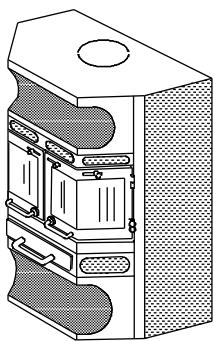


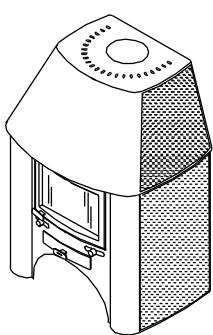
HARVIA FIREPLACES, FIREPLACE INSERTS AND IRON STOVES

EN Instructions for installation and use

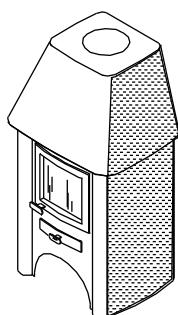
FIREPLACES



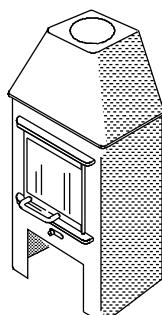
HARMONIA



FESTIA

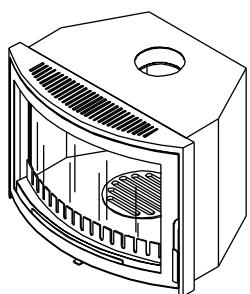


TERMIA

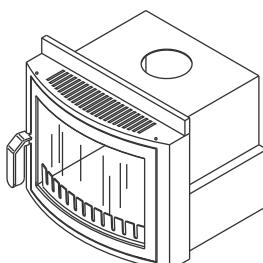


NOSTALGIA MINI

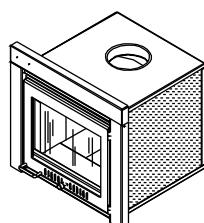
FIREPLACE INSERTS



HARVIA 650

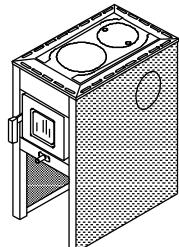


HARVIA 550



HARVIA 400

IRON STOVE



HARVIA 10

Harvia Oy
PL 12
FIN-40951 Muurame
www.harvia.fi

TABLE OF CONTENTS

Harvia fireplaces and iron stoves	4
Fireplace structure	4
Iron stove structure	4
Input of combustion air	4
Using Harvia fireplaces and iron stoves	5
Fuel	5
Heating	5
Removing the ash	5
Maintenance	5
Spare parts	5
Installing Harvia fireplaces and iron stoves	6
Smoke flue	6
Installation location	6
Moving the flue connecting piece to the top or side	6
Connection to a masonry flue	6
Installation of Harvia fireplace inserts	7
Lightweight shields and safety distances	7
Technical data	9

Harvia fireplaces and iron stoves

Congratulations on a good choice of fireplace and thank you for your confidence in Harvia's products. Read these instructions carefully before using the fireplace and save them for future reference.

Fireplaces and iron stoves are long-lasting and reliable heat sources when used correctly. Harvia's fireplaces and iron stoves are designed to be safe and easy to use, while also looking good.

Fireplace structure

To increase safety and comfort of use, all Harvia fireplaces feature double sheathing. This allows the air circulating between the heating chamber and the outer casing to efficiently cool the casing. The fireplace also recycles and heats the room air.

The big and sturdy doors, fitted with ceramic glass, increase the safety of the fireplaces and decrease the intensity of the fire. The warm glow of fire through the glass adds to the atmosphere. Combustion can be controlled with the draught adjustment outlets and the doors prevent sparks from flying into the room.

The frame and outer casing of the fireplaces are made of steel plate painted with heat-resistant paint. Depending on the model, the heating chamber is made of either cast iron or strong steel plate protected by heat-resistant ceramic brick.

All Harvia fireplaces feature a specially designed heating chamber in which the fire can burn over a wide surface, distributing heat evenly to the inner parts of the fireplace. Thanks to the design of the flue bridge and the top part of the heating chamber, the combustion gases are efficiently conducted into the smoke flue. The front part of the chamber has been designed to prevent the embers from sliding against the doors and to direct the air needed for combustion straight into the embers.

All Harvia fireplaces equipped with a cast iron grate have a big cinder box, which makes it easy to remove excess cinder from the heating chamber.

Iron stove structure

The air circulating between the heating chamber and the outer casing efficiently heats the room.

The sturdy and extremely tight cast iron doors are equipped with a vertical latching device.

The iron stoves have a frame of steel board and an outer casing of painted steel. The heating chamber is made of either cast iron protected by firebrick at the bottom.

The extended flame channel in the top part of the heating chamber contributes to the efficiency of the hot plates in the iron stoves and makes the stoves excellent for heating room air.

Input of combustion air

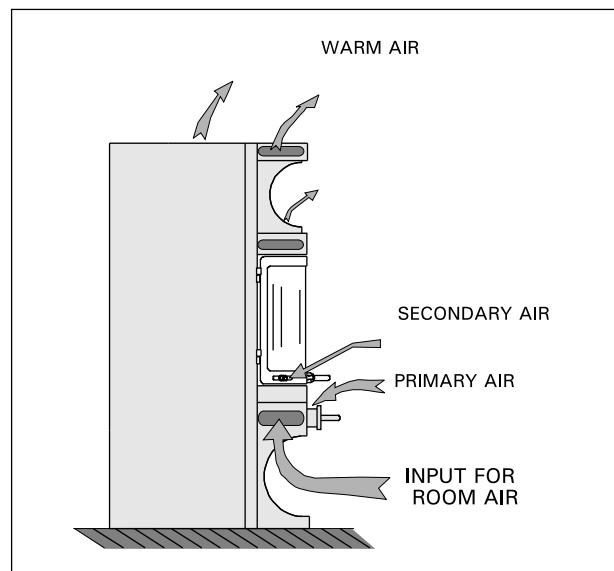
In theory, a kilogram of wood needs some 3.7 m^3 of air for burning. In practice, however, the air coefficient used for fireplaces with doors is 2–2.5 – that is, the amount of air used per kilogram of wood is $7.5\text{--}10 \text{ m}^3$. The air coefficient of open fireplaces is 10–30, which translates to $40\text{--}110 \text{ m}^3$ of air per kilogram of wood.

Combustion air is divided into two parts: **primary air** and **secondary air**. Primary air is conveyed into the lower part of the heating chamber either from underneath the chamber or from the front. Secondary air is conducted into the top part of the chamber to ensure that all the gases are fully burned out.

In the Harvia fireplaces equipped with a grate, the primary air is conducted into the chamber under the grate and through the cinder box. In the models without grates, the primary air is conducted through a channel into the front part of the chamber, which is designed to direct the air into the embers.

The amount of primary air needed for burning can be adjusted by pulling the cinder box a maximum of 3 cm outwards. Air outlets in or under the doors are used to control the primary air in fireplaces and iron stoves without grates.

The secondary air is conveyed into the heating chamber through adjustable air outlets in the doors or right under them. The secondary air cannot be separately adjusted in iron stoves.



Using Harvia fireplaces and iron stoves

The wide range of fireplaces, fireplace inserts and iron stoves for homes and holiday houses is sure to provide an economic solution of the right size for all spaces, styles and purposes.

Whatever their purpose, fireplaces and iron stoves must be used in accordance with the following instructions. Harvia's fireplaces and iron stoves have excellent heat release properties, which is why the correct model must be carefully selected for each room.

Burning too big a fire in the fireplace or stove leads to an excessive risk of fire and too high temperatures in fireplace structures. Overheating may change the shape of the heating chamber and the colour of the casing.

Whenever a fireplace or iron stove is heated, the steel casing becomes extremely hot. It is important to ensure that children do not come into contact with a hot furnace.

No objects should be kept on top of fireplaces or stoves. Drying clothes on, above or near them is prohibited.

The temperature of fuel (wood or briquettes) stored near the fireplace or stove, as well as that of the fuel storage space wall, must not exceed + 80° C.

For the fireplace to work correctly and draw air well, ensure that there is enough replacement air in the room, especially if mechanical ventilation is in use.

Never leave a fire burning unattended. Before closing the flue, make sure that there are no smouldering embers in the fireplace that might lead to a build-up of carbon monoxide.

Fuel

Harvia's fireplaces and stoves can use wood (with a length of 20–30 cm), wood and peat briquettes, and combustible waste such as paper and cardboard. The fuel must be dry.

The following may not be used as fuel: plastics, combustible liquids, and waste including glue, solvent or plastic.

Heating

The heating of a new fireplace or stove should be started carefully. Because the substances that evaporate from the painted surfaces may initially release an odour characteristic of paints, air the room well.

Keep small pieces of wood, along with kindling such as birch bark and newspaper, close at hand.

Start off with only a small amount of firewood. Place the wood pieces crosswise (in the back of the heating chamber when using a fireplace and in the middle when using an iron stove) and stick the kindling between the lowest pieces of wood.

Open the damper and close the control openings for combustion air. Set fire to the kindling. Once the wood has caught fire, close the doors of the fireplace or stove and open the regulating outlet for primary air.

The draught may be poor at first, because the flue is still cold, but it will improve as the flue warms up. Keep an eye on the fire and adjust the primary air as needed.

When the first batch has nearly burned down to embers, add more wood to the furnace, two to four pieces at a time. When adding wood, close the outlets for primary air and open the chamber door carefully. Quick changes of air current in the chamber may cause smoke to seep into the room.

Be careful with the door handles of the heating chamber as they may become scalding hot.

Place new wood horizontally on top of the embers – in iron stoves, parallel with the side wall of the chamber, and in fireplaces, parallel with the back wall – as far as possible from the glass doors.

After adding the wood, close the doors and open the regulating outlet for primary air. Fully open the regulating outlets for secondary air, keep an eye on the fire and adjust the secondary air as needed.

When the wood has burned down, forming embers on the bottom of the heating chamber, close the regulating outlets for secondary air. When the embers turn darker and ashes start forming on top, turn the embers around to ensure that they burn down.

The damper must not be closed until the embers have completely burned down and no more blue flames can be seen. **Closing the damper too early poses a risk of carbon monoxide.** If you use peat briquettes, the burning time is nearly double that of wood.

After the first rounds of heating, you should also start keeping an eye on the ash forming in the heating chamber and cinder box.

In models with a grate, the ash in the cinder box must not touch the grate as this may cause overheating and consequent damage to the grate. In models without grates, the embers may fall against the doors if there is too much ash in the chamber.

Removing the ash

We recommend removing the ash before each time of use. Get a metal container, preferably one with a base, to put the ash in.

As the removed ash may include hot embers, do not keep the ash container close to combustible material.

Maintenance

Besides chimney sweeping and regular removal of ash, the Harvia fireplaces need no other special maintenance.

The soot and deposit on the surfaces under the stove's hot plates should be removed frequently with, for example, a steel brush. Dishwashing detergent can be used for sooty glass doors.

Use washing-up liquid to remove deeply ingrained soot. Rinse and dry the glass after cleaning. Paint and enamel surfaces can be lightly wiped with a damp cloth when the furnace has cooled off.

If you notice flue gas leakage, check the sealing of the damper joints and furnace parts. If required, seal and tighten the joints.

Spare parts

Spare parts can be purchased at Harvia retailers.

Installing Harvia fireplaces and iron stoves

The furnace should be placed as centrally as possible to achieve an even distribution of heat. Fire safety regulations must also be taken into consideration when planning the location.

The space required for installation consists of the space taken up by the fireplace or stove itself as well as the safety distances and space needed for normal use and maintenance tasks.

The person tending the fire needs a space of at least one metre in both width and depth in front of the furnace. For the minimum safety distances of individual models, refer to "Technical data".

Your local fire authorities can provide more detailed information on fire safety regulations.

Smoke flue

The draught depends on the difference in density between the gas in the chimney and the outside air, as well as the height of the chimney. The hotter the gases in the chimney, the bigger the density difference between the outside air and the chimney gases.

Landscape and weather conditions also influence the draught of the smoke flue. If the building is located next to high trees or a hill, the chimney must also be high. It may be difficult to create a good draught during low pressure due to the small density difference.

If a fireplace or stove is replaced with a new one, or an open fireplace is equipped with a fireplace insert with doors, make sure that the smoke flue can be used for the new purpose.

If the furnace is altered to use a different fuel (e.g., an oil stove is converted into a furnace using solid fuel), contact a chimneysweep to determine the suitability and condition of the smoke flue.

Chimney fires, even extinguished ones, must always be reported to the regional fire brigade control.

Installation location

The fireplace or iron stove is placed on a platform made of non-flammable material. Alternatively, the platform can be shielded with non-flammable material, such as a metal sheet.

The platform shielding must be at least 50 mm wider than the furnace at the back and sides and 400 mm in front.

The combustion gases are removed through a Harvia modular smoke pipe or a smoke flue made of bricks with a minimum size of 140 x 140 mm. In the case of iron stoves, Harvia chimneys are also a viable option. When using a **Harvia modular smoke pipe**, the fireplace can be placed in the most practical location.

The fireplace can be connected to the smoke pipe either from the back or top. The first stage in the smoke pipe assembly is the installation of the adjustment part. For more detailed installation instructions, see the Instructions for installation of Harvia modular smoke pipes.

Follow the manufacturer's instructions for safety distances and the installation of pre-manufactured flues.

Moving the flue connecting piece to the top or side

The smoke flue can be connected to the top or back of Harvia's fireplaces, and to the top, back or sides of Harvia's iron stoves. The fireplaces and stoves supplied directly from the factory are equipped with a straight flue pipe and a connection in the back.

If required, exchange the flue connecting piece in the back of the furnace and the protective cover on the top or side of it with one another before starting work on the actual flue connection.

Detach the protective cover from the outer casing by cutting the clamps. This can be done with, for example, a hacksaw blade. Remove the flue connecting piece located in the back opening and the screwed-on cover protecting the flue outlet.

Join the flue connecting piece to the opening located on the top of fireplaces, or on the top or side of iron stoves. Attach the protective cover to the opening in the back. Ensure that the flanges fit tightly in place and that the screws have been properly tightened.

The hole in the rear of the outer casing must be covered with a plate (ca. 200 x 200 mm) if the wall facing the hole is made of inflammable material.

Connection to a masonry flue

Make a hole for the flue connection in the wall. The hole should be slightly bigger than the flue connecting pipe. The pipe will later be sealed to the hole in the wall with, for example, fireproof mineral wool. A suitable gap around the pipe is ca. 1 cm.

First connect the flue connecting pipe to the connecting piece on the rear of the furnace. Make sure that the connecting pipe is tightly in place and tighten, if needed, by hitting the pipe with a soft hammer. Also ensure the sealing of the connection.

Move the fireplace or stove to the flue outlet and push it towards the flue. Fill the gap around the pipe with mineral wool and push the fireplace or stove into place. Leave a space of approximately 50 mm between the wall and the back of the furnace.

Make sure that the flue connection is tightly sealed and add more fireproof mineral wool if necessary. **Note!** If the flue connection is not tight, the draught properties of the furnace will suffer and smoke may seep into the room.

Installation of Harvia fireplace inserts

Harvia's fireplace inserts are designed to improve the heating characteristics of an old open fireplace or stove. The improvement is based on the fact that the air needed for combustion flows in a controlled manner in the insert. Compared to an open fireplace, less ventilation takes place through the heating chamber.

Harvia fireplace inserts are also suitable for first-time installations, in which case a brick casing is built around the fireplace insert.

If the insert is installed in an existing open fireplace, the mouth of the fireplace and the depth of its heating chamber must be designed so that both its size and form fit the fireplace insert.

If the mouth is too big, use bricks to make it smaller. If the mouth is too small, remove the necessary number of bricks and shape the mouth as required.

Use bricks to flatten the bottom of the heating chamber. The recommended installation hole dimensions for each model are listed under "Technical data". Make sure that there are no bricks or other obstacles directly above the combustion gas outlet that might prevent the gases from reaching the smoke duct.

Install the fireplace insert in the designated place and check that it is possible to add mineral wool on the sides and top of the insert.

Put the cover collar or strip in place before you push the fireplace insert against the fireplace's brickwork. Check the fireplace insert's sealing at the bottom edge. Add more mineral wool under the bottom if required.

The surroundings of the fireplace insert must be carefully sealed to enable the draught to be guided in a controlled manner through the heating chamber. See the figure.

Publication **22/701/86** printed by the Ministry of Interior's Rescue Services includes **instructions on prefabricated fireplaces burning solid fuel and their safety distances from inflammable structures**.

Lightweight shields and safety distances

The specified safety distances from inflammable materials can be cut down to half with a single-layer lightweight shield and to one-fourth with a double lightweight shield.

Harvia's protective sheath for fireplaces is also a good option. Brochures can be obtained from your retailer.

Single lightweight shields are made of non-inflammable fibre-reinforced cement plate with a minimum thickness of 7 mm or of metal sheet with a minimum thickness of 1 mm. Fixing points must be placed close enough to one another to ensure a sturdy structure.

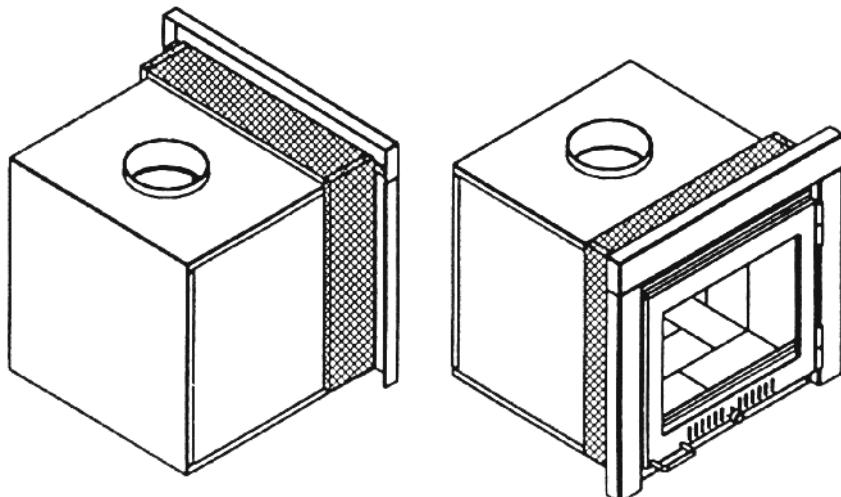
Double lightweight shields are made of two of the plates mentioned above. The plates are connected to the back of the furnace. If required, they can also be screwed together. **An air slot of at least 30 mm should be left between the plate and the protected surface, as well as between the plates. Air slots can be constructed using pipe sleeves as intermediate support. The shield should not touch the floor or ceiling.**

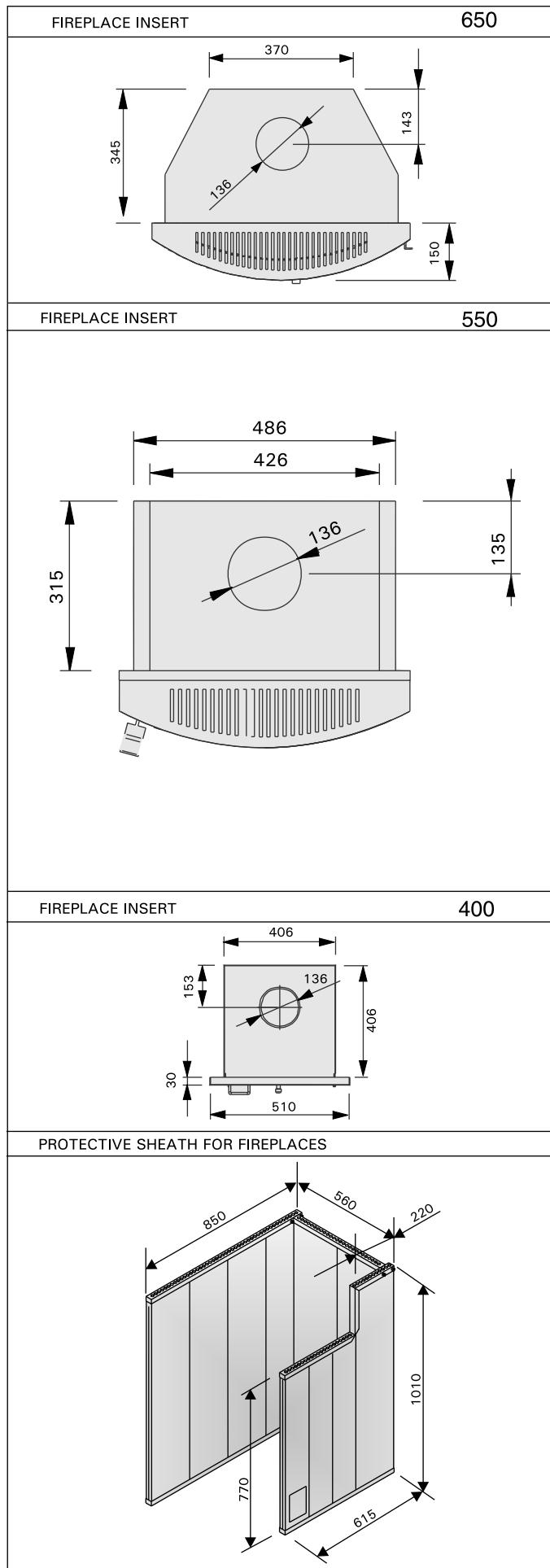
The single shield corresponds to a masonry wall of 55 mm, open on the sides and with a minimum distance of 30 mm from the surface to be protected. Correspondingly, a 110-mm-thick masonry wall located at least 30 mm from the surface offers the same protection as a double lightweight shield.

Surface temperature category		Safety distance mm		
Category of furnace or component	Surface temperature °C	Horizontally	Up	Down
Warm surface	Max. 80	50	150	-
Hot surface	Over 80-140	150	250	50
Scalding surface	Over 140-350	500 ⁽¹⁾	600 ⁽²⁾	250
Glowing surface	Over 350-600	1000 ⁽¹⁾	1200 ⁽³⁾	1000 ⁽¹⁾

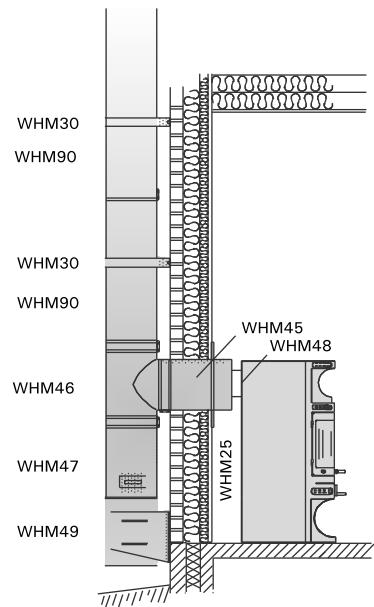
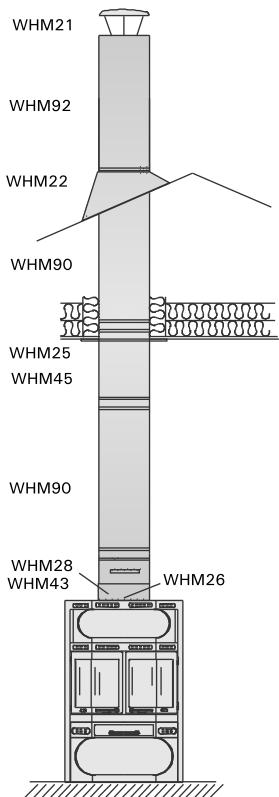
- 1) Single lightweight shields shorten the safety distance by 50% and double shields by 75%.
- 2) The safety distance of cast iron hot plates is 1,000 mm.
- 3) Single lightweight shields shorten the safety distance by 25% and double shields by 50%.

Sealing the fireplace insert to the installation hole with mineral wool.





EXAMPLE INSTALLATION OF A MODULAR SMOKE PIPE



Technical data

FIREPLACES			FIREPLACE INSERTS				IRON STOVES	
HARMONIA	FESTIA	TERMIA	NOSTALGIA MINI	HARVIA 650	HARVIA 550	HARVIA 400	HARVIA 10	
RATED POWER kW	16	10	7	6	12	8	5	10
ROOM m ³	50-600	30-250	10-130	10-100	20-100	15-65	10-50	20-200
WEIGHT KG	ca. 150	ca. 120	ca. 80	ca. 65	ca. 90	ca. 50	ca. 40	ca. 85
EXTERNAL DIMENSIONS mm	A	1070	1060	970	900	490	410+50	480
	B	670	790	550	440	670	540	510
	C	530	550	430	370	495	480	430
								570
LOCATION OF SMOKE OUTLET mm	F	900	920	845	780			650
	G	180	130	140	110	143	135	160
	I							150
	J							650
	ØH	140	140	140	140	136	136	115
FLOOR PROTECTION mm	min D	1000	1000	850	850	500	500	970
	min E	900	1000	750	650	900	750	600
SAFETY DISTANCES mm	K	150 *	150 *	150 *	500 *	500 *	500 *	500 *
	L	1000	1000	1000	1000	600	600	1000
*) Lightweight shields shorten the safety distances.								
INSTALLATION HOLE SIZE mm	M				640-660	490-520	420-440	
	N				500-530	420-440	420-440	
	P				min. 380	min. 320	min. 410	
HEATING CHAMBER	Steel/brick linig	Steel/brick linig	Steel/bricklinig	Steel/bricklinig	Cast iron	Steel/bricklinig	Steel/bricklinig	Cast iron
GRATE	Cast iron	Cast iron	Cast iron	Cast iron	Cast iron			
CINDER BOX	Yes	Yes	Yes	No	Yes	No/Ash scoop	No	No
CONTROL OF PRIMARY AIR	Cinder box	Cinder box	Cinder box	Regulating outlet	Cinder box	Door	Outlets in doors	Regulating outlet
CONTROL OF SECONDARY AIR	Outlets in doors	Regulating outlet						
PROTECTIVE SHEATH FOR FIREPLACES				Suitable				Suitable