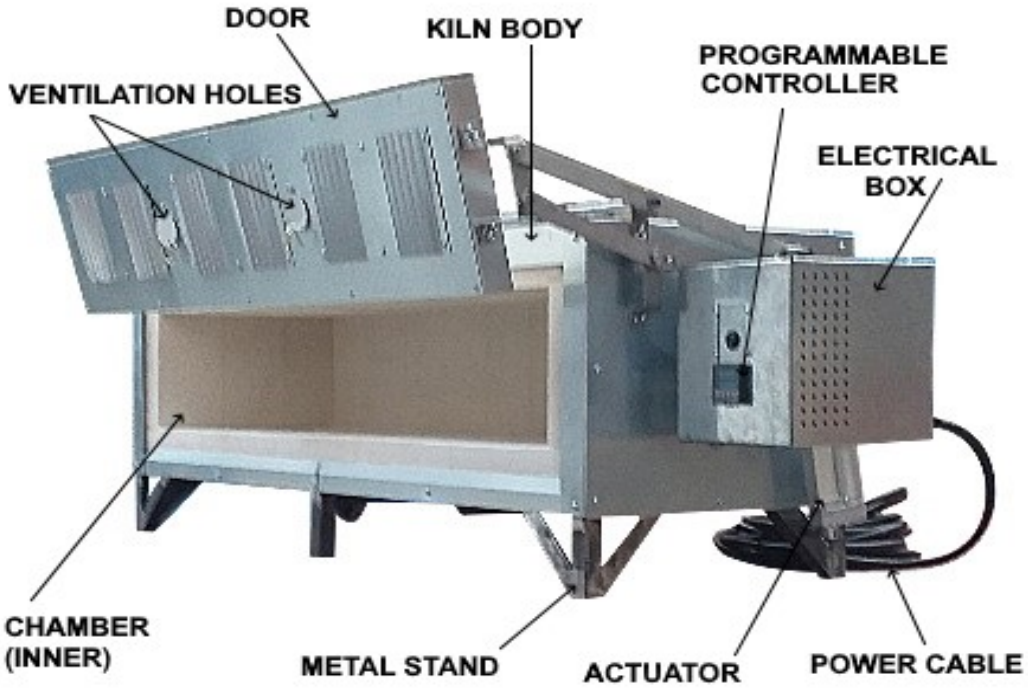
RF-1300P ELECTRIC KILN WITH REMOTE CONTROLLED DOOR - USER MANUAL

PRODUCT INTRODUCTION:

THIS RF-1300P SMART KILN IS A MULTI-FUNCTIONAL ELECTRIC MUFFLE KILN WITH REMOTE CONTROL (OPEN/CLOSE DOOR FUNCTIONS). THIS KILN HAS A 32-SEGMENT PROGRAMMABLE TEMPERATURE CONTROLLER. ITS 60 LITRE CHAMBER HAS THREE HEATING ELEMENTS AT THE TOP AND THE KILN IS SPECIFICALLY DESIGNED TO WORK WITH ALL TYPES OF MATERIALS, INCLUDING GLASS, WAXES, WOOD, METALS, CLAY, STONE, HOT ENAMEL, GLAZES AND OTHER MATERIALS WITH FIRING TEMPERATURES OF UNDER 1,300°C/2,762°F. THIS KILN HAS TWO HOLES ON THE DOOR WITH STAINLESS-STEEL SHUTTERS AND CAN BE UPGRADED IN THE FUTURE WITH A FULLY AUTOMATIC, FORCED, LASER-BASED, AIR EXTRACTION SYSTEM. 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, WHICH IS ESSENTIAL FOR MOST FIRING PROCESSES.

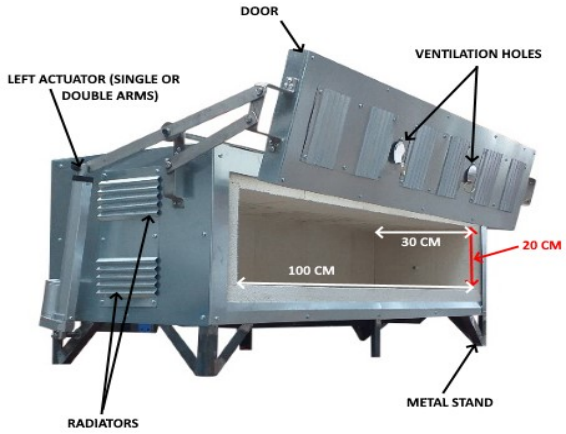
Pic. 1



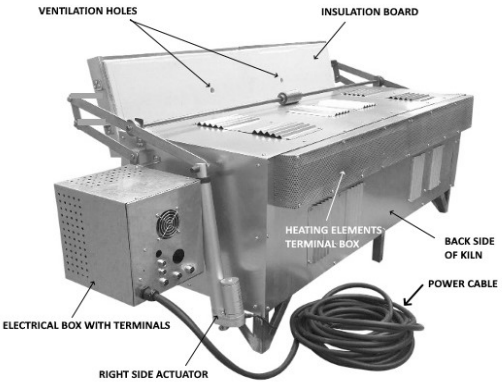
TECHNICAL SPECIFICATION:

MODEL:	**RF-1300P**	**CALIBRATION:**	**YES**
INPUT ON REQUEST:	**115, 230, 380, 400 V**	**SOAKING PROCESS ACCURACY:**	**+/- 1°C**
POWER:	**5,600 WATT**	**CHAMBER VOLUME (L)**	**60 L**
ESTIMATED MAXIMUM HEATING TEMPERATURE:	**1,300°C/2,762°F**	**AUTOMATIC OPTIONS:** **DOOR ACRUATOR 800 W:**	**DOOR OPEN/CLOSE** **X 2**
ESTIMATED HEATING TIME TO 1,300°C:	**180 MINUTES**	**HEATING ELEMENTS:**	**THREE (AT THE TOP)**
CONTROLLER TYPE:	**PROGRAMMABLE, TWO-LINE**	**CHAMBER'S INTERNAL DIMENSIONS MM (INCH):**	**1000(w) X 200(h) X 300(l)** **40" x 8" x 12"**
CONTINUOUS WORKING TIME AT 1,300°C:	**10 MINUTES**	**KILN DIMENSIONS MM (INCH) (INCL. METAL STAND, EXCL. MAIN DOOR'S ARM)**	**1500(w) x 500(h) x 550(l)** **60" x 20" x 22"**
CONTINUOUS WORKING TIME BELOW 1,000°C:	**12 HOURS**	**WEIGHT:**	**79 KG**

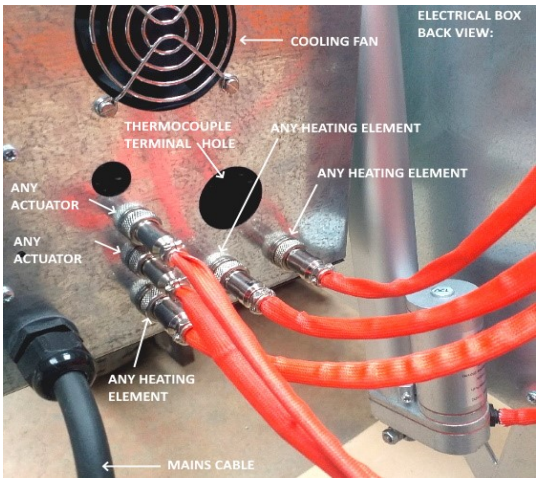
Pic. 2



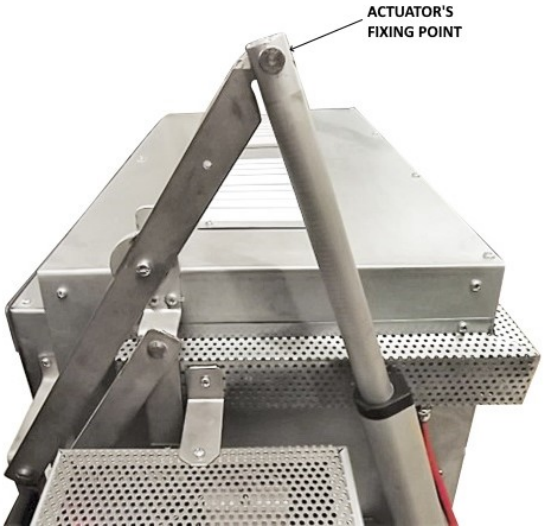
Pic. 4



Pic. 3



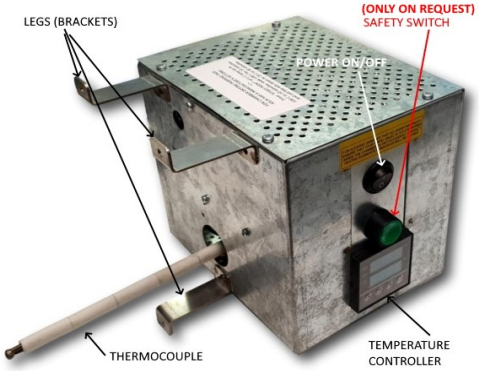
Pic. 5



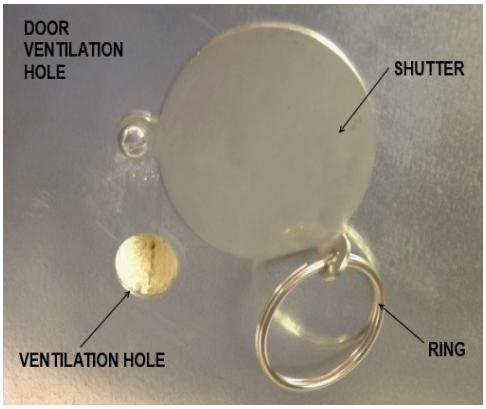
PREPARATION:

- Take the wooden box apart or take out all pallet wrap if delivered on a pallet.
- Lift and move the kiln onto a worktop that is able to hold about 150 kg of weight. Because this kiln weighs about 100 kg (with the stand) please ask for help. Do not move it alone because mechanical damages are NOT UNDER WARRANTY. Please note that this kiln was assembled together with its metal stand (Pic 2). If you have any questions about un-packing and installing this kiln please feel free to contact us by email or email us for booking a video call on Skype, WhatsApp or Zoom. One of our engineers will be glad to assist.
- Usually delivered ready-to-use (fully assembled). Just connect it to correct power supply with 32A-64A circuit breaker, program it and start your projects.

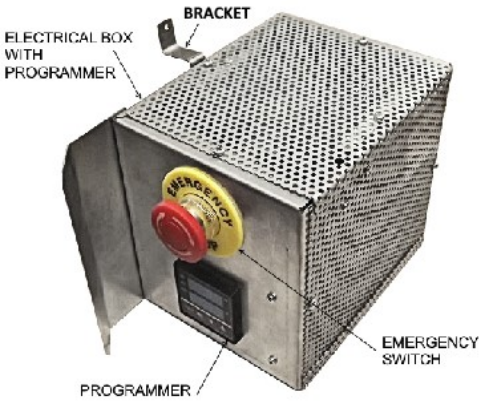
Pic 6:



Pic 7:

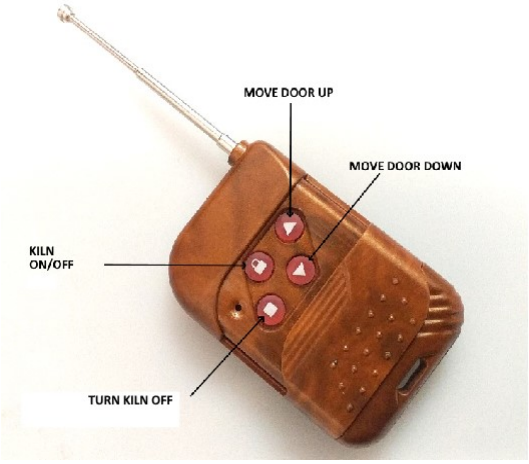


ELECTRICAL BOX:



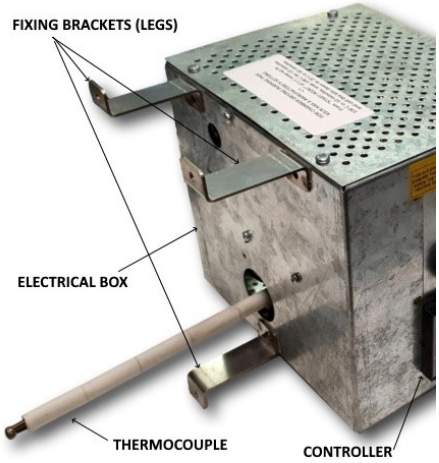
K-thermocouple:

SAMPLE REMOUTE CONTROL (FOR MODEL R310-PBC):



⇒ If it is not assembled yet, attach the K-thermocouple to the programmable temperature controller inside the electrical box. To do this take the electrical box with stainless steel brackets (top left image above) and insert thermocouple (top middle image above) into the hole at the bottom as shown on similar box on Pic. 9.

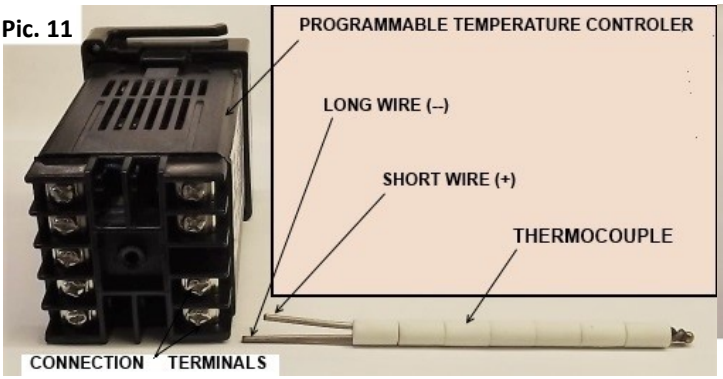
Pic. 9



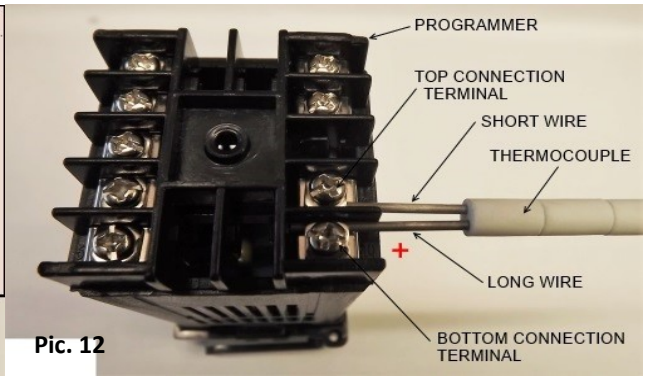
Pic. 10

Please note that your thermocouple has SHORT and LONG wires at one end (Pic. 11). The thermocouple's LONG wire should be inserted and fixed into the bottom right connection terminal and the SHORT wire should be fixed to the terminal above it, as shown on Pic. 11 and 12. You can see the two terminals and use a screwdriver through the hole shown on Pic. 10.

Pic. 11



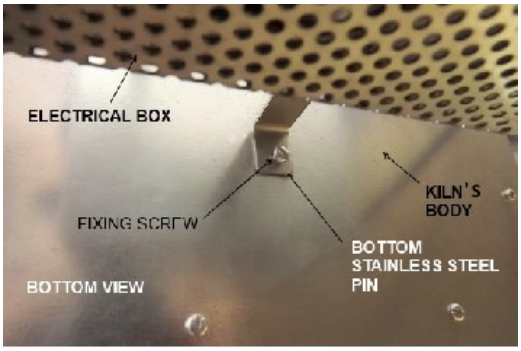
Pic. 12



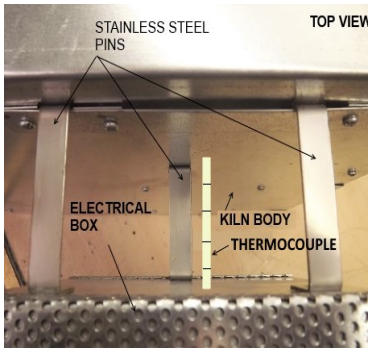
- Please ensure that the thermocouple is attached properly and correctly with the LONG wire on the bottom connection terminal, as shown in Pic. 12. This is a critical part of the programmable temperature controller; if attached incorrectly the controller will count the temperature down (incorrectly) or just display "0000" or "UUUU" on the top line, depending on the type of controller.

⇒ After you have attached the thermocouple to the programmable temperature controller you can attach the electrical box (Pic. 15) to the right side of the kiln. To do this insert the visible end of the thermocouple into the hole in the left wall of the kiln's body and attach the electrical box by screwing in three stainless steel brackets (fixers) as shown in Pic. 13 and 14.

Pic. 13



Pic. 14



⇒ When the electrical box is attached, connect all RED cables from the actuator's motor and heating elements to their terminals on the back side of the electrical box. You can see all terminals for the red cables on Pic. 3. When inserted correctly, securely tighten all round nuts on all terminals by hand.

⇒ Your kiln is now fully assembled and ready to operate. Before you will start please ensure that you have clearly understood all of the remote's functions. It can be used for turning your kiln ON and OFF or opening and closing your kiln's door from up to 30 metres away. Please remember that you do not need to press any buttons continuously; all of them are activated with a simple CLICK:

⇒ - Click the "Lock" button to turn your kiln ON or to STOP the door moving in any position.

⇒ - Click the "square" button to turn your kiln OFF.

⇒ - Click the "^" button to open the door.

⇒ - Click the "Y" button to close the door.

⇒ Please do not try to stop the door moving by pressing on the "square" button. This will disconnect the kiln from the power supply and you will have to restart your program from the beginning. To stop the door in any position press the "^" or "Y" button.

⇒ If you need to stop the heating process immediately then please use the RED emergency button. To release it later simply turn the button clockwise until you hear a "click".

⇒ Your kiln also has two ventilation holes on the door with shutters, as shown in the picture below.

⇒ Please do not be alarmed if on first firing light smoke and/or a smell appears. This is normal for new kilns as any water, grease or oils burn out from the heating elements, shelves, chamber and from inside the kiln. It should not happen again after the first time it is heated.

⇒ Please also note that the temperature shown on the controller is the temperature around the thermocouple 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.

⇒ See the next page to learn how to program the temperature controller.

TEMPERATURE CONTROLLER:

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 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, short-press the 'SET' button.
3. After you have pressed the 'SET' button, you will set the starting temperature ("C1" on the top display). In this case, input the desired room temperature (usually 20°C), i.e. "0020", into the BOTTOM display using buttons 2, 3 and 4. Now press 'SET' to confirm this initial temperature and to proceed to the next input ("Γ1"). 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 ("Γ2"), 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 ("Γ3"), 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).
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, short-press the 'SET' button or simply leave the controller for about 30 seconds for your 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.

C. Important: you'll have about 20-30 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 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 warranty period.

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.

SAFETY INSTRUCTIONS and USEFUL TIPS FOR BEGINNERS:

⇒ Please make sure that any object(s) you place inside the chamber are not touching the heating element(s) at the top.

⇒ 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 continuously for longer than 10-15 minutes at temperatures of 1,200°C+ may cause problems with the heating element(s) and/or with the kiln's metal body that are 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.

⇒ Please note that the kiln door can only be fixed in position when using the linear actuator! Manually opening the door is only allowed in emergencies. If you open the door manually please hold it securely the whole time you need to access the chamber.

⇒ Always make sure that the door is closed correctly as this speeds up the heating process and saves electricity.

⇒ If you can't turn your kiln ON check if the emergency switch is released by fully turning the RED plastic button clockwise.

⇒ Only manually open/close the door with gloves.

⇒ 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 heating devices.

⇒ When the door is open at temperatures higher than 200°C (392°F), always maintain as much distance as possible between you 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.

⇒ Disconnect the kiln from its power supply when not in use.

⇒ For a small additional charge this kiln can be also supplied with a laser-based internal automatically air extraction system.

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.

MADE IN THE UK