

OPERATING INSTRUCTIONS

Rolling Thin Film Oven

46-4150

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EFFECT OF HEAT AND AIR ON A MOVING FILM OF ASPHALT

Rolling Thin Film Oven

ASTM D2872

This test method covers the determination of the effect of heat and air on a film of semi solid asphaltic materials. The effects of this treatment are determined from measurements of selected asphalt properties before and after the test.

1 Mains Supply

Check the voltage shown on the serial plate adjacent to the cable entry. Connect the BROWN wire of the mains lead to the 'L' live pin, the BLUE wire to the 'N' neutral pin and the GREEN-YELLOW wire to the 'E' earth pin.

1.1 **240 volt units.** Each unit comes supplied with a mains connection lead already fitted with a correctly rated fuse. The fuse rating and other details for each unit are shown on the voltage plate at the back of the unit. It is important that if the fuse needs to be replaced, it must **ONLY** be replaced with one of the correct rating.

1.2 **110 volt units** are supplied with a cable but without a plug or fuse. These units should be wired in by a suitably qualified electrician to the following:-

BROWN	'L' Live pin	Refer to voltage plate for fuse requirement
BLUE	'N' Neutral pin	
GREEN/YELLOW	'E' Earth pin	

WARNING : DO NOT CONNECT THE OVEN TO A D.C. MAINS SUPPLY OR SERIOUS DAMAGE WILL OCCUR.

The following precautions should be observed:

1.3 Mop up any spilled liquid from the chamber floor or damage to the element may result.

1.4 Position away from direct sunlight or radiant heat sources.

1.5 Sample trays should not be placed on the floor of the unit.

1.6 Do not cover the exhaust vents on top or the inlet vents underneath.

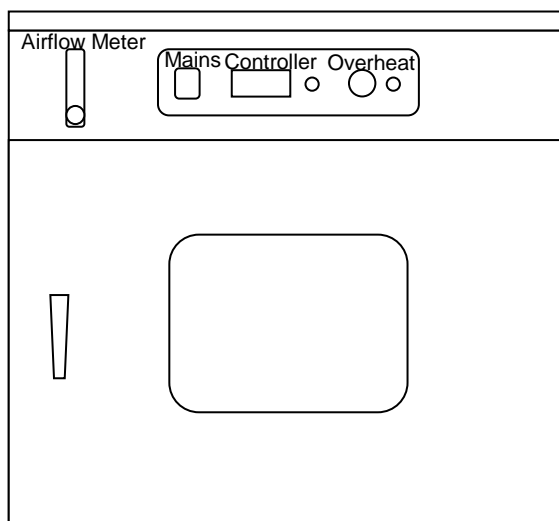
2 Operation

2.1 Connect a suitable air supply to the rear of the unit via the 8mm push in fitting. Set the airflow meter to read 4L / min which is the same as (4000ml/min as described by ASTM D2872).

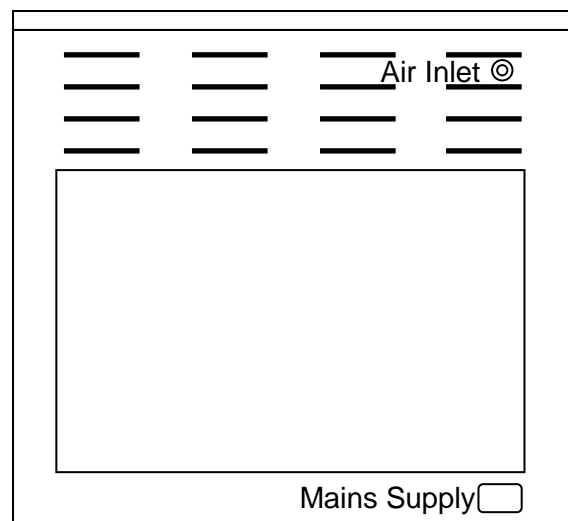
2.2 Using the correct ASTM Loss on Heat 13°C thermometer as prescribed in the standard specifications for ASTM thermometers (ASTM E1). Attach to the clip on the side wall, so that the bulb is centre to the carriage.

2.3 Close the door.

- 2.4 Switch the mains oven on via the mains switch on the control panel. Recirculation fan and heating elements will come on, whilst the carriage rotates at 15 RPM.
- 2.5 The oven is pre-set to 163°C. The overheat thermostat has been set 5°C above the main digital controller set point.
- 2.6 DIGITAL CONTROLLER K39. The operational parameters of the controller have been factory set to control the heating performance requirements as per ASTM D2872. To change the set point press the P button once to display the current set point. Press the up / down buttons to change the value to the required set point. Press the P button to accept this change.
- 2.7 Please allow the oven to preheat for 2 hours prior to testing.
- 2.8 After preheating the oven, the door can be opened so that you may place the glass containers on the carriage. The fan, heating and carriage will all be switched off via a door micro switch when the door is opened.
- 2.9 When placing the glass containers on the carriage it may be necessary to close the door so that the carriage rotates to an accessible position.
- 2.10 Once all the glass containers have been inserted, close the door.



FRONT VIEW



REAR VIEW

3 Preventative Maintenance

Ensure that the unit is maintained in a clean, dry condition and when not in use stored in a normal warm atmosphere.

Minimum recommendation, every six months:-

3.1 Check operation of the overheat protection as follows:

Allow the temperature to stabilise. Once the desired temperature has been reached and stabilised with the CONTROL thermostat, adjust the OVERHEAT dial (RED CENTRE CAP).

Turn ANTICLOCKWISE UNTIL THE RED LAMP JUST COMES ON. Now slowly turn the spindle clockwise until the red lamp just extinguishes. Increase the digital control set point to a temperature 5-10 degrees higher than the overheat setting. Within a few minutes the red overheat lamp will come on indicating that the system is working correctly. After this check, reset the digital control to 163°C.

3.2 Carry out an electrical safety check (Portable Appliances) using an appropriate appliance tester operated by a competent person.

3.3 Check that the control temperature is maintained within limits.

3.4 Check the condition of the mains lead and the fuse rating is correct. Refer to the serial plate on the back of the oven.

3.5 Check that the air nozzle is 6mm away from the centre line of the glass container.


4 Maintenance

4.1 BEFORE STARTING WORK, DISCONNECT THE UNIT FROM THE MAINS SUPPLY.

4.2 To check or replace any electrical components remove the rear panel for the Fan Element or Sensor.

4.3 All other electrical components are in the top of the unit.

DIRECTIVE ON WASTE ELECTRICAL & ELECTRONIC EQUIPMENT (WEEE)

	<p>Electrical equipment marked with this symbol may not be disposed of in European public disposal systems after 12 August of 2005. In conformity with European local and national regulations (EU Directive 2002/96/EC), European electrical equipment users must now return old or end-of life equipment to the Producer for disposal at no charge to the user.</p> <p>Note: For return for recycling, please contact the equipment producer or supplier for instructions on how to return end-of-life equipment for proper disposal.</p> <p>Important document. Retain with product records.</p>
<p>GERMAN</p> <p>Elektrogeräte, die mit diesem Symbol gekennzeichnet sind, dürfen in Europa nach dem 12. August 2005 nicht mehr über die öffentliche Abfallentsorgung entsorgt werden. In Übereinstimmung mit lokalen und nationalen europäischen Bestimmungen (EU-Richtlinie 2002/96/EC), müssen Benutzer von Elektrogeräten in Europa ab diesem Zeitpunkt alte bzw. zu verschrottende Geräte zur Entsorgung kostenfrei an den Hersteller zurückgeben.</p> <p>Hinweis: Bitte wenden Sie sich an den Hersteller bzw. an den Händler, von dem Sie das Gerät bezogen haben, um Informationen zur Rückgabe des Altgeräts zur ordnungsgemäßen Entsorgung zu erhalten.</p> <p>Wichtige Informationen. Bitte zusammen mit den Produktinformationen aufbewahren.</p>	
<p>FRENCH</p> <p>A partir du 12 août 2005, il est interdit de mettre au rebut le matériel électrique marqué de ce symbole par les voies habituelles de déchetterie publique. Conformément à la réglementation européenne (directive UE 2002/96/EC), les utilisateurs de matériel électrique en Europe doivent désormais retourner le matériel usé ou périmé au fabricant pour élimination, sans frais pour l'utilisateur.</p> <p>Remarque : Veuillez vous adresser au fabricant ou au fournisseur du matériel pour les instructions de retour du matériel usé ou périmé aux fins d'élimination conforme.</p> <p>Ce document est important. Conservez-le dans le dossier du produit.</p>	
<p>ITALIAN</p> <p>Le apparecchiature elettriche con apposto questo simbolo non possono essere smaltite nelle discariche pubbliche europee successivamente al 12 agosto 2005. In conformità alle normative europee locali e nazionali (Direttiva UE 2002/96/EC), gli utilizzatori europei di apparecchiature elettriche devono restituire al produttore le apparecchiature vecchie o a fine vita per lo smaltimento senza alcun costo a carico dell'utilizzatore.</p> <p>Nota: Per conoscere le modalità di restituzione delle apparecchiature a fine vita da riciclare, contattare il produttore o il fornitore dell'apparecchiatura per un corretto smaltimento.</p> <p>Documento importante. Conservare con la documentazione del prodotto.</p>	
<p>DANISH</p> <p>Elektriske apparater, der er mærket med dette symbol, må ikke bortskaffes i europæiske offentlige affaldssystemer efter den 12. august 2005. I henhold til europæiske lokale og nationale regler (EU-direktiv 2002/96/EF) skal europæiske brugere af elektriske apparater nu returnere gamle eller udtjente apparater til producenten med henblik på bortskaffelse uden omkostninger for brugeren.</p> <p>Bemærk: I forbindelse med returnering til genbrug skal du kontakte producenten eller leverandøren af apparatet for at få instruktioner om, hvordan udtjente apparater bortskaffes korrekt.</p> <p>Vigtigt dokument. Opbevares sammen med produktdokumenterne.</p>	

SWEDISH

Elektronikutrustning som är märkt med denna symbol kanske inte kan lämnas in på europeiska offentliga sopstationer efter 2005-08-12. Enligt europeiska lokala och nationella föreskrifter (EU-direktiv 2002/96/EC) måste användare av elektronikutrustning i Europa nu återlämna gammal eller utrangerad utrustning till tillverkaren för kassering utan kostnad för användaren.

Obs! Om du ska återlämna utrustning för återvinning ska du kontakta tillverkaren av utrustningen eller återförsäljaren för att få anvisningar om hur du återlämnar kasserad utrustning för att den ska bortskaffas på rätt sätt.

Viktigt dokument. Spara tillsammans med dina produktbeskrivningar.

SPANISH

A partir del 12 de agosto de 2005, los equipos eléctricos que lleven este símbolo no deberán ser desechados en los puntos limpios europeos. De conformidad con las normativas europeas locales y nacionales (Directiva de la UE 2002/96/EC), a partir de esa fecha, los usuarios europeos de equipos eléctricos deberán devolver los equipos usados u obsoletos al fabricante de los mismos para su reciclado, sin coste alguno para el usuario.

Nota: *Sírvase ponerse en contacto con el fabricante o proveedor de los equipos para solicitar instrucciones sobre cómo devolver los equipos obsoletos para su correcto reciclado.*

Documento importante. Guardar junto con los registros de los equipos.

DUTCH

Elektrische apparatuur die is voorzien van dit symbool mag na 12 augustus 2005 niet meer worden afgevoerd naar Europese openbare afvalsystemen. Conform Europese lokale en nationale wetgeving (EU-richtlijn 2002/96/EC) dienen gebruikers van elektrische apparaten voortaan hun oude of afgedankte apparatuur kosteloos voor recycling of vernietiging naar de producent terug te brengen.

Nota: *Als u apparatuur voor recycling terugbrengt, moet u contact opnemen met de producent of leverancier voor instructies voor het terugbrengen van de afgedankte apparatuur voor een juiste verwerking.*

Belangrijk document. Bewaar het bij de productpapieren.

POLISH

Sprzęt elektryczny oznaczony takim symbolem nie może być likwidowany w europejskich systemach utylizacji po dniu 12 sierpnia 2005. Zgodnie z europejskimi, lokalnymi i państwowymi przepisami prawa (Dyrektywa Unii Europejskiej 2002/96/EC), użytkownicy sprzętu elektrycznego w Europie muszą obecnie przekazywać Producentowi stary sprzęt lub sprzęt po okresie użytkowania do bezpłatnej utylizacji.

Uwaga: *Aby przekazać sprzęt do recyklingu, należy zwrócić się do producenta lub dostawcy sprzętu w celu uzyskania instrukcji dotyczących procedur przekazywania do utylizacji sprzętu po okresie użytkowania.*

Ważny dokument. Zachować z dokumentacją produktu.

PORTUGUESE

Qualquer equipamento eléctrico que ostente este símbolo não poderá ser eliminado através dos sistemas públicos europeus de tratamento de resíduos sólidos a partir de 12 de Agosto de 2005. De acordo com as normas locais e europeias (Directiva Europeia 2002/96/EC), os utilizadores europeus de equipamentos eléctricos deverão agora devolver os seus equipamentos velhos ou em fim de vida ao produtor para o respectivo tratamento sem quaisquer custos para o utilizador.

Nota: *No que toca à devolução para reciclagem, por favor, contacte o produtor ou fornecedor do equipamento para instruções de devolução de equipamento em fim de vida para a sua correcta eliminação.*

Documento importante. Mantenha junto dos registos do produto.