



**Electrode Stabilizing**

# DryRod® Ovens

## I. OPERATING INSTRUCTIONS FOR TYPE 900 SERIES ELECTRODE STABILIZATION OVENS

SHOP OVENS - TYPE 900 SERIES

Type	Part #	Description - (All 50-60 cycles)	Temp. Range**	Insulation	Chamber Size	Capacity	Net Weight & Dimensions	Ship Weight & Dimensions
900/240-480	1200300	240-480V AC* @ 2400 watts w/ 10' Grounded HD cord-No Plug	100° to 550°F (38° to 288°C) +/- 25°F (14°C) Adjustable Thermostat Control with Indicator Light	2" (5cm) Glass Fiber Batt	30" dia. x 27" deep (77 dia. x 69cm deep)	1100 lb. (500kg) of 18" (45.7cm) electrodes. Accepts electrodes up to 24" (60.9cm)	228 lbs. (103Kg) 36" x 36" x 36" (90 x 90 x 90cm)	327 lbs (148Kg) 43" x 43" x 45" (109 x 109 x 114cm)

\*Operation on Direct Current will damage oven and void warranty

\*\*Average Stabilized Temperature @ 70°F Ambient Temperature



### Accessory Note

A door mounting Thermometer Kit is available for use with all Type 300 & 900 ovens, new or old. Easily installed in the field (Order Part # 1250300). Factory installation available with original order (Order Part # 1250301). This thermometer indicates internal temperature range of 100° to 500°F. The thermometer accuracy specification is +/- 10°F. Product accuracy testing is conducted using standards traceable to the N.I.S.T., USA.



## **II. OVEN TYPE DESCRIPTION**

### **Wiring**

Check type and voltage on nameplate.

Type 900 Models 9, 9A, 9B, & 9C (240/480 volts AC only) single phase draws 10 amps on 240V power, 5 amps on 480V power.

**\*Note:** 240/480 volt models are wired at the factory for 240 volts. For 480 volt use, change heating element jumper connections. Provide a plug cap of the corresponding voltage rating for connection to the power supply.

### **Grounding**

The 240/480 volt ovens have a 10 foot power supply cord. When used with a grounding plug cap and a grounded receptacle, these ovens meet all local code requirements.

### **Electrode Placement**

Your DryRod® oven has removable divided shelves to allow storage of more than one group of electrodes. Avoid treating EXX10 or EXX11 types at the same time with EXX15, EXX16 and EXX18 electrodes as their holding temperatures vary widely. Spread the electrodes evenly, allowing space over each shelf for air circulation required to remove excess moisture. 5" is the maximum suggested layer depth on any shelf.

### **Guide to Storage**

In the absence of detailed storage information from your electrode manufacturer, the "Revised Guide To Electrode Storage" (available from Phoenix International, Inc.) may be used as an indication of approximate temperatures for use of the oven. For Specific information involving critical operations be sure to contact your electrode manufacturer for complete information.

### **Venting**

For normal holding operation set easily adjusted vent on the door about ¼ open.

**\*\*CAUTION\*\***

**All wiring should be done by licensed electricians in accordance with local codes. Improper installation or use may result in serious injury. Always remove oven from power source before troubleshooting or repairing.**

**II. OVEN TYPE DESCRIPTION (cont.)**

**Temperature Setting**

Temperature range is 100°F (38°C) to 550°F (288°C). The Thermostat Dial (at rear of oven) is calibrated from 100° to 550°F. Required oven temperature setting is obtained by rotation of Dial to line up desired temperature with indicator light in the thermostat housing. Thermostat component name is Robertshaw thermostat 5300 series.

The indicator light operates only when voltage is applied to the heating elements. Momentary rotation past desired temperature setting may be necessary to activate the indicator light in order to locate it for indexing purposes.

Thermostat is accurate to  $\pm 25^{\circ}\text{F}$  ( $14^{\circ}\text{C}$ ) at the sensing bulb, however, temperature may vary slightly at different areas in the oven chamber since this is a convection type oven. For more uniform and accurate temperature control, a re-circulating power blower type of oven is required. (We suggest Phoenix Type 400BT High Temperature Oven).

**Warning**

Excess Heat: At the maximum setting, the actual temperature in portions of the oven near the heating elements may reach approximately 660°F (349°C). Temperatures over 550°F (288°C) are not recommended. They may cause oven damage and/or unacceptably high exterior surface temperatures.

**Repair - Spare Parts**

Enclosed with these instructions are wiring diagrams and a repair parts list for your oven. For critical welding operations requiring continuous holding we would suggest carrying all of the parts listed in the "Suggested Spare Parts Section" of these instructions.

### **III. TROUBLESHOOTING - TYPE 900 OVENS**

#### **OVEN FAILS TO OPERATE - NO HEAT**

1. If oven indicator light will not illuminate, check power supply.

2. Check plug at outer end of power cord and run continuity check on complete power cord. If defective, replace cord assembly.

3. Check indicator light for continuity (see Repair Parts drawing for access details). If defective, replace indicator light.

4. Check thermostat at rear of oven. If indicator light illuminates, power is being supplied through thermostat to dual heating elements. Turn knob from low to high setting and return. Definite "snap" should be heard at low temperature end and indicator light should turn off and on with each "snap" cycle. If "snap" is not heard and indicator light fails to operate, replace entire thermostat. (See Repair Parts Sheet and "Suggested Spare Parts").

5. If thermostat operates satisfactorily, check continuity of dual hairpin style heating elements at bottom center of oven. (see Repair Parts drawing for access details). Failure of one element will prevent oven operation on 480 volts. If operating on 120 or 240 volts failure of one element will cause very slow heating.

Remove oven from power source. Replace BOTH elements. Pairing of one new element with an old element may cause rapid failure of old element.

#### **OVEN OPERATES - OVERHEATS**

Check thermostat operation as in number 3 (Oven Fails To Operate - No Heat) and number 2 (Oven Operates - Temperatures Setting Off).

#### **OVEN OPERATES - TEMPERATURE SETTING "OFF"**

1. Check thermostat operation as in number 3 (Oven Fails To Operate - No Heat) and number 2 (Oven Operates - Temperature Setting Off)

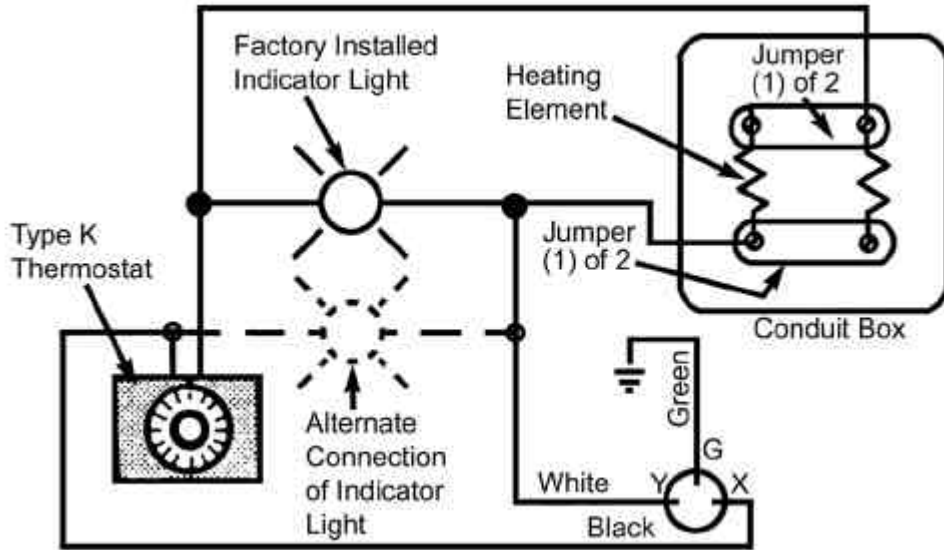
2. If thermostat operates satisfactorily, recalibrate per thermostat calibration adjusting sheet.

#### **DOOR WILL NOT CLOSE PROPERLY**

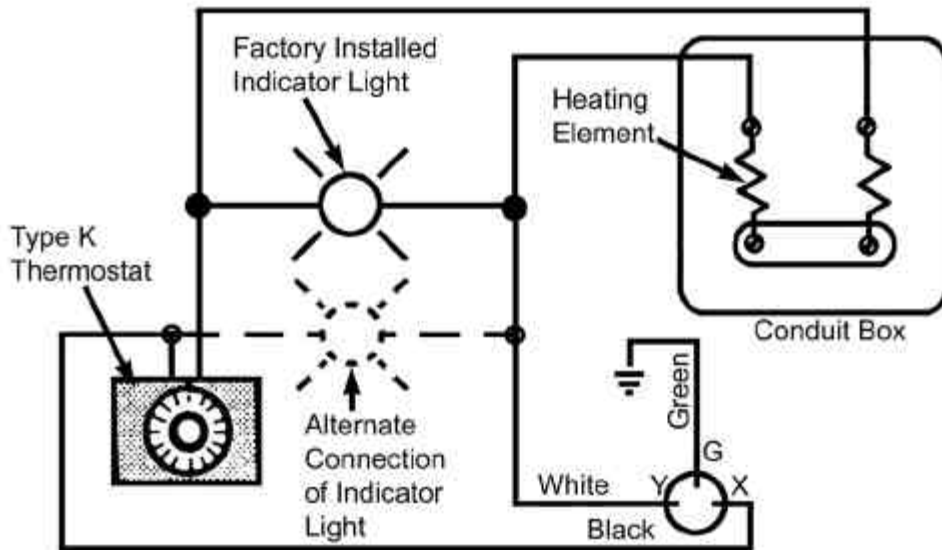
1. Use screwdriver to adjust door latch (No.2 on Repair Parts drawing - front view).

2. If latch is broken, replace. Order spare Part No. 1252200, door latch and strike.

**TYPE 900, 120 & 240V WIRING DIAGRAM**

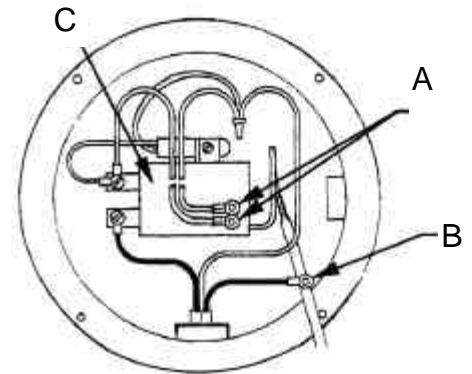


**TYPE 900, 480V WIRING DIAGRAM**



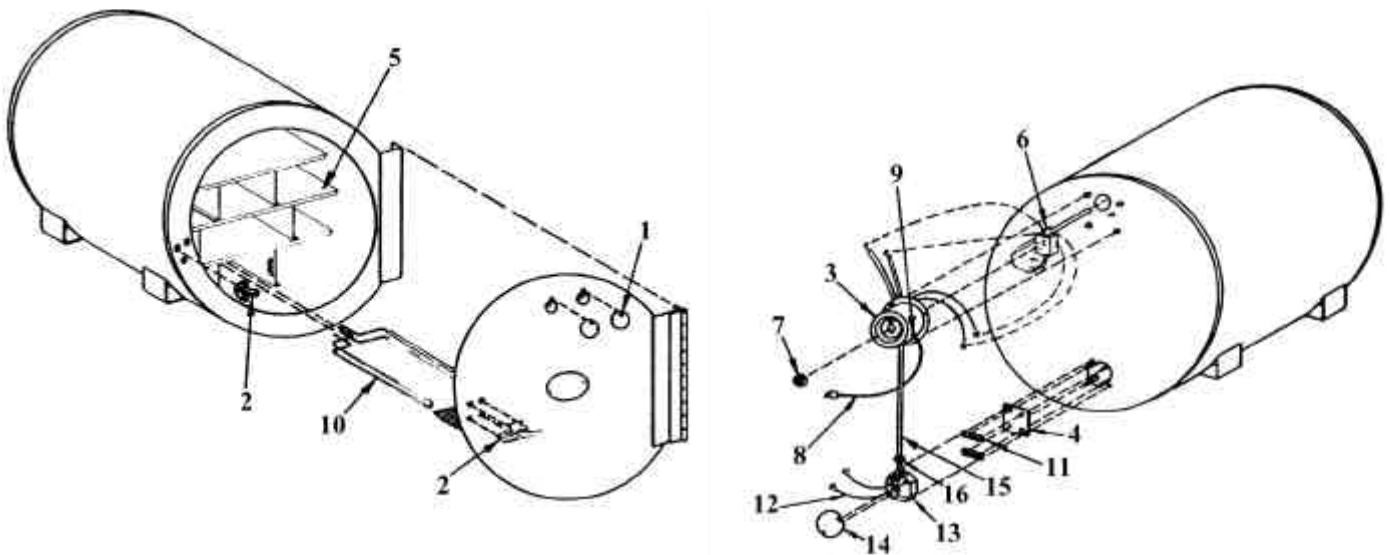
## IV. TYPE 900 REPAIR PARTS ILLUSTRATION

Item No.	Description	Qty/ Oven	Part Numbers			
			120V AC Only	240/480V AC Only	208/415V AC Only	380V AC Only
1	Vent Cover Kit includes two vent covers	1	1257152			
2	Door Latch & Strike	1	1252200			
3	Thermostat Housing	1	2200200			
4	Insulation Block	1	1252400			
5	Shelf Assembly	1	1801200			
Thermostat Kit includes						
6	Thermostat	1	1251100	1251200		
7	Thermostat knob	1				
Cord Kit Includes						
8	Connection Cord	1	1257120	1257121		
9	Cord Grip (7W-2)	1				
Heating Element Kit Includes						
10	Element	2	1252300	1250700	1257146	1257147
11	Jumper	2				
Lead Kit includes material to make:						
12	Lead	2	1257123			
Conduit Kit includes						
13	Conduit Box	1				
14	Conduit Box Cover	1	1257151			
15	Conduit 1/2" size	1				
16	Conduit Connectors 1/2" size	2				
Thermometer Kit			1250300			
Door Mounting Thermometer Kit			1			



A. To Heating Elements  
B. Ground Wire  
C. Thermostat

WHEN ORDERING, SPECIFY PART NUMBER, DESCRIPTION, QUANTITY AND THE FOLLOWING NAMEPLATE DATA: "TYPE, MODEL NO. AND VOLTAGE".



### Note

Always replace BOTH heating elements if one fails. (Two are required for each oven.) Replacement elements are sold in sets of (2) each only.

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N5466100E-6

## **V. SUGGESTED SPARE PARTS TYPE 900 OVENS**

Following quantities for each oven:\*

- One (1) kit of (2) heating elements No. 1250700 (240/480 volt models)
- One (1) thermostat, kit No. 1251200 (240/480 volt models)
- One (1) door latch and strike No. 1252200
- One (1) insulation block No. 1252400
- One (1) 10 foot connection cord without plug cap, No. 1257121 (240/480 volt models).

\*For quantities of ovens exceeding 10, we suggest providing approximately 20% more of the above quantities of spares as sufficient for day to day operation. For overseas operation we suggest a minimum of 30% more for spares.

Phoenix International, Inc. 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.

## **Phoenix International, Inc. (manufactured by Phoenix Products Company)**

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