

Square

60 | 68 | 75



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wanders
fires & stoves

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Dear Client,

Congratulations on your new wood-burning stove, which will be a comfortable source of heat to enjoy for many years on end. With its unique design you can view the Square from all corners of the room.

When designing this fireplace we took particular care regarding the ease of use, the operational safety and the design. The Square is developed and produced at our own factory in Netterden (the Netherlands) and is for the greater part handmade. Only the best materials are used for the construction and comply with current international standards. This will guarantee that your woodstove has a long life.

The first part of this user's guide gives you tips and directions about how to use your wood-burning stove correctly and safely. The second part of the manual contains the installation instructions and the technical specifications of the Square. They are of particular importance to the installer.

We advise you to read this manual thoroughly before using your new stove and to keep the manual in a handy place. Your installer may need the manual for the yearly maintenance of your fireplace.

We wish you much warmth with your new fireplace!

The WANDERS team



- Do not use the appliance without glass.
- Do not place highly flammable materials like nylon clothes or flammable fluids in the neighbourhood of the appliance.
- This appliance is not meant for operation by persons (including children) with limited physical or intellectual faculties, or by persons who are unfamiliar with the operation of gas appliances. Always ensure that they are supervised when near the appliance.
- Use a fire-screen to avoid burning and to protect the above-mentioned children and persons.
- The appliance must be mounted and connected by an acknowledge installer in accordance with the installation instructions and national and currently applicable local regulations

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Your Square stove at a single glance



The Square

The Square is a combination of comfort and efficient heat emission. The large glass panes allow emission of the heat from the stove directly to the environment to make your room instantly comfortable. The built-in flue gas deflector ensures circulation of flue gases in the interior parts. Combined with the extra after-burning, it means that the flue gases have better combustion and reduce the burden on the environment. The supply of combustion air can be adjusted by handling the air grate.



The ash pan must be cleaned regularly to prevent damage.

Installation

It is common practice for the dealer where you purchased your Square stove to also take care of installing it. If this is not the case, please ensure that the installation is done by a certified installer. A certified installer can also give you the right advice about the flue tube to which the stove must be connected. Connecting wood-burning stoves by unqualified persons is prohibited, in which case we cannot give any guarantee about proper functioning of your Square stove. Please bear the fire safety in mind when installing the stove. See also page 22.



The wood-burning stove is suitable as an extra heat source and does not replace your principal heating device.



Usage early in autumn or late in winter

When the external and internal temperatures do not differ much, a proper chimney draught is a real challenge. You can help chimney draught get started by burning some wood while keeping all air inlets maximally open. An abundant air supply speeds up quick heating which in turn increases the draught in the chimney. Lighting up the stove with only a little wood prevents smoke from streaming into the room.

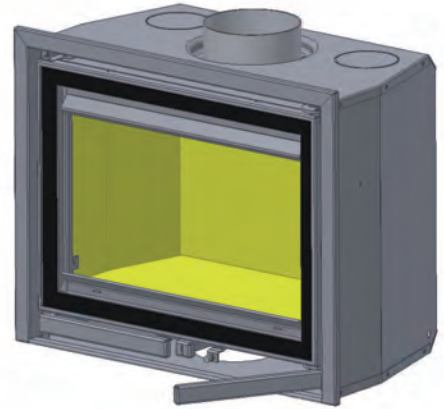
Lighting the stove



The stove will become very hot when you light it and will need at least two hours to cool off. Don't touch the stove without protection during firing and for two hours after. Handle the stove always with a glove to avoid getting serious burns.

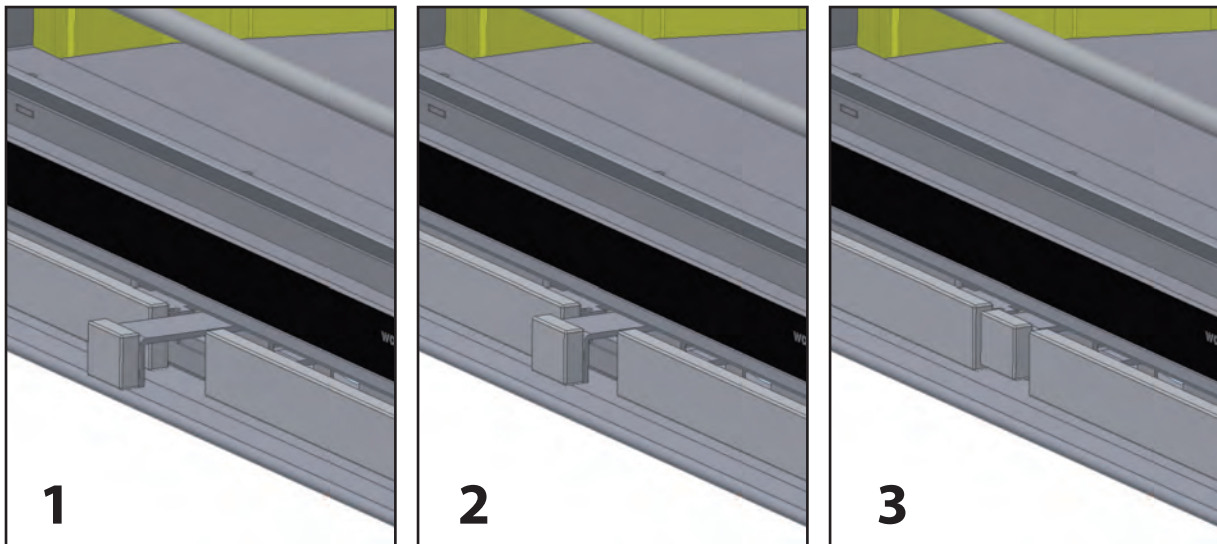
Before lighting the fire, you must clean away any deposits on the window pane with a paper from a kitchen roll. The same paper can be used for lighting the fire.

Open the combustion air inlet. Open the slide to its maximum before lighting the stove. Then open the door and put some balls of paper or firelighters in the stove and place some wood kindling on top. Light the kindling and leave the stove door ajar (for 3 to 5 minutes) for extra air supply and enhancing chimney draught. Once the kindling has caught fire you can add extra wood. (Put the logs loosely on the fire so that the flames can catch on all around).



How the air valve works

The air valve has 3 positions:



1. Opened all the way: the primary and secondary air supply is open.
2. Pressed until the first click is heard: only the secondary air supply is open and the stove will produce the highest yield while the glass cleaning system works optimally.
3. Pressed until the second click is heard: everything is closed, and the fire will go out slowly.



It is prohibited to light the stove with liquids like petrol or spirits. Do not have the cooker hood on in the room where you operate your stove. Never touch the varnished parts when you heat your stove.



Avoid finger marks

Do not touch the glass of the stove with your fingers. Finger marks will burn into the glass and cannot be removed later.

Lighting the stove for the first time



Discolouration of walls, ceilings and grates

The walls, ceilings and grates may show some discolouration after lighting your hearth. This is caused by the dust particles that burn in the convection cover. This is a natural process for which WANDERS cannot be held responsible. To minimize discolouring we refer to the advice given for atmospheric hearths. Your installer can give you more information about this.

When you light the Square for the first time, the hearth must still 'anneal' and temper itself. The unit has a heat resistant lacquer which must burn in the stove at temperatures above 400 °Celsius. This will happen during the first few times of lighting the stove and temperatures rise to 600 °C. Though this may give an unpleasant smell, it is otherwise harmless. It is advisable to keep the stove burning with limited fuel for at least 6 hours when lighting the stove for the first 4 or 5 times. Air the room well when the stove is burning. Make sure that any cooking hood is not turned on when the stove is burning; a cooking hood extracts the combustion air that the stove needs.

Some deposit may form on the glass panes of the stove when you 'anneal' your hearth. You can easily remove this deposit with a damp cloth after the stove has cooled down. You can also use some cleansing agent for ceramic rings. Please make sure you do not leave any finger marks on the clean glass. Finger marks burn into the glass and cannot be removed later.



Newly-built house or recently renovated?

It is advisable to wait six weeks before lighting the stove in a newly-built house that has recently been completed, or in a space that has recently been renovated drastically. The walls and ceilings still contain gases, softeners and moisture from plasterwork or paint. The warm air-streams may discolour the dust particles in the space which may stick to walls and ceilings. Even the moisture in the walls and ceilings will become warm and may cause yellow stains.

Fuel

Wood	Drying time
Fir, Poplar	1 year
Lime, Willow, Spruce, Birch, Ash, Alder	1,5 years
Fruit trees, Beech	2 years
Oak	2,5 years

The Square only burns on wood. Do not put more than 1 to 2 kg of fuel in the stove at the time. Always use clean and cut logs, which have sufficiently dried. Please see the list for drying times. Wet wood does not burn well and gives heavy smoke emission. It may blacken the glass pane of your stove with soot and build up smut in the flue pipe. This may increase the risk of chimney fire.

Fresh, moist wood contains about 50% moisture. Cleaved wood still contains 20% moisture after drying it for a year and moisture percentage will be decreased to 12 to 15% after drying it for two years. Dry wood gives nice flames and little or no smoke, and the fire will crackle when burning. Wet wood makes a hissing sound, gives much smoke and only small flames which will considerably dampen the pleasure of burning your stove and the heat output.



Do not put any paraffin-containing logs in your stove. When the door is closed, the high heat will melt the paraffin from the logs too quickly. The polluted flue gasses which consequently develop will deposit on and burn in the glass of your stove and cannot be removed later.



Do not use any wood that is painted, impregnated, glued together or processed in any other way. The flue gases are very harmful to the environment and may affect your stove. It is also prohibited to burn plastics and other waste matter due to poisonous smoke development.



Wood species and storage

You can use all kinds of woods as fuel as long as it is clean, split and dry. Hardwood like oak, beech and birch burn slowly, give off much heat and form charcoal easily. Softer woods like spruce, fir and poplar give more flames but less heat and less charcoal.

The best place to store timber is in a windy spot but sheltered from the rain. This is how the logs can dry in a natural way. Pile the logs on an old pallet or a frame to let the wood dry from underneath and to prevent the lower logs from being in contact with water.

The best way to burn your stove

All WANDERS' stoves are designed so that they give a maximum output. A well-lit wood-burning stove can produce a yield of about 75%. This means that you need less wood for the same amount of heat. Moreover, a well-lit stove produces less smoke pollution. Below are a few tips to give you optimum pleasure:

- Always burn your stove with its door closed; this will improve the output within 8 to 10 times. When the door of the stove is open, the chimney will draw more air than is needed for proper combustion. The relatively cold air will cool the fire. It will also preclude fire damage by any sputtering sparks, especially from softwood.
- Do not put more than 3 logs on the fire at one time. Too much fuel at one time thwarts efficient combustion and burdens the environment unnecessarily.
- Let extra air into your wood stove only when you start firing the hearth. A constant oversupply of air will make the logs burn more rapidly while your hearth will not have enough time to give off its heat to the room; if you overheat the stove, it may get damaged.
- Ventilate the space well when you have the stove on. A crackling fire has a minimum air consumption of 25 cubic metres an hour. Never put on your cooking hood when you have a stove burning in the same space.
- Be careful with lighting the stove when it is foggy or when there is no wind outside. There is hardly any draught in the cold chimney when the weather is calm. Since smoke is heavier than air there is the chance of smoke streaming into the room. In foggy weather, the smoke from the chimney (outside) cools quickly and may descend and become a nuisance in your neighbourhood.
- Don't smother the fire suddenly with water, but let it burn out. The materials inside the stove may deform or crack as a result of sudden or great differences in temperature.

Chimney and flue

The chimney is the most important part of your wood-burning hearth.

When the chimney is right it will not distribute any smoke into your room, leave any deposit on the glass pane or create bad combustion. Before starting the installation of the stove, your installer or a qualified chimney sweep must check whether the chimney flue has a diameter of at least 150 millimetres over the entire length, and whether the channel is clean, smooth and leak-proof.



Chimney with a proper draught

Warm air wants to ascend. This is the principle of every chimney. It helps when the wind near the chimney mouth draws the air from the chimney.

Fall wind may give the opposite effect and blow the air back into the chimney. Relatively cold foggy air may thwart proper draught in your chimney as does a long flue pipe with a rough inside and many bends. If the natural draught in your chimney is poor your installer can give you information about using a ventilator for your flue tube.



What to do in case of chimney fire

In case of chimney fire, immediately close the shut-off valve in the chimney and all air supply ducts. Call the fire department. After the fire is extinguished, the chimney and the stove must be inspected again by your installer.

Maintenance

Small maintenance

- It is advisable to leave an ash layer of two to three centimetres. It will protect the fire plate.
- Clean the exterior of the stove with a damp cloth that does not give off fluff. Do not use any aggressive cleansing agents or abrasives.
- Clean the cold glass pane with a cleaning agent for ceramic cooking rings. Do not touch the clean glass with your fingers. Finger marks burn into the glass.
- Oil the hinges and the door fastener once in a while.



Do not use any aggressive cleaning agents or abrasives to maintain your stove.

When the stove is not used

- Close all doors and air inlets in summer season
- Place absorbent salt inside the stove if it is stored in a humid space.

Yearly maintenance

- Have your chimney properly cleaned by a qualified chimney sweep every year; this is for safety reasons and any fire insurance.
- Have the flue gas outlet and the combustion air supply of the double-walled flue tube system checked for air-tightness every year.
- Have the complete tube system checked every year; this includes the roof or wall ducts and the outlet just outside the wall.
- Have the valves and/or flaps checked for their functioning.
- Have the sealing of doors and glass panes checked for wear and tear.

Safety

A WANDERS wood-burning stove gives you a comfortable and a safe source of heat in your home.

Fire safety starts with a proper installation and a properly working flue tube. Your installer must therefore comply with the installation instructions as listed on page 24 and further. To burn your stove safely, the following points are important:

1. Burn your stove as much as possible with a closed door; it increases the output and is better for the environment.
2. Prevent small children or the infirm from getting too close to a burning stove and do not leave them alone in the room when the stove is burning. You could use a fire-screen.
3. Do not pour or put combustible liquids and materials in the stove, as it may damage the fireplace beyond repair.
4. If the floor around the fireplace is made of combustible material you must use a floor slab. The floor slab

must have a minimum size of: 50 cm measured from the fireplace on the front side of the door: 30 cm measured from the fireplace on all sides from the door:.

5. Do not place any combustible materials, such as curtains, wooden objects (cupboards, paintings) close to the fireplace or the flue tube. A minimum distance of 80 cm measured from the exterior of the stove and the flue tube is required.
6. Never cover the chimney breast or mantelpiece with combustible material (e.g. paper covering).
7. Please bear in mind the points of the section on 'the best way to burn your stove', on page 21.
8. Have your stove repaired only by a certified installer and with original parts.

Guarantee

WANDERS Metaalproducten B.V. in Netterden, the Netherlands, gives a guarantee of five years after the purchase date of your wood-burning stove, provided that the fireplace is properly installed and used in accordance with the instructions in the manual. The guarantee includes all defects which can be reduced to flaws in material and construction, in which case you will receive the new parts free of charge. Labour costs or other expenses are not covered by the guarantee. You can send defect parts (shipping paid) to WANDERS Metaalproducten B.V., Amtweg 4, 7077 AL in Netterden [The Netherlands].

Before installing your stove you must check if there is any visible damage to the unit. If there is, do not accept the unit and contact your supplier.

The guarantee does not include: the glass, failure due to improper use; non-compliance with the national regulations and enclosed installation and operating instructions; installation by an installer of dealer who is not acknowledged by WANDERS, negligence of the unit and change of owner. The guarantee is also disclaimed when a wrong fuel is used.

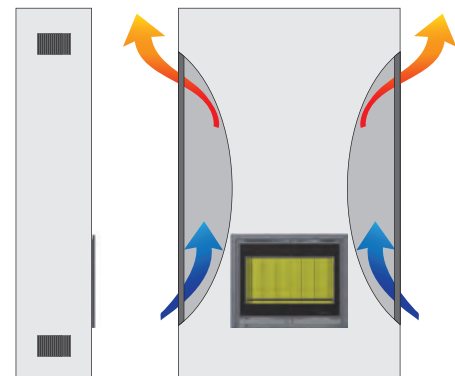
There is a one-year guarantee period for the following parts: all cast-iron and vermiculite parts, the control parts of the convection system and the lacquer.

WANDERS disclaims responsibility for any cracks in stuccoed walls or discolouration of walls, ceilings and/or grates after burning the fireplace. Discolouration can be caused when dust particles burn in the convection cover. To minimize the chance of cracks in stucco and discolouration we refer to the advice given for decorative hearths. Your installer can give you more information.



WANDERS recommends adding extra air inlets with all inserts and built-in stoves

Any complaints will be dealt with after the sales firm, the installer has filed a complaint and sent a copy of the purchase receipt with purchase date. Any repairs do not entitle you to extend the guarantee term. All consequential damages or loss are excluded.



General instructions

The Square is tested in accordance with the international EN 13229 standardization, and has an extra additional standardization for optimally environment-friendly heating devices related to flue gases (Section 15a B-Vg. Des BmfWA). The stove can be connected to a flue tube to which several stoves are connected. The flue pipe has a diameter of 150 millimetres.



The heating device must be placed by an acknowledged installer and according to the installation instructions given below. The national and local rules and regulations for placing and using wood-burning stoves are equally applicable. WANDERS does not give any guarantee if the Square is connected or installed incompletely or incorrectly.

It is not allowed to place the stove in:

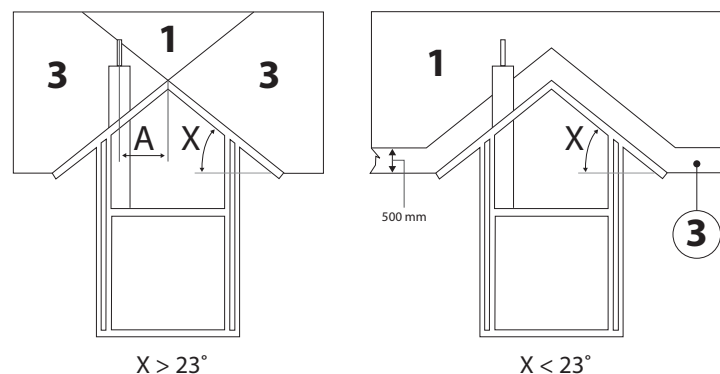
- Arcades and corridors accessible to the public.
- Stairwells, except in buildings with no more than 2 dwellings.
- Spaces where highly flammable or explosive materials are used.
- Spaces where an exhaust system is used or where a mechanical exhaust system is placed, except when the air supply is taken directly from outside to assure a hazardless combustion.

Preparation

The chimney flue

Before placing the stove you must observe the following points:

- If the stove is connected to an existing chimney, you must first have the chimney professionally cleaned and checked by a qualified chimney sweep company. Any cut-off valves or stop valves must be removed.
- The flue tube of the stove must be connected with the chimney without diversions.
- The underpressure in the chimney must be at least 12 Pa or 0.12 mbar.
- The chimney flue must always end up in outlet area 1 (see the drawing and the table below)



- At the time of placing the stove, the chimney flue must be clean, leak-proof and without obstructions, and must have a diameter of 150 mm.
- Any bends in the flue tube must not exceed 45 degrees.
- Ensure that the chimney tube can discharge the flue gases adequately, properly and safely.

Fire Safety

For reasons of fire safety it is important to observe the instructions below before installing the stove.

1. If the floor around the stove is made of combustible material, you must use a floor slab. The floor slab must measure at least: - 50 cm from the stove on the front side of the door - 30 cm from the stove on the sides

of the door.

2. Keep at least a distance of 80 cm between the stove and combustible objects such as curtains, wooden objects (cupboards and paintings) and glass objects. Keep the same distance from the flue tube.
3. Wooden construction parts within the radiation range of the stove (80 cm from the exterior of the stove) must be covered with fireproof material.
4. If the flue tube goes through a ceiling and/or roof that consist of flammable materials, the ceiling and the roof must be covered with fireproof materials all around (about 80 cm). Pay also attention to joisted floor layers and any electric wiring.
5. Keep a distance of at least 50 cm (in all directions) between the stove and supporting steel construction parts.
6. Shield off all combustible materials within a radius of 80 cm from the stove openings with non-combustible materials.
7. Never cover the chimney breast with combustible material (e.g. paper covering).
8. The wall behind the stove must consist of, or be insulated with, fire-proof materials. The insulation material must resist a temperature of 700 °C and have a density of 80 kg/m³. Please see for insulation materials table page 29).
9. Avoid heat transmission when placing the stove. Heat transmission of a burning stove can penetrate the wall and even cause fire damage on the other side of the wall. Prevention is better than cure.

Installation

The Square is tested in accordance with the international EN 13229 standardization, and has an extra additional standardization for optimally environment-friendly heating devices related to flue gases (Section 15a B-Vg. Des BmFWA). The stove can be connected to a flue tube to which several stoves are connected. The flue tube has a diameter of 150 mm.

Supply of combustion air

The stove must have enough supply of fresh combustion air. If necessary, make an extra air supply opening as close to the stove as possible to avoid draught. An extra opening for air supply is always required if:

- the space has a heat recovery system.
- the space has a central exhaust system.
- there is a cooker hood in the same space.

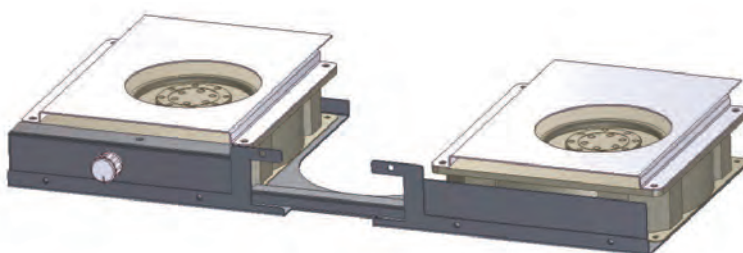
The air supply opening must be closable if it goes through a fire-resistant wall. When there are several combustion devices in the same space there must be enough air openings to guarantee proper combustion.

External air supply (optional)

External air supply is possible by installing the optional air kit (OND.SQ.6013) (See page 67).

Fans (optional)

The fans can't be placed after the stove has been installed. When fans were ordered they need to be installed before the stove is built in. Always connect the fans to an earthed wall socket. Moreover there must be the possibility to disconnect the stove from the electricity supply any service or maintenance.



When starting the fans, they will start with their fastest speed, you can regulate the speed of the fans with the knob on the left side. Please be aware that the fans will produce noise. All efforts are made to reduce this noise as much as possible.



When refuelling the stove it's advised to turn the fans off preventing the smoke from being drawn out of the stove.

The technical specifications from the fans and the control unit are as follows:

Control unit:

Voltage 230V / 50Hz
Size (L x W x H) 75 x 26 x 20 mm

Fan:

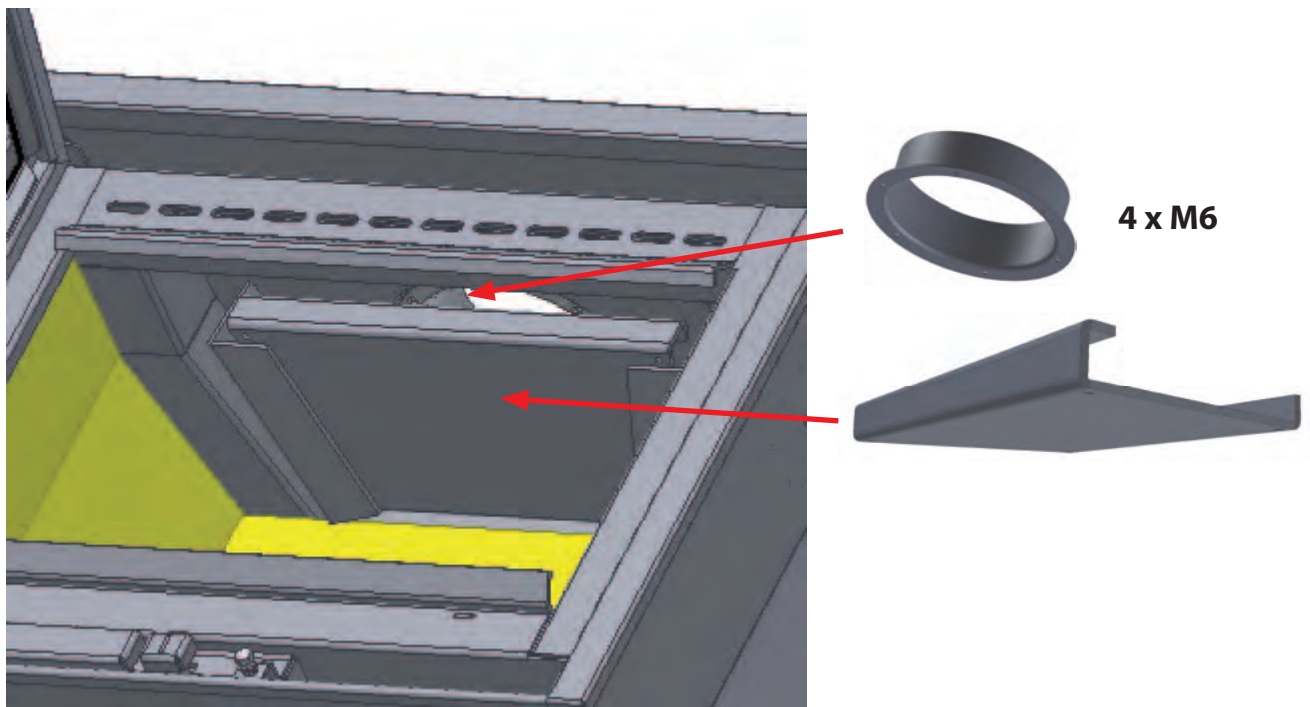
230V ~ 50Hz 120 mA 20W

Connecting the stove

The Square is a heavy insert. Check whether the floor on which the stove is placed can carry this weight without problem. You must follow the directions given in the previous chapter on 'Preparation' before installing.

Please mind your back and the floor during installation!

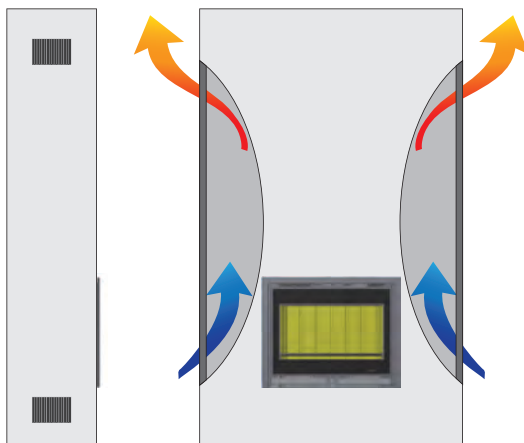
1. Check the packing. If you detect any visible damage, please notify the supplier.
2. Take the stove from the box.
3. Remove the flue collar from the stove by unscrewing the 4 bolts.
4. Place the insert at its final position. Make sure that it is positioned right beneath the chimney. If the fans are installed please make sure the wire does not crack or break during installation.
5. Connect the flue collar to the flue system with the upper sections fitting into the lower sections.
6. Place the baffle plate into the stove.



7. Your stove is ready for use.



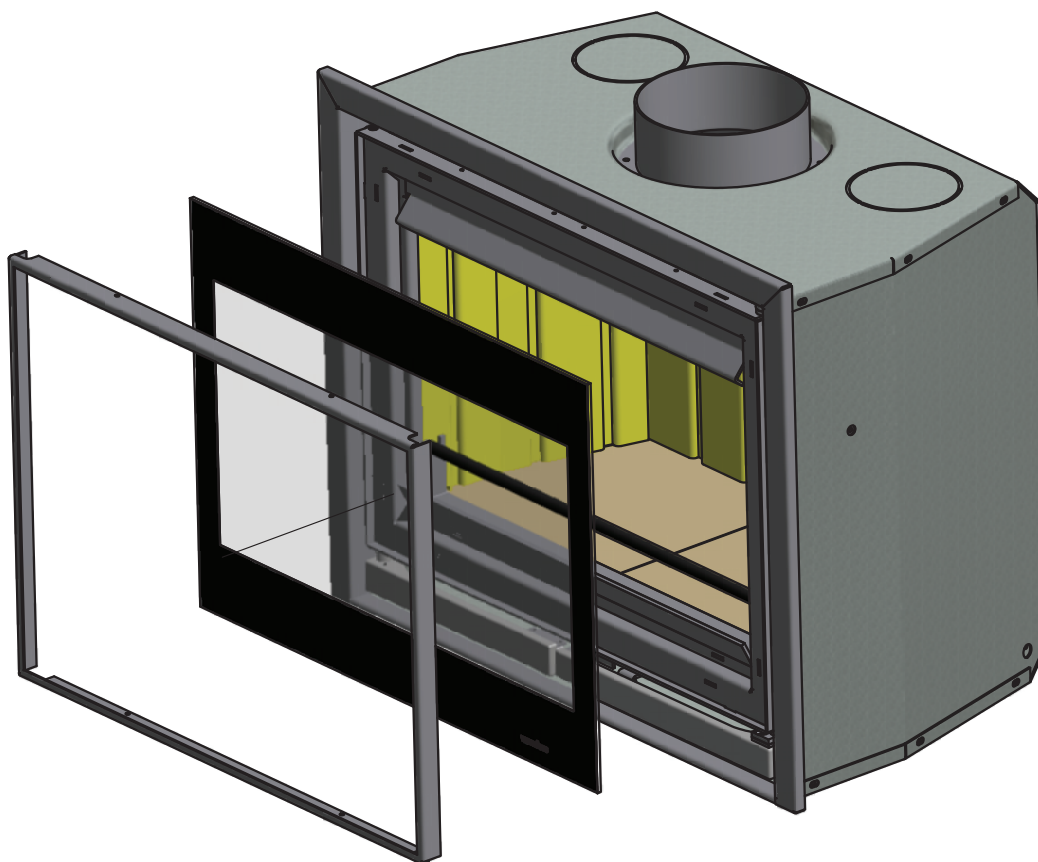
WANDERS recommends adding extra air inlets with all built in stoves



Repairs

Replacing the glass in the door:

To replace the glass you'll have to unscrew the frame surrounding the door. This frame is fastened with 4 screws, 2 on top and 2 underneath.



Technical details

	Square 60	Square 68	Square 75	
Door latch	I & II	I & II	I & II	Ba
Nominal capacity*	6	7	8	kW
Flue collar diameter	150	150	150	mm
Maximum load capacity	3	3,5	4	kg
* the nominal heat is obtained with a chimney draft of 0,12 mBar				

Fuel, wood logs (30 x 10 cm)	
Maximum supply capacity	3 pieces
Primary air valve	maximum
Secondary air inlet	maximum
Fuel burning period	about 1 hour

Flue gas values in accordance with DIN 4705, DIN 18895 part 2 With closed door and using only wood as fuel.				
	Square 60	Square 68	Square 75	
Flue gas quantity	6,0	7,3	6,8	g/s
Flue gas temperature	335	335	365	°C
Pre-pressure	0,12	0,12	0,12	mBar
Efficiency	78,4	79,0	78,1	%
CO at 13% O ₂	0,10	0,09	0,09	%
Particulate matter	28	26	30	mg/m ³
Certificate institute	1625	1625	1625	
Test standard	EN13229	EN13229	EN13229	
Test report number	RRF - 2909 1965	RRF - 2909 2028	RRF - 2909 2182	

Target value for the volume of the space to be heated:

Not all spaces meet the present insulating values. According to DIN 18893, the following values can be taken for the volume of the space to be heated:

If heating circumstances are favourable: calculate according to DIN 4701
 In less favourable circumstances: 90 m³ (60) | 100 m³ (68) | 130 m³ (75)
 In unfavourable circumstances: 70 m³ (60) | 90 m³ (68) | 110 m³ (75)

For temporary heating you may assume a reduction of 25% for the volume to be heated if the interval is more than 8 hours.

Table for thickness of insulation of the wall

	Wall thickness 10 cm	Insulation	Convection	
Protection of the wall		back side 8 cm		
Walls made of combustable constructions	X		X	
Supporting walls in steel construcions	X		X	
Intergrated pieces against stove	X		X	
Intergrated pieces in the wall behind	X		X	
Other walls		sides 8 cm		
Wall thickness < 10 cm	X		beneath 6 cm	X
Wall thickness > 10 cm (e.g. a brickwork wall)	-			-
Table gives the insulation thickness to be used for a given wall thickness to protect intergrated wall				

Table for insulation material. Only use products in the shaded area

Insulation		Packed		Thermal conduction		Maximum appliance temp.		Density	
nr	article	nr	form	nr	packed	nr	°C	nr	kg/m³
10	mineral wool	01	bands	01	stitched mats	10	100	02	20
11	glass wool	02	loose wool		stitched mats	12	120	03	30
12	rock wool	03	wool	02	stitched mats	14	140	04	40
13	waste prod.		granule		g. curve 2	16	160	05	50
		04	felt					06	60
		05	lamella mat	10	flakes			07	70
					g. curve 1			08	80
		06	stitched mats	11	flakes			09	90
		07	plates		g. curve 2			10	100
		08	scales			72	720	11	110
		09	segments	20	plates	74	740	12	120
		10	interwoven		g. curve 1	76	760	13	130
				21	plates				
					g. curve 2			18	180
		99	otherwise	99	single	99		99	

Select the insulation material from this table. Group 99 is NOT allowed.