noselab ats

ADVANCED TESTING SOLUTIONS

high-tech laboratory quality control equipment

Plastic and rubber testing

Fire and flammability test

TESTING SOLUTIONS

2017

THE COMPANY

Who we are

30 years' experience in laboratory instruments has led NOSELAB ATS to increase the range of products continuously in order to meet a wide part of the required tests and measurements, developing physical-mechanical testers as well as equipment to study the behaviour and the reaction of the materials in presence offire.
In order to reach the highest quality in our activity, we are involved in cooperations with certifying bodies and R&D laboratories.

Moreover, we take into high consideration all the technical feedbacks from our national and worldwide representatives.

NOSELAB ATS is a modern company featured by professionality, creativity, and commitment. This is the way our Company develops the products and the service activity for the various industries dealing with laboratory testing.

Our philosophy

Our R&D department designs easy-to-use instruments and systems to perform laboratory testing which guarantee extreme repeatability.

Our projects tend to involve the most recent technologies, above all electronic sensors and computerized assessments for the measurements and the recording of all the observed phenomena.

Another basic aspect of our activity is the constant update of our knowledge of international and national standards relevant to the different tests, and accordingly the parameters to consider as focusing aspects for the industry.

Certification and Quality

The **NOSELAB ATS'** quality system is certified according to standard **UNI EN ISO 9001:2008** for the following activities:
- Planning and production of material testing equipment
- Trading and technical assistance of laboratory instruments for test and control of surfaces and system for management of colour

Quality Management System

Technical service

The company, thanks to the synergy between our technical and maintenance services calibrates and certifies various instruments.

Calibrations are performed in strict accordance with standards methods and procedures. The comparison is with officially certified tools.

Our qualified technical staff helps our customers to keep their equipment always efficient and to face any relevant problems proposing periodical maintenance services.

Our on-site service contracts guarantee periodical calibrations with traceability to our certified tools.

WEB

You can find us online !

Visit our website for information, datasheets, requests for quotation News products and list of exhibitions.

www.noselab-ats.com

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ADVANCED TESTING SOLUTIONS

LEADING INNOVATION TECHNOLOGIES

NOSELAB ATS realizes equipment for material testing in laboratories to develop new products and test the behaviour of materials during process, at incoming and final inspection. Laboratory tests which are necessary to choose the suitable plastic material, where you need to understand the properties of different plastics.

Here below the main physical properties used to observe and describe the material:

MELT FLOW INDEX

for easy and accurate measurement of the Index of Fluidity in Mass (MFR) and the Index of Fluidity in Volume (MVR) to characterize the thermoplastic.

DENSITY

is equal to mass per volume. Density=mass(g)/(cm^3) by knowing the volume of the material, the weight of the material can be calculated. Small density means lighter in weight if the volume of the materials is the same. ISO 1183.

MELTING POINT

is the temperature when the material will soften and melt. ISO 75.

TENSILE STRENGHT

is the ability of material to withstand forces pulling it.

COMPRESSION TEST

The specimen is compressed, and the deformation is recorded at different loads and modes.
The axial compression tests are a useful procedure to measure the behaviour of the plastic flow and the limits of the ductile fracture of a material.

FLEXION TEST

to estimate the breakdown voltage of brittle materials; tests which have the purpose to determine the elastic constants, the characteristics of resistance.

IMPACT STRENGHT

is the ability of a material to resist shock loading. Main Charpy and Izod, in which loads are applied in times of milliseconds during which the dynamic effects are found in the material, the load is applied by means of a oscillating pendulum.

HARDNESS

is the resistance to compression, indentation and scratch. Durometer hardener tester is used to measure the material resistance against the indentor spring load (Standards SHORE A,B,C,D,E etc .)

COEFFICIENT OF FRICTION

The coefficient of friction is a number which represents the friction between two surfaces.
The symbol usually used for the coefficient of friction is μ.
The maximum frictional force (when a body is sliding or is in limiting equilibrium) is equal to the coefficient of friction "×" the normal reaction force.
$F = \mu R$, where μ is the coefficient of friction and R is the normal reaction force.
This frictional force, F, will act parallel to the surfaces in contact and in a direction to oppose the motion that is taking/ trying to take place.

TEST SOFTENING (Vicat)

It describes the temperature at which a penetrator with circular cross section of 1 mm^2, subjected to a load of 10 N or 50 N penetrates 1 mm into the sample.
The reference standards for the Vicat softening temperature are ISO 306 and ASTM D 1525.

TEST DEFLECTION (HDT)

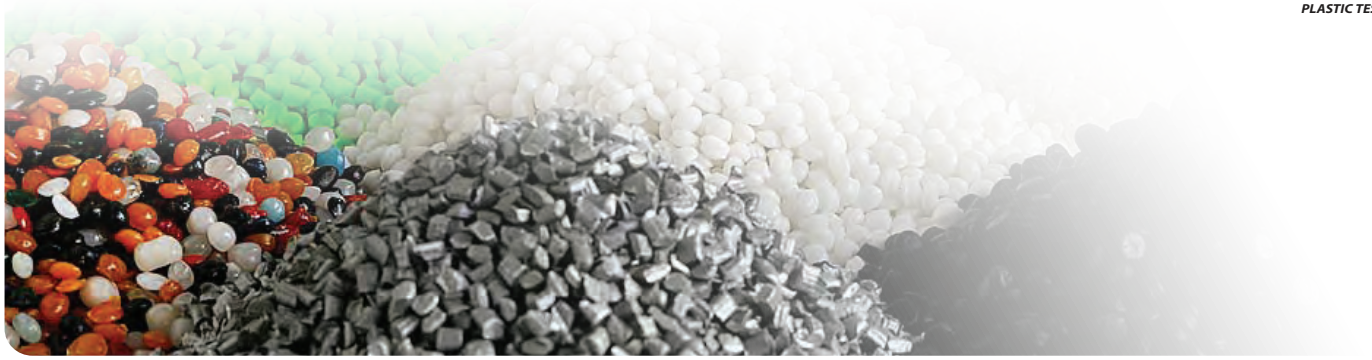
Method where a specimen in the shape of a parallelepiped is subjected to a bending load, in an environment with increasing temperature.

RESILIENCE TEST

A method for measuring the energy response of polymeric materials by dropping a 3.18 mm diameter steel ball on a foam specimen from a fixed height and determining the rebound height.
The difference between the two heights indicates the energy absorbed. Test method to determinate various properties of flexible cellular materials.

BRITTLENESS TEST

The elastomers are tested to determine the brittleness point, indicating the lowest operational temperature for the rubber
A material is brittle if, when subjected to stress, it breaks without significant deformation (strain).



MELT INDEX

MODEL	MELT INDEX	TWELVINDEX	MEP	A-MEP
Temperature Range (°C)	50 to 400 °C		80 to 400 °C	
Accuracy control temperature (°C)	± 0.2			
Resolution temperature display (°C)	0.1			
Warm-up time	< 30 min			
Automatic cutting device		•	•	•
Encoder measures piston position		•	•	•
Auto Motorized weight-lifter				•
Manual Motorized weight-lifter		*optional*		
Touch Screen high resolution			•	•
LCD Display	•	•		
Gravimetric test	•	•	•	•
Volumetric test		•	•	•
Available weights		*optional*		2,16 / 5 / 10 / 21,6
Power supply	230 V / 50 Hz			
Power consumption	400 W	400 W	400 W	450 W
Dimensions (mm)	420x330x530	420x330x530	420x300x600	420x300x800
Weight	25 kg	30 kg	75 kg	80 kg

Extrusion plastometer that measures the melt index according to the gravimetric method, i.e. the quantity in grams of the extruded material in10 minutes.
The heated material is extruded, cut manually at regular intervals, and weighed on an analytical balance (not included).
Supplied with accessories for sample loading and pressing, and for cleaning at the end of the test.

TECHNICAL SPECIFICATIONS

- PID action electronic thermoregulator, microprocessor controlled, with digital display and resolution of 0.1°C
- Keyboard for temperature setting and data input
- Heating system by dual resistance
- Operating temperature range: 50 to 400°C
- Thermal stability: within ± 0.2°C in the testing area
- Test chamber: through hole Ø 9.55 mm (± 0.007) made of steel (60/65 HRC)
- Piston: Ø 9.47 mm (± 0.007), height of the pressing part 6.35 mm (± 0.13 mm), made of steel (52/55 HRC). Overall weight 325 g complete with weight support head, made of steel (55/59 HRC).
- Die: internal Ø 2.095 mm (± 0.005), height 8 mm (± 0.025), made of steel
- Complete with built-in rack for accessories

Dimensions (WxDxH): mm 420x300x530 - Weight: approx. 25 kg
Power supply: 230V, 50/60Hz; 0.5 kWA

Code 10002013 - Manual
Code 10002017 - Manual, Hastelloy

Standards				
ASTM	D1238 Met. A-B	D 2116	D 3159	D 3364
ISO	1133			
UNI	5640			

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PLASTIC TESTING

TWELVIndex

An optical system detects the piston displacement acquiring extruded material with volumetric procedure in a known time, and the microprocessor elaborates the acquired data calculating MVR values. All values are monitored on the display of the built-in control panel. It is also possible to measure MFR values (gravimetric procedure in accordance with ASTM D 1238 meth. A) with easy and convenient operation thanks to the automatic cutting device. The test is completed by weighing the extruded cut pieces of tested material with an analytical balance (not included).

Code 10002410 - TWELVIndex
Code 10002412 - TWELVIndex Hastelloy

SPECIFICATIONS COMMON TO MELT INDEX

- PID action electronic thermoregulator, microprocessor controlled, with digital display and resolution of 0.1°C
- Keyboard for temperature setting and data input
- Heating system by dual resistance
- Operating temperature range: 50 to 400°C
- Thermal stability: within ± 0.2°C in the testing area
- Test chamber: through hole Ø 9.55 mm (± 0.007) made of steel (60/65 HRC)
- Piston: Ø 9.47 mm (± 0.007), height of the pressing part 6.35 mm (± 0.13 mm), made of steel (52/55 HRC). Overall weight 325 g complete with weight support head, made of steel (55/59 HRC).
- Die: internal Ø 2.095 mm (± 0.005), height 8 mm (± 0.025), made of steel
- Complete with built-in rack for accessories

SPECIFICATIONS FOR ADDITIONAL TWELVIndex

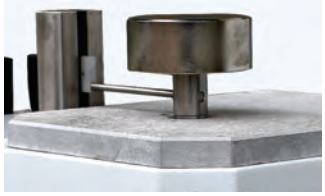
- Electromechanical device for the cutting of the extruded material, controlled by an electronic timer which operates the blade either automatically (at preset intervals as per ASTM D1238).
- RS232C communication port
- Piston: overall weight 325 g complete with weight support head and flag support

Standards				
ASTM	D1238 Met. A-B	D 2116	D 3159	D 3364
ISO	1133			
UNI	5640			

Dimensions (WxDxH): mm 420x300x530 - Weight: approx. 25 kg
Power supply: 230V, 50/60Hz; 0.5 kWA

ELECTROMECHANICAL LIFTER FOR TWELVIndex

Motor-operated weight lifters built-in the main unit.
Model for manual add-on weights (see table) and model complete with 4 dedicated weights.
Weight lifters and basic instrument must be ordered contemporarily.



Weight	Description	Code
0,325	Piston with piston head	Included in basic instrument
1,000	weight g. 675	10002034
1,050	weight g. 725	10002033
1,200	weight g. 875	10002032
2,160	weight g. 1835	10002031
3,800	weight g. 3475	10002030
5,000	weight g. 4675	10002029
10,000	weight g. 4675 + g. 5000	10002029 + 10002092
12,500	weight g. 4675 + g. 5000 + g. 2500	10002029 + 10002092 + 10002091
21,600	weight g. 4675 + 3 x g. 5000 + g. 1600	10002029 + 3 x 10002092 + 10002090

Models for Melt Index measurements of corrosive plastics

Inner parts in contact with the extruded material made of special corrosion-proof metal alloy.
Die with dimensions suitable for ASTM D3364, available on request.

A-MeP e MEP

A-MeP Automatic extrusion plastometer is an extremely reliable instrument to meet all laboratory requirements, both for quality control and for R & D.

A-MeP allows the determination of the Melt Flow Rate, basic test to characterize thermoplastic materials, in strict accordance with the International standards, with an automatic procedure.

Code 10002215 - A-MeP
Code 10002217 - A-MeP Hastelloy

Dimensions: mm 420 x 300 x 800 h
Weight: 80 kg, approx.
Power supply: 230V, 50Hz, 0,5 kVA

TECHNICAL FEATURES

- Touch screen interface, colour LCD.
- Integrated microprocessor for test management.
- PID electronic thermoregulation system with microprocessor –accuracy 0.1°C, working temperature : from 80° to 400°C.
- Thermal stability: ±0.2°C in the test area.
- Configuration of the test parameters (temperature, pre-heating time, space of acquisition, density of the material, add-on weight) : 28 preset conditions.
- Detection of 10 to 50 measurements each sample
- **Only A-Mep model** are equipped with Automatic weight lifter (4 weights) fully governed by the control electronics in order to perform easily:
  - material pressing
  - pre-heating with or without add-on weight
  - repeatability of the test starting position.
- Add-on weights 2.16, 5, 10, 21.6 kg (different add-on weights on request)
- Dimensions and material of the test chamber: 9.55 mm Ø (±0.007), steel (52/55 HRC).
- Dimensions and material of the piston: 9.47 mm Ø (±0.007), height of the pressing part 6.35 mm (±0.0025), steel (45/50 HRC), equipped with thermally insulated guiding double collar, weight 0.325 g.
- Dimensions and material of the die: inner of the hole 2.095 mm Ø (±0.005), length 8 mm, steel (60/65 HRC).
- The instrument is equipped with a cutting device of the extruded material, governed by an electronic timer which activates the blade automatically according to preset times, or operated manually any time, with a push-button. Cutting intervals as per ASTM D 1238: 15 - 30 – 60 – 120 – 180 – 360"
- Turn-down furnace for easy cleaning
- USB port for Personal Computer

ACCESSORIES

- Capillary dies for rheological determinations, available with different hole dimensions.
- Steel or Hastelloy made dies for Melt Flow Rate, available in different dimensions.
- Steel or Hastelloy made dies for thermal stability, available in different dimensions.
- Electro-mechanical cleaning devices.

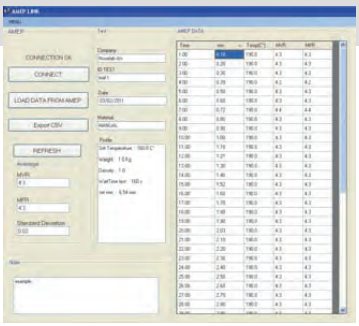
Code 10002216 MeP
Code 10002218 MeP Hastelloy

Dimensions: mm 420 x 300 x 320 h
Weight: 35 kg, approx.
Power supply: 230V, 50Hz, 0,5 kVA

Standards				
ASTM	D1238 Met. A-B	D 2116	D 3159	D 3364
ISO	1133			
UNI	5640			

A-MEP LINK SOFTWARE

- Graphic display of the data
- Display of the last test performed
- Facility to reject odd values, with reference to either other determinations, or tested material, or both.
- Calculation of the average value and of the standard deviation of the accepted measurements.
- Data export in csv format (excel compatible)
- Print-out of the current or filed determinations with average and value and standard deviation



A-Mep Link

ALL OUR PLASTOMETERS ARE ALSO AVAILABLE IN HASTELLOY VERSION

For the determination of the hot fluidity of highly corrosive thermoplastic materials such as PTFE-PVC-PVDC according ASTMD3364 you must use the optional nozzle Hastelloy, (2,095mm hole, 25,43mm height), and a stress of 20 kg., piston and nozzle array Hastelloy, maintaining the same technical characteristics and the same kit.

MELTING POINT

Powdered material is positioned between two glass slides and positioned on the furnace for heating. The heating down during the last part of the increase is also shown to allow a more precise observation of the melting of the material through the magnifying glass.

TECHNICAL SPECIFICATIONS

- Measuring range: + 30° / + 300°C
- Resolution: 0.1°C
- Microprocessor operated thermoregulator with digital indication of the temperature
- Aluminium testing furnace
- Magnifying glass with light

Standard	
ASTM	D789

Standard configuration includes:

Package of 100 pcs. glass slides

Code 10002500

Dimensions: 280x185x214h mm.
Weight: 4.5 kg. approx.
Power supply: 230V, 50Hz, 0.2kVA

CURE TIME

Measurement of the two-component resins hardening time, eg epoxy or polyester resins. The presence of four cavities allows to perform the test in double or triple reserving possibly one of the cavities for a blank test: that is conducted on the resin alone.

TECHNICAL FEATURES

- Solid stainless steel top plate, AISI 304, equipped with four hemispherical seats in copper, diameter 20 mm and seat for the control, complete with 4 distinct subservient to the heaters thermoregulator
- Electronic thermoregulator
- Precision ±0,1°C
- Temperature range ÷ 300°C
- Magnifying glass with light
- Isolation of the upper plate in refractory material resistant to high temperatures

Dimensions: 260x260x260h mm.
Power supply: 230V, 50Hz, 0.2kVA

DENSITY COLUMN GRADIENT

The instrument permits determinations on solid materials at a temperature of 23 °C (± 0.1°C), with a 0.0001 g/cm^3 accuracy, within a measuring range of 0.8 ÷ 3.3 g/cm$_3$, basing on the adopted marker floats (not included) at known density.

TECHNICAL SPECIFICATIONS

- Perspex bath capacity: 45 litres.
- 2 or 3 thermostated columns (850 mm in length, 55 mm in Ø, scaled any in mm) basing on model.
- Thermostatic unit that includes:
  - Digital control of temperature (range: ambient ÷ 50°C)
  - Cooling coil
  - Water inlet (at 16 ÷ 50°C).
  - Water outlet
- Pump for an ellipsoid flow of thermostatic fluid into the bath.
- Motorised system for retrieving samples and floats.

Code 10006000 - 2-column
Code 10006010 - 3-column

Overall dimension: 310x310x1080h mm.
Weight: 10 kg (approx.).
Power supply: 230V, 50Hz, 2kVA.

Standards	
ASTM	D 1505
ISO	1183-2

ACCESSORIES

Gravity Filling System, including a metal floor stand, a magnetic stirrer, a couple of conical flasks (200 ml capacity), glass taps, couplings and capillary pipe.

SCALE DENSITY WITH ACCESSORY

The instrument allows you to perform the measurement of the density of soft and rigid compact products, foam (non absorbent) of pellets and liquids through the hydrostatic method. Specific sample holders are available for the test on different types of materials. The instrument automatically measures weight, raises his glass containing the comparison liquid, perform the volume measure, lowers the glass and calculates the density.

TECHNICAL FEATURES

- Mass percentage, volume and density, average analysis, dev. standard, maximum, minimum, Cp, Cpk,Card-X, Gaussian distribution
- Resolution:
  0,001 g., max 350 g
  0,0001 g., max 200 g
  ±0.001 g. (±0.0001 g. optional)

Standards			
ISO	1183-1	2781	1817
ASTM	D 297		
DIN 53 479			

Dimensions: mm 300x400x450 h
Weight : 10 Kg
Power supply: 230V, 50W

Code 10006030

FLOWMETERS

These devices allow the determination offlowability of plastic materials - pellets and powders - through a small dimension opening.
The below collecting cup enables the determination of apparent density (analytical weighing) of a known volume of material.

Code 10016000

Flow meter according to ASTM D 1895 meth. A - ISO 6186 for plastic materials

- Conical container made of stainless material, 9.5-mm Ø hole, equipped with a lower fast lock.
- Collecting cup for the flown material, with a volume of 100 cm3 (± 0.5 cm3).
- Overall dimension: 130x200x288 mm.

Other flowmeters with design and dimensions according to the various standards (see table).

Standards		
ASTM	D1895 Meth. A, B, C	
EN ISO	60	6186

CARBON BLACK CONTENT

The furnace equipped with above listed accessories is complete for carbon black content determinations once the measurement is performed under a fume hood, and using gas-chromatographic grade (pure) nitrogen.
In case nitrogen of lower degree purity is used, glassware and chemicals for purifying the gas are required – at your care and charge. In general, we advise local purchasing of chemical products to avoid problems when shipping. Stand and glassware necessary when using technical grade nitrogen (to purify it).
Stand and glassware for nitrogen discharge (in case the test is not performed under a fume hood).

TECHNICAL FEATURES

- Electric tube furnace – single zone heating, max temperature 1000°C
- Double PID microprocessor-operated thermoregulation
- 2 thermocouples to control both the furnace and the sample temperature
- Dimensions of the tubular chamber: 450 mm length, 38 mm inner diameter
- Temperature accuracy in the test area: 1°C above 100°C
- Temperature accuracy in the cental 130 mm of the tube : ± 5°C above 100°C
- Quartz test tube : 570 mm length, 29 mm diameter, equipped with bored rubber stoppers and a set of combustion boats
  Metal stands are designed to support:
- 1 nitrogen flowmeter 1.7 ± 0.3 l/min with regulation valve
- Set of glassware to purify the inlet nitrogen
- Set of glassware to filtrate the outlet nitrogen

Dimensions: 450 x 375 x 430 h mm
Weight: circa 22 kq
Power supply: 230 V, 50hz, 2 kVA
Gas supply: Nitrogen (bottle)

ACCESSORIES

- Silica gel, 1000 g pack
- Glass desiccator, 150 mm dia. with valve
- Porcelain table for desiccator
- Electronic analytical balance
  - Capacity g.210
  - 0.1 mg accuracy
  - PID regulators

Standard	
ASTM	D1603

Code 11000015

IZOD CHARPY NOTCHER

Specimens are clamped and notched by the combination of the following movements:
- Alternate vertical displacement of the knife with electronic adjustable speed
- Horizontal displacement - linear translation - of the clamp where the specimen is located by manual control

The constant profile of the knife and design of the specimen centring and blockin system guarantee high accuracy and repeatability

Code 10013100

Dimensions: mm 400x200x400 h
Weight : 10 Kg
Power supply: 230V, 50/60 Hz, 0.5 kVA

Code 40061005

Dimensions: mm 470x200x250 h
Weight : 27 Kg
Power supply: 230V, 50/60 Hz, 0.5 kVA

Manual model, section of the specimen 25x24mm with micrometer for cut regulation

MAIN SPECIFICATIONS

- Alternate vertical displacement of the knife: 30 mm
- Linear speed of the notch: 0 ± 18 m/min with electronic control
- Height of the sample support: 25 mm
- Width of the sample support : 15 mm
- Notching area is suitable to locate up to 8 specimens/3 mm thick or up to 6 specimens/4 mm thick
- Adjustment of the depth of the notch with reference to the residual section of the specimen (ISO 2818)
- Safety:
  - plexiglass carter to avoiding the accidental contact with the blade
  - power supply interruption in case of opening of the carter

Notching knives

Type A: for "V"-shaped notch (45° ± 1°, radius 0.25 ± 0.05 mm) ASTM D 256 ASTM D 6110, ISO 179 - ISO 180 (type A) - BS 2782 350 (type A).
Type B : for "V"-shaped notch (45° ± 1°, radius 1mm ± 0.05 mm) ASTM D 256 – ISO 179 - ISO 180 (type B) - BS 2782 350 (type B).
Type C : for "V"-shaped notch (45° ± 1°, radius 0.1mm ± 0.02 mm) ISO 179 (type C).
Type D : for "U"-shaped notch (width 2 mm ± 0.2 mm) DIN 53453.
Type E : for "U"-shaped notch (width 0,8 mm ± 0.2 mm).

LAB PRESS WITH HEATING PLATES

The press with display thermo-regulator is suitable for the preparation of plastic or rubber sheet from which samples and standard specimens can be cut for physical testing on the materials.
A command activates the electro-hydraulic pump (inside the unit) connected by hydraulic lines to the cylinder for moving the plate.
The operating pressure is indicated by the pressure gauge on the front panel.

Code 10026100 (mod. 30T)
Code 10026120 (mod. 10T)

TECHNICAL SPECIFICATIONS

Opening between the plates: 0 ÷150 mm (300X300mm 30T)
Working Pressure range : 10 to 100 kN
Suggested max working pressure: 70-80 kN
Electronic, digital thermoregulation, independent from the plates
Cooling coils (one each plate) to connect the cooling circuit (i.e. air or water)
Temperature range: ambient to 300°C
Safety system cell

Water inlet pressure for the cooling circuit: 3 bar
Overall dimensions: mm 900 x 750 x 1450 h
Weight: approx. kg 250
Power supply: 230 V, 50Hz, 6.4kVA

DIE CUTTERS

To obtain standardized specimens, the die cutter shall be equipped with appropriate cutting die(s) corresponding in shape, dimensions and tolerances to request as indicated in reference Standards.

MAIN SPECIFICATION OF THE PNEUMATIC MODEL

- Dimensions of the sample holder plate (WxD): mm 320 x 200
- Force on the die head axis: 55 kN (with 6 bar air pressure)
- Micrometric adjustment of the travel on axis with ball bearings
- Force multiplier device with hardened steel oscillating pins
- Steel multiplier bar
- Easy to reach, dust-proof two push-button control
- Design according to safety rules
- Plastic cover for worktop included

Supply: 6-bar compress air
Overall dimensions: mm 500 x 370 x 510 h
Weight: approx. 130 Kg

Code 10019000 - pneumatic

Code 10020000 - manual

MAIN SPECIFICATION OF THE MANUAL MODEL

- Dimensions of the worktop m 200 x 200
- Cast iron structure, with holed base to fix to the bench
- Suitable long lever to produce cutting force of approx. kg 500
- Plastic cover for worktop included

Overall dimensions: mm 220 x 400 x 780 h
Weight : approx. 35 Kg

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PLASTIC TESTING

IMPACT RESISTANCE - IMPACT - MODELS FOR ENERGIES UP TO 15 / 25 / 50 J

The various methods allow the determination of the necessary energy to break a specimen – having a known cross-section - then calculating its resilience value at given conditions. The potential energy of the hammer is known and it varies depending on the hammer's shape, weight and release angle. The absorbed energy to break the specimen can be determined after measuring the ascent angle of the hammer after the impact, controlled by touch display of 7".

Code 16010200 15J
Code 16010204 25J
Code 16010207 50J

TEST METHODS

Charpy: the specimen is positioned horizontally and is broken with one oscillation of the hammer only; the impact line is centred between the two specimen supports.
Izod: the specimen is blocked at one end in vertical position and it is broken with one oscillation of the hammer only; the impact line is at a fixed distance from the blocking point of the specimen.
Tensile Impact: the specimen is inserted in two blocking brackets and it is broken with only one oscillation of the hammer which stresses the specimen along its longitudinal axis. Dumb-bell shaped specimens are required for this test method.

TECHNICAL SPECIFICATIONS

- Centring system for Charpy specimens
- Safety double "PULL" type hammer release and side safety shield
- User interface with 7-inch touch-screen display to input test parameters and display the energy and the resilience values after the impact
- Auto-test functions when switching on and troubleshooting coding
- Hammer calibration control with display of the reduced length and the swinging period with possibility to printout hammer check report
- USB port for connection to PC
- Automatic display of the ascent angle and of both the potential energy and actual speed of the impact
- Multilanguage data display and data settings
- Braking system to slow down the descent of the hammer after the impact
- Selection of SI or BU measuring units
- Storing up to 1000 tests

Standards				
ASTM	D256	D6110	D1822	D4812
DIN	51222			
ISO	179	180	8256	

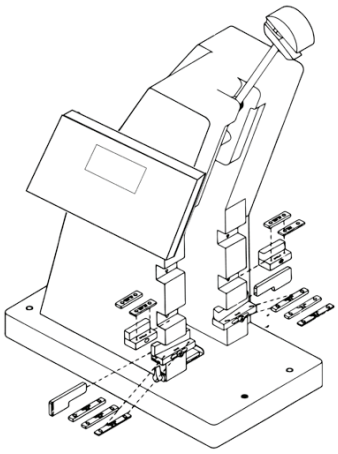
Dimensions: mm 510 x 275 x 680 h (without shields); mm 900 x 275 x 870 h (with shields)
Weight: 125 Kg for tests up to 15J without accessories (40 times heavier than hammers)
Power supply: 230 V, 50/60 Hz, 0,1 kVA

ACCESSORIES FOR THE TESTS

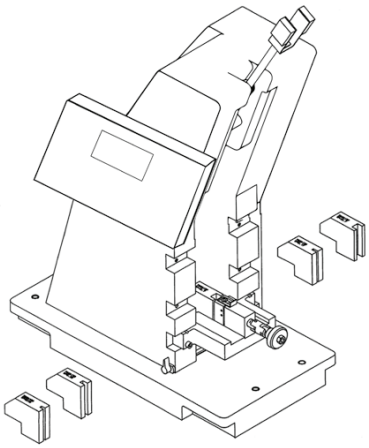
Wide range of hammers to meet standard requirements in the various test methods available.

OPTIONAL ACCESSORIES

Besides the accessories dedicated to the performance of tests according to various standards, we propose also an option to vary the hammer falling angle and as a consequence the impact speed.
High speed data acquisition system to use with hammers with integrated energy sensor for studying the full breaking process of the specimens is also available.



Charpy



Izod

Impact Link Software
Statistical software for storing and print reports.
Data exportable .csv format (Excel compatible)

UNIVERSAL TESTING MACHINES (DYNAMOMETERS)

This equipment – fully governed by computer – performs tensile, compression and flexural tests at a high rate of accuracy and reliability on a wide range of materials, such as textiles, plastics, elastomers, metals, paper, composites, finished products. The whole control is operated by a computer, which collects all data before displaying them in a synthetic and graphic form.
The automatic operation of the testing system insures repeatability, accuracy, and time saving.

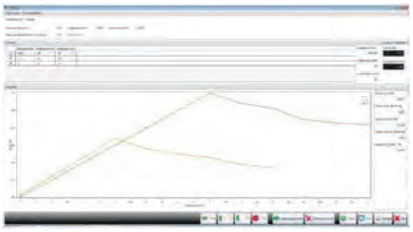
AVAILABLE PROGRAMS

- Tensile tests, with or without preloading
- Compression tests
- Flexural tests
- Two limit cycles
- Peeling tests

ATTAINABLE DATA

- Load (or stress) and deformation up to break and peak load
- Load (or stress) up to the preset deformation
- Deformation up to preset load (or stress)
- Tensile, compression, flexural modulus, or cut-off at preset curve points
- Storing facilities of the curves in view of eventual off-line data processing

Automatic operation of the equipment provides the following functions:
- Load cell detection
- Calibration of load and information channels
- Automatic compensation of the weight of grips
- Output to graphic printer



Software Dynalink: Control software for performing tests on Dynamometer and featuring real time display of the test.
Facility of setting test parameters, including data and remarks of the tested material.
All programs allow the control offive specimens and feature mean values, display and printout of the relative curves.
Four test modes available s:
- TENSILE TESTS : general, featuring maximum unit load and load at break
- TENSILE TESTS WITH EXTENSIOMETER performing elastic modulus and elongation
- FLEXURAL TESTS performing flexural elastic modulus
- COMPRESSION TESTS : general, possibility of presetting loads or deformations

STANDARD TRAVEL UTM's

Specifications / Model	TCS - 200	TCS - 1000	TCS - 3000
Code	16000200	16000210	16000215
Max. load	2000 N	10000 N	30000 N
Max. speed at max. load (mm/min)	1000	1000	500
Quick cross-piece travel speed (mm/min)	2000	2000	1000
Total travel of the cross-piece (mm)	1000	1000	1000
Span between columns (mm)	single column	400	400
Dimensions (mm)	560x430x1200 h	700x500x1350 h	700x500x1350 h
Weight (Kg.)	60	120	150

ENHANCED TRAVEL UTM's

Specifications / Model	TCS - 200	TCS - 1000	TCS - 3000
Code	16000203	16000213	16000218
Max. load	2000 N	10000 N	30000 N
Max. speed at max. load (mm/min)	1000	1000	500
Quick cross-piece travel speed (mm/min)	2000	2000	1000
Total travel of the cross-piece (mm)	1200	1500	1500
Span between columns (mm)	single column	400	400
Dimensions (mm)	560x430x1400 h	700x500x1850 h	700x500x1850 h
Weight (Kg.)	70	135	170

ACCESSORIES

CONTACT DIGITAL EXTENSOMETER

When tensile tests on plastics or elastomers are performed, accurate measurement of their elongation may be required.
The unit measures even remarkable elongations of the specimens through a balancing action.
This low-cost extensometer, optional accessory of TCS dynamometers, is easy to interface with the personal computer.
An encoder emits a series of impulses as a function of the travel of the grips, said impulses will be displayed as mm. of elongation. Presentation of data on digital display.

TECHNICAL SPECIFICATIONS

- Accuracy: mm 0.1
- Maximum travel of the grips: mm 750
- Minimum application distance of the grips: mm 1
- Maximum force on the specimen: g 100
- Operating force: approx. g 50

CTD CELLS FOR CONDITIONING

Designed to perform tensile or compression tests in conditioned environment.
High accuracy t and easy to adapt to any universal testing machine.
In fact, dimensions of the CTD cells vary in accordance to your needs: max. dimensions of the cell, max. dimensions including accessories, diameter of the bars supporting the grips, port if needed, coolant, volume of the total goods to insert, any other details.

TECHNICAL SPECIFICATIONS

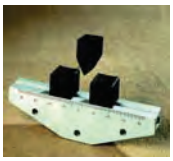
- Stainless steel inner cell
- Temperature control with electronic thermoregulator complete with display
- Temperature range – 70°C / + 200°C, accuracy 0.2°C
- Centrifugal forced ventilation with average uniformity of the temperature in the testing area ± 1°C
- Stainless steel armoured and finned heating element
- Copper coil complete with inlet valve for CO_2 or liquid N_2
- Rockwool insulation and Front door equipped with eccentric locking (optional port)

Outer dimensions : according to request
Inner dimensions : mm 200 x 200 x 530 h
Weight : approx. kg 50
Power supply : 230 V, 50 Hz, 3 kVA

COMPRESSION DEVICES

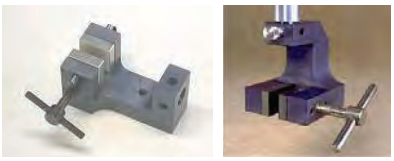
Set of two plates available in different dimensions

FLEXURAL DEVICE



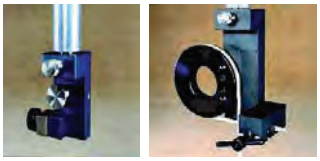
SELF-TIGHTENING GRIPS

MANUALLY OPERATED MECHANICAL GRIPS



WEDGE GRIPS WITH BLOCKING LEVER

GRIPS FOR THREADS AND CABLES



PNEUMATIC GRIPS (air / bar)

IMPACT RESISTANCE - ELMENDORF PENDULUM

Determination of the average force to propagate tearing through a specified length of paper, plastic films, nonrigid sheeting. The design of the TearATS 200 Pendulum has considered the quantitative reduction of the masses. In fact you obtain the different forces for the propagation of the tearing simply modifying the applied masses position. The management of the various functions is through 7" touch screen colour display; moreover, you can export results and test parameters through USB output with dedicated software (optional).

Code 16040001

TECHNICAL SPECIFICATIONS

- Maximum force: 100 N
- Measurement unit: mN or N
- Number of tests: 1 ÷ 20
- Reading accuracy of force: ±1%
- Built-in serial printer: basing on the model
- USB interface
- Protection shield made of transparent plastic

Dimensions: mm 580 x 510 x 630 h
Weight: 80 kg (approx.)
Power supply: 230 V, 50 Hz

Standard		
ASTM	D1424	D1922
ISO	1974	
UNI EN	21974	

ABRASION TESTER

The equipment is designed to determine the abrasion resistance of a 16 mm. Ø and 6 mm. thick specimen, by controlling its change of volume, after contacting an abrading surface along 40 m. and with a 10 N pressure.
Calibration of the system is provided by means of optional rubber standard specimens.

Dimensions: mm 600 x 300 x 400 h
Weight: 20 Kg. approx.
Power supply: 230V, 50Hz, 0,5 kVA

Standard	
DIN UNI ISO	4649
ASTM	D5963

Code 10075000

BALL REBOUND TESTER

Meter ball rebound foam is designed and complies with ASTM GB / T6670-2008, American ASTM D3574 testing standards and ISO8307.
A method for measuring the energy response of polymeric materials by dropping a 3.18 mm diameter steel ball on a specimen from a fixed height and determining the rebound height. The difference between the two heights indicates the energy absorbed.

TECHNICAL SPECIFICATIONS

- Reliable, user-independent measurements
- Firmware controlled test cycle
- Test cycle, measured values, median value in %, status and operating instructions output to 4-line LCD
- Brief, precise test run according to standard
- Additional markings on the measuring column (1% interval)
- No calibration necessary
- USB port

Supplied with:
- Calibration certificate Messtechnik GmbH

Standard	
ASTM	D1894
ISO	8295

Code 40222000

OPTIONAL

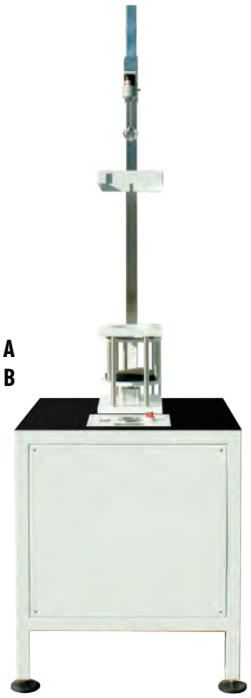
- Calibrated master foam for daily check of the ball rebound tester
- HilMeasure Software

IMPACT RESISTANCE - FALLING DART IMPACT TESTS ON PLASTIC FILMS

The relative energy, required to break at least 50% of the specimens, is based on the drop height and the weight of the dart.

Impact tester according to ASTM D 1709 Meth. A and B

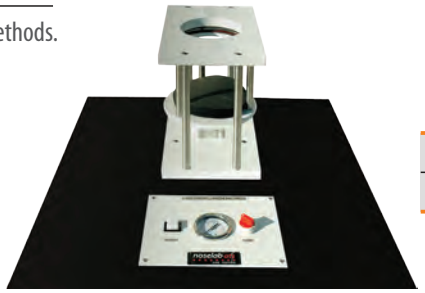
- Clamping device of specimen that blocks the specimen on three points, operated by compressed air and a piston. Equipped with air treatment unit
- Electromagnetic dart release system and support for a 660 or 1500 mm height of fall
- Supplied front shield for safety
- Adjustable feet for levelling the equipment and perpendicularity control system of falling dart



Code 16020005 - ASTM D 1709
Code 16020100 KIT accessories Method A
Code 16020101 KIT accessories Method B

OPTIONAL ACCESSORIES

Darts and weights according to the two test methods.



Standard	
ASTM	D1709

Air supply: 5 bar
Overall dimensions: mm 700 x 700 x 2860 h
Weight: 60 kg (approx.)
Power supply: 230V, 50 Hz

PLASTIC PIPES IMPACT RESISTANCE - PIPER

Pneumatically operated striker support sledge.
Striker release system, permanent magnet type, governed with proximity sensors, adjustable in accordance with the required heights offall. Supplied with anti-rebound system. Designed to perform test after test quickly.

COMMON CONFIGURATION FOR ALL MODELS

- Models for pipes up to 500, 1000 and 1500 mm dia.
- Sledge with striker dia. mm 90, total weight Kg. 1
- Series of extra weights to reach 1.25-1.6-2.0-2.5-3.2 Kg
- 2 adjustable sensors to set the height of fall in the range m. 0.6 / 2.0) through a sensor on the control panel
- Test chamber complete with adjustable height device and "V"-shaped support to locate the pipe
- Transparent plastic sliding door

Other strikers and weights available on request

Standard		
EN	744	1411

Code 16021000 - 0-500 mm
Code 16021002 - 500-1000 mm
Code 16021004 - 1000-1500 mm

C.O.F. COEFFICIENT OF FRICTION

The method of Slip and Friction testing aids in the evaluation of chemicals and additives used to create or minimize the degree of friction between two contacting test materials.
The COF test mode can be configured to measure the static and kinetic coefficient of friction as well as slide angle. The Peel Tester mode can test the seal strength, and peel properties of plastic film, paper, paperboard, adhesives, corrugated/cardboard, labels and packaging materials. The Peel Tester can be configured to perform 180° peel tests, 90° peel tests, and T-peel tests.

Code 10021020 - COF
Code 00100101 Software DataLink Analysis

Standard	
ASTM	D1894
ISO	8295

TECHNICAL SPECIFICATIONS

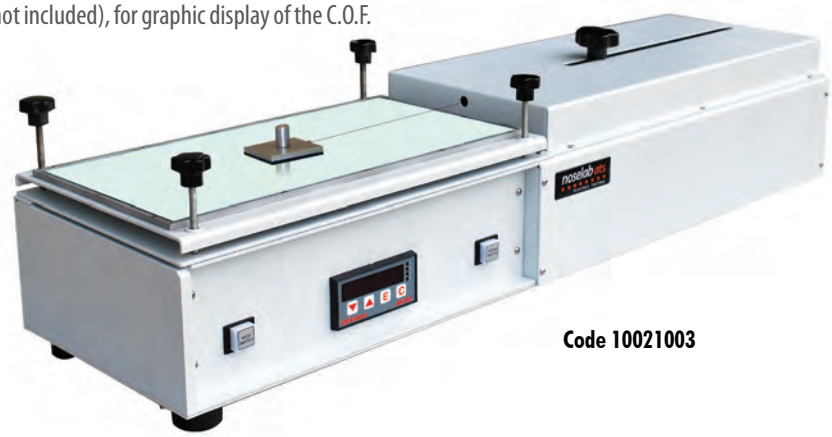
- Parameters and results are displayed in the easy to read LCD, the operations with a simple touch keypad
- Ambient bed temperature measurement (optional control)
- Equipped with a 200 g. movable sledge (63.5x63.5 mm.) Easily interchangeable sleds.
- Dimension of specimen support: 200x400 mm.
- Measurement of the force applied to the specimen through a 3000 g. load cell
- Powered displacement of the sledge at a variable speed in line encoder to 10 to 1000 mm/min
- Emergency button
- USB Output to connecting to a Personal Computer (not included)

Dimensions: 700x300x250h mm.
Weight: 30 kg (approx.).
Power supply: 230V, 50/60Hz

SLIP TETSTER

Electronic instrument equipped with a movable sled pulled by a high precision dynamometric system, designed for determining the static (initial) and dynamic coefficients offriction offilm, foil, sheeting, coated paper and similar materials.
The sled is driven at the uniform and constant speed of 150±30 mm/min. and the total travel is 300 mm. This enables to test a 250 mm specimen, as required by the standard
The force required to operate and maintain the sliding travel is measured by a 2000 g load cell and the readout is featured by a four digit display.
The instrument can be optionally connected to a PC (not included), for graphic display of the C.O.F. curve and printout with optional dedicated software.

Standard	
ASTM	D1894



Code 10021003

Dimensions: mm 950 x 260 x 240 h approx.
Weight: kg 30 approx.
Power supply: 230 V, 50/60Hz, singlephase, 30 VA.

HARDNESS METERS

HARDNESS METER FIAT

The instrument is manufactured in accordance to FIAT standard and allows to determine the hardness with several measurements on a sequence ofimportant points on a wide range of materials and items (door panels, steering wheels, dashboard supports, etc.).

The test result represents the average value of the sinking of the pad into the specimen measured in mm: it is calculated as the difference between the total length (6.5 mm) of the pad and the average value of the reading.

TECHNICAL SPECIFICATIONS

- Total travel of pad: 6.5 mm.
- Resolution: 0.01 mm.
- Repeatability: 0.01 mm.
- Measuring force according to standard
- Dimensions: 50 x 30 x 200 h
- Weight: 0.5 Kg (approx.)

Code 11003050

Standard	
FIAT	50430/02

HARDNESS METER HD3000

Durometer Model HD3000 is the standard model. The gauge features a full-sized non-reflective dial face for readability accuracy of ½ point. It offers maximum accuracy available for the quality. HD3000 is also designed for handheld applications or for use in combination with the Operating Stand Model OS-2.

TECHNICAL SPECIFICATIONS

- Dial dia.: 57 mm
- Total length: 121 mm
- Range: 0...100
- Accuracy: ±0,5
- Resolution: 1
- Net weight: 0.184 Kg

Code 40220100 - Shore A
Code 40220101 - Shore B
Code 40220102 - Shore C
Code 40220103 - Shore D
Code 40220104 - Shore 0

SHORE HARDNESS METERS

The Durometer Operating Stand Model OS-2 allows for accurate and repeatable Durometer readings.
It rules out subjective test errors, which may be caused by differing load application forces or non-vertical application of the Durometer to the test piece. The Durometer Operating Stand works on the constant load principle. The sample is positioned on the support table.
The Durometer is lowered shock-free by means of a manually operated lever. The hardness value can be readdirectly from the Durometer.

TECHNICAL SPECIFICATIONS

- Extension: 115 mm
- Support table dia.: 98 mm
- Max. sample thickness: 180 mm
- Durometer unit: stable alluminium unit
- Weight type D: Optional
- Net weight: 16,4 kg

Code 40221101

HARDNESS METERS DEFELSKO

Code 40220050
(Shore A Standard)

The PosiTector SHD Shore Hardnesss Durometer is a handheld electronic instrument that measures the indentation hardness of non-metallic materials. Two durometer models are available for different hardness ranges, Shore A and Shore D, Standard or Advanced version models.

- Continually displays/updates average, standard deviation, min/max hardness and number of eadings while measuring
- Screen Capture – save screen images for record keeping and review
- HiLo alarm audibly and visibly alerts when hardness measurements exceed user-specified limits
- USB port for fast, simple connection to a PC and to supply continuous power
- Vertical stand available
- Software Solutions for viewing, analyzing & reporting durometer data
- Certificate of Calibration showing traceability to NIST included (Long Form)
- Auto Ignore mode disregards hardness readings below 20 and above 90 international standards
- Hi-RES mode increases displayed resolution to 0.1
- Includes test block to verify operation
- Conforms to national and international standards including ISO and ASTM

IRHD DUROMETERS

Durometer and IRHD (International Rubber Hardness Degree) are based on international standards for the hardness measurement of rubber, plastics and other nonmetallic materials .
The MICRO IRHD HARDNESS is for samples with a thickness ranging from 1 to 5 mm. It complies with ISO 48 standard.
Very small forces are used for a max. indentation depth of 0.3 mm of the indentor.
O-Rings and seals can be tested by using our automatic O-Ring Center Device.

MACRO IRHD N, H, L / DUROMETER HARDNESS SYSTEM

The patented IRHD N, H, L / Durometer Hardness System provides hardness readings on elastomers and plastics with a specimen thicker than 6 mm.
The IRHD N, H, L / Durometer Hardness System is working fully automatically with a PC and the Software controls the operation of the system.
You can fit the inserts without tools into the measuring head. An electronic identification of each insert is housed in the measuring head. The corresponding software for each insert is set up automatically.

Code 40220120

MICRO IRHD SYSTEM

The MICRO IRHD SYSTEM provides hardness readings on elastomers according to MICRO IHRD. Recommended specimen thickness is 1 to 5 mm. The MICRO IRHD SYSTEM is a hardness testing machine controlled by a MS Windows software.
2 weights are automatically lowered and raised. Thus this system eliminates operator errors while testing. Specimen are positioned on the support table. The table automatically drives to the measuring head. The minor load is automatically lowered to the indenter.

Code 40220122

CONTACT THICKNESS METERS

THICKNESS METERS FOR ELASTOMERS

The instrument has been designed for determining thickness of elastomers, soft and expanded materials in general, measurements of which may be affected by contact pressure, if ordinary instruments on the market are used, due to the elasticity of samples. Kits for hardnesses smaller or bigger than 35 IRHD available as optional accessories.

GAUGE COMPOSITION

- Resolution: 0.01mm, 0.001mm, .0005"/0.01mm, .0001"/0.001mm or .00005"/0.001mm
- Display: LCD
- Length standard: ABSOLUTE electrostatic capacitance type linear encoder
- Max. Response speed: Unlimited
- Measuring force: Refer to the list of specifications
- Battery: SR44 (1 pc.),
- Dust/Water protection level: IP42 or IP53 (dust-proof type)
- Travel: 12.5 mm 11020216 or 25 mm 11020218.
- Specimen anvil, made in polished steel optional
- Additional masses 7-175 g weight range according to UNI 8697 and ISO 4648 standards (see accessories).
- Stabilized cast iron stand, epoxy painted, supporting chromium plated steel pillar gauge-supporting arm sliding on the pillar with a 50 mm. travel.

0kPa (±2) CONTACT PRESSURE FOR VULCANISED RUBBER - IRHD HARDNESS < 35

Code	11020251	11020252	11020253	11020254	11020255	11020256	11020257
Head ∅	2	3	4	5	6	8	10
mm² section	3.14	7.06	12.56	19.63	28.27	50.26	78.53
g. mass	3	7	13	20	29	51	80

Complete mass and head set, basing on the table, single head plus additional mass **Code 11020250**

22kPa (±5) CONTACT PRESSURE FOR VULCANISED RUBBER - IRHD HARDNESS ≥ 35

Code	11020271	11020272	11020273	11020274	11020275	11020276	11020277
Head ∅	2	3	4	5	6	8	10
mm² section	3.14	7.06	12.56	19.63	28.27	50.26	78.53
g. mass	7	16	28	44	63	113	176

Complete mass and head set, basing on the table, single head plus additional mass **Code 11020270**

FOR ELASTOMERS
Code 11020216 centesimal/millesimal, stroke 12.5 mm
Code 11020218 centesimal/millesimal, stroke 25 mm

FOR PLASTIC FILMS
Code 11020225 centesimal/millesimal, stroke 12.5 mm
Code 11020226 centesimal/millesimal, stroke 25 mm

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PLASTIC TESTING

TEMPERATURE BURST TEST

The TBT model is a test system designed for sample testing of the internal pipe pressure, the applications that require the highest degree of precision, controlled electronically is able to produce the test fluid pressures up to 500 bar.
The system allows user-programmed pressure, ramp rate, and pass / fail, digitally adjustable limits and the availability for the cyclic tests if desired.

Apparatus for testing the internal pressure of tubes, continues the pressure until the bursting of the tubing is obtained, the Test station is with pneumatic pressure generator.
The conditions of the temperature up to 180 ° C.
The Test chamber in stainless steel, inclined bottom for the recovery of silicone oil to be recycled after the filtration.
Thermostat control up to 180 ° C max stability> 50 ° C +/- 1 ° C, in air circulation , a cover is lifted pneumatically and interlock for safety.
Fluid of Circuit (silicone oil) to test up to 50 MPa (500 bar) with an adjustable rate of increase up to 7 +/- 1 MPa for minute
Controlled by the electronic pressure sensor of precision linearity hysteresis ≤ ± 0.05%
Collector of the sample tube, able to automatically lock in case of breakage of the pipe under test.
High pressure pump with proportional valve controlled by a microprocessor.
Low pressure pump for filling and purging of cycle in the test tube.
Color Touch screens that are usable for all the functions : the temperature - pressure / time, the breaking point.

Code 10024020 (Power 230V 50Hz)
Code 10024021 (Power 115V 60Hz)

Plastic Pipe with external diameter from 4 mm to 35 mm

Standard	
SAE	J 2260

Overall dimensions: mm 1950 x 850 x 1350 h
Internal dimensions: mm 1300 x 600 x 300÷400
Weight: 300 Kg.
Power supply: 115/230 V – 50/60 Hz – 4 kVA

DIELECTRIC STRENGTH

Apparatus to perform destructive and non destructive dielectric strength tests.
The dielectric strength is defined as the maximum intensity of the electric field supplied to an insulating material without causing breaks (perforations). The physical breakdown of the material is emphasized by a sudden and irreversible resistance decrease, usually followed by the destruction of the material.
Resistance to perforation ofinsulating material through suitable electrodes, with application of alternate current.
kV/mm or kV/cm are the typical measurement units used.

Code 10033500

TECHNICAL SPECIFICATIONS

- Unit composed by transformer in oil bath with outlet adjustable up to 60 kV
- High voltage pole with built-in insulator placed above the transformer
- Safety system stopping and the test and disconnecting the electrodes when the door is open.
- Control unit for parameters setting with built-in main power supply switch and safety cutout switch, with meters (voltmeter, ammeter, timer) and buttons (Set, Stop, Start, Reset and Mode), to be placed outside the safety fence.
- Voltage increase ramps at speed of 5000 V / sec
- Minimum testing power: 5 kV
- Maximum testing power: 60 kV
- Current: up to 30 mA with linear increase
- Test time range: 1 / 99 sec.

Overall dimensions: mm 800 x 1300 x 2000 h
Weight: 230 Kg.
Power supply: 230 V – 50/60 Hz – 0,8 kVA

Standards			
ASTM	D149	D877	D1816
VDE	0370		

TRACKING TEST APPARATUS

Designed to indicate the relative behavior of solid electrical insulating materials to surface tracking when exposed to electric stress and electrolytic contamination of the surface. The system is composed of two units: control and electrode. Control unit locates all elements needed to govern and monitor the test parameters.

Electrode unit with devices for dripping arrangement with electromagnet, platinum electrodes with mounting and adjustment mechanisms and sample support table.

Electrode unit's housing made of acrylic glass and equipped with internal light and fume exhaust fan.

Code 10062000

Standard	
IEC	60112

TECHNICAL SPECIFICATIONS

- Test voltage: adjustable
- Range: 300 V max. 315 V
- Range: 600 V max. 630 V
- Limiting resistor, steplessly adjustable
- Limiting resistor - wire wound 0-390 Ω, 250 W
- 50 Q (range 325 V)
- 285 n (range 650 V)
- Platinum electrodes, purity 99,99%, 2x5x15 mm

Dimensions: 470 x 490 x 285 h mm
Weight: 35 Kg.
Power supply: 230 V – 50/60 Hz – 0,8 kVA
Consumption: 650 VA

HDT VICAT - 3 AND 6 TEST STATION MODELS

Both the 3-station and 6-station apparatuses determine the Heat Deflection Temperature and the temperature at which a standard needle penetrates of 1± 0.01 mm the surface of a specimen during an incremental linear temperature gradient (VICAT).
Measuring the resistance to the deflection temperature is very important for the characterization of products, for the Quality Control process and to evaluate the product conformity to the required standards.

MP Series: Microprocessor controlled equipments

The system prevents executing errors, enhances the precision, the reliability and the repeatability of the results, by controlling the test times. The set specimen deformation – or penetration – is detected by using linear transducers performing with a precision of 0.01 mm. Data are constantly transferred to the microprocessor and displayed on the digital display. The system also prevents any problems due to incorrect calibrations. Output for connection to PC (not included) with optional dedicated software.

SPECIFICATIONS OF THE MICROPROCESSOR BASED SYSTEM

- Keyboard for test functions and programming
- Liquid crystal display.
- Detection of the initial deflection – or penetration – for each specimen at starting temperature and zeroing of this value when the test starts.
- Setting of the deflection, or penetration.
- Bath temperature stabilization before that the test starts.
- Test result display (the temperature at which each specimen reaches the set deflection or penetration).
- Automatic return to starting temperature at the end of the test.
- Test results are continuously displayed during the bath cooling time and up to the setting of new parameters for another test.

Standards		
ASTM	D648	D1525
DIN	53460	53461
ISO	75-2	306

Code 10001002

HDT-VICAT MP3

3-station model including:

- Microprocessor, keyboard and 24-digit LCD display
- 3 HDT heads (one for each station)
- 1 centring tool for HDT heads
- 3 series of 12 weights for HDT tests (1-2-4-8-16-32-64-128-256-512-1024-2048 g with binary increase) to obtain 455 or 1820 kPa
- 3 Vicat heads (one for each station)
- 3 series of 2 weights for Vicat tests (910-4000 g) to obtain 9,85 or 49,5 N
- Volume of the stainless steel made bath: 8 litres
- Cooling water inlet/outlet system complete with filter
- Tap for oil discharge

OPTIONAL ACCESSORIES FOR MP3 AND MP6

- TEMPERATURE CONTROL FOR HDT/Vicat for each crew: allows temperature control for single test station with six separate PT100
- ADAPTER FOR TESTING WITH FLAT WISE: 64 mm for support, according to ISO 75-2. For one test station.
- Software

Dimensions: mm 450 x 650 x 500 h
Weight: approx 86 kg, including weights and accessories
Power supply: 230V, 50Hz, 1,6 kVA

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PLASTIC TESTING

HDT-VICAT M6
6-station model including:

- Steel structure painted with epoxy resin
- Compact stainless steel inner oil bath with volume designed to guarante a perfect heat exchange even with lower heating and cooling times
- Working temperature: from ambient to 300°C.
- Testing stations equipped with a patented dilatometric system to perfor tests with a maximum error of ±0.01 mm.
- Temperature uniformity: ±0.5°C on all the volume bath, by means of stirring and circulation system of the diathermic liquid.
- Cooling by means of forced water circulation inside a cooling jacket, offering a quicker cooling than traditional coils. The system prevents the risk of pollution of the diathermic liquid.
- Typical recovery time from 200°C to 30°C, with cooling water at 18°C, taker about 30 minutes, due to the bath and the cooling jacket dimension.
- Microprocessor, keyboard and 24-digit LCD display
- 6 HDT heads
- 1 centring tool for HDT heads
- 6 series of 12 weights for HDT tests (1-2-4-8-16-32-64-128-256-512-1024-2048 g with binary increase) to obtain 455 or 1820 kPa
- 6 Vicat heads (one for each station)
- 6 series of 2 weights for Vicat tests (910-4000 g) to obtain 9,85 or 49,5 N
- Volume of the stainless steel made bath: 16 litres
- Cooling water inlet/outlet system complete with filter
- Tap for oil discharge

6-station model including:

Code 10001040

Dimensions: mm 760 x 650 x 500 h
Weight: approx 135 kg including weights and accessories
Power supply: 230V, 50Hz, 1,6 kVA

BRITTLENESS & TR TESTER FOR RUBBER AND ELASTOMERS

BRITTLENESS TEST SECTION

The equipment is designed to determine the brittleness temperature, i.e when a 50% of specimens under test break under the required conditions, or else the same specimens show cracks on the coated surface.
a constant profile knife, mounted on a counterweighted bar and centred on special ball bearing rotating in one direction only.
A device placed in front of the operator is suitable to control that impact speed is maintained even on the next 6 mm after the impact. This guarantee an unexceptionable test performing.

TR TEST SECTION

Designed according to the reference standards to evaluate both the crystallization effects and and the viscoelastic properties at low temperartures. This instrument can be used also for tests at stabilized temperature.

AVAILABLE MODELS

- Testers for either Brittleness or TR, with external conditioning
- Testers for either Brittleness or TR, with built-in cryostat
- Combined systems for both tests with built-in cryostat
- Combined systems for both tests with built-in cryostat and with instrumented systems for data detection

Standards Brittleness			TR
ASTM	D746	D2137	D1329
DIN	53546		
ISO	812	974	2921

Brittleness TR refrigerated instrumented

NOSELAB ATS realizes equipment for material testing in laboratories to develop new products and test the behaviour of materials during process, at incoming and final inspection.
Laboratory tests which are necessary to choose the suitable plastic material, where you need to understand the properties of different plastics.

In addition to having more or less high calorific values, as far as their reaction to fire is concerned plastic materials always face the following drawbacks:

- High amount of smoke emission, which for the frequent presence of chlorine, in the form of hydrochloric acid or other toxic compounds, entails risks to human life and possible corrosive action of other materials;

- Some types of plastics (plastic polyvinyl chloride or rigid one, polyethylene, polypropylene, polyamides, cellulose acetate) melt at relatively low temperature and gives rise to formation of flaming droplets. When ceilings are lined with such materials, in case of fire, flaming droplets or particles can fall behaving like burning coals: they are consequently the cause of a rapid fire propagation and a serious danger for people.

Fire Classification Standards concerning fire reaction of building elements, construction products, generally used for transportation and in public places, have introduced harmonized test methods in accordance to the European Directive.
In many laboratories new formulations of plastics are studied and developed, successful strategies leading to the reduction of material flammability.

TESTS suggested by international standards allow to measure various parameters of fire behavior:
FLAMMABILITY
INDEX OF OXYGEN (%)
SMOKE OPTICAL DENSITY
FLAME RESISTANCE
INCOMBUSTIBILITY
RADIANT HEAT
HEAT RELEASE

THE TEST EQUIPMENT AND THE MAIN STANDARDS FOR PLASTICS AND BUILDING MATERIALS

STANDARD	CODE	EQUIPMENT
ASTM D 2863	EA04	OXYGEN INDEX
ASTM E 1354	GA01	CONE CALORIMETER
ASTM E 662	CA01	SMOKE OPTICAL DENSITY
ASTM E 648	BA03	PANEL FLOOR
ASTM D 6413	AA05	TEST VERTICAL (FAR)
ASTM D 6413	AA07	TEST ORIZ, 45 ° 60 ° (FAR)
DIN 75200	AA04	CABINET TEST HORIZONTAL
ISO 5660	GA01	CONE CALORIMETER
ISO 5659-2	CA03	SMOKE OPTICAL DENSITY
ISO 4589	EA04/05	OXYGEN INDEX
ISO 9151	AC06	DETERMINATION TRAS HEAT
ISO 11925-2	AA06	CABINET TEST VERTICAL
ISO 2795	AA04	CABINET TEST HORIZONTAL
ISO 1182.2	FA01	INCOMBUSTIBILITY
UL 94	ED01	FLAMMABILITY
IEC 60695-11	AB04	FLAME TO 1KW
IEC 60695-2-10	EB05	GLOW WIRE
IEC 60754-1	DA01	FURNACE TUBE
IEC 60332-3-10	AB05	FLAMMABILITY OF CABLES

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FIRE TESTING

GA01 – CONE CALORIMETRIC

Fire description needs appropriate units of measurement. The best way to represent and to quantify the fire is based on the rate at which energy is issued and released.
The measurement of Heat Release Rate (HRR) is of crucial importance in the world of fire science. HRR is the single most important parameter describing "How much power has the fire?". The science of measuring HRR of fire is named Fire Calorimetry. Nowadays, Heat Release Rate is used to classify various products in terms of risk in case of fire.
The most accurate and effective apparatus to measure the heat release is Cone Calorimeter. Principle of operation is based on oxygen consumption method. Cone Calorimeter has gained very wide acceptance worldwide since its results can be used in a range of fire models for furniture, cables, building materials, antiflame.
Is designed not only to meet the high demands of researchers, but also the needs of manufacture industry.

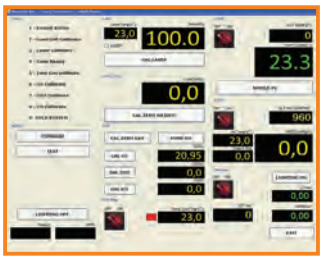
Code 10097101

TOUCH SCREEN

BUILT-IN TOUCH SCREEN VIDEO 17" COMPUTER SYSTEM DISPLAYING ALL MEASURED PARAMETERS
- Oxygen percentage
- Duct temperature
- Weight
- Duct flow
- Methane flow
- CO2 percentage
- CO percentage

SOFTWARE FEATURES

Auto-calibration system to calibrate:
- Load cell
- Gas analyzers
- Irradiance of conical heater
- Smoke measuring system
- All functions management and display of their status
- Control of all sensors and relative stability
- Management of all the parameters required by the standards
- Performance of all calculations required by the standards (total and partial HRR, mass loss, etc.)
- Manages and files the tests
- All acquired data can be acquired in CSV format to create excel files.



TECHNICAL FEATURES

- Heat release velocity in kW/m2
- Real combustion heat in MJ/kg
- Mass loss velocity
- Ignition time
- Smoke density
- Soot sampling
- CO2 and CO production
- Priming time
- Other details relative to combustion
- Power supply: 400Vac, 50Hz trifase 32A
- Gas type: Methane (purity 99,5%)

Nitrogen (oxygen free)
CO2 (5%~10%)
CO (1% ~ 3%)
- Water: 2 bar
- Air: 2 bar

Standards	
ASTM	E1354
ISO	5660 part 1 part 2
BS	3664

Dimensions: 1600 x 600 x 1700 mm. (W x D x H)
Weight: 250 Kg approx.

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FIRE TESTING

ED01 – TESTS FOR FLAMMABILITY OF PLASTIC MATERIALS – UL 94

The method described in the UL 94 standard involves standard size specimens and are intended to be used solely to measure and describe the flammability properties of materials, used in devices and appliances, in response to heat and flame under controlled laboratory conditions.

The bench-model test chamber can be used to perform the following flammability tests:

- 94HB (ASTM D 635, ISO 1210) Horizontal test
- 94V-0 V-1-V-2 (ASTM D 3801) Vertical test
- 94 5VA - 5VB (ASTM D 5048, ISO 9772) 125 mm flame
- VTM-0-1-2 (ASTM D 4804, ISO 9773) Vertical test for non stiff materials
- HBF – HF 1-2 (ASTM D 4986) Horizontal test for foamed polymeric materials

Code 10095401

TECHNICAL FEATURES

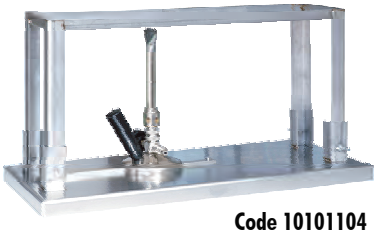
- Fume aspirator (mm. 100) to actuate at the end of the test.
- Methane gas feeding panel complete with flow meter with adjusting tap and pressure gauge.
- Timing system for flame application, post-combustion and priming.
- Thermometer for flame measuring and adjusting system according to ASTM D 5207, complete with two thermocouples with copper block and suitable support for flame length calibration.
- Built-in starting and timing system.
- Burner according to ASTM D 5025.

ACCESSORIES

- 20°, 45°, 90° burner supports
- Joints and clamp for laboratory stand
- 20 mesh stainless steel screen, approx. 125 sqmm
- Support for soft specimens
- 12.7 mm dia. mandrel

Dimensions:
internal 1200 x 830 x 1200 h (mm) =1 mc
external 1400 x 830 x 1450/1730 h mm (with aspirator)
Weight: 95 Kg

Optional kit for tests according to HBF standard



Code 10101104

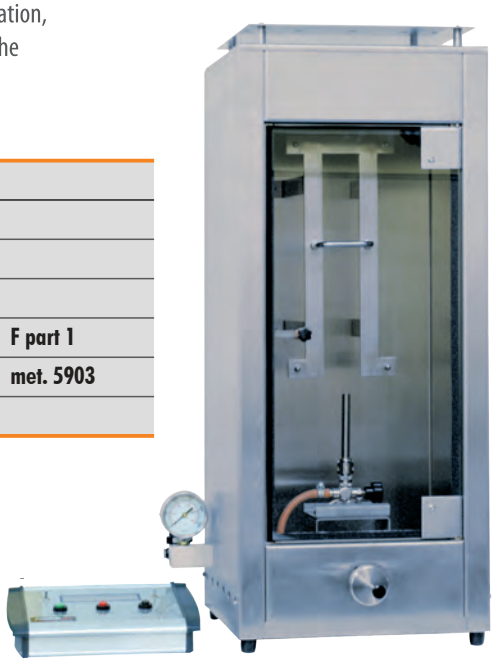
AA05 – VERTICAL CABINET FOR FLAMMABILITY TESTS OF PLASTIC MATERIALS

Determination of the behaviour of materials subjected to a flame implying detecting fl ame time duration, glowing after fl ame application, and burn length. This test is designed in view of the acceptance of the materials for aircrafts and safety clothing.

TECHNICAL FEATURES

- AISI 304 stainless steel structure
- Sledge for burner positioning
- Safety glass door
- Bunsen burner – dia. 9.5 mm complete with safety valve
- Pressure gauge
- Burner positioning shaft
- Tool for flame height measurement 330x140 mm specimen support for 305x75 mm specimens having thickness up to 25 mm
- Drops collecting tray
- K-type thermocouple for flame temperature detection to connect the digital control device
- Digital TermoCronoTimer for detection of:
- - Minimum flame temperature 850°C
  - 12 or 60 seconds exposure to flame
  - Flame duration on the specimen after the burner is withdrawn
  - Flame time of the drops
  - Recording of flame and glowing times after flame exposure with manual control

Standards		
ABD	0031	
AITM	2.002	
BSS	7230	
FAR	part. 25	F part 1
FTM	191A	met. 5903
ASTM	D6413	



Dimensions: 330 x 330 x 787 h (mm)
Weight: 18 Kg.

Code 10091105

AA04 – FIRE REACTION WITH HORIZONTAL SAMPLE

The standard test method is used to determine the combustion speed of the material under test, in relation to the covered space and the used time in covering the space itself.

TECHNICAL SPECIFICATIONS

- Stainless steel AISI 304 cabinet with glass door for test control.
- Cabinet with ventilation slits.
- Safety glass door.
- 9.5 mm dia. gas burner with support.
- Gas regulation valve.
- Extractable horizontal sample support with sample supporting metal wires.
- Collecting basin for residual products.

Dimensions (h x w x d): 360 x 385 x 204 mm.
Weight: 12 kg/13 kg.
Supply: Methane or Propane gas

Model with AUTOMATIC timer for the control of the flame application times is also available.

Code 10091104 - Standard
Code 10091112 - With Timer

Standards		
FMVSS	302	
ISO	3795	
DIN	75200	
FAR	Part 25	F Part 1
ABD 0031	AITM 2.003	
BSS	7230	
FIAT	50433	

AA06 – TEST CABINET FOR FIRE REACTION WITH SMALL FLAME

Ignitability of building products subjected to direct impingement offlame.
A single flame is applied to the surface and to the bottom corner of a specimen in a vertical orientation.

Code 10091106

TECHNICAL SPECIFICATIONS

- Stainless-steel combustion chamber with bottom grid and two glass doors for test control.
- Burner equipped with microvalve for flame adjustment.
- 90-degree specimen support sliding system.
- Kit in compliance with the standard (to your choice)*:

ISO 11925-2:
Stainless steel specimen holder 110 x 295 mm
Flame height measuring device
2 flames spacers (16mm,5mm)

DIN 4102 B2:
Stainless steel specimen holder 90 x 230 mm
Mirror
Metallic basket for "molten dripping"
Flame height measuring device
2 flames spacers (16mm,5mm)

UNI 8456 e 8457:
Stainless steel specimen holder 104 x 340 mm
Metallic measuring rod (50mm)
flame spacer (18mm)

***more specimen holders available on request**

Dimensions: 700 x 800 x 400 mm. (W x D x H)
Weight: 35 Kg approx.
Supply: propane gas

Standards		
ISO	11925-2	
DIN	4102 B2	
UNI	8456	8457

EA05 – LIMITED OXYGEN INDEX AT HIGH TEMPERATURE

Apparatus for determining the Oxygen Index value, supplied with module for high temperatures determinations. This test method may be used to measure and describe the properties of materials, products, or assemblies in response to heat and flame under controlled laboratory conditions. The oxygen percentage is detected by a paramagnetic transducer and the combustion occurs inside the glass column.

TECHNICAL SPECIFICATION

- Detection of O2 percentage through paramagnetic transducer (O2 accuracy <0.1%)
- Direct reading of O percentage, flow, air on 3.2" display
- Automatic Control of the O flow and N % with massflow
- Automatic calibration (0 and 100%)
- Microprocessor-governed operations
- Air addition to save consumption in O2 high concentration mixtures
- Column internal flow distributor.
- LED bar indicator for mixture flow
- Propane gas regulation and cut-off valve
- Specimen surface temperature indicator complete with detection probe
- Inconel steel detection thermocouple
- Pyrex column with built-in heating resistance complete with outer safety glass column
- Thermoregulator for the mixture pre-heating temperature control up to 400°C
- Thermoregulator for temperature control inside the glass column
- PID regulators

Code 10095105

Dimensions: 360 x 300 x 240 h (mm), main system
360 x 300 x 120 h (mm), base system for column
Overall dimensions: 770 x 300 x 574 h (mm)
Net weight: kg 25
Supply: air, oxygen, nitrogen, propane gas

Standard	
ASTM	D2863
ISO	4589-3
CEI	20-22/5

ACCESSORY

Adapter for type-A pyrex column (CEI 20/22-4) for ambient temperature tests

EA04 – LIMITED OXYGEN INDEX

This test method may be used to measure and describe the properties of materials, products, or assemblies in response to heat and flame under controlled laboratory conditions.
Assessment of the minimum concentration of oxygen that supports flaming combustion in a flowing mixture of oxygen and nitrogen.

TECHNICAL SPECIFICATIONS

- Oxygen percentage detection with paramagnetic transducer (O_2 accuracy <0.1%)
- Direct reading on 3.2" colour display (Oxygen %, Flow, Air).
- O_2 and nitrogen percentage automatic control.
- Microprocessor-based equipment control
- Air addition to save consumption in O_2 high concentration mixtures
- Mixture flow indicator.
- Automatic calibration control (0 and 100%)
- Column internal flow distributor.
- Propane gas closing and regulation valve.

Standards	
ASTM	D2863
ISO	4589-2
CEI	20-22/4

Dimensions: 360 x 300 x 240 h (mm), main system
200 x 300 x 50 h (mm), Pyrex column base
Overall dimensions: 360 x 300 x 740 h (mm)
Net weight: kg 19
Column size: Type A (CEI 20/22-4) ø 100 x 450 h (mm)
Supply: air, oxygen, nitrogen, propane gas

Optional Software Software testing,report data, easy to use, customize your testing, procedures and final Report.

Code 10095104

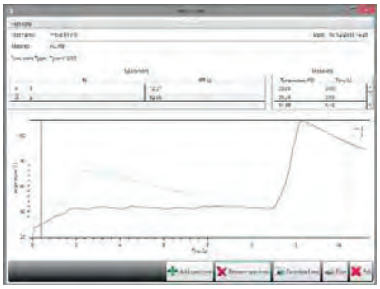
AC06 - HEAT TRANSFER DETERMINATION

This test defines a method of comparison of the heat transfer through the materials used for the protective clothing. Determining heat transmission on protective fabrics exposed to the flame.

TECHNICAL SPECIFICATION

- System support specimen holder in stainless steel
- Support calorimeter aluminum - 149 mm from the side
- Copper specimen holder 150 mm from the side
- Group gas supply with regulator and pressure gauge and flow
- Burner type Meker, exit diam 38 mm, propane
- Protection grid
- Template for sample preparation
- Automatic device to detect the rise time and the temperature of the copper disk subjected to the flame according to the standard, Color TFT Display.
- Motorized movement of sample holder/shutter.
- USB output for connection to PC for data collection and report printing .
- Disk calorimeter (10109002) Dia 40 mm copper / 18g mass with constantan thermocouple type T

Software (optional)
EN367 Link: software to manage test reports, to store and modify data, complete with USB cable for connection to PC.



Standard	
ISO	9151
UNI EN	367

Code 10091312

Dimensions: 420 x 400 x 300 h (mm), main system
Net weight: kg 13
Supply: 230V, Gas propane

AB04 – DEVICE FOR 1-kW PREMIXED FLAME

This equipment allows to determine the behaviour of the materials subordinate to fire hazard duplicating exactly the conditions occurring in practice.
It is applied to the electromechanical products, to their sub-assemblies and components and to solid electrical insulating materials or other combustible materials.

Code 10091204

Standards	
IEC	60695-11-2
UNI EN	60695-11-2

TECHNICAL SPECIFICATION OF THE CONTROLLER

- Controller containing devices to mix, regulate and check the mixture of propane gas/air for heating time and copper block temperature (from +100°C up to +700°C)
  - Precision: time 0,1 seconds / temperature ± 0,5°C
- Needle valve to regulate the gas flow
- Electronic massive Flow meters type CMOSens
  - air: range 0 – 20 NL/min for Nominal Flow 10 l/min at 23°C 0.1 MPa
  - propane: range 0 – 3 NL/min for Nominal Flow 650 ml/min at 23°C 0.1 MPaA
- Accuracy: 0.05% FS
- Precision: 0.3% FS (including offset, Non linearity, Hysteresis)
- Touch Screen LCD Backlit
- Gas and Air Pressure gauges dia.80 mm precision 1%
- Safety Non-return Valves on both ducts

STANDARD CONFIGURATION

- Controller to mix and regulate
- Burner according to the Rule Specification IEC 60695-11-2 annex A, with two-position pedestal (V-45°)
- Thermocouple Type K dia. 0.5 mm take off with connector miniature size, to measure the temperature of 9 mm copper block with mass 10 ± 0.05 g for flame calibration
- Height-adjustable support

Supply: propane gas

noselab ats
FIRE TESTING

EB03 – EB05 GLOW WIRE APPARATUS

The best method for testing electrotechnical products with regard to fire hazard is to duplicate exactly the conditions occurring in practice. In most instances, this is not possible. Accordingly, for practical reasons, the testing of electrotechnical products with regard to fire hazard is best conducted by simulating as closely as possible the actual effects occurring in practice.

Parts of electrotechnical equipment which might be exposed to excessive thermal stress due to electric effects and the deterioration of which might impair the safety of the equipment must not be unduly affected by heat and by fire generated within the equipment.

Parts of insulating material or other solid combustible material which are liable to propagate flames inside the equipment may be ignited by glowing wires or glowing elements.

Under certain conditions (for example, a fault current flowing through a wire, overloading of components, and bad connections), certain elements may attain a temperature such that they will ignite parts in their vicinity.

Code 10095203 - EB03
Code 10095205 - EB05

Standards	
IEC	60695-2-10
VDE	0471

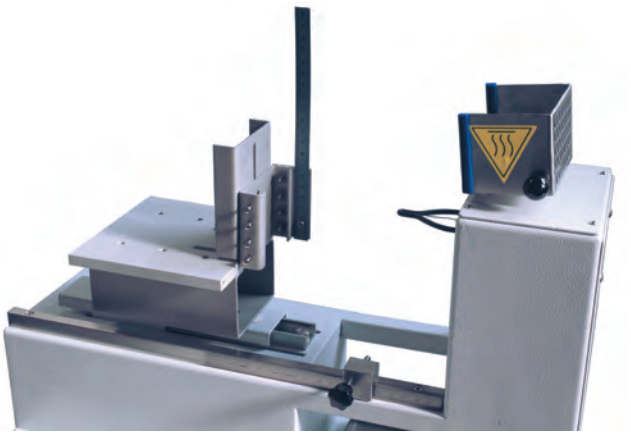
COMMON FEATURES FOR ALL MODELS

- Motor-driven carriage to move the specimen support at a speed range of 10 - 25 mm/sec
- 1 N ± 0.2 N pre-loaded contact force of the test specimen against the glowing wire
- Maximum test temperature: 960° ±15° C

CONFIGURATION OF THE EB03 MODEL

- Motor driven Carriage sliding system for the test-piece advancement
- Stainless steel sample holder mm 70x15x120
- Device with weights to apply the required contact pressure between the test specimen and the heating element.
- Type K thermocouple
- 4 mm dia NiCr Wire
- Control board:
  - 700VA Tension variator,
  - Digital display showing both wire temperature and the voltage
- Collecting tray
- Safety guard of the incandescent thread
- Wood tablet and cotton paper

Dimensions: mm 500 x 300 x 570 h
Weight: 32 kg
Power consumption: 700 W
Power supply: 230V, 50Hz



CONFIGURATION OF THE EB05 MODEL

Fully automatic. The Glow Wire tip, electrically heated by the 150-A current transformer at a pre-fixed temperature in the range from T ambient to 980°C, is pressed against the test specimen.

- Steel test chamber volume approx 0.5 cum with inner part painted in black to guarantee the required lux level
- Upper part designed for connection to a fume exhaust system
- Internal lighting
- Automatic, motor-operated carriage sliding system
- Stainless steel sample holder mm 70x15x120.
- 4 mm dia NiCr wire
- K Type Thermocouple
- Adjustable generator to reach and control the Glow Wire temperature;
- Control unit with CPU, digital display for the automatic control of the glow wire application time, of the NiCr wire temperature (max 960°C), and of the test duration.
- Detectable indexes:
  GWFI (Glow - Wire Flammability Index): Index of the highest temperature at which the material does not ignite or self-extinguishes within a given period of time after the removal of the heated element;
  GWIT (Glow - Wire Ignition Temperature): Index of the lowest temperature at which the material ignites and burns for longer than a preset period of time while in contact with the heated element.

Dimensions: mm 1000 x 650 x 1.050 h
Weight: 85 kg
Power consumption: 700 W
Power supply: 230V, 50Hz

STANDARD AND EN 14 175 CERTIFIED DOUBLE SUCTION FUME HOODS GENESIS SERIES

Many NOSELAB ATS' equipments need to be used in safe place and into a fume hoods with gases supplied according to the reference standards.
Our fume hood, made with high quality and highly resistant materials, are ideal for safely performing laboratory tests that could produce fumes and/or gases harmful for the operator.
Composed by modular base with 50x20, 30x30, 30x10 mm steel stackable tubular section.
Each single element can be eventually interchanged or replaced.

"CLASS 0" STANDARD
EN 14 175 CERTIFIED FUME HOOD

GENERAL FEATURES

- ANSI 316 stainless steel, corrosion proof monolithic stoneware or plastic laminated worktop.
- Safety glasses creating a protection shield, which slide both vertically and horizontally.
- 3 sash stops at different heights as extra safety device.
- Under-frame modules made of E1 class plastic material, cupboards – banked on the edges - feature post forming laminate doors and drawers; drawers with guides and sides in painted sheet metal with safety blocking system and double regulation, three-regulation 180° aperture zips, chrome plated zama alloy opaque handle; four PP castors (two supplied with brakes), with 70 Kg. of dynamic capacity each.
- Electro fan and connection to the fume exhaust piping
- Adjustable feet for structure levelling.

CP 1500 & CP 1800	
Overall dimensions, mm.	1565x900x2700 h. (**CP 1500**) or 865x950x2700 h. (**CP 1800**). Work top at 900 mm height from the floor.
Worktop dimensions, mm.	Stainless steel 1500x750 (**CP 1500**) or 1800x750 (**CP 1800**), corrosion proof monolithic stoneware or plastic laminated. 1 gres side basin - dimensions 150(100)x300(255)x160(110) depth, mm
Under bench modules	1 x 895x498x590/700h mm (**CP 1500**) or 1195x498x590/700h mm (**CP 1800**), 2 laminated doors + 2 internal shelfs.
Cool water supplying	1 x remote dash command for cool water and supplying nozzle inside the fume hood.
Gas supplying	Optionally combustible gas, methane, propane, nitrogen or oxygen, with remote dash command and supplying nozzle inside the fume hood, according to DIN12898/12920/3537 standards, fixed hose connection.
Electrical services	Electrical board, IP657 protection grade, self extinguish according to UL94 V-0 grade, IMQ/CESI/RINA certificates according to CEI standards. 1 x module with 2 UNEL 2P+T 10/16A – 230V socket IP44 spring cover – 1 magnetothermal switch for sockets – 1 ON/OFF switch for lighting – 1 magnetothermal switch for lighting – 0-1 switch for electro fans START/STOP – motor and electro fan protection – warning light.

LOW PRESSURE ELECTRO EXHAUST FANS VSB23

Manufactured entirely by injection moulding. UV-resistant, Polypropylene housing, adjustable in 8 positions. With high-performance, polypropylene impeller with forward curving blades that are statically and dynamically balanced and incorporating a reinforced hub. Gaskets from corrosive-resistant material provide protection against shaft/case leakage. Nylon support base stand for B3/B5 motors. Stainless steel external assembly fittings. Available with three-phase or single phase, single speed motors, two-speed motors with IP55 protection or EEx-d protection.

Q m^3/h	Ht mm H_2O	Hs mm H_2O	kW	HP	g/min	db (A)	Kg	Kg EEx-d
900	49	44	0,55	0,75	1450	58	15	27
1100	50	42						
1300	49	38				62		
1450	48	34						
2000	39	13				66		

Fume hoods are designed for the maximum flexibility and for the best placing and accessibility of the utilities.

Code 50500061 - CP-1500
Code 50500062 - CP-1800

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