

















IF IT'S WORTH BUILDING, IT'S WORTH TESTING

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27-1505

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#### **Digital Tritest 50**

Code: 25-3518/01

Product Group: Digital Tritest 50 Load Frame, Load

Frames

- Microprocessor control
- Large on-board LED screen display
- Direct entry via a touch sensitive keyboard
- Rapid approach and return to datum of platen
- Fully variable speed, 0.00001 to 9.99999 mm/min
- Samples up to 100 mm diameter

This 50 kN capacity machine, designed primarily for triaxial testing of soil specimens up to 100 mm diameter x 200 mm long, comprises a rigid twin column construction with an integral fully variable microprocessor controlled drive unit and LCD display with a touch sensitive keyboard. The machine is normally bench mounted for ease of installation and operation.

The use of a microprocessor controlled drive system and keyboard entry provides the Digital Tritest 50 with a wide variety of features which include pause and speed reset during test, RS 232C, operator programming of speed and control functions, self test diagnostics and many other features.

A robustly constructed steel case houses the motor drive system with careful attention being given to the prevention of ingress of water or grit. All operating controls are mounted on the front panel of the machine, which is angled and recessed to prevent physical and environmental damage.

#### Standards

BS 1377-7, BS 1377-8, BS 1924-2, ASTM D1883, ASTM D2166, ASTM D2850, ASTM D4767, ASTM D7181, AASHTO T99, AASHTO T134, AASHTO T135, AASHTO T136, AASHTO T180, AASHTO T193, AASHTO T208, AASHTO T296, AASHTO T297

#### **Further Information**

Complete with RS 232C interface.

#### **Specification**

Dimensions (l x w x h) 500 x 500 x 1470 mm

Max vertical clearance910 mmHorizontal clearance364 mmPlaten diameter133 mmPlaten travel100 mm

Platen speed range 0.00001 to 9.99999 mm/min

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Rapid approach speed 25 mm/minute

Weight kg 140

Capacity 12 ,200 lbf. (50 kN).

Speed Range English mode: 0.000001 to

0.399999 in/min.

Metric mode: 0.00001 to

9.99999 mm/min.

Rapid Approach Speed 2.0 in/min. (50 mm/min.).

Platen Travel 3.9" (100 mm); limit switch

protection.

Vertical Clearance 36 .8" (910 mm) maximum; 12

" (305 mm) minimum.

Horizontal Clearance 15 .3" (364 mm).

Serial Interface RS232 C; programmable baud

rate and protocol.

Overall Dimensions 19.7" w. x 19.7" d. x 57.8" h.

(500 x 500 x 1,470 mm).

Weight Net 220 lbs. (100 kg); Shpg.

300 lbs. (136 kg).

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#### **Distance Piece Stainless Steel for Use** with Submerisble Load Cells and Axial Strain Transducers.

Code: 27-1293

Product Group: Submersible Load Transducers, Load

Measurement, Load Measurement

Required when using submersible load cells.

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# **Submersible Load Transducer Assembly 5kN Capacity In Compression.**

Code: 27-1573

Product Group: Submersible Load Transducers, Load Measurement, Load Measurement

- •Eliminates effects of piston friction on readings
- •Unaffected by cell confining pressures
- •Easily installed in triaxial cell
- •Supplied complete with calibration certificate and 5-pin DIN type connector for use with GDU

Submersible Load Transducers are used to measure accurately the axial loads applied to triaxial test specimens. Consisting of a load cell and piston assembly these units replace the standard triaxial cell loading piston. A major advantage is that these transducers measure loads directly on top of the specimen. All transducers are supplied complete with a 5-pin DIN type connector and calibration certificate.

#### **Specification**

Dimensions 75 x 50 mm (dia x h) excluding

piston and adaptor

Overload capacity 150%

Output 26 mv full range

Excitation 10 V DC (15 V DC max)

Non-linearity 0.1% maximum

Hysteresis Deflection 0.1% maximum 0.05 mm at full

load

Side force 50% full scale maximum

without effect 5-pin DIN plug

Connector 5-pin DIN Compensated temperature 0 to 50°C

range

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Weight g

850



#### **Axial Strain Transducer Assembly 50mm Travel Fitted with 5 Pin Din Plug.**

Code: 27-1617

Product Group: Axial Displacement, Axial Displacement, Displacement Transducers

0 to 50 mm range. For use with Triaxial Cells. •Ideally suited for use with GDU for accurate displacement measurements

- •Models available for use in consolidation, shear, CBR and triaxial test applications
- •Supplied complete with mounting hardware for specified products

Displacement Transducers are used in consolidation, shear, CBR and triaxial test applications for accuratevdisplacement measurements. They are supplied complete with a 5-pin DIN type connector for direct connection to the GDU.

#### **Specification**

Construction Fully encapsulated electronics,

sealed in a stainless steel case

Excitation 10 V DC 5-pin DIN type Connector

Mounting bracket Included as standard

0.45 Weight kg

Construction Fully encapsulated electronics,

sealed in a stainless steel

case.

Excitation 10vDC.

Connector 5-Pin DIN type.

Mounting Bracket Included as standard.

Weight Net 1 lb. (0.45 kg).

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#### **Pressure Transducer Assembly 1700Kpa** Fitted with 5 Pin Din Plug.

Code: 27-1633

Product Group: Pressure Transducer, Pressure Measurement, Tri-Flex 2 One-Cell Permeability Test System

Pressure Transducers are used to measure the cell, pore and back pressures during triaxial testing. Assemblies are supplied complete with a de-airing block, valve, 5-pin DIN plug connector and calibration certificate

#### Specification

Construction Stainless steel Excitation 10 V DC

Output 143 mV full range ¼â₪ BSP Thread Stainless Steel. Construction

10vDC. Excitation Thread 1/4 BSP.

Construction Stainless Steel.

Excitation 10vDC. 1/4 BSP. Thread

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#### Volume Change Transducer Assembly 80Cm3 Capacity Maximum Working Pressure 1700Kpa

Code: 27-1641

Product Group: Volume Change Measurement, Volume Change Measurement, Volume Change Transducer, Tri-Flex 2 One-Cell Permeability Test System

- •Reversing valves to increase capacity
- •Steel case for wall mounting and access to piping
- •Supplied complete with calibration certificate

The Volume Change Transducer provides continuous measurements of volume change during the triaxial test. The assembly includes a valve to reverse the flow through the unit, providing increased capacity.

#### **Specification**

Overall dimensions (l x w x h) 178 x 229 x 368 mm

Maximum pressure 1700 kPa Excitation 10 V DC

Output 1.25 full range

Capacity 80 ml

Connector 5-pin DIN type

Weight kg 4.5

Maximum Pressure 250 psi (1,700 kPa).

Excitation 10vDC.

Output 1.25 Volts full range.
Capacity 80 cc x 0.1 cc sensitivity.
Case Steel; hinged for access to

piping.

Connector 5-Pin DIN type.

Overall Dimensions 9" w. x 7" d. x 14 -1/2" h. (22 9

x 178 x 368 mm).

Weight Net 10 lbs. (4.5 kg). Maximum Pressure 250 psi (1,700 kPa).

Excitation 10vDC.

Output 1.25 Volts full range.
Capacity 80 cc x 0.1 cc sensitivity.
Case Steel; hinged for access to

piping.

Connector 5-Pin DIN type.

Overall Dimensions 9" w. x 7" d. x 14 -1/2" h. (22 9

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Weight

x 178 x 368 mm). Net 10 lbs. (4.5 kg).



# Universal Pump and Pressure Indicating Panel 1700Kpa.

Code: 26-1880

Product Group: Modular Pressure Panel System

This is the main pressure display in the system for monitoring various pressures and also provides fine control of the pressure within the system using the rotary hand pump. The unit is fitted with a dual calibrated 250 mm diamter pressure gauge, four inlet/outlet no-volume change valves, screw controlled rotary hand pump, water reservoir and isolating valves. The unit is housed in a hinged case for wall or bench mounting. By using an isolating valve the panel may be used to monitor cell or back pressure. 1700 kPa and 250 lbf/in2.

#### Spares/Consumables



Pressure Gauge 1700Kpa (250Psi) 250mm Diameter.

Code: 26-1865/10



#### Pressure Test 1700 Oil/Water Constant Pressure System 0 to 1700Kpa 220-240V 50/60Hz 1Ph.

Code: 26-1800/01

Product Group: Oil/Water Constant Pressure System, Air/Water Pressure Systems - up to 1000 kPa

- 0 to 1700 kPa (250 lbf/in2) fully variable
- Continuous constant pressure control
- One litre capacity

The ELE oil/water constant pressure system , PressureTest 1700, is extemely versatile and can be used in conjunction of with a wide range of test equipment. The unit provides continuous variable pressure up to 1700 kPa. Pressure is increased or decreased simply by turning a control wheel.

The apparatus is supplied without a gauge for those customers who have suitable pressure monitoring equipment. A digital pressure gauge is offered as an accessory. The machine features a clear hydraulic/water interface reservoir and up to one litre capacity of water is available under pressure. • 0 to 1700 kPa (250 lbf/in²) fully variable.

#### **Further Information**

Dimensions (without gauge) 240 x 400 x 500 mm (I x w x h).

#### Spares/Consumables



Oil 5 Litres T46

Code: 26-1805

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# **De-Aired Water Apparatus 15 Litre Capacity**

Code: 25-1833/01

Product Group: De-Aired Water

This compact self-contained unit will de-air water quickly and efficiently down to levels of dissolved oxygen acceptable for geotechnical test methods. Air is removed from the water by a vacuum system, which continuously circulates the water in the tank. The unit is supplied with a clear water container, which will hold a maximum of 15 litres of water. Input and output lines are formed using standard 6 mm tube connectors.



### Nylon Tubing 6mm Od 3500Kpa.

Code: 26-1926

Product Group: Volume Change Measurement,

Permeability of Rock

6 mm outside diameter x 4 mm inside diameter. For use up to a pressure of 3500 kPa. Priced per metre.



# 50mm Triaxial Cell 1700Kpa with 5 Pressure/ Drainage Ports. Supplied with Two Valves.

Code: 25-4047

Product Group: Triaxial Cell, Triaxial Cells

- Working pressure up to 1700 kPa
- All round visibility
- Sample sizes 38 to 100 mm diameter
- Rapid assembly and dismantling
- Accepts a range of interchangeable submersible load transducers

This range of precision made triaxial cells has been designed to meet the requirements of the modern soils laboratory. The cells have been treated to minimise corrosion. Particular attention has been paid to the quality of finish between the piston and the head. Final assembly includes the fitting of an O-ring seal and the use of special lubricant to reduce friction to a minimum and eliminate water leakage.

The piston load capacity is designed to accept high horizontal forces which may be present during the final stages of a test. Each cell has five take-off positions drilled in the base for top drainage/back pressure, pore water pressure and bottom drainage. Two no-volume change valves and an anvil for strain gauge/transducer datum are supplied for fitting to the cell.

A feature of these cells is that they all accept a single diameter piston. The internal height is such that a range of submersible load transducers can be fitted without any modification. Each cell will accept a range of base adaptors and various accessories for testing a wide range of specimens

#### **Standards**

BS 1377, ASTM D2850, ASTM D4767, AASHTO T296, AASHTO T297

#### **Specification**

Cell size 50 mm

Max specimen size 50 x 100 mm

Working pressure 1700 kPa

Max piston load 45 kN

Vertical clearance required 380 mm

Horizontal clearance required 155 mm

Weight kg 4

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#### 38mm/1.5 Inch Base Adaptor for 50mm Cells.

Code: 25-4166

Product Group: Base Pedestals, Specimen Base

Adaptors

38mm/1.5 Inch Base Adaptor with Twin Pore Pressure Ports for 50mm Cells.

#### Standards

BS 1377, ASTM D2850, ASTM D4767, AASHTO T296, AASHTO T297



### Membrane Placing Tool 35mm/38mm.

Code: 25-4290

Product Group: Membrane Placing Tools, O-Ring

Placing Tools

Membrane Placing Tool For 35Mm/1.4 Inch And 38Mm/1.5 Inch Samples.

#### **Standards**

ASTM D2850, ASTM D4767, ASTM D5084, AASHTO T296, AASHTO T297



# **Suction Membrane Device 38mm/1.5 Inch Diameter.**

Code: 25-5100

Product Group: Suction Membrane Devices, Suction

Membrane Device

Suction Membrane Device For 38Mm/1.5 Inch Samples.

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# Two-Way Split Former 38mm/1.5 Inch Diameter.

Code: 25-5120

Product Group: Two-way Split Formers, Two-Way

Split Formers

Two-Way Split Former For 38Mm/1.5 Inch Samples.



#### Pressure Pad 38mm/1.5 Inch Diameter.

Code: 25-5050

Product Group: Pressure Pads

38 mm / 1.5 Inch diameter pressure pad. The pad shall have two empty ports and will come complete with two blanking plugs, plastic tubing and connector. Suitable For both drained and undrained tests.

#### Standards

ASTM D2850, ASTM D4767, ASTM D7181, AASHTO T296, AASHTO T297



#### Rubber Membrane 38mm/1.5 Inch Diameter. Pack of 10.

Code: 25-5061

Product Group: Rubber Membranes

Rubber Membrance For 38Mm/1.5 Inch Samples

(Pack Of 10).



# Membrane Sealing Ring 38mm/1.5 Inch Diameter. Pack of 10.

Code: 25-5081

Product Group: Membrane Sealing Rings

Membrane Sealing Ring 38Mm Diameter (Pack Of

10).

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# Porous Disc 38mm/1.5 Inch Diameter. Pack of 2.

Code: 25-5181

Product Group: Accessories for CU/CU effective

stress, Porous Stones

Porous disc For 38 mm/1.5 Inch samples (Pack Of 2).



### Filter Paper Drain 38mm/1.5 Inch Diameter. Pack of 50.

Code: 25-5200

Product Group: Accessories for CU/CU effective

stress, Filter Paper Drains

Filter paper drain 38 mm diameter (Pack Of 50).



# **Piston Restraint Clamp for Ele Triaxial Cells**

Code: 25-4200

Product Group: General Cell Accessories, Aggressive

Materials

For Ele Triaxial Cells Manufactured From July 1996.

#### **Standards**

BS 1377, ASTM D2850, ASTM D4767, AASHTO T296, AASHTO T297

#### **Further Information**

To lock the loading piston into position



### **Valve No Volume Change 1/4 Inch BSp** Fitted with 6 mm Connector and Integral **Sealing Ring.**

Code: 25-4520

Product Group: General Cell Accessories, Accessories for CU/CU effective stress

#### Standards

ASTM D2850, ASTM D4767, ASTM D7181, AASHTO T296, AASHTO T297



# Consolidation Frame One Dimensional Consolidation Incremental Loading Device.

Code: 25-0402

Product Group: Consolidation Apparatus, Table Top Consolidation Apparatus

- High capacity 8800 kPa on 50 mm diameter specimens using 11:1 beam ratio
- Triple beam ratio, 9:1, 10:1, 11:1
- Compact unit ensures maximum space saving

The ELE Oedometer is rigidly constructed to ensure minimum frame distortion. The frame is designed to load the specimen through a yoke assembly and one of three alternative beam ratios. The beam is fitted with a counterbalance weight and beam support jack. The cell platform will accept the complete range of ELE consolidation cells and is fitted with a central spigot to ensure accurate centring of the cell under the loading yoke. Dimensions without hanger 711 x 203 x 508 mm (l x w x h). Weight 22 kg.

#### **Standards**

BS 1377, EN 1997-2, ASTM D2435, ASTM D4546, AASHTO T216

#### **Further Information**

Supplied without dial gauge and weights.

#### **Specification**

Load Capacity 48 tons/sq. ft. (5,14 8 kPa) on

2.5" (63 mm) diam. samples.

Loading Beam Cast aluminum;

counterbalanced; 9:1,10:1 and

11:1 ratios.

Frame Cast aluminum; integral beam

support jack; plated steel and

platform.

Dimensions 8" w. x 28" d. x 20" h. (203 x

711 x 508 mm),

excluding weight hanger.

Weight Net 30 lbs. (13 .6 kg); Shpg. 40

lbs. (18.1 kg).

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## **Set of Weights 100Kg Total Weight.**

Code: 25-0408

Product Group: Consolidation Apparatus 9 x 10 kg, 1 x 5 kg, 2 x 2 kg, 1 x 1 kg.

#### Standards

ASTM D2435, ASTM D4546, AASHTO T216



# **Consolidation Cell Complete 50mm Diameter Sample.**

Code: 25-0455

Product Group: High pressure application consolidation cells and accessories, Pneumatic Consolidation Apparatus, Fixed Ring Consolidation, Table Top Consolidation Apparatus

#### **Specification**

Application High pressure Specimen Dia 50 mm 1963 mm<sup>2</sup> Specimen area Beam ratio 10:1 Load kg 1 Stress 50 kPa Typical max stress 8 MPa Stress for 1 kg m<sup>2</sup> 50 kPa

Application High Pressure

Specimen Diameter 50 mm
Specimen Area 1963 mm²
Beam Ratio 10:01
Load 1 kg
Stress 50 kPa
Typical Maximum Stress 8 MPa
Stress for 1 kg 50 kPa

#### Spares/Consumables



50mm Dia Upper and Lower Porous Stones for Use on EL25-0455 Series Cell.

Code: 25-0455/13



**Cutting Ring 50mm Cell.** 

Code: 25-0458

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### **Cutting Ring 50mm Cell.**

Code: 25-0458

Product Group: High pressure application consolidation cells and accessories, Fixed Ring

Consolidation





# **Consolidation Transducer Assembly 15mm Travel Fitted with 5 Pin Din Plug.**

Code: 27-1649

Product Group: Displacement Transducers, Vertical

settlement measurement, Displacement

Measurement

Fitted with 5 pin DIN plug.

#### **Specification**

Construction Fully encapsulated electronics, sealed in a stainless steel case

Excitation 11 V DC

Connector 5-pin DIN type
Mounting bracket Included as standard

Weight kg 0.45

Construction Fully encapsulated electronics,

sealed in a stainless steel

case.

Excitation 10vDC.

Connector 5-Pin DIN type.

Mounting Bracket Included as standard. Weight Net 1 lb. (0.45 kg).

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#### DS7.2 Software-UU/CU/CD Triaxial, Permeability, Consolidation, Direct/Residual Shear, CBR

Code: S1160

Product Group: DS7, DS7.2 Geotechical Software General Module

- Programs available for Triaxial, Permeability Consolidation, Direct/Residual Shear and CBR tests
- Full support for Windows 7 and MS Word 2007/2010
  - Accurate and repeatable test procedures
  - 24 hour unsupervised logging
- Eliminate the possibility of errors while taking manual readings
- Tests are run with step-by-step instructions selectable between BS and ASTM/AASHTO standards
- Automatic report generation in accordance with the above standards
- Real-time graphical outputs to both screen and printer as required

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#### **Transducer Extension Cable 4.5 m**

Code: 27-1719

Product Group: Transducer Extension Cable,

Extension cables

Wired with a 5-pin DIN plug at one end and 5-pin DIN type socket at the other, these extension cables are used to increase the length of any GDU/ECU transducer

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# GDU 8 Channel Data Acquisition Unit 220-240 V 50/60 Hz, 1 Ph.

Code: 27-1500/01

Product Group: Automatic data acquisition, Automatic Data Acquisition, Automatic data acquisition, Automatic Data Acquisition, Data Logging with the GDU, Geotechnical Data Acquisition Unit (GDU)

The GDU is a stand-alone, multi-tasking, multi-channel data logger, that is reliable and powerful, enabling it to co-ordinate test data from the range of ELE transducers required for various test methods.

The ELE Geotechnical Software package (DS7.1), in conjunction with the GDU and a range of transducers, are the two central components required to create a modern turnkey soil testing system. Being fully modular it can be adapted to a wide range of soil testing laboratory configurations.

- For performing CBR, Consolidation, Direct/Residual Shear and Total & Effective Stress Triaxial tests
- 8 Channels expandable to 32 for performing multiple, concurrent tests for cost savings
- Independent signal conditioning on each channel to maintain data accuracy
- Field-upgradeable software, meaning no downtime for future software and functionality upgrades
- Extended warranty.

#### **Specification**

Case Aluminum, free standing;

houses power supply, analog to digital conversion module and an 8-channel analog input

module with transducer

energization.

Sockets Standard 5-pin DIN type.

Input Range  $\pm$  5 volts to  $\pm$  10 mV full scale.

Transducer Supply 10vDC.

Dimensions 12.8" w. x 14.3" d. x 6.1" h.

(325 x 363 x 155 mm).

Weight Net 14.08 lbs. (6.4 kg).

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# 8-Channel Expansion Analog Input Module

Code: 27-1505

Product Group: Geotechnical Data Acquisition Unit

(GDU)

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