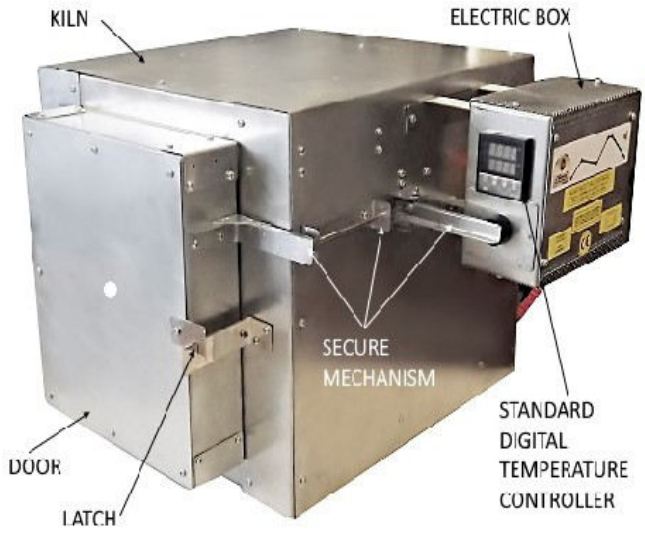
RC-310P PROGRAMMABLE ELECTRICAL MUFFLE KILN USER MANUAL

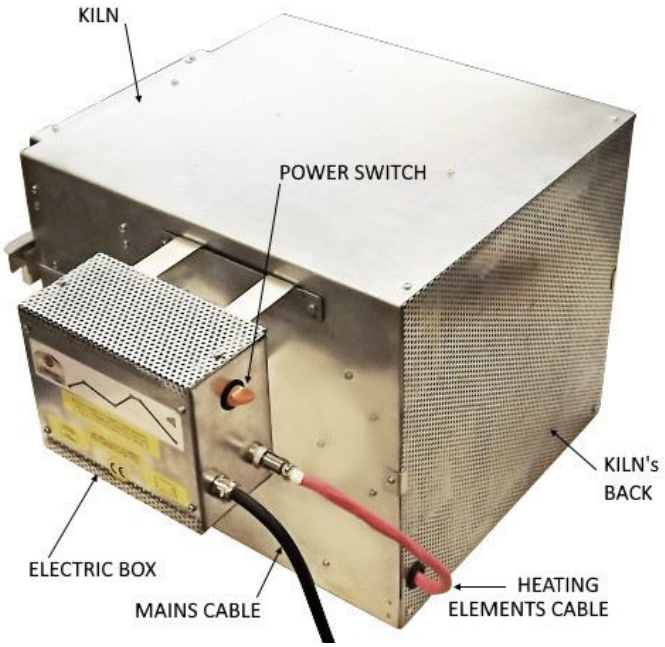
PRODUCT INTRODUCTION:

THIS RC-310P ELECTRICAL MUFFLE KILN WITH A PROGRAMMABLE TEMPERATURE CONTROLLER AND 38 CUBIC LITRE SPACIOUS CHAMBER HAS IS ESPECIALLY DESIGNED TO WORK WITH MANY TYPES OF MATERIALS SUCH US: GLASS, WAXES, METALS, CLAYS, ENAMELS, STONES, OTHERS WITH FIRING TEMPERATURES UP TO 1200°C/2192°F. FOR YOUR SAFETY THIS KILN HAS A SECURE MECHANISM THAT WILL DISCONNECT THE KILN'S POWER SUPPLY FROM BOTH, RIGHT AND LEFT, HEATING ELEMENTS IF DOOR OF THE KILN IS OPEN OR CLOSED NOT PROPERLY. IT HAS ALSO FOR VENTILATION PURPOSE ONE HOLE WITH A STAINLESS STEEL SHUTTER ON THE DOOR, A DIGITAL OVER/LOW-TEMPERATURE SAFETY SYSTEM TO HOLD SAME TEMPERATURE DURING ALL SOAKING PROCESS AND A SMOOTHING CIRCUIT DIGITAL GUARD FOR CORRECT READING AND STABILITY WORK OF THE PROGRAMMABLE CONTROLLER ON FLUCTUATIONS OF ELECTRICITY THAT IS VERY IMPORTANT FOR MOST FIRING PROCESSES.

Pic:1 FRONT VIEW:

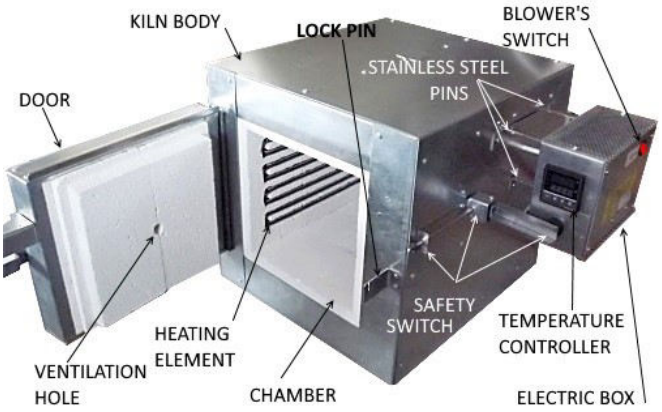


Pic: 2 BACK VIEW:

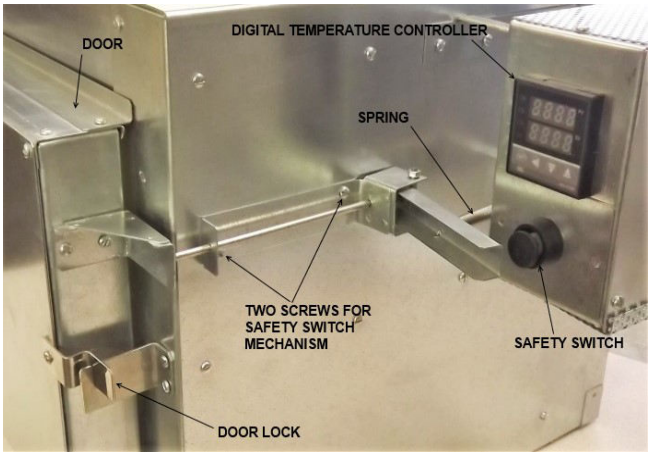


TECHNICAL SPECIFICATIONS:

MODEL:	**RC-310P**	**CALIBRATION:**	**YES**
INPUT ON REQUEST:	**230 V +/-10%**	**SOAKING PROCESS ACCURACY:**	**+/- 1 C**
POWER:	**5200 WATT**	**SAFETY MECHANISM:**	**Yes**
ESTIMATED MAXIMUM HEATING TEMPERATURE:	**1200 C / 2192 F**	**TEMPERATURE RANGE:**	**ROOM TEMPERATURE— 1100 C / 2012 F**
ESTIMATED HEATING TIME TO 1100 C:	**120 MINUTES**	**VENTILATION SYSTEM:**	**DOOR HOLE**
CONTROLLER TYPE:	**PROGRAMMABLE, TWO-LINES**	**DIMENSIONS OF CHAMBER MM (INCH):**	**310(w) X 400(d) X 310(h) 12” x 18” x 12”**
CONTINUOUSLY WORKING TIME ON 1200 C:	**20 MINS**	**DIMESIONS OF KILN MM (INCH):**	**470(w) X 560 (L) X 470(h) (19” x 22” x 19”)**
CONTINUOUSLY WORKIN TIME BELOW 1000 C:	**12 HOURS**	**WEIGHT:**	**48 KG**



PIC: 3



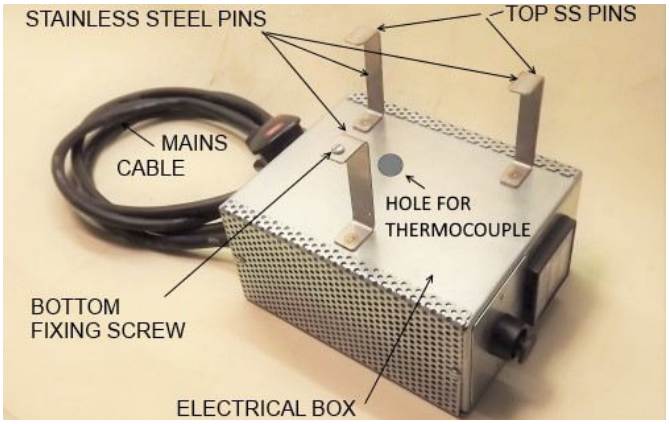
PIC: 4

PREPAIRING FOR WORK:

- Remove the kiln from its original box.
- Put the kiln on a heat-resist work-top such as a stand, stone plate, metal sheet or a ceramic tile. Please note that the work-top should be very stable and hold for your safety 40-50 kg of weight.
- Open the door and accurate take out from the chamber all accessories and packing materials.
- Now start to assemble the kiln attaching an electric box (PIC: 3) to the kiln's body. For this:

♦ Take the electrical box (PIC: 5) with 3 welded stainless steel pins/legs and screw them to thee body of your kiln as shown on PIC: 8 and 9.

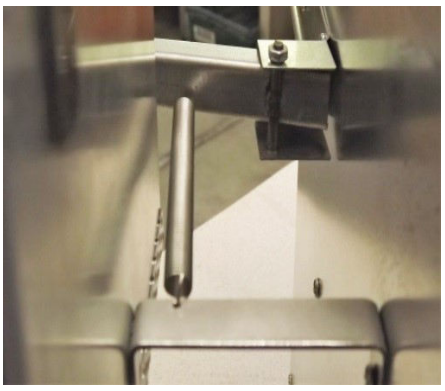
PIC: 5



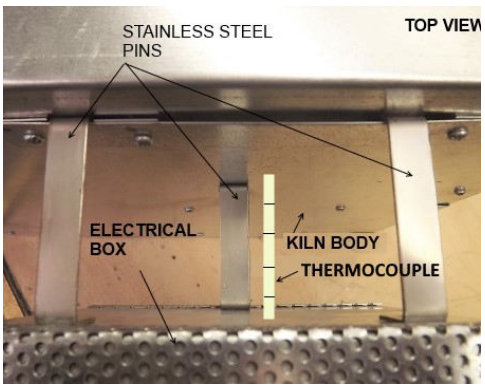
PIC: 6

If another type of door's lock is not already installed please find in pack and fix to the door/body two-part metal lock as shown on PIC 6:

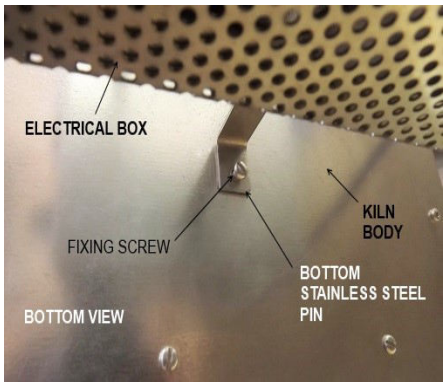
PIC: 7



PIC: 8

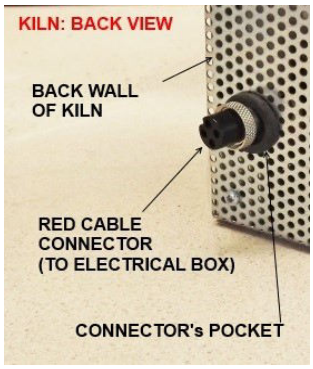


PIC: 9



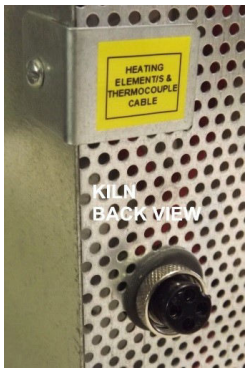
Now you can start to connect (by a special red cables) the electrical box to the heating element/s and to attach a safety-switch mechanism. For this:

PIC: 10



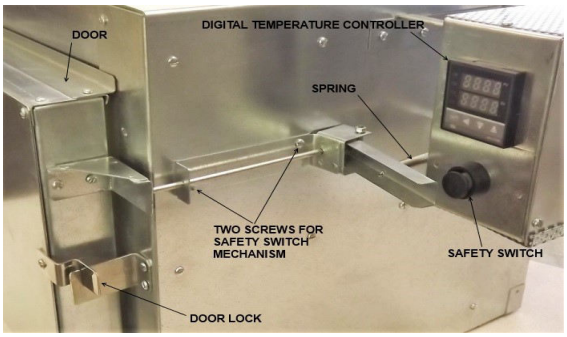
PIC: 11

PIC: 12

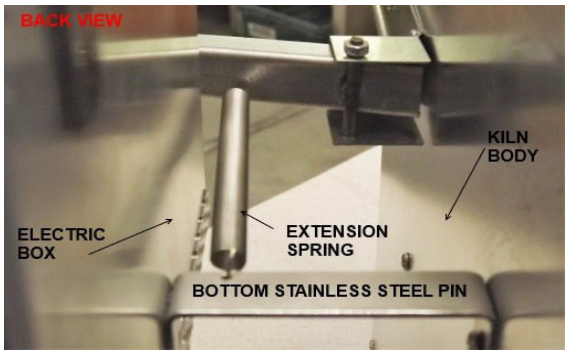


- In some models you may require to pull RED CABLE by his connector (PIC: 10) from its "pocket" and connect it to a correct terminal on electrical box (PIC: 11). **IMPORTANT:** please ensure that you pulled the red cable from its pocket in full for avoiding a heat damage of the cable inside kiln that are NOT under warranty.
- Now you need to attach a safety switch mechanism to the kiln. This mechanism is important part of your safety. It will disconnect all heating elements inside chamber if the door of your kiln was open or closed not properly for avoiding an electric shock on accidental contact between heating element/s by metal tongs, tweezers or firing object/s. For this:
- Take the ready-to-use mechanism from its pack and attach it by two small screws (supplied) to the kiln as shown on PIC: 13.

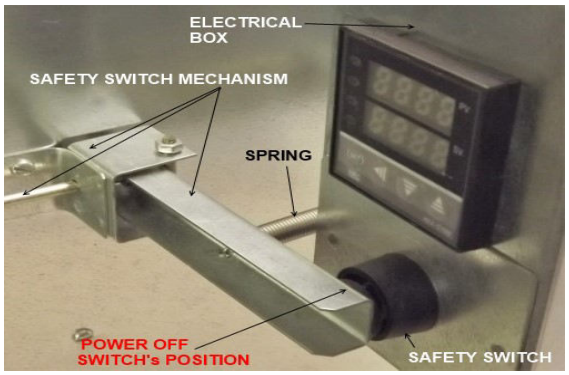
PIC:13



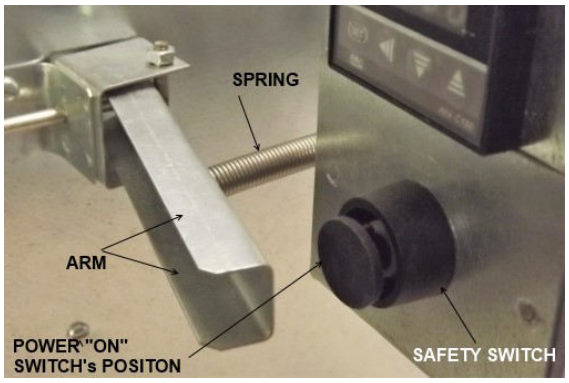
PIC: 14



PIC: 15

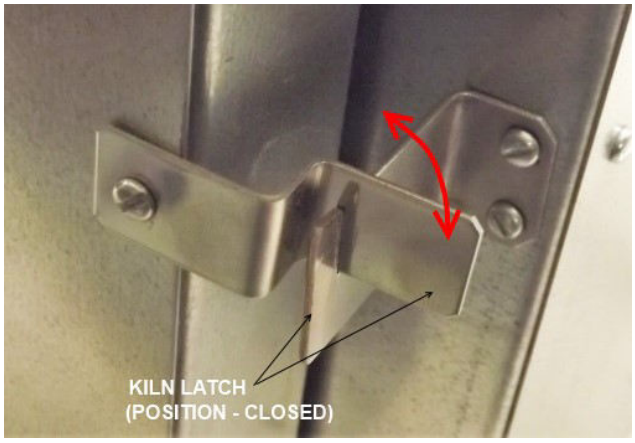


PIC: 16

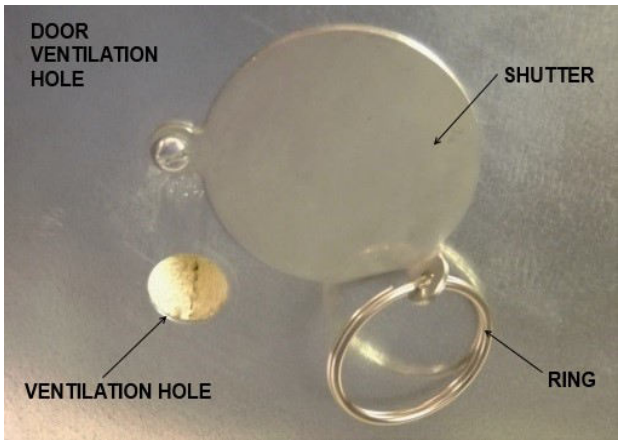


- Now connect a tension spring (supplied) between the safety switch mechanism's ARM (PIC: 16) to a bottom stainless steel pin/leg on electrical box as shown on PIC: 14.
- **IMPORTANT!** Please ensure that after assembling the ARM surely PRESSES on the SAFETY SWITCH when door is OPEN (PIC: 15) and surely UNPRESSES the SAFETY SWITCH (PIC: 16) when door is CLOSED.

- It is no matter which type of door's lock was installed on your kiln: you can easy close or open this door as shown on PIC. 17:



PIC: 18 -



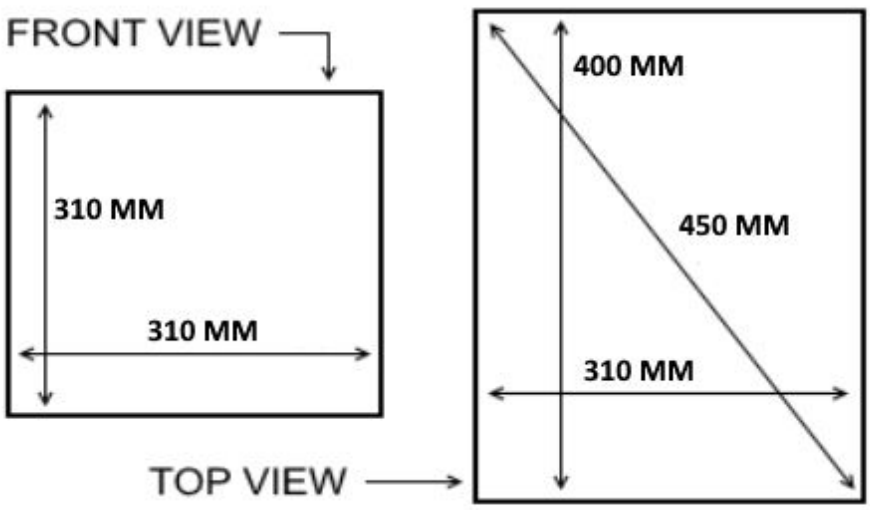
- Now your kiln is assembled. Close shutter on the door (PIC: 18) to avoid heat leaking from inside of the chamber. Connect the mains cable to a power supply to start your work.

- When this kiln is used for the first time it must be heated up only for approximately 20 minutes for allowing water to evaporate from the chamber. Please do not be also alarmed (when the kiln is in use for the FIRST time only) that light smoke or/and smell may appears. It is normal process for each new kiln as all water, grease and oils burn out from the heating element/s, shelves, chamber and from inside of the kiln. It should not happen again after the first heating process. If the kiln is to be used for less than once per month please repeat the initiative process each time the kiln is used.

- Please note also that the temperature shown on controller is around of thermocouple inside kiln's chamber and you may require to wait up to two hours for heating your kiln inside properly and for getting completely same temperature in the middle, corners and every-where around the chamber.

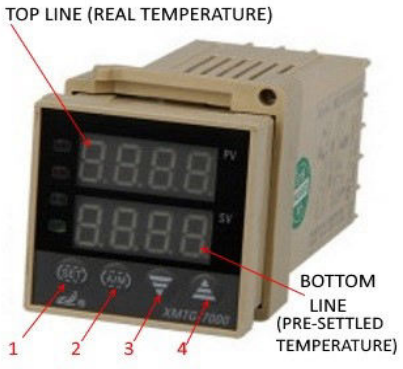
- USEFUL CHAMBER DIMENSIONS: Please find below FRONT AND TOP VIEW drawings on the kiln's chamber (inner). Please see PIC: 19.

PIC:19



TEMPERATURE CONTROL (HOW TO PROGRAMMING):

The programmable temperature controller (XMTG-7000) is already settled up by the manufacturer for a chamber drying purpose (if customer not asked for a different setting). If you want to re-program this controller please refer to the controller's user manual or contact us for FREE help on Skype. In any way you can find some useful tips on this controller below:



1. "SET" - setting/confirmation button. To be used for setting all controller's parameters.

2. "Arrow Left" or "A/M"- segment's selector (to choose any one from four segments).

3. "Arrow Down" - value decrement (Used to set up a required temperature).

4. "Arrow Up" - value increment (Used to set up a required temperature).

Example of program: From room temperature ramp up to 450 C in 99 minutes, soak this temperature 4 minutes and ramp down to room temperature in 145 minutes:

Open the door of your kiln for initiate the safety-switch mechanism for disconnecting a power supply from heating element/s and avoiding the kiln's heating during all re-programming process or just press button No:4 for 3 seconds until get on bottom line "Stop" sign on bottom line. Now you can start re-programming your controller.

For starting programming short-press on "SET": you'll see on TOP line C1 (First segment from 32 segments total) and insert on BOTTOM line a room temperature (usually = 20 C) - 0020. Now press "SET" for remembering first segment' temp. parameter and go to next step «Г1» to pre-set required TIME for NEXT temperature parameter (0450 C). For this just insert on BOTTOM line using buttons 2-3-4, "0099" (minutes) and press SET again to remember this parameter as well and for getting on screen "C2". (second temperature parameter). As usually, using buttons 2-3-4 insert on bottom line "0450" and press "SET" again to go to next parameter "Г2" for pre-setting soaking time = 0004 (minutes). Press "SET" again to see "C3" for confirming on bottom line the required soaking temperature = 0450. Now press "SET" again for pre-setting («Г3») required time for ramping down temperature in your kiln to room temperature 20 C = 0145 (minutes) and press SET again for pre-setting the required room temperature: 0020. That's it. Now finish reprogramming by pressing on SET button again for inserting on bottom line "0000". Your program fill be automatically finished as soon as last parameter will be reached.

A. When you finished re-programming the controller: short-click on the "SET" button or just leave this controller for about 30 seconds for remembering new setting and starting your work.

B. Close the kiln's door for disconnecting the safety-switch mechanism and allow your kiln to start heating up or press 3 second on button No:3 until get a sign "Run" if you pressed button 4 before.

C. Important: you'll have about 20-30 seconds to change EVERY segment. Please do not worry if you lose this time and controller re-starts to show you a real temperature inside the chamber. Just re-start the re-programming process by short-pressing on "SET" button for 3 seconds again. If you are a beginner and have difficulty to re-program your controller please feel free to contact the manufacturer or agent/shop for free help with this matter during all warranty period.

D. You can find detailed information about the controller settings and all his functions in the controller's user manual, but we do not recommend you to change the manufacture's setting yourself (accept a program) as it can cause loss of factory setting that may will require full re-setting and/or re-calibration of the controller in future that is NOT UNDER WARRANTY.

SAFETY INSTRUCTIONS and USEFUL TIPS FOR BEGINNERS:

⇒ When you place an object/s inside the chamber please make sure that it is doesn't touch the heating element/s.

⇒ It is always better also if you will do some tests on small quantity of firing material you'll use before to start your work .

⇒ Using this kiln on higher temperatures then 1200 C / 2192 F may cause a problem with heating element/s and/or with metal body of the kiln that is NOT under warranty.

⇒ This kiln MUST be positioned on a level surface that will not be damaged by heat. A masonry or concrete floor is recommended, but other protective material like refractory bricks or ceramic tiles/sheet may be used. For small additional charge this kiln can be also supplied with a set of two shelves and a metal stand for placing it on a heat-sensitive work-top.

⇒ Always make sure that the door is closed properly to switch on heating element/s and for reaching high possible temperature inside the chamber.

⇒ Always use a heat-resistant gloves and a long metal tweezers to remove or insert firing object/s from/in the kiln.

⇒ This kiln should be kept away from all inflammable materials and other heating devises.

⇒ When open door on temperatures higher than 200 C (392 F) - always keep the maximum distance between you and the hot chamber. Please use also a dark glasses to avoid problems with your eyes.

⇒ Never leave this kiln unattended when it is in use because of the high temperature it can reach.

⇒ Never torch the kiln's metal body and shutter on the door without gloves — it can bourn out your hands.

⇒ KEEP OUT OF REACH OF CHILDREN.

⇒ When not in use - disconnect the kiln from its power supply.

DANGER: This is an electrical, high temperature equipment: always follow all health and safety rules and regulations for an electrical equipment and hot-works in your country.

MADE IN UK