



**MATERIAL
TESTING
EQUIPMENT**

...BECAUSE WE NEVER STOP GROWING FOUR BUSINESS UNITS



GLOBAL. INNOVATIVE. MANUFACTURER.

Matest is an Italian company founded in 1986 by the family that still runs and manages operations. Thanks to its strong capital, the company is a forerunner in technological innovation and in continuous expansion.

With an increasingly wide and comprehensive range of products, Matest is both a global player and a leading manufacturer of material testing equipment for the building industry.



WHERE TECHNOLOGY MEETS THE PAVEMENT.

Pavetest is the division of Matest committed to developing innovative dynamic testing systems for asphalt. It offers the most complete and dependable range of pavement materials testing equipment; a position confirmed by the vast majority of the market, especially customers involved in R&D, with whom we continue to develop innovative solutions.



MATERIAL TESTING EQUIPMENT.

In early 2017 Matest has acquired Tecnotest. The famous elephant has always been appreciated from the construction material industry for the quality and the stiffness of its products, with a special focus on the geotechnical range.

Being part of Matest group guarantees continuity for its customers.



UNIVERSAL TESTING SYSTEMS.

Matest awareness of having become a global player with a strong brand identity has also allowed for greater product specialization. Steeltest is in fact the brand that fully represents the quality and functionality inherent in our complete range of equipment for steel testing.

Our universal testing machines are designed to meet requirements of works, laboratories and universities for quality control and research purposes.



MADE IN MATEST, MADE IN ITALY.

Matest's strength lies in a thorough control of the whole manufacturing process, from design to installation, according to strict quality criteria.

The year 2017 ended with further enlargement of the areas allocated for machine assembly and stocking so as to enhance quality, increase production capacity and provide faster deliveries.

Located in the province of Bergamo, Matest employees are dedicated to upholding the excellence of products Made in Italy.

“ Commitment and passion drive us to improve upon what others already consider perfect. ”



#GLOBALCUSTOMERS

A first-class technical assistance provided by a team of Product Specialists, qualified in their specific field, and a solid network of experienced distributors on every continent, trained to locally serve a wide variety of customers:

- research centers
- general contractors,
- geotechnical laboratories
- asphalt, concrete and cement manufacturers,
- government authorities and ministries
- universities and polytechnics
- professional consultants.

A 30 PLUS YEARS JOURNEY INTO **MANUFACTURING**, QUALITY AND WORLDWIDE EXPERIENCE.



1

Company owned
by a single family



8,000 m²

Manufacturing
and storage facility



8 mln

Stock of finished goods
for just in time deliveries



1,000

Compression machines
made in Italy per year



5,000

Items comprise the widest
range of testing equipment



#GLOBALQUALITY

A constant attention to quality during every stage of the manufacturing process, from the smallest basic equipment to the most technologically advanced system.

Quality assurance management is certified to ISO 9001. Matest is also accredited as Calibration Laboratory Lat No. 214 for force testing of compression machines and material testing equipment, in compliance with EN ISO/IEC 17025 and EA/ILAC requirements.



ISO 9001
certified manufacturer



Accredited Calibration
Laboratory n°214
LAT N. 214 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.

”



NEW MATEST SIEVES

- FULL STAINLESS STEEL FRAME AND MESH
- LIGHTER THAN BEFORE
- INDIVIDUALLY CERTIFIED



- TRIPLE VIBRATING ACTION FOR PERFECT SIEVING
- HIGH-TECH CONTROL PANEL FOR SELECTING VIBRATION INTENSITY AND TIME

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.

ELECTROMAGNETIC SIEVE SHAKERS

STANDARDS: EN 935-5 | ISO 3310-1

Matest sieve shakers are designed with a triple vibrating action: vertical, lateral and rotational. They are supplied with separate digital control panel for setting sieving time, vibrating intensity and vibrating action (continuous or intermittent). Different models are available for accepting sieves with diameter from 200 mm to 450 mm, or from 8" to 18".

A150N

UNIAXIAL AND TRIAXIAL ELASTIC MODULUS ON ROCKS

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



Touch Screen control and data processing unit up to 8 channels

Hydraulic Testing System for high accuracy load and confining pressure

Automatic Servo-Controlled confining system working up to 70 MPa ± 1%

C089-04N + A150N + A139 + C104NLP

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 Evolution".

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 C134)

A137

HOEK CELLS FOR ROCK TRIAXIAL TESTS

Used to measure the strength of cylindrical rock specimens subjected to triaxial test.

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 KIT

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 65 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 comfortable 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

STRENGTH 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 Evolution 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.



A113

SKID RESISTANCE AND FRICTION TESTER

SURFACE FRICTION PROPERTIES

STANDARDS: EN 1097-8 | EN 1338, 1341, 1342, | EN 13036-4
EN 1436 | BS 7976 | ASTM E303

■ MAIN FEATURES

- Suitable for both site and laboratory applications.
- Perfect for polished stone value tests on aggregates (curved specimens) from accelerated polishing tests.
- Suitable to perform tests on: natural stones and concrete block pavers.
- Accurate adjustment operations through an incorporated slider lifting device.
- Simple and reliable height adjusting system.
- High-precision results thanks to an extremely light pointer.



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

■ MAIN FEATURES

- Measures the resistance of road aggregates, paving stones and blocks to polishing.
- Up to 14 specimens simultaneously.
- Road wheel speed, from 310 to 330 RPM.
- Digital control panel for an easy test execution.
- Resultant specimens perfectly suitable for the skid resistance tester.



A075N

LOS ANGELES ABRASION MACHINE

DETERMINATION OF RESISTANCE TO FRAGMENTATION

STANDARDS: EN1097-2 | ASTM C131 | UNI 8520-19 | 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.



**A078
MICRO-DEVAL APPARATUS
ASTM**



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



**A092
LABORATORY JAWS CRUSHER**



**A023-01N
MUFFLE FURNACE
1100 °C HIGH CAPACITY**



**A061N
HIGH CAPACITY
SIEVE SHAKER**



**A023-01N
BAR (GRID) SIEVES
AGGREGATE FLAKINESS INDEX AND PARTICLE SHAPE**



**A062 / A063
SAMPLE SPLITTERS (RIFFLE BOXES)**



**A068
LARGE CAPACITY SAMPLE SPLITTER**



AGGREGATES - ROCKS

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





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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.

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- 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 D2172 | 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

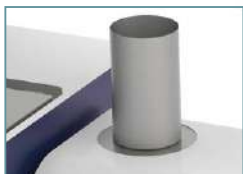
- Fast analysis reducing extraction costs and time.
- Combination of ultrasonic impulses and heating effect to a complete bitumen extraction.
- Complete close cycle avoiding toxic fumes for healthy environment.
- 8000 R.P.M. centrifuge rotation speed.
- Automatic solvent distillation during extraction.
- Integrated 7" colour Touch screen controller.
- 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



Fully automatic and closed cycle

Sturdy frame and small footprint

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.
- Software for PC control acquisition and data processing.
- Integrated shear stress measurement.
- Optional integrated electromechanical extruder.
- Gyration rate from 3 to 65 (other speeds available on request).
- Max consolidation pressure according to the specimen size:
 - Ø 150 mm 1100 kPa
 - Ø 100 mm 2300 kPa

B045

GYROELECTRONIC

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**)

B041

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 B041EN**)

B041-28

GAM GYRATORY INTERNAL ANGLE MEASURER

STANDARDS: EN 12697-31 | ASTM D7115
AASHTO T344



B045-01

- NEW ELECTROMECHANICAL SYSTEM
- SELECTABLE GYRATORY ANGLE
- SHEAR STRESS MEASUREMENT
- AMPLIFIED MAXIMUM TEST LIMITS



B041

A SUCCESSFUL PRODUCT

- COST COMPETITIVE
- TRIED AND PROVEN
- OVER 50 UNITS DELIVERED EVERY YEAR

B026N

PAVEMIX AUTOMATIC ASPHALT LABORATORY MIXER

STANDARDS: EN 12697-35 | ASTM D6307 | AASHTO TP53

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
 ■ OPTIONAL DETACHABLE MIXING BLADES AND ROTATION INVERSION FOR AN EASIER CLEANING



B039

ARC ELECTROMECHANICAL ASPHALT ROLLER COMPACTOR

STANDARDS: EN 12697-33 method 5.2 | EN 12697-33 A/TP ASPHALT

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 D7981-15

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.



B040

APS AUTOMATIC PAVE SAW

MAIN FEATURES

- Double blade design.
- 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

B038A

SMARTTRACKER™ MULTI WHEELS HAMBURG WHEEL TRACKER;

TEST ENVIRONMENT: DRY+WET

STANDARDS: EN 12697-22 | AASHTO T-324

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 accommodate in small construction labs.



PATENT NO: US 9, 964, 471

S205N

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 and DIRECT SHEAR.

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 accommodating multiple transducers simultaneously.
- Specimen alignment during test perfectly maintained.
- Optional high quality Environmental Chamber performing tests between -25 °C and + 60 °C.



**B027
MIXERS**
20 AND 30 LITRES



**B008
AUTOMATIC BINDER EXTRACTION UNIT**



**B011
CENTRIFUGE EXTRACTOR**
1500 / 3000 g CAPACITY



**B014
CONTINUOUS FLOW FILTERLESS
CENTRIFUGE**



**B007
ASPHALT SPLITTER**



**B017 KIT
HOT EXTRACTION APPARATUS**
WIRE MESH FILTER METHOD



**B061 KIT
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



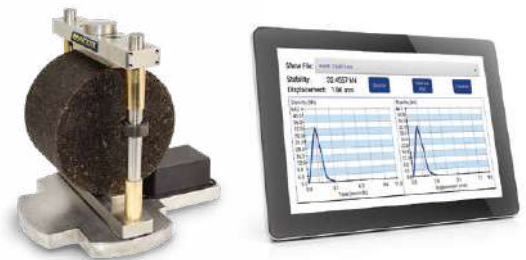
B047-10
DIRECT SHEAR TEST
LEUTNER



B047-02
SPLITTING TENSILE TEST



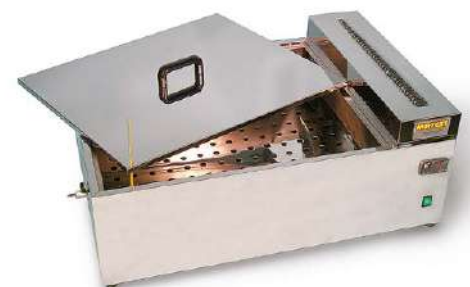
B047-06
DIGITAL UPGRADE FOR ANALOG LOAD FRAME



B038
UNITRACKER
SINGLE WHEEL TRACKING APPARATUS



B052
DIGITAL WATER BATH





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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.

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- 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
BS 1377-2 | 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. **It can be implemented with device for testing electrically conductive samples (B059M-01) in order improve material tested range.**



■ 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).

■ MAIN FEATURES

- 3 operating modes: Fully Automatic, Semi-Automatic and Manual.
- Fast pre-heating system selectable up to 60 °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.



B070N1

SOFTMATIC

AUTOMATIC DIGITAL RING AND BALL APPARATUS

AUTOMATIC SOFTENING POINT DETERMINATION

STANDARDS: EN 1427 | ASTM D36 | AASHTO T53 | NF T66-008;
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.



B055-20N

DUCTILOMETER WITH DATA ACQUISITION

BITUMEN DUCTILITY DETERMINATION

STANDARDS: EN 13589, 13703, 13398 | ASTM D113, D6084
AASHTO T51, T300, T301
GOST 11505-75, 33138-2014

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 evolution data acquisition and processing system.
- Optional refrigerating unit (+5 °C to +25 °C).



B066M KIT

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.



B085-21

ROTATIONAL VISCOMETERS

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

Dynamic viscosity of a substance by rotating a spindle within the sample.

MAIN FEATURES

- Wide viscosity range.
- High accuracy $\pm 1\%$ on full scale.
- High repeatability $\pm 0.2\%$.
- Temperature sensor PT 100 included.
- High temperature precision $\pm 0.1\text{ }^{\circ}\text{C}$.
- Direct readout on graphic display.
- Optional test bath and PC Software available.



B088N

VISCOSIMETER BATH

STANDARDS: EN 12595 | ASTM D2170

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

MAIN FEATURES

- Extremely precision ($\pm 0.02\text{ }^{\circ}\text{C}$ 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 | CNR N° 141 | 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 $\varnothing 600\text{mm}$ bearing plate to NF P94-117-1



B080
ENGLER DIGITAL VISCOMETER



B084-02 KIT
TWO PLACES TAR VISCOMETER, DIGITAL



B087-01
TWO TUBE SAYBOLT VISCOMETER



B086 KIT
CLEVELAND OPEN CAP FLASH AND FIRE POINT TESTER



B056-02 KIT
SEMI-AUTOMATIC PENETROMETER
DIGITAL



B072
RING AND BALL SOFTENING POINT APPARATUS



B077 KIT
FRAASS APPARATUS BREAKING POINT



B065
ROTOVAPOR
ROTARY EVAPORATION
APPARATUS



B085-07N
DSR
DYNAMIC SHEAR RHEOMETER



B085-05
BBR
BENDING BEAM RHEOMETER



B064 KIT
ROTATING SHELF THIN
FILM OVEN



B063 KIT
EMULSIFIED ASPHALT DISTILLATION
APPARATUS



B075
WATER IN BITUMEN EMULSIONS



B069 KIT
DISTILLATION OF CUT-BACK ASPHALTS
ELECTRIC



B088-01N
VACUUM VISCOMETER BATH



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.

”



CDAS

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.

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 CDAS 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.

MAIN FEATURES

- Compact up to 16 Input, 4 control axis.
- Sampling rate up to 192 kHz over all channels.
- Up to 64 times over-sampling.
- Up to 20 bit resolution over the full range (no auto ranging required).
- Automatic recognition of transducers and upload of calibration files.
- Optional remote control using a WiFi based iPad/Tablet.



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.



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

STS-25

STATIC TESTING SYSTEM

OVERLAY, SCB, DCT, TSRST AND DTT

STANDARDS: ASTM D7313-07a | AASHTO TP105-13 | AASHTO TP124
 ASTM D8044 | ASTM WK 26816 | AASHTO T 314-12
 AASHTO TP10-1993 | TxDOT_ Tex-248-F

Electro-mechanical servo-controlled testing machine utilizing digital control of an electro-mechanical actuator to provide accurate loading rates up to 50mm/minute, designed to perform a range of static tests.

■ MAIN FEATURES

- Precision electro-mechanical actuator (silent operation).
- A range of two piece climatic chambers.
- Monitor, set and "Auto tune" the temperature via the PC.
- Optional swivel stand allows the unit to be oriented vertically or horizontally.



THE MOST VERSATILE TESTING MACHINE IN THE MARKET

TSRST-MULTI

MULTI STATION THERMAL ASPHALT SYSTEM

STANDARDS: AASHTO TP10-1993 | EN 12697-46:2012

MAIN FEATURES

- Up to three working stations (electromechanical and/or servo-hydraulic stations).
- Servo-hydraulic actuator: 30 kN static, 25 Kn dynamic, double acting, fatigue rated and equal area type with long life Labyrinth bearings & seals.
- Dynaflo™ Hydraulic Power Supply: Variable Frequency Drive 2.2 kW pump motor; Silent operation.
- Ability to clone, modify and/or generate user's own method file(s) to suit their specific requirements.
- Programmable test Wizard to guide the operator step by step based on a recipe book approach.
- Temperature controller programmed via PC software.



THE FIRST AND UNIQUE STAND ALONE SERVO-HYDRAULIC TSRST

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.



OT

SERVO-PNEUMATIC OVERLAY TESTER

STANDARDS: Texas DOT test procedure Tex-248-F and proposed
ASTM Standard WK 26816

MAIN FEATURES

- Thermoelectric (TE) Heating/Cooling - More reliable and environmentally friendly than mechanical refrigeration & heating elements.
- Optional silent, air compressor including membrane dryer.
- Built in verification (Dial gauge).
- Integral stand with wheels.



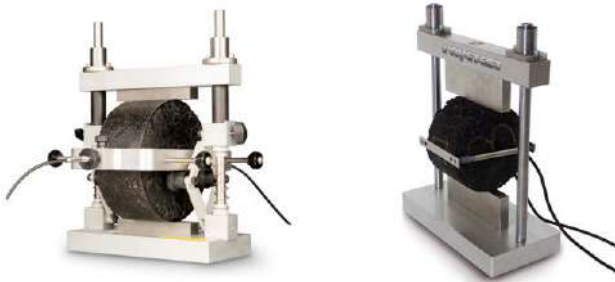
B220-02 KIT
DTS-16 WITH MOTORIZED
CROSSHEAD



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 | 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.

”



SPR
SERVO-PLUS RESEARCH CONTROL UNIT
 HIGH PERFORMANCE SERVO-PLUS SERVO-STRAIN

The Servo-plus Servo-strain Research Control Unit (SPR), has the ability to perform tests where maximum performance is required from a control system. Besides compression, flexure and splitting tensile tests, Matest SPR performs rock and concrete elastic modulus tests, FRC tests (Deflection, CMOD, CTOD and flexural strength), triaxial test on rocks and Stress-path tests and Toughness of fibre on reinforced concrete, plus energy absorption of sprayed concrete tests.



■ **MAIN FEATURES**

- Possibility to perform tests in load, displacement and strain rate control.
- Firmware and software for standard tests already included.
- Fully customizable test ramps.
- Possibility to set different sampling frequencies at desired thresholds during the tests.
- Fully automatic test frame selection between 2 frames, with the possibility to add electrovalves for automatic selection up to 4 frames.

CYBER-PLUS EVOLUTION 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.



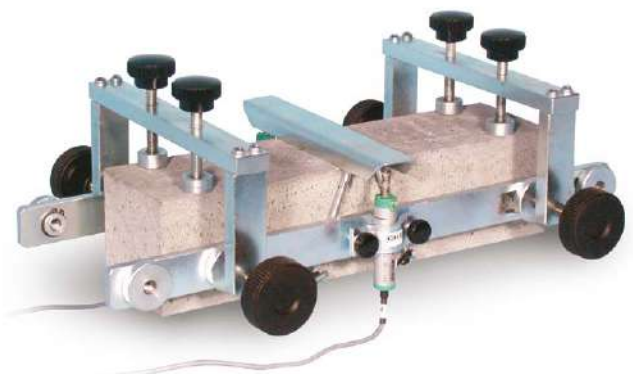
ELASTIC MODULUS TEST

Rocks and concrete elastic modulus tests can be performed, either by using the new Matest Servo-plus Servo-strain Research Control Unit or the standard C125N system installed on Matest automatic compression machines, servo-plus evolution.



DISPLACEMENT CONTROLLED TESTS AND DEFLECTION

The deflection measurement on steel fiber reinforced concrete beams may be performed by means of the specific deflection measurement device, displacement transducers installed on Matest flexural machines, and the software license (C109-15N) servo-plus evolution or by using and the automatic new Matest Servo-plus Servo-strain Research Control Unit.



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
- 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.



C386N

CONCRETE TEST HAMMER

STANDARDS: EN 12504:Part 2 | ASTM C805 | BS 1881:202
NF P18-417 | DIN 1048 | UNI 9189

■ MAIN FEATURES

- Possibility to store, display on graphic LCD 128x64 and download data to PC over 15000 tests
- Automatic statistical processing and readings
- Automatic conversion of rebound index to equivalent compression strength in psi, N/mm², kg/cm²
- High accuracy and resolution



C372M

ULTRASONIC PULSE VELOCITY TESTER

STANDARDS: EN 12504: part 4 | BS 1881:203 | ASTM C597
NF P18-418

■ MAIN FEATURES

- Touch screen LCD display 800x480 pixel.
- Windows operating system like a standard PC.
- Flash memory 128Mb, expandable with SD card.
- Time measuring from 0 to 9999,9 μS resolution.
- Possibility to combine the ultrasonic measurement with rebound index (SonReb method).



CLIMATIC CABINETS

Available in two versions:

C313N

Temperature and humidity-controlled cabinet for testing concrete (EN 12390-2), cement (EN 196-1), aggregates (EN 1367-1) and many other applications.

C316N

Only temperature-controlled cabinet for the determinations of the behavior and resistance to freezing and thawing of aggregates (EN 1367-1) and other applications on concrete and building materials.

■ MAIN FEATURES

- Real-Time display of temperature and humidity parameters.
- High quality thermal insulation material.
- Capacity from 535 to 1200 litres.
- Temperature control from -30 to +70 °C with high stability (± 0.15 °C).
- Humidity control from 20% to 95% with $\pm 5\%$ stability and $\pm 1\%$ accuracy (within temperature +10 to +70 °C).



**C093-05N
CONCRETE PIPE
TESTING MACHINE**



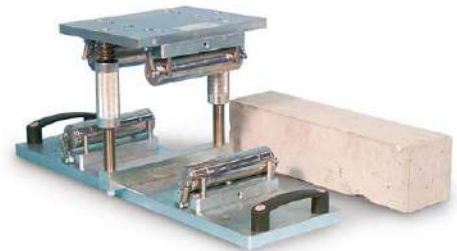
**C130N
COMPRESSOMETER**



**C133N
COMPRESSOMETER-EXTENSOMETER**



**C106
FLEXURAL TEST DEVICE**



**C223
CUBE MOULD**



**C278
VIBRATING TABLES**



**C304
CURING TANKS**



**C299
AUTOMATIC SPECIMEN
GRINDING MACHINE**



C129
ABRASION TESTER BÖHME



C369N
ULTRASONIC PULSE VELOCITY TESTER



C390
ANVIL



C380
CONCRETE TEST HAMMER



C318N
CORE DRILLING MACHINE, ELECTRIC MOTOR



C178 KIT
SLUMP CONE TEST



C435
CONCRETE WATER IMPERMEABILITY APPARATUS,
THREE PLACE



C138N
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.

”



E044-06

THERMOSTATIC CONTROLLED HEATING/COOLING SYSTEM “TWO” VICATRONIC

This device produces water with suitable heating and cooling elements at controlled temperature of $20\text{ °C} \pm 0.5\text{ °C}$. The water is forced into the test tank (E043) to submerge specimens as requested by standards. Up to two Vicatronic can be connected to the system.

VICATRONIC

THE WORLD’S MOST POPULAR AUTOMATIC AND COMPUTERISED VICAT APPARATUS

E092N KIT

**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 C305M | AASHTO T162

■ 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.



E183N

COMPRESSION AND FLEXURAL TESTING MACHINE

STANDARDS: EN 196-1, EN 13286-41, EN 933-5, EN 1015-11
 ISO 679 | ASTM C109, C348, C349, C1194 | DIN 1164
 BS 4550 | GOST 26798-1

MAIN FEATURES

- Double testing chamber and two independent measuring ranges.
- Compression tests in the chamber 300kN 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 (E190N).



E142

DIGITAL BOND STRENGTH TESTER

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

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.



E090-01 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. Motorized models provided with automatic digital drop counter.



**E055N
VICAT APPARATUS**



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



**E009 KIT
BLAINE AIR PERMEABILITY APPARATUS**



**E070
AUTOCLAVE**



**E011N
DIGITAL BLAINE AIR PERMEABILITY APPARATUS**



**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



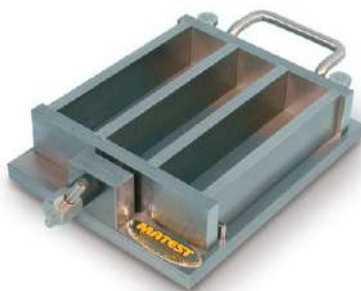
E170
COMPRESSION TEST ON MORTAR SPECIMENS



E172-01
FLEXURE TEST ON MORTAR SPECIMENS



E102
THREE GANG MOULDS



E093
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 HYDRAULIC AUTOMATIC TENSILE MACHINES

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

STANDARDS: EN ISO 6892-1, EN 7500-1 | EN 10002, EN 10080, EN 50081-1, EN 15630-1, EN 15630-3 | 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
- High precision load cell, class 1 according to ISO 376 standard, grants accurate force measurement
- Hydraulic jaws, for stronger clamping of specimens
- Possibility to fit accessories for tensile tests on nut bolts, headed and shouldered specimens, wire ropes
- Integrated displacement photoelectric encoder
- Movable lower crosshead with button panel for an easy machine operation and specimens positioning
- Compression platens included for an easy machine calibration
- Machine CLASS: 1

DIFFERENT FRAMES, DIFFERENT NEEDS.



TECHNICAL SPECIFICATIONS

MODEL	H001A	H001B	H001BS*	H001C	H001D
Load capacity (kN)	600	1000	1000	1500	2000
both tension and compression	other load capacities are available on request				
Load accuracy (%)	± 1	± 1	± 1	± 1	± 1
Test speed (mm/min):					
Max	85	35	35	17	17
Min	0.5	0.5	0.5	0.5	0.5
Deformation accuracy (%)	± 1	± 1	± 1	± 1	± 1
Max crosshead moving speed (mm/min)	200	200	200	200	200
Piston stroke (mm)	250	250	250	250	250
Horizontal columns distance	480	580	590	700	840
Max tension space (mm)	750	750	1000	1000	1000
Columns diameter	75	80	100	110	110
Length of the grips for standard samples	90	110	110	160	160
Length of the insert for strands and special samples			225		250
Max compression space (mm)	590	570	680	750	780
Dimension of platens** (mm)	Ø128x30	Ø148x40	Ø148x40	Ø200x60	Ø200x60
Span of bending attachment (mm)	30-500	50-500	50-500	50-500	50-720
Roller length (mm)	120	160	160	160	160
Roller diameter (mm)	30	50	50	50	50
Bending depth (mm)	100	180	180	180	180
Load frame dimensions (mm)	2450	2665	3115	3500	3500
Height (including piston stroke)					
Width	770	900	980	1120	1340
Depth	600	650	670	850	1000
Frame weight (kg)	2700	3100	3900	5000	9000
Power supply	380V, 3ph, 50-60Hz				
Absorbed power (kW)	3.5	3.5	3.5	3.5	6.2

* Wire Strands can be tested with this model only. Other models for wire strands testing are available on request.

** Compression platens are already included in the supplied machine

H003N

UNIVERSAL HYDRAULIC SERVO-CONTROLLED MACHINE 600 KN CAPACITY

STANDARDS: EN 10002, EN 10080, EN 15630-1, EN 15630-3
EN ISO 6892-1, 7500-1 | ASTM A370, ASTM E8

Designed to perform both tensile tests using the grips placed in the clamping heads, and also flexural, compression, bending, hardness, dishing and other tests in the upper part of the frame. Equipped with the hydraulic Servo-Plus Evolution system for data acquisition and control.



H007N

UNIVERSAL ELECTROMECHANICAL SERVO-CONTROLLED MACHINE

CAPACITY: 10 KN, 50 KN, 100 KN, 200 KN AND 600 KN

STANDARDS: EN 12390-4 | EN ISO 6892, 7500-1 | ASTM E4

Suitable to perform tensile and elongation tests in laboratories for quality control and research on different materials, such as metals, plastics, composed materials, wires, ropes, paper and textiles.



■ MAIN FEATURES

- Strong base facing transmission and Hardware control.
- Two big diameter and high resistance steel columns with ground hard chrome surfacing granting a high lateral rigidity.
- Possibility to execute tests in both directions.
- Two re-circulating spheres screws with pre-loaded female screws that grant no clearance to the cross-bar movement.
- Big section cross-bar granting high stiffness.
- Sintered bushes with low friction coefficient cross-bar movement.

H010-02N

UNIVERSAL TENSILE/COMPRESSION MACHINE

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

Servo-controlled hydraulic testing machine with touch screen control unit. Tensile tests on steel reinforced round bars with a diameter from 6 to 26 mm, and flat bars with max. dimensions of 25x15 mm. Compression tests on concrete cubes with max. side of 150 mm, and cylinders with max. diameter of 160x320 mm. The four columns loading frame is oversized to provide high rigidity and stability.

■ MAIN FEATURES

- Maximum tensile load: 500 kN
- Maximum compression load: 1500 kN
- Distance between the jaws: min. 345 mm - max. 465 mm
- Distance between the compression platens: 340 mm
- Distance between the columns: 307 mm
- Piston's stroke: 120 mm



NEW MODEL WITH LARGER TENSILE HEADS

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: EN ISO 7438, EN ISO 15630-1 | ASTM A615, ASTM A615M | D.M. 14/1/1988

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 556

Used to mark off specimens with round, flat and square shape and with improved bond for the measurement of the percentage elongation after their breaking, in accordance with the Standards.



H057N

BROACHING MACHINE

MOTORISED

Used to make notchings on impact test bars for resilience tests. The notch on the specimen is obtained by only one tooling with very high dimensional accuracy.





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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

The triaxial test brings the sample back to its site conditions through the various steps characterizing the triaxial test (saturation, consolidation) and measure the material resistance to shearing and the connections between stress and strain.

Three versions are available, from the standard model to the high-performance load frame for advanced laboratories, covering several levels of automatization and a wider range of testing speeds. Dial gauges, dynamometric rings or cells and data acquisition systems available for system upgrade.

Suitable to perform
Unconfined, CBR, Marshall
and Standard Triaxial tests

Maximum
compression
capacity: 50kN



Maximum testing speed:
100 mm/min

NEW TRIAXIAL FRAME

- WIDEST TESTING SPEED RANGE
- INNOVATIVE DESIGN
- ORIENTABLE HIGH-RESOLUTION TOUCH SCREEN

TRIALAB AUTOMATED SYSTEM

STANDARDS: BS 1377:7, BS 1377:8 | ASTM D2850, D4767, D7181 | NF P94-070, P94-074 | CEN-ISO-TS 17892

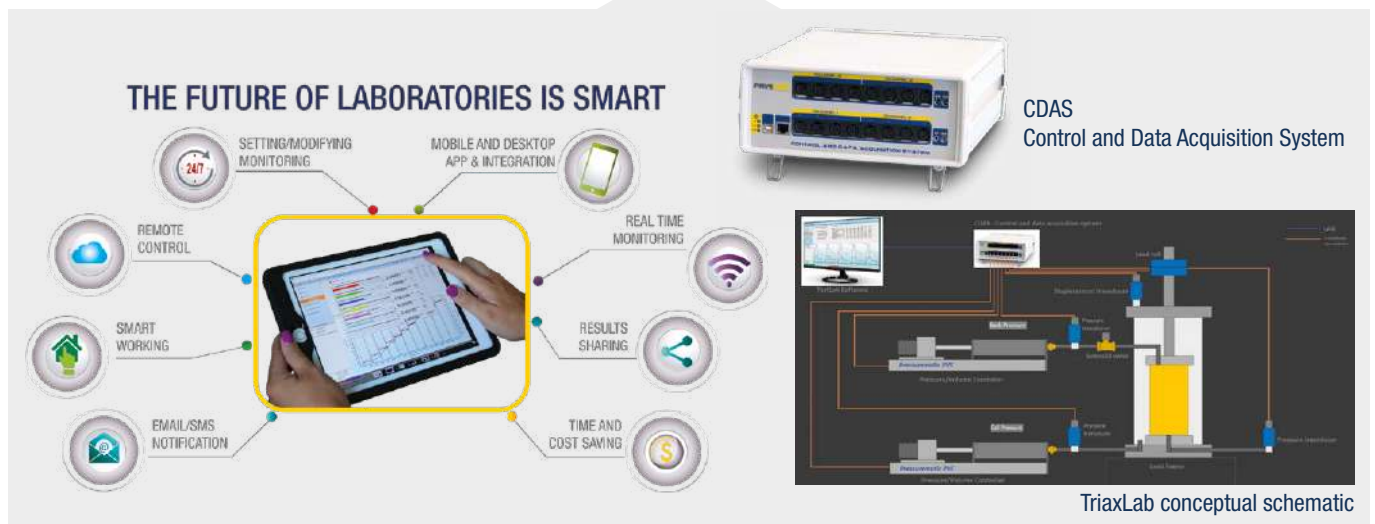


MAIN FEATURES

- **POWERFUL.** Equipped with Pavetest's leading edge Control and Data Acquisition System (CDAS) 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.

PRESSUREMATIC

- **CLOSED LOOP CONTROL UP TO 3500 KPA**
- **HIGHEST VOLUME AND PRESSURE RESOLUTION**
- **HIGH VOLUME CAPACITY**



CYCLIC TRIALAB AUTOMATED SYSTEM

STANDARDS: ASTM D7181 | ASTM D2850 | ASTM D3999 | ASTM D4767 | ASTM D5311 | BS 1377:7 | BS 1377:8 | AASHTO T307-9



MAIN FEATURES

- Automatic execution of static and dynamic triaxial tests including effective stress and standard stress path.
- 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.
- User friendly "Method files" through the TestLab Software.
- Possibility to upload user-defined wave-shapes (e.g. earthquakes time series) through Replay Editor.
- Programmable Dashboard display showing real-time system status and test result and charting.
- Bender elements kit

S205N

**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 S205-05N)
- Adjustable testing speed from 0.01 to 51 mm/minute
- Adjustable pace rate from 1 N to 15 KN/sec.
- Max. ram travel: 100 mm
- 8 channels for data acquisition and data processing system
- Available Pc software for remote control



S206N

**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

- Max. load: 200 kN (both Compression and Tensile)
- Testing speed range: from 0.01 to 100 mm/min
- Load rate: from 1 N/s to 5 kN/s
- Displacement resolution: 0.01 mm with accuracy better than 0.2%
- 8 channels for data acquisition and data processing system
- Available Pc software for remote control



S262N

**EDOTRONIC
AUTOMATIC CONSOLIDATION APPARATUS
(OEDOMETER)**

STANDARDS: ASTM D2435-80 | CEN - ISO - TS 17892-5 | BS 1377:5

This automatic consolidation system, ideal for modern and efficient laboratories, has been created to eliminate or reduce to the absolute minimum any forms of manual intervention, providing results in greater efficiency and cost effectiveness. Easy to use, Edotronic is equipped with a digital control unit with touch-screen display. Electro-mechanical version available on request.



S276-02

SHEARTRONIC DIGITAL SHEAR TESTING MACHINE

STANDARDS: ASTM D3080-72 | BS 1377:7 | NF P94-071-1
AASHTO T235 | CEN-ISO-TS 17892-10 | NF P094-071-2

Advanced system specifically designed to perform consolidation, direct and residual shear stages in a fully automated way. Sheartronic, with incorporated data acquisition system, is based on a pneumatic closed-loop system which along with a high-performance regulator guarantees an automatic application of a vertical load up to 6000N, thus offering the unique possibility to reduce to the absolute minimum any form of manual intervention.



S334

DATATRONIC AUTOMATIC DATA ACQUISITION AND PROCESSING SYSTEM

8 ESPANDABLE TO 16 CHANNELS

This system can be used both with Matest testing machines (oedometers, CBR/ Marshall/ELL machines, triaxial machine, shear test apparatus etc.), and with equipment of other brands. Datatronic data acquisition and processing system with full colour touch screen can be connected to the PC via LAN. Equipped with slots for USB Pen-drive or SD Card memory, it is a flexible, customizable and expandable solution.



S199

AUTOMATIC PROCTOR CBR COMPACTOR

STANDARDS: EN 13286-47 | ASTM D698, D1557, D1883
AASHTO T99, T180, T193 | BS 1377:4, 1990, 1994
NF P94-093, P94-066 | DIN 18127 | AS 1289
and many others.

Designed to compact Proctor and CBR specimens, it ensures an extremely uniform compaction degree, granting reliable and repeatable test results.

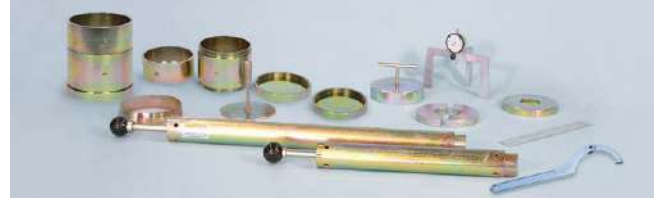
The software allows to select and perform automatically different compaction cycles in accordance with the international Standards. The user can select and memorize up to 10 personalized test cycles. Several moulds and rammers are available.



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 KIT
SEMI-AUTOMATIC CONE
PENETROMETER
DIGITAL



S172
LIQUID LIMIT DEVICE



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



S088
PROCTOR PENETROMETER



S234-01 KIT
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, pycnometers, 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



More information at:
www.matest.com

