

DryRod[®] Ovens

Operating Instructions

Type 750HT Flux Rebaking Ovens

- Variable high temperature allows for rebaking and reconditioning of flux
- Programmable temperature profile with digital display



Part No.	Description	Temperature Range*	Insulation	Chamber Size	Capacity (for 18" electrodes)	Weight	Dimensions
Type 750HT Series Ovens							
1201802	3/240V AC at 6000 watts	100° - 800°F (38° - 425°C) +/-25°F (14°C) with programmable digital controller	4" fiberglass	8.6 cubic feet (0.24 cubic meters) hopper	680 lb (308 kg) of granulated flux	740 lb (336 kg)	63" x 38" x 58" (160.0 x 96.5 x 147.3 cm)
1201801	3/480V AC at 6000 watts						

* Operation on Direct Current (DC) will damage oven and void warranty. Average stabilized temperature at 70°F ambient temperature.

Product Description

! CAUTION

- **Disconnect power and make sure oven is cooled before opening or servicing unit.**
- **Hot Surfaces! Use extreme care to avoid possible burns or personal injury. Protective gloves and personal protective equipment are recommended.**

Installation

This oven was crated and packaged for long-distance shipment. Exercise care in removing the oven from the wooden crate.

After oven is in final location, anchor as required, open the oven door and remove packing material, manuals and loose parts.

Wiring

Check type and voltage on nameplate.

750HT (3/240V AC only)

750HT (3/480V AC only)

For 240V Wiring

Connect to a 240V, 50/60 cycle, 3 phase power source. Conduit openings (1/2") are provided in the wiring compartment for this purpose. A three-pole disconnect switch should be provided since there is no power switch in the oven itself. Use 30-amp fuse. A schematic diagram of internal wiring follows.

For 480V Wiring

Connect to a 480V, 60 cycle, 3 phase power source. Conduit openings (1/2") are provided in the wiring compartment for this purpose. A three-pole disconnect switch should be provided since there is no power switch in the oven itself. Use 15-amp fuse. A schematic diagram of internal wiring follows.

Amp Draw

Ovens operating on 240 AC voltage draw 25 amps. Those operating on 480 AC voltage draw 12.5 amps.

Grounding

The 750HT ovens have a grounding lug in the upper control box.

Operation

1. A. Start-up (switch in "OFF" position)
2. Turn on power to the oven.
3. If red light is on, push the reset button to reset high limit control.
4. Set temperature controller at desired temperature by pressing the UP/DOWN keys and then pressing ENTER.

Description of Controls

The controller in this oven is a full-indicating, PID (proportional, integral, derivative) controller using a Type J thermocouple sensor. The controller is factory set for optimum performance accuracy with a 400 pound load at maximum temperature.

The high-limit control is a mechanical device with on-off control action. The high-limit control will shut down the oven heat when the oven temperature reaches the high-limit set point. In order to regain power to the heating elements, the oven must cool down below the high-limit set temperature.

Controller

If any adjustments are required, they should be done by a qualified person with the aid of the instructions contained in this manual or the Original Factory Setting Guide (available upon request from Phoenix International). All instruments are fully tested and adjusted for optimum performance prior to shipping the oven. If the settings are lost for some reason, contact Phoenix International for the PID Controller Original Factory Setting Guide.

Temperature Settings

Excess Heat: At maximum setting, the actual temperature in portions of the oven near the heating elements may exceed the upper range.

Guide to Storage

Flux should be stored according to flux supplier recommendations. In the absence of storage information from your electrode manufacturer, please reference Phoenix's Guide To Electrode and Flux Stabilization for approximate temperatures, found at www.dryrod.com/guide.

Troubleshooting

! CAUTION

- **When replacing heating elements, always replace both elements. Pairing of one new element with an old element may cause rapid failure of old element.**

Oven Fails To Operate: No Heat

1. If the indicator lights and controller do not illuminate, check power supply. Manual reset of the high temperature limit switch may be necessary.
2. If indicator lights still do not illuminate, check indicator lights for continuity. See Repair Parts drawing for access details. If defective, replace indicator lights.
3. If power is being supplied to the oven, but not the controller, check the transformer.
4. If power is being supplied to the controller, but there is no heat, check the relay, contactor, switch and high limit control for proper operation.
5. If proper voltage is being supplied to the oven and all other equipment is functioning properly, reset the controller and reprogram with factory settings.
6. If controller, switch and contactor operate satisfactorily, check continuity of heating elements. Failure of one element may cause slow and/or uneven heating.
7. Remove oven from power source. Replace all elements.

Oven Operates: Overheats

1. Check controller operation as in Step 4 (Oven Fails to Operate: No Heat).
2. Check contractor, relay and wiring.

Oven Operates: Temperature Setting "OFF"

1. Check contractor, relay and wiring.
2. Check controller operation as in Step 4 (Oven Fails to Operate: No Heat).

Recommended Spare Parts

For users of large DryRod oven quantities or users not in North America:

For normal daily operation, the following spare parts and quantities are recommended to have inventoried.

Item No.	Spare Part Description	Part No.	Recommended Quantity per 10 Ovens
1	Heating Element Kit (240/480V)	1257145	1
2	Controller	1257110	1

Controller Programming Instructions

NOTE

- Unit is shipped with controller programmed for single temperature (in degrees Fahrenheit) operation. Up to 8 ramp/soak control programs are able to be programmed.
- Please see included insert for ramp/soak programming details

Initial Setting

From the initial setting menu temperature, units, control mode and ramp/soak operations can be accessed. To access initial setting mode, press and hold the ENTER key for at least three seconds. Parameters can then be cycled through by pressing the INDEX (loop) key.

Select Input Sensor Type

Access initial setting menu until PV line displays InPt, press DOWN arrow until J is displayed, press ENTER to accept setting. After changing input sensor type, you will be returned to the main screen.

Select Temperature Unit

Access initial setting mode and press INDEX key until PV line displays tPUn. Press UP/DOWN arrows until desired unit is selected. Press ENTER to accept change.

Control Mode

From initial setting mode press INDEX to CtrlL. Default from factory is ON/OFF control mode. Ramp/Soak profiles can be accessed here as well.

Heat/Cooling Mode

This selects heating or cooling operation. Set to HEAT.

Alarm Settings

Up to three alarms may be set for various conditions.

SALA

The System Alarm Setting selects which alarm output is used if a system alarm occurs. The system alarm would be in Input Error or Process Control Failure. This feature can be disabled by turning this parameter to off.

The following set of functions deal with RS-485 communications and can be found in the controller operating manual. For the full controller manual, please contact Phoenix International.

Temperature Controller

#4 - T/C INPUT, (+), TO WHITE WIRE

#5 - T/C INPUT, (-), TO RED WIRE

#1 - RELAY CONTACT 1

#2 - RELAY CONTACT 2

#12 - 120-240V, N

#11 - 120-240V, L

How to Set Temperature

If temperatures are not displayed, press ENTER key. The top line displays the Process Value or the current temperature inside the oven. The bottom line displays the Set Value or the desired temperature setting. To change the Set Value, press the UP or DOWN keys until the desired temperature is displayed and press ENTER.

Security Features

The controller has two built-in security locks to prevent unauthorized personnel from modifying parameter settings.

The LoC1 setting affects all parameters of the controller. If LoC1 setting is enabled, the operator will have to unlock the controller to make any changes to the controller parameters.

The LoC2 setting affects all parameters with the exception of the set point. If LoC2 setting is enabled, the only parameter that the operator will be able to change is the set point. In order to change any other parameters, the operator will have to unlock the control before making a change.

To unlock the control, the operator must depress the ENTER and INDEX keys simultaneously.

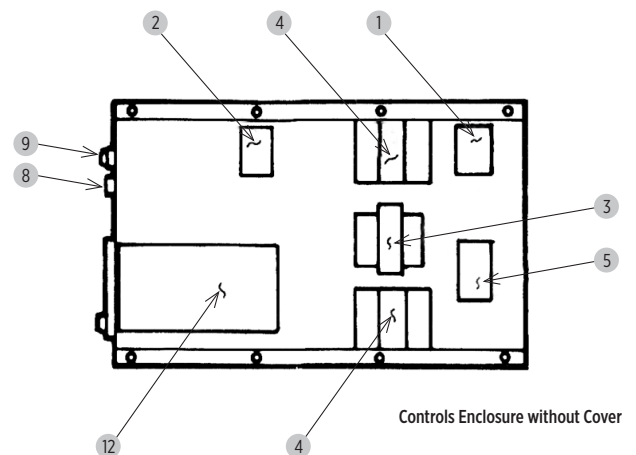
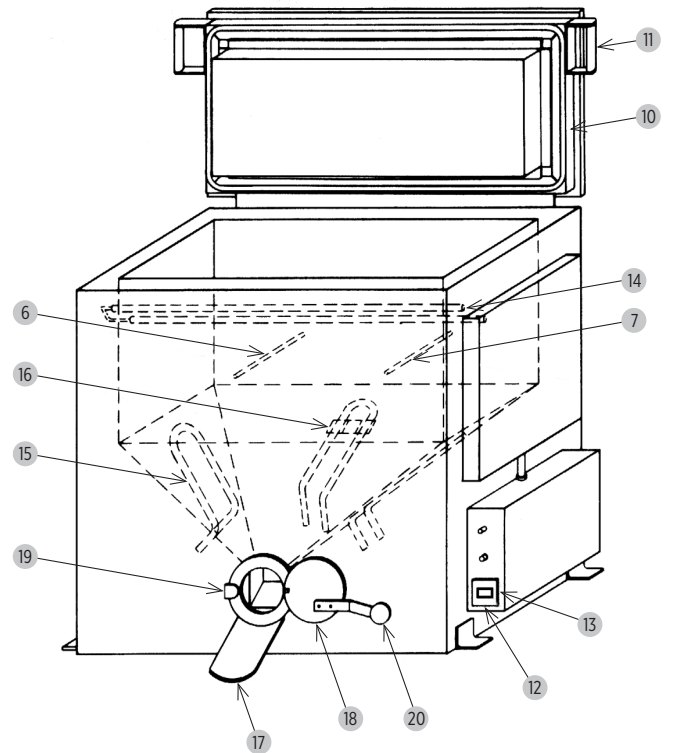
To access the Lock control setting, press the INDEX key twice from the main temperature display.

Replacement Parts

Ordering Information

To order spare or replacement parts, visit our website: www.dryrod.com. When ordering, please confirm that you are ordering parts for the correct oven.

Item No.	Description	Qty	Part No.
1	Fuse Block	1	4345700
2	Relay	1	4306500
3	Transformer	1	4340100
4	Contact	1	4343300
5	Terminal Block	1	4343900
6	Temperature Limit Switch	1	4312000
7	Thermal Element	1	4306000
8	Reset Switch	1	4311900
9	Red Indicator Light	1	4603200
10	Lid Gasket	1	2502500
11	Plastic Handle	1	2502300
Controller Kit			1257110
12	Controller	1	
13	Adapter Plate	1	
Heating Element			1257145
14	Heating Element	9	
15	Heating Element	3	
16	Heating Element Clamp	6	
Valve Kit			1257155
17	Trough Assembly	1	
18	Gate Assembly	1	
19	Gate Cam	1	
20	Plastic Hand Knob (with stud)	1	



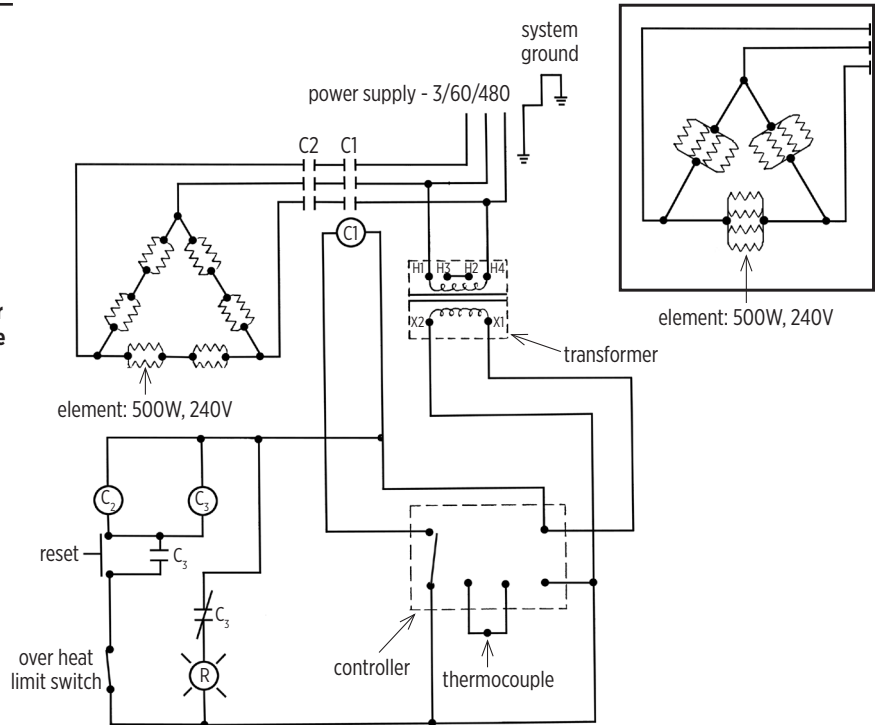
Wiring

CAUTION

- All wiring should be done by a licensed electrician in accordance with state codes, local codes, and National Electrical Code (NEC) or International Electric Commission (IEC) standards.
- Improper installation or use may result in serious injury.
- Always remove oven from power source before troubleshooting or repairing.
- Disconnect power before opening or servicing unit. Make sure oven is cooled before opening or servicing unit.
- Hot Surfaces! Use extreme care to avoid possible burns or personal injury. Protective gloves and personal protective equipment are recommended.

Note: Jumper wires must be installed outside of insulation.

Thermometer probe wire (not shown) must be installed outside of insulation.



Guide to Electrode & Flux Stabilization

Eliminate expensive rework and protect welding profits!

This guide explains proper storage and oven holding temperatures:

- Recondition/rebake procedures for electrode coatings exposed to moisture are included.
- Remove electrodes from cardboard containers before placing in ovens.
- Electrode coatings should not be exposed to the re-baking temperature without first being reconditioned at a lower temperature. Failure to do so may result in breakdown of electrode coatings. After re-baking, lower temperature to holding level until reissued.

Download your guide at www.dryrod.com/guide.

Warranty

Phoenix Ovens International LLC warrants its products against defects in material and workmanship. The company will, at its discretion, repair or replace any properly installed Phoenix International manufactured product which fails under normal operating conditions within one year from date of receipt. Contact the factory for return authorization before returning the product to Phoenix International freight prepaid. If our inspection confirms that the product is defective under terms of this warranty, it will be repaired/replaced and returned freight prepaid.

This warranty applies only to products sold by Phoenix International, Inc. and specifically excludes installation or de-installation labor, transportation or equipment of another manufacturer used in conjunction with Phoenix International products. No other warranty, expressed or implied, exists beyond this warranty declaration.

Phoenix constantly strives to improve its products and therefore reserves the right to change design, materials and specifications without notice.