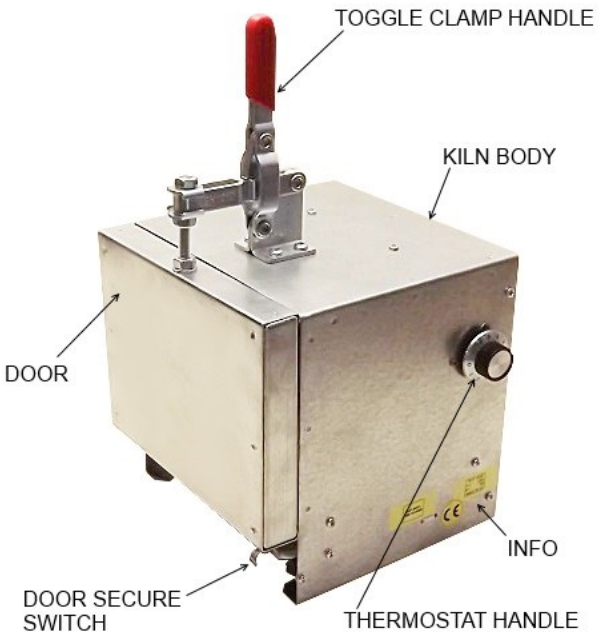
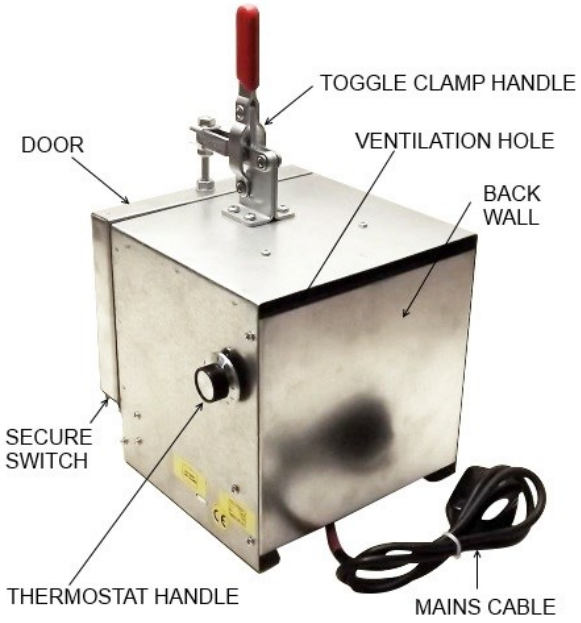
R-11 ELECTRICAL MUFFLE KILN USER MANUAL

PRODUCT INTRODUCTION:

R-11 kiln with a thermostatic temperature regulator is especially designed for scientific experiments to work with estimated firing temperatures up to 950°C/1742°F. You can use it also to heat up small pieces of glass, metals or clays (with firing temperature below 950°C (1742°F)) and to work with enamels. This kiln can be used also with other materials that should be heated using short-time process at 800°C (1472° F) or less. The R-11 kiln has also one ceramic non-asbestos tile and a secure under-door switch that disconnect power supply from heating element if the kiln is open or door closed not properly.

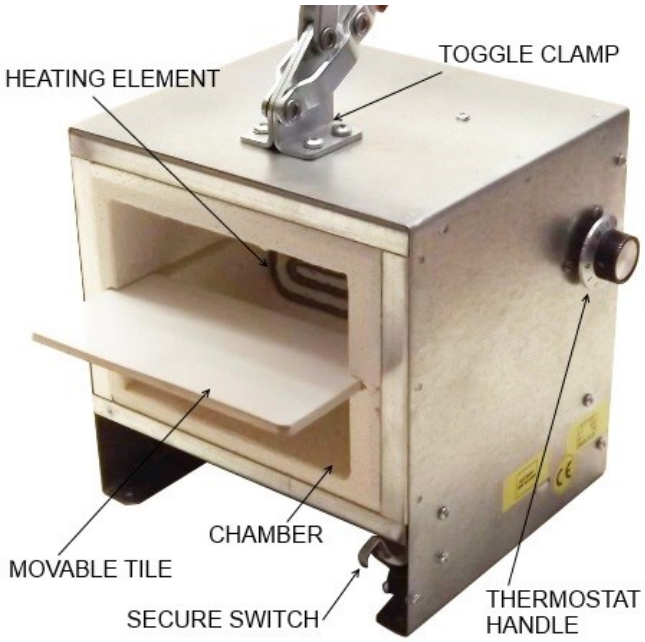


Pic:1 FRONT VIEW:

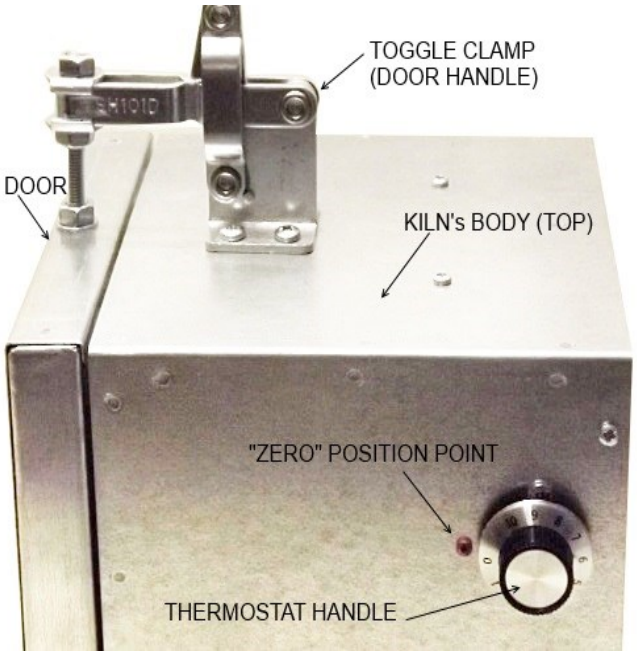


Pic: 2 BACK VIEW:

MODEL:	**R-11-2016**	**SHELF (PLATE)**	**ONE, MOVABLE TILE**
INPUT:	**115/220/240V ON REQUEST**	**ACCURACY:**	**+/- 5%**
POWER:	**750 WATT**	**THERMOSTATIC T-REGULATOR:**	**250-23-1CB 1-10 POINTS**
ESTIMATED MAXIMUM HEATING TEMPERATURE:	**950 C / 1742 F**	**TEMPERATURE RANGE OF SHORT HEATING PROCESS:**	**20-800 C (68-1472 F)**
ESTIMATED HEATING TIME TO 950 C:	**50 MINUTES**	**EST. TEMPERATURE RANGE OF LONG HEATING PROCESS:**	**900-950 C (1652-1742 F)**
MATERIAL OF CHAMBER:	**MUFFLE (STD-23)**	**DIMENCIONS OF CHAMBER (MM)**	**135(w) X 90(d) X 100(h)**
INSULATION MATERIAL :	**CERAMIC WOOL**	**DIMESIONS OF KILN (MM)**	**200(w) X 220 (d) X 350(h)**
CONTINUOUSLY WORKIN TIME:	**8 HOURS**	**WEIGHT:**	**4.7 KG**



PIC: 3



PIC: 4

PREPAIRING FOR WORK:

- Remove the kiln from its original box/s.

- Put the kiln on a heat-resist work-top such as masonry, concrete, metal or ceramic tile.

- Now switch the kiln ON. When the kiln is used for the first time it must be heated up for approximately 3-5 minutes (thermostat regulator is on position '3') to allow water to evaporate from the chamber. Otherwise there is a risk of causing cracks to the chamber. Let the kiln cool down in full before start your works. Please do not be also alarmed (when the kiln is in use for the first time) that light smoke or/and smell appears. It is a normal process for each new kiln as all water, grease and oils burn out from the heating element, shelves and 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 heating process each time the kiln is used.

- Now place a piece of material you will work with into the chamber and close the door properly.

- Start to do required tests to find a correct temperature (thermostat handle position PIC .4) for your materials.

- If this kiln is not in work - switch it OFF by moving the thermostat handle on ZERO position.

THE APPROXIMATE TEMPERATURES INSIDE CHAMBER ON A SHORT-TIME HEATING PROCESS:

POSITION OF POINTER:	MINIMUM (T = C / F)	MAXIMUM (T = C / F)
2	120 / 248	700 / 1292
4	220 / 428	750 / 1382
6	300 / 572	800 / 1472
8	400 / 700	850 / 1292
10	500 / 832	900 / 1560

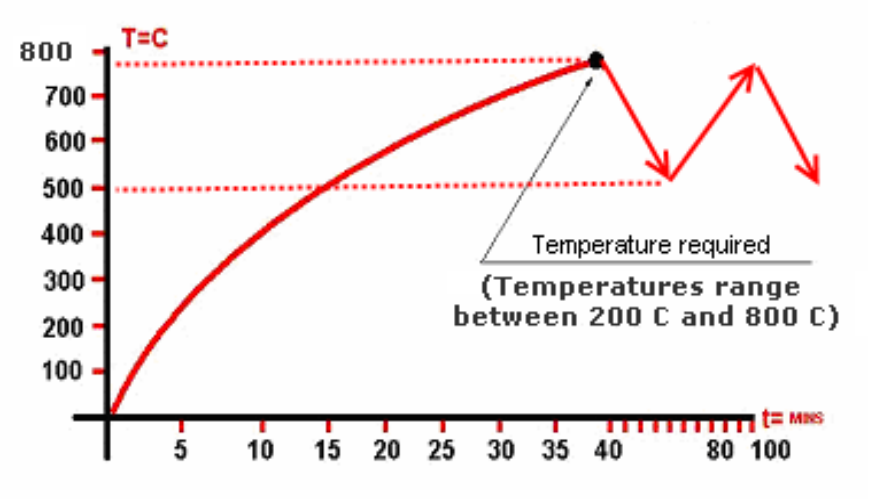
NOTE: WE HIGHLY RECOMMEND ALWAYS MAKE SOME TESTS WITH EACH TYPE OF MATERIAL YOU WILL FIRE INSIDE THIS KILN TO GET A CORRECT TEMPERATURE SETTING BEFORE START YOUR WORKS.

HEATING PROCESSES:

SHORT-TIME HEATING PROCESS: when the kiln will automatically switched OFF by thermostat as soon as a required temperature inside the chamber will be reached. When the temperature inside the chamber will drops down in, approximately, in half than the thermostat automatically will switch this kiln ON again to reach again the required top temperature.

This process is widely used for heating many types of sensitive materials like bio-plastics, waxes, wood, some cements and other type of materials where heating temperatures are critical such us for drying cements, hardening some types of metals or for silver surface treatment.

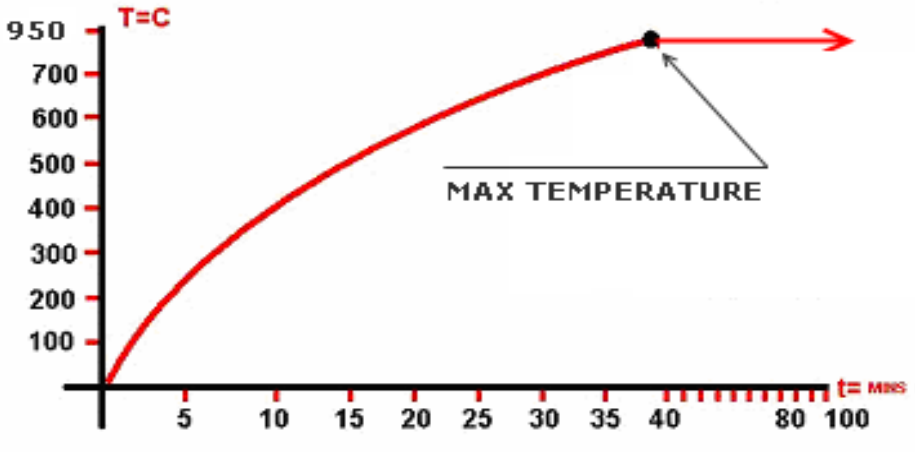
SHORT-TIME HEATING PROCESS CHART (SAMPLE):



LONG-TIME HEATING PROCESS: when the kiln will reaches its highest possible temperature and hold it as long as you need until you will switch it OFF the kiln or move the thermostat's handle around to pre-set a different temperature.

With the long-time heating process this kiln is fully suitable for work with most popular types of metals, high temperature enamels and clays with firing temperatures below or about 950°C (1742°F). The kiln can be used also with other materials that should be heated continuously on high temperature. In this model of kiln the long-time heating process can be easily changed to short-time heating process and back at any time by a small screw inside the thermostat's handle - PIC 4 (more information about how to do it is provided bellow).

LONG-TIME HEATING PROCESS CHART (SAMPLE):



CHANGING TYPE OF HEATING PROCESS:

The kiln is already settled by manufacturer to the SHORT-TIME heating process. If you want to use your kiln continuously (LONG-TIME heating process) you will require to re-set the thermostatic temperature regulator for this type of heating process your self. For this:

1. Disconnect this kiln from a power supply.

2. Turn the thermostat handle (PIC 4) on ‘0’ position.

3. Unscrew small screw on the handle and take it out from the thermostat’s metallic axis.

4. Find a 5 mm hole in the centre of the thermostat’s axis with a small screw inside and turn this screw two rounds **ANTI-CLOCKWISE** using a small FLAT screwdriver.

5. Now this kiln will heat up to a maximum possible temperature and will stay at that temperature until this kiln will be disconnected from its power supply manually (ZERO position of thermostat’s handle) or you will repeat this process and move the small screw inside the thermostat’s axis two rounds **CLOCKWISE** to return to the SHORT-TIME heating process.

IF YOU HAVE LOST THE SETTING:

1. Turn the thermostat’s handle to “0” position.

2. Unscrew the thermostat’s handle and take it out from the thermostat’s axis.

3. HOLD the thermostat’s axis by fingers (pliers) on “0” position and fully unscrew the small screw from inside of the axis.

4. Now start to screw it IN again until light “click” will be heard of you can feel it by fingers. Fix pointer (handle) back on its correct position (“0”) . Now your kiln is ready to work with SHORT-TIME heating process again.

NOTE:

You can switch 'OFF' the kiln at any time by turning the thermostat’s handle anti-clockwise to the '0' position. In order to increase a temperature, for example, to 800°C (1472°F) - turn the regulator clockwise (up to maximum position '10'). Please note that this non-linear thermostatic regulator starts to regulate temperatures only when the kiln reaches minimum approximately 200°*C* (392°F).

DELIVERY SPECIFICATION:

R-11-950C electrical muffle kiln;

One ceramic tile as a shelf;

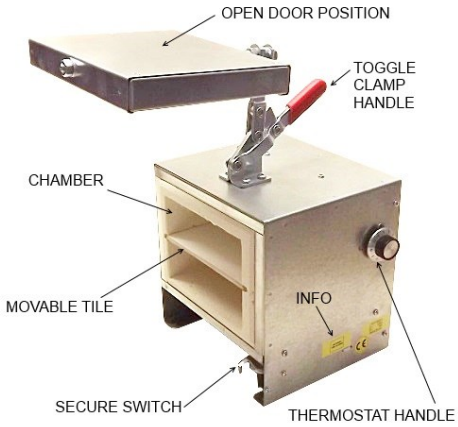
User manual with useful information on DVD;

One year manufacturer warranty.

SAFETY INSTRUCTIONS and USEFUL TIPS FOR BEGINNERS:

- The model has a secure switch under the door that will immediately disconnect the kiln from the power source if the door is opened. Please always ensure that metal strip of this switch is under the door and NOT pressed between the door and body of kiln.
- Always keep your hand in glove on the red handle when the door is OPEN so that the door does not shut instantly! (PIC 5 below).

PIC 5



When you place an object inside the chamber please make sure that it is doesn't touch the heating element. It will be very useful also if you will do some tests on small quantity of firing material you will use to get a correct position of the thermostatic controller BEFORE start your works.

- DO NOT lift up this kiln by the red handle.
- The kiln should 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 a metal or ceramic (tiles) sheet may be used.
- ALWAYS use heat resistant gloves and correct tweezers to remove firing objects from the kiln. This kiln should be kept away from all inflammable materials.
- NEVER LEAVE this kiln UNATTENDED when it is in use because of the high temperatures it can reach.
- KEEP OUT OF REACH OF CHILDREN.
- Make sure that the door is closed properly to speed up the heating process and to reach high possible temperature inside the chamber.
- When it is not in use please disconnect the kiln from a 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.

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