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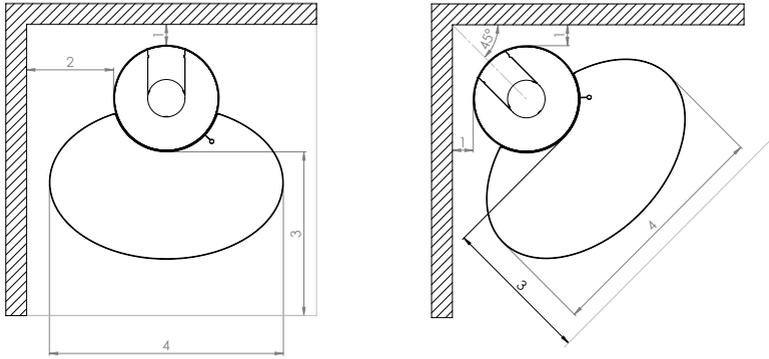




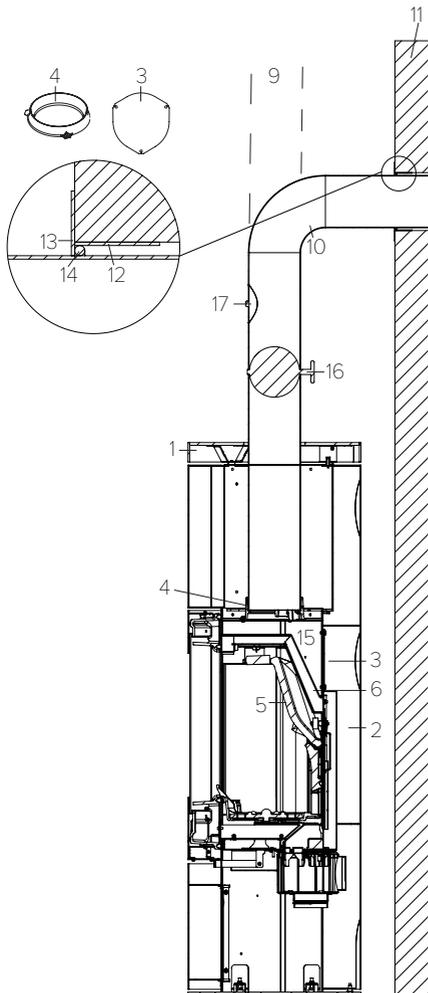
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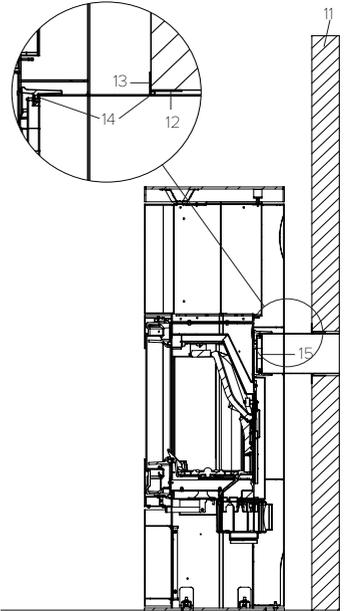
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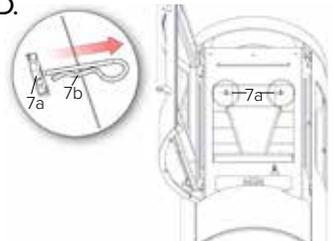
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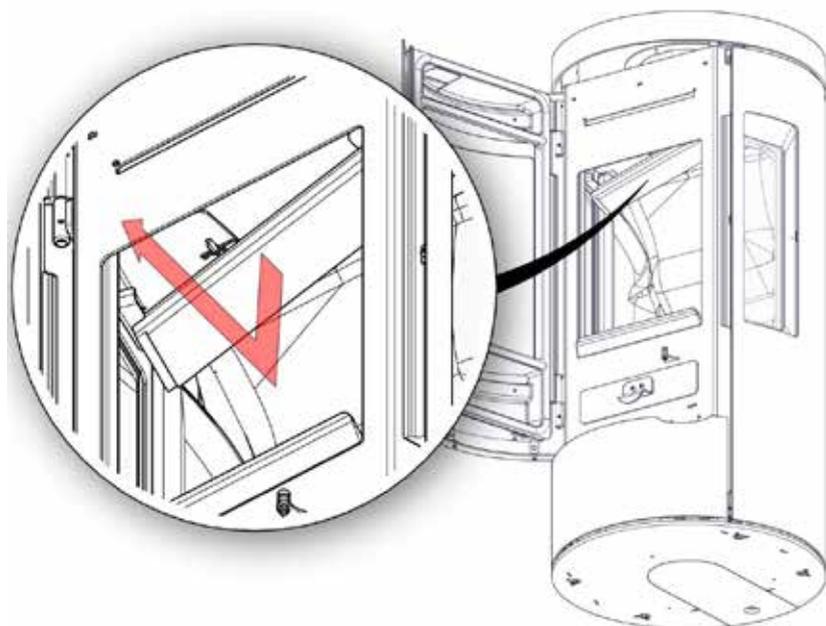
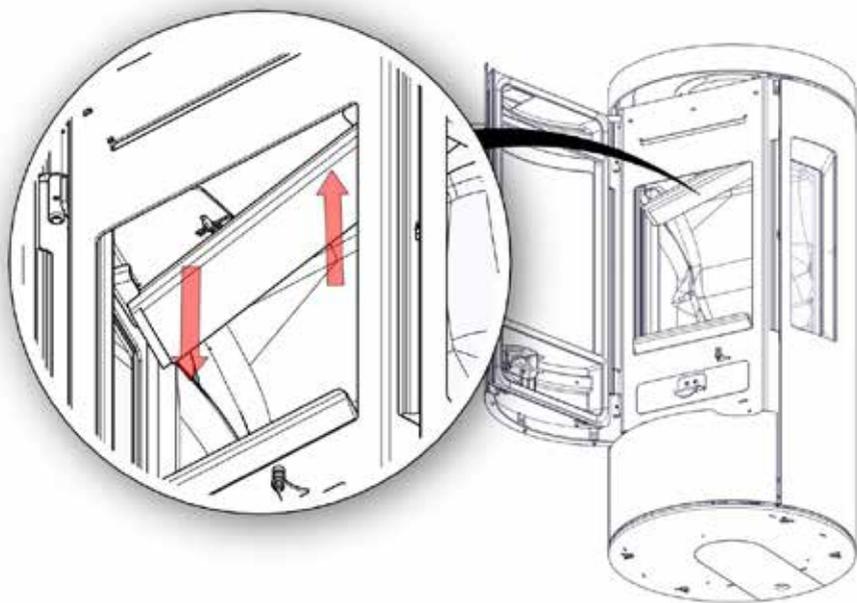
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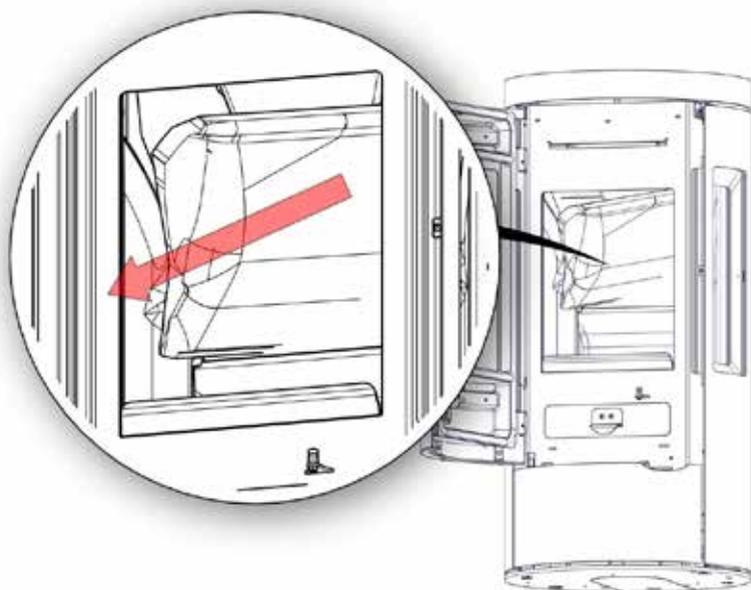
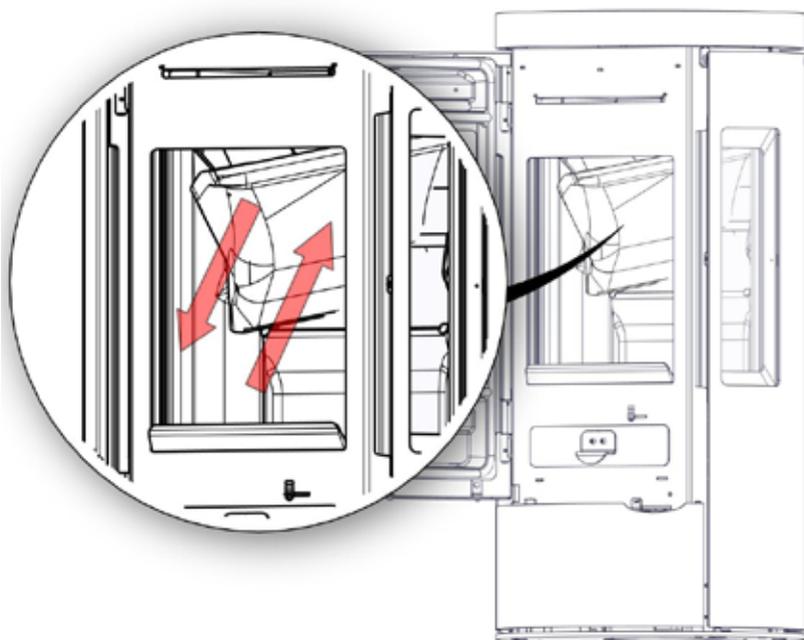
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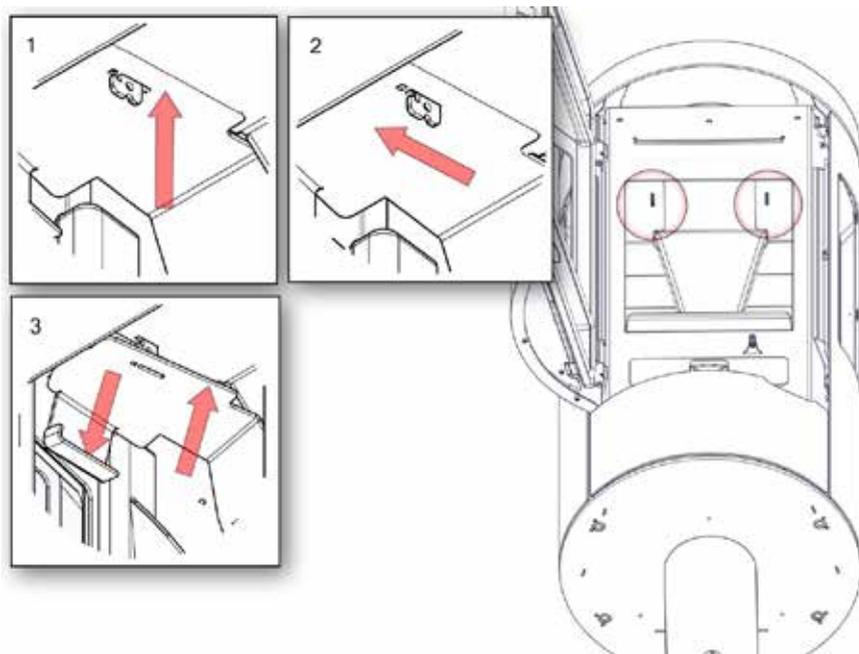
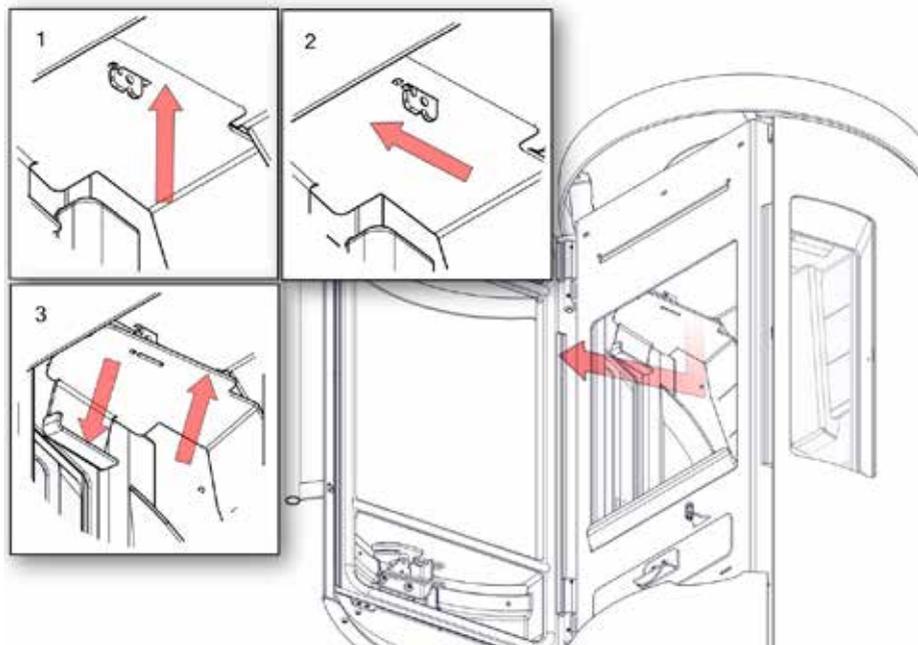
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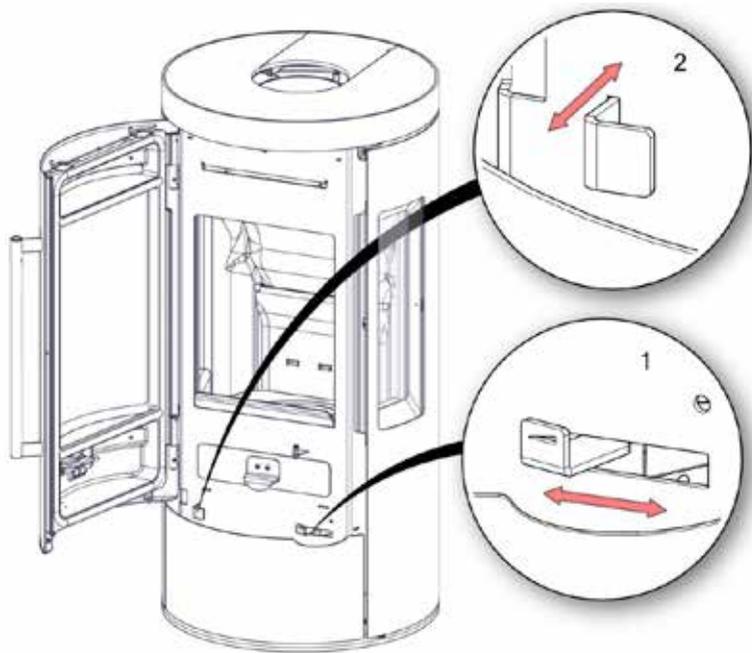
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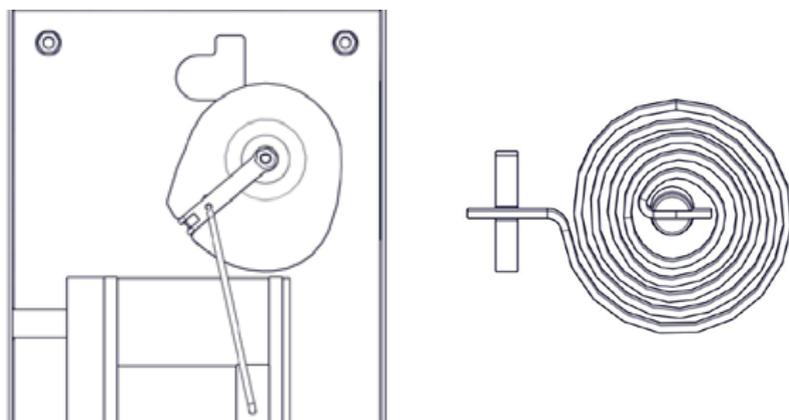
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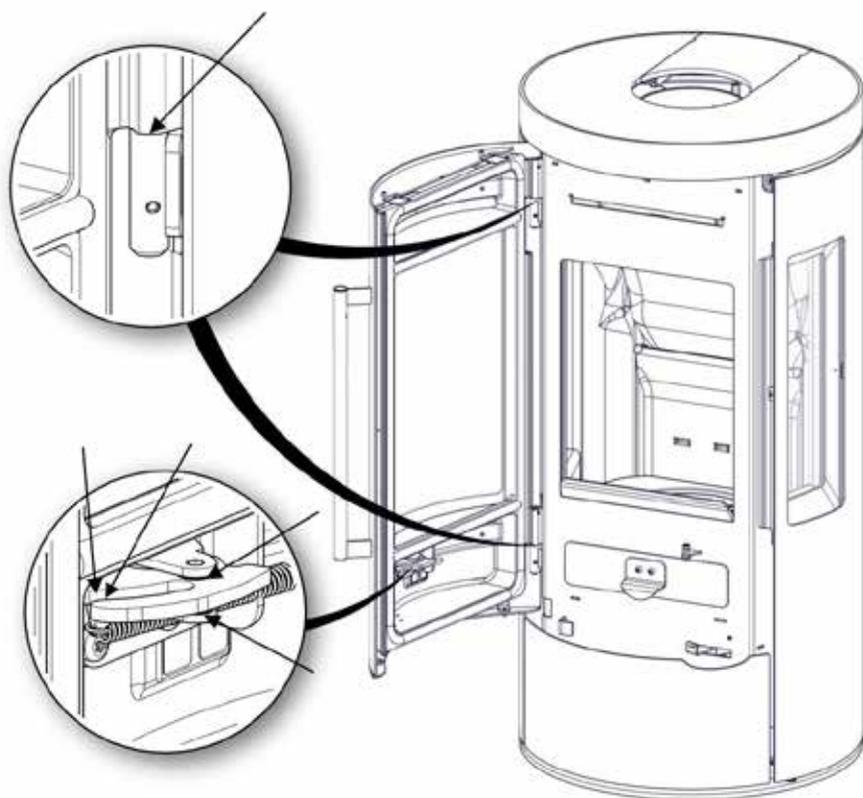
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## In general

Congratulations on your new HWAM woodburning stove. We are pleased that you have chosen a HWAM woodburning stove and confident that it will give you much pleasure. To ensure optimum operation and safety, we recommend that the installation should be carried out by an authorised HWAM retailer or a fitter recommended by the retailer. For an overview of HWAM retailers, visit [www.hwam.com](http://www.hwam.com) under "Retailer locations".

## Safety

The installation of your HWAM woodburning stove must always comply with all European, national and local building regulations. The installation must be carried out in accordance with the instructions in the installation and user manuals and subsequently registered with the local authorities. Upon installation, the chimney sweep must approve the installation before you can start using the woodburning stove. All HWAM woodburning stove packaging material must be handled in accordance with local waste management regulations.

## Room requirements

Always ensure a supply of fresh combustion air to the room where the stove is to be installed. The woodburning stove uses approx. 7-23 m<sup>3</sup> of air per hour. A window that can be opened or an adjustable air valve will be sufficient. It must not be possible to block the adjustable air valve/grate. In newly built/ airtight dwellings, we recommend that a fresh air system should be installed for the direct supply of external air to the combustion. This fresh-air system may be bought separately.

Before installing the stove, you must ensure that the load-bearing capacity of the floor can withstand the weight of the stove and the chimney. The weight of the chimney should be calculated according to its dimensions and height.

## Technical measures and data

<b>Test results from nominal test EN 13240</b>	
Nominal heating effect	4,7 kW
Flue gas temperature EN 13240 measurement point	193°C
Flue gas temperature measured in the outlet socket	232°C
Exhaust gas flow	5,3 g/s
Efficiency	82 %
Annual efficiency	72 %
PM	24 mg/m <sup>3</sup>
OGC	65 mg/m <sup>3</sup>
NOx	92 mg/m <sup>3</sup>
CO at 13% O <sub>2</sub>	1125 mg/m <sup>3</sup>
CO at 13% O <sub>2</sub>	0,09 %
Energy efficiency index	109
Energy efficiency class	A+
<b>Test result based on NS 3058</b>	
Particle emissions	4,81 g/kg

The declaration of performance (DoP) can be downloaded from our website, [www.hwam.com](http://www.hwam.com).

Model	Weight	Height	Width	Depth
HWAM 4110 / HWAM 4120	135 kg	102,7 cm	51,0 cm	51,0 cm
HWAM 4130 / HWAM 4140	145 kg	119,3 cm	51,0 cm	51,0 cm
HWAM 4150 / HWAM 4160	170 kg	162,1 cm	51,0 cm	51,0 cm
HWAM 4240	140 kg	112,4 cm	54,3 cm	45,5 cm
HWAM 4240 with natural stone cladding	191 kg	116,6 cm	54,3 cm	45,5 cm
HWAM 4240 with soapstone cladding	215 kg	116,6 cm	54,3 cm	45,5 cm
Heat storing slabs HWAM 4150/4160	30/60/90 kg			

### Floor plate

European, national and local regulations must be observed in terms of the size and thickness of a non-combustible floor covering the floor in front of the combustion chamber opening. Ask your HWAM retailer for assistance. The combustion chamber opening is 28.4 cm wide.

### Distance to inflammable materials

Your HWAM woodburning stove should always be installed on a non-combustible hearth. If it is installed on a wooden floor or similar, the floor must be covered with a non-combustible material.

Min. distances - uninsulated flue gas pipe (drawing A)	HWAM 4110 HWAM 4130 HWAM 4150	HWAM 4120 HWAM 4140 HWAM 4160	HWAM 4240
1. Recommended for brick wall	10 cm	10 cm	10 cm
1. For inflammable back wall	15 cm	10 cm	10 cm
2. For inflammable side wall	42 cm	42 cm	42 cm
1. To inflammable wall, corner installation, 45°	10 cm	10 cm	10 cm
3. Distance to furnishings in front	110 cm	90 cm	90 cm

Min. distances - insulated flue gas pipe (drawing A)	HWAM 4110 HWAM 4130 HWAM 4150	HWAM 4120 HWAM 4140 HWAM 4160	HWAM 4240
1. Recommended for brick wall	10 cm	Nicht getestet	Nicht getestet
1. For inflammable back wall	10 cm	Nicht getestet	Nicht getestet
2. For inflammable side wall	42 cm	Nicht getestet	Nicht getestet
1. To inflammable wall, corner installation, 45°	Nicht getestet	Nicht getestet	Nicht getestet
3. Distance to furnishings in front	110 cm	Nicht getestet	Nicht getestet

**Remember to pay attention to applicable regulations concerning the required distance between the wall and smoke pipe.**

The distance to a brick wall is set to facilitate the servicing of the HWAM® Autopilot™ system.

Please be aware that not all glass parts are heat-resistant. For this reason, a glass wall should sometimes be treated as a flammable wall, in which case we ask you to contact your local chimney sweep or glass producer to hear at what distance the stove should be kept from glass.

### Requirements for chimney and smoke pipe

The height of the chimney must ensure sufficient draught and prevent any smoke nuisance. As a general rule, satisfactory draught conditions are achieved if the chimney is 4 m above the stove and at least 80

cm above the ridge. If the chimney is placed at side walls, the top of the chimney should always be higher than the ridge or the tallest point of the roof. Always be aware of any national and/or local regulations applying to thatched roofs and the location of the chimneys.

The stove requires a draft of at least 12 Pa.

The chimney must have a minimum clearing of Ø 150 mm. The chimney must be provided with an easily accessible cleaning door. The chimney and flue duct must be of flue class T400 and be CE marked. Furthermore, it must have obtained the classification of G in soot fire testing. The required distance to combustible material must be complied with in accordance with the brand label. Ask your HWAM retailer for further information.

### **Connection to chimney**

All the stoves have both rear and top smoke outlet that can be connected to an approved steel chimney on top or directly out at the rear to a chimney.

Make sure that the chimney is tight and that no false draft is caused around neither the cover plate, in connection with a covered smoke outlet, nor the cleanout door and pipe connections. Please note that bent and/or horizontal smoke pipes will reduce the effect of the chimney draft.

Vertical cross-section of smoke flue (Drawing B and C)

B: Top smoke outlet

C: Rear smoke outlet

- Steel chimney (9).
- Flue gas elbow (10). Fits into smoke flue socket.
- Brick-built jamb of flue (11).
- Built-in pipe sleeve (12). Fits smoke flue.
- Wall rosette (13). Covers disruption to wall around pipe sleeve.
- Joint (14). Sealed with packing material.
- Smoke outlets (15) of the HWAM stove.
- Smoke flue regulating damper (16).
- Soot door (17).

### **Fitting the loose parts**

Before the stove is installed, you must ensure that all loose parts are fitted correctly. Check that all insulation plates of the combustion chamber have been properly placed, i.e. that the bottom plate is horizontal and that the side plates are vertical and reach all the way up to the steel sides of the combustion chamber and down to the bottom plate.

Vertical cross-section of the stoves (Drawing B, C and D):

- The smoke shelf (5). To be placed on top of the steel rail and on the holders in the sides
- Two-piece smoke deflector plate (6). Each half is hung on the hooks located beneath the top plate. The two halves join in the holders (7a) behind the air pipe. Once the stove has been installed, remove the safety fittings for transportation (7b) from the two hooks
- Rear plate (2a), covering HWAM® Autopilot™. This must always be mounted if the stove is placed next to a combustible wall

### **Chimney**

The chimney is the “engine” of the stove and it is crucial for the functioning of the woodburning stove. The chimney draft provides a partial vacuum in the stove. This vacuum removes the smoke from the stove, sucks air through the dampers for the so-called glass pane rinse which keeps the glass free of soot, and sucks in air through both primary and secondary dampers for the combustion.

The chimney draft is created by the differences in temperature inside and outside the chimney. The higher the temperature within the chimney, the greater the draft. It is therefore crucial that the chimney is heated well through before regulating the air supply and thus limiting the combustion in the stove (a brick chimney takes longer to warm up than a steel chimney). On days where the weather and wind conditions create insufficient draught inside the chimney, it is even more important to warm up the chimney as quickly as possible. The trick is to quickly get some flames going. Split the wood into extra fine pieces, use an extra firelighter, etc.

If the stove has not been used for a longer period, it is important to check that the chimney pipe is not blocked.

It is possible to connect several devices to the same chimney. However, it is important to first check the applicable rules.

### **Chimney sweeping**

To prevent the risk of chimney fires, the chimney must be cleaned every year. The flue duct and the smoke chamber above the baffle plate must be cleaned together with the chimney. If the chimney is too tall to be cleaned from above, it must be equipped with a soot door.

In case of a chimney fire, close all dampers and call the firefighters. Before any further use, have the chimney checked by the chimney sweeper.

## **FIRING MANUAL - WOOD**

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### **Your first heating session**

The lacquer will be fully hardened after the stove has been used, and the door and the ashpan should be opened very carefully as there will otherwise be a risk that the gaskets will stick to the lacquer. In addition the lacquer may initially give off an unpleasant odour, so make sure that the room is well ventilated.

### **Tips about fuel**

#### **Approved fuel types**

The wood burning stove is EN approved for combustion of wood only. It is recommended to use dried chopped wood with a water content of 12-18%. Stoking a fire with wet wood results in soot, environmental problems, and a less efficient fuel economy. It is recommended to purchase a hygrometer to continuously check that the firewood has the correct moisture content before using it for firing.

#### **Recommended wood types**

All types of wood, for instance birch, beech, oak, elm, ash, conifers, and fruit trees can be used as fuel in your insert. The great difference is not in the fuel value, but in the weight of the wood types per cubic metre. Beech weighs more per m<sup>3</sup> of wood than common spruce, for instance. This is why more common spruce is required, in terms of volume, to obtain an amount of heat similar to that of beech. Heavy types of wood such as ash, beech, oak and elm are generally not that easy to light up. In addition, they burn more slowly and give off more embers. Light types of wood such as birch, maple, spruce and pine are more easy to light up. They burn faster and give off fewer embers. You may therefore take advantage of the light types of wood for lighting and use the heavier types of wood to ensure a longer burning time.

#### **Banned fuel types**

It is not allowed to stoke a fire with the following: printed matter, plywood, plastic, rubber, fluid fuels, and rubbish such as milk cartons, lacquered wood or impregnated wood and fossil fuels. The reason that you should not apply any of the above is that during combustion they develop substances that are health hazardous and harmful to the environment. These substances could also damage your wood burning stove and chimney, rendering the product warranty void.

## Storage of wood

A moisture content of 12-18% is achieved by storing recently felled wood outdoors under a lean-to for at least one year, preferably 2 years. Wood stored indoors has a tendency to become too dry and combust too quickly. However, it might be advantageous to store fuel for lighting a fire indoors for a few days prior to use.

We recommend that you buy a moisture meter to continuously check that the wood has the correct moisture content before it is used for firing. Split the wood and measure the moisture content of the split surfaces.

## Recommended dimensions

The dimensions of the fuel are important to good combustion. The dimensions should be as follows:

Fuel type	Length in cm	Diameter in cm
Wood for kindling a fire (finely chopped)	25	2-5
Chopped wood	25	5-8

## Special fire lighting guide for stoves with soapstone or natural stone cladding

Stones are natural products which need to adjust to temperature changes. We recommend following the procedure below:

### 1. First stoking (drawing F)

Push the air control lever (1) all the way to the right push the shaking grate lever (2) all the way in. Place 2 pieces of wood (5-8 cm in diameter) horizontally in the bottom of the combustion compartment (corresponding to 1-2 kg). Place 5-8 pieces of kindling randomly on top. Place 2 firelighters between the top layer of kindling. Light up the firelighters and close the stove door. If condensation forms on the glass, keep the door ajar for a little while and close again. When the fire has gone out, open the door and leave it open while the stove cools to room temperature.

### 2. Second stoking

Push the air control lever (1) all the way to the right push the shaking grate lever (2) all the way in. Place 2 pieces of wood (5-8 cm in diameter) horizontally in the bottom of the combustion compartment (corresponding to 1-2 kg). Place 5-8 pieces of kindling randomly on top. Place 2 firelighters between the top layer of kindling. Light up the firelighters and close the stove door. If condensation forms on the glass, keep the door ajar for a little while and close again.

When no more yellow flames are visible and a suitable layer of embers has built up, the stove can be stoked again. There is a suitable layer of embers when the bottom of the stove is covered completely. Half fill the combustion chamber with dry wood with a diameter of about 7-9 cm. When all of the wood has caught fire, turn the regulator (1) to middle position. Allow the fire to burn and let the stove cool to room temperature before stoking again.

### 3. Third stoking

Repeat the procedure for the second stoking. Allow the fire to burn and let the stove cool to room temperature after the fire has gone out.

### Restoking:

Follow the general instructions, see the sections "Lighting the stove" and "Stoking".

## Lighting the stove (drawing F)

A successful combustion process requires that the wood is lit in the right way. A cold stove and a cold chimney challenge the combustion process. It is important to achieve a high flue gas temperature quickly. Push the air control lever (1) all the way to the right push the shaking grate lever (2) all the way in. Place 2 pieces of wood (5-8 cm in diameter) horizontally in the bottom of the combustion compartment (corresponding to 1-2 kg). Place 5-8 pieces of kindling randomly on top. Place 2 firelighters between the top layer of kindling. Light up the fire-lighters and close the stove door. If condensation forms on the

glass, keep the door ajar for a little while and close again. When the kindling is burning well, push the air control lever (1) to middle position. If the fire goes out, this has been done too early. Push the air control lever to the right again until the fire is burning properly. Allow the kindling to burn out until flames are no longer visible. The stove can then be stoked again.

### **Booster**

Pull out the shaking grate lever (2) completely to activate the booster if the wood does not burn easily due to poor chimney draft. **IMPORTANT:** For safety reasons, it may only be used during the first 3 minutes. As soon as the temperature in the combustion chamber is high enough and the draft in the chimney sufficient, push the lever all the way back in again. This ensures safe and efficient combustion. It reactivates the air wash system and avoids overheating of the stove. The booster is intended solely to assist in the event of poor draft during the first 3 minutes of the lighting process. A chimney draft of 12 Pa does not require the use of the booster.

**Important!** Only open the door when lighting the stove, refuelling it and cleaning it.

### **Stoking (drawing F)**

When no more yellow flames are visible and a suitable layer of embers has built up, the stove can be stoked again. There is a suitable layer of embers when the bottom of the stove is covered completely and the embers are glowing in a circle around the shaking grate. Put at least 2 pieces of wood into the stove, weighing up to 1 kg each. HWAM® Autopilot™ manages the regulation of air supply. The temperature can, however, be set up or down by pushing the air control lever either to the right or left, respectively. If the air control lever is set farther to the left, combustion is reduced and the burning time is prolonged. By pushing it to the right, combustion is increased and burning time is shortened. Do not add new firewood to the fire until the layer of embers is sufficiently low.

**During combustion, the outer surfaces of the stove will become hot, and due care must therefore be shown.**

### **When burning is complete**

When the stove is not in use, push the air control lever all the way to the left.

### **Cleaning the glass**

We recommend wiping the glass after a fire. This is best done using a paper towel.

### **Fuelling with coal or pet coke**

The stove is not approved to use coal or pet coke as a fuel.

**Remember that the regulator must then be turned to the left again.**

# FIRING IN GENERAL

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## **Rapid or fierce heat**

Rapid or fierce heat is obtained by burning many small pieces of wood.

## **Maximum amounts of fuel:**

The maximum allowed amount of fuel per hour is:

Wood: 2.4 kg

If these limits are exceeded, the stove will no longer be covered by the factory guarantee, and it may also become damaged due to excessive heat, the glass may turn white, for example..The stove has been approved for intermittent use.

## **Typical re-firing interval at nominal performance**

Wood: 45 min (1,03 kg)

## **Prolonged burning time**

The longest burning time is achieved by pushing the air control lever to the leftmost position when the flames are about to die. This will ensure the longest period with embers. When adding new firewood, always remember to check that the wood has caught fire properly. If not, the air supply must be increased by pushing the air control lever to the right.

For the slowest possible combustion, turn the regulator counter-clockwise (to the left). By turning the regulator all the way to the left, the stove receives no primary air (the air that comes through the grate). The stove cannot be lit after a new firing without the regulator being turned to the right, which allows primary air to enter the unit.

## **Insufficient firing**

If the fireproof materials in the combustion chamber are blackened after a fire, then the stove is polluting, and the HWAM® Autopilot™ system is malfunctioning. Therefore, more air must be supplied by pushing the air control lever to the right. It may also be necessary to burn more wood.

## **How to achieve the best combustion**

### **• Use clean and dry wood**

Wet wood results in inefficient combustion, plenty of smoke, and soot. Furthermore, the heat will dry the wood, not heat up the room.

### **• The fire should only be stoked with a little wood at a time**

You achieve the best combustion by starting up a fire often and using only a little wood. If you use too much firewood, it will take some time before the temperature reaches a level where you achieve a good combustion.

### **• Make sure there is the right amount of air**

You should also make sure that there is plenty of air – especially in the beginning - so the temperature in the wood burning stove climbs quickly. In this way the gasses and particles released during the combustion will be consumed by the fire. Otherwise they build up soot in the chimney (constituting a chimney fire risk) or will be released in a non-combusted state into the environment. The wrong amount of air supply creates inefficient combustion and a modest effect.

### **• Don't savour the fire during night time**

We advise against adding fire wood to your stove and reducing the air supply at night in an attempt to still have some embers left in the morning. If you do so, large amounts of hazardous smoke will be emitted, and your chimney will be exposed to unnecessarily large amounts of soot with the risk of a chimney fire.

# MAINTENANCE

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## Cleaning

Any maintenance of the stove should only be carried out when it is cold. Daily maintenance is limited to vacuum cleaning the stove externally, using the soft brush attachment. You can also dust the stove using a dry, soft cloth or brush. But remember, only when the stove is cold. Do not use water, spirit or any other kind of cleaner, as this will damage the lacquer.

Once a year, the stove should be thoroughly serviced. The combustion chamber should be cleared of ashes and soot. The hinges and the closing hook must be greased with liquid copper fat spray (heat-resistant up to 1100 °C), (drawing H). Lift the door approx. ½ cm and spray copper fat onto the hinge leaf.

## Service inspection

Your stove should be given a thorough, preventive inspection once every two years. This includes:

- Thorough cleaning of the stove
- Check the spring in the Autopilot unit and replace if necessary
- Checking gaskets. Replace gaskets if they are not intact or have softened
- Checking of heat insulating material and possibly replacement
- Checking of the bottom/shaking grate
- Use copper grease for hinges and locking hooks (drawing H)

All service checks must be performed by an authorised fitter. Use only original spare parts

## Inside cleaning

Unless the safety fittings for transportation (2 split pins) have not already been removed, start by removing the split pins (drawing D).

The smoke shelf and baffle plate is to be removed from the stove before cleaning

- First remove the uppermost piece of vermiculite (Skamolex) (drawing E1)
- Lift the smoke shelf out of the steel rail at the back of the combustion chamber. Next, lower it beneath the holders and slide it out (drawing E2)
- Lift each half of the steel smoke plate off the holder and remove them (drawing E3)

After sweeping, reinstall the parts in the stove in reverse order.

## Ashes

The ash pan is best emptied by pulling a waste bag over the pan, tipping it and then carefully pulling it out of the bag. Ashes are disposed of via the domestic waste collection.

**Please note that there may be embers in the ashes for up to 24 hours after the fire has gone out!**

## Insulation

The efficient, but porous insulation of the combustion chamber may, in time, be worn and damaged. Cracks in the insulation are irrelevant to the efficiency of the stove. However, it should be replaced, if there are actual holes due to parts of the lining falling off or when, due to wear and tear, it has been reduced to less than half its original thickness.

## HWAM® Autopilot™

Lift off the rear panel. On a cold stove, the starting point of the feeler is controlled. The starting point on a cold stove is to be seen at drawing G. It should feel easy going and bouncy when you push it, no matter if the stove is cold or hot. By rising or falling temperatures it must not move at a bound. The damper plates must be dry and clean and slide together unhindered. Control bars and slide gates may have to be smeared with WD40 (never oil).

### **Door/glass**

A sooty glass door can easily be cleaned with a piece of moist kitchen roll dipped in ash. Go about it in vertical movements (up and down). Follow up with a dry piece of kitchen roll.

### **Seals**

Check frequently to ensure that seals in the door and ash pan are intact and not brittle. Failing this, they should be replaced. Use original seals only.

### **Surface**

Usually, it is not necessary to any treatment to the painted surfaces of the wood-burning stove. Any damage to the paint may, however, be remedied with spray paint, which can be bought from your stove retailer.

### **Guarantee**

The guarantee does not cover damage due to insufficient maintenance!

## **OPERATIONAL PROBLEMS**

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### **Blackened glass**

- The wood is too damp. Only use wood stored for at least 12 months under cover and with a moisture level not exceeding 12-18% RH
- Faulty seal in door. Fit new seal

### **Smoke in the room when opening door**

- The grate in the chimney may be closed. Open the grate
- Insufficient chimney draft. See section on chimney or contact chimney sweep
- Soot door leaking or dislodged. Replace or refit
- Never open the door when there are still flames on the wood

### **Uncontrollable combustion**

- Faulty seal in door or ash pan. Fit new seal
- If there is an excessive chimney draft, it may be necessary to push the air control lever all the way to the left. Also do this when the stove is not in use, the air control lever must be pushed all the way to the left
- If the steel plates in the combustion chamber develop scales or become deformed, this is due to excessive heat. Stop using the stove and contact the retailer

**At interruptions that you cannot yourself rectify, you should contact the retailer.**

# DECLARATION OF PERFORMANCE

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The DoP can be downloaded from our website via the following links:

[www.hwam.com/dop/4100](http://www.hwam.com/dop/4100)

[www.hwam.com/dop/4200](http://www.hwam.com/dop/4200)



[www.hwam.com](http://www.hwam.com)