

KEDDY

K800

Installation instructions
Care and firing instructions



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GENERAL INFORMATION

Thank you for choosing our wood burning stove!

The K800 series has a number of unique characteristics, for example:

- * It is easy to install as it is in practice assembled on delivery
- * Unique combustion system for greater safety and the best protection of the environment
- * Modern innovative design
- * Cast iron for long service life

There are the following accessories for the K800 series:

- * Form-cut floor glass
- * Black-enamelled floor plate
- * Turned hot plate (for rear installation)
- * Outdoor air unit
- * Glasshatch (816-36)

Important! Keep these installation instructions and the associated firing instructions!

Quality approval

The K800 series has been tested by the Swedish National Testing and Research Institute and has met the requirements of the Swedish Building Regulations and CE Marking. Apart from this, it also fulfils the most stringent environmental requirements and it is certified by Svanen. K 800 is a secondary heatsource.

Manufacturer's declaration

The K800 has been manufactured in accordance with the documents that form the basis for the respective certificates and their associated requirements for production inspections.

IMPORTANT POINTS

- * Contact the Planning and Building Committee in your municipality concerning the building notice.
 - * It is also recommended that you contact a certified chimney sweep prior to installation.
 - * **NOTE! Read through all of the installation instructions before beginning the installation.**
 - * Remember to carefully follow the instructions for the distance to flammable structural units, see p. 4.
 - * Make sure that you get the right dimension and length of the flue, see p. 4.
 - * The installation has to be inspected by a certified chimney sweep before you start firing.
 - * In order for the warranty to apply, it is important to follow the care and firing instructions carefully, see pages 12-14.
- * **WARNING!** Parts of the stove become very hot during operation and may cause burn injuries if they are touched.
- * To guarantee the function and safety of the stove, we recommend that a professional perform the installation. Our dealers can recommend suitable fitters. You can find information about our dealers on www.keddy.se.

PREREQUISITES

BUILDING NOTICE

When you install a stove and erect a chimney, you may have to give building notice to the local Planning and Building Committee. Contact the Planning and Building Committee in your municipality for up-to-date information.

DISTANCE TO FLAMMABLE STRUCTURAL UNITS

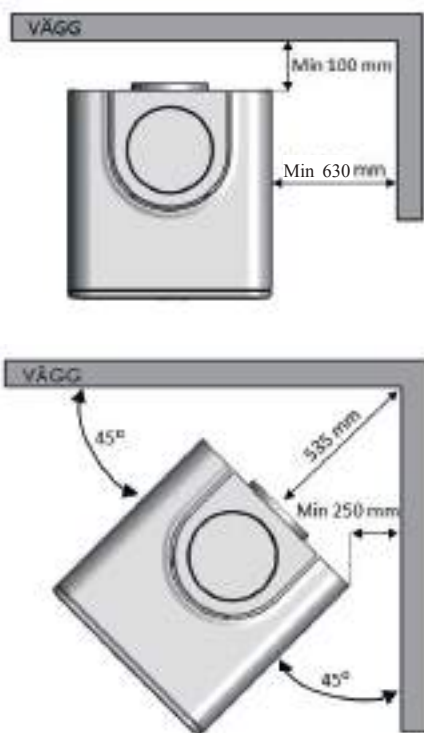
Before deciding where to place the stove, you must localise the beams in the ceiling and the roof in order to determine whether it is feasible to install a chimney in the desired place.

The K800 must be placed at a distance of 100 mm from flammable walls.

The distance from the side of the stove to a perpendicular wall must be at least 630 mm ventilated space. (See the illustration below).

For corner placement, the minimum distance to flammable walls is 250 mm. This is measured at an angle of 45 degrees from the rear corners of the stove. (See the illustration below).

The stove may be placed closer than the dimensions given above, if the wall is not flammable, however, not closer than 50 mm.



LOAD-BEARING SURFACE

Check that the floor joists have sufficient load-bearing capacity. The stove and the chimney can normally be placed on an ordinary timber joist floor, if their total weight does not exceed 400 kg.

FLOOR PLATE

A floor plate must be set in place to protect the floor from flying embers. The floor plate must extend at least 300 mm in front of the door. The width of the floor plate must be at least the width of the stove plus 100 mm on each side. An example of an approved floor plate is given on page 5. The floor plate can consist of natural stone, concrete, clinker tiles or 0.7-mm steel plate.

Naturally, you can use Keddy's own floor plate or floor glass. These are installed after completing the installation of the stove.

OUTDOOR AIR SUPPLY

The combustion of wood requires air/supply air. The K800 can be provided with an external air supply, which is recommended for properties with mechanical ventilation, see also under the heading "Good to know" on page 13. A sheet metal drum is used for drawing an outdoor air duct. The connection diameter of the supply air hose to the stove is 100 mm. If the duct is more than 3 m long, the diameter of the sheet metal drum must be increased to 125 mm. The drum can be connected from below or from the rear, see the illustration on page 5. (A stove's maximum need for combustion air is approx. 20 m³/h).

The supply air must not be taken from crawl spaces. If there is a crawl space, the sheet metal drum must be extended to a valve in the foundation wall. If the space is heated, the supply air channel must be insulated against condensation.

FLUE

The K800 must be connected to a flue approved for at least 350°C. As the area, length and material of the flue are of great importance for the draught formed in the flue, it is important the flue is not underdimensioned. The minimum recommended chimney length is 3500 mm, measured from the top of the stove, and the suitable area is 150 - 200 cm² (approx. 150 mm in diameter).

Naturally, the K800 can also be connected to chimneys made of prefabricated elements, e.g. the Heda Chimney.

CHIMNEY CONNECTIONS

The illustration on page 5 shows the K800 from above as well as where the flue ends up in relation to the wall, depending on the choice of placement. There is an illustration on page 6 for connection to an existing flue.

Read the chimney's installation instructions before starting on the preparations for the chimney and its connection.

PREPARATIONS

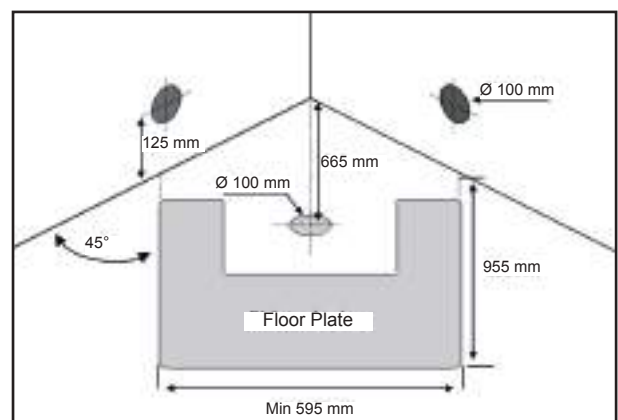
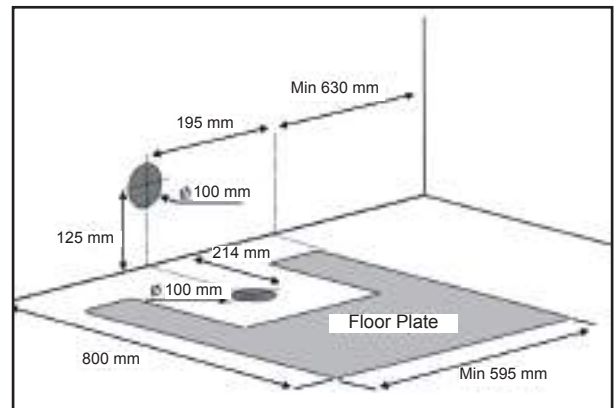
1. FLOOR PLATE AND OUTDOOR AIR CONNECTION

Arrange the floor plate according to the instructions on page 4 under the heading Floor plate. If you choose to make your own floor plate, the minimum dimensions stated in the above-mentioned point must be followed at all times.

The illustrations to the right show the dimensions of the ready-made floor plate, which is available as an accessory.

If a connection to the outdoor air is required, a sheet metal drum must be installed according to one of the alternatives illustrated, either below or through the rear wall.

Please note that the dimension for connecting to the outdoor air from below is stated on the condition that the stove is placed at the permitted distance from flammable structural units.



2. FLUE CONNECTION

There are two alternatives for connecting the flue.

Alternative 1 Rear installation

Alternative 2 Top installation

Since mod 815-35 differ in height from K816-36 the measurements for 815 will be first followed by the measurements for 816.

Height from the floor to the centre of the flue at the rear: 920/1006 mm

Height from the floor to the height of the connection top: 1060/1145 mm

Note! If you install Keddy's floor glass, the dimensions above must be extended by 6 mm, i.e. they become 926/1012 and 1066/1151 mm.

Outer diam. of the rear/top sleeve connection: Ø150

For so-called top connection of the chimney, this has to be done after the stove has been installed. We will return to this at the end of the Installation instructions on p. 11.

For so-called rear connection of the stove, this has to be prepared before the stove is put into place. Note that side routing and long horizontal routing affect the draught negatively. For satisfactory function with a chimney pot of 3.5 m, the length of the horizontal flue may not exceed 0.5 m.

There are many different requirements and variants for the rear connection of stoves. We have chosen to show two different examples, A and B, on the next page.



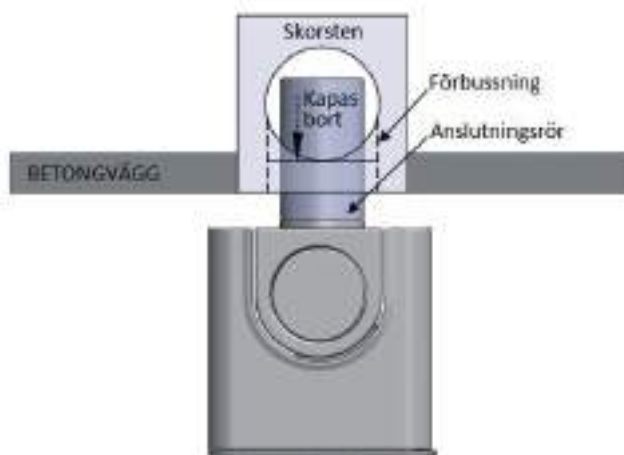
EXAMPLE A

Rear connection directly into a chimneybreast or a masonry chimney, e.g. a Heda Chimney.

Mark the centre for the hole in the wall for the flue. Check that the height agrees with the stove's connection height. Make a hole with a diameter of approx. 180 mm using a drill and a chisel.

Install a pre-bushing of approx. Ø180 (not included) using heat-resistant mortar. The connecting pipe (not included) is measured and cut, so the end of the pipe ends at the level of the chimney's flue after it is installed.

When the stove is installed, connect the pipe to the stove's connection sleeve using a sealant and tightly caulk with oakum between the flue and the pre-bushing. **NOTE! Bricking the pipe into the chimney is not allowed.**



EXAMPLE B

Rear connection through a flammable wall

The connection is made in the same way as in example A, with the exception that the connecting pipe passes through a flammable wall.

The flammable wall therefore, must be furnished with a shaft with fire retardant lining (Masterboard, Minerit or equivalent) and be insulated with at least 100-mm-thick fireproof insulation around the connection pipe. Thus, there must not be any flammable material closer than 100 mm from the flue.

When the outer diameter of the flue is Ø153 mm, the shaft must be at least 353 mm x 353 mm.

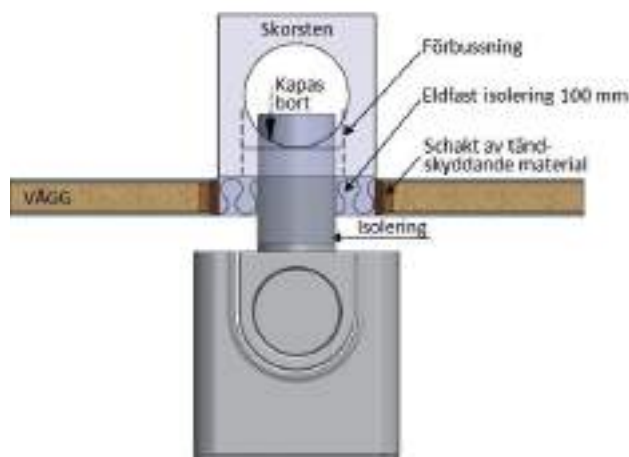
3. UNPACKING / DISMANTLING

The K800, broadly speaking, is supplied completely assembled, regardless of the models 815-35 or 816-36. In the vast majority of cases, the parts of the stove models that can be assembled/disassembled are treated in the same way so, for this reason, we have chosen to use model 815 as an illustration, i.e. the cast iron model, when it is applicable to all models.

The stove can be moved in as delivered but you should, however, take care with the top stone on the models that feature this, as it sits loosely.

If you remove the assembly box prior to carrying it in, you should also remove the hearth plates as they are secured for transport using the box.

In connection with the above, or if you want to reduce the weight of the stove before moving it in, we describe how you can in a few simple steps remove the parts involved.



1. When the outer packaging has been removed, the stove is screwed on a wooden pallet. Start by opening the door, by pressing up the handle on the bottom right. Take out the box with installation fittings.

The opening handle can be unscrewed and turned using the optional screwholes in the case that you wish to have the opening handle concealed. (see ill.) Be careful when operating the doorhandle as the lower rim of the door can be very hot when in use.

NOTE! To close the door, push it closed without lifting the lock hasp.



2. Remove the log guard, the grate and the ash pan.



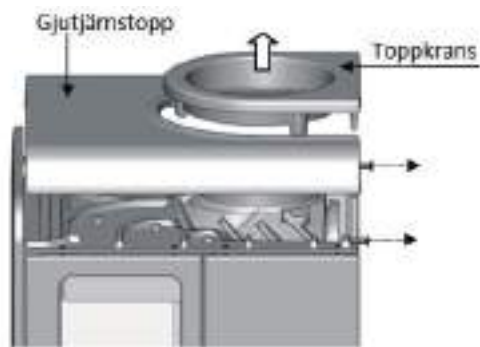
3. Remove the hearth plates. Begin by pressing the smoke shelf upwards so you can remove one of the side plates. After this, remove in order the smoke shelf, the second side plate and finally the back plate.



4. Remove the bottom stone by lifting it upwards and turning it to the side.

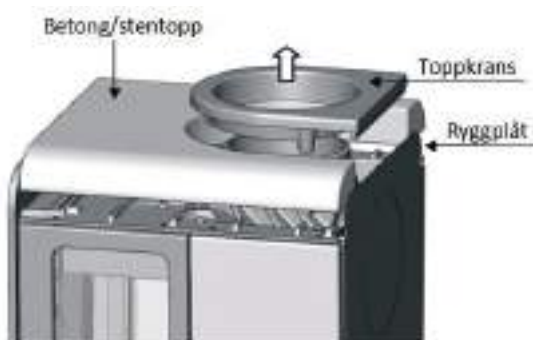


5. Dismantle the top part. If the top is made of cast iron, the two rear screws must be removed, as shown in the illustration, before you can remove the top.



If the top is made of concrete/stone, it only needs to be lifted straight up, since it is located vertically against the back plate in order to be centred laterally afterwards.

Then, remove the top ring.

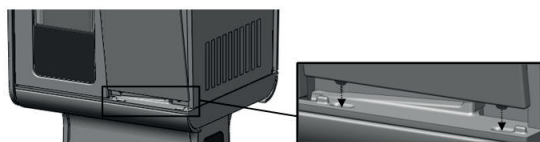


6. Remove the side panels by loosening the retaining screws. **Keep a hand on the panels during this operation, to prevent them from falling on the floor.**

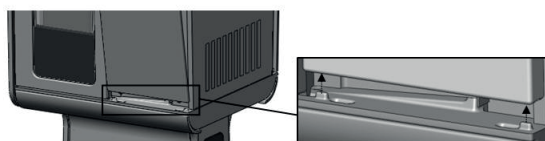
NOTE! Model 816-36 with whole sidepanel should not be removed as it also holds the glass-panels in place.



Please note that the lower part of the cast iron panel are located with two heels that fit into two holes in the stove body.



If the panel is made of stone/concrete, there is a groove that locates onto two elevations in the stove body.



You have now removed all of the necessary parts and can unscrew the stove and move it into the house. **NOTE! Because the stove is heavy and is also equipped with adjustment screws under the base, it can be a good idea to take a piece of the packaging to stand the stove on, in order to protect the floor while manoeuvring it into position.**

INSTALLATION INSTRUCTIONS

In most cases the installation is identical on all K800 stoves. When it differs we will describe it in the text. Before starting on the installation of the stove, the following steps need to be fully completed:

The chimney:

Alternative 1 An existing chimney prepared for rear connection

Alternative 2 A newly installed chimney prepared for rear connection

Alternative 3 Preparation for a new top connection chimney

Outdoor air supply (if so required)

Floor plate (unless a floor plate or floor glass is to be installed afterwards)

Several operations have to be carried out before the stove is put into place.

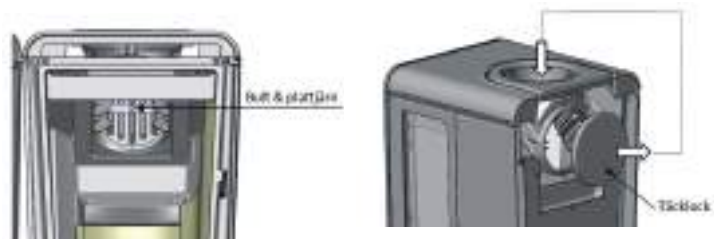
1. K815-35: Place the bottom plate on the floor. You should preferably fasten the plate with a couple of screws. The stove's adjustment screws will fit into the pre-punched holes in the four corners of the plate. If outdoor air is to be connected from below, the cover plate on the bottom plate has to be removed and the 100 - 63 mm reduction piece installed before the stove is put into place. K816-36 is fitted with an integrated bottom plate so you simply place the stove in the correct position.



2. If the stove is to have a rear connection, the back plate must be removed. Loosen the two screws in the top corners. Incline the back plate so it can be lifted from the bottom guide groove.



Loosen the cover plate via a bolt inside. The cover plate is then mounted loosely in the top connection sleeve, unless there is a hot plate (accessory), in which case the cover lid is superfluous.



After this, install the rear connection sleeve (delivered in the fittings box). For top connection, this part is superfluous.

Break out the cover piece and replace the back plate.



We are now ready to place the stove in its intended position.

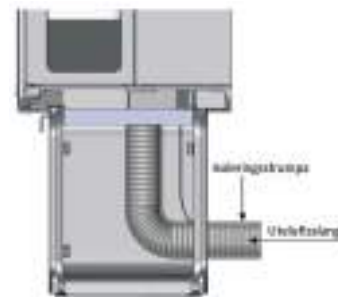
3. Put the bottom plate in place. Place the stove on the bottom plate and balance the stove vertically and horizontally using the four adjustment screws in each corner of the base. In the case of K815-35 the adjustment screws must fit into the holes punched in the bottom plate.

If floor glass is to be installed, the stove must be screwed up to a height of at least 6 mm.

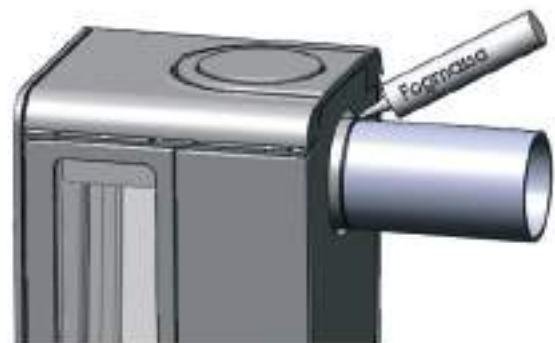
NOTE! Because the stove is heavy and is also equipped with adjustment screws under the base, it can be a good idea to take a piece of the packaging to stand the stove on, in order to protect the floor while manoeuvring it into position.

4. Connect the outdoor air connection, if any. When the connection is from the rear, the insulation sock needs to be shortened and then threaded on the hose inside the base.

Press the hose firmly onto the stove's supply air terminal.



5. For a rear-connected stove, you now connect the prepared flue to the back connection sleeve and seal with sealant. Make sure that the joint is sealed by sticking your hand into the stove and spreading the sealant so it is airtight.



6 If necessary, refit the side panels, top ring and top part. If it is a rear connection stove, you can also install the top cover. For illustrations, see points 5 and 6 on page 8.

7. If the chimney is to be installed on top, the chimney must be installed now. Connect the start module using sealant. Make sure that the joint is sealed by sticking your hand into the stove and spreading the sealant.

NOTE! Always leave at least 5 mm of ventilated space between the top of the stove and the chimney's insulation/outer steel jacket. (See the illustration.)

The first section of the chimney is normally half-insulated (approx. 30-mm insulation). However, where it passes through the joists, the chimney becomes fully insulated (approx. 60 mm of insulation). For additional information about the installation of the chimney, please, refer to the installation instructions for the brand of chimney you have selected.



8. Install the hearth plates, the grate and the ash pan. For illustration, see points 2 and 4 on page 7.

9. Assemble the base glass on mod 815-35. If you have the optional automatic damper connect the electric cable to the socket on the rear base plate.

If you have ordered the optional glasshatch for model 816-36 it is delivered with a separate instruction for assembly.



You have now made your stove ready for use. In order for the sealant to harden properly, you must leave the stove for at least three days before firing it for the first time. Since you have bought a stove that also includes either a manual or an optional automatic damper, we will explain the function of the damper in the next section.

CARE & FIRING INSTRUCTIONS

The K800 has been tested by the Swedish National Testing and Research Institute. It has met the strictest environmental requirements on the market and has useful efficiency of not less than 80%. For the K800 to work optimally, it is of key importance that you follow the care and firing instructions below. Non-compliance will invalidate the warranty.

FUEL

The K800 must be fired with wood. Most types of firewood can be used. The most suitable are birch, beech, ash and elm, but conifers and oak can also be used if they are mixed 50/50 with another type of hardwood. Oak contains acids, which may affect the stove and chimney during combustion.

The firewood must be dry, i.e. with a maximum moisture content of 20%. If the firewood is moist, an unnecessary amount of energy is used boiling the water away before it starts burning normally. Moreover, this forms large amounts of soot and tar, which are deposited on the walls of the hearth and chimney, which in turn significantly increases the risk for a chimney fire.

Moist firewood also results in poor combustion, which leads to greater smoke generation with sooty glass and deterioration of the local environment as a consequence.

To be certain you will have dry wood when the heating season begins, it must be cut in the winter. The wood is then stored in a ventilated place under a roof and left to dry during the spring and summer. Before using the wood, you should keep it indoors for a couple of days so there is time for the surface moisture to evaporate.

WARNING! It is absolutely forbidden to fire the stove with painted, glued (e.g. Masonite or chipboard) or pressure-impregnated wood. It is also forbidden to burn plastic and other waste in the stove. The combustion of such fuels and substances releases acids and heavy metals, which are very harmful for both people and the environment.

FIRING IN AUTOMATIC MODE

The K800 is equipped with a feature that ensures that the firing is as safe and environmentally friendly as possible. A heat probe, which detects the outgoing flue gas temperature, is positioned in the top of the stove. The probe sends a signal to a control unit, which then automatically controls a damper to ensure the optimum combustion of the firewood.

This provides two big advantages. In the first place, it ensures that the chimney does not overheat which, in the worst-case scenario, can cause a fire. Secondly, the firewood burns optimally during the whole firing cycle, which maximises the efficiency and minimises the emissions.

Suitable firewood size and quantity for the K800 are:

Kindling:

Length approx. 25 - 30 cm

Diameter approx. 2 - 5 cm

Quantity approx. 1.9 kg

Split logs:

Length approx. 25 - 30 cm

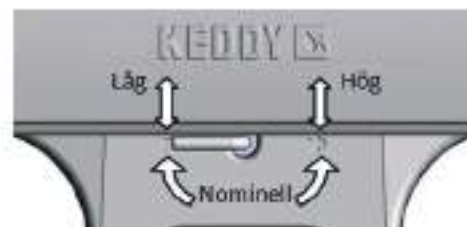
Diameter approx. 6 - 10 cm

Quantity 1.7 - 1.9 kg / load

When you begin firing in automatic mode and the stove is cold (less than approx. 35 degrees at the heat probe), the stove is always set to the rated output, approx. 6 - 7 kW. The stove is tested and optimised during normal operation and with the amounts of firewood we have stated.

For the stove to reach a good operating temperature quickly, the preset output mode should not be changed before the stove has been lit for 15 minutes.

If the damper control is turned all the way to the left, after 15 minutes, and released, the operation is reset to an output of 3 - 4 kW (low). If the same operation is repeated turn the damper control is turned all the way to the right, the stove is reset to approx. 8 to 9 kW output (high). To return to nominal operation, set the damper shaft so it points straight down.



NOTE! When a new output selection to low, nominal or high output has been made, the damper shaft will automatically travel forwards and backwards, to regulate the supply air for your latest output selection. You can see that you have made a selection by studying the fire's intensity after a couple of minutes.

As the output modes are controlled automatically, the burning time for the wood loads mentioned above will be different.

- 3 - 4 kW approx. 60 - 80 minutes
- 6 - 7 kW approx. 50 - 60 minutes
- 8 - 9 kW approx. 40

For the automatic mode to work, the stove must have a power supply. If for some reason there is no access to electricity, the stove can be used as a traditional stove. If you follow these instructions carefully, you will still achieve very good efficiency and environmental results.

FIRING IN MANUAL MODE

When you optimise firing manually, you should measure the amount of burned wood per hour. The K800 is not intended for an output exceeding 9 kWh, i.e. never exceed the maximum amount of recommended wood per hour. This not only impairs the efficiency there is also a risk of overheating the stove and chimney. Suitable size and quantity of firewood for the K800 when firing with manual damper:

Kindling:

- Length approx. 25 - 30 cm
- Diameter approx. 2 - 5 cm
- Quantity approx. 1.9 kg

Split logs:

- Length approx. 25 - 30 cm
- Diameter approx. 6 - 10 cm
- Quantity 1.7 - 1.9 kg / load
- Max. amount 2.8 kg / hour

In manual mode, the damper is closed completely when it is turned to the left and is open to the maximum when it is turned to the right (see the illustration below). If you have chosen a manual stove your dampercontrol will look different from the automatic. This is to enable you to feel how you set the damper with your fingers.



The amount of air needed for burning, e.g. 1.9 kg of wood in one hour depends on several parameters. The length of and draught in your chimney, how hot the stove and chimney are, i.e. how long you have fired. The basic principle, however, is that the stove has to burn calmly and harmonically and, for a hot stove, the damper control usually does not exceed 30% in order to achieve this with an output of 6 - 7 kW. (The damper control stands at 50% in the illustration above.)

(When testing the stove for maximum firing the damper was placed at 60%. The interval 60-100% is merely a re-distribution of combustion air where 100% is ideal for starting a cold stove.)

FIRING AND FILLING WITH WOOD

Note that when the stove is new, a certain smell can arise. This is caused by the paint and anti-corrosion agent hardening. Ensure good airing and the smell will disappear after the stove has been fired a couple of times.

Open a window near the stove, if there is negative pressure in the house. Leave the window open until the fire starts to burn normally. Light the fire in the following way:

Automatic mode

1. Open the door. Put in some crumpled newspaper or firelighters.
2. Put in 1.9 kg of kindling. Pile up the wood crosswise.
3. Light the fire.
4. Close the door and wait until the fire has burned down before you fill up the stove again. **(If the chimney is cold or if there are unfavourable weather conditions, you may need to keep the door ajar during the first five minutes in order to establish a satisfactory chimney draught.)** When the stove is cold during the first fire, it will burn the wood faster than specified in the table but the stove will find its rhythm from the second fire, when its has reached its operating temperature.
5. If necessary, change the output mode. (You have to wait for 15 minutes after you have lit the stove before you can do this.)

Manual Mode

1. Open the door. Put in some crumpled newspaper or firelighters.
2. Put in 1.9 kg of kindling. Pile up the wood crosswise.
3. Turn the damper all the way to the right (max) and light the fire. **(If the chimney is cold or if there are unfavourable weather conditions, you may need to keep the door ajar during the first five minutes in order to establish a satisfactory chimney draught.)**
4. Let the first fire burn down with full damper. This is in order to allow the stove to reach its operating temperature quickly. Light a new fire of the desired size. Wait a couple of minutes until the fire has started burning properly. Then turn the damper to the left, until you have achieved a calm and harmonic fire.

Note! The reason why we want to achieve the optimum operating temperature in the stove quickly, both in automatic and manual mode is that the stove works most efficiently at this temperature. This minimises the emissions and maximises the heat generation.

GOOD TO KNOW

Since it can take some time for a cold chimney to start working properly, i.e. to force the smoke in the right direction, you can light a couple of sheets of newspaper and hold them up in front of the smoke shelf in the hearth. In this way, you eliminate the downdraught and avoid the nuisance of smoke entering the room in the initial stage.

If the premises are equipped with mechanical ventilation, i.e. if there are one or more fans to evacuate the air from the building, there could be such a large negative pressure in the building that it could be difficult to light the stove. As a suggestion, you could turn off the ventilation temporarily or open a window until the negative pressure has dissipated.

Firing with too coarsely chopped wood or with too little oxygen supply, so-called smoulder combustion, can be risky. In part, this increases the amount of soot and tar due to poor combustion, which could cause a chimney fire. Secondly, this could lead to small gas explosions, which may damage the stove. In addition to this, the smoke from the chimney will be unhealthy and cause inconvenience to your neighbours.

Depending on the weather conditions and the length and area of the chimney, among other things, you may also get smoke in the room when you open the door. In order to counteract this, open the door ajar and let the fire stabilise itself, in relation to the additional oxygen supply, and wait before adding more wood, until the old fire has burnt out.

REMOVAL OF SOOT AND MAINTENANCE

Soot must be removed at least once per season. The soot from the chimney and the connections should be removed by a chimney sweep. The smoke shelf and the vertical hearth plates must be removed during sweeping. You will find instructions on how this is done under point 3 on page 7. NOTE: Take care when you clean the heat probe installed in the hearth roof.

If the glass becomes sooty, it is best to use a special soot remover, which you can buy from your local stove dealer. Never use detergents containing abrasive materials. This damages the glass.

TIP! Soot stains on glass are easily removed as follows:

1. Moisten a piece of soft kitchen paper with water.
2. Rub some ash from the hearth onto the kitchen paper.
3. Remove the soot stain by rubbing with the kitchen paper.

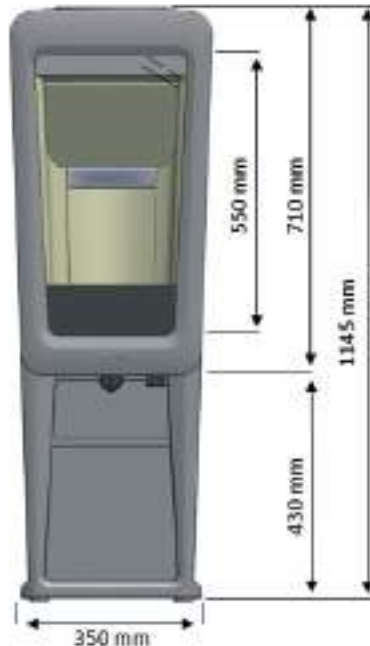
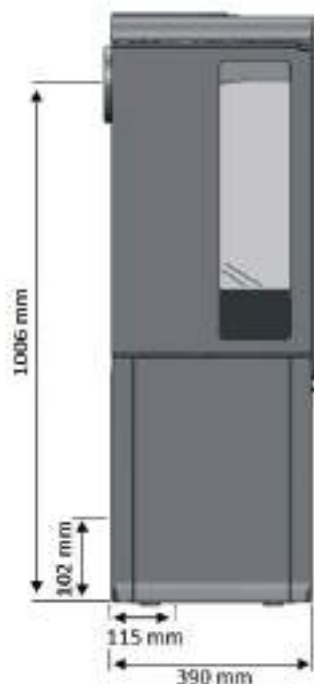
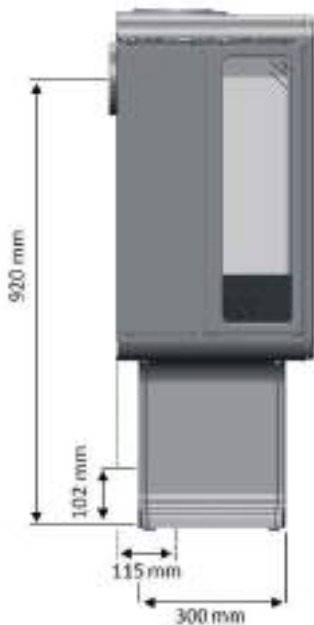
When you empty the ash pan, lift the grate by hand (use gloves). Lift the ash pan out carefully. The ash pan should be full when you have burned approx. 250 litres of firewood. **Pay attention to the risk of fire when you throw out the ash, as the ash may contain live embers for a very long time!**

IMPORTANT! If there is a chimney fire, the stove door and the supply air control must be closed. **In order to be able to close the damper in automatic mode, you must disconnect the plug from the wall.** If necessary, call the fire brigade. After a chimney fire, the chimney must be inspected and approved by a certified chimney sweep, before the stove can be put into us again.

K800 TECHNICAL SPECIFICATION

DIMENSIONS AND PERFORMANCE

Height	1060/1145 mm
Width	392.5 mm
Depth	400 mm
Weight K800	125-150 kg
Height, centre rear connection (If installed with floor glass)	920/1012 mm
Height, top connection	1060/1145 mm
Outer dimensions, connection sleeve	Ø150 mm
Useful efficiency	80 %
Rated output	6 - 7 kW
Output	3 - 9 kW





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