K-450

Installation

Repair Parts List

Henkel, Inc.
P.O. Box 1322
Hammond, LA
70404
(985) 345-2171
www.keenovens.com

Henkel, Inc.
P.O. Box 1322 * Hammond, Louisiana * 70404 * (985) 345-2171
www.keenovens.com

Models K-450 Bench Type
Installation Instructions & Repair Parts List

One Year Limited Warranty

Henkel, Inc. warrants its products against defects in material and workmanship. Henkel, Inc. will either repair or replace without charge any properly installed product which fails under normal operating conditions within one year from date of installation, provided it is returned to our factory, transportation prepaid, and our inspection determined it to be defective under the terms of this warranty. The warranty covers only equipment manufactured by Henkel, Inc., and does not extend to transportation, installation, or replacement charges at the buyers' facility; nor does it apply to any other equipment of another manufacturer used in conjunctions with Henkel, Inc. equipment. No other warranty, expressed or implies exists beyond that included in this statement.

Recommended Spare Parts

When it is critical to have continuous operation of this unit, we suggest having the following spare parts on hand:

Heating Element
Power Cord
Thermostat

K-450 Accessories List

Stack Kit: allows for stacking or piggybacking of two (2) K-450 ovens
Thermometer Kit

General Information

The K-450 oven with its superior structural design and energy efficient heat exchange will provide many years of durable, trouble free service.

Keen Ovens

K-450 SPECIFICATIONS

Electrode Capacity	450lbs. 18" rods		
Volts	120 V	240 V	480 V
Watts	1000W	1000W	1000W
Thermostat	Dial Adjustable		
Temperature	150ºF-550ºF		
Insulation	2"		
Interior Dimensions	19.5"D X 20"		
Net Weight	81lbs.		
Shipping Weight	86lbs.		
Shipping Dimensions	26" X 28" X 26"		

Safety Precautions

Read all instructions completely before attempting to operate this unit.

*** SAVE THESE SAFETY INSTRUCTIONS ***

To reduce the risk of electrical shock, fire, or personal injury follow the guidelines below:

- Before connecting unit to a power source, be sure the voltage supplied is the same as that specified on the nameplate of the unit.
- Check outlet to ensure proper grounding of the electrical cable. Have a licensed electrician check the A/C power outlet if you are not sure.
- Use this unit for its intended purpose as described by literature.
- Make sure power cord is located so that it will not be stepped on, tripped over, or otherwise subjected to stress of heat, oil, or sharp edges. Do not close doors on the cord.
- To reduce the risk of damage to the electric plug and cord, disconnect by plug rather than by the cord.
- Do not use this unit if cord or plug is in poor condition. If it has been exposed to weather or immersed in water, have a qualified serviceman inspect and replace parts as necessary.
- WARNING! NEVER HANDLE PLUG, CORD, OR UNIT WITH WET HANDS OR WHILE STANDING IN WATER.
- Use special care when moving heavily loaded units.

- Do not store combustible material on or around the unit.
- Do not operate this unit empty.
- When using the unit at a distance where an extension cord becomes necessary, a 3-conductor grounding cord of adequate size must be used for safety, and to prevent loss of power and overheating. Use only a UL listed extension cord suitable for outdoor use. Make certain wire size is large enough for A/C amperage rating of unit.

Operation

Load oven with desired amount of electrodes. To turn on the unit, simply plug the power cord into appropriate single phase A/C source and adjust thermostat to desired setting. (Check nameplate for voltage.) The 120V units are supplied with a three conductor 8" power cord. The 240V and 480V units are supplied with an 8' UL listed 16/3 SJ power cord (plug not provided). All units meet electrical code requirements when used with a grounding plug and a grounded receptical.

***** CAUTION!! DO NOT USE ON D/C POWER SUPPLY! *****

Temperature Setting

The thermostat is adjustable from 150ºF (37.8ºC) to 550ºF (287.8ºC). Turn thermostat knob to desired temperature by aligning with red line on chrome bezel. Pilot light indicates when power is supplied to the heating element. The thermostat is accurate to ±23ºF (14ºC) at the sensor. Temperature variance is minimal throughout the oven due to the heat exchanging qualities of the Keen shelving system.

**** CAUTION!! Surface temperature of heating element will exceed 500ºF. Electrodes adversely affected by high heat should be stored on upper shelves of oven. ****

Guide to Storage

See the enclosed guide to storage. This guide may be used in the absence of storage information from the electrode manufacturer. In critical situations, contact your electrode manufacturer.

Functional Description

These models are designed for the small to medium shop. They allow storing at optimum temperature, protecting electrodes from harmful moisture. These ovens are compact and energy efficient, therefore an economical buy. All bench types are thermostatically controlled. The shelf design accommodates 50lb. electrode containers eliminating the need to remove the rods from the container. Loose electrodes may also be stored in shelf compartments.

Scheduled Maintenance

The manufacturer recommends that the unit be unloaded and cleaned of debris and dust every six months. It is recommended that a temperature probe be placed inside the unit and the thermostat calibration checked at this time.

Venting

Your model K-450 oven is vented through a screened plug at the rear of the oven.

Troubleshooting

The Keen oven model K-450 requires a minimal amount
of electrical knowledge to repair if necessary.

IF OVEN FAILS TO OPERATE – NO HEAT

1. Check power source.
2. Check power cord continuity. Replace cord assembly if faulty.
3. If pilot light glows, voltage is being supplied to he heating element. Check element continuity. If defective, replace.
4. If thermostat cannot be heard clicking on and off when dial is rotated, and if pilot light fails to operate, replace thermostat

IF OVEN OVERHEATS

1. If oven fails to cycle on and off and reaches a temperature above 550ºF, thermostat is faulty and needs replacing.
2. If oven operates but is off from setting see calibration instructions.

Corrective Maintenance

CHANGING THE HEATING ELEMENT

1. Disconnect power source and remove any rods from oven.
2. Remove element cover.
3. Remove element mounting nuts and top ceramic insulators.
4. Remove nine (9) mounting screws from leg assembly and lift oven clear of leg.
5. Remove wire connectors from element leads.
6. Remove old element from oven by lifting element over mounting bolts and pulling element leads through conduit. Remove bottom ceramic insulators.
7. Install new male ceramic insulators, element, female insulators and hex nuts.
8. Insert element leads through conduit and reconnect with original electrical leads.
9. Replace front leg assembly being sure wiring is not crimped between leg and oven wall.

CHANGING THE THERMOSTAT

1. Disconnect from the power source.
2. Remove rods from oven.
3. Remove element cover and pull temperature-sensing tube from holder.
4. Loosen setscrew in thermostat knob and remove knob. Remove chrome mounting ring (bezel).
5. Remove nine (9) mounting screws from leg assembly and lift oven clear of leg
6. Remove electrical leads from thermostat and remove thermostat by pulling sensing tube through conduit.
7. To replace new thermostat, pass sensing tube through conduit, being sure there is adequate length to reach the holder.
8. Reconnect electrical leads to new thermostat and mount thermostat to chrome ring (bezel) loosely with red indicting line in upward position. Place knob on thermostat stem and check rotation of knob. When knob turns freely, remove and tighten chrome mounting ring (bezel)
9. Replace leg assembly being sure wiring is not crimped between oven wall and leg.
10. Replace thermostat knob.
11. Insert temperature-sensing tube into holder and replace element cover.

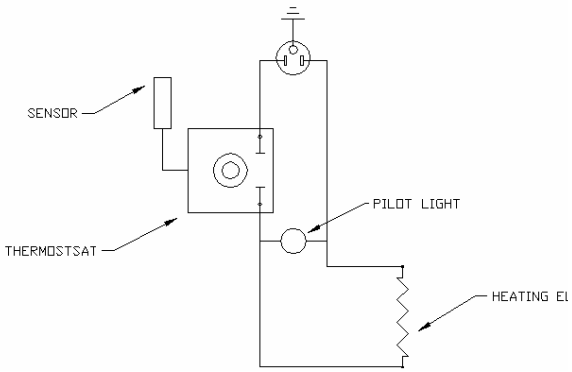
THERMOSTAT CALIBRATION

1. Turn on unit. Set control dial at desired temperature.
2. Allow control to cycle at least three times and observe temperature at middle of fourth cycle.
3. If calibration is required, carefully remove dial knob. Do not turn shaft.
4. Turn calibration screw in center of dial shaft. (Turning set screw clockwise decreases temperature. Turning setscrew counter-clockwise increases temperature. One-fourth [1/4] turn equals approximately 35ºF.)
5. Allow unit to cycle at least three times and observe temperature at middle of fourth cycle. Readjust calibration screw if necessary. Replace dial knob

Model K-450 Wiring Diagrams

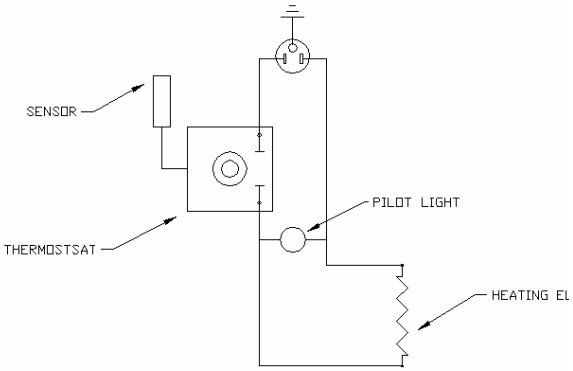
120 Volts / 1000 Watts

15 AMP/ 125-Volt Grounding Plug
NEMA 5-15P Provided



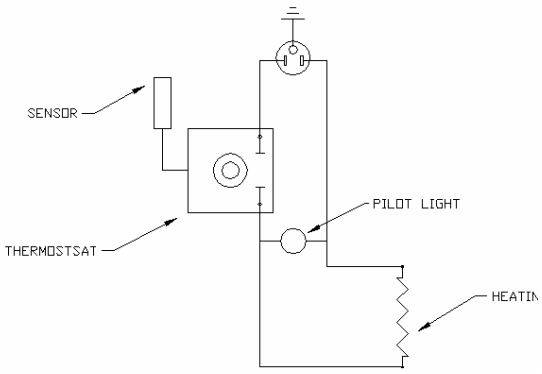
240 Volts / 1000 Watts

Grounding Plug
NEMA 5-15P



480 Volts / 1000 Watts

20 AMP/ 480-Volt
Grounding Plug NEMA 8-20P Not Provided

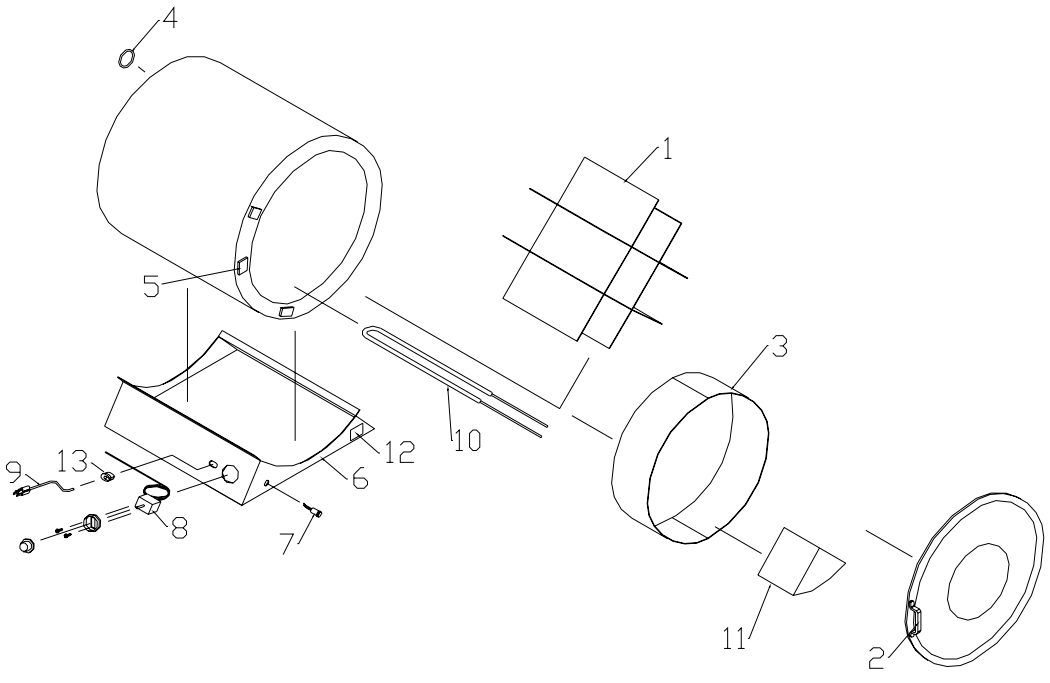


Model K-450 Repair Parts List

ITEM #	QUAN./UNIT	DESCRIPTION		PART NUMBER
1	1	Shelf Assembly		
2	1	Handle		430102
3	1	Collar		
4	1	Vent Plug		490108
5	1	Magnets		490103
6	1	Leg		
7	1	Neon Pilot		
			120V/240V	301085
			480V	301101
8	1	Thermostat		301038
9	1	Power Cord		301155
10	1	Elements	240V1000W	301027
			120V1000W	301125
			480V/1000W	301129
11	1	Element Cover		
12	1	Name Plate		450103
13	1	Strain Relief		301043

** Please state model number and serial number and specify voltage and wattage when ordering repair parts, spare parts, or accessory parts. All necessary attaching hardware is supplied with each part ordered.

(Item numbers refer to pictorial drawings below for repair parts.)



HENKEL, INC.

Manufacturer of KEEN Ovens
Quality Since 1923.

Phone (985) 345-2171
Fax (985) 345-5653
PO Box 1322
Hammond, Louisiana
70401

Flux and Electrode Stabilizing Guide

Type (AWS)	Air Conditioned Storage Before Opening	Dry Rod Oven Holding After Opening	After Exposure to Moisture a Sufficient Time to affect Weld Quality	
			Recondition Step 1	Rebake Step 2
Standard EXX10 EXX11 EXX12 EXX13 EXX20 EXX30	80°F ± 20° 60% ± 10% RH	140°F ± 30°	180°F ± 25° two hours	240°F ± 25° one hour
			Three hour total	
Iron Powder EXX14 EXX24 EXX27	90°F ± 20° 50% RH max	140°F ± 30°	180°F ± 25° two hours	325°F ± 25° one hour
			Three hour total	
Iron Powder-Low Hydrogen EXX18 EXX28	90°F ± 20° 50% RH max	400°F ± 50°	180°F ± 25° two hours	700°F ± 100° one-half hour
			Two & one-half hour total	
Low Hydrogen EXX15 EXX16	90°F ± 20° 50% RH max	400°F ± 50°	180°F ± 25° two hours	600°F ± 100° one-half hour
			Two & one-half hour total	
Low-Hydrogen High Tensile EXXX15 EXXX16	90°F ± 20° 50% RH max	400°F ± 50°	180°F ± 25° two hours	700°F ± 100° one-half hour
			Two & one-half hour total	
Stainless Inconel Monel Nickel Brasses Bronzes Hard Surfacing Special Alloys	90°F ± 20° 50% RH max	225°F ± 50°	180°F ± 25° one hour	350°F ± 50° one hour
			Two hour total	
Granulated or Agglomerated Flux	90°F ± 20° 50% RH max	240° F ± 50°	Not required	700°F ± 100° ∅ two hours

IMPORTANT:
This table is offered as a guide to proper storage and oven holding temperatures for the most common electrodes in use today. In addition, recondition/rebake procedures for electrode coatings that have been exposed to moisture for a sufficient period of time to affect the weld quality are included. Good judgment and the manufacturer's recommendations should be your guide.

Note: In the HTS Stainless electrode groups, and 15 & 16 type coatings, there can be a greater difference in the maximum temperature requirements for rebaking than those shown. This can be handled by special request to the particular manufacturer involved.

CONTACT YOUR ELECTRODE MANUFACTURER FOR SPECIFIC INFORMATION INVOLVING CRITICAL OPERATIONS.

Electrode coating should not be exposed to the rebaking temperature without first having been reconditioned at a lower temperature. Failure to observe this rule will result in breakdown of electrode coatings.

After rebake, lower temperature to *holding level* until reissue.