NEXTGEN
MATERIAL TESTING

CEMENT & CONCRETE, ROCK AND SOIL TESTING TECHNOLOGIES 1 (888) 332-3582

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NEXTGEN CUREMATE 750 - CLIMATIC CABINET FOR CURING 750L

Features:

- Advanced controller with cycle programmer for 50 programs and 1000 segmants
- Temperature sensor movable inside the cabinet or inside the sample conforming to Standard requirement
- High accuracy: ±1°C, ±5%RH (RH with 10-D1429/A model only)
- A multipurpose climatic chamber suitable for testing applications in Aggregates, Cement, Concrete, Bricks, Blocks, Asphalt and other construction materials
- Optional internal data recording facility, data output port and dedicated PC software.

NEXTGEN CUREMATE 550 - CLIMATIC CABINET FOR CURING 550L

Features:

- Specifically made for curing cement, mortar, lime and gypsum specimens
- Large stainless steel bench, 2240 x 700 mm, which can be conveniently used as working table
- Internal curing temperature adjustable from 18 to 30°C
- Temperature accuracy ±1°C
- Internal humidity range 95 ± 5 % RH
- Also suitable for water curing using a suitable can

Robust devices for efficiently mixing cement mortars according to international standards. EN 196-3 | EN 459-2 | EN 413-2 | EN 196-1 | EN ISO 679 | ASTM C305 | EN 480-1 | ASTM C451

NG-DIGIMIX - DIGITAL MORTAR MIXER

A robust device for the efficient mixing of cement mortars, this mixer is a table mounted unit with planetary mixing action and a bowl and beater that are easily fitted and removed. The front grill, when opened, automatically stops the machine for operator protection conforming to CE requirements.

The machine is supplied complete with bowl and stainless steel beater conforming to EN Standards.

The machine operates with a dedicated and easy to use display and keyboard control. Either Standard speeds or user defined speeds can be easily selected (also adjustable during mixing).

The machine can be supplied, on request, complete with a sand open-type hopper. See accessories

NG-AUTODIGIMIX - AUTOMATIC PROGRAMMABLE MORTAR MIXER

A robust device for the efficient mixing of cement mortars, this mixer is a table mounted unit with planetary mixing action and a bowl and beater that are easily fitted and removed. The front grill, when opened, automatically stops the machine for operator protection conforming to CE requirements.

The machine is supplied complete with stainless steel bowl, EN beater and open-type sand hopper.

The machine operates with a dedicated and easy to use display and keyboard control. Either Standard speeds or user defined speeds can be easily selected (also adjustable during mixing). The in-built procedures automatically perform the mixing according to Standards, allowing manual introduction of sand by the top filling hopper during mixing.

The machine can be supplied, on request, complete with a second open-type hopper to add other products (e.g. admixtures or additives).

NG-AUTODIGIMIX 2
FULLY AUTOMATIC PROGRAMMABLE MORTAR MIXER

This mixer has been developed with a high level of quality and reliability. Strictly conforming to the standards whilst, at the same time, meeting the demand for a wider scope in testing other materials for research applications. An important feature of this mixer is the ability to program special mixing cycles.

AUTOCLAVE, HIGH PRESSURE

The autoclave consists of a high-pressure steam vessel with internal dimensions 154 mm dia. x 430 mm high to accept a rack for holding 10 specimens obtained with the 62-L0033/B moulds (see accessories). Complete with pressure gauge, pressure regulator, temperature regulator, control switches, safety valve and specimen rack.

Certified conforming to ISPELS procedure.

ROCK SPECIMEN GRINDING MACHINE

Used to grind and polish rock and concrete specimens, natural stones, ceramic materials, etc. Proposed in two versions:

Standard version in which the radial displacement of the grinding head is motor operated and actuated by a push button.
Automatic version in which the radial displacement is fully automatic and controlled by travel limit switches.
All the other specifications are the same.

The cube and cylinder specimens can be easily locked on the table and the grinding head, 330 mm dia., can be radially moved either manually or automatically in both directions. This means that the only manual operation required is the lowering of the grinding head by the top hand wheel. The machine is supplied complete with safety chip guard that, when removed, automatically stops the machine. The standard configuration also includes the coolant tank, motor pump and one set of abrasive sectors. Diamond grinding sectors are available on request (see accessories). The machine is supplied complete with clamping element for 100, 150 and 200 mm cubes. Clamping devices for cylinders and the device for dry grinding operations are also available on request (see accessories). The Core face preparation jig can be easily fitted by the clamping element supplied with the machine.

CORE TRIMMER AND CUT-OFF MACHINE - NG-CORETRIM

NG-CoreTrim is used to obtain rock samples perfectly machined (cube, prisms, etc) from irregular rock or core pieces. It is supplied complete with a proper vice to hold irregular pieces firmly in place up to 7x14 cm approximately and "V" device for cores up to 75 mm diameter. Longer cores can be machined by turning the sample upside down in the device. The machine also include cooling water inlet and transparent cover, conforming to CE requirements, with switch that stops the machine automatically when opened. The machine can be fit with either a cutting blade or a double-faced cup wheel for surfacing cylindrical specimens' ends.
Blade, cup wheel and water pump are not included and have to be ordered separately.

ROCK, CONCRETE AND MASONRY SAW

This universal saw, completed with the suitable accessories, can be used to cut concrete and rock cores, and irregular rock samples in order to obtain geometrically defined samples. It can be fit with 300 to 450 mm dia. blades.

The head is adjustable in height. The tilting motor head permit cuts up to 45 inclination. The tank and the trolley are zinc plated to avoid corrosion. Complete with water pump for cooling the blade and double filtering system.

Cutting blade, and accessories to cut cores, rock and other building materials, not included. See accessories.

ROCK SHEAR BOX APPARATUS

This apparatus was originally developed at Imperial College, London, by Professor E. Hoek. It is a simple and practical method of determining the strength and slope stability of rock, both in the field and in the laboratory. The apparatus consists of a shear box designed to accept samples not larger than 115x125 mm, or alternatively cores up to 102 mm dia. The shear box consists of two halves, the upper being connected to two rams for reversible shearing action and the lower connected to a ram for normal load application. The loads are recorded by Bourdon tube load gauges or by pressure transducers (in this case external data logger.

The normal loading system is complete with an adjustable low friction pressure maintainer to absorb volume changes of the specimen during the shearing action and to ensure a constant vertical stress.

CORE TRIMMER AND CUT-OFF MACHINE - NG-CORETRIM

The apparatus consists of a load frame 60 kN cap. with a hydraulic loading ram actuated by a hand pump. The frame is adjustable for testing samples up to 102 mm dia. A ruler assembled on the frame allows for direct measurement of the distance D between the conical platens before and after the test. The compression load is measured by a pressure transducer with an advanced digital display unit assuring the best accuracy and resistance to the failure shocks. The machine, fit with the accessory NG-D0550/D5, can also be used for compression tests on small cores or cylindrical specimens. The apparatus is contained in an easily transportable plastic case.

LABORATORY CORING MACHINE AND BITS

This machine is specifically used in the laboratory for cutting core samples from hard materials such as rock and concrete. A clamp is provided to firmly secure the material during the cutting cycle. The coring area is protected by a transparent cylinder. A special clamping device to prepare rock samples from core pieces is also available. See accessories. Drill bits not included.

AUTOMATIC VICAT APPARATUS

The new Vicamatic/A machine has been completely redesigned. As with the older generations, the test procedure is unchanged where a needle (or a probe) drops freely into a cement sample at regular intervals and in fixed positions. Penetration depth is measured by a sensor with 0.1 mm resolution. Along with hardening process development the penetration depth decreases, when it matches some thresholds pre-defined by Standards initial and final setting times are measured and recorded.

MANUAL VICAT APPARATUS

The Vicat frame consists essentially of a metal stand with a sliding rod. An adjustable indicator moves over a graduated scale. The needle or plunger is attached to the bottom end of the rod to make up the test weight of 300 g.

The frame, VicatGen/M is supplied without accessories, which have to be ordered separately depending on the requirement. It is also proposed with basic EN accessories (NG-L028) or ASTM/AASHTO accessories (NG-L0028/A).

MOISTURE DETERMINATION BALANCE - GENMOIST

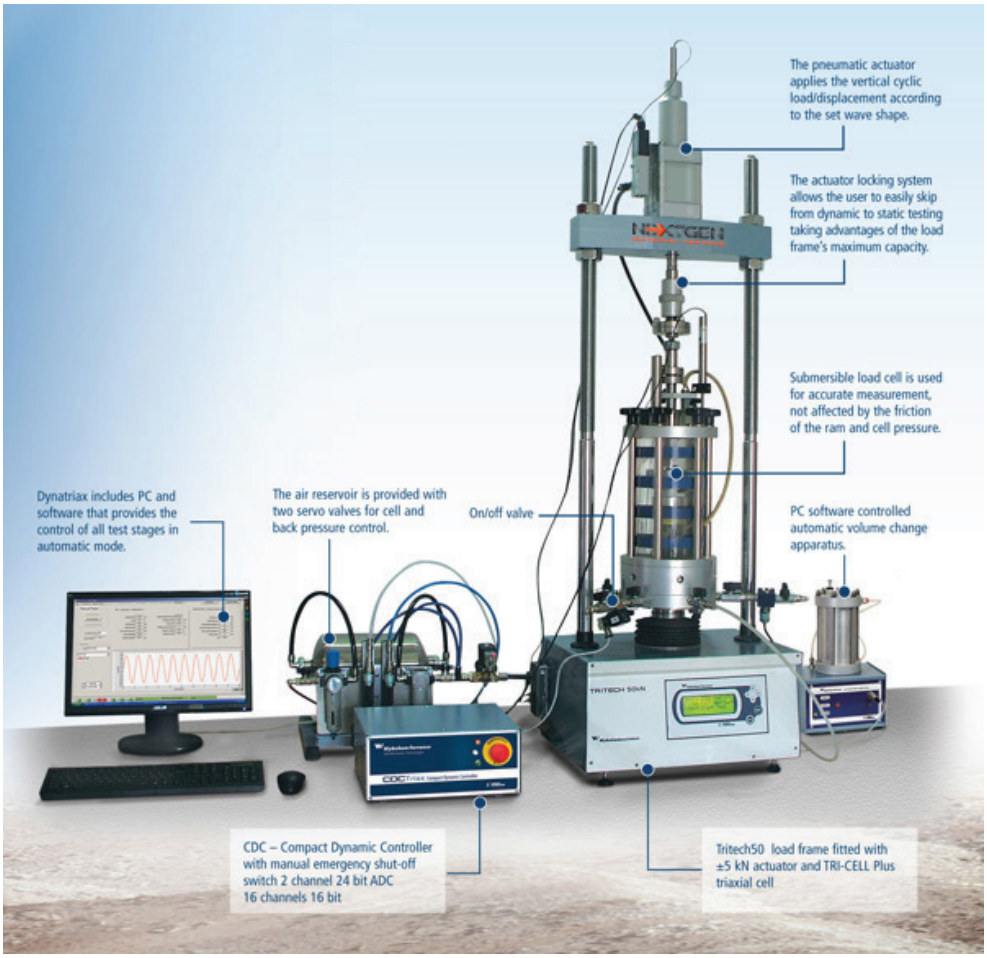
GenMoist is designed to automatically and simultaneously dry and weight a solid sample for the determination of moisture content. The machine provides a continuous direct readout for both the weight and the percentage moisture loss through the entire cycle. It has a build-in timer.

MULTISPEED DIGITAL AUTOMATIC UNIVERSAL TESTER FOR DISPLACEMENT CONTROLLED TESTS

The new MULTISPEED tester is the ideal solution for Road testing laboratory. The 50 kN capacity and the fully variable test speed of 0.2 to 51 mm/min make it possible to perform not only the CBR and Marshall tests, but many other applications as for instance Indirect Tensile test, Quick Triaxial tests, Unconfined and Uniaxial soil testing and, in general, all test to be performed under displacement control. The machine can be equipped with analogical or digital load/displacement measurement systems as well as with the specific accessories, to suit either the field or central laboratory requirement.

DYNAMIC TRIAXIAL SYSTEMS 1000 KPA

Dynatriax systems are ideal for commercial and research laboratories for the following applications: Liquefaction potential, Strength degradation due to cyclic loading, Shear modulus and damping ratio, resilient modulus, Effects of blasting in mines and quarries, Effect of ocean waves on costal and off shore structures.



AUTOMATIC TRIAXIAL TEST SYSTEMS

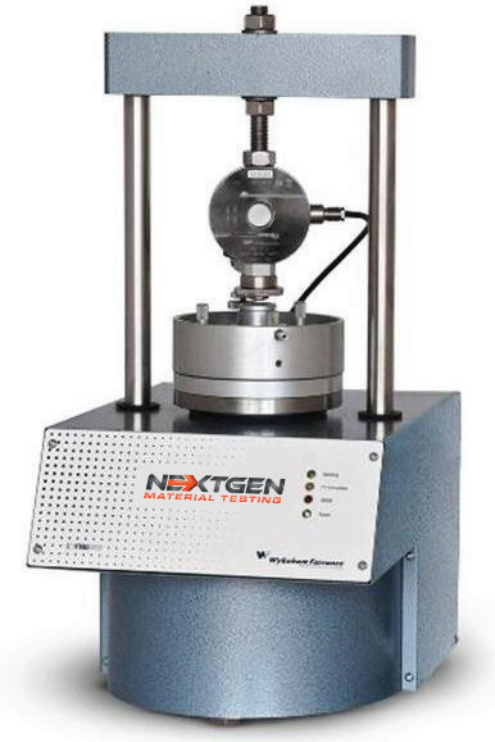
The AUTOTRIAX Automatic triaxial system not only can perform Effective Stress triaxial tests with all the above vantages but is the unique and indispensable apparatus to perform the Stress Path test.

In fact this test is performed to allow the engineer to replicate the changes in stress conditions soil sample subjected to compression and extension both in the loading and unloading status. In few words, that soil, due for example to excavation, or construction or natural events, can produce the changes of magnitude of the principal stresses (major and minor). The test can only be accurately and reliably performed with a servo controlled closed loop system.

NG-OEDOMETER - FRONT LOADING OEDOMETERS - CONSOLIDATION TEST

This test determines the rate and magnitude of consolidation of a soil specimen restrained laterally and subjected to a number of successive increments of vertical loads.

The oedometer consists of a rigid aluminium alloy frame to avoid any distortion under load. The lever arm assembly is supported in precision self-aligning bearings and has three hanger positions for 9:1, 10:1 and 11:1 ratio. The oedometers fit with linear potentiometric transducers, can be connected to the Data acquisition unit.



ACE - AUTOMATIC COMPUTERIZED OEDOMETER

This test determines the rate and magnitude of consolidation of a soil specimen restrained laterally and subjected to a number of successive increments of vertical loads. In this automatic model, the incremental loading, in the load (stress) or swelling (strain) mode, is fully automatic for a practical and accurate test execution with more reliable test results. The ACE unit, the SHEARMATIC Automatic shear testing machine and AUTOTRIAX Automatic triaxial test systems, are the unique equipment for the complete automation of a CST (Consolidation, Shear, Triaxial) Soil Mechanics laboratory in the different configurations. See Automatic Soil Mechanics Laboratory.

The ACE, Automatic Computerized oedometer, consists of a small and compact load frame housing two coaxial pneumatic cylinders: the smallest one for low loads and the other for higher loads, with automatic switch off from one to the other when needed. The load is controlled by a high precision pneumatic servo-valve. Two analogue channels: one for the displacement transducer and the other for the load cell with closed loop feedback control. The test end can be programmed on a time or on a step bases. The software can control from a single PC, up to 60 ACE units enabling the operator to choose from single to multiple control.

SHEARMATIC 300 - LARGE SHEAR TESTING MACHINE

The SHEARMATIC 300 automatic machine is ideal for testing geosyntetics and also soil and other materials that contain large particles of up to 20 mm largest dimension. Sample size up to 300 mm square can be tested, with inserts allowing the testing of smaller sample sizes.

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Using a large sample is possible to gain a more representative indication of shear strength. Furthermore, the large shear box can be used to obtain the angle of friction between many materials. Particular applications include the construction of earth dams and other embankment work.

The machine includes 100 kN load cell and linear potentiometric transducers 100 and 50 mm travel with mounting brackets and shear box

RESONANT COLUMN AND TORSIONAL SHEAR TESTER

RESONANT COLUMN combines the features of both resonant column and torsional shear into a single unit including the current driven motor to apply torsional load to sample, a series of transducers with signal conditioning, a cell and back pressure electro-pneumatic control system and a data logger.

The SHEARMATIC 300 automatic machine is ideal for testing geosyntetics and also soil and other materials that contain large particles of up to 20 mm largest dimension. Sample size up to 300 mm square can be tested, with inserts allowing the testing of smaller sample sizes. See accessories.

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AUTOMATIC SHEAR TESTING MACHINE

This test cover the determination of the consolidated drained shear strength of a soil material in direct shear. The AUTOSHEAR machine is controlled by a microprocessor system which reads and processes horizontal force and displacement readings, manages the motor and the safety controls through closed loop system assuring the following important features:

Automatic test running

- Test speed closed loop control
- Large monochromatic graphic display, 240x128 pixel to view data recording in real time
- Different calibration functions (linear and polynomial)
- Language selection
- Travel and cycles programmable by 10 button membrane keyboard with 4 interactive specific icons
- Continuous monitoring and display of horizontal force, vertical and horizontal displacement
- Maximum horizontal displacement (20 mm) controlled by mechanical and optical safety switch
- Different recording modes: linear, exponential (square root), logarithmic, etc.
- High capacity data memory (up to 1000 lines of data)
- RAM memory with battery back-up with clock/calendar, operating also when the unit is switched off.

SHEARMATIC - AUTOMATIC SHEAR TESTING MACHINE

This microprocessor based advanced model, is a stand-alone machine, driven by a high-resolution stepper motor with epicyclical reduction gear with reduced backlash. Incorporate a pneumatic closed loop system for the automatic application of the axial pressure by a high performance pressure regulator, with the main advantage of eliminating the manual loading of the dead weights. Excellent and high resistance techno-polymeric material has been adopted for the carriage of the shear box. It offers excellent resistance to corrosion, wear and tear and is resistant to all chemicals found in a soil specimen. The carriage is lightweight and easy to clean.

LABORATORY VANE APPARATUS

The laboratory vane apparatus is based on an original concept of the Transport and Road Research Laboratory of the United Kingdom. It can be provided with a wide range of vane sizes, although as standard, it is sold with the 12.7 mm square vane and a set of four calibrated springs. The test can be performed directly on the sample or in the sample contained in the sampling tube. In this case the NG-WF1736 Attachment for 38 and 100 mm dia. sampling tubes, should be used.

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