User's Manual **EN**

hwam 3520

hwam 3530

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www.hwam.com

hwam
intelligent heat

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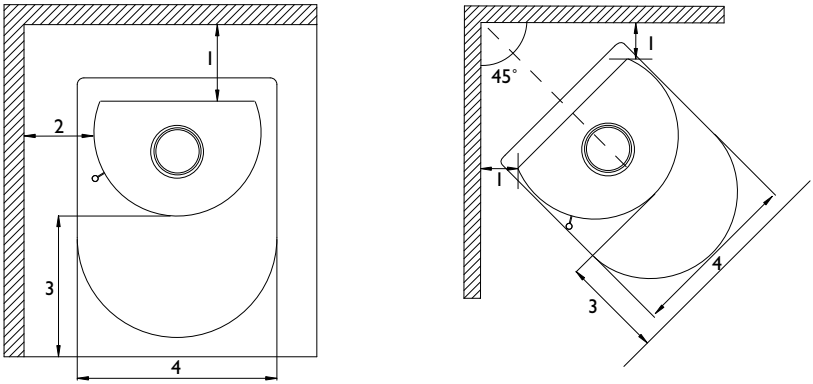

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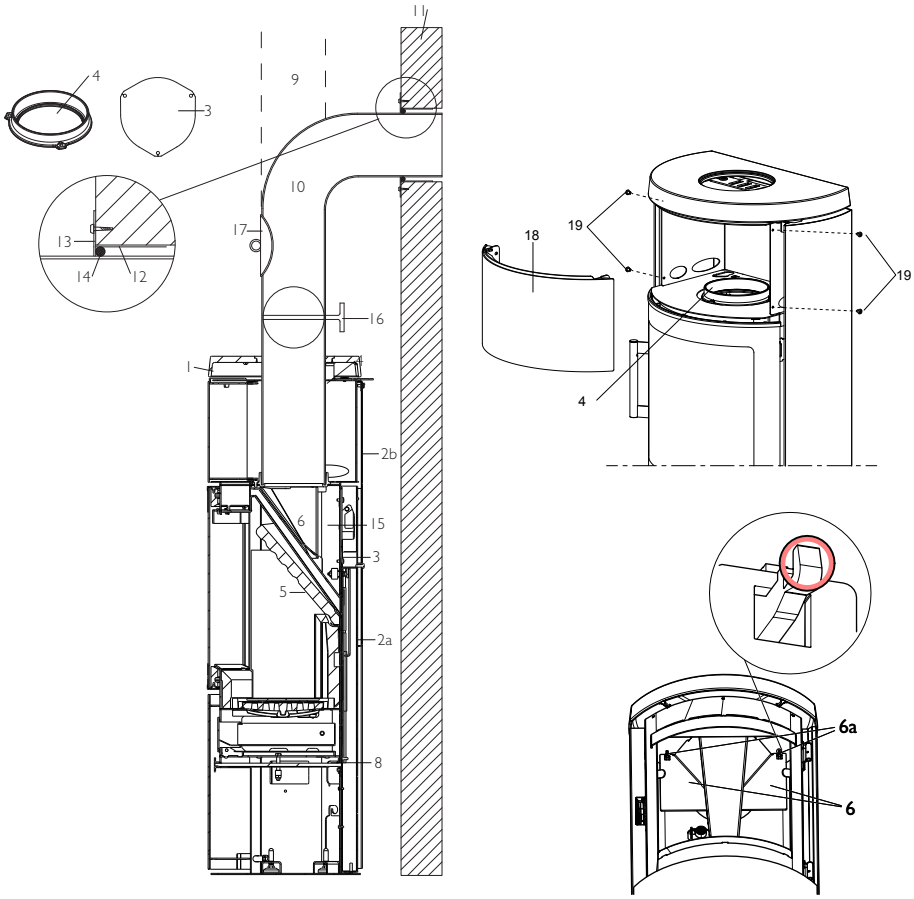

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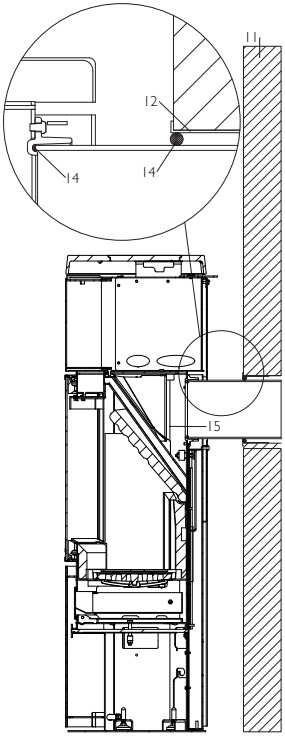

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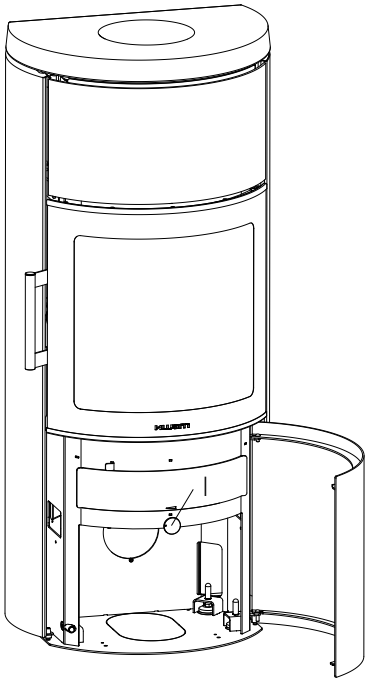

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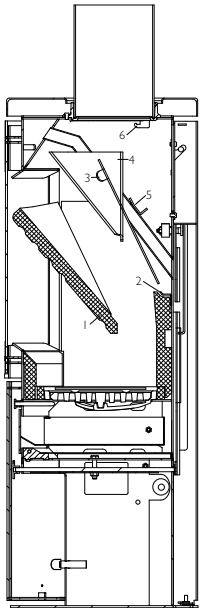

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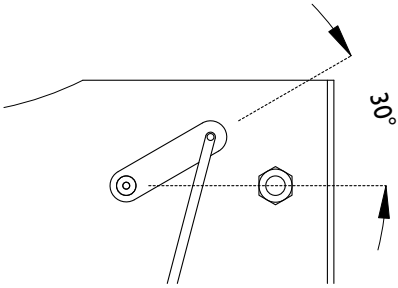

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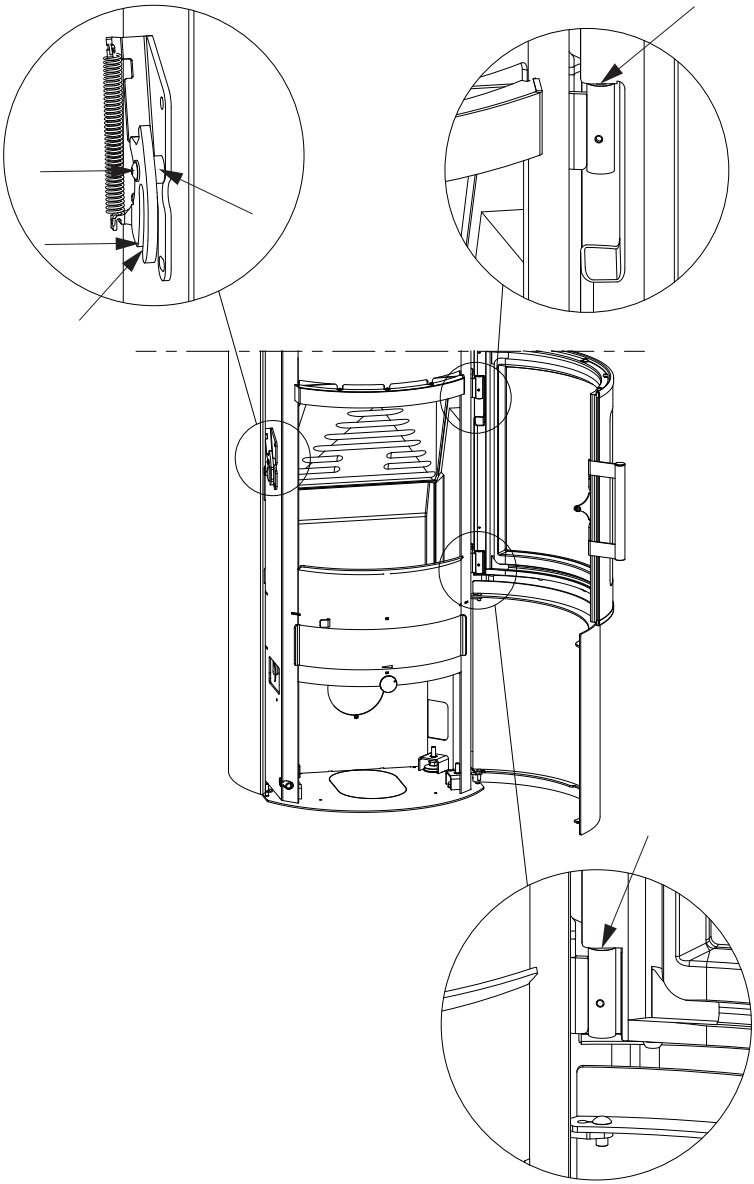

INSTALLATION

General information
Installation of your HWAM woodburning stove must always comply with local building regulations. It is a good idea to consult your local chimney sweep before installing, since he will be the one to sweep the chimney and stove.

Always follow the instructions of the manual carefully and make sure that the installation is carried out by a qualified professional.

HWAM packaging material should always be handled in accordance with the local rules for waste handling.

Room requirements
There must be a constant supply of fresh air to the room in which the stove is to be installed. A window that opens or an adjustable air vent should be sufficient, but it is also possible to connect the stove to a HWAM combustion air system. The air inlet/grating must be placed so that they do not become blocked.

Load-bearing capacity of floor
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 data

Model	Weight	Height	Width	Depth
HWAM 3520c/3520m:	118/115 kg	125,8 cm	54,0 cm	37,1 cm
HWAM 3520c/3520m, soapstone	167/164 kg	126,8 cm	54,0 cm	37,1 cm
HWAM 3520c/3520m, sandstein	155/152 kg	126,8 cm	54,0 cm	37,1 cm
HWAM 3530c/3530m:	131/128 kg	143,8 cm	54,0 cm	37,1 cm
HWAM 3530c/3530m, soapstone	191/188 kg	144,8 cm	54,0 cm	37,1 cm
HWAM 3530c/3530m, sandstein	178/175 kg	144,8 cm	54,0 cm	37,1 cm
Heat storing slabs, HWAM 3520	Approx. 44 kg			
Heat storing slabs, HWAM 3530	Approx. 77 kg			

The stove is mainly made of sheet iron, with some items made of cast iron.

Test results from nominal test EN 13240	
Nominal heating effect	4.5 kW
Flue gas temperature EN 13240 measurement point	254°C
Flue gas temperature measured in the outlet socket	300°C
Exhaust gas flow	5.1 g/s
Efficiency	78,1%
Test result based on NS 3058	
Particle emissions	2,05 g/kg

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.

HWAM 3520, HWAM 3530 (Drawing A)	
1. Recommended for brick wall	10 cm
1. For inflammable back wall	10 cm
2. For inflammable side wall	20 cm
1.To inflammable wall,corner installation*	13 cm
3. Distance to furnishings in front	80 cm

*All dimensions in connection with corner installation are only recommendations. Contact your chimney sweep for a clarification.

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 faciliate the servicing of the 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 chimney must be of a sufficient height to enable an adequate draft and to prevent smoke problems. The stove requires a draft of at least 12 Pa.

The chimney must have a minimum opening equivalent to Ø 150 mm.The chimney opening should always be at least the size of the outlet socket of the stove.The chimney must have an easily accessible soot door. Smoke pipe and chimney must always be suitable for a stove connection. Ask your HWAM dealer for more information.

Changing the smoke outlet from top outlet to rear outlet (drawing B)

Procedure for wood-burning stoves with soapstone top or cast iron top.

For stoves suitable for soapstone cladding (without soapstone cladding installed), begin with item 3 and end after item 12.

1. Removing sides. Lift one side about 10 mm and pull it away from the stove so that it disengages from the guide pins on the bottom plate of the stove. Repeat on the other side.
2. Removing the top plate (1). Remove the four screws (Torx Bit no. 30 or M6 nut) beneath the top plate, two on each side, and lift the top plate off.
3. Remove the front of the heat storage compartment (18). Loosen the two screws (19) on each side of the front of the heat storage compartment without removing them. Then pull the front forward.
4. Removing the heat shield (2b). Uninstall the heat shield on the outside of the rear plate by removing the three screws. The heat shield has a cut-out for the flue duct. Break off the pre-cut plate; the resulting hole fits the flue duct.
5. Removing the rear plate (2a). Lift the rear plate and pull it away from the stove so that it disengages from the guide pins on the bottom plate of the stove.There is a cut-out in the rear plate for the smoke outlet. Break off the plate within this cut-out to make a hole in the rear plate so there is room for the smoke outlet.
6. Removing the cover plate (3). Remove the cover plate on the back of the stove by removing the three screws (Torx Bit no. 30).
7. Removing the flue ring (4). Remove the three screws. Lift the flue ring off the top of the stove.
8. Installing the flue ring (4). Insert the flue ring into the smoke outlet hole in the rear of the stove and secure it with the three screws.
9. Installing the cover plate (3). Place the cover plate above the hole on the top of the stove and secure it with the three screws.

10. Installing the rear plate (2a). Place the rear plate on the guide pins at the back of the bottom plate of the stove; then press it in towards the stove. Lift the rear plate and press it lightly inwards until it engages with the guide pins.
11. Installing a heat shield (2b). Replace the heat shield at the back of the stove.
12. Installing the front on the heat storage compartment (18). Place the front on the heat storage compartment and fasten with the four screws (19).
13. Installing the top plate of the stove (1). Place the top plate on the fittings and secure it with the four screws, two on each side.
14. Installing sides. Put the sides on the guide pins in the bottom plate of the stove and press them in towards the stove. Lift the sides and press them lightly inwards until they engage with the guide pins.

An accessory top cover is available to cover the hole in the stove top plate if the smoke outlet is connected at the rear of the stove.

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):
- The smoke shelf (5). To be placed on top of the steel rail and on the holders in the sides.
- Two-piece smoke defector plate (6). Each half is hung on the hooks located beneath the top plate. The two halves join in the holders behind the air pipe. Once the stove has been installed, twist the protection off the two hooks by using pliers or a screwdriver.
- Removable rear plate (2a), covering Autopilot controls. This must always be mounted if the stove is placed next to a combustible wall.
- Removable heat shield (2b). This must always be mounted if the stove is placed next to a combustible wall.
- Loose heat shield (8) under the ash pan. This can be used as a lid when the ash pan is removed for emptying.

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 crucial, therefore, that the chimney is warmed up properly before closing the damper and 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.

Even a good chimney can function badly if it is not used correctly. Similarly, a bad chimney may function well if used correctly.

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.

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 a maximum of 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 wood burning stove. The great difference is not in the fuel value, but in the weight of the wood types per cubic metre. Since beech weighs more per cubic metre than for instance common spruce, it will take more common spruce to produce the same amount of heat that you would get from a cubic metre of beech.

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 water content of a maximum of 18% is achieved by storing the wood for a minimum of one year, preferably two years, outdoors under a lean-to. 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.

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)	25-30	2-5
Chopped wood	25-30	7-9

Special fire lighting guide for stoves with soapstone or sandstone cladding

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

1. First stoking

Turn the regulator (drawing E, 1) clockwise to maximum. Place two 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 two 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
Turn the regulator (drawing E, 1) clockwise to maximum. Place two 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 two 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 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, but put in more wood this time. 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 E)
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. Turn the regulator (1) clockwise to maximum. Place two 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 two 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, turn the regulator (1) to middle position. If the fire goes out when the regulator is turned, return it to maximum position again until the fuel catches fire and then turn it to middle position again. Allow the kindling to burn up completely until there are no longer any visible flames. The stove can then be stoked again.

Important! The ash pan must not be opened during the lighting stage and must always be kept closed when the stove is lit or the Autopilot will not work. Only open the door when lighting the stove, refuelling it and cleaning it.

Stoking (drawing E)
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 two pieces of wood into the stove, weighing up to 1 kg each. Do not regulate the stove again as the Autopilot system will do this, but the temperature can be adjusted with the regulator (1). Turning it to minimum (counter-clockwise) will reduce the rate of combustion and make the stove burn slower. Turning to maximum (clockwise) will increase the rate of combustion and make the stove burn faster. Wait until the layer of embers is suitably low before stoking again.

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

Fuelling with coal, wood briquettes or pet coke
The stove is not approved to use coal or pet coke as a fuel. However, wood briquettes can be used to fuel the fire and should be placed on the embers produced by the burned wood. Turn the regulator to its full clockwise position until the wood briquettes fully ignite.

Remember that the regulator must then be turned to the left again.
Be aware that using fuels other than wood, will cause soot to form on the glass pane.

Operating the heat compartment damper
There is a damper at the back of the stove between the top plate and the heat compartment that opens and closes the flow of convection air in the heat compartment. The supply of convection air can be opened by moving the damper to the left and closed by moving the damper to the right.
We recommend that the convection damper is kept closed when fuelling the stove in order to heat up and thereby store heat in the heat storage stones in the heat compartment as rapidly as possible.
Keeping the convection damper closed retains the heat stored in the heat storage stones as long as possible. When the damper is opened, the heat from the heat storage stones in the heat compartment will rapidly be transferred to the room.

Firing in general

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: 2.0 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 stove has been approved for intermittent use.

Typical re-firing interval
Typical re-firing interval at nominal performance
Wood: 65 min

Long burning times
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.
If the regulator is turned 45° from its minimum position (i.e. set at 25% capacity), the stove can restart following a new firing without further adjustment.

Insufficient firing
If the fireproof materials in the combustion chamber are blackened after a fire, then the stove is polluting, and the automatic air flow regulation system is malfunctioning. Therefore, more air must be supplied by turning the regulator clockwise (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.

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

Types of fuel
The stove may be damaged by very high temperatures and the glass may turn white, for example. This can be avoided by never allowing the stove to burn with the ashpan open and taking great care with types of fuel that develop excessive heat, such as briquettes.

We recommend using birch or beechwood, which has been split and stored for at least one year outdoors under cover. Wood stored indoors tends to become too dry and burn too quickly.
Briquettes give off a lot of heat. Certain types expand considerably, thus causing an uncontrollable combustion.

The stove is EN 13240 approved for firing wood only. No particle board, lacquered, painted or treated wood, plastics, or rubber may be burned.

MAINTENANCE

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), see 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 (see drawing H).

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

Inside cleaning
Before chimney sweeping can be performed, the regulator must be set to its minimum position to prevent soot and ash from entering the Autopilot control.
The smoke shelf and baffle plate is to be removed from the stove before cleaning (Drawing F).

- First lift the smoke shelf (1) out of the steel rail (2) at the back of the combustion chamber. Next, lower it beneath the holders (3) and slide it out.
- Lift each half of the steel smoke plate (4) off the holder (5) behind the smoke pipe, and remove them from the hook (6) beneath the top plate.

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, become worn and damaged. Cracks in the insulation have no effect on the efficiency of the stove. The insulation should be replaced, however, when it is reduced to less than half the original thickness due to wear and tear.

HWAM Autopilot (Drawing G)
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 about 30^0 above horizontal.
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. 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
The surface normally requires no treatment. Any damage to the coating may be remedied using a Senotherm spray.

Guarantee
The guarantee does not cover damage due to insufficient maintenance!

Operational problems

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 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 set the regulator to its minimum position. Also do this all when the stove is not in use.
- 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 dealer.

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

Declaration of Performance

The DoP can be downloaded from our website via the following links:
www.hwam.com/dop/3520-3530