

OPERATING INSTRUCTIONS

Mechanical End-over-End Shaker

24-2854

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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> ELE International 2007 ©</p>		

Contents

	Section	Page
1	Electrical Safety	3
2	Installation	4
3	Operation	5
4	Maintenance	5
	WEEE Directive	

1 Electrical 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 electrical covers removed.

Refer to Installation section before installing machine.

Do not operate machine with wet hands.

Important Note : 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.

Key to Hazard Information

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.

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

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

It is recommended that this machine be connected via a residual current device (not supplied), and it should operate if earth leakage current exceeds 0.03 amps.

The power cable is coded as follows:

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

Portable Appliance Tests (PAT)

All ELE supplied products are tested for electrical safety prior to sale.

An electrical safety test label is fitted (usually adjacent to the mains input socket). Should no label be found, please contact the ELE Service Department quoting the serial number of the equipment.

DANGER: Organisations have an obligation to ensure equipment is maintained and is safe for use. Regular PAT testing is one means of ensuring equipment continues to be electrically safe.

NOTE: DO NOT FLASH TEST ELECTRONIC EQUIPMENT.

2 Installation

- 2.1 **CAUTION:** Although this unit is fitted with a safety slipping clutch mechanism on the drive unit, it is recommended that some form of safety enclosure be used with this machine.
- 2.2 Report any broken or missing items to ELE as soon as possible.
- 2.3 When installing the mechanical end-over-end shaker, it should be bolted to the floor or a suitable bench where possible.
- 2.4 Attach the supplied switch box to a suitable surface near the shaker.
- 2.5 Allow about $\frac{1}{3}$ empty jar space for fastest mixing action. Full jars will require much longer shaking time.

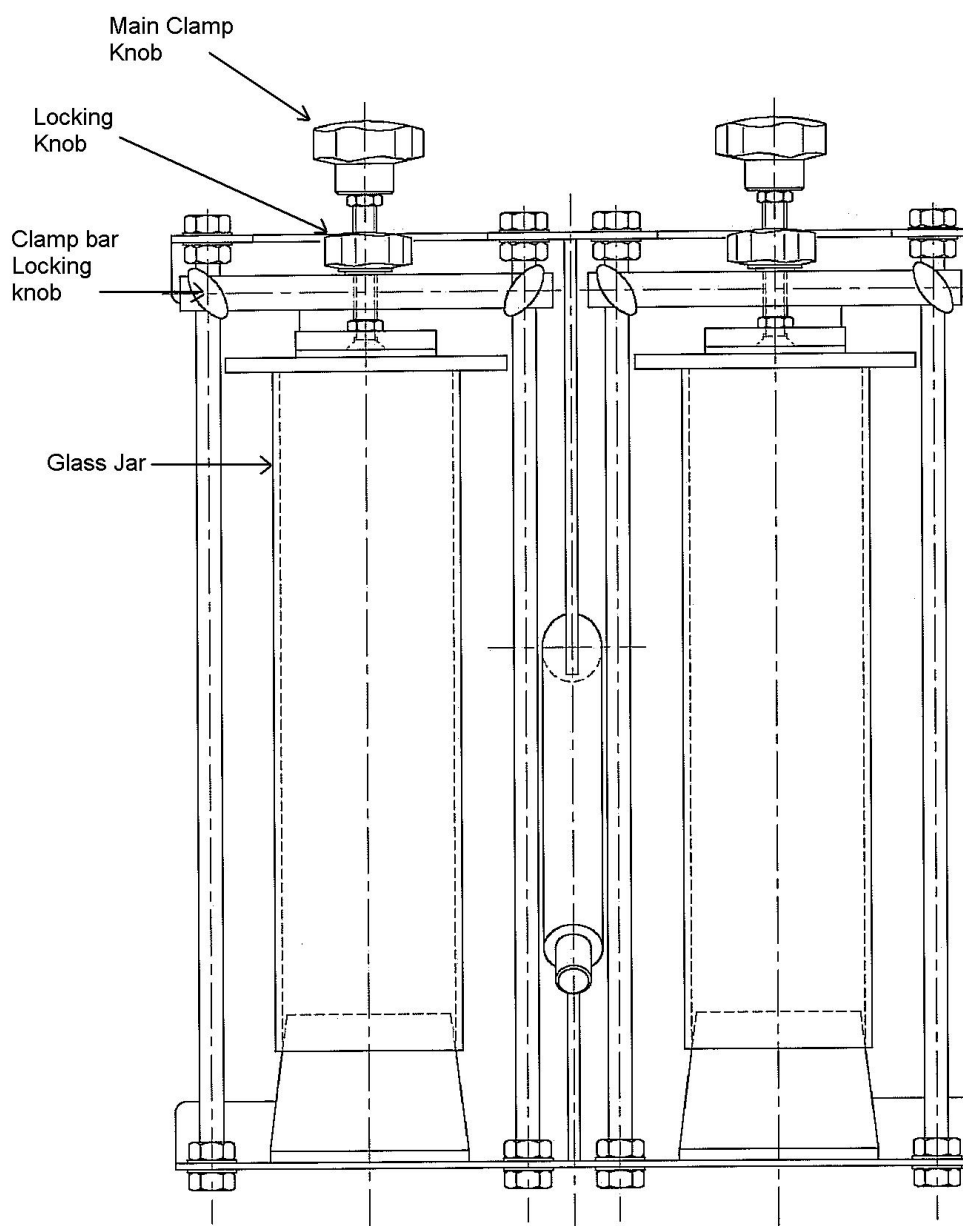


Fig 1

3 Operation

- 3.1 With the mains power disconnected and the samples loaded into the jars, assemble the glass jars into their correct positions on the shaker as shown in Fig 1.
- 3.2 Make sure the clamp bar is set to the correct position and is held tight by the two clamp bar locking knobs. Then tighten the two main clamp knobs to hold the two jars safely in place one by one. Finally tighten the locking knobs to stop the main clamp knob from loosening during the shaking process. As a final check make sure the jars are held tight and cannot be easily moved from their correct positions.
- 3.3 **CAUTION:** Make sure all personnel and any loose clothing is well away from the shaker before switching on the machine.
- 3.4 Switch on the shaker using the mains switch and allow the unit to run for the prescribed time period for the test.
- 3.5 **CAUTION:** When the test time is completed switch off the machine and allow the machine time to stop fully before attempting to remove the cylinders.
- 3.6 To remove the cylinders, first undo the locking knob and then undo the main clamp knobs and remove the cylinders separately.

4 Maintenance

- 4.1 Little or no maintenance is required apart from generally keeping the machine clean and dust free. However, periodically lubricate the clamp hand wheel stems to prevent undue wear and possible seizure. Also lightly grease bare metal surfaces to stop corrosion.
- 4.2 When the shaker unit is not in use, disconnect the mains power.
- 4.3 If it is proposed to scrap the shaker, this must be carried out in line with local disposal rules for this type of equipment.

DIRECTIVE ON WASTE ELECTRICAL & ELECTRONIC EQUIPMENT (WEEE)



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.

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.

Important document. Retain with product records.

GERMAN

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.

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.

Wichtige Informationen. Bitte zusammen mit den Produktinformationen aufbewahren.

FRENCH

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.

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.

Ce document est important. Conservez-le dans le dossier du produit.

ITALIAN

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.

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.

Documento importante. Conservare con la documentazione del prodotto.

DANISH

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.

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.

Vigtigt dokument. Opbevares sammen med produktdokumenterne.

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 uträdd 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.