



Electrode Stabilizing  
**DryRod II**<sup>®</sup>  
**Ovens**

**I. OPERATING INSTRUCTIONS FOR TYPE 15 SERIES PORTABLE ELECTRODE STABILIZATION OVENS**

Part Number	Description - (All 50-60 cycles)	Temperature Range
1205530	120/240V AC* @ 600 watts (digital thermometer installed)	100°-300°F (38°-149°C) Adjustable Thermostat
1205532	120/240V AC* @ 600 watts (without digital thermometer)	

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

**Electrode Stabilizing *DryRodell* Ovens General Information:**

**Insulation:** 1 1/2" (3.8cm) fiberglass

**Chamber Size:** 14" dia. (35.5cm) x 19 3/4" (50.2cm) deep

**Capacity:** 150lbs (70kg) 18" (45.7cm) electrodes

**Net Weight & Dimensions:** 80lbs (29.5kg)  
 19 3/4" x 21 3/4" x 28" ; 50.2 x 55.2 x 71 cm

**Ship Weight & Dimensions:** 81 lbs (36.8kg)  
 20" x 22" x 29" ; 51 x 56 x 73.6 cm



**\*Caution\***

**To avoid oven damage, never place oven in contact with welding current.**

## II. OVEN TYPE DESCRIPTION

### Prior To Use:

1. Check that the voltage selector switch setting corresponds with the power supply to be used. Unit is set to 120V when shipped.
2. Check for correct power supply cord. Unit is supplied with 120V North American configuration.
3. Check for desired thermometer (if equipped) display units (°F or °C). Unit is set to °F when shipped. To change to °C, see Section III in this manual.

### Power Supply

Check the nameplate for voltage ratings.

Type 15 ovens are supplied with a voltage selector switch to operate on either 120 or 240 AC voltage. Please be sure to set the switch to the proper voltage being used.

The ovens are supplied with an indicator light which indicates the unit is energized.

### Power Cords

The ovens are supplied with a female, IEC 320 power cord inlet. This inlet accepts a male, IEC 320 power cord.

Type 15 ovens are supplied with a three blade, grounded, North American cord for 120V AC operation. When connected to a properly grounded receptacle, these ovens meet the nationally recognized standards for which they are marked.

For operation on 240V AC, a different power supply cord must be used. One side must be configured with the IEC 320 male end. Optional configurations are available for the other end, including North American, European, etc. These may be purchased locally or through Phoenix International, Inc.

**An optional cord retainer clamp kit is available to provide a stationary cord. (P/N 1257570)**

### \*\* CAUTION \*\*

To provide continued protection against risk of electrical shock, power cord must be connected to a properly grounded outlet.

### Electrode Storage

Type 15 series ovens are not airtight and electrodes stored within will start absorbing ambient moisture as soon as the oven cools. We recommend removal of electrodes at shift end and storage of same consumables in suitable larger holding ovens until reissued.

These ovens are not to be used for rebaking or reconditioning contaminated electrodes. They are designed to accept electrodes in 100% useable condition and to maintain that condition until consumed at the job site. For optimum stabilization, oven should be hot when loaded and kept "on line" as long as electrodes are being stored.

### Guide to Storage

In the absence of detailed storage information from your electrode manufacturer, the "Guide To Electrode and Flux Stabilization" (see

last page of operators manual) may be used as an indication of *approximate* temperatures. (A laminated version and poster size version is available by contacting Phoenix International, Inc.) For specific information involving critical operations be sure to contact your electrode manufacturer for complete information.

### Repair - Spare Parts

These instructions contain 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 VII" of these instructions.

### Temperature Settings

Type 15 ovens utilize a variable thermostat, providing an operating range of 100°-300°F (38°-149°C) average stabilized load temperatures.

The oven operating temperature is set by rotating the thermostat knob clockwise to increase the temperature of the unit. To decrease the temperature rotate the knob counter-clockwise. This setting is approximate and may need slight adjustment once the oven temperature stabilizes.

### Temperature Indication

Type 15 ovens (P/N 1205530) are supplied with a battery powered, digital thermometer to indicate the actual inside oven temperature in either °F or °C.

The thermometer will indicate a numeric reading up to 300°F (149°C). "HHH" indicates the oven is fully heated.

The thermometers are supplied in the °F mode. Conversion to the °C mode is accomplished by simply moving the switch (located in the battery holder) to the opposite position, as described in the troubleshooting section of this manual.

Replacement of the battery is also covered in the troubleshooting section of this manual.

### \*\* CAUTION \*\*

Unit not to be exposed to rain or moisture.  
Store only in dry location.

### Wheels & Retracting Handle

The Type 15 oven are supplied with wheels and a retracting handle for easy portability.

The semi-pneumatic wheels are supplied with a steel hub and ball bearings for years of service.

The handle is supplied with a clevis pin and clip to lock the handle in either the extended or retracted positions. The retracted position is typically for shipping and/or storage of the oven.

### \*\* CAUTION \*\*

Do not use the handle to lift the loaded oven.  
Serious injury or damage may result.

### **III. TROUBLESHOOTING - TYPE 15 OVENS**

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

1. If the indicator light does not illuminate, check power supply.
2. Check plug at either end of the power cord. Check complete power cord for continuity. If defective, replace the entire cord.
3. Check indicator light. Using a volt meter, confirm voltage to the light leads. If voltage is confirmed and light does not illuminate, replace light. Please note the indicator light is neon and cannot be checked for continuity.
4. Disconnect heating element from the thermostat (under shell top/lid assembly) and from the voltage selector switch (inside base). Check heating element for continuity. If no continuity, replace heating element.
5. Disconnect wiring from the thermostat. Turn the thermostat knob to the lowest temperature setting (counter-clockwise). Check for continuity through thermostat. If no continuity, replace thermostat.

#### **OVEN OPERATES - LOW HEAT, DOES NOT HEAT TO DESIRED TEMPERATURE.**

1. Check power supply for proper voltage (see rating on unit).
2. Check that voltage selector switch is properly set to correspond with power supply.
3. Check that the variable thermostat is properly set to the desired temperature.
4. Check that enough time has been allowed for heat-up. A cold, fully loaded oven may take up to eight hours to fully heat and stabilize.
5. Check that the variable thermostat is securely mounted. A loosely mounted thermostat will not properly sense the oven temperature.

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

1. Check power supply for proper voltage (see rating on unit).
2. Check that voltage selector switch is properly set to correspond with power supply.
3. Check that the variable thermostat is properly set to the desired temperature.
4. Check that the variable thermostat is securely mounted.

A loosely mounted thermostat will not properly sense the oven temperature.

5. Check the variable thermostat operation. With the unit fully assembled, energize the unit and allow it to warm to at least 200°F (93°C).

Remove the shell top/lid assembly. Disconnect the wiring from the variable thermostat. Turn the thermostat to the lowest temperature setting (counter-clockwise) and check for continuity across the terminals. If continuity exists, the thermostat should be replaced.

..... **\*\* WARNING \*\*** .....

**Disconnect power before opening or servicing unit.**  
**Make sure oven is cooled before opening or servicing unit.**

..... **\*\* CAUTION \*\*** .....

**HOT SURFACES! Use extreme care for the following steps to avoid possible burns or personal injury.**  
**Protective gloves are recommended.**

#### **THERMOMETER INDICATES IN WRONG UNITS (if equipped) (°F or °C)**

1. Disconnect power from the unit.
2. Remove the bottom cover from the base (see Parts Illustrations).
3. Changing to either °F or °C is accomplished by moving the switch into the opposite position. The switch is located in the battery holder.
4. Re-install the bottom cover prior to putting the oven back in service.

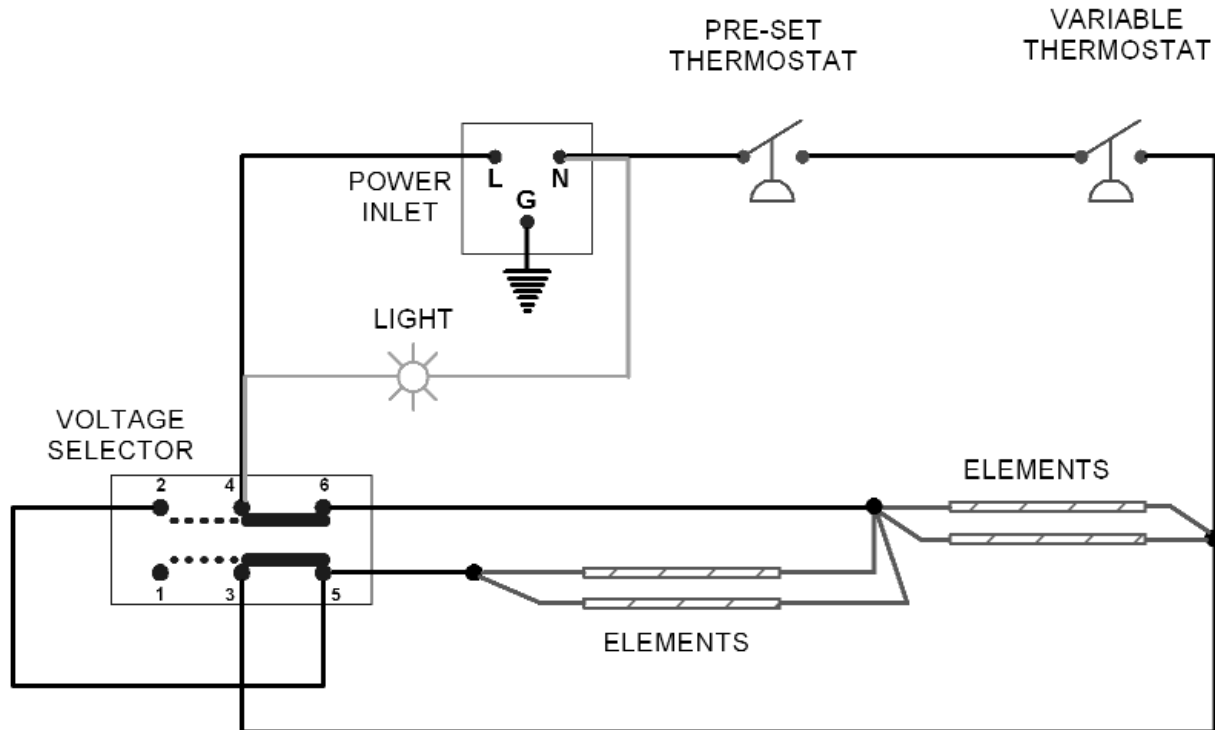
#### **THERMOMETER INOPERABLE (if equipped) - REPLACE BATTERY**

1. Disconnect power from the unit.
2. Remove the bottom cover from the base (see Parts Illustrations).
3. Remove the battery from the holder and replace with a fresh AA 1.5V battery (alkaline preferred).
4. Re-install the battery and bottom cover prior to putting the oven back in service.

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

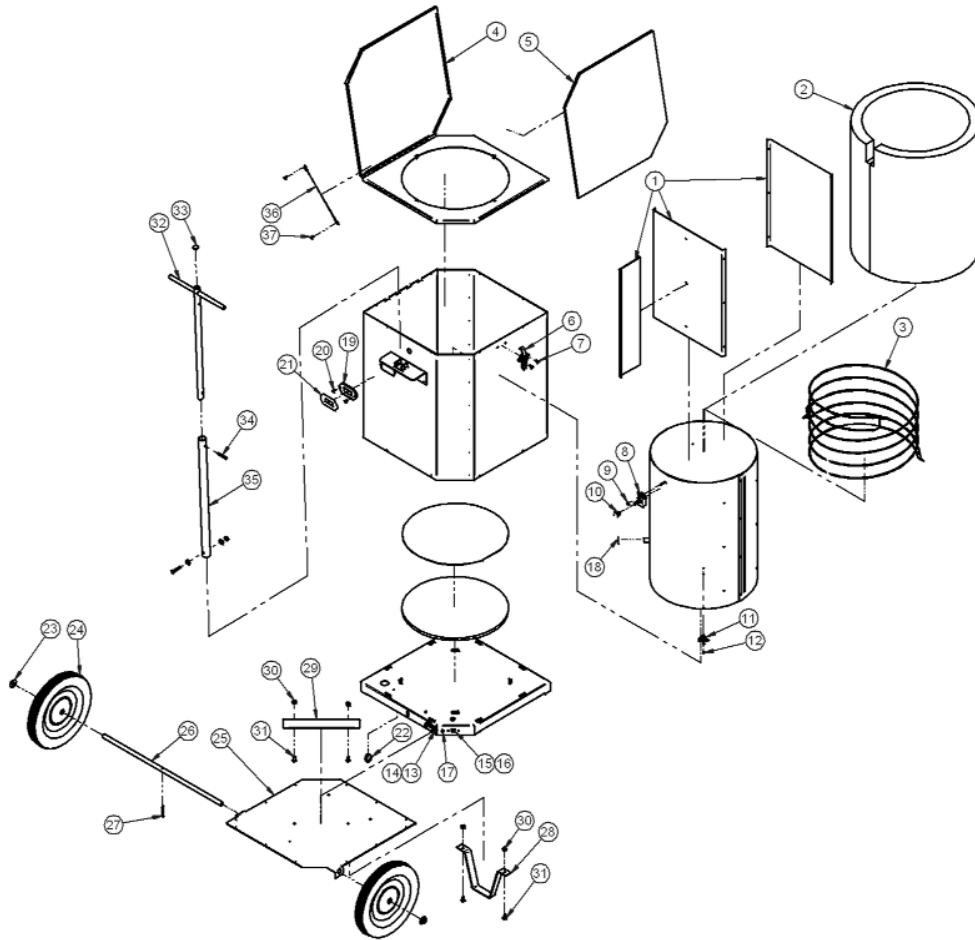
All wiring repairs should only be done by a qualified electrician .  
Failure to do so may result in risk of electrical shock, serious personal injury or damage to the unit.

**TYPE 15 WIRING DIAGRAM**



- NOTES:**
- VOLTAGE SELECTOR SHOWN IN THE LOW VOLTAGE POSITION.
  - JUMPER WIRES MUST BE INSTALLED OUTSIDE OF INSULATION.
  - THERMOMETER PROBE WIRE (NOT SHOWN) MUST BE INSTALLED OUTSIDE OF INSULATION.

## IV. TYPE 15 REPAIR PARTS ILLUSTRATION



Item No.	Description	Qty/Oven	Part No. 120/240V Models
1	Divider/Shelving Kit	1	1257520
2	Insulation	1	1257320
3	Heating Element Kit	1	1257370
Lid Assembly Kit Includes			1257250
4	Lid Assembly	1	
5	Insulation	1	
Latch Kit Includes			1257380
6	Latch	1	
7	Rivet	2	
Variable Thermostat Kit Includes			1257430
8	Variable Thermostat	1	
9	Nut	1	
10	Knob	1	
Preset Thermostat Kit Includes			1257435
11	Preset Thermostat	1	
12	Rivet	2	
Power Inlet Kit Includes			1257390
13	Rivet	2	
14	Power Inlet	1	
Voltage Selector Switch Kit Includes			1257410
15	Rivet	2	
16	Voltage Selector Switch 120/240V	1	
17	Indicator Light	1	1257400
Thermometer Kit Includes			1257420
18	Push-nut	1	
19	Digital Thermometer	1	
20	Screw	2	
21	Label	1	
22	Clamp	1	

Item No.	Description	Qty/Oven	Part No. 120/240V Models
Jumper Wire Kit Includes			1257533
not shown	Power Wires	8	
	Ground Wire	1	
Power Cord Kit Includes			1257540
not shown	120V North American Cord	1	
Wheel Kit Includes*			1257445
23	Axle cap	2	
24	Wheel	2	
Base Cover Kit Includes			1257200
25	Cover	1	
26	Axle	1	
27	Pin	1	
28	Bracket	1	
29	Stiffener	1	
30	Nut	4	
31	Bolt	4	
not shown	Base cover without wheels - optional	1	1257210
T-Handle Kit Includes			1257500
32	T-Handle	1	
33	Plug	1	
34	Pin & Clip	1	1257431
35	Lower Handle	1	1257501
Lanyard Kit Includes			1257537
36	Lanyard	1	
37	Screws	2	
not shown	Cord Retainer Clamp Kit - Optional Provides stationary cord	1	1257570

\* Wheel Kit contains one each Axle cap & Wheel. Purchase two kits to replace both wheels.

## VII. SUGGESTED SPARE PARTS TYPE 15 OVENS

Following quantities for each oven:\*

- One Heating Element Kit
- One Thermostat Kit
- One Power Cord
- One Voltage Selector Switch Kit
- One Indicator Light Kit

\*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.

### Guide to Electrode and Flux Stabilization *eliminate expensive rework & protect welding profits*

AWS (Type)	Air Conditioned Storage Before Opening RH=Relative Humidity	DryRod Oven Holding Temperature After Opening	After Exposure to Moisture a Sufficient Amount of Time to Affect Weld Quality	
			Recondition Step #1	Rebake Step #2
Cellulose EXX10 EXX11 EXX20	70 - 120°F (21 - 49°C) 50% Max. RH	100-120°F (38-49°C)	Not Recommended	Not Recommended
Titania EXX12 EXX13 EXX14	70 - 120°F (21 - 49°C) 50% Max. RH	100-120°F (38-49°C)	180-230°F (82-110°C) 1/2 Hour	250-300°F (121-149°C) 1 Hour
Iron Powder M.S. EXX24 EXX27	70-120°F (21-49°C) 50% Max. RH	100-120°F (38-49°C)	180-230°F (82-110°C) 1/2 Hour	400-500°F (204-260°C) 1/2 Hour
Iron Powder Low Hydrogen EXX18 EXX28	70-120°F (21-49°C) 50% Max. RH	250-300°F (121-149°C)	180-220°F (82-104°C) 1- 1/2 Hour	650-750°F (343-399°C) 1 Hour
Low Hydrogen EXX15 EXX16				
Low Hydrogen High Tensile EXXX15 EXXX16 EXXX18				
Stainless EXXX-15 EXXX-16	40-120°F (4.5-49°C) 60% (+/- 10) Max. RH	250-300°F (121-149°C)	180-220°F (82-104°C) 1- 1/2 Hour	500-600°F (260-316°C) 1 Hour
Inconel Monel Nickel Hard-Surfacing	40-120°F (4.5-49°C) 60% (+/- 10) Max. RH	150-200°F (66-93°C)	180-230°F (82-110°C) 1/2 Hour	Not Recommended
Brasses Bronzes	40-120°F (4.5-49°C) 60% (+/- 10) Max. RH	150-200°F (66-93°C)	Not Recommended	Not Recommended
Granulated or Agglomerated Flux	40-120°F (4.5-49°C) 60% (+/- 10) Max. RH	100-200°F (38-93°C)	Contact Manufacturer for Specific Temperatures	
Flux Cored Wire EXXT-1 EXXT-2 EXXT-5 EXXT-G	40-120°F (4.5-49°C) 60% (+/- 10) Max. RH	250-300°F (121-149°C)	Contact Manufacturer for Specific Temperatures	

Note: Proper redrying temperatures depend upon the electrode type and its condition. Contact your electrode manufacturer for specific instructions involving critical operations. Phoenix International, Inc. does not accept liability for damage to electrodes and/or welded products resulting from the use of this table. Temperatures and times shown are recommended and are not guaranteed to be correct.

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