

DIRECTIONS FOR USE

INSTALLATION INSTRUCTIONS

UNILUX CUATRO

UNILUX CUATRO TUNNEL

NAME	OUTPUT	DESCRIPTION
Unilux Cuatro	8.0 kW	Fitted fireplace
Unilux Cuatro Tunnel	5.0 kW	Fitted fireplace



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UNILUX CUATRO

UNILUX CUATRO TUNNEL

1. INTRODUCTION

1.1. PREFACE

We would like to congratulate you on your purchase of this modern BARBAS fitted fireplace. This quality product will give you years of heating pleasure as you enjoy the play of the flames and the cosy glow of the fire.

This manual refers specifically to the Unilux Cuatro and Unilux Cuatro Tunnel, both of which may, if desired, be equipped with the Perma Air system (fan).

The Unilux Cuatro Tunnel is a fireplace which forms the centrepiece of your room. It is open at both ends and requires its own housing.

This manual contains directions for both positioning the appliance and for its environmentally-friendly use. It also contains technical data for the appliance, parts information and directions in the event of problems. Study this manual carefully before using the fitted fireplace. We recommend you keep this manual in a safe place for reference purposes.

1.2. SAFETY AND INSTALLATION INSTRUCTIONS

Safety

- Do not place flammable objects within 80 cm of the appliance. Pay special attention to furnishings and ornaments around the fire.
- When you use your fitted fireplace, the exterior will become hot. Always wear the glove or use the accessories supplied when filling etc. Protect yourself and others (especially children!) from burns. Do not leave children unattended when the fire is burning.
- Watch your clothing. Synthetic clothing in particular can easily catch fire and burn intensely.
- Do not approach the appliance with flammable materials or liquids. Any work with solvents, adhesives etc. in the space heated by the fitted fireplace can be very dangerous.
- Make sure you know what state your chimney is in. Cracks in the chimney may not only lead to damp, staining of walls and leaking of smoke, they can also impair the carrying off of smoke. Make sure you get proper advice from your Barbas dealer or other specialist company.

- Avoid chimney fires! Have your chimney swept at least once per year - more often if you use your fire a lot. Prevent excessive deposits of soot inside the chimney by not burning freshly-cut wood. Instead, burn clean, dry chopped wood.
- Do not use your stove as a barbecue. This can cause (flammable) fat deposits to be left in the chimney and hastens the chimney becoming clogged. Prevent your chimney being soiled from above (birds' nests etc.) by fitting a suitable cap to the chimney pot.
- In case more than one stove is connected to a chimney, as is often the case in Germany, the stove has self-closing doors (Bauart 1).
- Follow the instructions issued by your local fire brigade.
The stove can be taken in operation if national and local regulations are satisfied. The required constructive adaptations should be satisfied as well.

Installation instructions

- Wood and wood briquettes may be stoked in the stove.
If you use wood and wood briquettes as fuel, do not initially add primary air.
- **Never** use the heater to burn rubbish.
- Please read all instructions/stickers on and around the appliance.
The information is based on practical experience.
- Please also study the directions for use before using the appliance for the first time. When you first fire up your appliance, there are a number of extra points you should take into account. See section 5.
- In transit, some parts of the appliance may have moved from their original place. Check that the door opens and closes, the brake plate is fitted correctly to the brackets at the top of the fire, the cast-iron fins are fixed to the walls and the stones on the bottom have not moved. Check that the ridling grill is in the correct position and slides properly. Check that there is nothing in the ash drawer that should not be there.

- Prevent over-firing (white glow) by charging up the fire with primary air (through the grid) over an extended period. Cast-iron components (grid, fire cladding) may become overheated and be damaged as a consequence.
Fire the stove slowly when the stove is new and new cast iron has been applied.
- The appliance may only be set up if the appliance and location meets the
 - national and local installation regulations;
 - local fire brigade regulations and required architectural provisions.

2. LOCATION

2.1. INCLUDED

Documentation	Warranty Manual
In the ash drawer	Handle
Attributes	Glove

N.B. If any part is missing, please contact your dealer.

2.2. PREPARATION FOR POSITIONING

Check all functions of the fireplace before fitting.

Barbas can provide scale drawings for fitting a fireplace for each of the models it produces. Never work on the basis of other information such as folders etc.

Have the suitability of the area in which the fire is to be fitted (and the chimney) approved by a specialist. The space into which the fire is to be fitted must in no way be damaged. The fire must have its own chimney, constructed in compliance with current legislation.

3. INSTALLATION INSTRUCTIONS

3.1. FITTING THE FIREPLACE

When fitting one of these fitted fires local and/or national regulations relating to fire safety must be followed. In case of doubt, consult the fire safety department of the local fire brigade, particularly if the stove is to be fitted in a home with walls and/or floors containing flammable material.

If the chimney serves more than one fitted fire, the door must be self-closing (pursuant to Bauart 1).

3.2. CHIMNEY

If no chimney is immediately available, have one fitted by a recognised specialist only. The chimney must be compliant with local regulations and is particularly important because it has a significant bearing on the function of the appliance.

Basic rules:

- A chimney for an open fire is not, by definition, suitable for a closable model (i.e. an appliance with doors). As a closed appliance draws in much less (cold) air, the smoke is hotter. Please have your chimney inspected to see whether it is suitable for a closable appliance.
- The chimney opening must be at least 5 metres above the top of the door opening of your appliance.
- The chimney must protrude at least 40 cm above the apex of a sloping roof and at least 1 metre above a flat roof. In short, it must not be under tension. Contact your local chimney sweep for the exact dimensions of the chimney opening.
- The internal diameter must not be less than that of the appliance at any point (even at the end of the pipe).
- Avoid kinks at all costs. The maximum deviation from the perpendicular is 45°.
- Both the dimensions and the construction must meet stringent construction standards. Your recognised specialist will be pleased to assist.
- Contact your fire insurer to make sure that your policy is in order.

3.3. FITTING

A fitted fireplace can be fitted in the newly-built or existing chimney breast of an open fire. When fitting, both fire safety and operational safety must be safeguarded. The fitter is responsible for this.

General guidelines:

- If there is a wooden beam above the fitting location, heat must not radiate directly onto it. An insulation plate must be hung below the beam, leaving an air gap between it and the beam of at least 1 cm.
- Always use (white) unbound glass or ceramic wool. Bound material (yellow) spreads an irritating smell on heating, causes excess smoke and is unsuitable for high temperatures (insulation requirements: temperature $\geq 700^{\circ}\text{C}$, density 80 kg/m^3).
- If electrical connections are to be fitted for an extractor fan, have this done by an expert.
- Before fitting, remove the door to protect the glass.

3.3.1. Aeration / ventilation

A fitted fire generates :

- heating air
- combustion air

Heating air is devoted to the convection of heat from the appliance to the room. No other provisions are necessary. The source of heat is in the room and stays there.

Combustion air is needed to keep the combustion going by drawing in air from the room due to the natural pull of the chimney. The air inlet openings are in the ash drawer and above the door. When using the appliance, please ensure there is a sufficient supply of fresh air. In today's super-insulated homes, it is important that adequate ventilation is provided. In homes with mechanical ventilation or where a kitchen extractor fan is in operation, they must be set at the lowest level or switched off respectively.

If the mechanical ventilation remains operative, extra ventilation must be provided to compensate for the extraction. This not only prevents poor combustion, it also prevents smoke from being sucked out of the appliance into the room. (See also Chapter 6)

3.3.2. Fitting in an existing chimney breast

Unilux Cuatro - without a fan

- Remove the existing fire basket or stoking stones and remove the shut-off flap. The chimney must be intact and must not be damaged during fitting. The chimney breast opening must be big enough for a gap of 1 - 3 cm to be left all round the appliance. Clad the chimney breast opening from the inside with a ceramic wool fireblanket or similar (see section 3.3).
- Extend the existing chimney so that it ends at the appliance's smoke outlet. To do this, use a flexible, double-walled stainless steel chimney, for example.
- Slide the appliance into the chimney breast opening. Seal the smoke outlet where it joins the chimney so that no soot can accumulate above the appliance **under any circumstances**.
- Level off the appliance so that the front of the ash drawer does not catch on the base (if fitted).
- Fill any gaps around the appliance with a ceramic wool fireblanket or similar and fit the supplied edging (frame). To insulate, use ceramic wool.

3.3.3. Fitting in a newly-built chimney breast

Unilux Cuatro and Unilux Cuatro Tunnel

Model without sub-structure fan:

- Clad the appliance on the top, sides and rear up to the front edge with an approx. 10 cm thick ceramic wool fireblanket or similar. Leave a few centimetres clearance between the front of the chimney breast and the appliance.
- Level off the appliance. Check that the slides do not catch on the base (if fitted).
- Make a good seal between the smoke outlet from the appliance to the chimney. Close up the front (the appliance has its own inlets for convection air). Extra air openings are not required.
- If the fire is to be placed against a bearing wall or against a wall containing flammable material, an air gap of at least 20 mm should first be built. Behind it a false wall, 100 mm thick, must be built of masonry or aerated concrete.

- If the fire is not placed against a bearing wall or a wall containing flammable material, no false wall is necessary. Layers of insulation of at least 100 mm thickness will then be sufficient (class A, DIN 4102-compliant). See also section 3.3.

Model with sub-structure fan (Perma Air):

- Position the appliance on top, if necessary shortening the feet supplied, depending on the housing. Ensure that the seal between the smoke discharge pipe and the existing chimney is air-tight.
- Before positioning the fan, make sure there is a space measuring 40 x 30 x 30 cm under the fireplace. This space runs to the front of the chimney breast/housing, where a grid/grids must be made. The grid must have a minimum clear opening of 450 cm². Grids are available from Barbas' range of accessories (see table of Barbas grids, p. 10).
- The fan system is connected under the fireplace without using flexible connections (see installation diagram). Make sure that the fan itself remains accessible for the purposes of servicing (via the removable floor of the fireplace). Through the hollow spaces and the opening(s) at the front or sides of the chimney breast, where grids may or may not have been fitted, the fan system will be able to extract enough air from the room containing the fire to operate the convection box in the fire itself. Clean the opening under the appliance. The air drawn in should be dust-free.
- For extra heating air, there are two extra channels ready-made on top of the appliance. Using two collars, hot-air pipes can be fitted to them (using pipe clamps).
- The fitted box with rev counter is built in to the masonry of the chimney breast. Its electrical connection should be dealt with by an electrician.
- The system can be expanded by feeding in fresh air from outside for a more healthy ambient climate. In certain cases, this is actually required by local or national building regulations. To do this, connect a section of pipe (Ø150 mm) with a movable clamp to the air supply from outside. The pipe should then be positioned and properly sealed in the space under the fire so that the bar with the control button is fitted in such a way that the flap can be opened or closed from the room.

- It must be possible to check the position of the flap. If necessary the channel for feeding in the air from outside can be led through the creeping space. Only if the creeping space is adequately aerated can the air be directly used.

BARBAS-GRIDS

COLOUR	DIMENSION (cm)	CLEAR OPENING (cm ²)
Brass or white (inc. fitting)	13.5 * 13.5	75
Brass or white (inc. fitting)	27.0 * 13.5	150
Perma Air (white)	43.0 * 22.0	550

4. OPERATION OF THE FITTED FIREPLACE

OPERATION UNILUX CUATRO

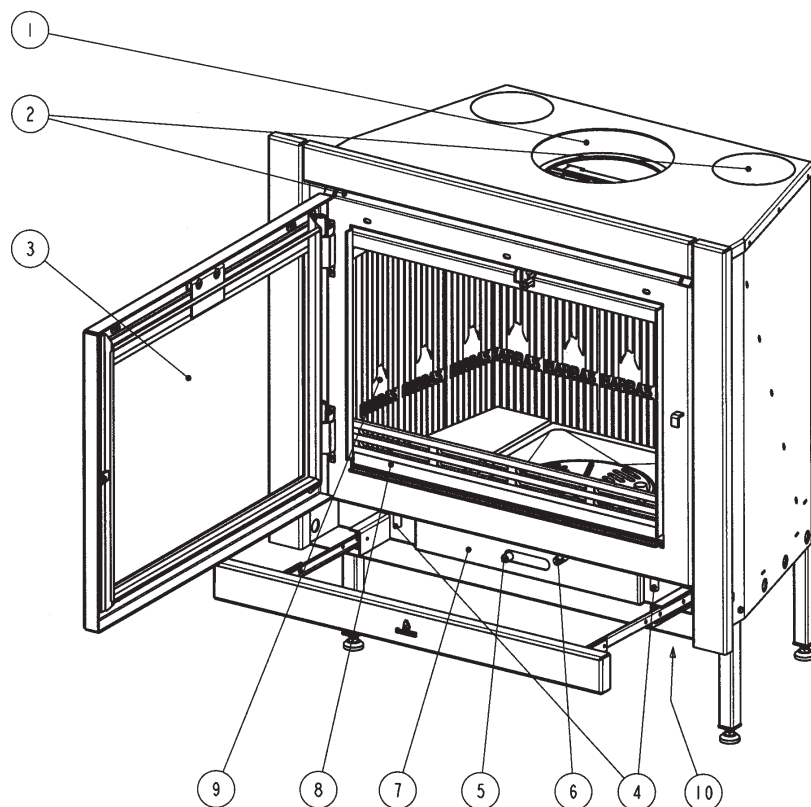


Figure 1: Operation

- | | |
|---------------------------------|--------------------------------|
| 1 Smoke outlet | 6 Sliding grill handle |
| 2 Convection air escape opening | 7 Ash drawer |
| 3 Ceramic heat-proof glass | 8 Wood rack |
| 4 Secondary air-supply slide | 9 Cast-iron fins |
| 5 Primary air-supply slide | 10 Convection air-supply slide |

OPERATION UNILUX CUATRO TUNNEL

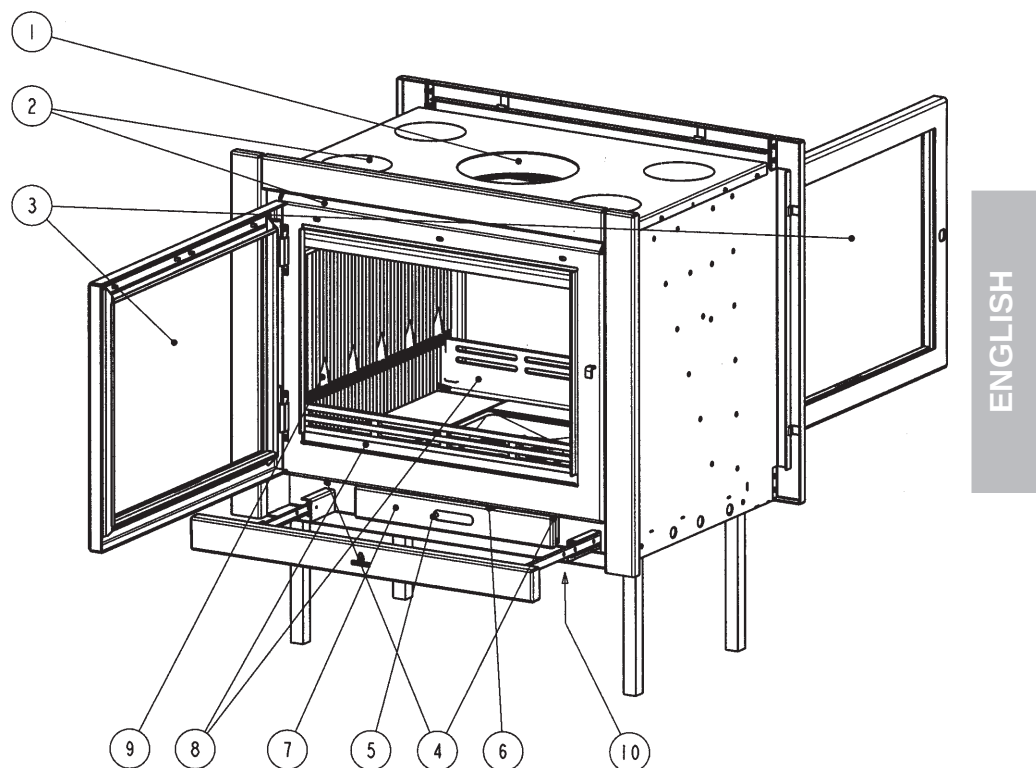


Figure 2: Operation

- | | |
|---------------------------------|--------------------------------|
| 1 Smoke outlet | 6 Rotating grill handle |
| 2 Convection air escape opening | 7 Ash drawer |
| 3 Ceramic heat-proof glass | 8 Wood rack |
| 4 Secondary air-supply slide | 9 Cast-iron fins |
| 5 Primary air-supply slide | 10 Convection air-supply slide |

5. STOKING UP FOR THE FIRST TIME

If you have had your chimney breast modified or newly built, first allow your home to dry properly. Walls which have not been allowed to dry properly are a magnet for dust such as any smoke particles created when stoking up the fitted fire or suddenly opening the door. Even scorched dust can easily be retained by damp walls. Think also of dust on the outside of the appliance or on hot radiators etc.

Check that all packaging, stickers etc. and/or all dust and waste has been cleaned up after the installation work (to avoid it getting scorched/causing a bad smell).

Check again that all moving parts are in order and that loose parts such as the brake plate, fins, ridling grill etc. are in the correct position. They may have moved during installation.

The fitted fire has a heat-proof finish. It only hardens at high temperatures. When unpacked, it is therefore not fully hardened. It can easily be damaged at this time. Begin stoking up the fitted fire with a low flame (see section 6). Increase the heat gradually for approx. 2 hours until you reach the correct output. Keep it at this level for another 2 - 3 hours. The finish will now be properly hardened and can be touched without damaging. The hardening process creates a nasty, though harmless, smell/vapour.

Adequate ventilation is of the utmost importance.

6. USE

6.1. VENTILATION

Air is a vital component of the combustion process. Ensure that there is a sufficient supply of fresh air. For each kilo of wood that you put on the fire (door closed), 10 - 15 m³ of extra air is needed. That means 50 m³ per hour! As you can see, a plentiful supply of air is essential.

6.2. GETTING THE FIRE GOING (Figure 1 and 2)

When you start the fire, the chimney is still cold and there is little draught. This means that the chimney's capacity to draw in air is limited. Consequently the air supply has to be helped by opening the door, slides and ash drawer. Use dry, fine wood and some scrunched-up paper or firelighters to start the fire.

Leave the door(s) ajar for 10 minutes. Do not open the door wide, as the window will remain cold. If the door is shut during this time, smoke will condense on the glass and form soot. To admit more air from the top of the fire: open the secondary air flow slide ④ to its full extent.

Prevent white glow and over-firing.

6.3. INSTRUCTIONS WHILE STOKING

After approx. 10 minutes, the fire will be burning fiercely. You can now top it up with a few larger blocks of wood. Close the door(s) when the new wood catches fire.

After another 10 minutes, close the ash drawer ⑦.

If the fire is still burning well, close the ridling grill ⑥ and the primary air supply slide ⑤. The fire can now be controlled with the secondary air flow slides ④.

N.B. The primary air supply slide ⑤ should be kept closed except during the lighting procedure. Your fire will then be much cleaner and more efficient (more heat, less topping up).

We recommend that you maintain a substantial layer of ash (2 - 3 cm). This not only forms a protective layer for the base of the appliance but also significantly reduces consumption of fuel and allows new wood to catch light easier.



When loading the stove with fuel, two blocks measuring 32 cm long and 32 cm in diameter is sufficient. Do not add more fuel until the previous fuel has burned down to the charcoal stage. Do not leave the door open longer than necessary.

Weather conditions

In order to reduce pollution and any other inconvenience, we advise not firing up the stove when there is no wind, or in foggy/misty conditions.

Smoke development

Your stove has been designed to be used with the load/observation door closed. Should you use it with the door open, under certain circumstances (presence of mechanical ventilation, draught, differences in barometric pressure) smoke may enter the room in which stove is situated.

Use of the stove

Your stove is suitable for continuous use. Stoves in which soap stone is used to give off heat will only do so (by radiation/convection) once the stones have accumulated sufficient heat. It is therefore inefficient to use such a stove for a short period of time.

The stove may only be positioned in a place where the location, construction and activity in the room can accommodate it without danger.

Ventilation

When using the stove, ensure a good supply of fresh air, particularly if the combustion air is drawn from the room itself. If your dwelling has mechanical ventilation, switch it off while the stove is in use.

Spare parts

Any replacement parts must be new, original parts. Use of non-original/reconditioned parts will invalidate your warranty.

Modification

Do not make modifications to your stove. Any alteration to your stove, of whatever nature, will also invalidate your warranty.

Stoking up the fire when the primary air slide is open and the fire is blazing will have the effect of making the fire rage in white heat, which can cause damage to the grate and other cast-iron parts of the stove.

6.4 HEATING ECONOMICALLY

The most environmentally-friendly and economic way of heating with wood is to have your fire hot but calm. The ash should appear to glow a soft red-orange and should not glow like a blacksmith's fire. Fires like that burn quickly and intensely, leaving little time for complete combustion.

Your fire is at its most economical when:

- Burning with the door closed. This makes the fire hotter and improves combustion.
- Using dry and clean wood (as described further in section 8).
- Combustion is regular. When burning, shut the riddling grill and primary air supply.
- The bed of the fire should be composed of one material, though the fire must have easy access to air. Position the blocks of wood (loosely and evenly) horizontally on the bed of ash, so that they are separate and several centimetres away from the walls.

7. GENERAL HINTS

7.1. TIPS

- Burn dry wood only. Damp wood not only burns poorly, it causes more pollution in the appliance (window), the chimney, your room (when opening the door of the appliance, for instance) and the environment. Wood can only be classified as dry if it has been stored under a Dutch barn for at least two years (not covered with plastic). Never use painted or impregnated wood. The gases emitted when burning painted or impregnated wood are aggressive and will affect the appliance, the environment and your health.
- Ensure that your fire burns well. The smoke generated should be translucent or white and the windows of the fire will remain clean. We recommend that you do not 'pinch off' your fire (by closing all air openings). Doing so will hinder combustion which, apart from polluting the atmosphere, will lead to deposits of soot and tar in your chimney (which, unchecked, will increase the risk of chimney fire).
- Keep the door(s) shut when the fire is burning. Doing so improves the performance of your fire 8 - 10 times, benefiting the environment and the heat in your home (less topping up, see section 7.2). You will also prevent fire damage from any particles the fire 'spits' out (this is a particular problem with softwood from conifers). If your floor contains flammable material, an extra floor plate is required.
- Avoid lighting a fire in misty or still conditions. If the wind is still, there is hardly any draught in the cold chimney. As smoke is heavier than air, there is a chance that smoke will enter the room. If there is mist in the air, smoke coming out of your chimney will cool quickly and fall, causing problems in your area.
- Do not extinguish your fire with water - let it burn out. The part of the inner lining that is in direct contact with the fire is clad with cast iron sections or fire-resistant material. Sudden changes in temperature may lead to it deforming or cracks appearing.

7.2. OUTPUT

In practice, combustion is all about loss. This entails:

- Loss through excess heat leaving the chimney, rather than going into the room.
- Loss through insufficient combustion, such as CO (carbon monoxide) and soot particles.
- Loss through excessive unburnt fuel in the ash.

The rate at which fuel can burn completely is called the output. A well-stoked fire achieves output of 75% and thus falls into the category of high-output/low emissions fires. This means that you benefit directly by using less wood to achieve the same level of heat. The environment benefits as well: a well-stoked, high-output appliance means less pollution and fewer odours.

Adverse effects on the output are:

- Burning the fire with the door open. A warm chimney works in the same way as an extractor. When the door is open, the chimney draws in much more air than is necessary for combustion. This relatively cool air cools down the fire.
- Excessive chimney draught. The combustion air does not reach the fuel, but leaves the appliance via the chimney. The fire cools and the combustion quality decreases.
- Using too much wood. This is a problem if your fitted fire is too small. In that case, it becomes overloaded and burns more wood than heat emitted. In this case too the fuel cannot burn completely. More to the point, there is not enough air to mix with the flames. This has an extra impact on the environment.
- Admitting too much air under the fuel (primary air slides). Combustion is raised to high intensity (like a blacksmith's fire). Combustion really needs time. If combustion is too intense, there is insufficient time for the fire to radiate all the heat. The chimney will become excessively hot and the same will be true of the escaping smoke. This heat is thus lost.

8. FUELS

8.1. WOOD

Suitable fuels are:

- All sorts of clean wood (forested). The wood must have been dried for at least two years. Well-dried wood has a humidity percentage between 10 and 20%. Recommended dimensions: length = 30 cm; outline 30 cm.
- Compressed wood blocks without binder (see wood dimensions).
- Hard woods burn slowly and easily form charcoal; for example hornbeam, oak, ash, beech, elm and birch. Softwood burns with more flame, but forms less charcoal and radiates less heat. Examples are spruce, pine, poplar and linden.

Unsuitable fuels are:

- Painted, bonded (chipboard, MDF etc.) or impregnated wood, plastic and other flammable waste. Stoking a fire with this is completely forbidden. To re-iterate: the combustion gases released by these materials are aggressive and will attack your fitted fire and the environment.
- Paraffin-containing open fire lighters are not suitable for a closed fire. A closed fire generates more heat than an open fire, thus the paraffin will melt out of the blocks prematurely.
- Damp wood burns poorly, is unsuitable and produces too much smoke (including in the room when you are topping up the wood), dirties the glass, leaves deposits in the chimney and delivers about half the heat output of dried wood.

The Unilux Cuatro and Unilux Cuatro Tunnel are not suitable for coal firing.

9. AMOUNT OF FUEL

9.1. AMOUNT OF FUEL

Each appliance is constructed for a certain maximum amount of fuel. Remember that the more fuel you put into your fire, the hotter it will become and overheating may even occur. If this happens, there is a risk of fire. It may also damage your appliance and chimney. BARBAS will not assume liability for damage caused by overheating.

If you have chosen the right appliance for your room, it will provide sufficient heat with a single layer of wood blocks (a wood block is approx. 30 cm long and 30 cm around the edges).

Burning one layer of wood can lead to varying outputs. When used correctly, one load will burn in around one hour. Putting in too much wood at once can lead to the appliance being overloaded.

You can best vary the capacity of your appliance with the amount of fuel.

Example:

The fire has an output of 10 kW and an efficiency of 75%:

Wood: 3 blocks, each around 1 kg
Briquettes: 5 briquettes, each around 0.5 kg

Your fire has an output of 6 kW:

Wood: 2 blocks, each around 1 kg
Briquettes: 3 briquettes, each around 0.5 kg

9.2. HEAT RADIATION

The table below shows the temperatures which can theoretically be achieved by burning wood.

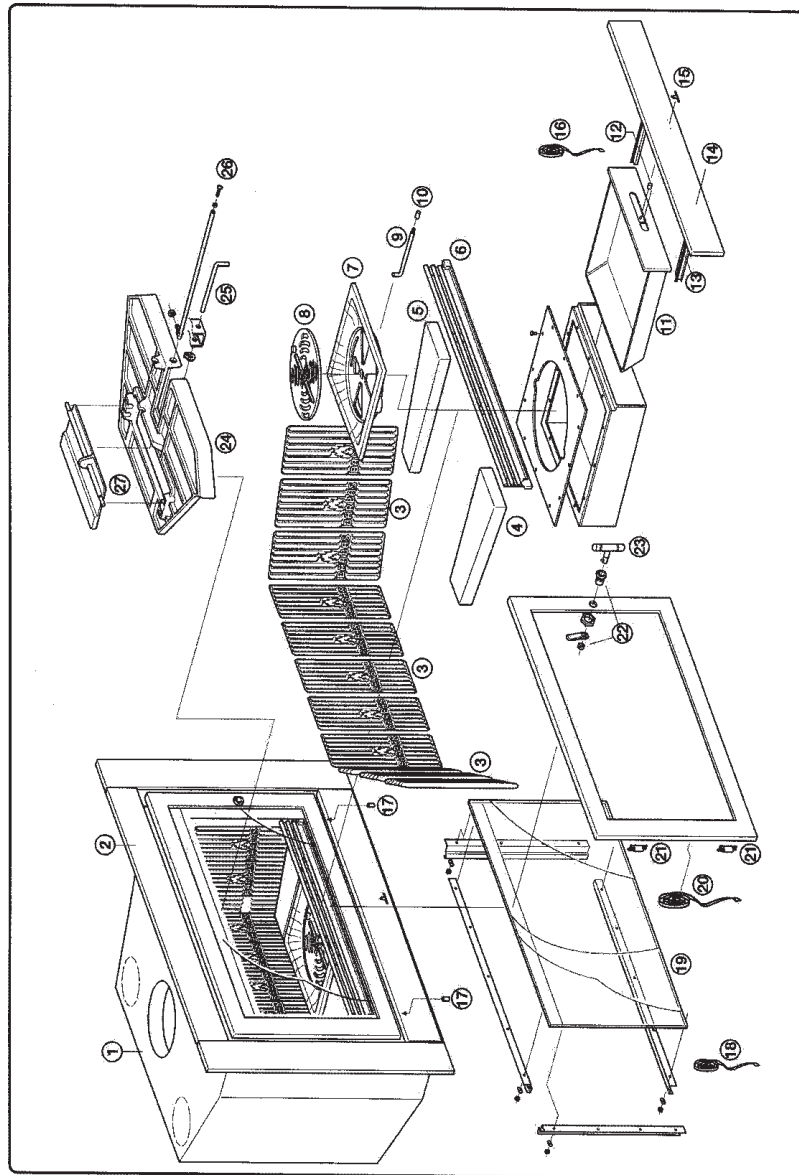
Heat radiation	
Sort of fuel	kWh/kg
Dry wood (average)	4.3

The heating value of wood (18.7 MJ/kg at 0% humidity) is not affected by the sort of wood. What does make a difference is the relative humidity of the wood (15.6 MJ/kg at 15% humidity).

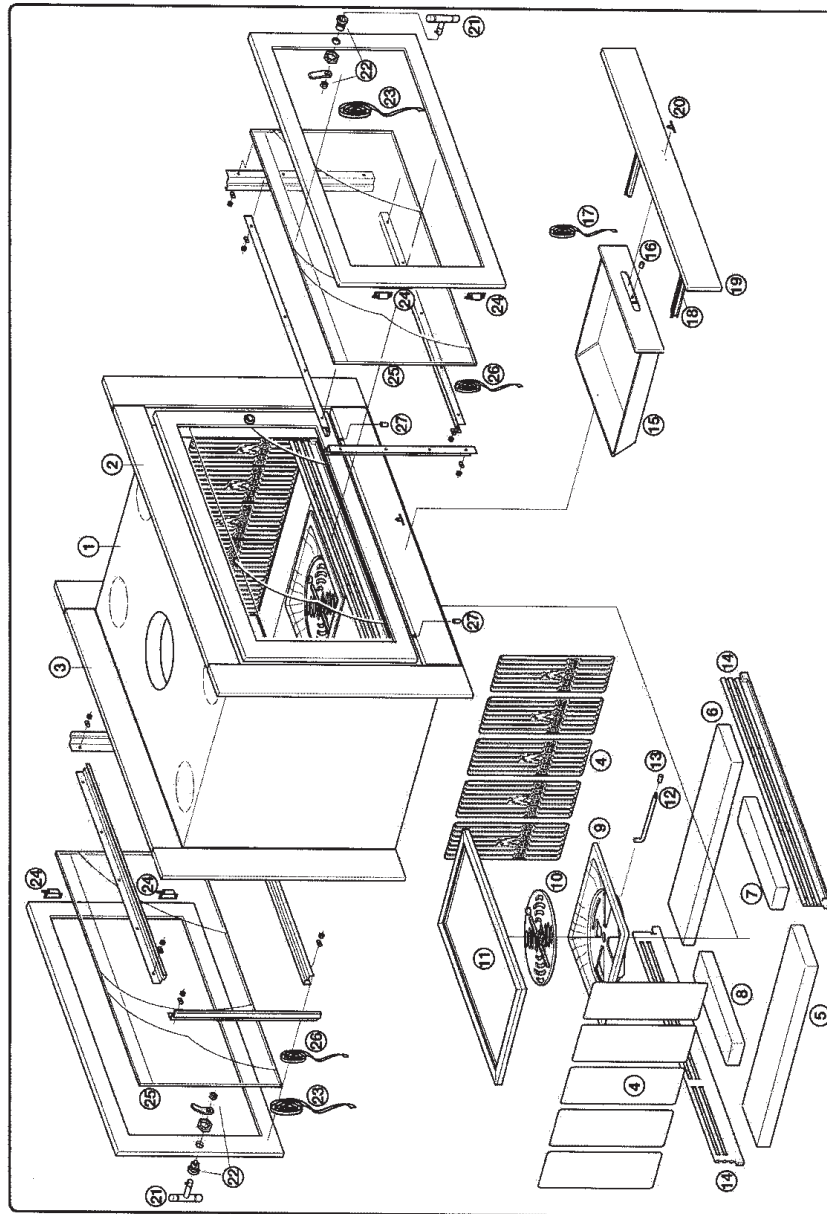
10. REGULAR MAINTENANCE

- Emptying the ash tray/container : Weekly, 48 hours after last heating
- Cleaning the glass : As required
- Door/ash drawer seals : Check annually before heating is resumed. Replace as necessary
- Sweep and inspect chimney : Annually before heating is resumed
- Fins/Skamolex plates : Check annually
 - * Clean fins as necessary with wire brush
 - * Replace plates as necessary
- Ridling grill : Check annually for cracks/breakage
- Slides/flaps : Check function annually
- Convection channels : Clean annually
- Paint : Annually, if necessary touch up with BARBAS heat-resistant paint (do not use with open fires)
- Parts : Individual parts for replacement/ accessories are available from your BARBAS dealer
Use only original parts
- Modifications : Introduced modifications to the appliance are not permitted

11. REPLACEMENT PARTS



UNILUX CUATRO Replacement parts		
Item no	Description	Number
1	Body	1
2	Frame	1
3	Cast-iron fins	11
4	Left base stone	1
5	Right base stone	1
6	Wood rack	1
7	Ridling grill container	1
8	Ridling grill rosette	1
9	Ridling pin	1
10	Ridling pin knob	1
11	Ash drawer	1
12	Ash drawer knob	1
13	Ash drawer guides	2
14	Ash drawer cover	1
15	Nickel emblem	1
16	Ash drawer cord	1
17	Air slide button	2
18	Door - glass cord	1
19	Glass	1
20	Door - body cord	1
21	Hinge	2
22	Lock	1
23	Nickel handle	1
24, 26, 27	Brake plate set	1
24	Brake plate	1
25	Brake plate locking pin	1
26	Flap control bar	1
27	Brake plate flap	1
When ordering, please give the serial number (see stamped number above ash drawer - front of this manual)		



UNILUX CUATRO TUNNEL

Replacement parts

Item no	Description	Number
1	Body	1
2	Front frame	1
3	Rear frame	10
4	Cast-iron fins	1
5	Left base stone	1
6	Right base stone	1
7	Front base stone	1
8	Rear base stone	1
9	Ridling grill container	1
10	Ridling grill rosette	1
11	Brake plate	1
12	Ridling pin	1
13	Ridling pin knob	1
14	Wood rack	2
15	Ash drawer	1
16	Ash drawer knob	1
17	Ash drawer cord	1
18	Ash drawer guides	2
19	Ash drawer cover	1
20	Nickel emblem	2
21	Nickel handle	2
22	Lock	2
23	Door - body cord	2
24	Hinge	4
25	Glass	2
26	Door - glass cord	2
27	Air slide button	4

When ordering, please give the serial number
(see stamped number above ash drawer - front of this manual)

12. TECHNICAL DATA

Type:	UNILUX CUATRO
Dimensions (hxbxd)	0.66 x 0.82 x 0.46 m
Weight	159 kg
Combustion:	
Nominal output	8.0 kW Measured in compliance with DIN 18895 (Bauart 1-D) / EN - 13229
Smoke output	6.4 g/s (for chimney calculation) measured at a smoke temperature of 345°C and at a draught setting of 14 Pa
Inside:	
Dimensions	Surface area 0.18 m ² Clear fire opening 565 x 315 mm
Fins	Cast iron
Base stones	Fire-proof concrete
Floor plate	Mounting brackets for attaching hot air ventilator
Inner lining	Steel (heat-resistant and rust-proof)
Retardant plate (brake plate)	Stainless-steel plate
Outside:	
Construction	Sheet-steel casing Ø200 mm smoke connection 2 hot-air connections Ø125 mm
Doors	Flat door opening to left Shutter with removable handle
Operation:	Air slide in the ash drawer for admission of air under fuel (primary air) Air slide below the door for admission of air above fuel (secondary air)
Ash collection:	Ash drawer with ridling grill
Options:	230 V / 88 W fan for transport of heating air Rev control by built-in dimmer switch

Type:	UNILUX CUATRO TUNNEL
Dimensions (hxbxd)	0.69 x 0.82 x 0.61 m
Weight	189 kg
Combustion:	
Nominal output	5.0 kW Measured in compliance with DIN 18895 (Bauart 1-D) / EN - 13229
Smoke output	6.4 g/s (for chimney calculation) measured at a smoke temperature of 345°C and at a draught setting of 14 Pa
Inside:	
Dimensions	Surface area 0.18 m ² Clear fire opening 565 x 315 mm (2x)
Fins	Cast iron
Base stones	Fire-proof concrete
Floor plate	Mounting brackets for attaching hot air ventilator
Inner lining	Steel (heat-resistant and rust-proof)
Retardant plate (brake plate)	Stainless-steel plate
Outside:	
Construction	Sheet-steel casing Ø200 mm smoke connection 4 hot-air connections Ø125 mm
Doors	Straight doors at either side Opening to left Both doors shutter with removable handle
Operation:	In front: Air slide in the ash drawer for admission of air under fuel (primary air) Air slide below the door for admission of air above fuel (secondary air)
Ash collection:	Ash drawer with ridling grill
Options:	230 V / 88 W fan for transport of heating air Rev control by built-in dimmer switch

13. FREQUENTLY ASKED QUESTIONS

How often should I have my chimney swept?

At least once a year. If you use your fire more than three times a week on average, have your chimney swept more often. Have the chimney swept by a recognised company. Your fire insurance policy may make this a condition and ask for proof.

In terms of stoking up the fire, what is the difference between a stone and cast-iron lining?

Both linings serve to protect the wall of the stove against flames. The advantage of a cast-iron lining is that it is much stronger than a stone lining. It will not break after a few years; cast iron will not be damaged if you push in the wood into the stove any harder than usual. Cast iron radiates more heat out to the room than stone. This improves the output.

Does a fitted fire have better output than an open fire?

Yes, a fitted fire has between 7 and 8 times the efficiency of an open fire. (See also sections 7.2 and 7.3).

What is the difference between net capacity, gross capacity and efficiency?

Net capacity represents the net amount of heat that the appliance generates.

The total heat content of the fuel is the so called gross capacity.

Efficiency is the percentage of fuel converted into useful heat. It is the ratio of net capacity and gross capacity.

How can I keep the glass clean?

By making a point of using dry, clean wood in the stove. Wood that is too damp immediately gives off lots of ash.

Make sure the seals are in good working order. Any air seeping out around the glass part of the door will cool the air, resulting in the fire not burning cleanly.

How much wood will I use?

That depends entirely on how you heat your room, what sort of appliance you have and the size of the room you are heating. As a general rule, a fire used in accordance with our guidelines (no air under the fuel, topped up once an hour) produces an output of about 3 kW.

In an averagely-insulated house, the general rule is that in a room of 80 m³, you need a fire with an output of around 7 kW. For each subsequent 10 m³, add on 0.6 kW.

In a relatively well-insulated house, the general rule is that in a room of 80 m³, an appliance of 5.5 kW is adequate, and for each subsequent 10 m³, you need to add a further 0.4 kW.

Can a wood-burning stove/fitted fire be connected to a central heating installation?

The Barbas range does not have any stoves/fires that can be connected to central heating installations. We do not advise attempting it!!

At what temperature does/do the convection fan(s) cut in?

Wood-burning stoves are not fitted with convection fans.

Fitted fires with a fan controlled by a built-in dimmer have no automatic temperature control. The on/off switch is part of the dimmer.

If your fitted fire is equipped with a transformer plug and dimmer, it will also have an automatic temperature control. If the two fans are about to overheat, they will cut in when the area to the left and right of the ash drawer becomes warm. This is at approx. 45°C.

How do I know if I'm heating correctly?

Follow the instructions in this manual.

The flames should play softly across the wood and the wood should burn evenly.

Once the fire has been burning for a short time, the smoke from the chimney should be almost translucent.

What is wrong with a smoking chimney?

A seriously smoking chimney means that combustion is less than optimum. There may be a number of reasons for this. If the fire has only just caught on, or has recently been topped up, some smoke is normal. By opening the door(s) for a short period, the wood will catch fire quicker and the smoky period will be shorter.

If you leave the fire door open, and especially if you burn damp wood, the result will be a lot of smoke. In both cases, the combustion temperature is too low. This leaves numerous dangerous compounds intact, which means more deposits in your chimney and more waste into the environment.

What is the influence of soap stone on a stove?

Soap stone functions as a heat buffer. Its combination of chalky composition and sedimentary structure means that soap stone heats up more quickly than other sorts of stone and emits heat more gradually than other stone. This evens out the irregularities associated with burning wood (heat radiated is initially double; later half the average). However, this means that a soap stone fire has a longer warm-up period. However, it will continue to give off heat for longer.

The soap stones are not like the ones in the brochure. Is this right?

Soap stone is a type of stone that is found in mountain walls (it is sawn out). Depending on the place in the mountain, the structure may vary. It may be more or less porous, its structure may be wild or calm. This means that the colour and finish may also vary. Stone quarried in the past will thus look different to stone quarried today.

What should I do if the wood does not catch fire?

This probably means that the wood is damp. Remove the wood and replace it with dry wood. If necessary, make a fire with wood briquettes. They are always dry (they have a moisture content of <10%).

The wood burns up too quickly. What should I do?

Ensure that air cannot get in underneath the fuel. Close the primary air slides, ash drawer and ridling grill. Under these conditions, the layer of ash should no longer burn bright orange/white but red.

If there is a draught (due to strong wind), air intended as secondary air for above the fuel may enter through the openings above the door and flow straight down beneath the wood. If this happens, close the secondary air slides slightly.

There may be too much of a draught in your chimney, particularly if it is very high (in excess of 8 m). Ask your supplier to fit a check valve or damper. This may not be possible in all cases.

Can I leave my fire unattended?

Only when it is burning peacefully with little wood and if the doors are closed as well as the primary air slides. Do not leave children unattended while the fire is burning.

Do I have to take any extra measures if the room I am heating has an extractor fan?

Select a closed fire, i.e. a fire with completely separate combustion air inlet. The combustion air will then be drawn in from outside the appliance.

What is creosote?

Creosote is a tar-like deposit which is left in the chimney. It is formed in poor combustion conditions when burning wood (damp wood, pinching off the air supply to the fire or burning impregnated or painted wood for example). Creosote ignites at approx. 500°C. This temperature can easily be reached if the fire is raging. This means that deposits of creosote in your chimney could cause a chimney fire.

What happens when wood is burnt?

The combustion process.

The combustion of wood involves the following steps.

Drying

The first step is that the fuel (wood) dries out. Even at low temperatures ($<100^{\circ}\text{C}$), any moisture still in the wood will evaporate. This drying procedure implies a significant loss of energy if wood which is 'too' damp is burnt. The right degree of moisture is achieved after 1.5 - 2 years of drying. The moisture content is then 15 - 17%.

Decomposition

At moderate - high temperatures (150°C - 350°C), the decomposition process can be discerned. This is when the chemical structure of the fuel breaks down. This process involves the creation of volatile compounds such as carbon monoxide (CO), water vapour (H_2O) and methane (CH_4). In addition, substances which are volatile at decomposition temperature but condense at lower temperatures are often released. These are the tar-like components (this by-product is also known as creosote, which is deposited in the chimney and cold parts of the fire in poor burning conditions).

Combustion of the products of decomposition

The volatile compounds burn in the gas phase if O_2 (air) is added. The ignition temperature of these volatile compounds is approx. 550°C .

Combustion of solid hydrocarbons

The solid component that remains consists of pure hydrocarbons, which will burn at approx. 800°C if O_2 (air) is added.



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