# R-500PWF AND R500-P PROGRAMMABLE ELECTRIC KILNS USER MANUAL

PRODUCT INTRODUCTION:

THIS ELECTRIC KILN WITH A PROGRAMMABLE TEMPERATURE CONTROLLER AND A SPACIOUS 160 CUBIC LITRE CHAMBER IS ESPECIALLY DESIGNED TO WORK WITH MANY TYPES OF MATERIALS INCLUDING: GLASS, WAXES, METALS, CLAYS, ENAMELS, STONES, AND ANY OTHER MATERIALS WITH FIRING TEMPERATURES OF UP TO 950°C/1,742°F. FOR YOUR SAFETY, THIS KILN ALSO HAS A SECURE MECHANISM THAT WILL DISCONNECT THE KILN'S POWER SUPPLY FROM BOTH THE RIGHT AND LEFT HEATING ELEMENTS IF THE KILN'S DOOR IS OPEN OR HAS NOT BEEN PROPERLY CLOSED. IT ALSO HAS A DIGITAL OVER/UNDER TEMPERATURE DETECTION SYSTEM TO HELP MAINTAIN A CONSTANT TEMPERATURE DURING THE ENTIRE SOAKING PROCESS. THIS KILN ALSO HAS A SMOOTHING CIRCUIT TO ALLOW THE PROGRAMMABLE CONTROLLER TO CORRECTLY READ AND STABILISE ELECTRICITY FLUCTUATIONS, WHCH IS ESSENTIAL FOR MOST FIRING PROCESSES. THIS KILN IS MADE OF THERMAL INSULATION FIBRE BOARDS THAT WILL TURN DARK THE FIRST TIME THEY ARE HEATED AT TEMPERATURES BELOW 800°C AND WILL THEN REVERT BACK TO THEIR ORIGINAL WHITE COLOUR. THE KILN YOU RECEIVE HAS BEEN TESTED AT HIGH TEMPERATURES AND IS FULLY READY TO USE.

Pic:1   FRONT VIEW:
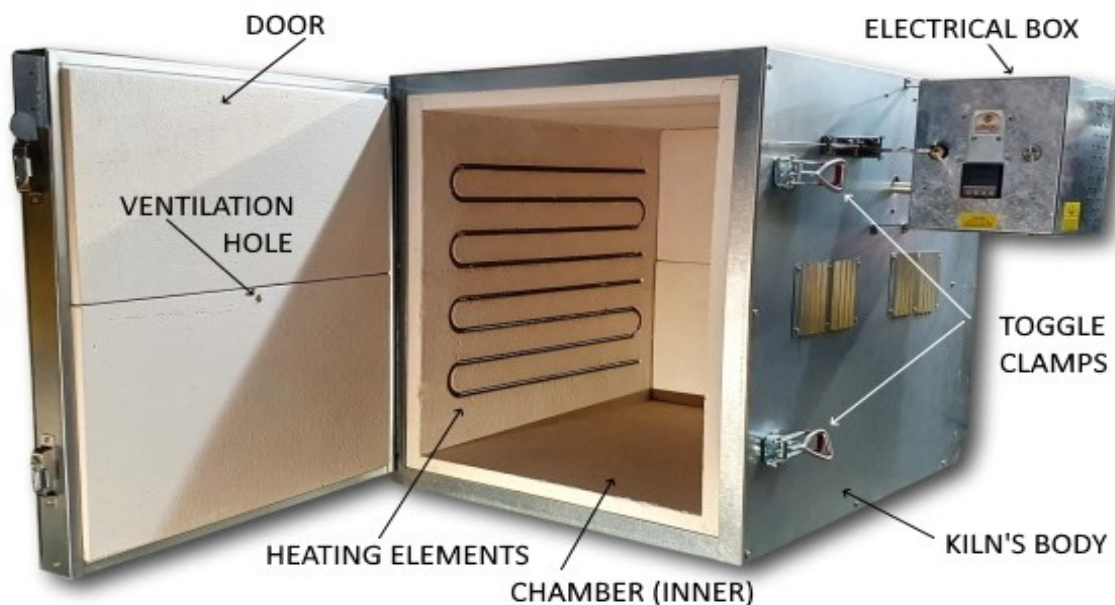
TECHNICAL SPECIFICATION:

MODEL:	R-500PWF / R500-P	CALIBRATION:	+/- 2%
INPUT ON REQUEST:	230 V +/- 10%	SOAKING PROCESS ACCURACY:	+/- 1 C
POWER:	3,400 WATT / 16A	SAFETY MECHANISM:	YES / MECHANICAL
ESTIMATED MAXIMUM HEATING TEMPERATURE:	950°C / 1,742°F	THERMOCOUPLE TYPE:	K
ESTIMATED HEATING TIME:	120 MINUTES	VENTILATION HOLES:	ON REQUEST
CONTROLLER TYPE:	32-STEP PROGRAMMABLE, TWO-LINE and/or Wi-Fi	CHAMBER DIMENSIONS MM (INCH):	500 (w) X 580 (d) X 550 (h) (20" x 23" x 22")
CONTINUOUS WORKING TIME:	8 HOURS BELOW 1,000°C — 15 MINUTES AT 1,240°C	KILN DIMENSIONS MM (INCH):	700 (w) X 750 (d) X 700 (h) (28" x 30" x 28")
HEATING ELEMENTS:	FOUR: 2 x LEFT & 2 x RIGHT	WEIGHT:	50 KG
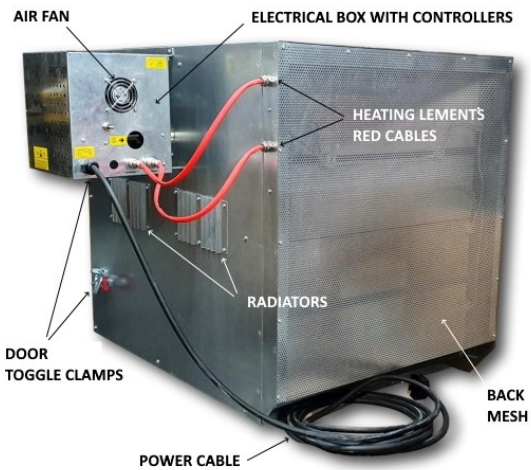
Pic. 2 (BACK VIEW)
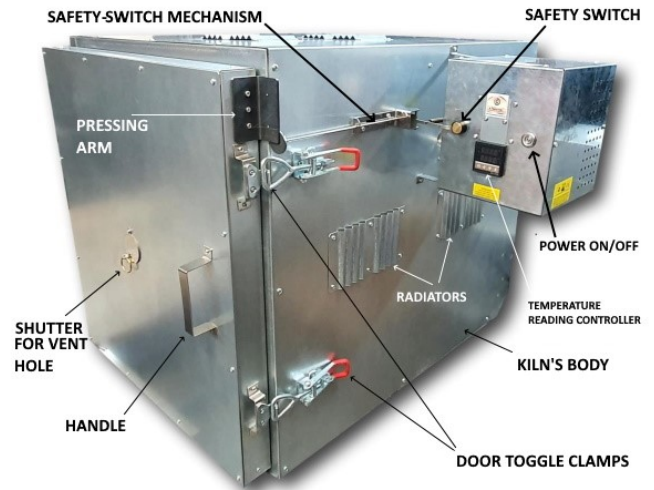
Pic. 3 (R-500PWF)

PREPARATION:

- Remove the kiln from its pallet or box and place it on a heat-resistant worktop such as a metal stand, stone plates, stones or ceramic tiles. Please note that the worktop should be very stable and be capable of safely supporting 50-70 kg of weight.

- Open the door and carefully remove all the accessories and packing material from the chamber. If not assembled yet, begin assembling the kiln by attaching the electrical box (Pic. 1, 2) to the kiln's body. To do this:

♦ Identify the electrical box (Pic. 4 for model R-500P and Pic. 5 for model R-500PWF) - it has 3 welded stainless-steel brackets and a K-thermocouple (x 2 for R-500PWF) on it.

♦ Fix the electrical box to the kiln's side by inserting the thermocouple(s) into the corresponding hole on the side of the kiln's body and screwing it in using three screws (supplied).
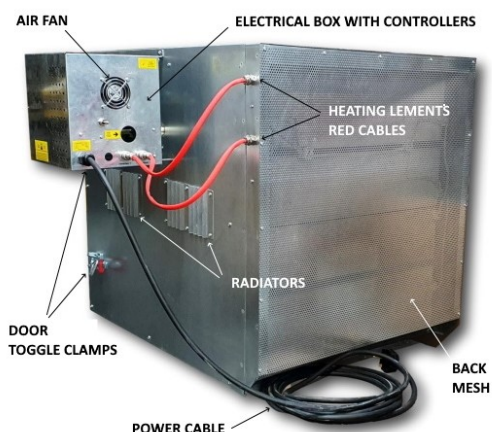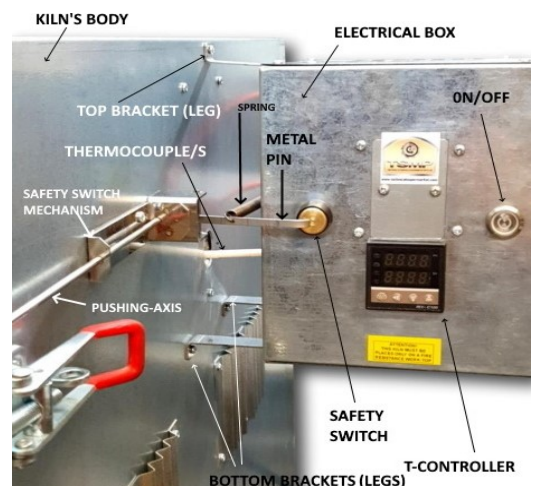
Pic. 4
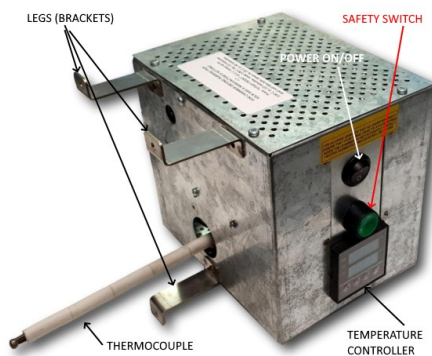
Pic. 5
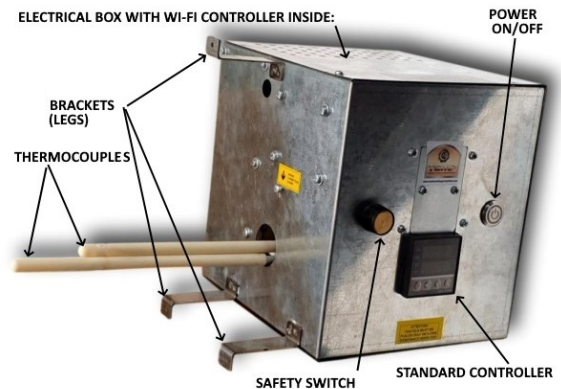
Now you can start to connect the electrical box to your kiln's heating elements using the red cables (Pic. 6) and attach the safety-switch mechanism (Pic. 7).

Pic. 6

Pic. 7

Pic. 8

- First connect both RED CABLES to their terminals on the back of electrical box as shown in Pic. 8, and tighten these using the nuts.

- Now you need to attach the safety-switch mechanism to your kiln. **PLEASE NOTE:** This mechanism is important for your safety. It will disconnect all heating elements inside the inner chamber if your kiln's door is open or is not closed properly. This is done to avoid electric shocks following accidental contact with the heating element(s), for example with metal tongs, tweezers, flasks or the item(s) being fired.

- To attach the safety-switch mechanism, take the ready-to-use mechanism from its pack and attach it to the kiln using two small screws (supplied) as shown in Pic. 9 below:

ELECTRICAL BOX (BACK VIEW):
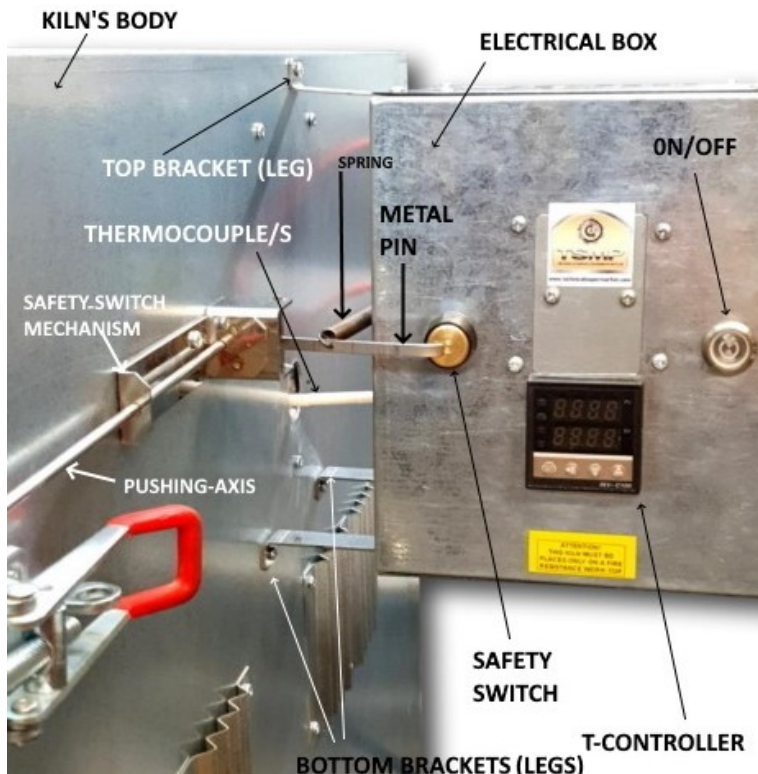
Pic. 9

Pic. 10



- Now attach one end of the tension spring (supplied) to the safety switch mechanism's metal pin (Pic. 9). Next, attach the other end to the special screw on the electrical box located on the side facing the kiln's body (Pic. 10).

- **IMPORTANT NOTE:**

After assembling, please ensure that the METAL PIN (Pic. 13) FIRMLY PRESSES on the SAFETY SWITCH when the door is OPEN and RELEASES the SAFETY SWITCH (Pic. 9) when the door is CLOSED. Please note that if this safety switch is not released when the door is CLOSED then your kiln's heating elements will remain disconnected and will not heat up. You can slightly adjust the position of the safety mechanism by loosening both its fixing screws on the kiln's body and moving it horizontally. Please ensure that the pressing arm (Pic. 3) on the door is always firmly pressing on the pushing-axis (Pic. 9) to ensure that the safety switch is released when the door is properly closed.

◆ **You can easily open or close your kiln's door using the two heavy-duty toggle clamps.**

◆ Your kiln also has a ventilation hole with a shutter on the door. You can see this in the picture on the right.
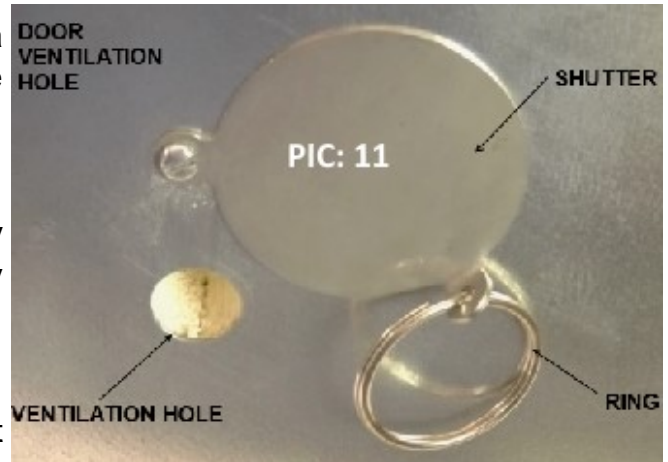
◆ Now your kiln is ready to operate. Simply connect it to the appropriate power supply using the mains cable.

◆ When using the kiln for the first time, it must be heated up to approximately 100°C (factory setting) to allow any water to evaporate from the chamber. Please do not be alarmed if light smoke and/or a smell appears (when using the kiln for the FIRST time). This is normal for new kilns as any water, grease or oils burn out from the heating element(s), shelves, chamber and from inside the kiln. It should not happen again after the first time it is heated. If your kiln is used less than once every three months then please repeat this process each time you use it.

◆ Please also note that the temperature shown on the controller is the temperature around the thermocouple(s) inside the kiln's chamber. You may have to wait up to two hours for the inside of your kiln to heat up fully and reach the same temperature everywhere inside the chamber.
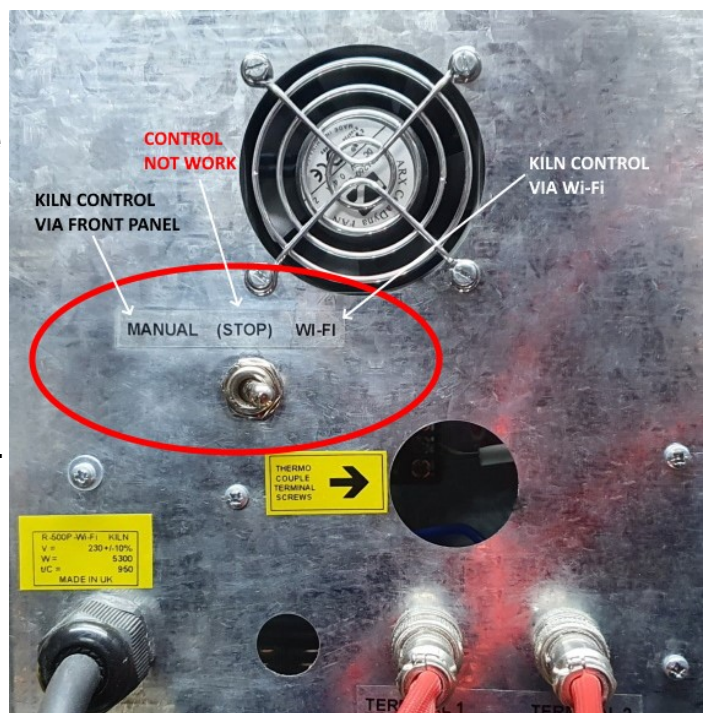
◆ Please do not forget also about switching your kiln control switch in correct position (PIC 12) :

PIC: 12

- **MANUAL (control via temperature controller on front panel);**

- **STOP (no control model choosed. Kiln out of work);**

- **WI-FI (control via internal Wi-Fi temperature programmer).**

TEMPERATURE CONTROLLER FOR R-500P MODEL (HOW TO PROGRAM):

The programmable temperature controller (XMTG-7000) has already been set up for chamber drying by the manufacturer (if you have not requested 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. Below are some useful tips for using this controller:

1.   "SET" – setting/confirmation button (used for setting all of the controller's parameters).

2.   "Arrow Left" or "A/M" – segment selector (to choose from four segments).

3. "Arrow Down" – decrease (used to set the required temperature).

4. "Arrow Up" – increase (used to set the required temperature).

Example program: Increase from room temperature up to 450°C within 99 minutes, soak at 450°C for 4 minutes and then decrease to room temperature within 145 minutes.

Example instructions:

1. Open your kiln's door to trigger the safety-switch mechanism, which will disconnect the power supply from the heating element(s) and prevent the kiln from heating up while you program the temperature controller. Alternatively, simply press button 4 for 3 seconds until you see "STOP" on the bottom display. Now you can start programming your controller.
2. Each of the following steps consists of first setting the temperature and then setting the time period in which the NEXT temperature should be reached. There are 32 available input slots each consisting of a pair of temperature and time inputs, i.e. there are a total of 32 temperature inputs alternating with 32 time inputs. To start programming, long-press (for about 3-4 seconds) the 'SET' button.
3. After you have pressed the 'SET' button, you have to set the kiln's starting temperature ("C1" on the top display's line). In this case, input the desired temperature (usually 1°C), i.e. "0001", into the BOTTOM line using buttons 2, 3 and 4. Now press 'SET' to confirm this initial temperature ("Starting point") and to proceed to the next input ("Г1"). This input is the required TIME to reach the NEXT required temperature. For this example, insert "0099" (99 minutes) into the BOTTOM display, and then press 'SET' again to set this input and to proceed to the next step.
4. The next step begins by setting the second required temperature ("C2"). To set this, insert "0450" (450°C) into the bottom display. Next, press 'SET' again to proceed to the next input ("Г2"), where you will set the required time to the NEXT temperature. In this case, this is our soaking time of 4 minutes - "0004". Press 'SET' again to confirm this time and to proceed to the next step.
5. The next step begins by setting the third required temperature ("C3"), in this case the required soaking temperature. Enter "0450" (450°C) into the bottom display again. Next press 'SET' once more to proceed to the next time input ("Г3"), which in this case will be 145 minutes. Input "0145" into the bottom display, then press 'SET' again.
6. For the next step, set the fourth and final required temperature ("C4") – "0020" (20°C as a room t.).
7. To indicate the end of the program, press the 'SET' button again, insert "0000" into the bottom display and press the 'SET' button once more. Your program will automatically finish when it reaches this last input.

A. When you have finished programming the controller, long-press (3-4 sec.) on the 'SET' or simply leave the controller for about 30 seconds when new setting to be remembered and for your job to start.

B. Close the kiln door to disconnect the safety-switch mechanism, allowing your kiln to start heating up. Alternatively, if you pressed button 4 in step 1 above, now press button 3 for 3 seconds until the word "RUN" appears on the bottom display's line.

C. Important: you'll have about 30 seconds to change EACH temperature/time setting. Please do not worry if you take too much time and the controller resets and starts displaying the current temperature inside the chamber again. Simply restart the programming process by short-pressing the 'SET' button for again. If you are a beginner and are having difficulty programming your controller, please feel free to contact the manufacturer or agent/shop for free help with this matter during the all warranty period.

D.   You can find detailed information about the controller's settings and all of its functions in the controller's user manual. We do not recommend changing the manufacturer's setting yourself (except for any programs) as this can cause the factory settings to be lost and may result in you needing to fully reset and/or re-calibrate the controller in future, which is NOT COVERED BY THE WARRANTY.

E.   **Kiln's model R-500PWF (with Wi-Fi programmable controller)** has only a digital temperature-reader (such as REX-C100) that is used only for temperature-reading purpose and do not required any pre-setting. This controller is installed to your kiln only for possibility to read current temperature when you are opposite your kiln.

<u>SAFETY INSTRUCTIONS AND USEFUL TIPS FOR BEGINNERS:</u>

⇒   Please make sure that any item(s) you place inside the chamber are not touching the heating element(s) EVEN WHEN THE DOOR IS CLOSED.

⇒   It is always best to conduct some tests on a small quantity of your firing material before you fire your item(s).

⇒   Using this kiln at temperatures higher than 900°C (for both models) may cause a problem with the heating element(s) and/or with the kiln's metal body that is NOT covered by the warranty.

⇒   This kiln must be placed on a level surface that will not be damaged by heat. A masonry or concrete floor is recommended, but other protective materials like metal or ceramic (tiles) sheets may be used. For a small additional charge, this kiln can also be supplied with a set of two shelves and a metal stand to be placed on a heat-sensitive worktop.

⇒   Always make sure that the door is closed and is pressing on the pushing-axis correctly, connecting the heating elements to the power and allowing high temperatures to be reached inside the chamber.

⇒   Always use heat-resistant gloves and long metal tweezers to remove or place item(s) from/into the kiln.

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

⇒   When the door is open at temperatures higher than 200°C (392°F), always maintain as much distance as possible between your hands/face and the hot chamber. Please also wear dark glasses to avoid any problems with your eyes.

⇒   Because of the high temperatures that this kiln can reach, you should never leave it unattended when it is in use.

⇒   Never touch the kiln's metal body and shutter on the door without gloves on as these can burn your hands.

⇒   KEEP OUT OF REACH OF CHILDREN.

WARNING: **This is an electrical, often extremely hot piece of equipment: always follow any applicable health and safety rules and regulations for electrical equipment and hot work in your country.**

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