MATEST®
INNOVATIVE. GLOBAL. MANUFACTURER.

# MATERIAL **TESTING** EQUIPMENT

Product Selection

MATEST®
INNOVATIVE. GLOBAL. MANUFACTURER.


## MADE IN MATEST, MADE IN ITALY.

Matest's strength lies in the thorough control of the manufacturing process, from design to after-sales support, with a constant commitment to meeting the demands of a global market.

While developing innovative products is our core capabilities, customer service remains our priority. Matest relies on a team of expert technicians, ready to interpret customer needs and intervene to resolve any issues promptly and effectively.

Our presence is global thanks to a widespread network of distributors, whose specialized technicians operate under the supervision of Matest and receive thorough and continuous training on the operation and maintenance of the machines.

> "THE CHALLENGES WE HAVE OVERCOME BETWEEN CONTINUITY AND INNOVATION."


## BUILDING ON SOLID FOUNDATIONS

Matest laid the foundations of its business in the world of testing machines for concrete, using four-column frames inspired by German design, performing compression and flexural tests according to the most stringent international standards.

Since 2009, Matest has also been accredited as Calibration Laboratory No. 00423 for force and deformation measurements, in compliance with EN ISO/IEC 17025 standards and EA and ILAC requirements.

# A HISTORY OF EXCELLENCE
# MATEST BUSINESS MODEL

**1**
**family-owned company,** that has reached the **second generation**

**40**
**years** of industry experience

**+ 5.000**
**products** comprise the widest range of testing equipment

**35.000 mq**
square meters **Matest campus**

**15 mln €**
**stock of finished** goods for just in time deliveries

**150**
**countries** served worldwide


## ANTICIPATING TOMORROW

Continuous investments in research and development allow Matest to offer cutting-edge instruments designed to perform complex tests: from tests on fiber-reinforced concrete, which measure energy absorption, to dynamic tests that simulate the stresses induced by vehicular traffic.
Thanks to a team of product specialists, Matest has developed a complete range of advanced pavement systems. Skills and experiences which allow us to be members of authoritative industry associations and actively participate in international conferences.

COMPANY WITH QUALITY SYSTEM CERTIFIED BY DNV
ISO 9001

CALIBRATION ACCREDIA

N. 00423 Signatory of EA, IAF and ILAC Mutual Recognition Agreements

Aggregates are a component of composite materials such as concrete and asphalt used to add strength to the overall composite material.
For this reason, International Standards require several and precise tests on their properties. Matest offers an extensive range of testing equipment for aggregates and rocks.


A113

A128N

## A113

### SKID RESISTANCE AND FRICTION TESTER

SURFACE AND FRICTION TESTER

STANDARDS: EN 1097-8 | EN 1338, 1341, 1342, | EN 13036-4
EN 1436 | ASTM E303

The tester measures the energy loss when a rubber slider edge is propelled over the surface under test. The release mechanism of the pendulum arm has an original solution reducing the friction to minimum for better accuracy.

## A128N

### ACCELERATED POLISHING MACHINE

DETERMINATION OF POLISHED STONE VALUE

STANDARDS: EN 1097-8, EN 1341, 1342, 1343 | BS 812:114
NF P18-575 | CNR N.105

It measures the resistance of road aggregates, paving stones and paving blocks to the polishing action of vehicle tyres on a road surface. The specimens are manufactured with suitable moulds and located on the Road Wheel.

## A150M

### ELASTIC MODULUS OF ROCK SPECIMENS IN UNIAXIAL AND TRIAXIAL TESTS

AUTOMATIC SYSTEM WITH PACE RATE CONTROL ALSO DURING THE LOAD RELEASE.

STANDARDS: EN 14580 | EN 1926 | ASTM D7012 | ASTM D2664 ASTM D3148 | ASTM D5407 | ISRM


**C089-10N + A150M + A139 + C104MLPP**

The system can be used with Matest high stability compression machines with capacity of 2000 or 3000 kN, combined with two automatic controllers “Servo-Plus Progress”.
The equipment includes: hydraulic system, electronic measuring system and UTM2 software for data acquisition and processing.
The system can be used with:

- electric single use extensometers (strain gages, series C125)
- universal electronic mechanical extensometers/compressometers (code C134N)

## A137

### HOEK CELLS FOR ROCK TRIAXIAL TESTS

Used to measure the strenght of cylindrical rock specimens which are subjected to triaxial compression.
The Hoek cell is composed of one body complete with two screwed end caps, two self-sealing couplings, two hardened, ground, spherical seats and pistons and a specimen jacket.
Available in different models and sizes.


### MAIN FEATURES

- Perfect with pressure up to 70 MPa
- Suitable for specimens from 30.10 to 54.74
- Used to measure the strength of cylindrical rock specimens under triaxial compression.

## A008-05

### LABORATORY OVENS

HIGH TEMPERATURE UNIFORMITY AND PRECISION

STANDARDS: EN 932-5 | EN 1097-5 | BS 1924 :1 | ASTM C127, C136, D558, D559, D560, D698, D1557, D1559


**MAIN FEATURES**

- Forced ventilation airflow.
- Digital temperature control system.
- Stainless steel chamber and trays.
- Insulation by 60 mm thick glass fibres.

## A058-05N

### AIR JET SIEVING MACHINE

VACUUM SIEVING SYSTEM

STANDARDS: EN 933-10


**MAIN FEATURES**

- Sieving time from 0 to 99 minutes.
- Vacuum range from 0 to 42 mbar.
- Adjustable calibration function.
- Sieving results from 5 to 4000 microns.
- Automatic cleaning system

## A125N

### DIGITAL POINT LOAD TESTER

ROCK STRENGTH INDEX

STANDARDS: ASTM D5731 | ISRM

High stiffness load frame with confortable manual hydraulic jack, for testing rocks both in labs and on site.


**MAIN FEATURES**

- High precision electric load cell.
- Capacity 56 kN, or 100 kN (A126)
- Core specimens up to 4” (101.6 mm).
- Graduated scale to read the distance between the conical points.
- 0.001 kN resolution.

## A131

### ROCK SHEAR BOX APPARATUS

STRENGHT AND SLOPE STABILITY

STANDARDS: ASTM D5607 | ISRM

This equipment can be used both on site and in laboratory. The digital model is equipped with Cyber-Plus 8 Progress data acquisition system. Available a manual rock shear box apparatus with dial gauges (code A129).

**MAIN FEATURES**

- Rocks max. size 115x125 mm or Ø 102 mm.
- Calibrated 50 kN x 1 kN division
- 2 pressure transducers for load acquisition.
- 1 linear transducer for shear measurement.

## A075N

### LOS ANGELES ABRASION MACHINE

DETERMINATION OF RESISTANCE TO FRAGMENTATION

STANDARDS: EN1097-2 | ASTM C131 | EN 12697-17
EN 12697-43 | NF P18-573 | AASHTO T96 | CNR N° 34

**MAIN FEATURES**

- Automatic digital revolutions counter.
- Counterbalanced cylinder for an easy loading.
- CE Sound-Proof cabinet available.

## A077

### MICRO-DEVAL TESTING MACHINE

DETERMINATION OF RESISTANCE TO WEAR

STANDARDS: EN1097-1 | EN 13450 | NF P18-572 | NF P18-576
UNE 83115 | CNR N° 109

**MAIN FEATURES**

- Up to 4 stainless steel cylinders.
- Separate control panel with automatic revolution counter.
- CE Sound-Proof cabinet available.

## A059-02-KIT

### ELECTROMAGNETIC SIEVE SHAKERS

STANDARDS: EN 932-5 | ISO 3310-1

**MAIN FEATURES**

Triple vibrating action:

- Vertical
- Lateral
- Rotational

Digital microprocessor control panel can adjust:

- Timer 0-999 minutes
- Continuous or intermittent vibrating action
- Pause between vibrations (indicated for fine material sieving)
- The control panel can be wall fixed or placed on a bench

## A052

### TEST SIEVES

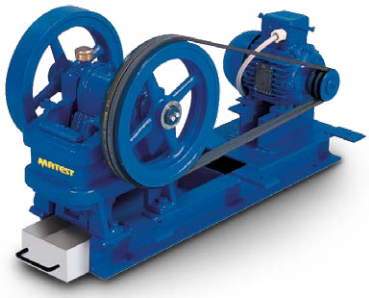
STANDARDS: EN 933-2 | ISO 3310-1, ISO 3310-2, ISO 565
ASTM E 11 | BS410 | NF X11-504 | UNI 2331,
UNI 2333 | DIN 4187-1 | UNE 7050


A complete range of test sieves, available in different diameters and openings as requested by International Standards.
All models can be supplied with woven wire mesh or perforated plate with round or square holes. The sieves are available in the following diameters: 200 - 250 - 300 - 315 - 400 mm and 8”-12”. Their openings are clearly marked on the label, including the serial number for the identification and traceability of the sieve. Each sieve is supplied complete with certificate of conformity.

A079
## MICRO-DEVAL APPARATUS ASTM

## HIGH END LABORATORY OVENS. FORCED VENTILATION, DIGITAL THERMOSTAT
HIGH TEMPERATURE UNIFORMITY UP TO 300 °C

A092
## LABORATORY JAWS CRUSHER



A022
## MUFFLE FURNACE
1100 °C HIGH CAPACITY

A061N
## HIGH CAPACITY SIEVE SHAKER

A048N-KIT
## BAR (GRID) SIEVES
AGGREGATE FLAKINESS INDEX AND PARTICLE SHAPE

A062 / A063
## SAMPLE SPLITTERS (RIFFLE BOXES)

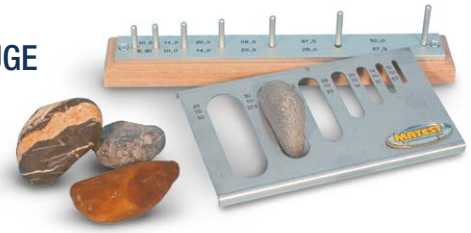
A068
## LARGE CAPACITY SAMPLE SPLITTER

C381
## ROCK CLASSIFICATION HAMMER
LOW IMPACT ENERGY MODEL

A111N
## ABRASION MACHINE

A070
## FLAKINESS | THICKNESS GAUGE

A071
## LENGTH GAUGE



A117
## END-OVER-END SHAKER

A072
## SHAPE GAUGE - SHAPE INDEX

A080-KIT
## AGGREGATE IMPACT VALUE APPARATUS

A072-10
## PROPORTIONAL CALIPER

Asphalt testing machines provide a solution for the whole “asphaltic path”: mixing, compacting, modelling and testing. The equipment meets the needs of those who want to perform quality control or experimentation of new asphalt mixtures.

- ALL-IN-ONE AUTOMATIC CYCLE
- COMPLETE EXTRACTION IN LESS THAN 1 HOUR
- CUSTOMIZABLE WORKING CYCLE ALSO DURING TEST

B003

## AMA
## ASPHALT MIX ANALYZER
AUTOMATIC CLOSED-LOOP SYSTEM

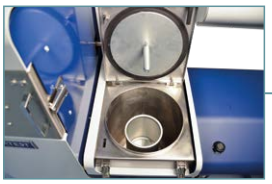
STANDARDS: ASTM D8159 I EN 12697-1

The Asphalt Mix Analyzer (AMA) is an innovative device capable of combining all the processes associated with bitumen extraction and recovery. The unit has been designed for the purpose of determining the bitumen content in asphalt mixture and it is the best solution to analyse and characterize the properties of the reclaimed asphalt pavement (RAP).

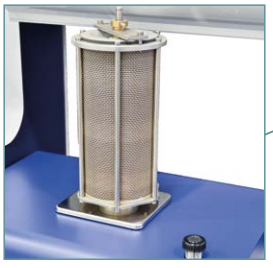
### MAIN FEATURES

- Fast analysis reducing extraction costs and time.
- Combination of ultrasonic impulses and heating effect to a complete bitumen extraction.
- Complete close cycle avoiding toxic fumes for healthy environment.
- Automatic passage from pre-wash to washing phase.
- Automatic sample drying after operation.
- Forced distillation made to reduce the bitumen solution at the end of the test.
- Selectable pre-wash phase, number of washing and drying cycles.
- Optional direct connection with rotary evaporation apparatus.

Mesh drum into the washing chamber



Cup into the centrifuge, up to 8000 revolutions per minute



Integrated balance for automatic weight record

## SUPERPAVE GYRATORY COMPACTORS

STANDARDS: EN 12697-10, EN 12697-31 | ASTM D6925
AASHTO T312, TP4 | SHRP M-002

Gyratory Compactors, entirely developed and manufactured by Matest, are used to simulate and reproduce the real compaction conditions under actual road paving operations, hence determining the compaction properties of asphalts.
**Electro-pneumatic or electro-mechanical, we provide with several models, including for research purposes, compliant either with ASTM or EN standards**. Here below a selection of our engineering development.

### B045-01

## GYRORESEARCH

Used for research purposes, this electromechanical compactor allows for the **adjustment of the gyratory angle, selectable in a range between 0° and 3°**, during compaction, real time direct shear and torque measurement.

### MAIN FEATURES

- Rigid steel frame ensuring excellent angle control.
- Full color 7" touch screen control unit, running like a standard PC.
- Automatic adjustment of the gyratory angle, defined by the user.
- Integrated shear stress measurement.
- Optional integrated electromechanical extruder.
- Gyration rate from 3 to 60 (other speeds available on request).
- Max consolidation pressure according to the specimen size:
  Ø 150 mm 1000 kPa
  Ø 100 mm 1500 kPa

### B045

## GYROMEC

Electromechanical gyratory compactor. The load is applied by an electro-mechanical cylinder with a load cell positioned directly on the vertical actuator for precise load measurement.
The machine can also be configured as requested by EN Specifications **(model B045EN)**

### B041M

## GYROTRONIC

Electropneumatic gyratory compactor. The load is applied by an electro-pneumatic cylinder, servo controller by a precision pressure regulator.
The machine can also be configured as requested by EN Specifications **(model B041MEN)**

### B041-28

## GAM
## GYRATORY INTERNAL ANGLE MEASURER

STANDARDS: EN 12697-31 | ASTM D7115
AASHTO T344



**B045-01**

- SELECTABLE GYRATORY ANGLE
- SHEAR STRESS MEASUREMENT
- AMPLIFIED MAXIMUM TEST LIMITS


**B045**

B026-05N

## PAVEMIX AUTOMATIC ASPHALT LABORATORY MIXER

STANDARDS: EN 12697-35

Pavemix prepares homogeneous bituminous mixtures at a strictly controlled temperature.

### MAIN FEATURES

- Mixing capacity: 32 litres max.
- Selectable mixing temperature: up to 260 °C
- Mixing speed: adjustable from 4 to 40 rpm.
- Easy tilting unloading up to 130°.

- SLOT ON THE TOP OF THE LID TO POUR EXTRA MIXTURE WHILE TESTING
- DETACHABLE MIXING BLADES AND ROTATION INVERSION FOR AN EASIER CLEANING


B039N

## ARC ELECTROMECHANICAL ASPHALT ROLLER COMPACTOR

STANDARDS: EN 12697-33 method 5.3
ASTM D8079 | TP-Asphalt StB 33

Used to produce representative sample slabs of several dimensions.

### MAIN FEATURES

- 40 kN vertical force.
- Integrated touch screen control unit.
- No air source (compressor) or hydraulic pressure required.
- Optional heating of segment roller and cart.
- Perfect horizontal flatness of the slab surface.
- Uniform density and dimensions of the slabs.
- Energy controlled compaction procedure.


B039A

## ASC ASPHALT SHEAR BOX COMPACTOR

STANDARD: ASTM D7981

### MAIN FEATURES

- Servo hydraulic vertical ram with integral hydraulic power supply.
- Precision electro-mechanical shearing motion
- Integral specimen extruder.
- Electronic control unit with touch screen color display (no need for PC).
- Precision load cell(s) for vertical and shear stress measurement.
- Optional built-in mould heater.

THE ONLY ELECTROMECHANICAL SHEAR BOX COMPACTOR


B040-20

## ACD AUTOMATED CORE DRILL

Fast and accurate cutting of cores from cylinders, prisms and slabs.

### MAIN FEATURES

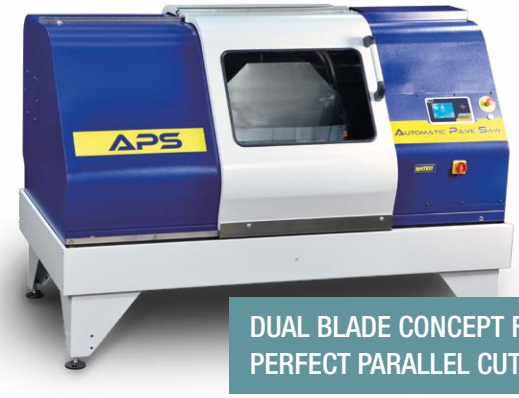
- Three selectable drill speeds.
- Ideal for coring prismatic and cylindrical specimens.
- Adjustable specimen clamp and fixture.
- Three core supports to obtain three cores from one prism.

B040M

## APS AUTOMATIC PAVE SAW

### MAIN FEATURES

- Two-saw blade design ensures for perfect parallel cutting.
- Motorized feed with automatic retraction of saw carriage.
- Electronic control unit with touch screen colour display.
- Adjustable cutting speed.
- Spacer system allows precise preparation of beams and cylinders from 38 mm to 160 mm.
- Choice of mechanical or pneumatic Jigs.
- Clean operation and unparalleled operator safety.
- Universal saw to cut several material types.




DUAL BLADE CONCEPT FOR PERFECT PARALLEL CUTTING

B038AM

## SMARTRACKER™ MULTI WHEELS HAMBURG WHEEL TRACKER;

TEST ENVIRONMENT: DRY AND WET

STANDARDS: EN 12697-22 | AASHTO T-324 | BS 598:110

### MAIN FEATURES

- Simultaneous testing of wet and dry samples.
- Separate rutting and deformation analysis of each specimen.
- No heavy lifting. Wheels retract automatically.
- Easy mould sliding mechanism.
- Fully Automatic. Detects and stops at target rut depth.
- Touch-screen control unit
- Mechanical recirculating water bath within ± 1 °C precision.
- Small footprint to accomodate in small construction labs.


PATENT NO: US 9, 964, 471

S205M

## UNITRONIC 50 KN | AUTOMATIC SCB SYSTEM

STANDARDS: EN 12697-44 | AASHTO TP124 | ASTM D8044

The Automatic SCB system operates in load and displacement control modes. Accommodates a wide range test jigs to run several asphalt performance tests, including IDT/TSR, MARSHALL, DIRECT SHEAR, Ideal CT and RT.

### MAIN FEATURES

- Precision load cell and LVDT to measure load and displacement.
- Loading sequence fully automated.
- Touch screen display and intuitive controls.
- Data acquisition system accomodating multiple transducers simultaneously.
- Specimen alignment during test perfectly maintained.

B025-01N
## MIXERS
20 LITRES CAPACITY

B005N
## BITUMEN CONTENT FURNACE BY IGNITION METHOD


B011
## CENTRIFUGE EXTRACTOR
1500 / 3000 g CAPACITY


B015
## CENTRIFUGE WITH CONTINUOUS FLOW
EXTRACTION CAPACITY 400 G


B014
## CONTINUOUS FLOW FILTERLESS CENTRIFUGE


B017-KIT
## HOT EXTRACTION APPARATUS
WIRE MESH FILTER METHOD

B061
## KUMAGAWA (SOXHELET) EXTRACTOR
1 AND 2 LITRES

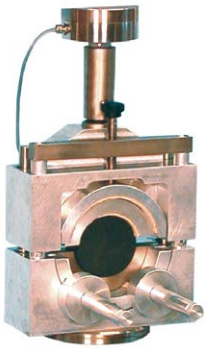
V085
## SPECIFIC GRAVITY FRAME

B031N1
## AUTOMATIC MARSHALL EN COMPACTOR

B033-01N
## AUTOMATIC MARSHALL ASTM COMPACTOR

B043-KIT
## DIGITAL MARSHALL TESTER
50 KN CAPACITY

B047-10
## DIRECT SHEAR TEST LEUTNER



B047-02
## INDIRECT TENSILE TESTING DEVICE

B007
## ASPHALT SPLITTER

B065
ROTAVAPOR
## ROTARY EVAPORATION APPARATUS

B052
## DIGITAL WATER BATH

Bituminous mixture is mainly composed by aggregates and bitumen, an infinite variety of mixtures being possible. Matest provides all the equipment required for bitumen testing, including machines to study the rheological properties of bitumen as well as the features of bituminous emulsion.

- AUTOMATIC IDENTIFICATION OF THE NEEDLE CONTACT POINT
- REAL TIME DISPLAY OF PENETRATION CURVE
- HIGH-TECH CONTACTLESS DISPLACEMENT TRANSDUCER 0.01 MM RESOLUTION


B059M

## SMARTIP
## FULLY AUTOMATIC PENETROMETER

STANDARDS: EN 1426 | ASTM D5 | AASHTO T49 | ASTM D217
NF T66-004 | DIN 52210 | IP 49 | JIS K 2207

Automatic apparatus for the determination of the needle penetration value, avoiding any possible operator lack of concentration and ensuring a reliable repeatability of the results.


### MAIN FEATURES

- Fully automatic test, simply by taping the START icon: approach, touch point, penetration.
- Electro-magnetic needle probe release to perform the test.
- Automatic zero at the contact before starting penetration.
- 7” touch screen with an user-friendly software and interface.
- Optional temperature probe PT 100 (B059M-11) connected to the monitor to show and record the test temperature.
- Optional water chiller (B058M) to control test temperature, ± 0.1 °C accuracy, in a range between 5 °C and 30 °C.

B091M

## PAV
## PRESSURE AGEING VESSEL

STANDARDS: EN 14769 | ASTM D6521 | AASHTO R28

PAV simulates in-service oxidative aging that occurs in asphalt binders during service after 5 to 10 years.

**Available a research version implemented with an electronic pressure valve to adjust the test pressure from ambient to 2.4 MPa (B091M1-KIT).**


### MAIN FEATURES

- 3 operating modes: Fully Automatic, Semi-Automatic and Manual.
- Fast pre-heating system selectable up to 80 °C in order to reduce the conditioning time.
- Timer for setting time and date to start the machine at the desired time.
- Innovative cooling system, starting at the end of the test.
- CE and ASME certification.
- Testing time up to 99 hours.
- Programmable temperature range up to 130 °C.

## PAV & VDO

- MADE IN MATEST
- 100% STAINLESS STEEL
- PRESSURE AND TEMPERATURE MONITORED IN REAL-TIME
- INTEGRATED 7” COLOR TOUCH-SCREEN

B091M-01

## VDO
## VACUUM DEGASSING OVEN

STANDARDS: EN 14769 | ASTM D6521 | AASHTO R28

VDO removes air bubbles created during the in-service oxidative aging of asphalt binder by the PAV.


### MAIN FEATURES

- 3 operating modes: Fully Automatic, Semi-Automatic and Manual.
- Temperature is measured by Platinum RTD.
- Over temperature limit switch.
- Automatic release of the pressure at the end of the test.
- Double vessel to insert 4 or 8 samples.
- Fast heating and vacuum system to reach set point.
- USB port on front unit with software upgrades and data storage.

## B070M

### SOFTMATIC
### AUTOMATIC DIGITAL RING AND BALL APPARATUS
AUTOMATIC SOFTENING POINT DETERMINATION

STANDARDS: EN 1427 | ASTM D36 | AASHTO T53 | NF T66-008
EN 1871 (Wilhelmi Test) comparable to: BS 2000
DIN 52011 | UNE 7111 | UNI 4161 | CNR N.35


#### MAIN FEATURES
- Fully automatic.
- Real time display of temperature and chart.
- Microprocessor Touch-Screen controller.
- Multilanguage selection.
- Top quality components: laser sensors, electronic magnetic stirrer, ceramic-glass heating plate.
- Fast test area cooling system.

## B055-20M

### DUCTILOMETER WITH DATA ACQUISITION
BITUMEN DUCTILITY DETERMINATION

STANDARDS: EN 13589, 13703, 13398 | ASTM D113, D6084
AASHTO T51, T300, T301
GOST 11505-75, 33138


#### MAIN FEATURES
- Works automatically.
- Selectable speed from 1 to 400 mm/min.
- Max stroke 1500 mm.
- Stainless steel made with fibreglass insulation.
- Digital thermoregulator for a constant water bath temperature (25 °C ± 0.5 °C).
- Dual safety thermostat to prevent accidental over-temperature.
- Cyber-plus 8 Progress data acquisition and processing system.
- Optional refrigerating unit (0 °C to +25 °C).

## B066M

### ROLLING THIN-FILM OVEN
EFFECT OF HEAT AND AIR ON A MOVING FILM OF ASPHALT BINDER

STANDARDS: EN 12607-1 | ASTM D2872 | AASHTO T240


#### MAIN FEATURES
- 7'' Touch-screen color display.
- Temperature ramp designed to achieve the target temperature within 10 minutes when the door is closed.
- Flow meter range: from 200 to 14.000 mm/min.
- Temperature accuracy ± 0.1 °C when the target temperature test is achieved.
- 15 rpm rotation speed.

## B085-22N

### ROTATIONAL VISCOMETERS HIGH PERFORMANCE

STANDARDS: EN 13302 I ASTM D2196 I ASTM D4402 I AASHTO T316

A rotational viscometer is used to measure the dynamic viscosity of bitumen at elevated temperatures.


#### MAIN FEATURES

- Wide viscosity range.
- High accuracy ± 1% on full scale.
- High repeatability ± 0.2%.
- Temperature sensor PT 100 included.
- High temperature precision ± 0.1 °C.
- Direct readout on graphic display.
- Optional test bath and PC Software available.

## B088N

### VISCOSIMETER BATH

STANDARDS: EN 12595 I ASTM D2170

To determine Dynamic and Kinematic viscosity of liquid asphalts at a uniform temperature.

#### MAIN FEATURES

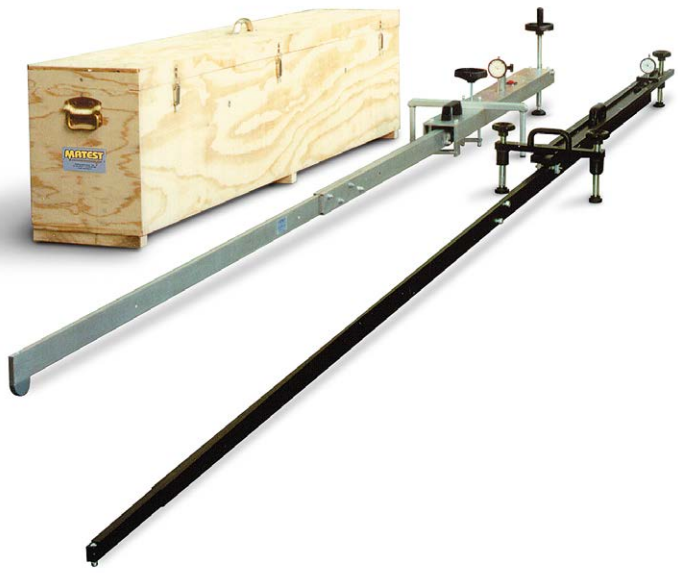
- Extremely precision (± 0.02 °C stability).
- 4.3" LCD display.
- PID controller.
- PT 100A probe included.
- Overheating alarm system and security water level.
- Motor stirrer, heating element, cooling coil.

## B100 / B102

### BENKELMAN BEAM APPARATUS

STANDARDS: ASTM D4965-03 I CNR N° 141 I NF P98-200-2
AASHTO T256

To measure the deflection of the road surface when loaded by the wheels of vehicles.




#### MAIN FEATURES

- Aluminium alloy made, with dial indicator and accessories
- Length of the Benkelman beam is 2500 mm.
- Beam fulcrum ratio 4:1 and 2:1
- Supplied complete with wooden carrying case
- Optional Ø 600mm bearing plate to NF P94-117-1

B080
## ENGLER DIGITAL VISCOMETER

B084-02
## TWO PLACES TAR VISCOMETER, DIGITAL

B087-01
## TWO TUBE SAYBOLT VISCOMETER

B086
## CLEVELAND OPEN CAP FLASH AND FIRE POINT TESTER

B056-02
## SEMI-AUTOMATIC PENETROMETER
DIGITAL

B072
## RING AND BALL SOFTENING POINT APPARATUS

B077
## FRAASS APPARATUS BREAKING POINT

B023
## LABORATORY MIXER

B085-07N
## DSR
## DYNAMIC SHEAR RHEOMETER

B085-08N
## DSR ADVANCED DYNAMIC SHEAR RHEOMETER

B064
## ROTATING SHELF THIN FILM OVEN

B063
## EMULSIFIED ASPHALT DISTILLATION APPARATUS

B075
## WATER IN BITUMEN EMULSIONS

B069A
## DISTILLATION OF CUT-BACK ASPHALTS
ELECTRIC

B062-10
## EMULSION LAB MILL

B098N
## TRAVELLING BEAM DEVICE

Pavetest is the division of Matest committed to developing innovative, dynamic and static testing systems for asphalt, with unparalleled performance, ultimate versatility and exceptional reliability.


## CDAS2

### CONTROL AND DATA ACQUISITION SYSTEM

Pavetest's compact Control and Data Acquisition System, complete with the TestLab Software, delivers unparalleled performance, real time control and ultimate versatility in acquisition and provide a flexible and user-friendly testing solution.

### MAIN FEATURES

- Acquisition 16 CH, 24 bit resolution
- Sampling rate up to 200 kHz (all channels)
- Smoothing up to 64 times over-sampling
- Calibration Automatically on power up
- Control Axis 4
- Communication USB or Ethernet

## TESTLAB SOFTWARE

TestLab is an open architecture user programmable software application. Users have full access to a comprehensive suite of pre-programmed Method Files and/or the opportunity to create their own Method Files, to suit their individual needs.
Both the CDAS2 hardware and TestLab software use a modular approach allowing users to add new functionality to perform additional materials tests and even upgrade third party servo-hydraulic/ pneumatic dynamic testing machines.

### MAIN FEATURES

- Open architecture software.
- Pre-programmed "Method files" for a range of international test methods.
- User may clone, modify and/or create method files to suit their specific requirements.
- Real time graphing of results and configurable real time transducer.
- Test "Wizard" guides operator, "recipe book" approach.
- Simulation mode to run a complete test without a specimen.
- Full access for advanced user to specify their own calculations, test results and charting.
- View hydraulic oil temperature/pressure and set/monitor climatic chamber temperature.

## SMARTPULSE

### 18 KN ELECTRO-MECHANICAL DYNAMIC TESTING SYSTEM

SmartPulse is an electro-mechanical servo-controlled dynamic testing machine adopting a high-performance long-duration electromechanical actuator.

#### MAIN FEATURES

- Compact, fully self-contained, precision engineered unit.
- Precision electro-mechanical actuator (silent operation).
- Integrated climatic chamber.
- Fully configurable to suit a large range of testing applications.
- A gull-wing door offering a wide test area with three accessible sides.

## DTS-30

### 30 KN SERVO-HYDRAULIC DYNAMIC TESTING SYSTEM

Servo-hydraulic testing machine utilizing digital control of a servo valve to provide accurate loading wave shapes up to 100 Hz.


#### MAIN FEATURES

- Small footprint.
- Reaction frame embedded in the test chamber.
- A two piece temperature controlled cabinet.
- Fully configurable to suit a large range of testing applications.
- Digital Servo-Hydraulic control.
- Dynaflo™ HPS provides dynamic speed control of the pump motor ensuring quiet operation.
- 4 axis control and 16 channel data acquisition as standard.

## BBR

### SERVO-CONTROLLED BENDING BEAM RHEOMETER

A thermoelectrically-cooled bending beam rheometer capable of assessing flexural creep of asphalt binders, with a temperature range from ambient to -40 °C (± 0.03 °C).


#### MAIN FEATURES

- Servo-control eliminates the need for frequent calibration and repeated adjustment of air bearing pressures.
- Loading frequency from static to 25Hz.
- No need for compressed air supply.
- Meets or exceeds ASTM, AASHTO and SHRP.
- An integrated, self-contained bath cools using ethanol as the bath medium.

## AMPT

### ASPHALT MIXTURE PERFORMANCE TESTER

Servo-hydraulically controlled testing machine designed to perform: Dynamic Modulus, Flow Number and Flow Time asphalt tests.

#### MAIN FEATURES

- Thermoelectric (TE) Heating/Cooling.
- The unit can be equipped with water cooled TE heating/cooling technology (optional).
- Magnetically mounted on-specimen transducer system.
- Gauge point fixing jig facilitates gluing gauge points and the platens for proposed AMPT Direct Tension Cyclic Fatigue (S-VECD) Test.
- Dynamic Verification Device.
- Dynaflo™ HPS provides dynamic speed control of the pump motor ensuring quiet operation.
- Optional built-in, silent, air compressor.


UNIQUE AMPT TESTING UP TO -10 °C

## 4PB

### STAND-ALONE SERVO-PNEUMATIC FOUR POINT BENDING SYSTEM

STANDARDS: EN 12697-24 Annex D | EN 12697-26 Annex B
AASHTO T321 | ASTM 03 | ASTM-D7460

#### MAIN FEATURES

- Backlash free rotation and translation on all load and reaction points.
- Fully configurable to suit a large range of testing applications.
- High performance servo-valve.
- Long life pneumatic actuator.
- Digital Servo-pneumatic control.
- 2 axis control and 8 channel data acquisition.


## STS-25

### STATIC TESTING SYSTEM

STANDARDS: ASTM D7313 | AASHTO TP105 | AASHTO TP124
ASTM D8044 | ASTM WK 26816 | AASHTO T 314
AASHTO TP10 | TxDOT_ Tex-248-F

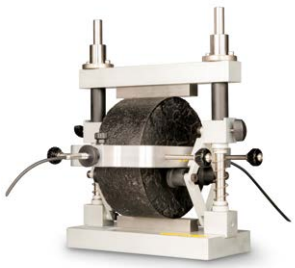
#### MAIN FEATURES

- Available with two types of climatic chambers: vertical and horizontal.
- Suitable for a range of testing protocols (OT, SCB, DTT, TSRST, DCT).
- Compact, fully self-contained, precision engineered unit.
- Climatic chamber temperature range: -40 +80 °C.

B220-02-KIT
## 16 KN SERVO-PNEUMATIC DYNAMIC TESTING SYSTEM (DTS-16)


B240
## 130 KN SERVO-HYDRAULIC DYNAMIC TESTING SYSTEM (DTS-130)


B250-KIT
## INDIRECT TENSILE MODULUS - FATIGUE



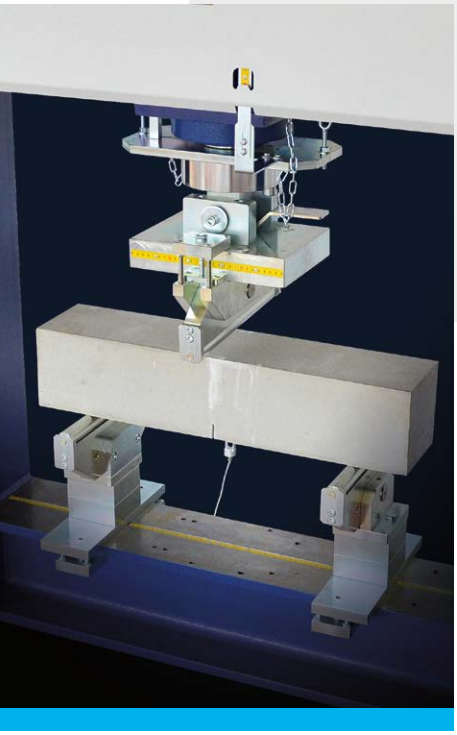
B260-KIT
## UNIAXIAL CYCLIC COMPRESSION - UCC

B272-KIT
## TRIAXIAL RESILIENT MODULUS - TRM

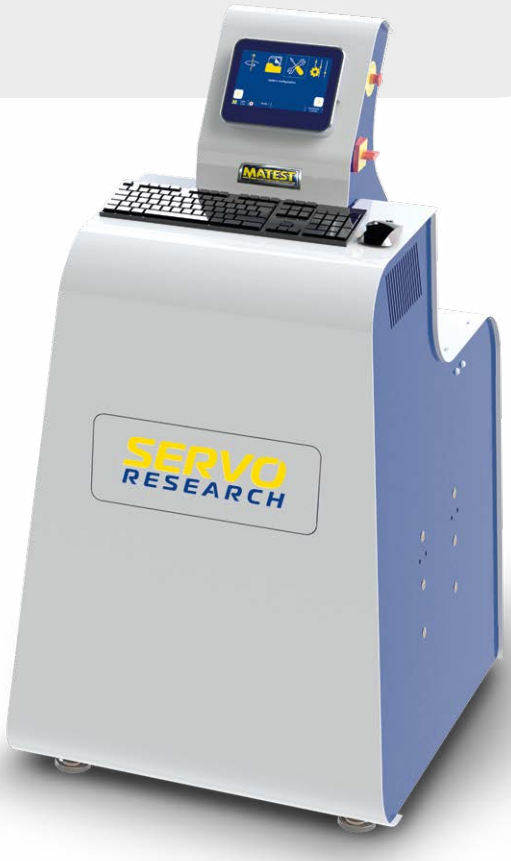
B254-02-KIT
## AASHTO I ASTM SCB TESTING KIT

## DYNAMIC MODULUS - E*

## OVERLAY TEST



Concrete is one of the most used materials in the construction industry. Matest proposes a wide range of testing equipment and high stiffness compression machines which allow to test concrete cubes, cylinders and blocks and satisfy the EN and other International Standards.




## C104-03N
## SERVO RESEARCH
### HIGH PERFORMANCE SERVO-PLUS SERVO STRAIN

STANDARDS: EN 14488-3, 14488-5, 14651 | ASTM C1609, C1018, C1550 | UNI 11039-2

Servo Research is the cutting-edge control unit designed by Matest for precise testing in construction. Built on Cyber-Plus Progress electronics and a specialized hydraulic system, it excels in high-performance testing, particularly on fiber-reinforced concrete.


### MAIN FEATURES

- Fully customizable test ramps.
- Firmware and software for FRC tests included.
- Completely automatic test control with no need of PID adjustments during the execution.
- Performs tests in load, displacement and strain rate control.
- Fully automatic frames control expandable to four with electrovalves.

## CYBER-PLUS PROGRESS
### ONE TECHNOLOGY, MANY SOLUTIONS

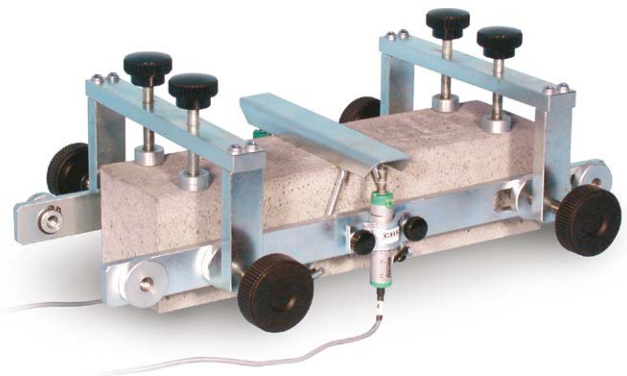
Innovative and user-friendly technology to control and manage the most advanced material testing machines for the construction industry. This control unit is a modular, flexible and multi-functions PC-based and touch screen system.


## ELASTIC MODULUS TEST

Concrete elastic modulus test can be performed, either by using the Servo Research control unit paired with the upgrade C125-03N or the automatic control console Servo-Plus Progress with the upgrade for elastic modulus applications C125M.

## FLEXURAL TESTS ON FIBRE-REINFORCED CONCRETE

In addition to the common practices, Servo Research runs high reactivity tests like those on fibre-reinforced concrete such as: deflection, CMOD, CTOD, Energy Absorption, Post Failure behaviour etc.



# THE WIDEST RANGE OF COMPRESSION AND FLEXURAL TESTING MACHINES

COMPRESSION CAPACITY FROM 1300 KN TO 5000 KN, FLEXURAL CAPACITY FROM 150 KN TO 360 KN





## MAIN FEATURES

- Designed to meet international standards, EN, ASTM, BS, AASHTO, NF, DIN and GOST.
- Four columns prestressed frames and tested for high stability.
- Both hand-operated and motorized versions.
- Flexure with closed or open-side frame
- Possibility to combine and customize compression and flexural machines to obtain groups of two or more frames.



## AIR ENTRAINMENT METER

8 AND 5 LITRES

STANDARDS: EN 12350-7 | ASTM C231 type B

This apparatus is designed by Matest to determine the percentage of air contained in a fresh concrete mixture, in accordance with a pressure-equalization process. An aluminium pressure chamber where air pressure is generated via a manual or electric pump.


C158

## GYROMEC FOR NO-SLUMP CONCRETE

ELECTRO-MECHANICAL GYRATORY COMPACTOR

STANDARDS: NT Build 427

To simulate and reproduce the kneading and compaction action of concrete mixes in precast production lines according to NT Build 427. Useful for both quality control of concrete as well as in research and product development.

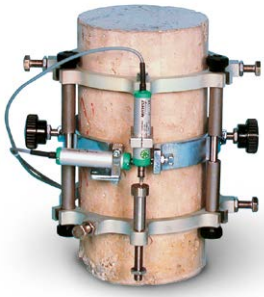
### MAIN FEATURES

- Rigid steel frame ensuring excellent angle control.
- Full color 7” touch screen control unit, running like a standard PC.
- Electronic angle positioning.
- Collecting pan to prevent possible dispersions of slurry and water.

C093-05
## CONCRETE PIPE TESTING MACHINE

C130N
## COMPRESSOMETER

C133
## COMPRESSOMETER-EXTENSOMETER



C313N
## CLIMATIC CABINET

C372M
## ULTRASONIC PULSE VELOCITY TESTER


C278
## VIBRATING TABLES

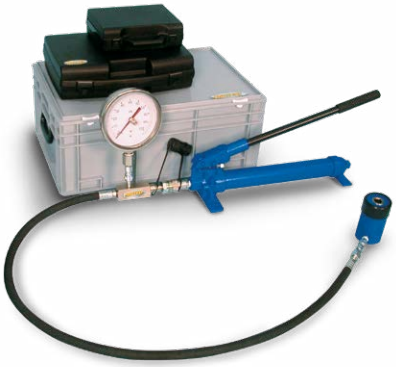
C304
## CURING TANKS


C299
## AUTOMATIC SPECIMEN GRINDING MACHINE

C129
## ABRASION TESTER BÖHME


C369N
## ULTRASONIC PULSE VELOCITY TESTER


C376M
## PULLOUT TEST APPARATUS



C386M
## CONCRETE TEST HAMMER


C318N
## CORE DRILLING MACHINE, ELECTRIC MOTOR

C178-KIT
## SLUMP CONE TEST

C435
## CONCRETE WATER IMPERMEABILITY APPARATUS, THREE PLACE

C138M
## UNIVERSAL DIGITAL TESTER WITH MICROPROCESSOR FOR LOAD CELLS


Cement is an inorganic material that, by mixing with water, becomes a paste with adhesive properties. This paste is generally used as a binder with solid inert materials such as sand, gravel and small rocks to produce the mortar and to prepare different types of concrete (light, reinforced, pre-stressed concrete). Matest offers a complete range of testing equipment for cement and mortar.


E044A

## E044A

### VICATRONIC
### AUTOMATIC VICAT APPARATUS

STANDARDS: EN 196-3, 480-2, 13279-2 | ASTM C187, C191
AASHTO T131

The new Vicatronic apparatus is designed and manufactured using the most recent and sophisticated technology to grant precise measurements of the setting time of cements, mortars, gypsum and other pastes.

## E092M

### MIXMATIC
### AUTOMATIC PROGRAMMABLE MORTAR MIXER

STANDARDS: EN 196-1, EN 196-3, EN 413-2, EN 459-2, EN 480-1
DIN 1164-5, DIN 1164-7 | ASTM C305, C359, C451
AASHTO T162 | ISO 679

#### MAIN FEATURES

- Transparent CE safety guards.
- Planetary transmission for silent and low maintenance operation.
- Digitally controlled rotation speed..
- Easy and fast bowl insertion and removal.
- Safe operation thanks to sensors, bowl presence, correct position and emergency stop button.


E092M

## E183N

### COMPRESSION AND FLEXURAL TESTING MACHINE

STANDARDS: EN 196-1, EN 13286-41, EN 933-5, EN 1015-11, EN 13892-2 | ISO 679 | ASTM C109, C348, C349, C1194 | DIN 1164 | BS 4550 | GOST 26798-1 EN ISO 13503-2 | API RP 19C


#### MAIN FEATURES

- Double testing chamber and two independent measuring ranges.
- Compression tests in the chamber 300 kN capacity and flexural test in the chamber 15kN capacity.
- Flexural tests on cement prisms
- Compression tests on portions of prism, cubes side 40, 50, 70, 100 mm and 2"cores.
- The applied load is measured by two strain gage load cells (15kN and 300kN) granting very high accuracy (max. error within +/- 0,5%).
- Fully automatic version
- Suitable to perform Elastic Modulus (E190M).

## E142

### DIGITAL PULL-OFF (BOND) STRENGTH TESTER

STANDARDS: EN 1542, EN 1348, EN 1015-12, EN 13687-2, EN 13963, EN 14496 | NF P18-858 | BS 1881:207 ISO 4624

This dynamometer measures the adhesive force and the tensile strength of two layers of materials (concrete, facing plasters, mortars, building plasters, lime etc.) being particularly suitable for the repairs of any structure where the bond strength between two layers is an essential factor.


## E130

### JOLTING APPARATUS

STANDARDS: EN 196-1 | EN ISO 679

Used to compact cement mortar prisms 40x40x160 mm contained into a three gang mould.

The apparatus is supplied with separate control panel including main switch, automatic digital drop counter, start/stop push button. Also available a high-performance version (E131N).

Optional soundproof cabinet.

## E090-01N-KIT

### FLOW TABLES

STANDARDS: EN 459-2, EN 1015-3, EN 13279-2 | ASTM C230 *comparable to BS 4551-1

Used to perform flow and workability tests on mortar and lime. The equipment consists of a circular top table with spindle, tripod, bronze flow mould and tamper. The devices to EN Standards are equipped also of a filling hopper and are made of stainless steel.. Motorized models provided with automatic digital drop counter.

E055N
## VICAT APPARATUS

E072
## MOULDS FOR SOUNDNESS (EXPANSION) AND SHRINKAGE TESTS

E011-01N
## BLAINE AIR PERMEABILITY APPARATUS

E070
## AUTOCLAVE

E037-01M
## MUD DENSITY BALANCE

E077-KIT
## LENGTH COMPARATOR

E061N
## CALORIMETER

E064N
## LE CHATELIER WATER BATH

E159D
## COMPRESSION TESTING MACHINES


E161-01N
## COMPRESSION/FLEXURAL TESTING MACHINES WITH DUAL MEASURING RANGE


E170
## COMPRESSION TEST ON MORTAR SPECIMENS


E172-01
## FLEXURE TEST ON MORTAR SPECIMENS


E102
## THREE GANG MOULDS


E093N
## MORTAR MIXERS


E138
## LARGE CAPACITY CURING CABINET

E140
## CURING BENCH WITH COOLING HEATING SYSTEM

Matest products range for test on steel includes universal electromechanical and hydraulic machines to perform tensile, compression, flexural, bending and resilience tests on metallic materials. This equipment can also be used to carry out tests on plastic, composed and textiles materials, wires, ropes, paper and rubber.


## UNIVERSAL AUTOMATIC TENSILE TESTING MACHINES

### 600 KN, 1000 KN, 1500 KN, 2000 KN CAPACITY

STANDARDS: UNI EN ISO 6892-1, 7500-1, 15630-1, 15630-2, 15630-3 | UNI EN 10080 | ASTM A370, ASTM E8 UNI 7676 (Wire Strands)

The machine is designed to meet requirements of works, laboratories and universities for quality control and research purposes. This system is suitable to test metallic round and flat rebars, to determine tension, compression, bending shear strength and to determine compression and flexure strength on concrete.

A second frame can be easily connected to perform a compression test on concrete specimens, including configurations for Elastic Modulus and Poisson ratio determination.

### MAIN FEATURES

- Hydraulic servo-controlled system regulating the load rate
- Four thick columns and two lead screws grant high structural stiffness
- Two different work spaces, the upper one for tension and the lower one for compression, bending and shearing, for a comfortable test execution.
- High precision load cell, class 1 according to ISO 376 standard, grants accurate force measurement
- Hydraulic jaws, for stronger clamping of specimens
- Integrated displacement transducer to measure the stroke of the piston.
- Movable lower crosshead with button panel for an easy machine operation and specimens positioning
- Compression platens included for an easy machine calibration

## DIFFERENT FRAMES, DIFFERENT NEEDS.

TECHNICAL SPECIFICATIONS

| MODEL | H001A | H001B | H001BS* | H001CS* | H001DS* |
|---|---|---|---|---|---|
| **Load capacity (kN) *** Both tension and compression** | **600** | **1000** | **1000** | **1500** | **2000** |
| Load accuracy from 10% of the full scale (%) | ± 1 | ± 1 | ± 1 | ± 1 | ± 1 |
| Test speed (mm/min): | | | | | |
| Max | 85 | 35 | 35 | 20 | 17 |
| Min | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 |
| Independent linearity of the piston stroke displacement (%) | ± 0.05 | ± 0.05 | ± 0.05 | ± 0.05 | ± 0.05 |
| Max crosshead moving speed (mm/min) | 200 | 200 | 200 | 200 | 200 |
| Piston stroke (mm) | 250 | 250 | 250 | 250 | 250 |
| Horizontal clearance (mm) | 580 | 570 | 600 | 840 | 840 |
| Net distance between grips (without piston stroke, mm) | 750 | 750 | 1000 | 1000 | 1000 |
| Columns diameter | 70 | 80 | 80 | 110 | 110 |
| Dimensions of the grips for rounds and flats LxW (mm) | 90x90 | 110x110 | 110x110 | 160x140 | 160x140 |
| Length of the grips for strands | | | 150 for 9.5 mm strands<br>225 for 12.7 and 15.2 mm strands | | |
| Net distance between compression platens (without piston stroke, mm) | 620 | 620 | 900 | 850 | 850 |
| Dimensions of platens** (mm) | Ø 128x30 | Ø 145x40 | Ø 145x40 | Ø 200x60 | Ø 200x60 |
| Load frame dimensions Height (including piston stroke, mm) | 2550 | 2780 | 3050 | 3500 | 3500 |
| Width (mm) | 770 | 900 | 980 | 1300 | 1300 |
| Depth (mm) | 600 | 650 | 650 | 900 | 900 |
| Frame weight (kg) | 1780 | 2880 | 3050 | 8900 | 8900 |
| Power supply | | | 380V, 3ph, 50Hz | | |
| Absorbed power (kW) | 3.5 | 3.5 | 3.5 | 3.5 | 4.5 |

* Suitable also for wire strands. Other models for wire strands testing are available on request.
** Compression platens are already included in the supplied machine.
*** **Models with 1200 kN and 3000 kN capacities available on request.**

## H012

### UNIMEC 300
### ELECTROMECHANICAL UNIVERSAL TESTING MACHINE
300 KN CAPACITY BOTH FOR COMPRESSION AND TENSION

Suitable for a wide range of tests on different kinds of construction materials such as concrete, mortar, steel, soil, asphalt, bitumen and also plastic, rubber, wood and others. It can work in two directions, allowing to perform tests both in tension and in compression.


#### MAIN FEATURES

- Solid base containing transmission components and hardware control instruments
- High rigidity granted by two high resistance steel columns with ground hard chrome surfacing
- Two ball-screw type actuators with preloaded lead screws that grant high precision for the crosshead positioning
- Sintered bushes with low friction coeffcient for a smooth movement
- Automatized positioning of the upper crosshead with incrementally increasing speed through an easily accessible keyboard

## H010-02N

### UNIVERSAL TENSILE/COMPRESSION MACHINE
500 KN CAPACITY IN TENSION
1500 KN CAPACITY IN COMPRESSION

STANDARDS: EN 10002 | UNI EN ISO 6892-1, 7500-1, 15630-1
ASTM C39, E4 | BS 1610 | NF P18-411 | DIN 51220
AASHTO T22

This machine of compact design, is utilized to carry out tensile tests on steel reinforcement bars from diameter 4 to 25 mm and flat max. 25x15 mm. It can also carry out compression tests on concrete cube specimens max. side 150 mm and cylinders max. diameter 160x320 mm.


#### MAIN FEATURES

- Maximum tensile load: 500 kN
- Maximum compression load: 1500 kN
- Min. distance between the jaws: 350 mm
- Max. distance between the compression platens: 331 mm
- Distance between the columns: 310 mm
- Piston's stroke: 120 mm
- Calibration accuracy: class 1 from 10% of the full scale

### H017

## UNIVERSAL EDUCATIONAL TESTING MACHINE
CAPACITY 20 KN

Designed to measure strength of metallic materials and study the various reactions they undergo when subject to different stresses, verifying the same with the following tests:
- Tensile
- Shear
- Compression
- Flexural
- Brinell hardness


### H065N

## COLD BEND TESTING MACHINE

STANDARDS: UNI EN ISO 7438, 15630-1 | ASTM A615
D.M. 17/01/2018

Designed to perform bending tests on steel bars for reinforced concrete. It accepts bars with diameter up to 40 mm and it is supplied with two series of rollers, having respectively a diameter of 50 and 100 mm. CE safety guards available.


### MAIN FEATURES
- Maximum piston load: 160 kN
- Maximum piston stroke: 550 mm
- Piston speed adjustable from 0 to 6 mm/s

### H020

## MARKING-OFF MACHINE
AUTOMATIC MOTORISED

STANDARD: UNI EN ISO 15630-1, 6892-1

Used to mark off specimens with round and square shape for the manual measurement of the elongation at breaking. Supplied complete with safety guard.


### H062M

## CHARPY PENDULUM TESTER FOR RESILIENCE TESTS

STANDARDS: UNI EN ISO 148-1, 9016 | ASTM E23, A370

It allows to evaluate the resilience of metals, which means measuring the energy absorbed by the breaking of a sample with standardized dimensions and shape.

### MAIN FEATURES
- Available in two versions: 300/150J and 500/250J
- The arm is motorized so the positioning and releasing are automatic
- 7'' touch-screen display
- Protections according to CE Safety Directive

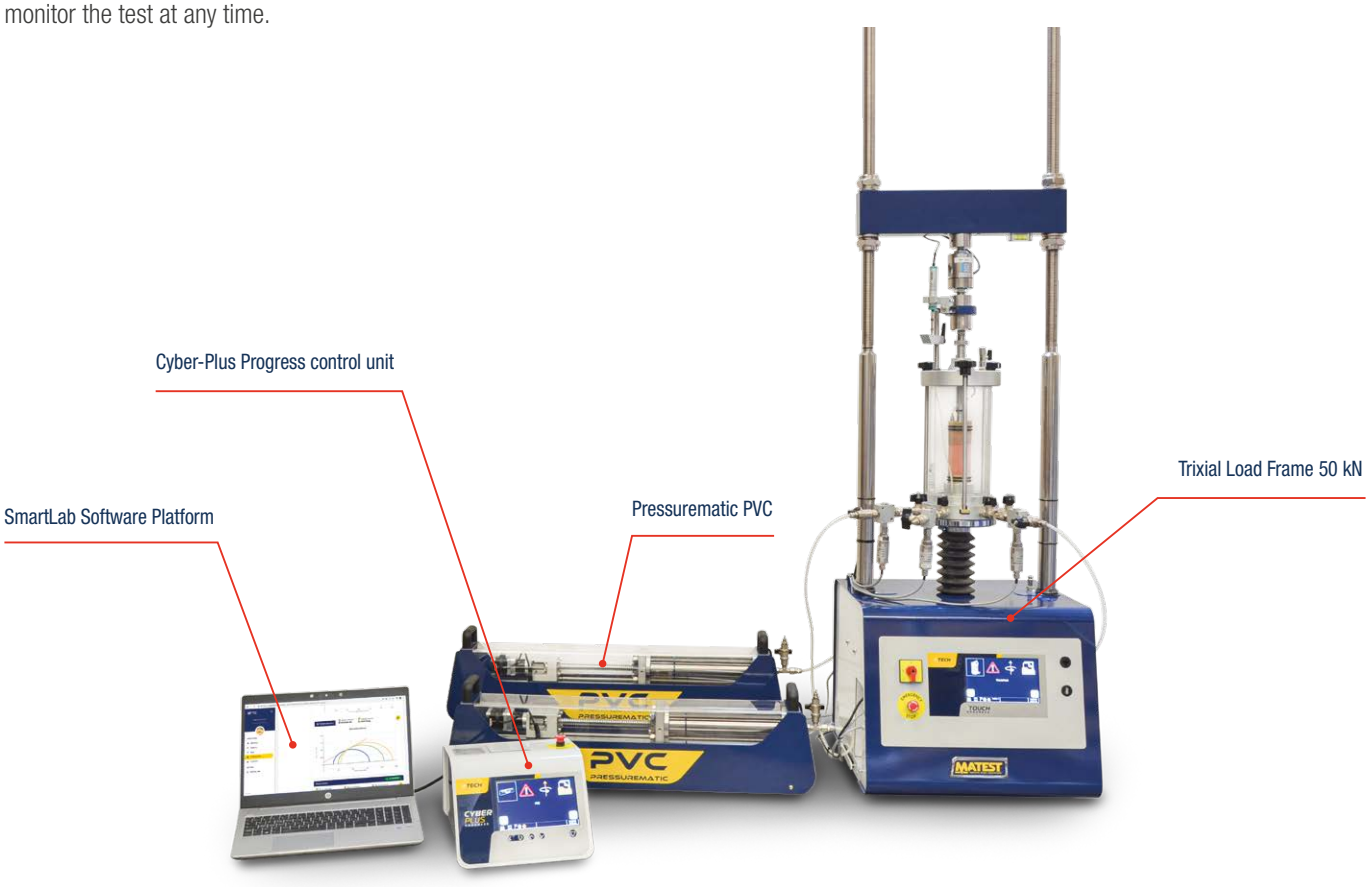

This section provides all instruments needed to analyse soil samples in order to evaluate their properties, by providing a complete range of soil testing equipment for extracting, sampling, classification, consolidation, shear strength, triaxial, compaction, penetration, bearing capacity, permeability, density, geotechnical and chemical tests, in compliance with the EN, ASTM, BS and the most known International Standards.

# TRIAXIAL SYSTEMS

## ELECTROMECHANICAL LOAD FRAME, PRESSUREMATIC PVC, CYBER-PLUS PROGRESS, SMARTLAB

STANDARDS: ASTM D2850-23, D4767-11, D7181-20, D7181-11 | ISO 17892-8, 17892-9 | NF P94-070, P94-074 | BS 1377:8

The Matest triaxial system is the ideal solution for triaxial tests such as CD, CU, UU and permeability. It is equipped with an electromechanical compression frame with integrated data acquisition and a stand-alone pressure system, making the unit compact and without the need for compressed air for any of the components. The acquisition units are connected to the SmartLab software, from which it is possible to manage and monitor the test at any time.



S261

## EDOMEC
## AUTOMATIC ELECTROMECHANICAL CONSOLIDATION APPARATUS

STANDARDS: BS 1377:5 | ASTM D2435, D3877, D4546
AASHTO T216 | NF P94-090-1, NF P94-091
STAS 8942-1-89 | UNI EN ISO 17892-5

### MAIN FEATURES

- Automatic calculations and real time display of graphs and result according the standard.
- Maximum vertical force: up to 25 kN
- Minimum speed: 0.00001 mm/min
- Maximum speed: 99.99999 mm/min
- 4 channels for acquisition and data processing system.
- Sampling frequency of 2 kHz with a selectable sampling rate between 1 Hz and 20 Hz


## SMARTLAB
### INNOVATIVE SOFTWARE PLATFORM

SmartLab is an innovative software platform developed by Matest for remote control and data acquisition of construction material testing equipment.
It allows the management and the control of machines for performing oedometric consolidation, shear and triaxial tests.

S278

## SHEARMEC
## AUTOMATIC ELECTROMECHANICAL SHEAR MACHINE

STANDARDS: NF P94-071-1, P094-071-2 | ASTM D3080
AASHTO T236 | UNI EN ISO 17892-10 | STAS 8942-2-82

### MAIN FEATURES

- High performances for both standardized tests and tests for research purposes.
- Cyber-Plus Progress for an accurate setting of the vertical load, thanks to an electromechanical actuator placed under the shear box.
- Automatic calculation of the shear speed in compliance with standards.
- Automatic load frame release for removing of the shear box.


## TRIAXLAB AUTOMATED SYSTEM

STANDARDS: BS 1377:8 | ASTM D2850, D4767, D7181
NF P94-070, P94-074 | UNI EN ISO 17892

### MAIN FEATURES

- POWERFUL
  Equipped with Pavetest's leading edge Control and Data Acquisition System (CDAS2) and TestLab Software.
- VERSATILE
  Designed for routine tests, central laboratories and for research purposes.
- GREAT EFFICIENCY
  By working in complete automatic mode, it reduces to absolute minimum the manual intervention.
- EASY TO USE
  The system works via the pre-programmed Method Files.
- FLEXIBLE
  Multiple triaxial tests with no need for compressed air supply.


## CYCLIC TRIAXLAB AUTOMATED SYSTEM

STANDARDS: ASTM D7181 | ASTM D2850 | ASTM D3999
ASTM D4767 | ASTM D5311 | BS 1377:8
AASHTO T307

### MAIN FEATURES

- Automatic execution of static and dynamic triaxial tests.
- 4 axis control and 16 channel control Data Acquisition System.
- Servo feedback controlled precision pressure (Pressurematic) generation system.
- Digital Servo-Pneumatic Control to provide accurate loading wave shapes up to 70 Hz.
- Real time charting.
- Compact and versatile for improving productivity and cost effectiveness.
- Pre-programmed user friendly "Method files" through the TestLab Software.
- Possibility to upload user-defined wave-shapes (e.g. earthquakes time series) through Replay Editor.
- Fully configurable to suit a large range of testing applications including maximum shear modulus calculation through bender elements option.
- Programmable Dashboard display showing real-time system status and test result.

## S205M

### UNITRONIC 50 KN
### UNIVERSAL MULTIPURPOSE FRAME

Electromechanical frame with automatic load or displacement/deformation control for compression, flexural and tensile tests on different materials such as soil, asphalt, concrete, cement, metals, plastic, wires, clay blocks, rocks and stones.

#### MAIN FEATURES

- Maximum compression capacity: 50kN
- Maximum tensile capacity: 25kN (accessory S205-05M)
- Adjustable testing speed from 0.01 to 51 mm/minute
- Load rate from 0.05 to 2.4 kN/sec.
- 8 channels for data acquisition and data processing system


## S206M

### UNITRONIC 200 KN
### UNIVERSAL MULTIPURPOSE FRAME

Universal and versatile machine to perform compression, flexure and tensile tests on different materials such as soil, asphalt, concrete, cement, metals, plastic, wires, clay blocks, rocks and stones. Equipped with automatic servo-controlled load or displacement deformation control, the 200 kN capacity allows performing Duriez test.

#### MAIN FEATURES

- Maximum compression capacity: 50kN
- Maximum tensile capacity: 25kN (accessory S205-05M)
- Adjustable testing speed from 0.01 to 51 mm/minute
- Load rate from 0.05 to 2.4 kN/sec.
- 8 channels for data acquisition and data processing system

## S199

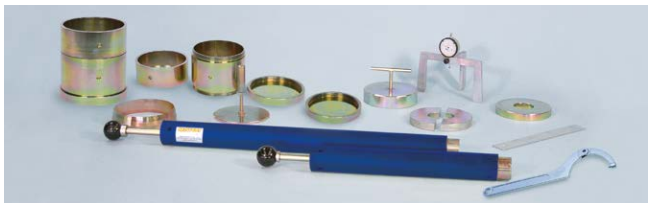
### AUTOMATIC CBR PROCTOR COMPACTOR

STANDARDS: EN 13286-47, EN 13286-2 | ASTM D698, D1557, D1883 | AASHTO T99, T180, T193 | BS 1990, 1994, 1377:2 | NF P94-093, P94-066 | DIN 18127 UNE 7365, 7255, 103-501-94 | CNR UNI 10009 CNR N. 29, 69 | DUTCH RAW | AS 1289 and most International Standards.

Designed to compact Proctor and CBR specimens, it ensures an extremely uniform compaction degree, granting reliable and repeatable test results. The microprocessor software allows to select and perform different compaction cycles in a fully automatic system, by strictly meeting the mentioned International Standards.

S199T
## AUTOMATIC PROCTOR CBR COMPACTOR
TECNOTEST MODEL

S202N
## CALIFORNIA BEARING RATIO TEST SETS



S260
## FRONT LOADING OEDOMETER
CONSOLIDATION APPARATUS

S276-01
## AUTO SHEARLAB
## DIGITAL SHEAR TESTING MACHINE
WITH INCORPORATED
DATA ACQUISITION SYSTEM


S215A
## UNIVERSAL MULTISPEED LOAD FRAME
DIGITAL TOUCH-SCREEN

S160-01N
## MOTORIZED SAND EQUIVALENT SHAKER

S165-02
## SEMIAUTOMATIC CONE PENETROMETER
DIGITAL

S172N
## LIQUID LIMIT DEVICE

S224-01-KIT
## DIGITAL PLATE BEARING TEST EQUIPMENT
200 KN CAPACITY

S088
## PROCTOR PENETROMETER

S234-01
## FIELD DENSITY SAND REPLACEMENT METHOD

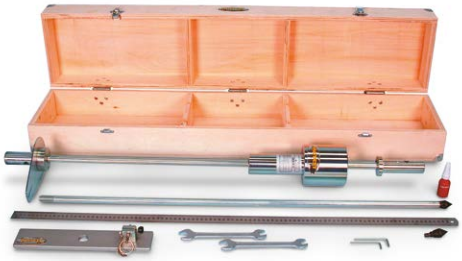
S158-KIT
## SAND EQUIVALENT TEST SET

S238N-KIT
## RELATIVE DENSITY OF COHESIONLESS SOILS

S178
## PLASTIC LIMIT

S220-KIT
## FIELD CBR TEST SET

S051
## DYNAMIC CONE PENETROMETER (DCP)



## SPECIFIC GRAVITY FRAME

STANDARDS: EN 12697, EN 1097-6 | EN 12390:7 | ASTM C127, C128 | AASHTO T84 | BS 812:2, 1881:114

Used for specific gravity determination of concrete and aggregates. To be used with a suitable electronic balance fitted with an under-hook facility. Robust steel frame made, it incorporates on its lower part a platform adjustable in height, holding a water container, and allowing the specific gravity test.

## BALANCES

Mechanical models, rotary automatic scales, batching scales, moisture determination balances, zero-centering balances, and digital models (from 210 g to 300 kg). Most of the models are fitted with under balance weighting facility for specific gravity tests and RS 232 port.

## HOT PLATES

Round, rectangular or square laboratory hot plates, used to dry soil and aggregate samples, and for other general heating applications.

## LABORATORY GLASSWARE

Glass containers for volumetric tests and laboratory purposes: measuring cylinders and beakers, Erlenmeyer conical flasks, volumetric flasks with and without stopper, filter flasks, graduated bottles, pyknometers, Gay-Lussac and Hubbard-Carmick specific gravity bottles, weighting bottles, glass funnels, graduated pipettes, bended or right graduated burettes and desiccators.

V207
## LABORATORY AIR COMPRESSOR


V183...V185-03
## SCOOPS

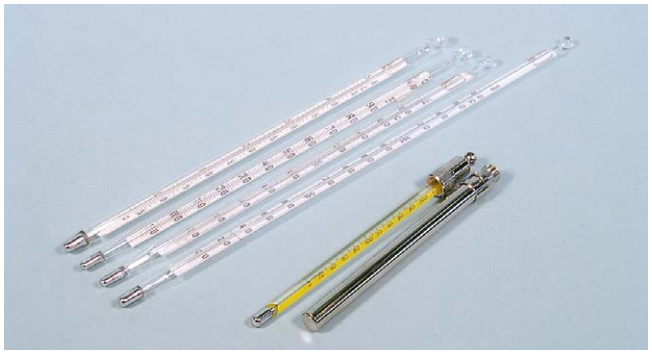

V215-02N
## PH / °C ORP (OXIDATION REDUCTION POTENTIAL) **METER** LABORATORY MODEL


V182
## PANS


V153
## DIGITAL THERMOMETER


V035-03
## STANDARD CALIBRATION WEIGHTS

V164 / V162
## THERMOMETERS



V112...
## **MORTAR** AND **PESTLE,** PORCELAIN

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