

Edelman auger, one piece model.

- ❑ *Suitable for use in most soft soil types.*
- ❑ *3 cutting head sizes available.*



Specification

length	1.25m
cutting head sizes	50mm
	70mm
	100mm

Ordering Information

510-078	Edelman auger 50mm dia. One piece model.
510-080	Edelman Auger 70mm dia. One piece model.
510-082	Edelman Auger 100mm dia. One piece model.

ELE International
Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
<http://www.ele.com>

Distributor:

ELE Environmental Division



Riverside auger, one piece model.

- ❑ *2 cutting head sizes available.*
- ❑ *Suitable for use above and below ground water level and in most fine gravel soils.*



Specification

length	1.25m
cutting head sizes	70mm 100mm

Ordering Information

- 510-086** Riverside auger 70mm dia. One piece model.
510-088 Riverside auger 100mm dia. One piece model.

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Distributor:

ELE Environmental Division



Auger for stony ground, one piece model

- One piece stony ground auger.*
- Suitable for use with larger sizes of gravel and stones.*
- 2 cutting head sizes available.*

Specification

length	1.25m
cutting head sizes (diameter)	70mm 100mm

Ordering Information

510-092 Auger for stony ground 70mm dia. One piece model.

510-094 Auger for stony ground 100mm dia. One piece model.

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e-mail: envsales@eleint.co.uk
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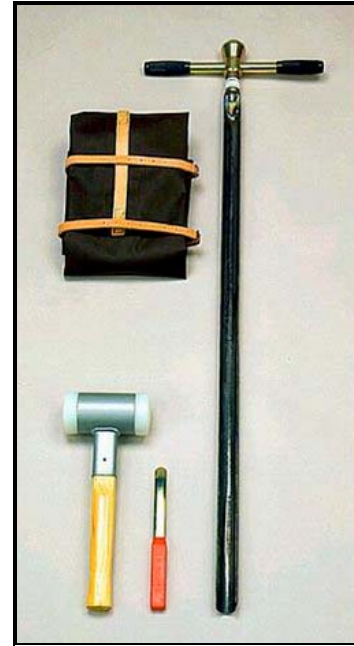
Distributor:

ELE Environmental Division



Gouge auger, one piece design.

- ❑ *Cutting head consists of a half-section steel tube with sharpened edges.*
- ❑ *Cuts a complete core up to 1 metre deep after a 180 degree rotation.*



Specification

length	1.25m
auger diameter	30mm

Ordering Information

510-100 Gouge auger 30mm dia. One piece design.

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Chartmoor Road, Chartwell Business Park,
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Distributor:

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Root auger

- Used in root density studies.*
- 1 piece instrument.*

To make studies of root densities it is necessary to relate growth to a known sample volume. This instrument is designed to obtain a soil sample 80mm in diameter by 150mm in length. The sample is ejected by a foot-operated mechanism.

Specification

sample dimensions 150mm long x 80mm (dia.)

Ordering Information

510-104 **Root auger**, one piece model.

ELE International

Chartmoor Road, Chartwell Business Park,
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Distributor:**ELE Environmental Division**

Grassland sampler

- ❑ **Sampler for collecting the top 50mm of turf in grassland.**

This tool permits rapid sampling of grass-covered land. Useful for evaluating root quality and manuring requirements for producing nutritional pasture for grazing or the correct quality for playing fields etc. By using the foot to assist penetration several samples are collected before emptying.



Specification

weight 0.75kg

Ordering Information

510-106 Grassland sampler.

ELE International

Chartmoor Road, Chartwell Business Park,
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Tel: +44 (0) 870 777 7717
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Distributor:**ELE Environmental Division**

Sectional auger handles & extension rods

- **For use with sectional augers.**

For increased versatility and convenience, sectional augers can be used. When joined via the bayonet and sleeve connection to a handle and down tube assembly, sectional augers have a working length of 1.25m. If extra depth is required then the auger may be lengthened using either the 0.5m or 1m extension rods.

Ordering Information

- 510-109** Handle & down tube assembly, 600mm long, weight 1.15kg.
- 510-110** Extension rod, 1 metre, weight 1.27kg.
- 510-111** Extension rod, 0.5 metre, weight 0.7kg.

510-109**510-111**

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Distributor:

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Edelman combination auger

- For general use in soft soils.*
- 600mm long with bayonet connection.*
- 3 cutting head sizes available (40, 70 & 100mm).*
- For use with 510-109, 510-110 & 510-111.*



Specification

weight	0.5kg (40mm dia. version).
	0.8kg (70mm dia. version).
	1.3kg (100mm dia. version).

Ordering Information

510-114	Edelman combination auger, 40mm.
510-115	Edelman combination auger, 70mm.
510-116	Edelman combination auger, 100mm.

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Distributor:

ELE Environmental Division



Edelman sand auger

- For use in sandy, unconsolidated soils.*
- 600mm long with bayonet connection.*
- 70mm cutting head.*
- For use with 510-109, 510-110 & 510-111.*



Specification

weight 1kg

Ordering Information

510-117 Edelman sand auger, 70mm.

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Fax: +44 (0) 1525 249 249
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Distributor:**ELE Environmental Division**

Auger for stony ground

- 70mm diameter cutting head.
- 600mm long with bayonet connection.
- For use with 510-109, 510-110 & 510-111.



Specification

weight 1.5kg

Ordering Information

510-118 Auger for stony ground

ELE International

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Distributor:**ELE Environmental Division**

Spiral auger

- 40mm diameter cutting head.
- 600mm long with bayonet connector.
- For use with 510-109, 510-110 & 510-111.

Specification

weight 0.8kg

Ordering Information

510-119 Spiral auger

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Distributor:

ELE Environmental Division



Hand auger set (5m)

- For sampling to 5m depth.
- 8 different auger heads.
- Maintenance kit provided.
- Carrying case provided.

A comprehensive set for augering all types of soil down to 5 metres in depth.



Specification

Set contains	4x Edelman augers riverside auger auger for stony ground spiral auger piston sampler gouge auger with bent spatula handle & extension rods sounding device 5m measuring tape gloves maintenance kit aluminium carrying case
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Ordering Information

510-124 Hand auger set for depths to 5 metres.

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http://www.ele.com

Distributor:**ELE Environmental Division**

Hand auger set (7m)

- ❑ **For sampling to 7m depth.**
- ❑ **Comprehensive range of soil sampling equipment.**
- ❑ **13 different auger heads.**
- ❑ **0.6m & 1m auger top rods.**
- ❑ **Maintenance kit included.**

The most comprehensive soil sampling set ELE supplies. Set contains all the equipment required to carry out detailed soil sampling programs throughout a wide variety of soil types, both above and below the water table.



Specification

Set contains:-

8x Edelman augers (various types & sizes).	14x plastic shields.
2x riverside augers (70 & 100mm dia.).	clamps.
2x auger for stony ground.	baler.
1x gouge auger.	baler head.
piston sampler.	sounding device.
auger top rods (1m & 0.6m).	5m measuring tape.
6x extension rods (1m).	gloves.
7 plastic auger tubes.	aluminium carrying case.

Ordering Information

510-128**Hand auger set** for depths to 7 metres.**ELE International**

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http://www.ele.com

Distributor:**ELE Environmental Division**

Peat auger set

- ❑ *For sampling to 10 metres depth.*
- ❑ *Used to withdraw an undisturbed sample.*

This set is used for sampling swampy peat soils and weak clays found at the bottom of rivers and lakes. The kit comes complete with a padlocked aluminium transport case.

Note: The peat auger set utilises screw joints between extension rod sections.

Specification

set contains:-
transit case
Edelman auger 100mm dia.
handle
9 off screw jointed extension rods 1 metre.
peat sampler 500mm by 50mm dia.
spatula
maintenance kit.
gloves



Ordering Information

510-120 Peat auger set, for up to 10m sampling depth.

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Distributor:

ELE Environmental Division



Core-cutter apparatus

- ❑ **Facilitates collection of undisturbed soil cores.**
- ❑ **Useful in soil moisture and density studies.**
- ❑ **2 sizes available; 50 & 100mm diameter.**

In this method of determining the dry density of in-situ soil, a core-cutter of known volume is driven into the soil by a rammer. The core-cutter is dug out and trimmed and the soil inside weighed and dried for a moisture and density check.



Ordering Information

50mm core cutter set

- 530-178** Hammering head, for sample rings 53mm dia.
- 530-179** Guide cylinder, for sample rings 53mm dia.
- 530-175** Sample ring, x1, outside dia. 53mm, 50mm dia inside dia. Content 100cc.
- 530-176** Plastic cover, for 53mm dia sample rings. Pack of 2
- 510-146** 24 Sample rings, each ring being 53mm outside dia. x 50mm inside dia. x 51mm long. Set includes 48 plastic end covers and an aluminium carrying case.

100mm core cutting set

- 29-5300** Core cutter, 100mm inside dia. x 130mm long, cold drawn steel tube, plated for protection.
- 29-5320** Driving dolly, for use with 29-5300. Steel construction.
- 29-5340** Driving rammer, for use with 29-5300 & 29-5320.

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Distributor:

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Sample rings (x24)

- **24 Sample rings supplied with 48 end caps, and an aluminium carrying case.**

For laboratory testing of soil to find the moisture retention properties, undisturbed samples of a uniform size are required. The cutting rings used, sometimes referred to as pF rings, are of a standard size and weight and are made of stainless steel. Sample rings are filled either on the surface, from various levels down the borehole, or from profile pits.



Specification

inside diameter	50mm
outside diameter	53mm
length	51mm

Ordering Information

510-146 Sample rings (x24) with end caps and aluminium carrying case.

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Distributor:

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Sampling kit with 24 sample rings.

- For sampling soils above the water table.*
- Sampling down to 2 metres depth.*

Note. For dimensions of sample rings see 510-146 sampling rings.



Specification

kit contains:-

- 1x Edelman auger.
- 1x riverside auger.
- 1x handle and down tube.
- 2x extension rods.
- 1x open ring holder.
- 24x numbered sample rings.
- cleaning brush.
- carrying bag.

Ordering Information

510-140 Sampling kit with 24 sample rings, for use above the water table.

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Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
<http://www.ele.com>

Distributor:**ELE Environmental Division**

Sampling kit with water retentivity rings

- *For sampling above and below the water table.*

Note. For dimensions of water retentivity rings see 510-146 sampling rings.



Specification

kit contains:-

- 1x Edelman auger
- 1x riverside auger
- auger rod with beating head
- 2x spanners
- 24x stainless steel rings with plastic end caps
- hammering head with guide cylinder
- ring holder for hard layers
- extension rod 500mm long case for rings
- bent spatula (for extrication of samples)
- brush
- carrying bag

Ordering Information

510-144 Sampling kit with water retentivity rings – for sampling above and below the water table.

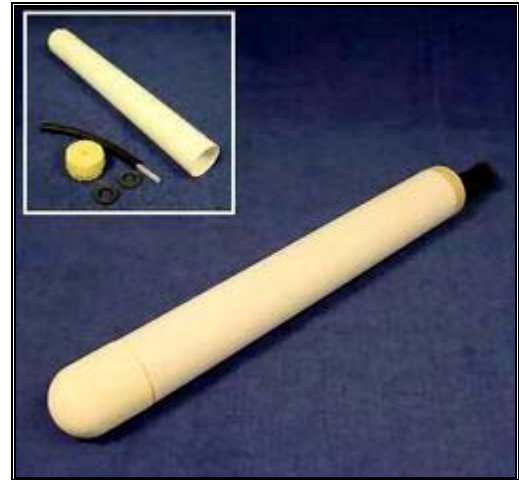
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Distributor:**ELE Environmental Division**

Soil water samplers (lysimeter)

- Samples water from saturated and unsaturated soils.
- Easy installation.
- Requires no maintenance.
- Ideal for nitrate monitoring.
- 3 sampler sizes available.



This range of soil water samplers can be installed either above or below the water table. They are designed to collect soil water, which can then be extracted from the device and taken to the laboratory for analysis. The sampler is installed into a hole made with a screw or bucket auger. A negative pressure of up to 85 centibar is applied to the tube using a hand pump. Water enters the sampler through the porous ceramic cup at the end of the sampler. Water samples can be collected as required utilising the universal extraction kit (450-066). The rate of water accumulation depends on the soil type and moisture content.

Nitrate leaching from fertiliser applications can be monitored simply and effectively using these instruments.

Note. 450-066 Universal extraction kit is required for the operation of soil water samplers.

Specification

sampler diameter	all are 48mm in dia.	Universal extraction kit contains;	vacuum hand pump
sampler lengths	30cm (450-060) 60cm (450-062) 90cm (450-064)		60ml syringe 2m nylon tubing
each soil water sampler has;	plastic tube ceramic cup stopper assembly neoprene tubing pinch clamp		

Ordering Information

450-060	Soil water sampler , 30cm in length, 48mm dia.
450-062	Soil water sampler , 60cm in length, 48mm dia.
450-064	Soil water sampler , 90cm in length, 48mm dia.

Accessories

450-066	Universal extraction kit.
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Spares

450-060/10	5m nylon tubing , for sample collection.
450-060/12	Stopper assembly , for soil water sampler, including neoprene tubing & pinch clamp.

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 http://www.ele.com

Distributor:

ELE Environmental Division



Polythene, self-sealing sample bags

- ❑ **3 sizes available.**

Essential for isolating samples from potential contamination or spillage.

Specification

510-164	120mm wide x 200mm deep
81-4769	200mm wide x 300mm deep
510-168	300mm wide x 400mm deep

Ordering Information

510-164	Polythene self-sealing bags 120x200mm (pack of 100).
81-4769	Polythene self-sealing bags 200x300mm (pack of 100).
510-168	Polythene self-sealing bags 300x400mm (pack of 100).

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Distributor:

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Soil colour charts

- ❑ *Covers both temperate and tropical soils.*
- ❑ *Apertures cut between adjacent colours for easy viewing of sample against colour*
- ❑ *Charts held in pocket-sized loose-leaf binder*

A standard identification of colour is an essential component of a soil-profile description. Soil colour charts are widely used by civil engineers, agronomists, soil scientists, geologists and archaeologists as a means of providing a standard colour reference.

The soil colour chart set consists of 7 constant hue charts on a neutral grey chart stock. Included in the set is a Grey Colour Chart for submerged soils. This displays 28 matt colour chips, weak chromas and neutrals on value level 4 to 7 for hues, 5GY, 5G, 5BG and 5B. Weight 910 g

Set of 2 tropical soil colour charts, for use with reddish soils, with colours displayed on neutral grey and apertures to facilitate viewing samples directly against standard colours. Weight 230g.



Ordering Information

- 23-7100** Soil colour charts, set of 7.
23-7120 Tropical soil colour chart, set of 2.

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Distributor:**ELE Environmental Division**

Soil texture set

- Easy to use.**
- Yields rapid results.**
- Produces internationally standardised results.**

Texture is one of the most important properties of soil. Soil particle sizes vary 10,000 fold from the finest particles of clay to fine gravel. The surface area of these particles therefore, varies tremendously, along with the total surface area of a unit volume of soil. As the total surface area of a unit volume of soil, determines the amount of water and nutrients that the soil can hold, knowledge of the soil texture is of great significance. This soil texture kit enables the user to break down soil samples into their sand, silt and clay fractions, to permit grading of the soil against a standard soil classification chart.

Specification

set contains	3x calibrated, conical tubes
	1x plastic tube stand
	dispersing reagent
	flocculating reagent (for 500 tests)

Ordering Information

512-018 Soil texture set

ELE International

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Distributor:**ELE Environmental Division**

Agricultural soil sieve sets

- **2 Sets available.**

These set provides a quick method of separating coarse and fine soil components from a dry sample to enable a preliminary analysis to be carried out on site.

The agricultural soil sieve set comprises; 5 nesting sieves and receiving pan.

The pocket interchange sieve set comprises; a two piece sieve mesh holder, 5 mesh discs and reciever.



Specification

Agricultural soil sieve set

diameter	125mm
aperture diameters	5mm 3mm 2mm 1mm 0.5mm
weight	4kg

Pocket interchange sieve set

diameter	108mm
aperture diameters	2mm 1mm 0.5mm 0.25mm 0.1mm

Ordering Information

512-024 **Agricultural soil sieve set**, for separating coarser soil components.

512-030 **Pocket interchange sieve set**, for separating the finer granular structures of soils.

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Distributor:

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Soil pH kit

- Pocket-sized kit.**
- Easy to use.**
- Reagent tablets for 100 tests.**
- Specially calibrated soil tester block.**

This inexpensive kit is used to determine the pH of soils. A small sample of soil is mixed with de-ionised water and a reagent tablet. The resulting colour change is compared against the standards printed on the side of the test block.



Specification

no. of tests	100
pH range	4-8
weight	150g

Ordering Information

513-012 Soil pH kit, for 100 tests.

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Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
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Distributor:

ELE Environmental Division



Lime requirement kit

- ❑ **Determines the amount of liming required for a particular soil.**
- ❑ **Supplied in a plastic carrying case.**
- ❑ **Contains sufficient tablet reagents for 100 Soil pH and 100 Lime Requirement tests.**

The lime requirement test is carried out to determine the amount of liming required for a particular soil to regulate pH. The standard method for assessing lime requirement is to measure the extent to which the soil depresses the pH of a buffered solution.

This kit contains a calibrated soil tester block and reagent tablets. Colour changes are compared with the standards printed on the front of the test block in terms of lime required (tonnes per ha.).

The lime requirement of a mineral soil is defined as the number of tonnes of calcium carbonate calculated to raise the pH of a hectare of soil, 150mm deep, under field conditions.



Specification

number of tests	100
range	0-6.5 T/Ha
weight	595g

Ordering Information

513-014 Lime requirement kit

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Distributor:

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Major nutrients test kit (N,P & K)

- No weighing of samples required.**
- Safe and accurate to use.**
- Consistency of test results.**
- No storage or shipping hazards.**
- Reagents for 50 tests.**
- kit supplied in a carrying case.**

Three major nutrients required by every plant are; Nitrate (N), which promotes foliage growth and increases yield; Phosphate (P) to stimulate root growth; and Potassium (K), which hardens tissue and increases resistance to disease.

The major nutrient kit enables each of these important elements to be determined so that appropriate fertiliser recommendations can be made. The tests are carried out on aqueous extracts of the soil so a field water de-ioniser is provided.



Specification

no. of tests	50 of each parameter
weight	2.5kg

Ordering Information

513-016 Major nutrients test kit (N, P & K)

Spares

513-016/10 Extraction and test kit, for use with 513-016. Sufficient for 50 tests of each parameter.

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Distributor:

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Combination test kit for soils

- Kit contains tests for;** *Lime requirement*
Potassium
Nitrate nitrogen
Calcium
Phosphate
Magnesium
pH
- Sufficient reagent for 50 test of each parameter.**
- Field water de-ioniser is included.**
- Kit supplied in a carrying case.**

This kit provides a combination of tests routinely carried out on agricultural soil. The kit comprises extraction and reagent tablets to carry out 50 determinations of soil; pH and lime requirement; the major nutrients N, P and K; and Ca & Mg availability. The kit is supplied with all necessary extraction and reagent tablets, test tubes and field water de-ioniser.

Specification

no. of tests	50 (for each parameter)
weight	3.5kg

Ordering Information

513-018 **Combination test kit for soils**

Spares

513-018/10 **Extraction and test reagent pack**, sufficient for 50 tests of each parameter.

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Distributor:

ELE Environmental Division



Soil management kit with photometer

- Comprehensive range of tests.*
- Photometer offers high accuracy of results.*
- Kit supplied in a rugged carrying case.*

This is a photometer based kit which contains the tests required for basic soil management. Accurate assessments of the principal nutrients; nitrate nitrogen, phosphate, potassium and magnesium can be made using the photometer in conjunction with tablet extraction and reagent systems. Also included are tests for pH and lime requirement.



Specification

no. of tests	50 (for each test)
weight	3.75kg

Ordering Information

513-019 Soil management kit, with photometer.

Spares

513-019/10 Extraction and test reagent pack, sufficient for 50 tests of each parameter. Weight: 2.75kg.

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Distributor:**ELE Environmental Division**

Complete soil analysis test kit with photometer

- ❑ **Comprehensive suite of soil tests.**
- ❑ **Range includes; pH, lime requirement, Al, Chloride, Nitrate nitrogen, Cu, PO₄, Fe, K, Mn, Ca, SO₄, Mg & Ammonia Nitrogen.**
- ❑ **Photometer provides high result accuracy.**
- ❑ **Used both in the field and in the laboratory.**



This kit offers a comprehensive system of soil tests for a complete diagnosis of soil fertility. The kit covers both soil pH and lime requirement, all of the macro-nutrients and most of the essential micro-nutrients. The kit also incorporates an electronic photometer for the accurate digital assessment of the test colours produced in the tests.

This outfit is equally suitable for field or laboratory use, and enables a full analysis of soil to be performed at a fraction of the price of normal laboratory analysis. The equipment is supplied in a carrying case and comes complete with all necessary reagents and test tubes, together with a field water de-ioniser pack.

Specification

no. of tests 50 of each test
equipment supplied photometer
 field water de-ioniser

tests supplied	pH, range 0-14	ammonia, 0-75 mg/l N
	lime requirement, range 0-34 tonne/ha	aluminium, 0-50 mg/l
	nitrate, 0-25 mg/l N	chloride, 0-1000 mg/l Cl
	phosphate, 0-150 mg/l P	copper, 0-25 mg/l
	potassium, 0-725 mg/l	iron, 0-5 mg/l
	calcium, 0-2500 mg/l	manganese, 0-25 mg/l
	magnesium, 0-500 mg/l	sulphate, 0-300mg/l

weight 3kg

Ordering Information

513-022 Complete soil analysis test kit, with photometer.

Spares

513-022/10 Extraction and test reagent pack, sufficient for 50 tests of each parameter.

ELE International
Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
http://www.ele.com

Distributor:

ELE Environmental Division



**Complete soil analysis test kit
with photometer, pH and conductivity meters**

- ❑ *Comprehensive suite of soil tests.*
- ❑ *Range includes; pH, lime requirement, Al, Chloride, Nitrate nitrogen, Cu, PO₄, Fe, K, Mn, Ca, SO₄, Mg & Ammonia Nitrogen.*
- ❑ *Photometer provides high result accuracy.*
- ❑ *Includes conductivity meter.*
- ❑ *Used both in the field and in the laboratory.*



This kit is essentially the same as the complete soil testing kit 513-022. However, in addition, it also contains digital meters for conductivity and pH. This outfit is particularly recommended where highly accurate measurements of the pH of soil are required, or where the dissolved salt content of the soil is an important factor in agricultural management.

Specification

no. of tests	50 of each test	
equipment supplied	photometer field water de-ioniser pH meter Conductivity meter	
tests supplied	pH, range 0-14 lime requirement, range 0-34 tonne/ha nitrate, 0-25 mg/l N phosphate, 0-150 mg/l P potassium, 0-725 mg/l calcium, 0-2500 mg/l magnesium, 0-500 mg/l	ammonia, 0-75 mg/l N aluminium, 0-50 mg/l chloride, 0-1000 mg/l Cl copper, 0-25 mg/l iron, 0-5 mg/l manganese, 0-25 mg/l sulphate, 0-300mg/l
weight	3kg	

Ordering Information

513-024 Complete soil analysis test kit, with photometer and meters for pH and conductivity.

Spares

513-024/10 Extraction and test reagent pack, sufficient for 50 tests of each parameter.

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Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
http://www.ele.com

Distributor:

ELE Environmental Division



Soil test replacement packs

- ❑ **Replacement reagent packs for 513-016, 513-018, 513-019, 513-022 & 513-024 soil analysis kits.**
- ❑ **Field water deioniser available for providing water suitable for soil tests.**

The field water deioniser comprises a container with ion-exchange resin, which is filled from the available water supply. The resin removes dissolved minerals from the water so that after a short period, deionised water may be poured from the container for use in the soil tests. Each container can be refilled approximately 10 times (maximum of 5 litres of water). The exact number of times is dependent on the purity of the water supply.

Ordering Information

513-022/20	Extraction N (Powder)
513-022/21	Extraction P (250 bottle)
513-022/22	Extraction K (Powder)
513-022/23	Extraction A (250 bottle)
513-022/24	Extraction C (250 bottle)
513-022/25	Soil pH (50 foil)
513-022/27	Nitratetest (powder)
513-022/28	Nitricol N (50 foil)
513-022/29	Acidifying P (50 bottle)
513-022/30	Phosphate P (50 foil)
513-022/31	Acidifying S (100 foil)
513-022/32	Potassium K (50 foil)
513-022/33	Calcium S (250 foil)
513-022/34	Ammonia No.1/No.2 (50 foil)
513-022/35	Ammonia No.1s (50 foil)
513-022/36	Ammonia No. 2s (50 foil)
513-022/37	Chloride S (250 bottle)
513-022/38	Iron LR (50 foil)
513-022/39	Manganese No.1s (50 foil)
513-022/40	Manganese No.2s (50 foil)
513-022/41	Sulphate S (50 foil)
513-022/42	Magnecol S (50 foil)
513-022/43	Coppercol No.1s (50 foil)
513-022/44	Coppercol No.2s (50 foil)

Accessories

- 513-011** **Field water deioniser**, yields up to 5l of water. Weight 50g

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Chartmoor Road, Chartwell Business Park,
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Distributor:

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Hydroponics complete analysis kit

- Portable test kit.**
- Tests include; NO₃, PO₄, K, Ca, Mg, NH₃, HCO₃, B, Cl, Cu, Fe, Mn & SO₄.**
- photometer included.**
- Supplied with carrying case.**

Hydroponics techniques are increasingly used in the cultivation of horticultural crops. Using these methods crops are grown in an inert medium. A solution drains slowly past the roots in such a way that the plant can obtain water and oxygen as well as a balanced supply of major and minor nutrients. The concentration of nutrients and trace elements in hydroponics solutions is vitally important to ensure that the crop remains healthy and gives the maximum yield. Analysis of the feed solution is an essential aspect of hydroponics cultivation.

Specification

Reagents	Range		no. of each reagent weight	
Nitrate (N)	0-30mmol/l	0-400mg/l		50
Phosphate (P)	0-4mm/l	0-130mg/l		4kg
Potassium (K)	0-30mmol/l	0-1000mg/l		
Calcium	0-25mmol/l	0-1000mg/l		
Magnesium	0-15mmol/l	0-400mg/l		
Ammonia	0-10mmol/l	0-150mg/l		
Bicarbonate	0-10mmol/l	0-600mg/l		
Boron	0-200µmol/l	0-2.5mg/l		
Chloride	0-30mmol/l	0-1000mg/l		
Copper	0-30µmol/l	0-2.0mg/l		
Iron	0-100µmol/l	0-5.0mg/l		
Manganese	0-50µmol/l	0-3.0mg/l		
Sulphate	0-20mmol/l	0-2000mg/l		

Ordering Information

513-028 Hydroponics complete analysis kit

Spares

513-028/10 Refill kit for complete analysis kit

ELE International
 Chartmoor Road, Chartwell Business Park,
 Leighton Buzzard, Beds, LU7 4WG, England
 Tel: +44 (0) 870 777 7717
 Fax: +44 (0) 1525 249 249
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Distributor:

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Salinity bridge measuring instrument

- ❑ **Rugged design.**
- ❑ **3 conventional resistance ranges up to 100,000 ohms.**
- ❑ **Allows optimisation of crop yield by ensuring that non-toxic water is added to the soil.**
- ❑ **Assists in irrigation scheduling.**
- ❑ **Assists in correct decisions on crop suitability.**
- ❑ **Enables user to maintain healthy soil structure by warning of potential build up of damaging saline deposits.**

Salinity in soils is common in regions where evaporation exceeds precipitation on an annual basis. Successive wetting and drying events lead to the accumulation of crystalline salts in the soil profile. The level of salinity is usually expressed as the electrical conductivity (EC), depending on requirements, this may be the EC of either irrigation water or the soil solution.

This rugged yet lightweight, field-portable, solid state sine wave AC resistance bridge provides 3 conventional resistance ranges up to 100,000 ohms in addition to a special automatic conductivity circuit for use with the sensors described below. This instrument is the only salinity bridge specifically compensated for the capacitance characteristics of its related sensors to give accurate, sensitive salinity measurements.

Resistance terminals on panel accept banana plugs, wire or wire lugs. Receptacle on panel accepts polarised plug from salinity sensors. The instrument also features a direct reading range compatible with 513-136 salinity sensors, range 1.5 to 40 millimhos per cm (milli-siemens).

The salinity sensors (purchased separately), are spring-loaded for improved sensitivity. The internal, coiled spring ensures continued uniform contact of the sensing surface with the surrounding soil for more accurate and replicable measurement. Each unit is supplied with calibration data, and sensor with thermistor slope setting values marked on each sensor. The sensors are fully weather, and corrosion proof.

The plug terminal adapter is used when the resistance of the electrolytic element, and the thermistor within the soil salinity sensors are measured separately.

Specification

Salinity bridge instrument

3 accuracy resistance ranges 0-1000 ohms
0-10,000 ohms
0-100,000 ohms

power requirements 4x 9V batteries

overall dimensions (h x w x d) 152 x 292 x 238mm

weight 3kg

Salinity bridge sensor

dimensions 16mm dia. x 28.5mm long

weight 0.05kg

Plug terminal adapter

weight 0.1kg

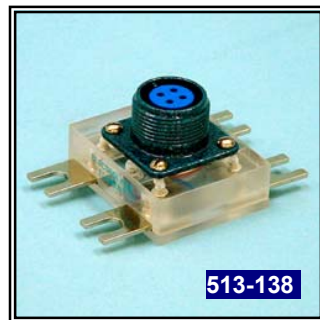
Ordering Information

513-135 Salinity bridge measuring instrument

Accessories

513-136 Salinity sensor

513-138 Plug terminal adapter



ELE International
Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
http://www.ele.com

Distributor:

ELE Environmental Division

Quickdraw soil moisture probe

- The world's only portable, fast reading tensiometer.*
- Measures soil water tension.*
- Accurate.*
- Inexpensive.*
- 2 sizes available.*
- Supplied with coring tool and carrying case.*

The Quickdraw soil moisture probe is an accurate, inexpensive means for measuring the moisture available in the soil for plant uptake. The Quickdraw probe is ready for immediate use and requires no adjustment or calibration. No batteries are required and its ease of maintenance means that these tensiometers give years of continuous, trouble free service. Used extensively and accepted enthusiastically by farmers, growers, groundsmen and agronomists, world-wide.



Specification

available sizes	305mm long 460mm long
weight	1kg

Ordering Information

- 514-010** Quickdraw soil moisture probe, 305mm long, supplied with coring tool & carrying case.
514-012 Quickdraw soil moisture probe, 460mm long, supplied with coring tool & carrying case.

Spares

- 514-010/10** Sensing tip
514-010/11 O-ring tip seal, 2 required.

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Chartmoor Road, Chartwell Business Park,
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Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
http://www.ele.com

Distributor:

ELE Environmental Division



Dial-type soil moisture gauge tensiometer

- ❑ **Durable weather and soil resistant tensiometer.**
- ❑ **Designed for permanent installation.**
- ❑ **Rapid response.**
- ❑ **3 lengths options.**

Accurate yet inexpensive, this tensiometer is ideal for long term deployment in both field and greenhouse environments. The tensiometer is easy to install via the use of the custom insertion tool (514-030), and maintain, with a full range of spares available. Rapid response is ensured by the sensitive 0-100 centibar dial gauge, having a re-calibration facility. For convenience, a range of lengths is available for monitoring at variable depths.

Note. For operating these tensiometers, a service kit (514-034) is required.

The insertion tool (514-030) is used to provide a clearance hole and also to maintain existing hole diameter for the tensiometer.

Specification

length options 300mm
 600mm
 900mm

weight 1kg

Ordering Information

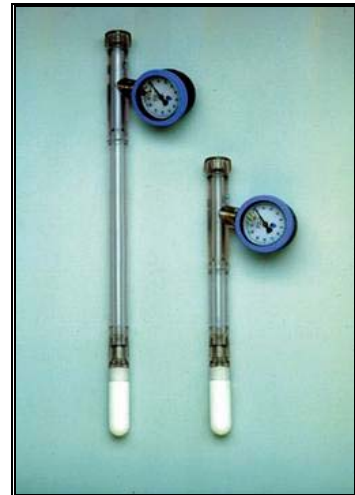
- 514-020** **Dial-type gauge**, for insertion into the ground, 300mm long.
- 514-022** **Dial-type gauge**, for insertion into the ground, 600mm long.
- 514-024** **Dial-type gauge**, for insertion into the ground, 900mm long.

Accessories

- 514-030** **Insertion tool**
- 514-034** **Service kit**, required to operate and maintain dial-type soil moisture gauge tensiometers. Includes; vacuum hand pump, anti-algal fluid and filling bottle.

Spares

- 514-020/10** **O-ring cap seal**
- 514-020/11** **Screw-top porous ceramic cup**
- 514-020/12** **O-ring cup seal**
- 514-020/13** **Vacuum dial gauge**



514-030

ELE International
Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
http://www.ele.com

Distributor:

ELE Environmental Division



Jet fill tensiometer

- ❑ **Advanced, sensitive tensiometer.**
- ❑ **Patented Jet-fill system.**
- ❑ **High accuracy at low cost.**
- ❑ **Fast response.**
- ❑ **6 length options available.**

The most advanced and sensitive instrument available for the field measurement of soil moisture. The Jet-fill range includes patented features for superior accuracy and even faster response time whilst retaining the ease of use, maintenance and durability of its counterparts.

At the push of a button, the Jet-fill action releases water into the tensiometer body with no disturbance of the surrounding soil. The large volume, detachable water reservoir enables the unit to be left in place for several months. The recalibrator-style gauge permits zero-point adjustments for research applications.

Specification

length options	150mm
	300mm
	460mm
	600mm
	900mm
	1220mm

weight 1kg

Ordering Information

514-035	Jet Fill tensiometer, 150mm long.
514-036	Jet Fill tensiometer, 300mm long.
514-037	Jet Fill tensiometer, 460mm long.
514-038	Jet Fill tensiometer, 600mm long.
514-040	Jet Fill tensiometer, 900mm long.
514-041	Jet Fill tensiometer, 1220mm long.

Accessories

514-030	Insertion tool
514-034	Service kit, required to operate and maintain dial-type soil moisture gauge tensiometers.
514-042	Extension tube, 1500mm long.

Spares

514-020/10	O-ring cap seal
514-020/11	Screw-top porous ceramic cup
514-020/12	O-ring cup seal
514-020/13	Vacuum dial gauge



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Distributor:

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Soil moisture meter

- ❑ **Rugged, hand-held unit for field derivation of soil moisture.**
- ❑ **Buriable soil moisture blocks allow moisture levels to be measured throughout the soil profile.**
- ❑ **Easy to use.**
- ❑ **Battery operated.**

This instrument is the ideal companion for the new, slim design moisture blocks, which are placed in the soil and the leads connected in turn, to the meter. The measured resistance of the block, in ohms, is converted to a corresponding reading between 0 and 100 on an empirical scale. In practical terms this empirical range covers the soil suction range 0.2 to 15bar and using the calibration graphs of soil moisture content (dry weight percentage) against soil suction in bars, the soil moisture content may be determined.

In practical situations, resistance blocks are often placed at various depths in the soil to monitor soil moisture content profiles across the root zone. Experience will determine the optimum depth of placement depending on the particular soil type.

The soil moisture blocks are designed for use with this particular meter and give a uniform and quick response, made possible by their slim design (20mm diameter).



Specification

measuring range	0-100 empirical range corresponds to 0.2-15 bar
power requirements	1x 9V battery (supplied)
weight	0.24kg

Ordering Information

514-126 Soil moisture meter

Accessories

- 514-128** Soil moisture block, 0.9m long lead.
- 514-130** Soil moisture block, 2.7m long lead.
- 514-132** Soil moisture block, 4.5m long lead.

ELE International
Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
http://www.ele.com

Distributor:

ELE Environmental Division



Soil moisture meter

- ❑ **Soil moisture meter uses dielectric constant method for determination of soil moisture.**
- ❑ **Portable, battery operated meter.**
- ❑ **Response time less than 0.5 seconds to 99% of change.**
- ❑ **Robust, buriable Theta probe is maintenance free.**
- ❑ **Excellent temperature and salinity stability.**

This portable, battery operated instrument provides instant readout and storage of soil moisture data. Using the dielectric constant method the handset collects and stores data produced by the theta probe, which can be viewed on the LCD display and also downloaded to a PC. Each time-stamped reading includes a unique sample number, a plot identification number (A to Z), and a sensor location number (1 to 255). The LCD indicates battery status and gives automatic low-battery warnings.



Specification

soil moisture range	zero to saturation 0-1.5V on voltage range	battery life	approx. 1000 readings
accuracy/resolution	1mV (in unconverted mV output mode) ±0.05 m ³ /m ³ , in soil conductivity range 0-0.1 S/m. (Can be improved by calibration to a specific soil type).	memory	up to 1100 time stamped readings
reading storage options	soil moisture content (m ³ /m ³) soil moisture content + unconverted mV output volumetric water content (% Vol.) volumetric water content + unconverted mV output water deficit (mm) water deficit + volumetric water content (% Vol.) water deficit + soil moisture content water deficit + unconverted mV output unconverted mV output	operating temp	0-40°C
		handset size	150mm x 80mm x 40mm
		display dimensions	160 x 85 x 30mm
		handset weight	450g
		sensor dimensions	185mm length, 40mm diameter

Ordering Information

514-180 Soil moisture meter

ELE International
 Chartmoor Road, Chartwell Business Park,
 Leighton Buzzard, Beds, LU7 4WG, England
 Tel: +44 (0) 870 777 7717
 Fax: +44 (0) 1525 249 249
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Distributor:

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MiniTrase soil moisture analyser kit

- ❑ **Small and lightweight TDR (Time Domain Reflectometry) moisture analyser.**
- ❑ **High accuracy.**
- ❑ **Large range of standard waveguides available.**

A logical development of Soilmoisture's Trase system, the new Minitrase retains all of the superior capabilities of the Trase unit, but now features a more compact, lightweight design, which is ideal for extended field operation. In common with the Trase, this unit provides the largest signal pulse of any standard commercial TDR instrument. With 1,200 point sampling resolution and 5,000 reading capacity, the MiniTrase is a market leader in high quality TDR equipment.

Note. Waveguides need to be purchased separately.

Specification

Range	0-100% volumetric moisture content.
Accuracy	better than ±2%.
Operating temperature	0 to +45°C.
Power supply	Internal rechargeable Ni-Cad battery. Mains power adapter also supplied.
memory	5610 readings or 180 TDR graphs. Automatic time, date and user defined tag field

MiniTrase kit includes	MiniTrase Palm IIIc colour PDA Trase Term PC software backpack carrying case all necessary cables battery charger standard waveguide connector
------------------------	--



Ordering Information

514-190/01 MiniTrase soil moisture analyser kit, with rechargeable battery and (240V) charger.

Accessories

- 514-160/10** Spare wave guides, 150mm (set of 2).
- 514-162** Wave guides, 300mm (set of 2), 2m lead.
- 514-164** Wave guides, 600mm (set of 2), 2m lead.
- 514-165** Wave guides, 700mm (set of 2), 2m lead.
- 514-166** Buriable wave guide, 2x 200mm long parallel stainless steel tubes with 1.8m coaxial lead.
- 514-167** Insertion tool, for use in dry or compacted soils.
- 514-168** 20m extension lead, for use with wave guides.
- 514-169** Alignment block, for inserting wave guides into the soil.

ELE International
Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
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Distributor:

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TRASE Soil moisture analyser

- ❑ **Measures volumetric water content of soil.**
- ❑ **Time Domain Reflectometry yields an unsurpassed level of accuracy.**
- ❑ **Direct readout of volumetric water content.**
- ❑ **Rugged, waterproof and portable.**
- ❑ **Graphic display for in-depth soil studies physics studies.**



The Trase system uses Time Domain Reflectometry (TDR) to measure the volumetric water content of soils and other media. Measurements are completed within 15 seconds, and can be viewed immediately or stored for later use. The data is displayed digitally on screen along with the TDR waveform. The comprehensive keyboard enables the operator to set the date and time, define the units of measurement, designate and label the memory storage area in use, and define the protocols necessary to interface the instrument with computer hardware for data transfer. There is also a comprehensive help function available. The data screen provides a database listing of current readings and graphs, and provides various methods of managing the data. The search feature automatically sorts through thousands of readings and hundreds of graphs to locate the desired information to be displayed or reviewed. The graph screen is a powerful tool for soil physics investigation e.g. infiltration studies, salinity and many experimental programmes. Two independently, key pad controlled, vertical line markers allow precise time measurements between two points on the TDR waveform. Real time and difference in time in nanoseconds is constantly displayed to the two vertical line markers. A computer can be connected via the RS-232 port to enable remote operation of the unit or to download stored graphs and data. A multiplexer is available which allows measurements to be made automatically from up to 256 different locations with one Trase unit. The Trase also possesses an auto-logging capability with reading interval range from one per minute to one per day. TRASE system comes supplied with; TRASE analyser, Waveguide connector, 15cm long waveguide set, buriable waveguide (consisting of 2x 200mm long parallel stainless steel tubes with 1.8 coaxial lead), 6AH power pack, and battery charging transformer.comes with a 150mm wave guide set, power pack, charging transformer and full operating instructions.

Specification

dimensions	230 x 320 x 410 (depth x width x height)	memory	256Kb, capacity for 170+graphs/5400 readings
measuring range	0-100% volumetric moisture content	graphic display	128 x 256 dot back lit LCD
measuring accuracy	± 2% or better	weight	10.43kg
operating temperature	0-50°C		
power supply (supplied)	2x 6 amp hr, sealed electrolyte batteries		
recharge time	9 hours		
auxillary power input	18-24V AC or DC, 2 amp, for battery recharge or operation from mains.		
operating temperature	0 – 45°C		

Ordering Information

514-160/01 TRASE soil moisture analyser, for 220-240V, 50Hz, 1ph. System includes; TRASE analyser, Waveguide connector, 15cm long waveguide set, buriable waveguide, 6AH power pack, and battery charging transformer.

Accessories

- 514-162** Wave guides, 300mm (set of 2), 2m lead.
- 514-164** Wave guides, 600mm (set of 2), 2m lead.
- 514-165** Wave guides, 700mm (set of 2), 2m lead.
- 514-167** Insertion tool, for use in dry or compacted soils.
- 514-168** 20m extension lead, for use with wave guides.
- 514-169** Alignment block, for inserting wave guides into the soil.

Spares

- 514-160/10** Spare wave guides, 150mm (set of 2).
- 514-166** Buriable wave guide, 2x 200mm long parallel stainless steel tubes with 1.8m coaxial lead.

ELE International
 Chartmoor Road, Chartwell Business Park,
 Leighton Buzzard, Beds, LU7 4WG, England
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Distributor:

ELE Environmental Division



Driven Wellpoint Piezometer

- ❑ *Used in leachate studies.*
- ❑ *Allows water table investigations.*

To measure the variation in the level of the water table, it is useful to have a means of ready access for a measuring device. Driving a piezometer tip to some point below the natural water table allows the water to enter up the access standpipe to the water table level. Seasonal variations in water level can then be measured via lowering a water level indicator down the shaft of the piezometer.

Sealing tube (514-382) has the same diameter as the driving point. Helps seal the tip into the zone being tested.

Extension rod (23-1541) attaches to the end of the sealing tube, enabling the piezometer tip to be driven to the required depth.



Specification

Driven wellpoint

construction:- porous plastic element 19mm dia. 300mm long.
perforated steel tube with hardened steel driving point, terminating in a 3/4in. BSP socket.

Ordering Information

514-380 Driven wellpoint piezometer tip

Accessories

514-382 Sealing tube, 915mm long.

23-1541 Extension rod, ³/₄ in. BSP, steel standpipe, 1 metre long with socket connector.

ELE International
Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
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http://www.ele.com

Distributor:

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Permeability kit

- **Enables permeability of in-situ soils to be determined.**

This set comprises all the equipment for determining permeability of in-situ soils using the auger hole method. This rapid, simple and reliable method is used mostly in connection with the design of drainage systems in waterlogged land.



Specification

kit comprises	2x augers
	baler
	2x measuring tapes
	floats
	filter and stopwatch
	carrying bag

Ordering Information

514-420 Permeability kit, for below water table measurements.

ELE International

Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
<http://www.ele.com>

Distributor:**ELE Environmental Division**

Double ring infiltrometer

- ❑ **Used for the determination of infiltration capacity above the water table.**
- ❑ **Allows synchronous determination of infiltration capacity in triplicate.**

A comprehensive kit for the determination of soil infiltration capacity above the water table. The components are manufactured from high-quality materials for exhaustive field use.



Specification

514-440 kit comprises

3x double ring infiltrometers	1x 280mm inner ring, 530mm outer ring	stopwatch	0-30sec x 0.1sec accuracy
	1x 300mm inner ring, 550mm outer ring	weight	50 kg
	1x 320mm inner ring, 570mm outer ring		

driving plate with handle for inner and outer rings
 3x adjustable measuring bridges
 3x floats with measuring rods
 1x nylon headed hammer

Ordering Information

514-440 Double ring infiltrometer kit

Spares

514-444 Double ring infiltrometer, comprising 1x inner ring 280mm dia. and 1x outer ring 530mm dia., 1x adjustable measuring bridge and float.

514-446 Driving plate, with handle for placing 514-444.

81-0521 Stopwatch, graduated 0-30sec x 0.1sec divisions. The time recorder is calibrated up to 15 minutes.

29-5020 Rubber headed mallet

29-5040 Club hammer, steel head and strong wooden shaft.

ELE International
 Chartmoor Road, Chartwell Business Park,
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Distributor:

ELE Environmental Division



Guelph permeameter

- Lightweight and portable.**
- Robust construction.**
- Requires only 2.5 litres of water.**
- Measurements completed within 2 hours.**

The Guelph permeameter is used to obtain accurate measurements of hydraulic conductivity, soil sorptivity and soil matrix flux potential. These three factors govern how liquids will move through an unsaturated soil profile. Recent significant advances in both the theoretical and practical techniques of measuring soil hydraulic conductivity have been made by the University of Guelph in Canada. As a direct result of this the new Guelph permeameter has been developed.

This lightweight instrument is portable, reliable and simple to use. Depending on the soil type accurate results can be obtained in 1 to 2 hours using only 2.5 litres of water.



Specification

Guelph permeameter kit includes:-	field tripod	depth range	15-75cm
	well auger	weight	5kg
	well tripod		
	preparation tool		
	hand pump		
	collapsible water container		
	supplied in a robust carrying case		

Ordering Information

25-0650 Guelph permeameter

Accessories

25-0655 Guelph permeameter extension kit, comprising: support tube with coupling and air tube extension. Extends depth by 800mm (up to 5 extension kits can be added).

25-0657 Mud auger, 50mm dia.

25-0659 Sand auger, 50mm dia.

450-050 Auger extension, 1200mm long.

Spares

514-500/10 Air tube coupling, pack of 1.

ELE International
 Chartmoor Road, Chartwell Business Park,
 Leighton Buzzard, Beds, LU7 4WG, England
 Tel: +44 (0) 870 777 7717
 Fax: +44 (0) 1525 249 249
 e-mail: envsales@eleint.co.uk
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Pocket penetrometer

- ❑ *Lightweight, portable instrument.*
- ❑ *Used for classifying soils in terms of consistency.*

Designed to offer the agronomist a lightweight and easily transportable device for classifying soils in terms of consistency, determining the approximate, unconfined compressive strength and giving the estimation of shear strength. The penetrometer is steadily pushed into the soil until the soil level reaches the penetration mark. The equivalent unconfined compressive strength of the soil can then be read in kgf/cm² or lbf/ft² from the maximum load indicator provided. Applications include the discrimination of visually similar horizons in a soil profile.

Note. The readings obtained from this instrument do not replace laboratory test results due mainly to the fact that a small area penetration test is liable to give misleading results.

Specification

working range	0.25 to 4.5kg/cm sq.
units of measurement	kgf/cm ² of lbf/ft ²
penetration pistons	stainless steel, 6mm dia.
weight	80g

Ordering Information

29-3729 Pocket penetrometer



ELE International
Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
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Proving ring penetrometer

- ❑ **30° proving ring penetrometer.**
- ❑ **Allows rapid measurement of soil resistance.**

The proving ring penetrometer is a 30 degree cone penetrometer used to determine bearing capacity or soil compaction. The penetrometer also serves as a rapid means of determining the penetration resistance of soil in shallow exploration work. To determine the penetration resistance, the penetrometer is firmly pushed into the soil at a uniform rate. When the top of the penetration cone is reached, the proving ring dial is read. The corresponding penetration load can be determined from the calibration chart supplied with the proving ring. The proving ring dial indicator is equipped with a maximum load pointer.

The penetrometer is lightweight and compact and is supplied with a handle and rod extension. The cone points are easily removed and replaced.



Specification

capacity	1kN
graduations on extension rod	every 150mm
shaft diameter	19mm
weight	5.4kg

Ordering Information

29-3739 Proving ring penetrometer, complete with 30° cone.

Spares

29-3739/10 30° cone, for use with proving ring penetrometer.

ELE International
Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
http://www.ele.com

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Computerised cone penetrometer

- ❑ **Microchip technology for repeatable, accurate results.**
- ❑ **Interface to a printer or computer.**
- ❑ **Correct insertion speed is monitored.**
- ❑ **Depth increment readings of 15mm.**
- ❑ **Depth limit of 600mm.**
- ❑ **Memory holds data for up to 2047 insertions.**
- ❑ **Data can be imported into spreadsheets such as Excel.**



The computerised cone penetrometer incorporates the latest microchip technology to provide an ideal system for measuring and recording soil cone index data. This compact instrument handles the gathering of field data and data output to a printer or computer. Cone index values can be gathered as a simple, one man operation. Values are measured to a maximum depth of 600mm with readings in up to 40 increments. A data file is dedicated to each complete test, which normally consists of an ID. number and three insertions close together. The data from each insertion is averaged for each depth increment and then automatically transferred to memory after the third insertion. Insertion speed is constantly monitored so that faulty data caused by inertia effects are not recorded. A graphical LCD screen provides useful information about files and insertions. Software shows graphs of all inserts stored within a file (up to 9), as well as an average graph for these inserts. In-built interfaces and software allow sending of recorded data to either a printer or to a computer via an RS232 port.

Specification

dimensions	height 130mm x width 250mm (without handles), 500mm (with handles) x depth 180mm
shaft & cone length	800mm
Instrument weight	2.85kg
weight in case	5.13kg
power	rechargeable battery (supplied) battery charger (supplied)

Ordering Information

516-045 Computerised cone penetrometer

Accessories

516-045/10 Spare cone and shaft assembly.

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Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
http://www.ele.com

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Pocket shearmeter

- ❑ **Allows rapid determination of soil shear strength.**
- ❑ **Strength values with different orientation of failure planes can be quickly calculated.**

A simple instrument for rapid determination of shear strength of cohesive soils, both in the field and in the laboratory. Strength values with different orientation of failure planes can be quickly calculated. The shearmeter can be used at the end of tube samples, standard penetration samples and on the sides of pits, embankments etc. The unit gives repeatable values in homogenous clay and extensive laboratory testing indicates excellent agreement between the unconfined compression test and the shearmeter.



Specification

range 0-0.2kgf/cm² x 0.05kgf/cm² divisions
weight 0.5kg

Ordering Information

26-2261 Pocket shearmeter, complete with standard, sensitive & high capacity vanes.

Spares

26-2261/10 Sensitive vane adaptor, 0-0.2kgf/cm².

26-2261/14 High capacity vane adaptor, 0-2.5kgf/cm².

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Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
http://www.ele.com

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H60 Field inspection vane tester

- Light and portable.**
- Ideal for site investigation.**
- Three vanes supplied.**
- Dummy friction check.**

This instrument is an essential tool for site investigation work. The unit is supplied in a complete kit with flexible carrying case incorporating the measuring head, extension rods, vanes etc. The measuring head comprises a T-handle that is spring-loaded against the extension rod adapter. Maximum torque can easily be measured on a collar attached to the shaft.



Specification

kit includes:- 6x 0.5m extension rods
3 vanes
dummy vane
all necessary tools (as pictured)
carrying case
calibration certificate

range 0-200kPa
weight 2.8kg

Ordering Information

26-3335 H-60 Field inspection vane tester, 0-200kPa in carrying case.

Spares

26-3335/11 H-605 Extension rod, 0.5m. Weight 300g.

26-3335/12 H-610 Vane, 16x32mm. Weight 50g.

26-3335/13 H-611 Vane, 20x40mm. Weight 50g.

26-3335/14 H-612 Vane, 25.4x50.8mm. Weight 50g.

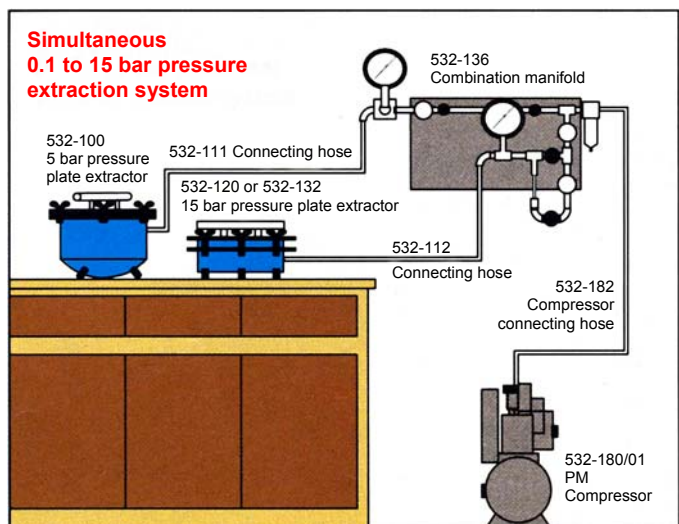
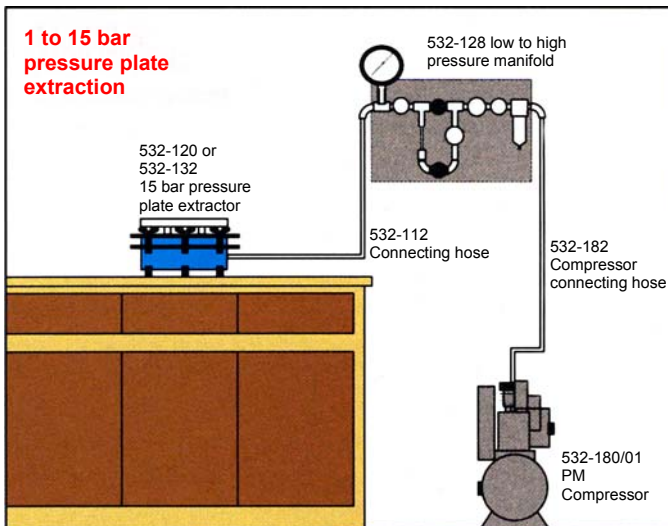
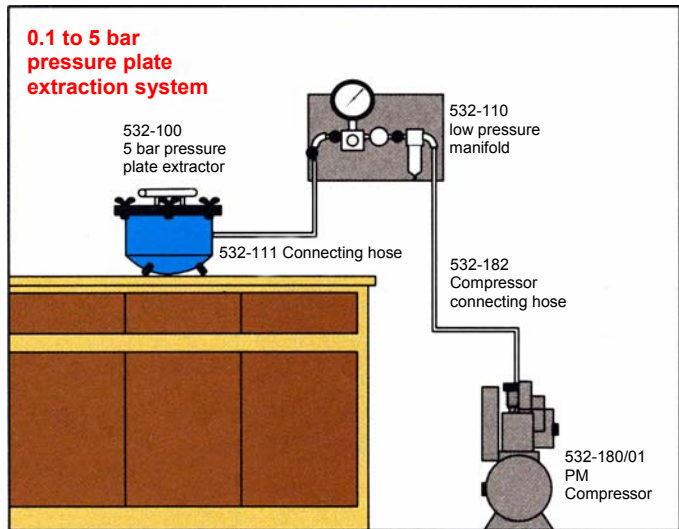
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Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
http://www.ele.com

Distributor:

ELE Environmental Division



Example configurations of pressure plate extraction systems



ELE International
Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
http://www.ele.com

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5 bar Pressure plate extractor

- ❑ **Used to determine –**
 - available water capacity.*
 - water retentivity.*
 - hydraulic conductivity.*
 - field capacity.*

- ❑ **Applications include –**
 - soil classification & survey.*
 - optimisation of irrigation & drainage.*
 - calibration of soil water measuring apparatus for field use.*

The pressure plate apparatus is used to determine soil water retention and suctions greater than 0.4 bar. The apparatus consists of strongly built metal chambers containing one or more ceramic plates, on to which uniform soil samples are placed. Having attained maximum moisture retention (field capacity) the samples within the cells are then subjected to controlled positive air pressures and water is gradually removed. By careful control of pressure, the various equilibrium conditions of pressure and soil water tension or suction are obtained. The air pressure is provided either from a compressor, compressed air bottle or nitrogen bottle. The air pressure source must always be routed via a pressure regulation manifold. ELE can supply three types of pressure plate extraction, which cover the pressure range 0.1-15 bar

Note. The pressure extractor requires pressure plate cells (see below) and a regulated gas pressure supply (see example configurations page, for details).

Specification

0.1-5 bar extractor

capacity	4 pressure plate cells. Up to 48 samples	dimensions	30cm dia x 22cm deep
pressure	0.1-5 bar (75psi).	weight	10kg
closure	6 bolts with wing nuts; O – ring seal on lid.		
support clips	stainless steel, adjustable.		
outflow	4 tube assemblies with 3 plug bolts; screw into side wall.		

Ordering Information

532-100 5 bar Pressure plate extractor, pressure plate cells not included.

Accessories

- 532-104** 1 bar Pressure plate cell
- 532-106** 3 bar Pressure plate cell
- 532-107** 5 bar Pressure plate cell
- 532-108** Soil sample retaining rings, pack of 12.

Spares

532-100/10 O-ring seal for lid



ELE International
Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
http://www.ele.com

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15 bar Pressure plate extractor

- ❑ **Used to determine –**
 - available water capacity.*
 - water retentivity.*
 - hydraulic conductivity.*
 - field capacity.*

- ❑ **Applications include –**
 - soil classification & survey.*
 - optimisation of irrigation & drainage.*
 - calibration of soil water measuring apparatus for field use.*



The pressure plate apparatus is used to determine soil water retention and suctions greater than 0.4 bar. The apparatus consists of strongly built metal chambers containing one or more ceramic plates, on to which uniform soil samples are placed. Having attained maximum moisture retention (field capacity) the samples within the cells are then subjected to controlled positive air pressures and water is gradually removed. By careful control of pressure, the various equilibrium conditions of pressure and soil water tension or suction are obtained.

The air pressure is provided either from a compressor, compressed air bottle or nitrogen bottle. The air pressure source must always be routed via a pressure regulation manifold.

ELE can supply three types of pressure plate extraction, which cover the pressure range 0-15 bar

Note. For operation, the pressure extractor requires a regulated gas pressure supply (see example configurations page, for details).

Specification

15 bar extractor

capacity	up to 36 samples	internal dimensions	305mm x 101.6mm (dia. x depth).
pressure	0-15 bar (220psi).	weight	40.4kg
closure	8 bolts with wing nuts; O – ring seal on hinged lid.		
outflow	5 ports with outlet tubes NPT outlet.		
for electrical leads	¼ inch (6.45mm).		

Ordering Information

532-120 15 bar ceramic plate extractor, with 3x 15 bar ceramic plate cells.

Accessories

532-124 15 bar Ceramic cup, for calibrating electrical moisture measuring blocks.

532-126 Electrical lead through, fits outlet to ceramic cup.

Spares

532-120/10 15 bar ceramic plate cell

532-120/11 O-ring lid seal

532-120/12 Right angle outflow adapter

532-120/14 Outflow assembly with seal

532-120/16 Plug bolt with seal

ELE International
 Chartmoor Road, Chartwell Business Park,
 Leighton Buzzard, Beds, LU7 4WG, England
 Tel: +44 (0) 870 777 7717
 Fax: +44 (0) 1525 249 249
 e-mail: envsales@eleint.co.uk
 http://www.ele.com

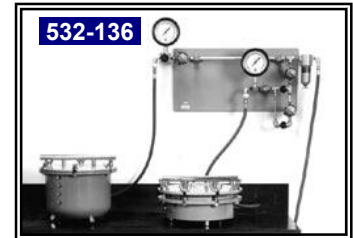
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Pressure plate extractor manifolds

- ❑ **Required to regulate gas pressure source in pressure plate extraction systems.**
- ❑ **3 types available to cover all requirements.**
- ❑ **Enables precise control of pressure.**



Pressure manifolds are an essential component in pressure plate extraction systems. They are required to control the air pressure, from a compressor or compressed air vessel, into the extractor. ELE can supply three different types to cover all requirements;

Low pressure manifold:- for 0-5 bar systems.

Low to high pressure manifold:- for 1-15bar systems.

Combination manifold:- for both 0-5 & 1-15bar systems running in parallel.

The combination manifold combines both the low pressure and low to high pressure manifolds.

Specification

Low pressure manifold

pressure range	0-60psi (0-4bar).
accuracy	0.2 psi (0.02bar)
regulator	Nullmatic type for double regulated pressure.
gauge	Dual marked psi & bar.
weight	6kg

Low to high pressure manifold

pressure range	0-225psi (15 bar).
accuracy	2psi (0.1 bar).
regulator	Double regulated in low pressure range (0.3-10bar).
gauge	dual marked psi & bar.
weight	8kg.

Combination manifold

pressure range	0-250psi
accuracy	as for above two manifolds.
regulator	as for above two manifolds.
gauge	2 gauges; 0-60psi & 0-300psi
weight	8kg

Ordering Information

532-110	Low pressure manifold , for precise pressure control.
532-128	Low to high pressure manifold
532-136	Combination manifold , with high accuracy low range.


Accessories

532-111	Hose connection (5 bar) , from manifold to extractor. 1 metre long.
532-112	Hose connection (15 bar) , from manifold to extractor. 1 metre long.
532-182	Connection set , from compressor to manifold. 1.2 metres long hose, including all necessary valves and fittings.

ELE International
 Chartmoor Road, Chartwell Business Park,
 Leighton Buzzard, Beds, LU7 4WG, England
 Tel: +44 (0) 870 777 7717
 Fax: +44 (0) 1525 249 249
 e-mail: envsales@eleint.co.uk
 http://www.ele.com

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PM compressor

- ❑ **Ideal for pressure plate extraction systems.**
- ❑ **Electrically powered.**
- ❑ **Fully assembled and tested at the factory before shipment.**

This unit provides compressed air for all of ELE's pressure plate apparatus. The compressor is designed for sustained, continuous operation and provides 295 psi operating pressure.

Note. This compressor must be used in conjunction with a manifold assembly if intended for use in pressure plate extraction systems.

Specification

pump	roller bearing.
motor	1/2hp heavy duty.
capacity	1.08ft ³ /min at atmospheric pressure.
start switch	manual with overload protection for motor.
pressure switch	opens at 295psi, closes 240psi.
timer mode	separate switch limits maximum run time.
safety valve	for high pressure relief.
weight	42kg

Ordering Information

532-180/01 PM compressor, for 220-240V, 50Hz, 1ph.

Accessories

532-182 Connection set, from compressor to manifold. 1.2 metres long hose, including all necessary valves and fittings.



ELE International
Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
Fax: +44 (0) 1525 249 249
e-mail: envsales@eleint.co.uk
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Product Description	Section prefix	Page no.
Agricultural sieve sets	SO	24
Auger sets, Hand auger set (5m)	SO	13
Auger sets, Hand auger set (7m)	SO	14
Auger sets, Peat auger set	SO	15
Auger, Clay	SO	8
Auger, Comination	SO	9
Auger, Edelman	SO	1, 8-10, 14-15
Auger, Gouge	SO	4,13,14
Auger, Handles & extension rods	SO	7
Auger, Riverside	SO	2,13-14
Auger, Root	SO	5
Auger, Sand	SO	10
Auger, Spiral	SO	12
Auger, Stony ground	SO	3,11,13,14
colour charts, soils	SO	22
Compressor, PM	SO	55
Core-cutter apparatus	SO	16
Core-cutting apparatusm Sample rings	SO	17
Grassland sampler	SO	6
H60 field inspection vane tester	SO	50
Hydroponics complete analysis kit	SO	33
Infiltrometer, double ring	SO	44
Lime requirement	SO	27,29-31
MiniTrase	SO	40
Penetrometer, Computerised cone	SO	48
Penetrometer, Pocket	SO	46
Penetrometer, Proving ring	SO	47
Penetrometers	SO	46-48
Permeability kit	SO	43
Permeability kit	SO	43-45
Permeameter, Guelph	SO	45
pH	SO	25
Piezometer	SO	42
Pressure plate equipment	SO	51-55
Pressure plate extractor manifolds	SO	54
Pressure plate extractor, 5 bar	SO	52
Pressure plate extractor, 15 bar	SO	53
Salinity bridge measuring instrument	SO	34
Sample bags	SO	21
Shearmeter, pocket	SO	49
Sieve sets	SO	24
Sieves	SO	24
Soil colour charts	SO	22

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Chartmoor Road, Chartwell Business Park,
Leighton Buzzard, Beds, LU7 4WG, England
Tel: +44 (0) 870 777 7717
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e-mail: envsales@eleint.co.uk
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Soil coring, <i>see core-cutting apparatus</i>	SO	
Soil moisture meter	SO	38-41
Soil pH kit	SO	25
Soil sampling kit	SO	18-19
Soil test kits	SO	25-33
Soil texture set	SO	23
Soil water sampler	SO	20
Tensiometers	SO	35-37
Texture, soil	SO	23
Trase	SO	41
Vane tester	SO	50

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 Chartmoor Road, Chartwell Business Park,
 Leighton Buzzard, Beds, LU7 4WG, England
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