

# OPERATING INSTRUCTIONS

## Heater/Magnetic Stirrer Unit

**46-4825**

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<p><i>In the interests of improving and updating its equipment, ELE reserves the right to alter specifications to equipment at any time.</i> <b>ELE International 2015 ©</b></p>		

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## 1 Safety

This equipment has been tested and is safe to use providing that the proper safety precautions are observed:

**Do not use this equipment in any manner other than as specified in this user manual; misuse may result in serious injury to personnel.**

**Do not attempt to operate the equipment with covers removed.**

**Only connect to the correct electrical supply. Equipment voltage setting is stated on the label on the appliance.**

**Refer to Installation section before installing machine.**

**Do not operate the unit with wet hands.**

Please read this entire manual before unpacking, setting up or operating this equipment. Pay particular attention to all **DANGER** and **CAUTION** statements. Failure to do so could result in serious injury to the operator, or other personnel, or damage to the equipment.

### 1.1 Key to hazard warning statements

**DANGER :**

Indicates a potentially or imminently hazardous situation which, if not avoided, could result in death or serious injury.

**CAUTION :**

Indicates a potentially hazardous situation that may result in minor or moderate injury.

**Important Note :** Information that requires special emphasis.

**Note :** Information that supplements points in the main text.

## 2 Introduction

The unit enclosed is used to heat samples for the ring and ball test. The unit has a variable speed magnetic stirrer, also a built in regulating transformer provides fine temperature control for the liquids used.

## 3 Specification

Supply voltage	230 VAC, 50/60 Hz
Power consumption	3.5 Amp
Plate temperature range (ambient)	50 - 350°C
Stirrer speeds	100-1800 rpm
Protection rating	IP 32
Weight	2.4 kg

## 4 Installation

4.1 When unpacking make sure the Heater/Magnetic Stirrer Unit is not damaged and that all parts are present.

4.2 It is recommended that the Heater/Magnetic Stirrer Unit is located on a stable bench top with a suitable 13 amp electricity power supply nearby.

## 5 Electrical Power Supply

### *Electrical Safety*

**Danger :** Before removing any covers or performing maintenance repair and service, isolate from the electrical supply by removing the mains plug from the supply. Where mains supply is required during these activities, only competent persons should perform the work.

**Danger** : Installation and servicing must be carried out by a qualified person.

**Danger** : A good low impedance Protective Earth Ground connection is recommended for this product.

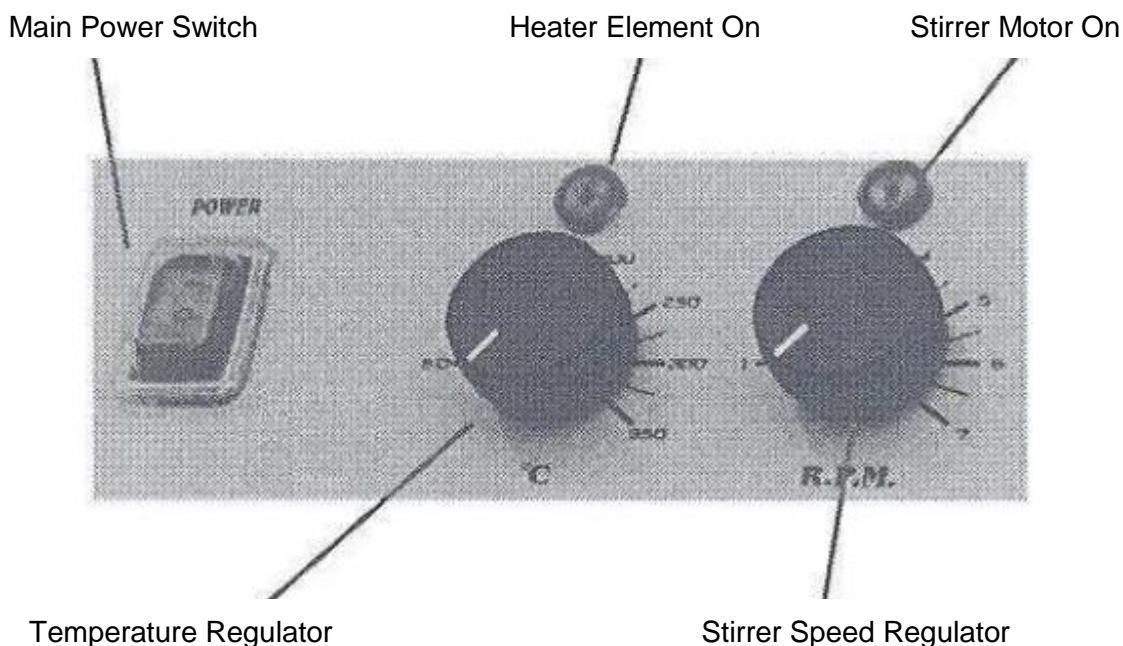
**Danger** : Check that the power supply is compatible with the requirements stated on the voltage label on the unit and connect in accordance with IEE regulations or to local requirements.

Power Cable is coded as follows:-

Brown wire	L	Live or Power
Blue wire	N	Neutral
Green/Yellow wire	E	Earth or Ground

## 6 Operation

- 6.1 **Caution** : Always use suitable protective garments and gloves to protect the operator from burns and scalds during use of this product.
- 6.2 Control panel and power switch.



- 6.3 Place the required liquid in the beaker and place the beaker onto the heater platform.
- Note** : To get the correct temperature control during the test it might be necessary to use a heat transfer material between the beaker and heater platform.
- 6.4 Turn all the controls to their minimum positions and then switch on the mains switch on the front panel. Place the small stirrer bar into the liquid in the beaker and then, using the stirrer control knob, adjust to a suitable speed for stirring the liquid.
- 6.5 To start the heating process, adjust the temperature using the temperature control knob to add the required amount of heat to the liquid in the beaker.
- 6.6 **CAUTION** : Make sure that the liquid being heated does not get too hot

6.7 To stop the process switch off the mains switch on the unit.

6.8 **CAUTION** : Always isolate unit from mains electricity supply when not in use.

6.9 **Important Note** : If the Heater/Magnetic Stirrer Unit is being used only for heating applications then it is essential to have the stirrer motor running but without the stirrer bar in place to assist air circulation inside the case of the unit.

## 7 Maintenance

7.1 **Danger** : Isolate the Heater/Magnetic Stirrer Unit from the mains power supply before attempting any cleaning or maintenance processes.

7.2 **Caution** : Make sure the temperature has dropped to a safe level prior to any maintenance.

7.3 Clean the surface of the unit only using a damp cloth and mild detergent. Use a modern citrus based solvent for bitumen stains.

**Note** : For health and safety reasons the use of other solvent types is not recommended.


## 8 Trouble Shooting

If when the mains switch is switched on and no lights illuminate, check the electrical power supply and plug for errors. Also check all fuses are the correct capacity and are not blown. If the problem persists then contact the ELE service department for advice.

## 9 Spares

Please contact ELE service department for any spares requirements.

## 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><b>Note:</b> 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><b>Important document. Retain with product records.</b></p>
<p><b>GERMAN</b></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><b>Hinweis:</b> 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><b>Wichtige Informationen. Bitte zusammen mit den Produktinformationen aufbewahren.</b></p>	
<p><b>FRENCH</b></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><b>Remarque :</b> 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><b>Ce document est important. Conservez-le dans le dossier du produit.</b></p>	
<p><b>ITALIAN</b></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><b>Nota:</b> 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><b>Documento importante. Conservare con la documentazione del prodotto.</b></p>	
<p><b>DANISH</b></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><b>Bemærk:</b> 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><b>Vigtigt dokument. Opbevares sammen med produktdokumenterne.</b></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 uttrangerad 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.**