

OPERATING INSTRUCTIONS

Buoyancy Balance

42-1000

<p>ELE International Chartmoor Road, Chartwell Business Park Leighton Buzzard, Bedfordshire, LU7 4WG England phone: +44 (0) 1525 249200 fax: +44 (0) 1525 249249 email: ele@eleint.co.uk http://www.ele.com ELE International, a division of Hach Lange Ltd.</p>	<p>Distributor:</p>	<p>ELE International Soiltest Product Division PO Box 389, Loveland, CO 80539 USA phone: +1 (800) 323 1242 fax: +1 (970) 663 9781 email: soiltest@eleusa.com http://www.eleusa.com</p>
<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 2003 ©</p>		

Contents

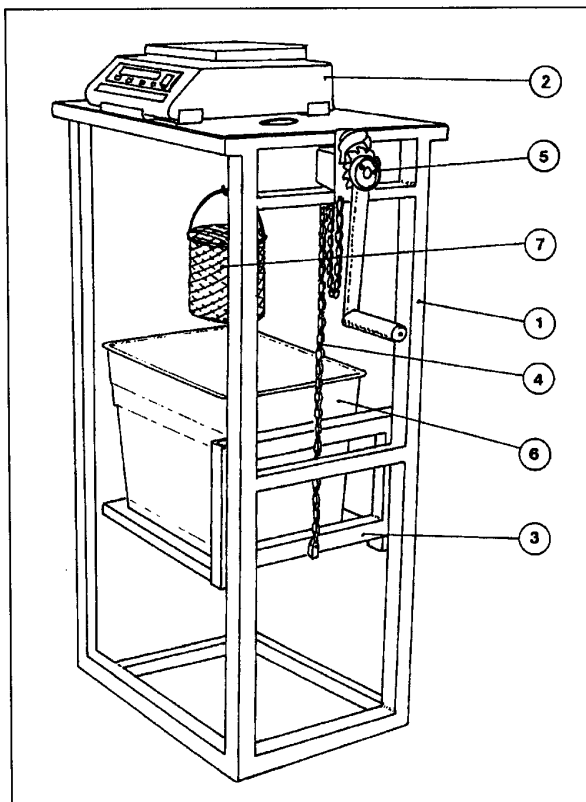
	Section	Page
1	Introduction	3
2	Description	3
3	Installation	4
4	Maintenance	4

1 Introduction

- 1.1 The determination of volume and weight of materials by the buoyancy method is used for several testing techniques in civil engineering and building construction.
- 1.2 This ELE buoyancy balance has been developed to encompass the following tests:
 - 1.2.1 Density of asphalt samples.
 - 1.2.2 Density of aggregates.
- 1.3 The model operates with an Electronic Top-pan programmed balance of 6 kg capacity readable to 0.1 g.
- 1.4 For a full description of the balance and its operation, refer to the manufacturer's handbook.
- 1.5 The unit incorporates an immersed weighing tank mounted on a platform which can be elevated by a manual action ratchet lifting gear, to allow the test specimen to be weighed in air and weighed in water using the same balance.

2 Description

2.1 Support frame



- 2.1.1 The support frame (1) comprises a welded steel frame on top of which is mounted the top loading flat pan balance (2).
- 2.1.2 A cantilever platform (3) to support the immersion tank is elevated by a chain (4) attached to it and operated by a manually operated ratchet mechanism (5).

- 2.1.3 The tank provided (6) is suitable to accept concrete cubes up to 150 mm (6 inch) and concrete cylinders up to 160 mm (6.3 inch) diameter. Alternatively any suitable tank can be arranged on the platform.
- 2.1.4 A suspension hook is provided to fit under the balance to support the wire basket (7) used to weigh the various items of material.

3 Installation

3.1 Assembly

- 3.1.1 Remove the balance from its packing.
- 3.1.2 Carefully invert it and remove the plastic cover and attach the suspension hook from the underside of the balance mechanism.
- 3.1.3 Position the balance on top of the immersion frame so that the hook passes through the large central hole.

3.2 Positioning

- 3.2.1 The unit can be operated on a rigid flat floor that will not be affected by any surrounding movements or vibration.
- 3.2.2 The balance is provided with a level indicator and adjustable feet. It is important to level the balance before use.

3.3 Electrical

- 3.3.1 A three core cable is provided with a plug to fit the socket at the rear of the balance. The cable is colour coded and should be connected as follows:

Brown	L	Live (power)
Blue	N	Neutral
Green/Yellow	E	Earth

If only a two wire supply is available, the earth wire should be connected to the nearest earth point e.g. metal cold water pipe.

The balance is factory set for either 110 – 120 V or 220 – 240 V 50/60 Hz AC supply. Check the rating plate on the rear of the balance before connecting to the supply.

4 Maintenance

4.1 Cleaning

- 4.1.1 The scale exterior and fitting may be wiped clean with a soft cloth moistened with water or a dilute soap or detergent solution.
- 4.1.2 Scouring cleaners, alkali cleaning solutions such as washing soda, or solvents should not be used.

4.2 Ratchet lift mechanism

This device should continue to operate without any attention for a considerable period of time.