

User Manual Keramikos Kilns

15 to 200 liter – 1150 to 1320 °C



safety instructions



- Read this manual before using your kiln.
- When installing your kiln, a minimum space of 30 cm must be left free around the kiln.
- Preferably place the oven on a concrete floor or on a floor with ceramic or concrete tiles.
- Make a habit of not putting anything ON the oven or leaning anything against the oven.

- The kiln should only be used by authorized persons.
- Ensure that there is adequate ventilation in the room where the kiln is located.
- The room where the kiln is located must not be accessible to unauthorized persons
- The kiln must always be closed with the clasp if it has a hinged lid

→ The mantle and the kiln lid can get hot during firing!

→ This kiln is not equipped with extra ventilation holes.

→ Both the lid and the bottom are porous and have sufficient ventilation.

→ Do not open the kiln until the end of the program, or only at a safe temperature (50 ° C or less).

→ Have a damaged power cord replaced only by your supplier or by a qualified electrician.

→ The use of an extension cord is not recommended due to the risk of loss of power.

If you nevertheless use an extension cord, always use a cord with a wire thickness of 3 x 2.5 mm² (at 230 V.) or 5 x 2.5 mm² (at 400 V / 3 x 16 A.)



Increase mobility with wheels



Harting microprocessor connection



Easy to move thanks to handles



Heating elements of sustainable resistance wire



Standard hinge from 25



High quality insulation stones

Introduction

You have just purchased a top quality Keramikos (ceramic) kiln. This kiln, manufactured in The Netherlands, guarantees you a safe and enjoyable use for many years.

- Read this manual carefully before installing and using your kiln. In this manual you will find instructions on how to install and use the kiln. This manual also provides instructions on how to safely install your kiln in its proper space or studio, as well as instructions for the safe use of your kiln. If you have any questions after reading this manual, please contact us.

Content

Safety rules	2
Introduction	3
Installation	4
Positioning the oven	4
Location	4
Electricity	4
Safety switch	5
Adjusting the cover pin	5
Lid hinge and closure clasp	6
Use of an add-on rim	6
Use	7
First firing	7
First firing of a cera board lid	7
Loading the kiln	8
Instructions for use	9
Appendix I: clamps for the elements	10
Appendix II: measuring the add-on rim	11
Appendix III: the use of a Kilnsitter	12



Installation

Placement of the oven

Always place the kiln in a location with a flat and heat-resistant surface/ floor. If the floor under the kiln with is, for example covered with linoleum, parquet or laminate, it is advisable to first cover it with e.g. ceramic tiles. This prevents any discoloration of the floor.

Then level the oven base as much as possible using the adjustable feet under the frame. Make sure that there is a minimum of 30 cm around the oven when placing the frame; make sure the space around the kiln is free, to allow for the radiation of heat. Make sure that the frame is stable and level.

Now place the kiln in the frame, with the grey metal box showing towards you. If the kiln is not equipped with a lid hinge, the lid can now be placed on the kiln.

note: during use, the oven must always be in its frame!

Space

The space where the kiln will be placed must be large enough for you to work in front of it. Ensure that no inflammable materials and or objects are present in the vicinity of the kiln. Do not place cupboards and / or racks close to the kiln. This also applies to any cupboards or shelves above the kiln.

The room must be able to ventilate sufficiently during firing to get rid of any fumes. Heating in a room where work is being done at the same time is only recommended if this room is large enough, can be well ventilated and if it is not possible to get too close to the kiln when switched on.

Electricity

Use a good quality socket for the kiln. Due to the high power of the kiln, the use of any type of inferior quality switching material can lead to discoloration and heating up of the socket.

Always have a socket installed by a qualified electrician and only use a separate individual power group for the kiln. When using automatic fuses, it is necessary to use fuses with a C characteristic due to the high switch-on current of the kiln.

Please note: the use of an extension cord is only possible if it has a thickness of at least 3 x 2.5 mm² (light net kilns) or 5 x 2.5 mm² (power current kilns up to 11 kW).

Due to the high power of the kiln, never use an extension cord that is thinner!

Installation

Safety switch

The kiln is equipped with a safety switch to interrupt the power when the kiln's lid is removed. To prevent malfunction of this safety switch, it is important to place the lid on the kiln correctly. (This applies to kiln without a lid hinge) So make sure that you always lift a loose lid vertically! If the cover pin is shifted or bent, the safety switch will not be pressed sufficiently and the kiln will no longer function properly or it will not switch on at all. The cover pin is made of high-quality plastic and has been tested at 100 ° C. If the cover pin is exposed to temperatures higher than 100 ° C, it will melt.

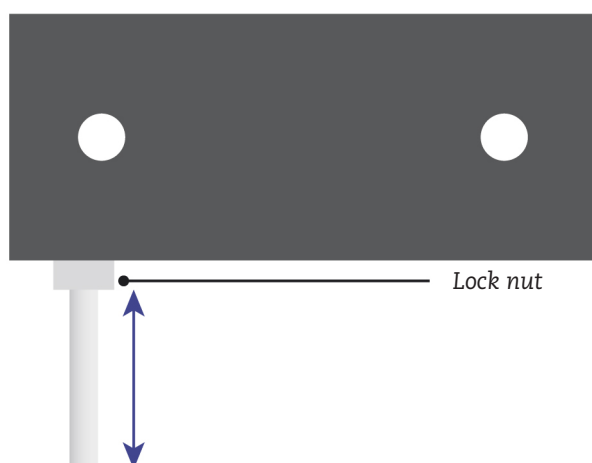
Note: Never place anything between the lid and the body of the kiln to accelerate cooling. The lid pin will melt!

Adjustment of the cover pin

It may happen that the lid pin is no longer properly adjusted due to the use of the kiln. If you lift the lid at the front (near the cover clasp) you can hear the safety switch click under the cover pin. You must be able to lift the lid about half an inch before the switch connects.

- If this is not the case, turn the cover pin slightly (down).
- If this is more than 0.5 to 1 cm, or if the lid does not close properly because it rests on the lid pin, you must screw the lid pin up.

First loosen the lock nut with a spanner (No. 10). If the cover pin is properly adjusted, secure the pin again by turning the nut against the cap with the spanner. Make sure that when you do this, the pin does not turn in again (see figure).



Installation

Lid hinge and closure

As an option, it is possible to provide a lid hinge with the kiln. This automatically closes the safety switch correctly. A lid hinge also ensures that less damage will occur during the use of the kiln. If your kiln is equipped with a hinge, always remember to close the lid with the closure when firing. At 800 to 900 ° C the kiln lid will warp somewhat. Because the lid, in the case of a hinge, is attached to the back of the oven, this will allow it to crack at the front. Because of this cracking, the lid pin can rise a little and switch off the kiln. The use of the closure prevents gaps in the front of the kiln.

Top Edge

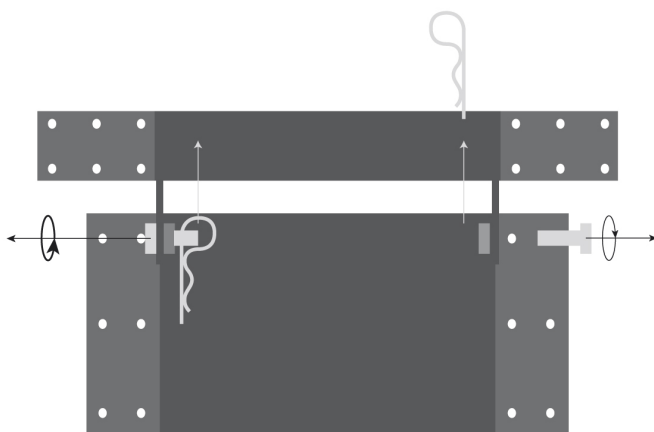
With different models of Keramikos ovens, it is possible to use an add-on rim as an option. This is equipped with a relay system for the cover pin and safety switch and must be lifted in the same way as the cover: straight.

note: by using an add-on rim, the end temperature will drop by approximately 60 ° C to 100 ° C. This is because the content of the kiln increases, while the power of the oven does not change. However, this does not apply to the economy all-round (120 liters).

If you have a kiln with a hinge and want to use an add-on rim, you must remove the bolts from the hinge before placing this add-on rim (see figure).

You do this by first pulling the two locking springs out of the bolts. You can then unscrew the bolts from the hinge with the help of a spanner (no. 17) (see figure). Then lift the (now loose) lid off the kiln and place the add-on rim on the kiln. Make sure that the pin and lip of the peripheral cupboard fit correctly into the utility..... of the kiln. Now lay the lid vertically on the add-on edge.

At the back of this manual, you will find a form for measuring and ordering an add-on rim for your kiln.



Please note: the hinge does not work if you use an add-on rim.

At the back of this manual, you will find a form for measuring and ordering an add-on rim for your kiln.

Putting into use

Empty firing of the kiln

Before you start using the kiln, heat it once without content and do a biscuit firing once.

After this, the oven is ready for use to fire greenware as well as glazed objects.

One empty firing is necessary to give the heating elements a protective oxide layer, which considerably extends the lifespan of the elements. Do this first firing with a completely empty kiln, for the second firing fill the kiln with completely DRY greenware. For the empty firing we recommend you use the following program:

1. Firing up to 600 ° C in 8 hours. (Or at 75 ° C / h. To 600 ° C.)
2. Thereafter 150 ° C (or SKIP – depending on the type of controller) per hour to 1000 ° C . Then hold this temperature and fire for 1 hour.



Inserting ceraboard

If your kiln is fitted with ceraboard lid insulation (standard for 200 liter ovens), it must first be fired at 1200 ° C.

This is not possible with a glass kiln, since it cannot fire higher than 1000 ° C. You can use the following heating scheme to fire out your ceraboard lid:

1. Heat up to 600 ° C in 5 hours (or to 120 ° C / h. To 600 ° C.)
2. Fire 1 hour, holding temperature at 600 ° C.
3. At full power (SKIP or 0 minutes) to 1200 ° C.
4. A 30 minute firing, holding the temperature at 1200 ° C.
5. Allow to cool. Do not open the lid during cooling. Only open when the control device indicates room temperature.

If your control device cannot do controlled firing at 600 ° C then follow the program as is indicated below:

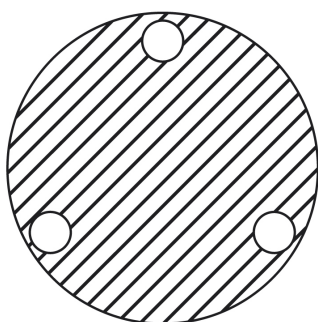
1. Heat up to 600 ° C in 8 hours. (or at 75 ° C / h. to 600 ° C.).
2. At full power (SKIP or 0 minutes) to 1200 ° C.
3. A 30 minute firing, holding the temperature at 1200 ° C.
4. Allow to cool. Do not open the lid during cooling. Only open when the control unit indicates room temperature.

Please note: ensure that there is adequate ventilation and that you are not present in the room when you are dry firing ceraboard. This is because of an unpleasant odor.

Putting into use

Loading the kiln

Start by placing the 3 CM cylinders at the bottom of your kiln. Place them in a triangle at an equal distance from each other (see image).



On these you place the first kiln shelf. This particular shelf always stays in place. The space that has now been created under this shelf allows for good circulation of the heat. You can now build floors using the various cylinders and shelves..

Stack the cylinders in a straight line one above the other as much as possible, in order to achieve the greatest possible stability. To prevent inaccuracies in temperature measurement, space must be kept free around the thermocouple (or the kiln sitter tube.)

note: when placing and loading the kiln shelves, make sure they do not touch the thermocouple (or tube sitter tube) in order to avoid any breakage or damage.



Thermocouple

INSTRUCTIONS FOR USE

→ Due to the use of the kiln, it is normal for cracks to appear in the bottom and lid
This is caused by the enormous difference in heat on the inside and the outside of the kiln. These cracks are completely harmless, generally superficial and they do not affect the functioning of your kiln. Regular heating at a high temperature will increase the chance of cracks. The kiln elements are always subject to wear and tear. You must bear in mind that a set of these elements generally lasts 3 to 6 years

→ This depends, among other things, on how often you fire, at what temperature, the space where the kiln is located, what kind of work you are firing, etc. Always ensure that you keep the kiln grooves clean. Contamination can be extracted from the grooves with a vacuum cleaner or with a brush. Splashing enamel on a heating element can cause this to break. Therefore always use good quality glazes, which reduce the chance of splashing.

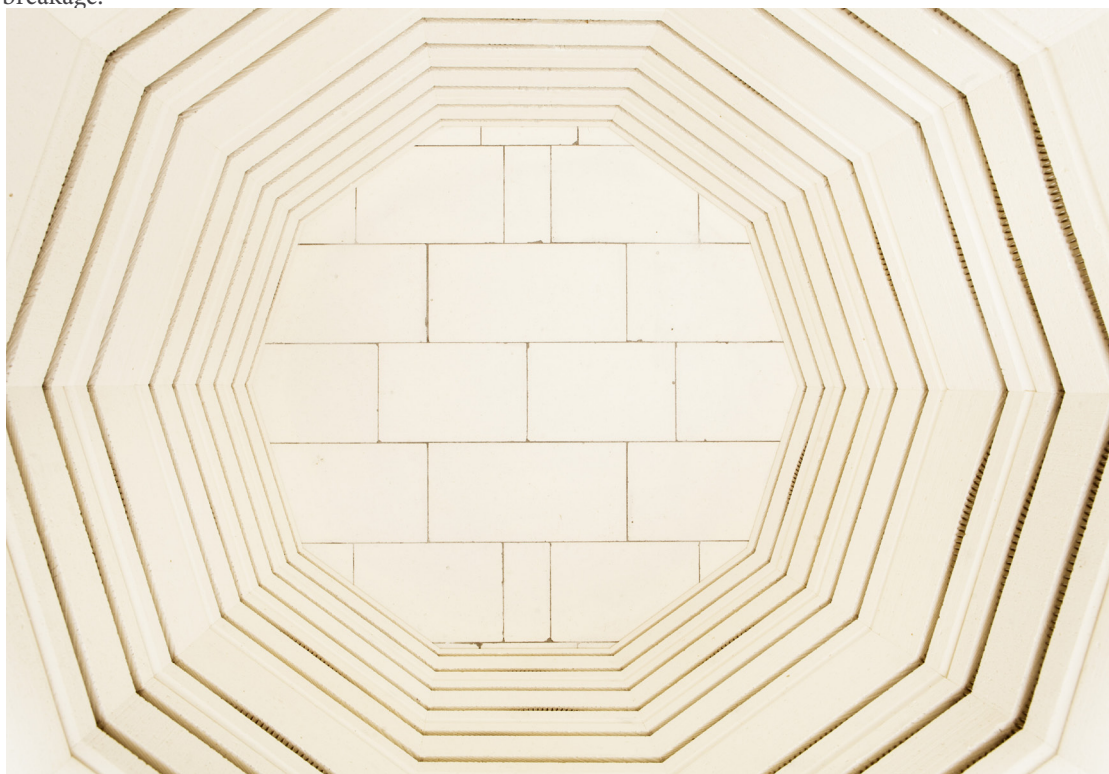
→ At the end of the firing process, it is normal for the lid to warp, this is due to tension occurring in the lid

As a result, you will see an orange glow between the lid and the kiln body. After cooling down, the lid will flatten again. This has no adverse consequences for the workings of your kiln.

→ The kiln's control device switches the oven on and off continuously during firing to achieve a certain temperature rise. You may therefore see the magnetic switch flash while the oven is firing. This is a normal process and it is not dangerous. The magnetic switch of your kiln is in a transparent synthetic housing which makes these flashes visible.

→ An electric kiln is not suitable for salt glaze because the salt glaze is deposited not only on your objects, but also on the kiln wall itself. The kiln can then no longer be used for other glazes and it will soon become defective. Additionally, the vapor from the heated salt escaping from the kiln, is harmful to your health when inhaled.

Use a quality type of clay, suitable for the object you want to create in order to prevent distortion or breakage.



Appendix I: Clamps and Coils

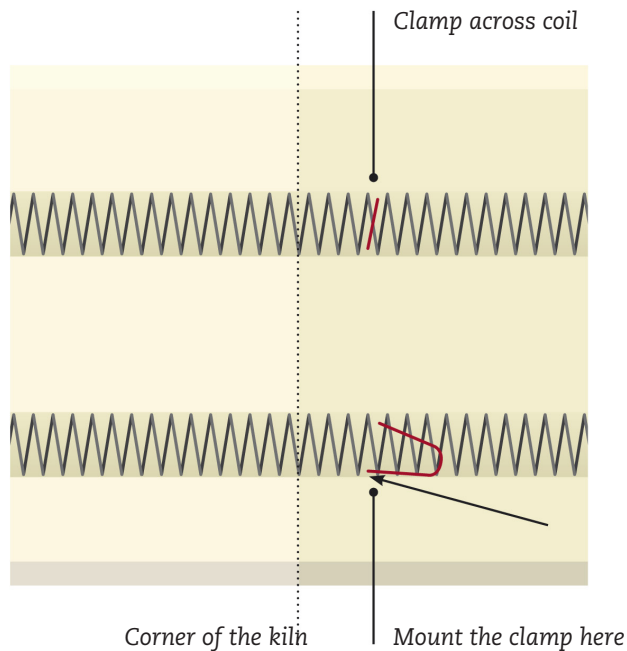
By using the kiln and constantly heating and cooling the kiln elements, their elasticity, after a longer time, may decrease.

Despite careful assembly and fastening of the coils while manufacturing the kiln, this cannot be completely prevented. As an extra security for the coils, we have special clamps which you can easily mount yourself. These are made of the exact wire material as the coils.

Note: never use other wire material to make clamps yourself for this application. This material will not be resistant to high temperatures and can cause damage to your kiln and / or the coils.

Use flat nose pliers for mounting the clamps. With these you push the clamps into the stone, across a turn in the coil. As the kiln's stones are of a soft material, the clamps are to be mounted in every groove and left and right to every corner of the kiln.

The idea is to apply a clamp just to the left and right of every corner of the kiln. If applied into the corners, the coils will eventually pull the clamps out of the stone again (see image).



Appendix II: Measuring an add-on rim

Use this form to record the dimensions if you want to order an additional rim for your kiln.
Please pay attention to the difference between Keramikos kilns with an even and odd number of corners and the kilns produced by the Ceramic Institute.

*note: by using an add-on rim, the end temperature will drop by approximately 60 ° C to 100 ° C: the kiln's content increases while the kiln's power does not change.
However: this does not apply to the economy all-round (120 liters) kiln.*

Type Kiln

- ☐ Keramikos
☐ Keramisch Instituut

Max. temp. Kiln:

- ☐ 1150 °C. / 1260 °C.
☐ 1320 °C.

Type Kiln:

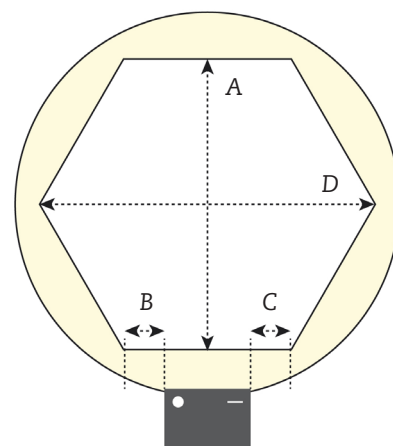
- ☐ 15 liter, Economy Picolo
☐ 25 liter, Economy Baby
☐ 70 liter, Economy Super
☐ 200 liter (10 hoek), Economy Jumbo
☐ 200 liter (ovaal), Economy Jumbo

Sizes:

- A: cm.
B: cm.
C: cm.

Alleen voor ovale oven:

- D: cm.



Type Kiln:

- ☐ Keramikos
☐ Keramisch Instituut

Max. temp. Kiln:

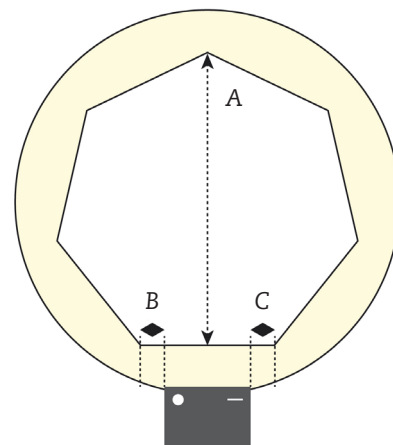
- ☐ 1150 °C. / 1260 °C.
☐ 1320 °C.

Type Kiln:

- ☐ 50 liter, Economy Favourite
☐ 100 liter, Economy Surprise
☐ 120 liter, Economy Allround
☐ 150 liter, Economy Giant
☐ 200 liter (11 hoek), Economy Jumbo

Sizes:

- A: cm.
B: cm.
C: cm.



Appendix III: How to use a Kilnsitter

Certain types of kilns, particularly the older ones, e.g. from the Ceramic Institute, can be equipped with a Kiln Sitter (with or without a Limit timer).

The Kiln Sitter is a mechanism controlling the switching - off of your kiln at the right temperature using mini cones. You can control the speed at which you fire up to the designated temperature with the Sunvic switch, which is located in front of the red or grey cabinet.

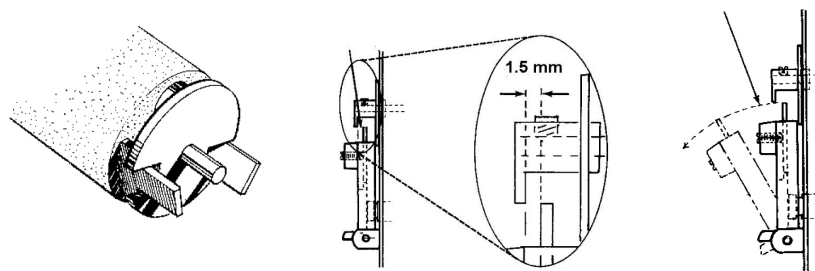
Adjusting the Kilnsitter

Even though the Kiln Sitter has been adjusted during assembly, it is good to check this adjustment again. After transport and placement and after approximately 30 times of firing, it may be necessary to adjust the setting.

Use the supplied guide plate to fine-tune the Kiln Sitter. With the guide plate in place, check whether the hook protrudes about 1.5 mm from the

weighted trigger. If this is not the case, you can move the hook by unscrewing the small screw on top of the hook. Re-tighten the screw after adjustment.

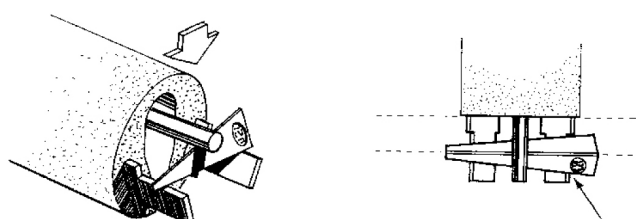
The guide plate of the weighted trigger must be tight under the hook. After removing the guide plate, check whether the hook bar can move freely in the tube. The guide plate behind the hook must be slightly loose (see illustrations).



Operating the Kilnsitter

The tube is located on the inside of the oven, where the mini cone is held in place by means of the conical supports and the movable hook rod. Before you close the oven, you can insert the mini cone of your choice as follows:

With one hand you can lift the weighted trigger on the front of the Kiln sitter until it bumps against the guide plate. With your thumb, press the hook downwards so that the weight is held up by the hook. With the other hand you can now, on the inside of the oven, place the mini cone on the support plates. Always lay the cone the flat side up, parallel to the tube, but without the cone touching the tube. The cone supports must always be clean. Replace if necessary (see illustrations).



Setting the Limit timer

The Limit Timer is an extra protection for switching off the kiln in case it does not switch off on its mini cone. This could happen, for example, if the mini cone were stuck to the cone supports.

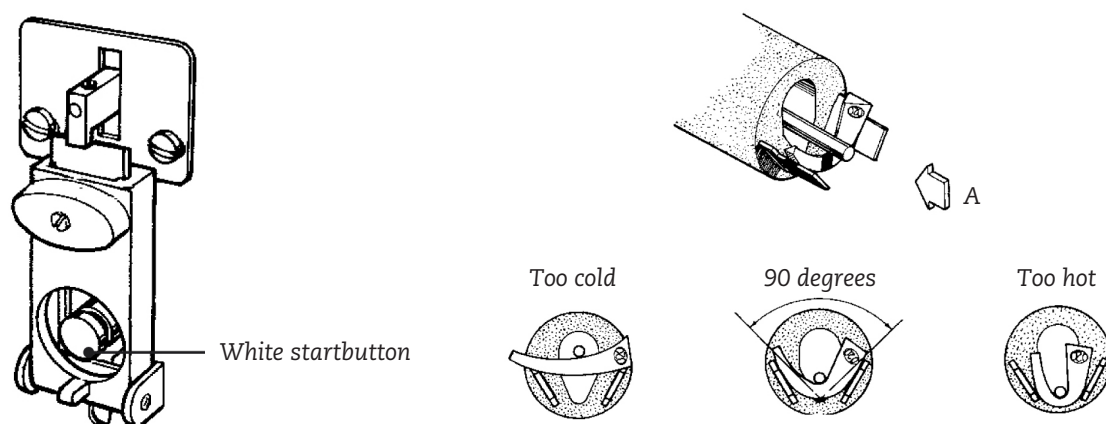
Set the Limit timer to the number of hours that a firing should last and add another half an hour. Suppose a firing would last 8 hours, then you set the limit timer to 8.5 hours. If for some reason, the firing takes longer than planned, the kiln will always switch off on the timer, after 8.5 hours.

If you do not know how long a firing would last, set the timer a little longer, e.g. 10 hours. When the kiln has switched off, check the position at which the timer has remained. If after the firing the timer is still at 2 hours, then you know that the firing lasted 8 hours. At a subsequent firing at this temperature, you know that the timer can be set to 8.5 hours.

switching on the kiln

You can close the lid after placing the mini cone and setting the limit timer. To turn on the kiln, press the white button inside the hole of the weighted trigger (see figure).

When the kiln reaches the cone's melting temperature, it bends, causing the hook on the front to tilt up slightly and the weighted trigger to fall freely. When the weighted trigger falls, the white push button is pushed out and the kiln switches off.



Firing up the kiln

The speed of firing up is determined by the position of the Sunvic switch. This switch is located on the front of the kiln cabinet. The Sunvic is divided into 5 positions. The speed of switching on the Sunvic is determined by the type of firing and the size of the work pieces which are in the kiln. Below are a number of examples of firing schedules.

Normal biscuit/ greenware firing:

Sunvic switch for an hour in position 1, then for an hour in position 2, then 45 minutes in position 3 and 45 minutes in position 4. Finally, switch to Full. The kiln is now firing at full power until the temperature of the selected mini cone has been reached.

Glaze:

→ Sunvic switch 45 minutes on position 1, then 45 minutes on position 2, then half an hour on position 3 and half an hour on position 4. Finally, switch to Full. The kiln is now firing at full power until the temperature of the selected mini cone has been reached.

These firing schedules can be varied as required.

General instructions for use

Keramikos Kiln

General firing instructions

During the firing of biscuit (the first firing of the clay), the workpieces can be placed in, on and against each other. This means that large quantities can be fired at the same time.

This is not possible with enamel/glaze firing, because the melting glazes will act as a glue and objects stick to one another when touching. The standing surface/bottom of the glazed objects must either be free of glaze, or the object must be placed on stilts. These stilts prevent the objects from sticking to the kiln shelf.

