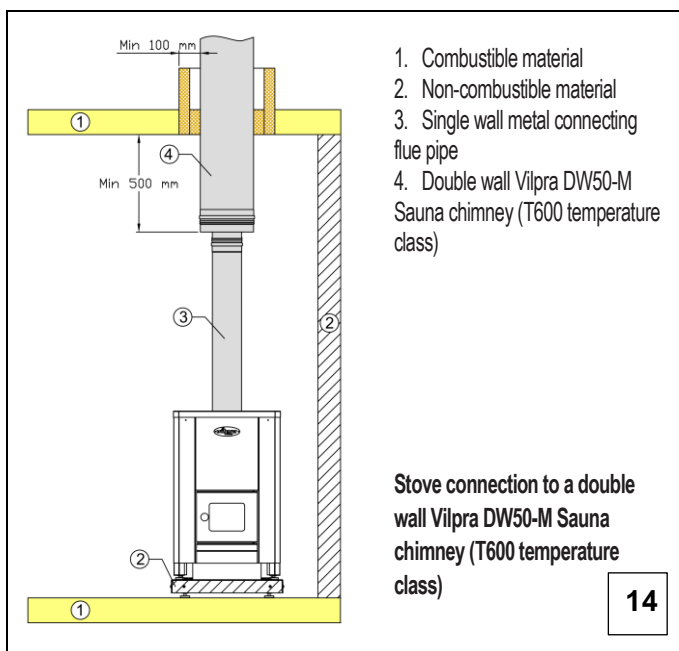
Note! Do not use ceramics or stones collected from the wild due to possible erosion, decomposition and harmful compounds.



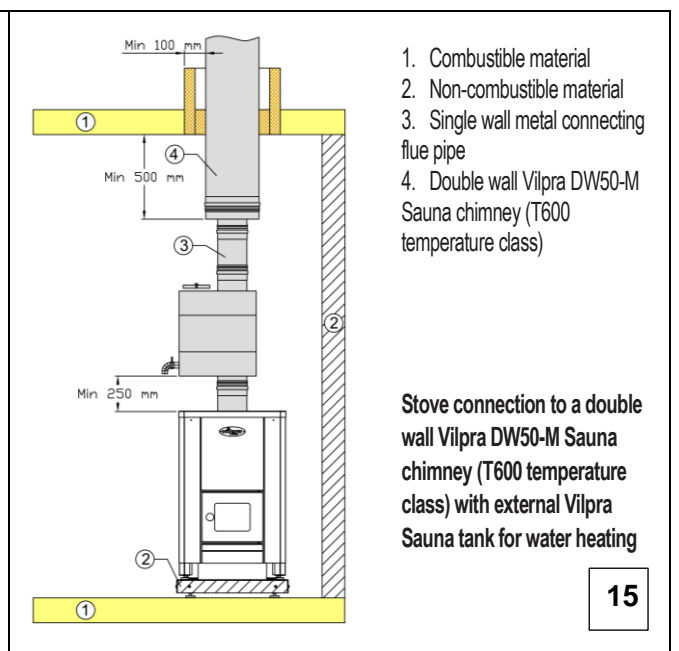
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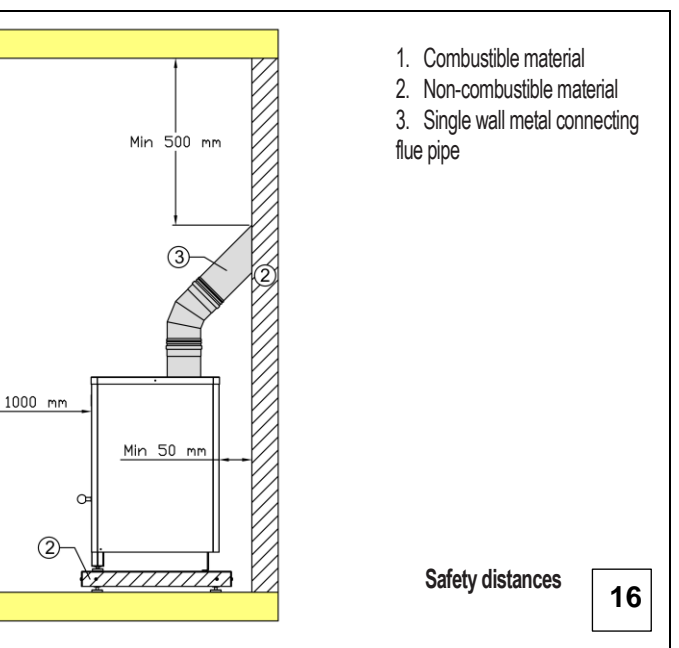
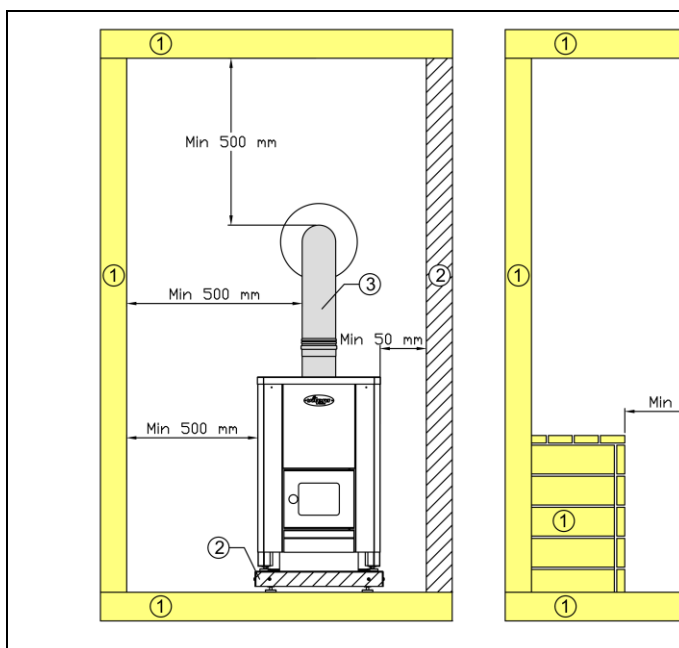
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5. Usage of stove

Sauna stove shall be operated in accordance with the national legislation and the requirements set out in this manual. If requirements in national legislation and this manual vary, it is necessary to follow the more stringent requirements.

5.1. Fuels

Use only dry natural wood logs as a fuel. Maximum refuelling loads and length of wood logs are given in Table 1 and Table 2. The stove must not be stacked full of wood, avoid overheating the sauna stove. Wood logs must not be stored next to the stove, pay attention to the safety distances.

5.2. Heating the stove

Note! Clean the stove bottom grate and empty the ashpan each time prior to heating the sauna.

Note! Do not heat the stove in a way that the flue pipe glows red, the stove overloads and it shortens the lifespan of the stove.

Note! Parts of the stove, especially the external surfaces, will be hot to touch when in operation and due care is needed to be taken. Use protective glove, which is included in the package of the stove, for safe manipulation of the stove.

Note! Do not heat the stove without stones, except initial heating of stove outside.

Set the first load of wood loosely by placing the biggest firewood on the bottom and the smaller ones on the top into the firebox, add kindling between the wood logs and light them. Add the actual refuelling loads when the fire has nearly burned down to embers.

The firebox shall be kept closed except during ignition, refuelling and removal of residue material to prevent fume spillage. Combustion air is brought into firebox and it is regulated with sliding ashpan. Combustion air settings are given in Table 1. The stove has been designed to perform in most efficient way when the draught in the flue is as given in Table 2. When the chimney is too long or diameter is too big, this optimal draught limit may be exceeded. The draught may be adjusted by sliding ashpan or using a damper in case it is installed. A continuous excessive draught will shorten the lifespan of the stove, as the stove overloads, and the stove becomes red-hot.

After using the sauna, it is recommended to keep a small fire going in the stove to remove moisture from the surfaces of the sauna.

In case of sootfire in the chimney: 1. Slowly close the ashpan and stove door; 2. Contact local fire authority; 3. Do not try to extinguish fire using water; 4. After a sootfire, the chimney and the stove must be checked by the chimney sweeper before use.

5.3. Sauna water

Clean, fresh water is suitable to be used as sauna water. Ensure that the water is always of sufficient quality: excessive salt, calcium, iron, and sediments cause corrosion and shorten the lifespan of the stove significantly. Ferrous water may form rust-like spots on the surface of the stove. Remove the spots by using a stainless steel detergent.

Note! Usage of sea water as sauna water is prohibited. The warranty for the Vilpra Sauna stove does not cover damages resulting from usage of poor-quality sauna water.

5.4. Sanitation of environment of stove

The stone and metal parts of the stove contain natural features that impact the cleanliness and need for sanitation in the sauna space. It is typical for the sauna stones to deteriorate over time. Fine granular material may also separate from the steatite that washes away with the sauna water. The smouldering of the furnace and heat of the stove may also separate minerals and metal dust. Due to the reasons mentioned above, white and light materials should be kept away from the stove. It also must be ensured that tiling and floor surfaces can endure abrasive materials, high temperature variations, and have sufficient sanitation. The characteristics mentioned above are features, not defects, and therefore are not covered by the warranty and liability for damages of the manufacturer.

5.5. Maintenance of stove

The chimney of the stove collects soot and ash over time, which must be removed if needed. Local regulations for chimney sweeping shall be met. It is typical for sauna stones to disintegrate slowly. Therefore, they must be stacked again once a year, or more often if the sauna is used multiple times a week. Simultaneously, stone debris collected in the stone space is removed, and crumbled stones are replaced with undamaged ones.

To retain a good draught, the chimney must be swept regularly. The ashpan must be emptied each time prior to heating of the sauna so that the combustion air through the ashpan cools down the grating, and so ensures a long lifespan. It is recommended to keep a separate ash container for the ash.

Note! The removed ash may contain burning embers, so store the ash container a sufficient distance from sensitive and combustible materials!

It is recommended to wipe the clear and brushed steel surfaces of the stove with a multi-purpose cleaner to prevent calcium stripes and rust-like spots.

6. Vilpra Sauna checklist

1. Installation of stove and connection to chimney:
 - 1.1. Only use connection parts designed for this purpose.
 - 1.2. The metal chimney must not just lean on the stove. Attach the metal chimney to the sauna structures.
 - 1.3. The stove must only be attached to a suitable chimney.
 - 1.4. When installing the stove, sufficient distance to structures must be arranged, to ensure free sweeping of the stove. A stove that is connected to the chimney from the top is swept from the back connection, and a stove connected from the back is swept from the top connection.
2. Initial heating: Smoke and odours.
 - 2.1. The initial heating of the stove is done without stones, preferably outside (using a metal pipe 2 meters in height) or in a sauna room that has sufficient ventilation. During initial heating, 1 to 2 loads of wood should be burned.
3. Install the stove with the help of the adjustable legs. Ensure that every adjustable leg rests firmly on the floor prior to loading the sauna stones.
4. Sauna stones: Only use suitable washed sauna stones for the purpose. Load the stones again once a year and more often if the sauna is heated for long periods of time or multiple times a week.
5. If the side hoods and back of the stove heat up excessively:
 - 5.1. Check the chimney joints.
 - 5.2. When heating the stove, a suitable amount of wood must be used in the stove. The stove must not be loaded full of wood – a suitable amount is 1.5 to 3 kilos of dry wood at a time, but not more than 5 kg/h for VPR-14 type stove and not more than 7,5 kg/h for VPR-22 and VPR-22-WT type stoves.
6. The ashpan must be emptied, and the grating cleaned each time prior to heating of the sauna.
7. Sauna water: Preferably, use only clean, fresh drinking water.
8. If the sauna is left cold in the winter:
 - 8.1. Remove the stones from the stove.
 - 8.2. Clean the stone space and grating.
 - 8.3. Empty the ashpan and water tank.
9. Fire safety:
 - 9.1. Ensure the safe installation of the stove by reviewing the latest instructions from the local fire authority prior to installing.
 - 9.2. Regularly check that the plug for closing unnecessary flue outlet of the stove (on the top or on the back of the stove) is in place.
 - 9.3. Regularly clean the stove, flue gas connector and the chimney flue and check for blockage prior to re-lighting after a prolonged shut down period.
 - 9.4. It is recommended for regular maintenance by a competent engineer.

7. Warranty

Vilpra sauna stoves have a manufacturer's warranty of 36 months after the date of purchase. The warranty covers manufacturing defects. Damages caused by incorrect use or use which is not in accordance with instructions are not covered by the warranty.

8. For safety

Prior to installing the stove, review the up-to-date safety distances and directives.

The sauna may not be used to dry clothes or as a room to dry laundry.

Beware of the hot stove as the stones and metal parts heat up and become burning hot. Beware of steam rising from the stove, to prevent burns.

We recommend supervision of children, disabled and sick people while using the sauna. Move carefully in the sauna as the benches and floor may be slippery.

Do not enter the sauna under the influence of alcohol, drugs, or intoxicating agents.

Please note that insufficiently loaded stone space creates a fire risk.

Never cover the stove.

