HYDROGUARD[™] ROD OVEN 350

OPERATOR'S MANUAL



GRAPHICS MAY VARY

This instruction manual can be downloaded from :

http://servicenavigator.lincolnelectric.eu/index.php



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Declaration of conformity



Lincoln Electric Europe

Declares that the Rod Oven:

Hydroguard 350

Was tested to and meet the applicable requirements of the following test specifications:

EN60335-1:95 including amendments A1 and A2 EN60335-2-45:94

The ovens meet protection Class I – IPX0

15th September 2012 Pietro Terranova Accessories Product Manager EMEA Lincoln Electric Europe S.L, c/o Balmes, 89 – 8° 2^a, 08008 Barcelona, Spain

12/05

THANKS! For having choosen the QUALITY of the Lincoln Electric products.

 Please Examine Package and Equipment for Damage. Claims for material damaged in shipment must be notified immediately to the dealer.

• For future reference record in the table below your equipment identification information. Model Name, Code & Serial Number can be found on the machine rating plate.



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This equipment must be used by qualified personnel. Be sure that all installation, operation, maintenance and repair procedures are performed only by qualified person. Read and understand this manual before operating this equipment. Failure to follow the instructions in this manual could cause serious personal injury, loss of life, or damage to this equipment. Read and understand the following explanations of the warning symbols. Lincoln Electric is not responsible for damages caused by improper installation, improper care or abnormal operation.

	WARNING: This symbol indicates that instructions must be followed to avoid serious personal injury, loss of life, or damage to this equipment. Protect yourself and others from possible serious injury or death.
	READ AND UNDERSTAND INSTRUCTIONS: Read and understand this manual before operating this equipment. Arc welding can be hazardous. Failure to follow the instructions in this manual could cause serious personal injury, loss of life, or damage to this equipment.
ネ	ELECTRIC SHOCK CAN KILL: Welding equipment generates high voltages. Do not touch the electrode, work clamp, or connected work pieces when this equipment is on. Insulate yourself from the electrode, work clamp, and connected work pieces.
Ĩ	ELECTRICALLY POWERED EQUIPMENT: Turn off input power using the disconnect switch at the fuse box before working on this equipment. Ground this equipment in accordance with local electrical regulations.
Ĩ,	ELECTRICALLY POWERED EQUIPMENT: Regularly inspect the input, electrode, and work clamp cables. If any insulation damage exists replace the cable immediately. Do not place the electrode holder directly on the welding table or any other surface in contact with the work clamp to avoid the risk of accidental arc ignition.
	ELECTRIC AND MAGNETIC FIELDS MAY BE DANGEROUS: Electric current flowing through any conductor creates electric and magnetic fields (EMF). EMF fields may interfere with some pacemakers, and welders having a pacemaker shall consult their physician before operating this equipment.
CE	CE COMPLIANCE: This equipment complies with the European Community Directives.
	FUMES AND GASES CAN BE DANGEROUS: Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. To avoid these dangers the operator must use enough ventilation or exhaust to keep fumes and gases away from the breathing zone.
	ARC RAYS CAN BURN: Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing. Use suitable clothing made from durable flame-resistant material to protect you skin and that of your helpers. Protect other nearby personnel with suitable, non-flammable screening and warn them not to watch the arc nor expose themselves to the arc.
	WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION: Remove fire hazards from the welding area and have a fire extinguisher readily available. Welding sparks and hot materials from the welding process can easily go through small cracks and openings to adjacent areas. Do not weld on any tanks, drums, containers, or material until the proper steps have been taken to insure that no flammable or toxic vapors will be present. Never operate this equipment when flammable gases, vapors or liquid combustibles are present.
attinutilitarian	WELDED MATERIALS CAN BURN: Welding generates a large amount of heat. Hot surfaces and materials in work area can cause serious burns. Use gloves and pliers when touching or moving materials in the work area.
S	SAFETY MARK: This equipment is suitable for supplying power for welding operations carried out in an environment with increased hazard of electric shock.

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INSTALLATION

TECHNICAL SPECIFICATIONS - HYDROGUARD[™]ROD OVENS (350) K2942-1 , K2942-2

Input Watts=1000W	Input Amps: 120V-8A,240V- 4A,480V-2A
Voltage	K2942-1 120V@50/60Hz K2942-2 240/480V@50/60Hz
Temperature Range	38° to 288° C +/-14°C. Adjustable thermostat control with indicator light.
Insulation 5cm glass fiber batt.	
Chamber Size	46cm dia. X 48cm

ATTACHMENT PLUG

In all cases, the green or green/yellow grounding wire must be connected to the grounding pin of the plug, usually identified by a green screw.

All attachment plugs must comply with the Standard for Attachment Plugs and Receptacles.

The product is considered acceptable for use only when an attachment plug as specified is properly attached to the supply cord.

OPERATION

	ELECTRIC SHOCK CAN KILL: to provide continued protection against rick of electric shock connect to properly grounded outlet only. Oven contact with welding current can be dangerous and can result in injury and product damage. All wiring repairs should be done by qualified electrician. Failure to do so may result in electric shock, serious personal injury, or damage to unit.
	Hot Surface. Exposure to extreme temperatures can cause injuries. Utilize proper protection when operating unit.
Ť	Keep Dry. Unit not to be expoosed to rain or moisture. Store in dry location.
	RECORDETION

GENERAL DESCRIPTION

WIRING

- Check type and voltage on nameplate. 1. Hydroguard[™] 350, Model K2942-1 (120V AC only) sin-gle phase
 - Hydroguard[™] 350, Model K2942-2 (240/480V AC 2. only) single phase.

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

GROUNDING

1. The 120 V ovens have a two blade plug with grounding English

Net Weight	41Kg.
Net Dimensions	75x57x57cm.
Shipping Weight	52Kg.
Shipping Dimensions	66x84x69cm.

prong (NEMA 5-15P) attached to a 3mt power supply cord. When used with a grounded receptacle, these ovens meet all local code requirements and are UL listed.

2. The 240/480 V ovens have a 3 mt power supply cord. When used with a grounding plug and a grounded receptacle, these ovens meet all local code requirements.

ELECTRODE PLACEMENT Your Hydroguard[™] 350 oven has removable shelves to allow storage of bulk or wire reel 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 widely, allowing space over each shelf for air circulation required to remove excess moisture. 12cm is the maximum suggested layer depth on any shelf.

ELECTRODE STORAGE REQUIREMENTS

Lincoln Electric recommends a minimum oven temperature of 120 °C (250 °F). This minimum temperature rating will be obtained as long as the unitis used in an environment where the temperature is above freezing, 0°C (32°F). Specific information involving recommended electrode storage can be accessed on line:

http://www.lincolnelectric.com/en-us/support/weldinghow-to/pages/storing-electrodes-details.aspx

VENTING

For normal holding operations, adjust vent on the door 1/4 open.

TEMPERATURE SETTING

Temperature range is 38 °C (100 °F) to 288 °C (550 °F).

The Thermostat Dial (located at rear of oven) is calibrated from 38 °C to 288 °C. Required oven temperature setting is obtained by rotation of dial to line up desired temperature with the arrow on the thermostat housing.

An indicator light illuminates only when voltage is applied to the heating elements. Momentary rotation passed desired temperature setting may be necessary to activate the English indicator light inorder to locate it for indexing purposes.

Thermostat is accurate to ± 14 °C (25 °F) at the sensing bulb, however, temperature may vary slightly at different areas in the oven chamber since this is a convection type oven.



Excess Heat: At the maximum setting, the actual temperature in portions of the oven near the heating elements may reach approximately (350 °C). Temperatures over 290 °C are not recommended. They may cause oven damage and/or unacceptably high exterior surface temperatures.

ACCESSORIES

K3148-1 THERMOMETER KIT

INSTALLATION OPTIONAL DOOR MOUNTING THERMOMETER KIT



- 1. Remove cover on door to access mounting holes.
- 2. Mount Guard 3 with screws 4 as shown.
- 3. Mount thermometer 1 and bezel 2 with screws 4.
- 4. Make sure that the dial is properly aligned before tightening screws.

5.

MAINTENANCE

TEMPERATURE ACCURACY / CALIBRATION PROCEDURE



TO CHECK ACCURACY

- 1. Use a good grade thermometer to check temperature.
- 2. Turn the dial of the thermostat to 163 °C (325 °F) mark.
- 3. Allow enough time for temperature to stabilize, or until several temperature readings are identical.

TO CALIBRATION PROCEDURE (IF NECESSARY)

- 4. Remove knob from dial shaft "B", by pulling straight out.
- 5. With screwdriver, turn screw "A" clockwise to decrease and counter-clockwise to increase temperature. Do not allow dial shaft "B" to turn during this operation. The chart below shows the approximate value of ¼ turn of screw "A" when used on the respective temperature ranges.

Temp.	1/4 Turn
Range in ℃	in ℃
65 ℃ to 260 ℃	1,7 <i>°</i> C
150 ℃ to 500 ℃	35 <i>°</i> F

6. Replace knob or control dial.

After a calibration is made let the appliance operate until the temperature has stabilized, then recheck to determine whether or not the inaccuracy has been corrected.

HOW TO USE TROUBLESHOOTING GUIDE



Service and Repair should only be performed by Trained Personnel. Unauthorized repairs performed on this equipment may result in danger to the technician and machine operator and will invalidate your factory warranty. For your safety and to avoid any Electrical Shock, please observe all safety notes and precautions detailed throughout this manual.

This troubleshooting guide is provided you to help you locate and repair possible machine malfunctions. Simply follow the three step procedure listed below.

Step 1. LOCATE PROBLEM (SYMPTOM)

Look under the column labeled "PROBLEM (SYMPTOMS)". This column describes possible symptoms that the machne may exhibit. Find the listing that best describes the synptom that the machine is exhibiting.

Step 2. POSSIBLE CAUSE

The second column labeled "POSSIBLE CAUSE" lists the obvious external possibilities that may contribute to the machine symptom.

Step 3. RECOMMENDED COURSE OF ACTION

This column provides a course of action for the Possible Cause, generally it states to contact your local Field Service Facility.

If you do not understand or are unable to perform the Recommended Course of Action safely, contact your local Field Service Facility.

PROBLEMS (SYMPTOMS)	POSSIBLE CAUSE	RECOMMENDED COURSE OF ACTION
Oven fails to operate	 If oven indicator light will not illuminate, check power supply. Check plug and outer end of power cord and run continuity check on complete power cord. If defective, replace cord assembly. Check thermostat at rear of oven. If indicator light illuminates, power is being supplied through thermostat to dual heating elements. Turn know 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. If thermostat operates satisfactorily, check continuity of dual hairpin style heating elements at bottom center of oven. Failure of one element will prevent oven operation on 480V. If operating on 120V or 240V 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. 	If all recommended possible areas of misadjustment have been checked and the problem persists, Contact your local Filed Service Facility
Oven operates – Temperature Setting "Off".	 Check thermostat operations – Check multiple set points. If oven temperature does not respond to changes in set point, replace the thermostat. 	
Oven operates – Overheats.	1. Check thermostat operation.	
Door will not close properly.	1. Use screwdriver to adjust door latch.	



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.



If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your Local Field Service Facility for technical troubleshooting assistance before you proceed

DIAGRAMS



NOTE: These diagrams are for reference only. It may not be accurate for all machines covered by this manual. The specific diagram for a particular code is pasted inside the machine on one of the enclosure panels. If the diagram is illegible, write to the Service Department for a replacement. Give the equipment code number.

SPARE PARTS

ITEM	PART NO.	QTY.
Thermometer Kit	K3148-1	1
Heating Element Kit (120V)	S28972-1	1
Door Latch/Strike Kit	S28972-2	1
Thermostat Kit (120V)	S28972-3	1
Insulation Block Kit	S28972-4	1
Heating Element Kit (240V/480V)	S28972-5	1
Thermostat Kit (240V/480V)	S28972-6	1
Thermostat Housing	S28972-7	1
Cord Kit (120V)	S28972-8	1
Cord Kit (240V)	S28972-9	1
Lead Kit	S28972-10	1
Shelf Assembly Kit	S28972-11	1

WEEE

English

Do not dispose of electrical equipment together with normal waste!

In observance of European Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE) and its implementation in accordance with national law, electrical equipment that has reached the end of its life must be collected separately and returned to an environmentally compatible recycling facility. As the owner of the equipment, you should get information on approved collection systems from our local representative.

By applying this European Directive you will protect the environment and human health!



*	 Do not touch electrically live parts or electrode with skin or wet clothing. Insulate yourself from work and ground.
	Keep flammable materials away.
	Wear eye, ear and body protection.
	 Keep your head out of fumes. Use ventilation or exaust to remove fumes from breathing zone.
Ĩ	Turn power off before servicing.
	Do not operate with panel open or guards off.

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