

HISTORY

In **1952** Sir Daniele Messa established MESDAN® company in Salò - a manufacturing workshop specialized in the production of textile hand knotters. In the **1960's** the company became a qualified mechanical industry under the creative impulse of Sir Daniele Messa's son, Mr Pietro. During those years MESDAN® was also very busy in developing reliable mechanical knotters suitable to meet the needs of the new automatic winding machines. In the **1970's** MESDAN® became a consolidated industrial reality of international prestige, and in **1975** changed its corporate structure into a S.p.A. corporate form (joint-stock company).

Meanwhile MESDAN® became the leading supplier of knotters to manufacturers of automatic winding machines all over the world.

The **1980's** are characterized by the 'knot free' yarn joining technology (the so called "splicing" technology), and Mr Renato Zanca (who succeeded to Mr Pietro Messa as Managing Director) led the company to the realisation of an innovative range of splicing solutions, soon internationally recognised, thanks to the "JOINTAIR" and "AQUASPLICER" trademarks.

Mr Zanca also decided to diversify the company activity by entering the business of textile laboratory equipment, to meet the growing demand for Testing and Quality control, and in the **1990's** established the new Division - Mesdan Lab - specialised in testing solutions for quality control on textiles and started the production and marketing of a wide range of equipment. In **2012** MESDAN® celebrated its 60th anniversary and presented the new Mesdan Dyelab line, a series of equipment for the dyeing and finishing quality assessment. At the same time, Mesdan Yarn Joining Division launched the MOISTAIR, a splicer based on a unique yarn joining technique, which soon became a worldwide success. In **2013** MESDAN® became part of the "Savio" group of companies. In **2019**, following its ISO 17025 audit and a series of important developments and achievements in the field of Laboratory testing, MESDAN® obtained the status of a Calibration Laboratory (LAT), the highest recognition for an equipment manufacturer. In **2021** the all SAVIO group was acquired by Vandewiele, Belgium, a world leader in Mechatronics solutions (combination of mechanical and electronics engineering) to serve textile and electronics customers around the world.

MESDAN® Italy has reached a leading position in the field of yarn joining technology in seventy years of research & development. Nowadays the 100% "knotless" plied yarn concept leads inevitably to Mesdan splicers, which are considered as a point of reference, thanks to their vanguard technology, workmanship quality, performance reliability and consistency. At present the company consists of two different business units: "Mesdan Yarn Joining Solutions", and "Mesdan Lab" laboratory equipment line.

Mesdan Yarn Joining Solutions line includes the complete range of Mesdan splicers - characterized by their registered trademarks: JOINTAIR, AQUASPLICER, HOT JOINTAIR, and MOISTAIR - which are designed in the automatic version (for automatic winders) and in the semi-automatic version for trackmounted installations (where the use of automatic splicing solutions is not possible).

Mesdan Lab equipment line, with its Quality Control Testing Equipment for Textiles, offers a wide range of laboratory instruments suitable for testing fibers, yarns, fabrics and garments, of traditional and technical textiles. With over two decades track in the field of testing, Mesdan Lab can be considered today one of the leading international manufacturers of laboratory instruments.

OPTIMISE YOUR QUALITY, FROM FIBRES TO FABRICS

Mesdan Lab is a division of MESDAN® S.p.A. renowned designer of yarn joining solutions.

MESDAN® entered the textile laboratory business in the early nineties, to meet its customers' growing demand for quality control equipment. Since then MESDAN® has designed a complete range of equipment for the analysis of textile materials (fibres, yarns, traditional and technical fabrics, nonwoven, leather, etc.), in compliance with the International Standards.

Mesdan Lab instruments today stand out for their industrial design and sound quality that guarantee accurate performances in the long run. The **Mesdan Lab** line is produced with particular attention to the environment, in conformity with the safety Standards integrating operator-friendly solutions.

In 2004 MESDAN® obtained from Det Norske Veritas (DNV) two certifications: the UNI EN ISO 14001 Environmental Management System and the UNI EN ISO 9001 Quality Management System with validity for design, manufacture and calibration of textile laboratory instruments. In 2019 Mesdan Lab Service was also accredited to "ISO 17025 calibration laboratory" by "Accredia - ILAC".

In the most recent years, MESDAN® has heavily invested in research for the design of equipment for the fiber analysis; in 2019 it launched the CONTEST line, a set of sophisticated automatic instruments, for the classification of the cotton fiber properties, and for the analysis of the stickiness behaviour (sugar content). With the same aim of always offering equipment that incorporates only the latest technology available, in the 2020's, **Mesdan Lab** has dedicated its R&D resources to the complete revision of the dynamometer family, the flagship of its LAB product proposal.

Legend

This catalogue is composed of 4 thematic sections illustrating the **Mesdan Lab** testing equipment range according to the material to be tested. More detailed information is available in dedicated brochures, which can be downloaded from our website, or obtained from our sales department.

Pictures and information about the instruments are merely indicative. MESDAN® S.p.A. reserves the right to modify these specifications at any time, without notice.

A-Z

FIBRES

| | | | | | | | |
|------|--|------|------------------|------|---------------------------------------|------|------------------|
| p 9 | Air Flow / Wool fineness | Code | 272C | p 17 | Manual Slivers & Rovings Reel | Code | 159A-159B |
| p 10 | Binocular Microscope 1000X | Code | 191H | p 18 | Melting Point Apparatus | Code | 339C |
| p 10 | Calibration Cottons | | | p 11 | MicroLab / Fibre-yarn analysis | Code | 250E |
| p 12 | Classifiber tipo W / Fibre length | Code | 330A | p 9 | Micronaire / Cotton fineness | Code | 199C |
| p 18 | Climatest / Lab conditioning chamber | Code | 1722 | p 10 | Microtome | Code | 256A |
| p 14 | CONTEST-S / Stickiness tester | Code | 3304S | p 13 | NATI II / Neps and Trash tester | Code | 3280B |
| p 8 | Double Comb Sorter / Fibre length | Code | 230A | p 17 | Oil Extractor | Code | 273B |
| p 17 | Electronic Slivers & Rovings Reel | Code | 254A-254B | p 8 | Pressley / Fibre strength | Code | 231A |
| p 8 | Electronic Torsion Balance | Code | 165.720 | p 16 | Raw Cotton Selector | Code | 3282 |
| p 9 | Fiber Tenso-Lab / Single fibre strength-elongation | Code | 331A | p 16 | Top Tester / Neps-impurities counting | Code | 328A |
| p 10 | Fibre Microscope Kit | Code | 250.325 | p 16 | Trash Analyser | Code | 281C |

YARNS

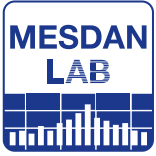
| | | | | | | | |
|------|---|------|-----------------|------|---|------|-----------------|
| p 23 | Air-Texturlab / Yarn air texture | Code | 320C | p 21 | Mobile Vertical Creel | Code | 3102 |
| p 34 | Aqua-Lab / Moisture regain | Code | 2450 | p 30 | MT Evenness Tester | Code | 2341 |
| p 31 | ASTM yarn standards | | | p 31 | Optional KIT "TWO" | Code | 2520.600 |
| p 26 | Attrifil III / Yarn friction | Code | 233C | p 31 | Planofil / Yarn conical table | Code | 2520 |
| p 24 | Auto Cop Changer (ACC) | Code | 299A | p 42 | Polar Evo Wind-Lab | Code | 3374D |
| p 27 | Autodyn II Plus / Automatic strength tester | Code | 2514A | p 40 | Ring Lab / Mini ring spinning | Code | 3108A |
| p 39 | Coiler | Code | 337A.6 | p 33 | Scirocco / Automatic regain oven | Code | 172B |
| p 22 | Count Analyser II / Count tester | Code | 1666 | p 32 | "Special" Yarn Sample Winder | Code | 171B |
| p 22 | Count Lab Software / for count test | Code | 165.630 | p 29 | Splice Scanner III | Code | 2553 |
| p 38 | Dye Scanner / Yarn-knit (Dye) uniformity | Code | 2940A-B | p 32 | "Standard" Yarn Sample Winder | Code | 171A |
| p 20 | Electronic Wrap Reel for Yarns | | | p 21 | Stationary Adjustable Yarn Tensioners | Code | 161M.330 |
| p 21 | Fixed Tensiometer | Code | 161M.334 | p 39 | Stiro Roving Lab / Miniature draw frame | Code | 3371 |
| p 20 | Hand Driven Wrap Reel | | | p 28 | Tenso-Lab 4 / Tensile strength tester | Code | 2512E |
| p 25 | Hand-operated Twist Tester | Code | 2531D | p 25 | Twist Lab / Semi-automatic twist tester | Code | 2531C |
| p 35 | Hardness Tester | | | p 41 | Twister Lab / Two for one lab twister | Code | 3373 |
| p 35 | Humy Tester III | Code | 185C | p 24 | Twistmatic II / Full Automatic twist tester | Code | 2532 |
| p 41 | Lab Knitter / Yarn-knit (Dye) uniformity | Code | 294E | p 36 | Video Analyser / Fibre-yarn-fabric analysis | Code | 250D |
| p 39 | Laboratory Carding Machine | Code | 337A | p 23 | Water-Texturlab / Yarn water texture | Code | 320D |
| p 35 | Libeccio / Semi-automatic regain oven | Code | 245B | p 40 | Wind Lab | Code | 337A |
| p 40 | Mini Assembly Lab / Mini assembly winder | Code | 3372A | p 23 | Yarn Data Logger (YDL) | Code | 3115 |

FABRICS

| | | | | | | | |
|------|--|------|------------------|------|--|------|----------------|
| p 69 | 45° Flammability Tester | Code | 3392C | p 71 | Integrated Sweating Guarded Hot Plate System | Code | 3123B |
| p 65 | AATCC/ISO Crease Appearance Replicas | Code | 310.94 | p 68 | ISO Flammability Lab | Code | 3392E |
| p 65 | AATCC/ISO Seam Smoothness Appearance Replicas | Code | 310.96 | p 67 | Linear Cut Resistance Tester | Code | 3394B |
| p 65 | AATCC/ISO Smoothness Appearance Replicas | Code | 310.74 | p 56 | MacroLab / Yarn-fabric analysis | Code | 250F |
| p 54 | Air Tronic Plus | Code | 3240C-E-F | p 50 | Martindale | Code | 2568 |
| p 72 | ANDI Thermal Manikin | | | p 57 | Microscope for fabrics | Code | 191G |
| p 46 | Autodyn II / Automatic tensile strength tester | Code | 2514 | p 64 | Multifibre DW 010 | Code | 257.424 |
| p 72 | Automotive Thermal Comfort | | | p 64 | Multifibre TV | Code | 257.426 |
| p 63 | Autowash II / Wash-Dry colour fastness | Code | 311L | p 60 | Perspirometer | Code | 257A |
| p 47 | Available clamps for Tenso-Lab and Autodyn | | | p 57 | Pick Counters | | |
| p 64 | Blue Scale | Code | 325.2 | p 53 | Pneumatic Fabric Stiffness Tester | Code | 3396 |
| p 51 | Burstmatic / Bursting tester | Code | 338E | p 57 | Portable Microscope | Code | 2604 |
| p 57 | Circular Sample Cutter | Code | 175B | p 59 | Sample Press Lab | Code | 1750A |
| p 49 | Crease Recovery Tester | Code | 3109 | p 60 | Scorch Fastness / Sublimation tester | Code | 312A |
| p 49 | Crimp Tester | Code | 320A | p 65 | Soap Powder | Code | 310.10 |
| p 58 | Crock Meter / Rubbing fastness | Code | 2540 | p 52 | Spray Rating Tester | Code | 333A |
| p 52 | Digital electric-hydraulic Bursting Tester | Code | 338D | p 64 | Standard Adjacent Fabrics | | |
| p 62 | Dry Cleaning Machine | Code | 310F | p 66 | Static Lab | Code | 291B |
| p 72 | Drying Rate Tester DRT201 | | | p 61 | Sun Lab / Light fastness | Code | 325A |
| p 65 | ECE/IEC Reference Detergent | | | p 70 | Sweating Guarded Hot Plate | Code | 3123 |
| p 58 | Electric Crock Meter / Rubbing fastness | Code | 198B | p 44 | Tenso-Lab 4 / Tensile strength tester | Code | 2512E |
| p 57 | Electronic balance per m ² | Code | 165.664 | p 45 | Tenso-Lab 5000 / Tensile strength tester | Code | 2515 |
| p 55 | Elmatic / Elmendorf tearing tester | Code | 275D | p 53 | Thickness-Lab / Thickness tester | Code | 1880 |
| p 53 | Elmendorf | Code | 275A | p 63 | Top Loading Home Washer | Code | 310H |
| p 58 | Forced Ventilation Conditioning Oven | Code | 251G | p 62 | Tumble Dryer | Code | 3111 |
| p 63 | Front-loading Home Tumble Dryer | Code | 3111B | p 66 | Vapour Permeability Tester | Code | 3122 |
| p 67 | Glove Cut Tester | Code | 3394A | p 69 | Vertical Flammability Tester | Code | 3392G |
| p 64 | Grey Scales | | | p 62 | Wascator | Code | 310B |
| p 59 | Hoff-Lab Press | Code | 3370B | p 54 | Water Proof | Code | 3241C |
| p 69 | Horizontal Flammability Tester | Code | 3392D | p 66 | Water Vapour Test | Code | 3395 |
| p 52 | ICI Pilling & Snagging Tester 4 positions | Code | 279G | p 49 | Wrinkle Recovery Tester | Code | 3110 |
| p 67 | Impact Abrasion Lab | Code | 2563 | p 61 | Xenon Lab / Light fastness | Code | 325E |
| p 60 | Incubator | Code | 251L | | | | |

MISCELLANEOUS

| | | | | | | | |
|------|-------------------------------------|------|--------------|------|-----------------------------------|------|----------------|
| p 78 | "Assmann" Psychrometer | Code | 196C | p 82 | Portable pH-meter | Code | 322C |
| p 77 | Battery Powered Digital Stroboscope | Code | 186F | p 83 | Portable Thickness Gauges | | |
| p 82 | Bench pH-Meter | Code | 322L | p 81 | Refractometer | Code | 266A |
| p 81 | Digital Force Tester | Code | 194D | p 80 | "Sartorius" analytic Balance | Code | 165.702 |
| p 79 | Digital Thermometer | Code | 244B | p 80 | "Sartorius" multi-purpose Balance | Code | 165.708 |
| p 78 | Electronic Psychrometer | Code | 288C | p 80 | "Sartorius" precision Balance | Code | 165.704 |
| p 74 | Electronic Tachometer | Code | 1810C | p 78 | Sling Psychrometer | Code | 196B |
| p 74 | Electronic Tachometer | Code | 1810G | p 77 | Strobo Lab | Code | 186H |
| p 74 | Electronic Tachometer | Code | 1810E | p 77 | Stroboscope | | |
| p 74 | Electronic Tachometer | Code | 1810H | p 75 | Tensiometer Zivy | | |
| p 76 | Electronic Tensiometer DTS | | | p 80 | Thermo Balance | Code | 165.502 |
| p 76 | Electronic Tensiometer ETB | | | p 78 | Thermo-anemometer | Code | 287C |
| p 75 | Electronic Tensiometer ZEF/ZED | | | p 83 | Ultrasonic Cleaning Baths | | |
| p 76 | Mechanical Tensiometer DX2 | | | p 82 | UV Lamp | Code | 189A |
| p 76 | Mechanical Tensiometer ZF2/ZD2 | | | p 82 | Viscosimeter | Code | 3220 |
| p 83 | Melt-Flow Index | Code | 339B | p 75 | Warp Tensiometer DXK model | | |
| p 79 | Optical Pyrometer | Code | 296D | p 79 | Writing Thermo-hygrograph | Code | 180B |
| p 79 | Orbital Shaker | Code | 3125A | p 81 | Yarn Meter | Code | 298E |
| p 77 | Phonometer | Code | 243B | p 81 | Yarn Meter | Code | 298D |



Leading supplier of quality control laboratory equipment for physical testing, colour fastness, dyeing and finishing



Fibers & Yarn testing



Fabric & Garment testing

FIBRES

| | | | |
|------|--|------|------------------|
| p 8 | Pressley / Fibre strength | Code | 231A |
| p 8 | Double Comb Sorter / Fibre length | Code | 230A |
| p 8 | Electronic Torsion Balance | Code | 165.720 |
| p 9 | Fiber Tenso-Lab / Single fibre strength-elongation | Code | 331A |
| p 9 | Micronaire / Cotton fineness | Code | 199C |
| p 9 | Air Flow / Wool fineness | Code | 272C |
| p 10 | Calibration Cottons | | |
| p 10 | Binocular Microscope 1000X | Code | 191H |
| p 10 | Microtome | Code | 256A |
| p 10 | Fibre Microscope Kit | Code | 250.325 |
| p 11 | MicroLab / Fibre-yarn analysis | Code | 250E |
| p 12 | Classifiber tipo W / Fibre length | Code | 330A |
| p 13 | NATI II / Neps and Trash tester | Code | 3280B |
| p 14 | CONTEST-S / Stickiness tester | Code | 3304S |
| p 16 | Top Tester / Neps-impurities counting | Code | 328A |
| p 16 | Trash Analyser | Code | 281C |
| p 16 | Raw Cotton Selector | Code | 3282 |
| p 17 | Electronic Slivers & Rovings Reel | Code | 254A-254B |
| p 17 | Manual Slivers & Rovings Reel | Code | 159A-159B |
| p 17 | Oil Extractor | Code | 273B |
| p 18 | Climatest / Lab conditioning chamber | Code | 1722 |
| p 18 | Melting Point Apparatus | Code | 339C |

Pressley Fibre strength

231A



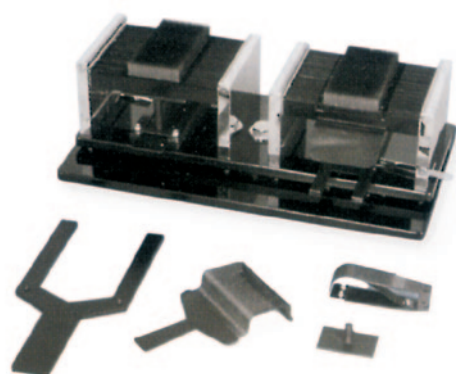
An equipment to determine the resistance of cotton fibres. It is fitted with clamps with 0" and 1/8" distance. The use of Pressley requires a torsion balance with resolution 0.01 mg (**code 165.720**).

Accessories: calibration cottons (**code 199.22**).

Reference standards:
ISO 3060, ASTM D1445, BS 5116, ASTM D2524

Weight: 3.2 kg
Dimensions: (L) 330 x (W) 100 x (H) 125 mm

Double Comb Sorter Fibre length 230A



For the production of staple diagrams for short spun fibres up to 100 mm (4") length.

Determination of fibre length or staple diagram is a decisive factor in defining the spinning quality of raw material and for the setting of spinning machinery.

Reference standards:
ISO 920, ASTM D1440, ASTM D1575, IWTO 1-66

Weight: 15 kg
Dimensions: (L) 250 x (W) 150 x (H) 140 mm

Electronic Torsion Balance

165.720



High Quality Electronic Torsion Balance.
Suitable for very small quantity of fibres, bundles, pieces of yarns from fabrics and garments.
For the use of Pressley (**Code 231A**), Double Comb Sorter (**Code 230A**), and Fiber Tenso-Lab (**Code 331A**), this type of balance is needed.

Digital reading.

Weighing capacity: 60 g
Accuracy: 0,00001 g

Power supply: 100 up to 230 Vac, 50/60 Hz, single-phase
Weight: 7.8 kg
Dimensions: (L) 376 x (W) 214 x (H) 316 mm

Fiber Tenso-Lab 331A

Single fibre strength-elongation

Single fibre electronic strength tester suitable for natural and synthetic fibres.

Complete with load cell of 500 cN, 0,5 class accuracy.

Traction speed range from 0,001 to 1000 mm/min.

300 mm stroke.

A "Kit Cotton Fibre Bundle", special 0" and 1/8" clamps for testing cotton fibres, Pressley method, 100 N load cell are available on demand.

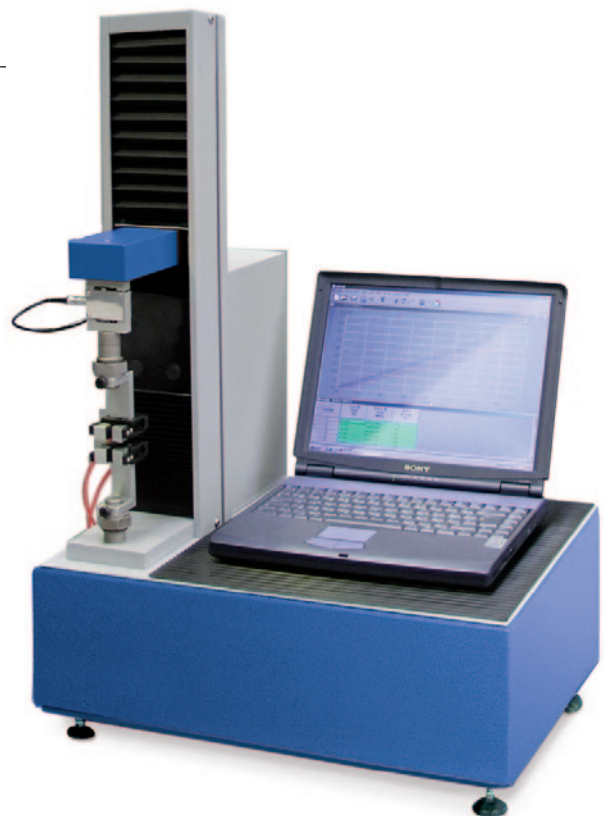
RS232 port and software are included (PC is available as optional).

Reference standards: UNI EN ISO 5079, UNI EN 13895, UNI EN 12751, ISO 3060, BS 3411, BS 4029, BS 5116, ASTM D1294, ASTM D1445, ASTM D2524, ASTM D3106, ASTM D3217, DIN 53843-2

Power supply: 115 V or 230 V, 50/60 Hz, single-phase

Weight: 46 kg

Dimensions: (L) 590 x (W) 450 x (H) 770 mm



Micronaire 199C

Cotton fineness

Device for the control of the cotton fibre fineness.

Measurement from 2.5 to 7 micronaire index.

Calibration chart prepared using USDA cotton references.

Test with 2.5 grams sample.

Complete with electric vacuum-pump generating the air flow.

Non hygroscopic plug for checking instrument.

The use of MICRONAIRE requires an electronic scale with 0.01 g accuracy (**Code 165.708**).

Reference standards: ISO 2403, ASTM D1448, BS 3181-1

Power supply: 230 Vac, 50 Hz, or 115 Vac, 60 Hz (to be specified at order)

Weight: 26 kg

Dimensions: (L) 240 x (W) 330 x (H) 580 mm

Air Flow 272C

Wool fineness

Device for the control of the wool fibre fineness.

Measurement from 16 to 36 microns.

Test with 2.5 grams sample.

Complete with electric vacuum-pump generating the air flow.

Non hygroscopic plug for checking instrument and correction of reading.

The use of AIR FLOW requires an electronic scale with 0.01 g accuracy (**Code 165.708**).

Reference standards: ISO 1136, IWTO 6, IWTO 28, ASTM D1282

Power supply: 230 Vac, 50 Hz, or 115 Vac, 60 Hz (to be specified at order)

Weight: 29,5 kg

Dimensions: (L) 240 x (W) 330 x (H) 580 mm



Calibration Cottons

Suitable for the calibration of cotton examination instruments, in accordance with USDA standards.

For calibration of fiber fineness:

| | |
|--------------------------------|-------------|
| American Upland Micronaire 5.5 | Code 199.2 |
| American Upland Micronaire 4.5 | Code 199.4 |
| American Upland Micronaire 3.5 | Code 199.6 |
| American Upland Micronaire 4 | Code 199.8 |
| American Upland Micronaire 2.6 | Code 199.14 |
| American Upland Micronaire 5.0 | Code 199.18 |



For calibration of Micronaire, resistance, elongation and length:

C39 American Upland: Micronaire 3,39, 25,1 g/tex, 7,1% elongation, 1,12 inch S.L. at 2,5%, 0,53 inch S.L. at 50%

Code 199.22

For calibration of resistance and elongation:

L2 American Upland: 18.0 g/tex, 5.6% elongation Code 199.28

M1 American Upland: 30.8 g/tex, 6.4% elongation Code 199.26



Binocular Microscope 1000X 191H

Binocular model, suitable for fibre analysis.

The combination of eyepieces and lenses enables a magnification range from 40X to 1000X.

Equipped with micrometric stage carrier for object prospecting.

Power supply: 100 up to 240 Vac, 50/60 Hz, single-phase

Weight: 4 kg

Dimensions: (L) 120 x (W) 200 x (H) 350 mm

Microtome

256A

Hand operated model to produce fibre samples of predetermined length for microscopic analysis.

Reference standards: ISO 137, UNI 5423-64

Weight: 0.16 kg

Dimensions: (L) 120 x (W) 50 x (H) 10 mm



Fibre Microscope Kit

250.325

Complete kit of all accessories needed for the analysis of fibres length and section. It includes:

100 glasses and 200 glass covers

one oil package

tool kit (tweezers, scissors etc.)

needles

tool for preparation of sections of fibres and yarns

tool for fabric observation





High performance computerised system conceived for the analysis of fibres and yarns.

Equipment suitable to: perform in a fast and easy way the fineness analysis of single fibres; identify the different fibres contained in a blend and analyse the composition percentage; check the purchased material and identify the type of fibre; analyse the yarn structure and detect possible defects; measure the count of circular section yarns and filaments in Dtex or den; check and measure the quality and shape of Lycra or synthetic multifilament single threads; analyse the compactness of non-woven fabrics; analysis of yarn and fibre sections; measure section surfaces and perimeters; analyse mechanical parts (i.e. needle points, spinnerets, etc); process, store and print the produced measurements and the minimum, medium and maximum values, CV% and distribution graphs.

The system is composed of:

LEICA Biological Microscope: magnification range on screen from 195X to 2830X, with slide movement device with micrometric regulation, polarising light, for fibres and yarns analysis, etc.

PC complete with, LCD monitor and photographic quality printer.

Professional digital colour camera, 1/2.33", CMOS, 16.0 Mpixel, USB 3.0, to acquire images from microscope.

Software for the image acquisition, the production of measurements and comments on the stored images and measurements directly on the live images, the statistic analysis of the acquired measurements.

Fibre Microscope Kit (Code 250.325) for the microscopic analysis (fibres, yarns, and fabrics). Instructions for sample's preparation.

Reference Standards: ISO 137, UNI EN 12751, UNI 5423, UNI ISO 1130, ASTM D629, ASTM D2130, ASTM D276, AATCC 20, IWTO 8, IWS TM24, NIKE (section H, fiber content testing requirements)

Power supply: 100 up to 240 Vac, 50/60 Hz
 Weight: 50 kg
 Dimensions: (L) 1600 x (W) 700 x (H) 700 mm

Optional:

63X LENS enabling 2830X magnification on screen.

Code 250.336

C-STEP CONNECTOR WITH 0.5X LENS allows to halve the magnification on screen and double the sample field of vision.

Code 250.338

Set of 50 slides.

Code 191.50

Set of 200 slide covers.

Code 191.52

Immersion oil bottle.

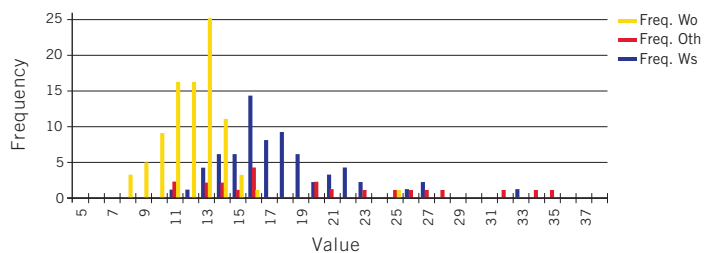
Code 191.54

Pack of paper for printer.

Code 250.18

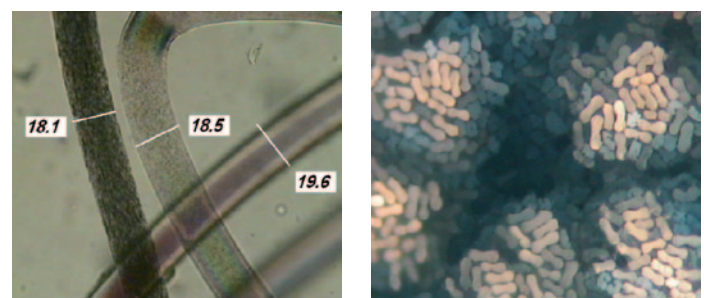
Set of cartridges for printer.

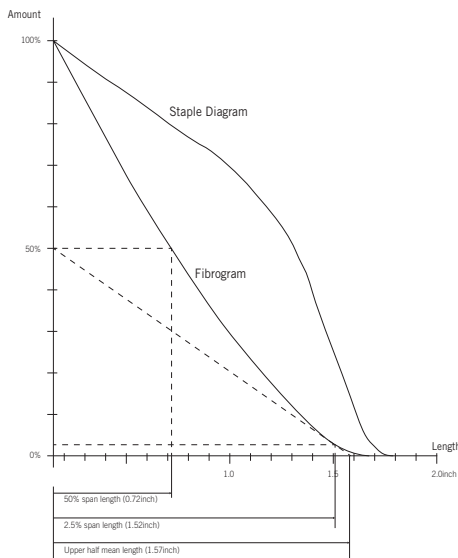
Code 250.322



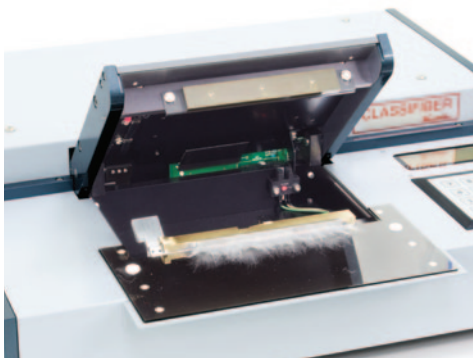
| | N° | Mean | Mode | Min | Max | St.Dev. | CV% | IC.(95%) | % |
|-------|----|-------|------|-----|-----|---------|-------|----------|-------|
| Wo | 76 | 18,43 | 17 | 12 | 34 | 3,79 | 34,54 | 2,06 | 26,09 |
| Other | 28 | 19,39 | 16 | 11 | 35 | 7,45 | 62,15 | 4,22 | 29,81 |
| Ws | 96 | 12,14 | 13 | 8 | 25 | 2,18 | 18,19 | 0,95 | 44,09 |

Example of microunnaire analysis of a blend made of 3 different fibres

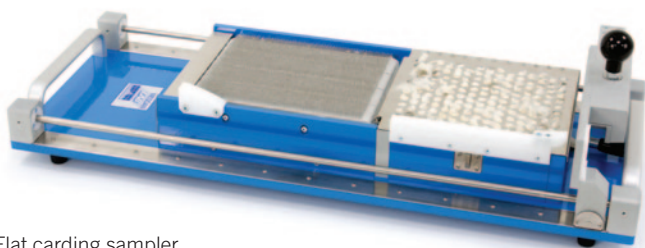




Fibrogram



Measuring unit



Flat carding sampler

Automatic instrument suitable to measure the length of any type of fibre (animal, vegetal or synthetic). Specifically conceived for testing cashmere fibres or similar. Measuring range: up to 80 mm.

Graphic data from each individual test:

- Fibrogram
- Staple diagram
- Histogram

Statistics:

- Mean
- Minimum (Min.)
- Maximum (Max.)
- Range (R)
- Standard deviation (s)
- 95% confidence limits (Q965%)

Testing results:

- Mean length (ML)
- Upper half mean length (UHR)
- Span length at 2,5% (SL 2,5%)
- Span length at 50% (SL 50%)
- Span length at 66% (SL 66%)
- Uniformity ratio (UR%)
- Uniformity index (UI%)
- Short fiber content (SFC%)

Classifiber is PC dependent. PC and dedicated software are supplied with the instrument. Complete of flat carding for sample preparation and accessories kit. Fibre length readable in mm and inches. Excellent correlation with manual testing but faster (average of 3 tests): only 20 seconds.

Reference standards: ISO 6989, ISO 4913, ASTM 1447, UNI 10141, FZ/T 20028.

Power supply: 115 Vac or 230 Vac, 50 Hz or 60 Hz, single-phase
 Weight: 50 kg
 Dimensions: (L) 1600 x (P) 750 x (H) 720 mm



Suitable for cotton, synthetic and blended slivers as well as raw cotton material.

By means of an optoelectronic system, NATI II measures Neps and Trash in different size classes:

≥0,50 mm; ≥0,70 mm; ≥1 mm for Neps

≥0,25 mm; ≥0,50 mm for Trash.

Equipped with internal memory, USB port (for data saving), and user-friendly digital touch screen display.

Test results are available in .xls format, and can be printed by the mini thermal printer, Code 3280A.136 (available as optional).

Specifically designed to be fast, reliable and easily transportable to the production floor for continuous testing and assessment of Neps and Trash at different process stages.

NATI II **is the only instrument** presently available on the market **measuring and classifying automatically Neps and Trash** content in samples of large size up to 6 m of sliver (30 g approximately, depending on sliver count).

NATI II is the only Neps tester for which **no manual preparation** of the sample is required, thus ensuring total reliability of results (it is known that the ability of the operator can lead to 25%-50% variation in the results).

Transportable and fast in testing large size samples (it takes less than 2 minutes to test 2 g of sliver), NATI II makes daily control of carding department feasible, thus enabling a better quality of carding operation and a better planning of card maintenance.

User-friendly, NATI II does not require any skill for operation and preliminary operation before testing.

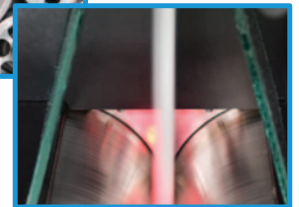
Raw cotton testing: the use of the optional “Raw Cotton Selector” (Code 3282) enables you to prepare 2/2,5 g samples in short time and without the influence of operator’s ability on results.

NATI II fits an enlarged fibre waste which box, especially conceived for testing large size samples, is recommended specifically for combed cotton and synthetic slivers due to the small content of Neps/g.

NATI II is endowed with a brushless motor (of easy maintenance) granting unchanged performance even after several thousand hours of test.

Optional:

| | |
|--|----------------|
| Opening roller B174N for Cotton | Code 3280.168 |
| Opening roller S43N for Polyester | Code 3280.169 |
| Mini thermal printer | Code 3280A.136 |
| Raw Cotton Selector | Code 3282 |
| Trolley | Code 3280.900 |
| Electronic high precision sartorius balance | Code 165.704 |
| Power supply: 115 Vac or 230 Vac, 50 Hz or 60 Hz | |
| Weight: 40 kg | |
| Dimensions: (L) 400 x (W) 379 x (H) 700 mm | |



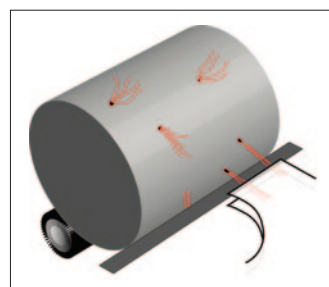
Fully automatic high volume testing equipment designed to detect, measure, classify and grade cotton stickiness (honeydew/ sugar content).

Unique equipment providing **cotton stickiness risk probability** on the basis of its grade, enabling spinners to anticipate proper actions (how to process & blend different cotton bales).

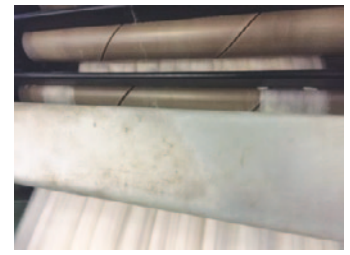
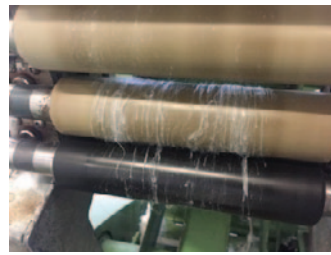
It ensures fast testing and very repeatable and consistent results.

It is a precious tool for spinning mills, cotton traders, textile institutes, R&D labs and other cotton grading, arbitration and classification institutions.

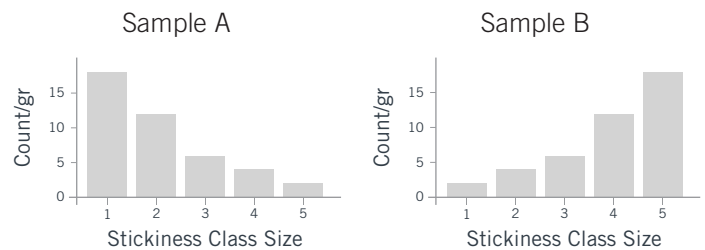
Cotton STICKINESS phenomenon (also called “sugar” - honeydew) is analysed by means of a thermomechanical method, able to detect stickiness deposits of different origin in the fibre web, and to classify them in 5 classes by size, from 1 (small) to 5 (large). Stickiness - affecting the spinning process - is graded by the specific software, giving more importance to larger than to smaller deposits.



CONTEST-S makes the difference in the working principle, since it provides a counting per gram of the sticky points and their sizes by simulating the carding process like in a real spinning process.



| STICKINESS GRADE | SPINNING RISK PROBABILITY |
|------------------|---------------------------|
| 0-50 | No Risk |
| 51-100 | Low |
| 101-160 | Medium |
| 161-250 | High |
| 251-500 | Very High |
| >501 | Extremely High |



| EXAMPLE 1 | COTTON | STICKINESS CLASS SIZE | | | | | STICKINESS COUNT/GR | STICKINESS GRADE |
|-----------|----------|-----------------------|----|---|----|----|---------------------|------------------|
| | | 1 | 2 | 3 | 4 | 5 | | |
| | Sample A | 18 | 12 | 6 | 4 | 2 | 42 | 86 |
| | Sample B | 2 | 4 | 6 | 12 | 18 | 42 | 166 |

Measuring principles and testing method:

Thermodetection of sticky deposits in the fibre web.

3.5 g / 10 m sample pressed through two 37°C heated drums revolving in opposite directions.

The sticky deposits adhere on the drums' surface, and are optically examined by means of a laser beam.

Sticky points are analysed (amount and size) by the software. Subsequently sticky points are eliminated by means of two rotative brushes and a blade-mechanism, to ensure automatic cleaning of the drums' surface, in order to avoid double counting and contamination of subsequent measurements.

Detection sensor of fibrous material at the end of the test allows to monitor and warn about improper cleaning of the drum surface.

The heating of the drums is achieved by a special (patented) friction system of two moveable and adjustable brushes, which permit to rapidly reach the correct starting temperature, and maintain it stable during the test, thus ensuring measurement reliability and accuracy.

Reference Standards:

Stickiness: UNI EN 14278-3 (Method using an automatic thermodetection rotating drum device).

The sticky deposits are counted, classified and graded by the Stickiness Tester software as follows:

Sticky points classes: all deposits are divided in 5 classes by size, from 1 (small) to 5 (large).

Sticky points/g: the total amount of sticky points, in total and per class, is then converted into unit / g.

Sticky grade: stickiness is graded by the software giving more importance to larger than smaller deposits. Sticky grade is an important real value, which enables to immediately identify cotton stickiness, for an easier bales management.

Sticky points average size.

Technical features:

| | |
|-------------------------|---|
| Stickiness | total count / g |
| Stickiness average size | mm |
| Stickiness classes | 5 classes (from 1 to 5) |
| Stickiness grade | based on stickiness counting and classification |
| Testing speed: | about 30 seconds / sample |

Power supply: 230 Vac, 50/60 Hz, single-phase, 2 kW

Weight: 340 kg

Dimensions: (L) 1510 x (W) 960 x (H) 1410 mm



Top Tester Neps-impurities counting **328A**

For quick and accurate counting of impurities and neps in wool, cotton and synthetic fibre tops.

Adjustable distance between rollers ranging from 42 to 260 mm.

Adjustable speed from 5 to 12 m per minute.

Predetermined drawing standard value: 6.35 (other values are available on request).

Impurities are counted and classified through a series of 6 electronic counters.

Magnifying lens, fitted with light, included **Code 328.2**

Optional:

Printer for print-out of defects in tops **Code 3280A.136**

Power supply: 115 Vac or 230 Vac, 50 Hz or 60 Hz, single-phase

Weight: 120 kg

Dimensions (L) 700 x (W) 800 x (H) 1400 mm



Trash Analyser **281C**

To determine the percentage content of trash, lint, non-fibre material in raw cotton samples of about 100 g. Also used to determine non-fibre content of synthetic fibres and to open and clean fibres for further testing. The analyser uses the carding principle of separation of lint and non lint content by means of air.

Power supply: 400 Vac, 50 Hz, three-phase + ground

Weight: 190 kg

Dimensions: (L) 640 x (W) 950 x (H) 1300 mm



Raw Cotton Selector **3282**

Small laboratory carding machine to prepare a cleaned and homogenous sample of raw cotton, to be used with NATI II for testing of neps content.

Raw Cotton Selector is ideal for the preparation of samples to be tested on a sticky cotton thermodetector (Honey Dew analysis). Generally speaking Raw Cotton Selector is ideal for preparation of clean fibre samples to be tested.

Power supply: 115 Vac or 230 Vac, 50/60 Hz, 30 VA

Weight: 25 kg

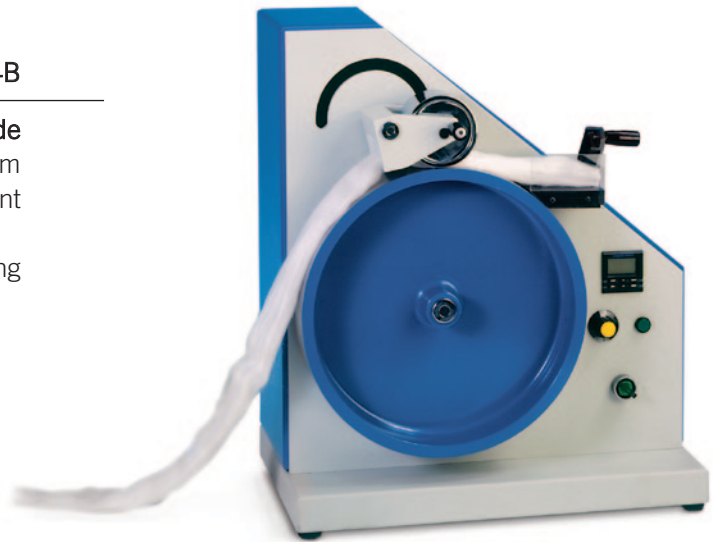
Dimensions: (L) 625 x (W) 420 x (H) 250 mm

Electronic Slivers & Rovings Reel

254A-254B

Available with drum circumference of either 1 yard (**Code 254B**) or 1 metre (**Code 254A**). Adjustable drum speed from 0 to 100 m/min., with ± 1 cm accuracy. Designed to prevent any possible drawing of the fibre sample. Equipped with digital counter and cutter for accurate cutting of the sliver sample.

Power supply: 115 Vac or 230 Vac, 50/60 Hz single-phase
Weight: 52 kg
Dimensions: (L) 450 x (W) 300 x (H) 500 mm



Manual Slivers & Rovings Reel

159A-159B

Hand-driven reel for slivers and rovings. Available with either 1 metre (**Code 159A**) or 1 yard (**Code 159B**) drum circumference. Fitted with digital counter and cutter for accurate cutting of the sliver sample.

Weight: 17 kg
Dimensions: (L) 330 x (W) 270 x (H) 600 mm



Oil Extractor

273B

Electronic instrument with digital reading of set temperature for quick determination (in about 15 minutes) of oil/grease/lubricant percentage content in fibres and yarns. The use of an analytic balance with accuracy 0.0001 g is essential with this instrument (**Code 165.702**).

Accessories:

Set of 50 aluminium plates (**Code 273B.2**).

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase
Weight: 8 kg
Dimensions: (L) 250 x (W) 150 x (H) 430 mm



Climatest Lab conditioning chamber

1722



Laboratory instrument for the conditioning of all textiles, such as raw fibres, yarns on spools and hanks, fabrics and garments in general, at constant temperature and humidity, according to ISO standards.

Climatest is supplied complete with two shelves.

Equipped with inner glass door for inspection.

Adjustable temperature ranging from +5°C to +80°C, accuracy $\pm 0,5^\circ\text{C}$ at 37°C.

Relative humidity ranging from 20% R.H. to 90% R.H., accuracy $\pm 3\%$. Digital reading of temperature and humidity.

Automatic water inlet into the reservoir.

Reference standards: UNI EN ISO 139, ASTM D1776, UNI EN 12280-3

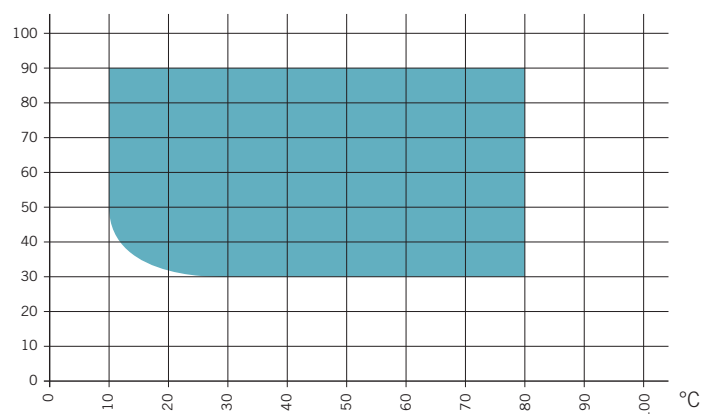
Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Weight: 130 kg

Inner dimensions: (L) 593 x (W) 522 x (H) 633 mm

External dimensions: (L) 960 x (W) 760 x (H) 1390 mm

RH%



Standard working range



Melting Point Apparatus 339c

To determine the melting point of fibres and synthetic yarns and classify them.

Measuring range: from +30°C to +300°C, accuracy $\pm 0.1^\circ\text{C}$.

Complete with magnifying lens to check the melting point, and 100 slides.

Reference standards: ASTM D789, ASTM D2117, FIAT 50568

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

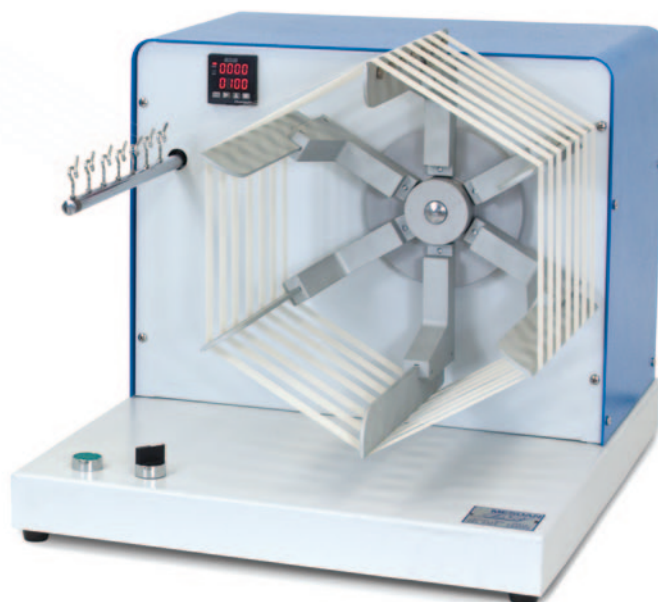
Weight: 6 kg

Dimensions: (L) 280 x (W) 190 x (H) 220 mm

YARNS

| | | |
|------|---|----------------------|
| p 20 | Electronic Wrap Reel for Yarns | |
| p 20 | Hand Driven Wrap Reel | |
| p 21 | Stationary Adjustable Yarn Tensioners | Code 161M.330 |
| p 21 | Fixed Tensiometer | Code 161M.334 |
| p 21 | Mobile Vertical Creel | Code 3102 |
| p 22 | Count Analyser II / Count tester | Code 1666 |
| p 22 | Count Lab Software / for count test | Code 165.630 |
| p 23 | Air-Texturlab / Yarn air texture | Code 320C |
| p 23 | Water-Texturlab / Yarn water texture | Code 320D |
| p 23 | Yarn Data Logger (YDL) | Code 3115 |
| p 24 | Twistmatic II / Full Automatic twist tester | Code 2532 |
| p 24 | Auto Cop Changer (ACC) | Code 299A |
| p 25 | Hand-operated Twist Tester | Code 2531D |
| p 25 | Twist Lab / Semi-automatic twist tester | Code 2531C |
| p 26 | Attrifil III / Yarn friction | Code 233C |
| p 27 | Autodyn II Plus / Automatic strength tester | Code 2514A |
| p 28 | Tenso-Lab 4 / Tensile strength tester | Code 2512E |
| p 29 | Splice Scanner III | Code 2553 |
| p 30 | MT Evenness Tester | Code 2341 |
| p 31 | Planofil / Yarn conical table | Code 2520 |
| p 31 | Optional KIT "TWO" | Code 2520.600 |
| p 31 | ASTM yarn standards | |
| p 32 | "Standard" Yarn Sample Winder | Code 171A |
| p 32 | "Special" Yarn Sample Winder | Code 171B |
| p 33 | Scirocco / Automatic regain oven | Code 172B |
| p 34 | Aqua-Lab / Moisture regain | Code 2450 |
| p 35 | Libeccio / Semi-automatic regain oven | Code 245B |
| p 35 | Humy Tester III | Code 185C |
| p 35 | Hardness Tester | |
| p 36 | Video Analyser / Fibre-yarn-fabric analysis | Code 250D |
| p 38 | Dye Scanner / Yarn-knit (Dye) uniformity | Code 2940A-B |
| p 39 | Laboratory Carding Machine | Code 337A |
| p 39 | Coiler | Code 337A.6 |
| p 39 | Stiro Roving Lab / Miniature draw frame | Code 3371 |
| p 40 | Ring Lab / Mini ring spinning | Code 3108A |
| p 40 | Wind Lab | Code 3374 |
| p 40 | Mini Assembly Lab / Mini assembly winder | Code 3372A |
| p 41 | Twister Lab / Two for one lab twister | Code 3373 |
| p 41 | Lab Knitter / Yarn-knit (Dye) uniformity | Code 294E |
| p 42 | Polar Evo Wind-Lab | Code 3374D |

Electronic Wrap Reel for Yarns



To prepare yarn skeins of a preset length, that will then undergo testing for the determination of the related count.

Equipped with electronic pre-selector for the automatic stop at the preset length. Supplied complete with a 7-position support creel (spool and small bobbin holder).

Adjustable double-bar yarn tensioner.

Plexiglass cover available on demand.

Reference standards:

UNI EN ISO 2060, ASTM D1907, ASTM D2260

The electronic wrap reel is available in the following models:

1 m reel circumference - 7 positions **Code 161M**

1 m reel circumference - 10 positions **Code 161X**

1 yd reel circumference - 7 positions **Code 161Y**

1.5 yd reel circumference - 7 positions **Code 161W**

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Weight: 40 kg

Dimensions: (L) 900 x (W) 600 x (H) 600 mm

Hand Driven Wrap Reel

Available reel circumferences:

1 meter **Code 160M**

1 yard **Code 160Y**

Equipped with digital counter for yarn length reading.

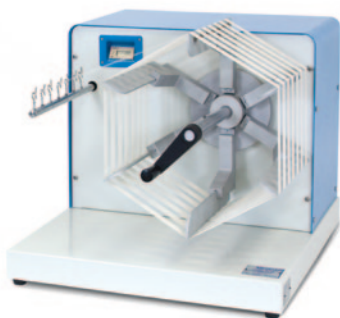
Supplied with support creel and double-bar yarn tensioner.

Reference standards:

UNI EN ISO 2060, ASTM D1907, ASTM D2260

Weight: 35 kg

Dimensions: (L) 900 x (W) 600 x (H) 600 mm



Optional for Wrap Reels

Stationary Adjustable Yarn Tensioners

161M.330

Suitable in case of very coarse yarns for which a very high pretension is required (for example carpet yarns), or in case of preparation of texturized synthetic fibres skeins for crimp value testing.

This optional should be fitted on the reel feeding creel in place of the standard double-bar tensioner, or on the yarn guide support.



Fixed Tensiometer

161M.334

Conceived for synthetic yarns, which require an accurate and continuous control of pre-set pretension during wrapping.

Available reading ranges (to be specified at order):

- 3-12 cN
- 5-20 cN
- 5-30 cN
- 10-50 cN
- 10-100 cN



Mobile Vertical Creel

3102

Suitable for feeding different instruments, such as wrap reel, automatic strength tester, automatic twist tester, Attrifil, evenness tester, etc., where it is necessary to simultaneously use large-sized bobbins.

Weight: 22 kg

Dimensions: (L) 600 x (W) 600 x (H) 2000 mm



Count Analyser II Count tester 1666



To determine the count of slivers, rovings, yarns and fabric weight per m². Outputs: single result, minimum, maximum and average, CV%, range%, sigma, I.C. (95%), results out of tolerance. Standard measurement scales are available: Nec/m, Nec/yd, Nm, Den, Tex, dTex, grain/yd, g/m². Sample length from 1 cm (1 inch) up to 999 m (yard).

According to the weight of the sample to be tested, the following balances are available:

Sartorius balance - 820 g capacity - 0,01g accuracy - pan size Ø 150 mm (suitable for yarns), **Code 165.708**

Sartorius balance - 320 g capacity - 0,001g accuracy - pan size Ø 115 mm (ideal for synthetic filaments and fine yarns count testing), **Code 165.704**

Other models available on request.

Reference standards: ISO 3374, UNI EN 29073, UNI 8014-2-3-4, ISO 2060, UNI 5114, BS 2471, ISO 3801, ASTM D1907/D3776, UNI EN ISO 2060, UNI EN 12127

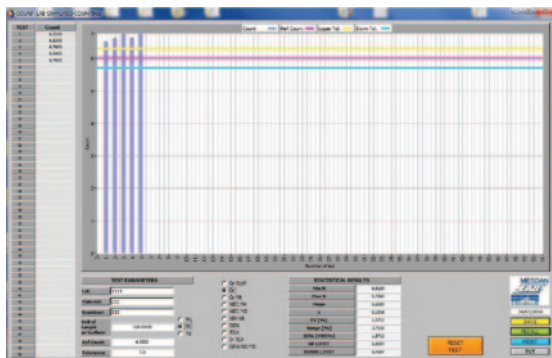
Power supply: 115 up to 230 Vac, 50/60 Hz, single-phase

Weight: 4.3 kg

Dimensions: (L) 700 x (W) 400 x (H) 200 mm

```

*****
**MESDANLAB **
*****
07/03/2017 15:21:09
-----
SIMPLIFY COUNT
DTEX (m) ( 100.00 )
Min N. 5: 1390.0000
Max N. 4: 1470.0000
Mean : 1406.0000
σ : 35.7771
CV [%] : 2.5446
Range [%] : 5.6899
IC%(95%) : 2.5446
Down Limit: 1334.4458
Up Limit : 1477.5542
-----
Test n. Count
1 1390.0000
2 1390.0000
3 1390.0000
4 1470.0000
5 1390.0000
    
```



Count Lab Software for count test 165.630

Suitable to determine the count of sliver, roving, yarn and fabric weight per m². Standard measurement scales are available: Nec/m, Nec/yd, Nm, Den, Tex, dTex, Grains/YD, g/m².

Outputs: single result, minimum, maximum and average, CV%, range %, I.C. (95%), out of tolerance results.

Test results are exported to Excel for automatic calculation of statistics (average, minimum, maximum count, C.V.%, sigma, range %, IC%, upper and lower IC% limits).

Output report can be printed and saved. PC minimum features required: Windows Xp, Excel (2000 or Xp) program, one serial and one USB port.

Optional: Sartorius electronic balance with different capacity and accuracy depending on the textile to be tested. **Count Lab Software can be connected to Sartorius balances only.** PC available on request.

Reference standards: ISO 3374, UNI EN 2973-1, UNI 8014-2-3-4, UNI EN ISO 2060, UNI 5114, BS 2471, ISO 3801, ASTM D1907, D3776, D2646, ISO 2060, UNI EN 12127, ISO 9073-1



Air-Texturlab Yarn air texture 320C

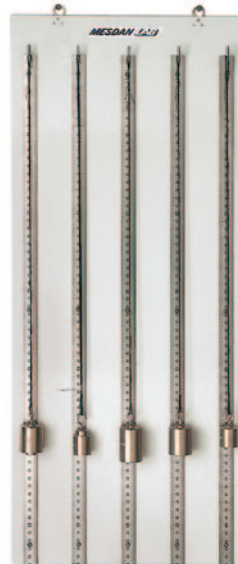
To determine the percentage of crimp in all types of textured synthetic yarns.

Air-Texturlab requires the use of an electronic wrap reel of 1 m circumference (**Code 161M**), a forced ventilation oven with internal capacity 250 litres (**Code 251P**) - supplied complete with skein support. The most suitable pretension weights (optional) can be selected from the ones listed in the table below, according to the nominal count.

Reference standards: DIN 53840-1 (up to 500 dtex), DIN 53840-2 (over 500 dtex), UNI EN 14621, ASTM D4031, ASTM D2259

Weight: 10 kg

Dimensions: (L) 500 x (W) 20 x (H) 800 mm



Water-Texturlab Yarn water texture 320D

To determine the percentage of crimp in all types of textured synthetic yarns; particularly suitable for nylon textured yarns for stockings. Equipped with a Plexiglas cylinder to be filled with water and a skein holder millimetre bar with 1 mm accuracy. Water-Texturlab requires the use of an electronic wrap reel of 1 m circumference (**Code 161M**) and a set of pretension weights (optional) to be selected according to the nominal count.

Reference standards: BS 6663

Weight: 8 kg

Dimensions: (L) 120 x (W) 120 x (H) 800 mm



Optional pretension weights for Air and Water Texturlab 320C 320D

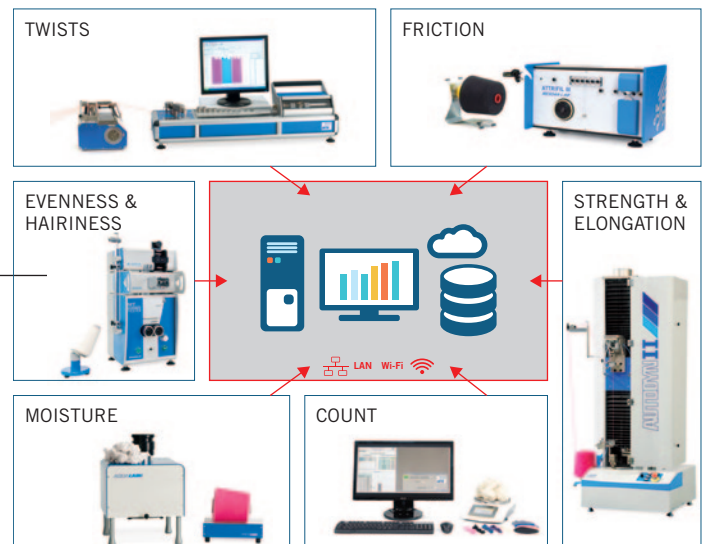
| | | | | | | | |
|---|-----|------|--------|---|----|------|--------|
| g | 2,5 | Code | 320.36 | g | 7 | Code | 320.10 |
| g | 3 | Code | 320.2 | g | 8 | Code | 320.12 |
| g | 4 | Code | 320.4 | g | 9 | Code | 320.14 |
| g | 5 | Code | 320.6 | g | 10 | Code | 320.16 |
| g | 6 | Code | 320.8 | | | | |

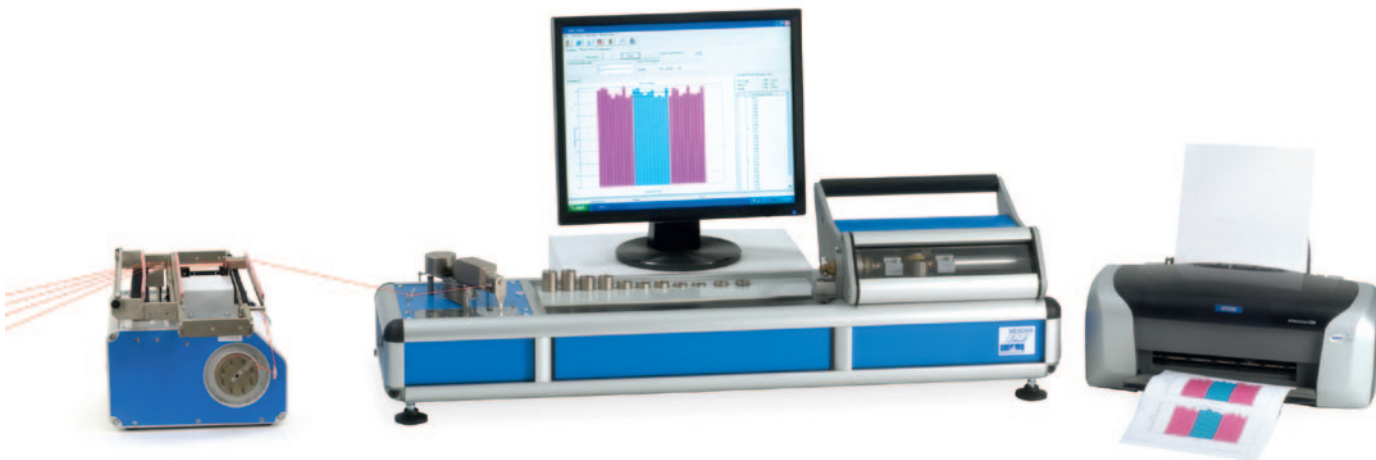
Weights with simple hook

| | | | | | | | |
|---|-----|------|--------|---|------|------|--------|
| g | 20 | Code | 320.42 | g | 300 | Code | 320.26 |
| g | 25 | Code | 320.38 | g | 350 | Code | 320.28 |
| g | 50 | Code | 320.44 | g | 400 | Code | 320.30 |
| g | 100 | Code | 320.18 | g | 450 | Code | 320.32 |
| g | 150 | Code | 320.20 | g | 500 | Code | 320.34 |
| g | 200 | Code | 320.22 | g | 2500 | Code | 320.40 |
| g | 250 | Code | 320.24 | | | | |

Yarn Data Logger (YDL) 3115

Quality Control Software specifically developed to collect the data of all laboratory yarn testing instruments.





Fully automatic computer-based twist tester, for the control of the loading phase, the twist testing, the change of the yarn length of the bobbin under test, the processing of a complete series of statistical data and for the printing of the related reports.

The instrument, unique for its high quality, can automatically perform serial twist tests on a single package (max. 999 tests) or, if connected to the Auto Cop Changer (ACC) device, **Code 299A**, it can automatically perform multiple tests on several packages (up to 24).

Suitable for all types of spun (ring and open-end) yarns and synthetic filament yarns, both "S" and "Z" twist.

Technical features:

Automatic testing either on one package, or on 24 packages, by means of the Auto Cop Changer (ACC), which guarantees high accuracy and repeatability of results, also eliminating the human error.

Three preselectable test methods:

- a) Traditional method: untwisting and retwisting, for single yarns.
- b) "Schutz" method: untwisting, retwisting and double counter-check, automatically performed on O.E. spun and

worsted wool yarns.

c) Direct method: untwisting, for plied spun yarns, threads and multi-filament yarns.

Twist testing on certain yarn lengths at preset intervals.

Statistical results: average value, minimum value, maximum value, C.V.%, range, standard deviation and alpha coefficient.

Twist results available either in rotations per metre (RPM) or rotations per inch.

Fixed distance between clamps: 50 cm.

PC connection through RS232C serial output.

PC and Printer are available on request.

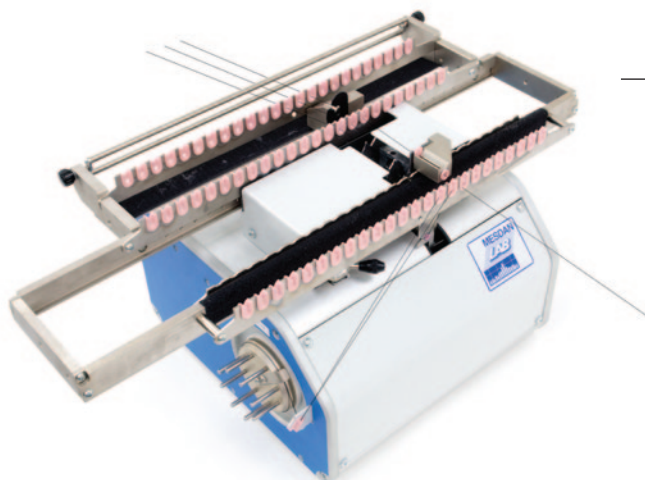
Reference standards: UNI EN ISO 2061, ISO 2061, ISO 7211-4, ISO 17202, UNI 9067, UNI 9277, UNI 9069, ASTM D1422, ASTM D1423

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Air supply: 6 bar

Weight: 25 kg

Dimensions: (L) 1060 x (W) 330 x (H) 330 mm



Auto Cop Changer (ACC) 299A

"Auto Cop Changer" (ACC), up to 24 positions, can be connected to Twistmatic II, Attrifil III, Autodyn and Dye Scanner for multiple tests on a lot of packages (up to 24) without operator's attendance.

Very easy to use and suitable for a wide range of yarns.

Available also a 36-position model

Code 299B

Along with the ACC, a creel is required

Code 3102

Power supply: 12 V, DC

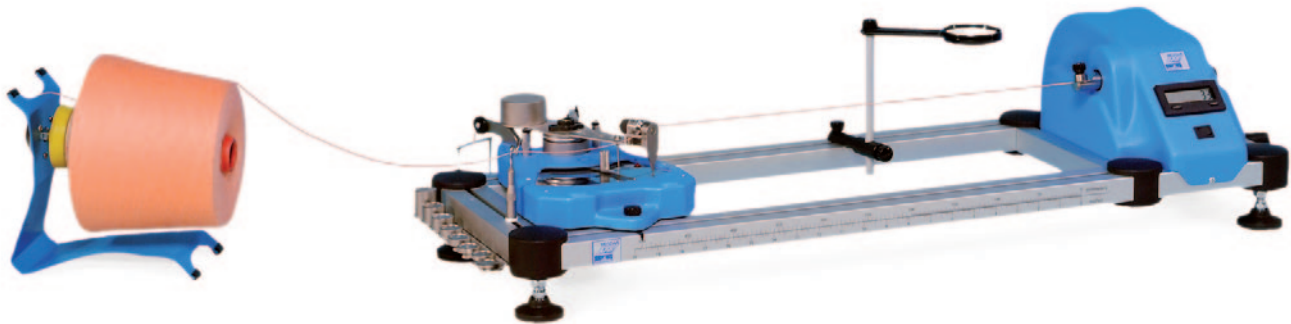
Air supply: 6 bar

Weight: 17 kg

Dimensions: (L) 570 x (W) 250 x (H) 230 mm

Hand-operated Twist Tester

2531D



Manual twist tester for twist measurement on single and plied yarns ("S"/"Z"). Two test methods are available:

Traditional "untwisting and retwisting" method, for single spun yarns.
Direct "untwist" method, for plied yarns, threads and multi-filament yarns.

Adjustable test length (distance between clamps) from 1 to 50 cm (0.39-19.6 inches). Built-in digital tachometer (battery supplied) and optical sensor with led showing correct zero starting and ending position (± 1 turn accuracy). Supplied pretension system with pulleys with 9-weight kit, up to 70 cN, adjustable clamp speed, up to 2000 rpm.

Accessories included: magnifying lens, fixed calliper, pretension weights, bobbin holder.

Optional: additional pretension weights (1 N, 1,5 N and 2 N), **Code 2531C.104.**

Reference standards: ASTM D1422, ASTM D1423, UNI 9067, UNI 9277, UNI 9069, UNI EN ISO 2061, ISO 7211-4, ISO 17202, ISO 2061

Power supply: 1,5 V battery x 6

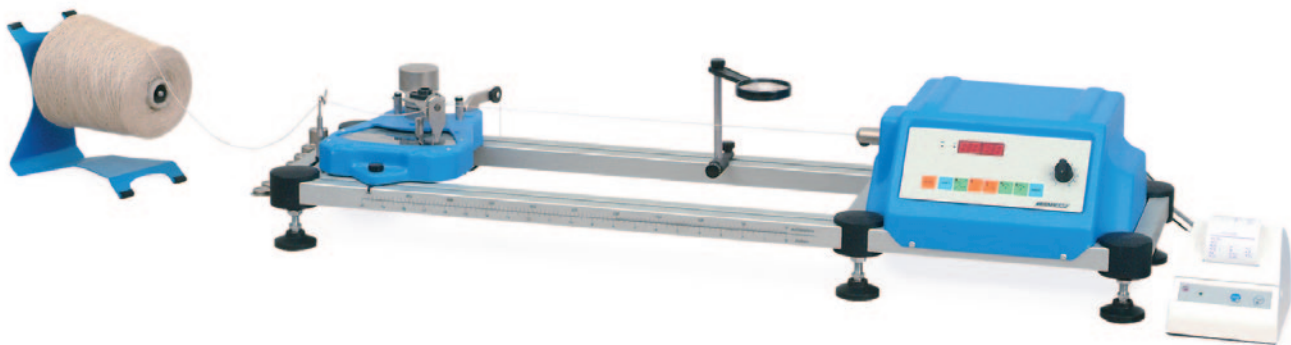
Weight: 9 kg

Dimensions: (L) 1000 x (W) 340 x (H) 220 mm

Twist Lab

Semi-automatic twist tester

2531C



Electronic Twist Tester to determine twist of single, twisted ("S"/"Z") and Open End yarns.

Three methods available to be selected by the operator:

- Traditional method: untwisting and retwisting, for single yarns.
- "Schutz" method: untwisting, retwisting and double counter-check, for OE yarns, worsted and slippery yarns.
- Direct method: untwisting, for plied spun yarns, threads and multi-filament yarns.

Adjustable test length (distance between clamps) from 1 to 50 cm (0.39-19.6 inches).

Built-in digital tachometer and optical sensor with led showing correct zero starting and ending position. (± 1 turn of accuracy). Very accurate elongation index with built-in mechanical clamp.

Pretension system with pulleys with 9-weight kit, up to 70 cN. Adjustable clamp speed, up to 2000 rpm.

Endowed with two serial ports, for connection to PC (software included) and to printer (optional).

Accessories included: magnifying lens, fixed calliper, pretension weights, bobbin holder, software and cable.

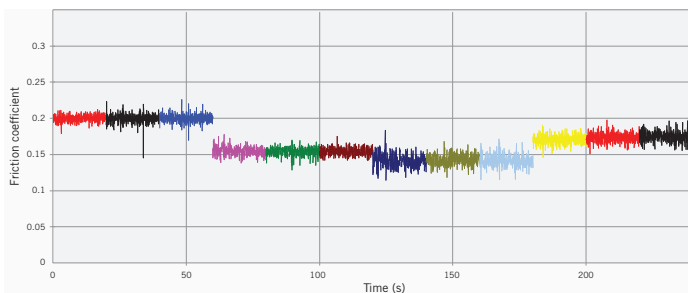
Optional: printer, additional pretension weights (1 N, 1,5 N and 2 N), **Code 2531C.104.**

Reference standards: ASTM D1422, ASTM D1423, UNI 9067, UNI 9277, UNI 9069, UNI EN ISO 2061, ISO 7211-4, ISO 17202, ISO 2061

Power supply: 115 Vac or 230 Vac, 50/60 Hz

Weight: 11,5 kg

Dimensions: (L) 1060 x (W) 300 x (H) 220 mm



Computerised instrument for automatic measurement of the friction coefficient of yarns.

Recommended for wax selection and control of waxing process (wax distribution on the yarn and wax duration).

It enables automatic execution of multiple tests on a single package of yarn without operator attendance.

Continuous control of test parameters affecting the friction coefficient, such as input pretension (value and tolerance) and yarn speed, which can be adjusted by the operator up to 50 cN and from 50 to 300 m/min.

Very accurate reading of the input and output tension by means of two electronic tensionmeter heads.

Pre-selection of the yarn length to be measured.

Pre-selection of the yarn length between two consecutive measurements as an alternative to random testing.

Software (Windows compatible) for data saving and elaboration.

Print-out listing test results, statistics, graphical representation of single test coefficient of friction and average value.

Optional:

Pc, printer

Attrifil III (**Code 233C**) can be connected with the Auto Cop Changer (**Code 299A**) to automatically perform tests on 24 different bobbins.

Along with the Auto Cop Changer (ACC, **Code 299A**), a creel is required (**Code 3102**).

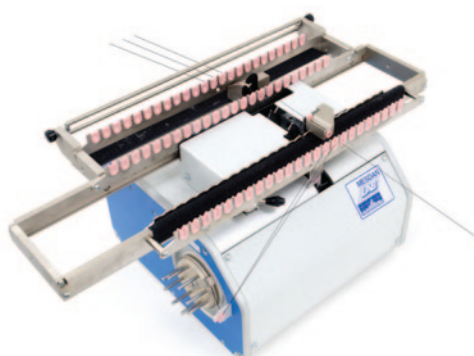
Reference standards: ASTM D3108

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Air supply: 6 bar

Weight: 30 kg

Dimensions: (L) 470 x (W) 330 x (H) 310 mm





Modular strength tester **automatically** performing tensile tests and hysteresis cycles on yarns; it semi-automatically executes traction, compression, tearing tests on fabrics, covering adhesion tests, tensile test on yarn and hanks (LEA test).

The exclusive Auto Cop Changer system (ACC, **Code 299A**) enables to test automatically up to 24 different yarns according to the parameters set in the PC by the operator.

Automatic single column strength tester, with adjustable speed up to 5000 mm/min, and with movement resulting from a ball bearing screw; it is controlled by a software, which runs all the functioning phases.

Thanks to the specific modular software, Autodyn II Plus allows to perform tests in compliance with the main international standards, or according to parameters set by the operator, which can be saved for future needs.

Autodyn II Plus can fit different load cells - easy to change - with maximum capacity of 1000 N, and a huge range of pneumatic and mechanical clamps.

Modular design specifically conceived for textile industries requiring both automatic and semi-automatic testing of yarns, hanks, fabrics, covering cloths and seams.

Available also an automatic version with one position, **Code 2514** (see "Fabrics" section for more details).

Optional: PC, printer, LCD monitor

interchangeable load cells of 20 N

interchangeable load cells of 100 N

interchangeable load cells of 1000 N

Mini autoclamps for low tenacity yarns

Maxi autoclamps for high tenacity yarns (also sewing threads)

LEA clamps for hanks (manual mode)

Scott 100 clamps for yarns and industrial small ropes (mechanical)

Mobile vertical creel

Other clamps for yarns and fabrics are available on request.

Reference standards: ISO, DIN, ASTM, BS, UNI, M&S

Power supply: 115 Vac or 230 Vac, 50/60 Hz

Air supply: 6 bar

Weight: 118 kg

Autodyn dimensions: (L) 600 x (W) 660 x (H) 1630 mm

Code 2514A.276

Code 2514A.993

Code 2514A.282

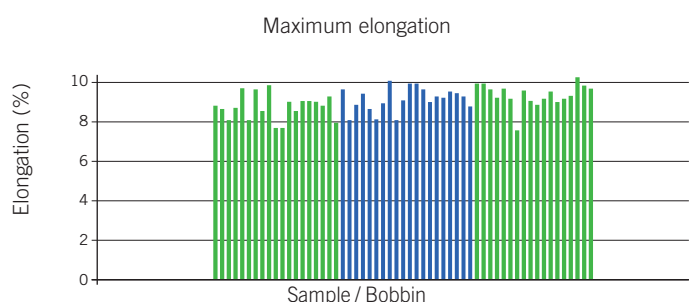
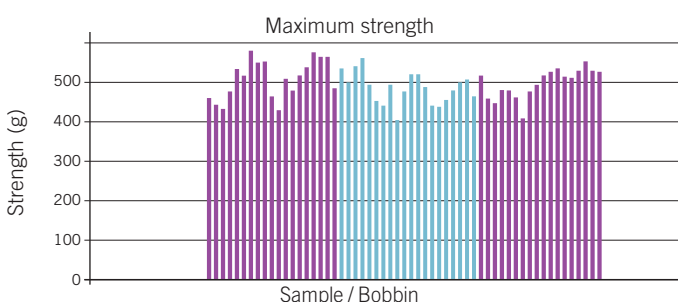
Code 2514A.918

Code 2514A.930

Code 2514A.990

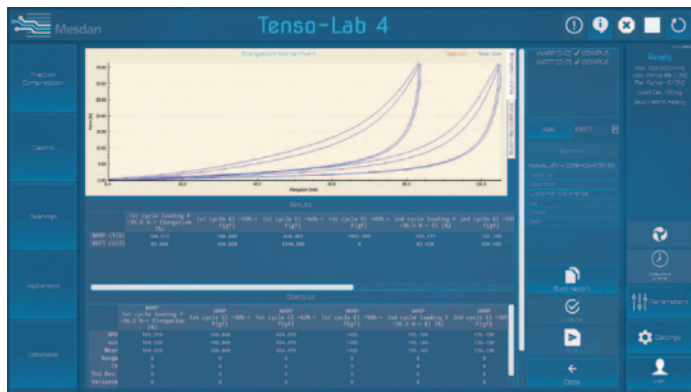
Code 2514A.995

Code 3102





Example of Hysteresis cycle test



Available Load Cells:

| Load cell | Load Accuracy [cN] | Resolution [cN] |
|-----------|--------------------|-----------------|
| 20 N | 0,4 | 0.0002 |
| 100 N | 2 | 0.001 |
| 500 N | 10 | 0.005 |
| 1000 N | 20 | 0.01 |
| 5000 N | 100 | 0.05 |

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase
 Weight: 75 kg
 Dimensions: (L) 480 x (W) 370 x (H) 1415 mm

Tenso-Lab 4 is the latest generation of the well-known Tenso-Lab semi-automatic tensile tester. The new model is distinguished by:

New hardware:

high sensibility and robustness (can be used to test both fibres and high tenacity fabrics), direct-drive ball bearing screw, low speed operation available, extended capacity to 5000N, ...

New components:

improved load cells performances (higher accuracy level and new capacity load cell added), quick load cell & clamps/jaws exchange, ...

New open software:

more intuitive and easy to operate, SQL database and standard Ethernet machine connection to data export, no restriction on testing routines (can be created by the enduser, no special skills needed)

Features:

Built according to the CRE (Constant Rate of Extension) testing principle

Belt free, direct-drive ball bearing screw

Automatic pretension and automatic load cell and clamp recognition

Top quality load cells (manufactured by HBM – Germany), accuracy class $\pm 0,02\%$

High resolution sensor integrated into the motor ensures accurate clamp position (less than 0,02 mm)

possibility to perform tests at extremely low speed

Automatic reset of force values when load cell/clamps are changed

High resolution of acquired data

High return speed (1800 mm/min)

Quick load cell exchange (only 10 sec. compared to 2 min. of other models)

Advanced alarm system prevents accidents; safety clamp movement system

The Software is modern, flexible and easy to use, it includes a series of standard testing routines. New testing routines can be created by the enduser, no special skills needed

Reference standards: UNI, UNI EN, UNI EN ISO, ISO, ASTM, M&S

Officially approved by Marks & Spencer.

ISO 17025 Calibration Certificate (Accredia - ILAC) available on demand.

Available a variety of interchangeable mechanical and pneumatic clamps for yarns, such as:

mechanical clamps for standard yarns **Code 2510.994**

Scott 100 clamps for yarns and industrial small ropes (mechanical) **Code 2510.995**

with pneumatic clamps for slippery, delicate or high elasticity yarns for pneumatic clamps, the foot switch is required **Code 2510.300**

Silent Compressor (available on request) **Code 3390**

LEA clamps for hanks (manual mode) **Code 2510.990**

Other clamps for yarns and fabrics are available on request.



Portable electronic strength tester built in accordance with ISO, UNI, ASTM, DIN standards. Endowed with printer and USB port. Conceived to measure strength and elongation of yarns and splices. Compact and light, specifically designed for testing in the production area near the machines (winding, spinning and O.E. frames, for example). Test results can be printed and downloaded by means of a USB memory stick and used for further needs.

Measuring range: force from 0 to 60 N (0-6 kg); elongation from 0.5% to 45% (0-110 mm).

Electro-magnetic clamps with automatic closure are supplied with the instrument.

Clamps distance: 250 mm.

Testing speed: adjustable up to 1000 mm/min.

Pretension: automatically adjustable according to the pre-set value.

Output: force and elongation results, statistics (min., average, max. force of elongation, CV%), tenacity.

The "Splicer" mode is ideal for splicers' control on automatic winders, measuring force and elongation of spliced yarns (up to 64 drums/splicers), processing of statistics for each splicer and for the complete winder: indication of out of tolerance joints for each drum/splicer.

Reference standards: UNI EN ISO 2062, ASTM D2256

Power supply: 115 Vac or 230 Vac, 50/60 Hz

Weight: 10 kg

Dimensions: (L) 450 x (W) 330 x (H) 140 mm

Optional:

- Battery kit with built-in feeder 115 Vac **Code 2553.3244**
- Battery kit with built-in feeder 230 Vac **Code 2553.3240**
- Manual clamps for slippery yarns **Code 2550.120**
- Movable Trolley **Code 2550.150**

```

*****
* MESDANLAB *
*****
18/02/2017 10:47:17
-----
Mode: Str. Tester
Test type: B
PROVA
Speed (mm/min): 500
Count unit: Tex
Count : 100.00
Ten[cN/TeX]: 2.480
RKM : 2.530
-----
STAT. ELONGATION (%)
Min 3.04 Max 3.81
Mean 3.37 Cv% 9.01
S 0.30 Ran 22.83
-----
STAT. FORCE (cN)
Min 219 Max 307
Mean 248 Cv% 14.78
S 36.66 Ran 35.48
-----
Nr. Elons. Force
01 3.23 % 226 cN
02 3.04 % 219 cN
03 3.54 % 261 cN
04 3.81 % 307 cN
05 3.23 % 228 cN
    
```





For the evenness control of slivers, rovings and yarns made of both natural and synthetic/manmade fibres. Thanks to the use of capacitive sensors, the instrument can measure, analyse, calculate and display (with related printout) the following data:

- mass variation diagram
- 160 channels spectrograph to analyse the wave length spectrogram
- CV% and U% of mass variations
- AVE% (relative yarn count)
- I.P.I. with an indication of **thin** places, **thick** places and **neps**
- D.R.% (deviation rate %)
- C.V.% (L) referred to 4 lengths
- Diagram of mass variation both in "inert" and "1/2 inert" way

The instrument is composed of:

- measuring frame
- Personal computer with monitor and printer
- Windows OS software
- Technical features:

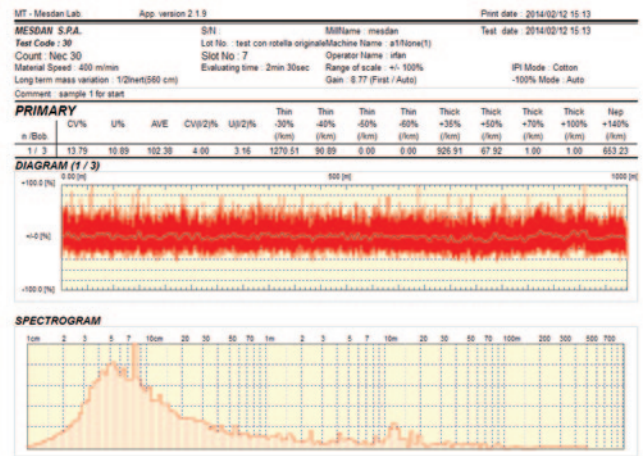
- Count range: from 35 g/m (sliver) to Ne 150 max (yarn) - beyond this range, it is recommended to evaluate from time to time.
- Sample speed: from 8 to 400 m/min.
- 160 channels spectrograph

Optional:

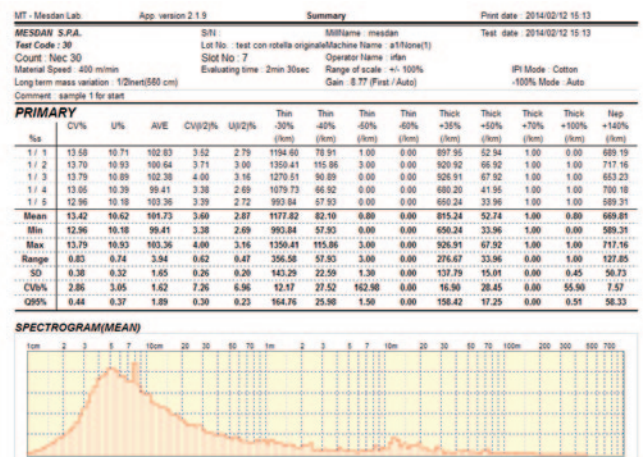
- 24-position Auto Cop Changer (ACC) **Code 299A**
- H-Sensor, hairiness sensor to evaluate the yarn hairiness **Code 2342**
- Yarn creel up to 24 spindles **Code 3102**
- UPS for power stability **Code 2341.900**

- Power supply: 115 up to 230 Vac, 50/60 Hz, single-phase
- Air supply: 6 bar
- Weight: 51 kg
- Dimensions: (L) 490 x (W) 320 x (H) 730 mm

Graphic and Histogram report



Statistical results and histogram



Planofil

Yarn conical table

2520

Electrical instrument to assess yarn regularity. Endowed with electronic speed adjustment.

Equipped with 2 black anodised aluminium trapezoidal tables (dimensions: 255 x 600 x 155 mm).

For very coarse and bulky woollen and blended yarns, a particular model is available, PLANOFIL PLUS (Code 2520.290), equipped with a set of special pulleys for a wider separation of coils.

Two Black tables are supplied with Planofil.

Optional:

Black table Code 2520.580

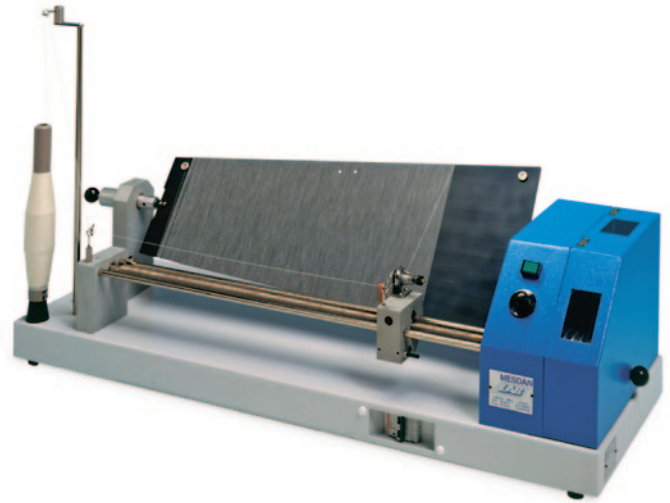
White table Code 2520.590

Reference standards: ASTM D2255 (for regular cotton yarns)

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Weight: 24 kg

Dimensions: (L) 910 x (W) 330 x (H) 530 mm



Optional KIT "TWO" 2520.600

Thanks to the optional Kit "Two" - to be combined with Planofil (Code 2520) - it is possible to wind at the same time on the same table two yarns with the same count, enabling a quicker preparation of the table (50% time saving) and a better and immediate visual comparison between the two wound yarns.

Optional:

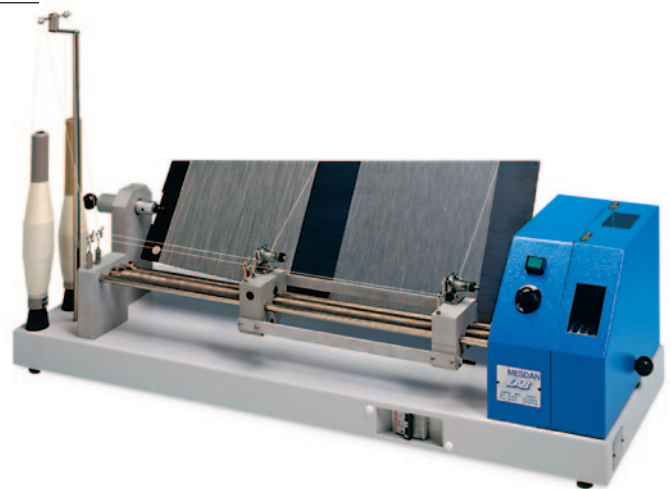
With Kit "Two" it is necessary to use particular trapezoidal tables:

Black table Code 2520.610*

White table Code 2520.620

* Two black tables are supplied with Kit "Two"

Reference standards: ASTM D2255 (for regular cotton yarns)



ASTM yarn standards

Available in the following count ranges:

Ne 1-12 Code 2520.630

Ne 12-24 Code 2520.631

Ne 24-36 Code 2520.632

Ne 36-50 Code 2520.633

Ne 50-75 Code 2520.634

Ne 75-135 Code 2520.635

Reference standards: ASTM D2255

Dimensions: (L) 635 x (W) 100 x (H) 380 mm



“Standard” Yarn Sample Winder

171A



Suitable for any type of card (320 mm max. length, 95 mm width) and yarn count.

Automatic forward winding movement, and manual reverse winding movement.

Up to 12 different yarn colours can be wound simultaneously.

Width of winding can be predetermined.

Equipped with adjustable yarn pre-tensioner.

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Weight: 46 kg

Dimensions: (L) 700 x (W) 500 x (H) 450 mm

“Special” Yarn Sample Winder

171B



Special high accuracy model with micrometric winding feed.

Particularly suitable for high production of coloured sample cards, especially medium-fine yarns, such as sewing threads.

Fully automatic forward and reverse winding movement, pre-selectable through the built-in PLC programmer.

Adjustable spacing, automatic stop.

Maximum winding speed: 1000 turns/min.

Up to 12 different colours can be wound simultaneously. Suitable for any card type (320 mm max. length, 95 mm max. width).

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Weight: 75 kg

Dimensions: (L) 800 x (W) 450 x (H) 560 mm

Automatic moisture regain oven designed to measure moisture content and regain percentage in textile materials, according to ISO, ATSM, IWTO, UNI, UNI EN ISO Standards.

PC operated.

Quick sample drying (in about 10 min.) by suction cycle.

Adjustable drying temperature ranging up to +140°C.

Testing procedure details: the cabinet automatically continues weighing until the sample attains a stable dry mass.

The computer evaluates the difference among consecutive weighings and stops when the difference between 2 consecutive weighings is lower than 0,05%.

It is possible to determine the duration of the first drying cycle as well as the duration of the further 9 cycles.

The basket tare is recorded according to the basket code.

Ambient humidity and temperature values can be entered in order to obtain automatically the correction of the dry mass (for this purpose, the table of correction coefficient is available in the software).

Equipped with PC, electronic balance (2200 g capacity/0,01 g accuracy), colour printer, and LCD monitor.

Printed report of test parameters and final results, such as:

sample code

basket code

date of basket gauging

weight of wet sample

weight of dry sample

dry percentage

Reference standards:

ISO 6741-1, 2, 3, 4, UNI 1335, UNI 9213-1, 2, 3, 4, 5, 6, ASTM D1576, ASTM D2495, IWTO 33-98, IWTO 34-98, UNI EN ISO 2060

Power supply: 230 Vac, or 400 Vac, three-phase, 50/60 Hz, 10kW

Weight: 209 kg

Dimensions: (L) 1000 x (W) 700 x (H) 1230 mm



Example of report:

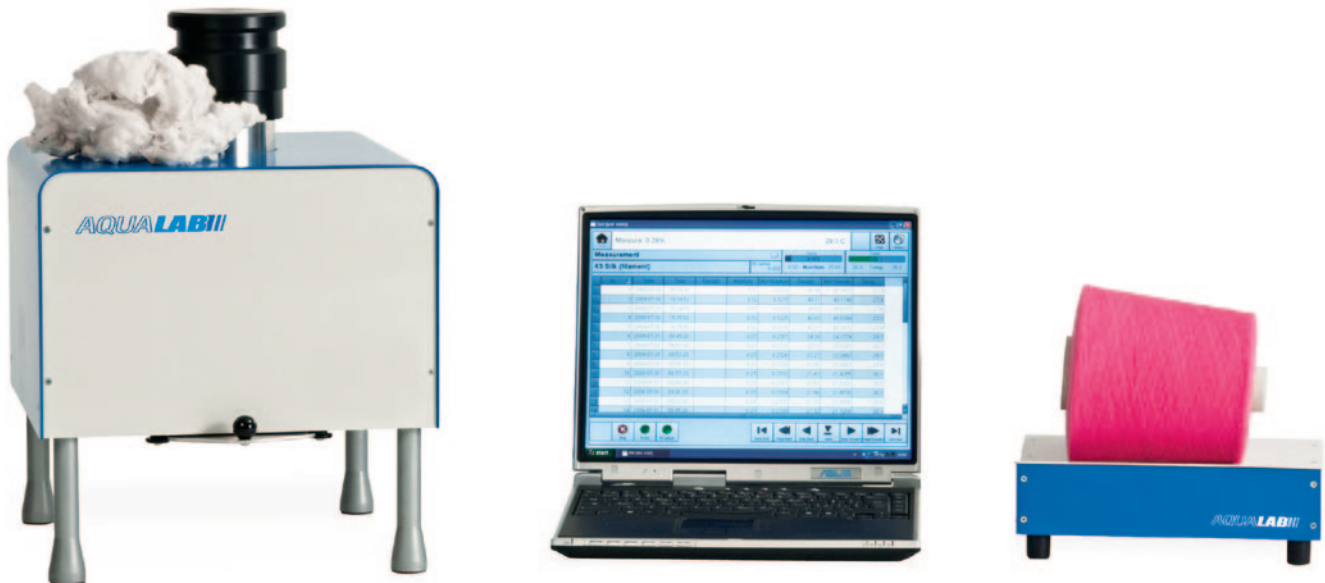
| Test identification data | | Test Code | | |
|--------------------------|-----------------|-------------------|------------|-------------------|
| Customer Code | P1 | Test Code | R200 | |
| Stock | port | Lot | lotto | |
| Parcel | collo | Operator | esam | |
| Material | Wool (worsted) | Standard R.R. | 18 [%] | Conditioning |
| | | | | 105 C |
| Global Elaborations | | Analyse Results | | Env. Cond. |
| Total Mass | 1000.00 kg | Humid Weight | 195,64 [g] | Temperature |
| Commercial Mass | 1056.40 kg | Dry Weight | 175,06 [g] | 20 C |
| # Campioni | 1 | Real Regain Rate | 11,700 [%] | Relative Humidity |
| | Modify Data... | Humidity | 10,475 [%] | 60 [%] |
| Codice Stufa | SCIROCCO MESDAN | N.M. Corr. Coeff. | 5,640 [%] | |
| Sample Description | | | | |

Example of printout of Scirocco oven:

final results of a sample in stock to be shipped and invoiced at the official humidity regain rate.

Real Regain Rate at the Dryer
Scirocco MesdanLab

| Customer Code | Test | Date | Time |
|--------------------------|-----------------|---------------|----------|
| P1 | Test | 20/02/13 | 14.38.31 |
| Stock | | Lot | lotto |
| Parcel | | Operator | |
| Material | Wool (worsted) | Material R.R. | 18% |
| Conditioning Temperature | 105 °C | | |
| Number of Samples | 1 | | |
| Humid Weight | 402,5 g | | |
| Real Regain Rate | 11,517 % | | |
| Humidity | 10,328 % | | |
| Dry Weight | 360,75 g | | |
| Present Dry Weight | 360,93 g | | |
| Corr. Coeff. of Net Mass | 5,813 % | | |
| Net Mass | 180 kg | | |
| Commercial Mass | 190,464 kg | | |
| Testing Machine | SCIROCCO MESDAN | | |
| Testing Conditions | 20 °C | Humidity | 60% |
| Sample Description | | | |



Moisture content in fibres and yarns is of paramount importance in both textile trade and final product quality evaluation. Moisture variation can lead to serious quality issues such as “barré” defects, dimensional stability problems, etc.

AQUA-LAB is an innovative instrument for fast and accurate measurement of the moisture regain and moisture content in textile materials.

Its measurement speed allows HIGH VOLUME CONTROL OF MOISTURE throughout every stage of the textile chain increasing consequently the productivity and the efficiency of the process, as well as the final product quality.

The measurement principle of Aqua-Lab is based on an innovative low power resonance technology.

AQUA-LAB calibration algorithm associates the mass-independent microwave moisture values measured by AQUA-LAB with the moisture regain values measured by the drying oven (the only reference instrument for measuring the moisture content of textile fibers). Aqua-Lab absolute value correlation with the regain oven (drying system) makes Aqua-Lab indispensable for commercial transactions, pricing management and QC monitoring.

Specific preset calibrations are available for different textile materials, easily selectable by the operator from the starting menu.

The complete AQUA-LAB, **Code 2450**, is equipped with two sensors: one for fibres (loose fibres, tops, slivers, etc), one for yarn packages (cones, roving cops, etc). However, the system can be supplied equipped with one sensor only:

for fibres, **Code 2450A**

for yarn packages, **Code 2450B**

Ideal for Ginners, Top Makers, Spinning Mills, Wool Combers, Yarn Buyers, Dyeing Mills, Textile Laboratories.

Main features:

Fast, real-time measurement.

High repeatability and reproducibility of results.

Perfect correlation with oven-drying.

Suitable for any textile fibre such, for example, cotton, linen, wool, cashmere, viscose, silk, acrylic, synthetics as well as blends.

No sample weighing or preliminary preparation of the sample is required.

Non-destructive method, no waste of material.

Simple test execution, which can be performed by unskilled personnel as well.

Results are not influenced by the weight of the sample, by its dimensions, its density and environmental conditions (temperature and humidity).

Very low power consumption.

Easy maintenance: no consumables, no wear.

Ethernet available (connection to central data collection system).

Power supply: 115 up to 230 Vac, 50/60 Hz, single-phase

Dimensions and weight:

Main Unit: (L) 200 x (W) 110 x (H) 150 mm, 2.5 kg

Yarn package Sensor: (L) 250 x (W) 170 x (H) 85 mm, 2.5 kg

Fibre Sensor: (L) 325 x (W) 375 x (H) 430 mm, 17 kg

AQUA-LAB recognition

At the 32nd International Bremen Cotton Conference, the **ITMF** International Committee on Cotton Testing Methods (**ICCTM**) gave full recognition to AQUA-LAB



Libeccio Semi-automatic regain oven **245B**

Semi-automatic moisture regain oven to measure moisture content and regain percentage in textile materials according to ISO, ASTM, IWTO and UNI Standards. Quick Sample drying (in about 10 min.) by suction cycle. Adjustable drying temperature ranging up to +140°C. Complete with electronic balance (2.200 g capacity/0,01 g accuracy). Automatic movement of the weighing basket by means of "up and down" button. High precision electronic thermo-regulator.

Reference standards: ISO 6741-1, 2, 3, UNI 1335, UNI 9213-1, 2, 3, 4, 5, 6, ASTM D1576, ASTM D2495, IWTO 33-98, IWTO 34-85, UNI EN ISO 2060, ISO 2060, ISO 6348

Power supply: 230 Vac or 400 Vac, three-phase, 50/60 Hz, 8 kW

Weight: 150 kg

Dimensions: (L) 980 x (W) 700 x (H) 1350 mm



Humy Tester III **185C**

Digital electronic portable instrument for the instantaneous measurement of the humidity percentage contained in textiles. Reading on LCD display with 17 pre-set reading scales for the most common fibres and blends (other reading scales are available). It can be fitted with interchangeable electrodes suitable for cones, hanks, cotton bales or wool and fabrics. Measuring accuracy: $\pm 1\%$.

Optional (not supplied with the instruments):

| | | |
|--|-------------|----------------|
| electrode for cotton or wool bales (2 pins - 30 cm length) | Code | 185.412 |
| electrode for hanks (2 pins - 10 cm length) | Code | 185.414 |
| electrode with roller for fabrics | Code | 185.416 |
| electrode for bobbins and cones (8 pins - 6 cm length) | Code | 185.418 |
| probes for calibration (2 pcs) | Code | 185.422 |
| electrode for man-made yarns | Code | 185.424 |
| probe for ambient temperature / humidity | Code | 185.428 |

Reference standards: DCS 194 (Decathlon)

Power supply: 9 V battery

Weight: 0,4 kg

Dimensions: (L) 100 x (W) 40 x (H) 220 mm



Hardness Tester

For checking packages and cops hardness.

Measuring scale 0-100° Shore.

Equipped with pressure control device.

Available in the following models:

HP 2.5 for synthetic filaments **Code** **255A**

HP 5 for cotton and wool yarns **Code** **255B**

To check beam hardness, the following flat base models are available:

HP 2.5 F for synthetic filament **Code** **255E**

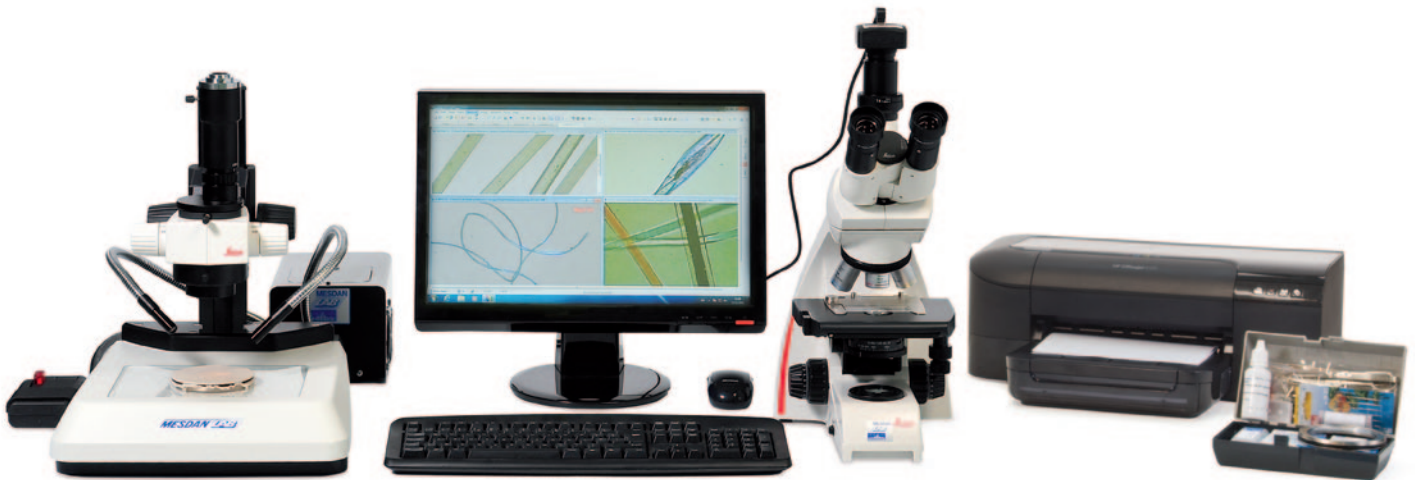
HP 5 F for cotton/wool yarns **Code** **255D**

To check rubber, the following model is available:

HP SA, scale: 0-100° Shore A **Code** **255F**

Weight: 0,30 kg





High performance computerised system conceived for the analysis of fibres, yarns, fabrics, knits, non-wovens, spinnerets etc. Equipment suitable to perform in a fast and easy way the fineness analysis of single fibres, identify the different type of fibres contained in a blend and analyse the composition percentage. Ideal to check the features of purchased material, analyse yarn structure and detect possible defects. Suitable to measure the count (dtex/ den) of yarns and round section filaments; to analyse quality of Lycra filaments into the yarn, the compactness of non-woven fabrics, yarn and fibre sections; to measure section surfaces and perimeters; to analyse mechanical parts (i.e. needle points, spinnerets, etc); to reduce warp and weft density of fabrics to a cm or a inch; to process, store and print the produced measurements and the minimum, medium and maximum values, CV% and distribution graphs.

The system is composed of:

LEICA Biological Microscope: magnification on screen from 195X to 2830X with slide movement device with micrometric regulation, polarising light, for fibres and yarns analysis, etc.

LEICA Stereo Microscope with magnification on screen from 16X to 189X, with illuminated base, for the analysis of fabrics, yarns and mechanical parts like travellers, needles and spinnerets.

Led Ring Light Illuminator.

PC complete with LCD monitor and photographic quality printer.

Professional digital colour camera, 1/2.33", CMOS, 16.0 Mpixel, USB 3.0, to acquire images from microscope.

Software for the image acquisition, the production of measurements and comments on the stored images and measurement directly on the live images, the statistic analysis of the acquired measurements.

Fibre Microscope Kit (Code 250.325) for the microscopic analysis (fibres, yarns and fabrics); instructions for sample's preparation.

Optional:

Optical fibre illumination device, (for both biological and stereo microscope), for a perfect illumination of a sample from different adjustable angles.

Code 250.318

63X LENS (for biological microscope): it enables a 2830X on screen magnification.

Code 250.336

C-STEP CONNECTOR WITH 0.5X LENS (for biological Microscope). The installation of this connector allows to halve the magnification on screen and double the sample field of vision.

Code 250.338

C-STEP CONNECTOR WITH 0.5X LENS (for Stereo Microscope). The installation of this connector allows to halve the magnification on screen and double the sample field of vision.

Code 250.334

TRINOCULAR KIT (for Stereo Microscope) to display the sample image either on the PC monitor or in the oculars.

Code 250.340

Set of 50 slides.

Code 191.50

Set of 200 slide covers.

Code 191.52

Bottle of oil immersion.

Code 191.54

Pack of paper for printer.

Code 250.18

Set of cartridges for printer.

Code 250.322

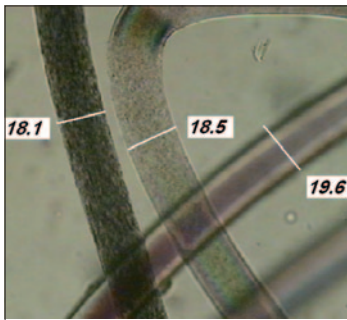
Reference standards: ISO 137, UNI EN 12751, UNI 5423, UNI ISO 1130, ASTM D629, ASTM D2130, ASTM D276, AATCC 20, IWTO 8, IWS TM24, NIKE (section H, fiber content testing requirements)

Power supply: 100 up to 240 Vac, 50/60 Hz

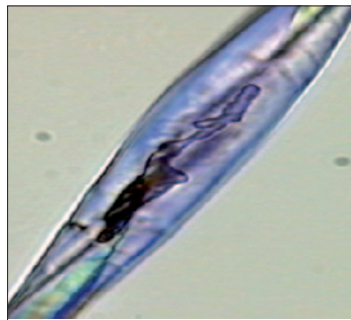
Weight: 53 kg

Dimensions: (L) 1080 x (W) 700 x (H) 700 mm

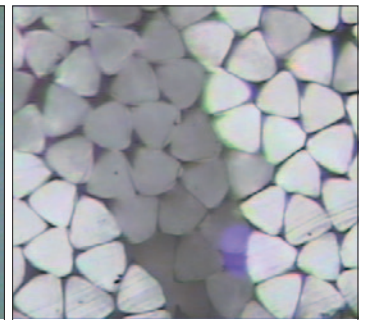
Examples of the most typical applications of Video Analyser:



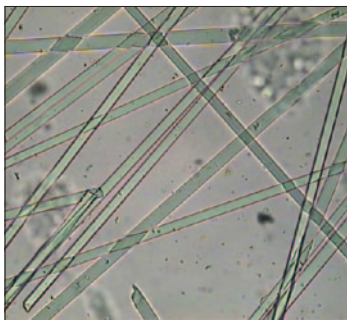
Fibre identification of fineness



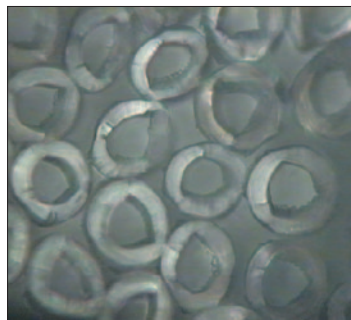
Length view of cotton fibre and wool fibre



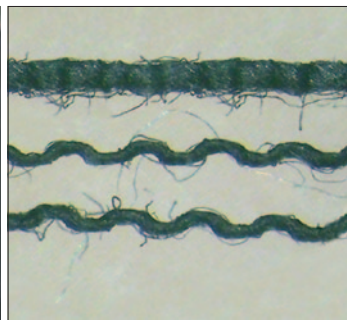
Viscose fibre (section view)



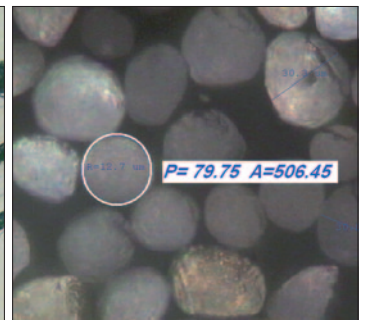
Glass fibre



Section of round hollow fibres



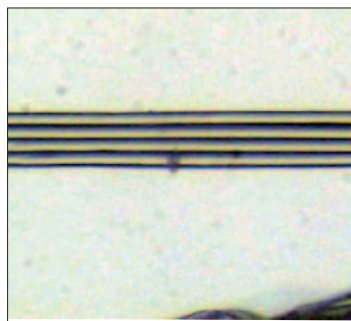
Yarn crimp evaluation



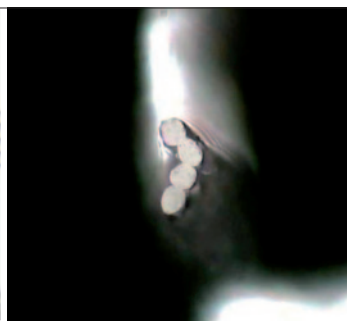
Perimeter & area



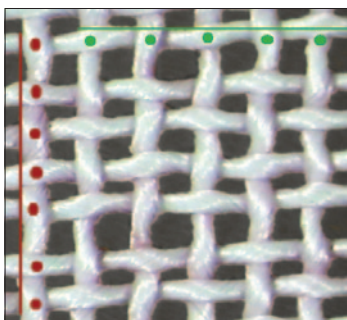
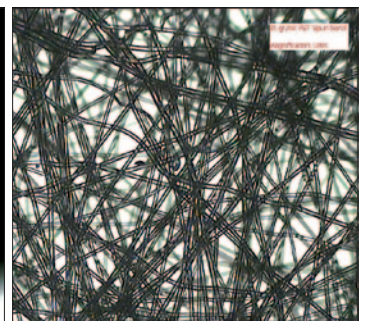
Lycra core protrusion



Analysis of Lycra filaments



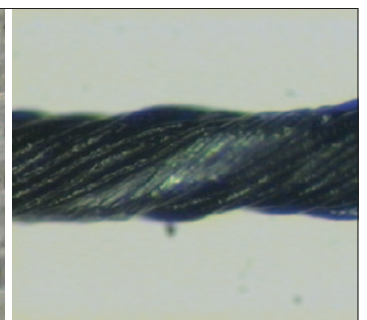
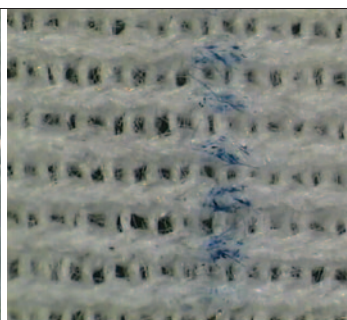
Non-woven regularity



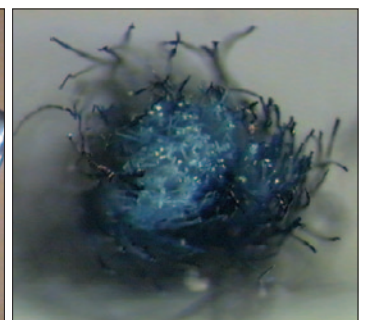
Fabric density assessment



Contamination analysis



Parts inspection - comparison



Section of indigo yarn



Detail of yarn pretensioner

Laboratory knitting machine for the automatic production of tubular knitted fabrics for checking dyeing uniformity and dye affinity, for assessment among different yarn bobbins. Suitable for synthetic, natural and artificial yarns. Equipped with Auto Cop Changer (ACC) with 24 or 36 bobbins, electronic yarn feeder, electronic pretension device, automatic bobbin change marking device, 36-yarn conveyor.

Main technical features:

Ergonomic panel with electronic counter, speed potentiometer and led indicators of machine functions.

Rotation speed of cylinder adjustable from 0 to 450 rpm by means of an electronic potentiometer.

High productivity: 1000-1200 samples (2,5 cm length) in about 10 hours.

Electronic counter to set sample length and number of samples.

Automatic oiling device for the cylinder.

Endowed with fabric fineness adjustment mechanism.

Interchangeable Cylinder \varnothing 3, 3/4" diameter suitable for a wide range of yarns.

Electronic automatic yarn pre-tensioner (0,1 cN accuracy) enabling constant and precise tension during operation.

Electronic device marking the knitted fabric when bobbin is changed.

Equipped with Auto Cop Changer (ACC) with built-in mechanical knotter.

Yarn feeder enabling change of cop while machine is running a test.

Yarn alignment device.

Two models available:

24-bobbin Auto Cop Changer (ACC); **Code 2940B**

36-bobbin ACC 36 yarns rack conveyor to the ACC (to speed-up creel change operation) **Code 2940A**

Power supply: 400 V, 50 Hz, three-phase + N, 1,9 kW

Air supply: 6 bar

Weight: 200 kg

Dimensions: (L) 1500 x (W) 4000 x (H) 1750 mm

List of available cylinders

| Code** | no of needles | Needle gauge | Indicative nominal count range * |
|-----------|---------------|--------------|----------------------------------|
| 294E 1320 | 320 | 75 | Dtex 10-100 |
| 294E 1260 | 260 | 70 | Dtex 30-150 |
| 294E 1240 | 240 | 48 | Dtex 70-300 |
| 294E 1220 | 220 | 48 | Dtex 100-400 |
| 294E 1140 | 140 | 36 | Dtex 200-1000 |
| 294E 1112 | 112 | 24 | Dtex 400-2000 |

In order to check and reveal dyeing uniformity, the tubular knitted fabrics produced by the DYE SCANNER have consequently to be dyed. GIOTTO HT 9000 is the ideal equipment for this purpose. In fact, it can dye up to about 300 g of tubular knitted fabric samples, and - thanks to its exclusive and innovative built-in automatic dosing system - GIOTTO HT 9000 can wash, dye, rinse, and - if necessary - soap the samples.

High-pressure bath at a temperature of +135°C, therefore ideal for dyeing of polyester fabric samples. Equipped with automatic dosing system, this instrument is also suitable for dyeing with reactive dyestuffs.

* Cylinder capacity should be confirmed by yarn testing, as cylinder selection is affected by yarn count, composition and friction.

** Cylinders with different capacity are available on request.

Mini Spinning

A real spinning mill in miniature, to produce small lots of short and long staple yarn.

Ideal for:

textile institutes and research centres

spinning mills of blends

spinning mills of woollen yarn

Laboratory Carding Machine 337A

Miniature carding machine designed to produce a homogenous sample of fibres of different colour and/or nature.

It can process both short and long fibres.

The machine can deliver either web, or sliver, by means of the Coiler, **Code 337A.6**, available as optional.

Self-cleaning system, to avoid dirtying of the sample.

Delivery speed: 10-15 m/min.

Safety devices: emergency stop, switch on moving panels, Plexiglas protective cover.

Average production: 4 kg/hour

Working width: 500 mm (19.69")

Web max. width: 480 mm (18.90")

Power supply: 230 Vac, or 400 Vac, three-phase, 50/60 Hz

Weight: 640 kg

Dimensions: (L) 1910 x (W) 850 x (H) 1440 mm



Coiler

337A.6

Web Condenser, specifically designed for the Laboratory Carding Machine, **Code 337A**, to transform the carded web into sliver, and collect it into a proper can for further processing.



Stiro Roving Lab 3371

Miniature draw frame

Miniature draw frame to double and draw in form of an even homogenous sliver the web coming from the Laboratory Carding Machine.

Suitable for short and long fibres.

Stiro Roving Lab is complete with a device to transform the sliver into a roving and wind it on a spool.

Adjustable draw from 2x up to 6x.

Adjustable distance between drawing rollers.

Adjustable drawing speed and pressure.

Optional: Flyer Twisting Unit (**Code 3371.2**)

Power supply: 230 Vac, 50/60Hz

Weight: 180 kg

Dimensions: (L) 1600 x (W) 680 x (H) 1280 mm



Detail of Stiro Roving Lab



Flyer Twisting Unit



Ring Lab Mini ring spinning

3108A

Mini spinning frame with 6 spindles designed for spinning trials of cotton, woollen, synthetic and blended yarns. Special model suitable to process slivers or rovings produced by Stiro Roving Lab. Endowed with 5 rollers, to draw the sliver up to 400X.

Spinning capacity: from Ne 8 up to Ne 80.

Electronic setting of delivery speed, twist, draw and twist direction.

Technical details:

variable speed drive: from 3500 to 25000 rpm

Ring diameter: 45 mm; tube length: 240 mm

Spindle speed: up to 18000 rpm

Special creel for sliver supply included.

Optional kit for core-yarn available on request.

Digital control panel to show in real time: rpm – tpm – break draft - total draft - delivery speed in m/min - etc.

Power supply: 115 Vac or 230 Vac, 50 Hz or 60 Hz

Weight: 335 kg

Dimensions: (L) 1000 x (W) 700 x (H) 2100 mm



Wind Lab

3374

Manual winder with two heads.

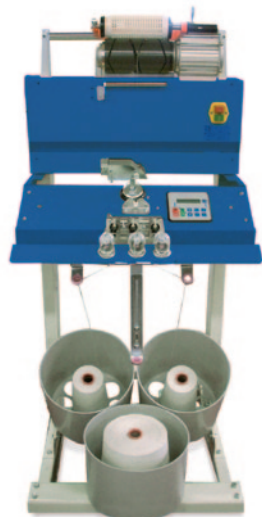
Adjustable winding speed: from 300 up to 1000 m/min.

Winding traverse: 6" (152 mm); conicity: 5° 57'.

Power supply: 230 Vac, 50/60 Hz

Weight: 71 kg

Dimensions: (L) 700 x (W) 500 x (H) 1250 mm



Mini Assembly Lab Mini assembly winder

3372A

Single head assembly winder to produce cylindrical cones to be twisted.

Endowed with electronic panel to set parameters, such as length meter and automatic stop.

Winding speed: from 200 up to 1200 m/min.

Power supply: 230 Vac, 50/60 Hz

Weight: 100 kg

Dimensions: (L) 900 x (W) 900 x (H) 1300 mm

Twister Lab Two for one lab twister **3373**

Single head two-for-one twisting machine to produce cones of plied yarns in the laboratory.

Endowed with touch screen display to set winding parameters: spindle speed, tpm., winding angle, "S"/"Z" direction. Display of quantity of processed yarn in meters.

Spindle type 202B with adjustable speed from 5000 up to 13000 rpm.

Twisting collecting from 8 to 100 m/min.

6" winding traverse and 4° 20' conicity.

Power supply: 230 Vac, 50/60 Hz

Air supply: 6 bar hose ø 6 mm

Weight: 130 kg

Dimensions: (L) 470 x (W) 650 x (H) 1450 mm



Lab Knitter Yarn-knit (Dye) uniformity **294E**

High precision single cylinder laboratory knitting machine for the production of tubular knitted fabric for checking dyeing uniformity and evaluate dye affinity.

Interchangeable cylinder, 3,3/4" diameter, suitable for a wide range of yarns (to be selected from the available ones listed in the attached chart).

Endowed with fabric fineness regulation mechanism.

Automatic oiling device.

Ergonomic control panel complete with:

electronic yarn length meter;

variable speed regulation by means of a potentiometer;

Led indicators monitoring machine's functions.

Optional:

electronic tensioner **Code 294E.1100**

foot switch **Code 294E.80**

Power supply: 400 Vac, 50/60 Hz, three-phase + N, 1.1 kW, or 230 Vac, 50/60 Hz, single-phase, or 230 Vac, 50/60 Hz, three-phase

Weight: 130 kg

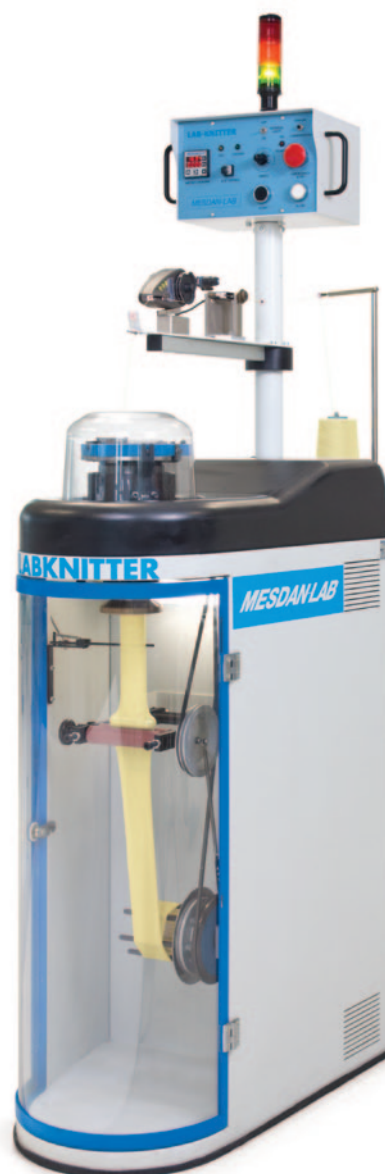
Dimensions: (L) 450 x (W) 850 x (H) 1750 mm

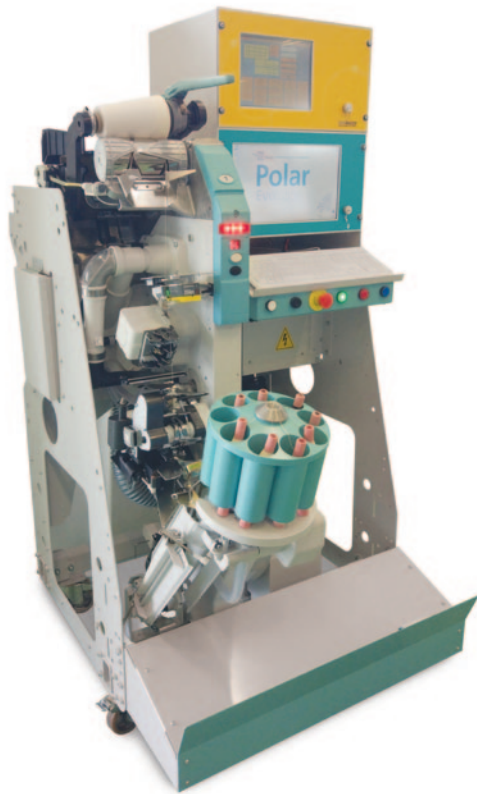
List of available cylinders

| Code** | nr of needles for filaments | Needle gauge | Indicative count range for filaments | Indicative count range for spun yarn* |
|-----------|-----------------------------|--------------|--------------------------------------|---------------------------------------|
| 294E 1320 | 320 | 75 | Dtex 10-100 | Ne 80-120 |
| 294E 1260 | 260 | 70 | Dtex 30-150 | Ne 60-80 |
| 294E 1240 | 240 | 48 | Dtex 70-300 | Ne 40-60 |
| 294E 1220 | 220 | 48 | Dtex 100-400 | Ne 20-40 |
| 294E 1140 | 140 | 36 | Dtex 200-1000 | Ne 12-20 |
| 294E 1112 | 112 | 24 | Dtex 400-2000 | Ne 8-12 |

* Cylinder capacity should be confirmed by yarn testing, as cylinder selection is affected by yarn count, composition and friction.

** Cylinders with different capacity are available on request.





Polar Evo Wind-Lab

3374D

Fully automatic SAVIO POLAR EVO single-head winder equipped with:

touch screen control panel with PC

a wide choice of different interchangeable MESDAN® yarn splicers

LOEPFE electronic yarn clearer

automatic carousel feeding magazine

waxing device, tension control, yarn length measuring device ...

Ideal for:

didactic purposes in textile schools, universities, etc.

waste yarn recovery, especially in weaving (yarn leftovers during warping)

as a complementary machine to the “Mini Spinning” line

R&D labs (for research on winding, yarn clearing, waxing, splicing, etc.)

All parameters of the winding process are computer controlled:

yarn quality

package quality

production quality

alarm monitoring system

All moving parts are driven by individual independent driving motors (upper package and lower bobbin suction, splicer, yarn tensioner).

Power supply: to be defined at order

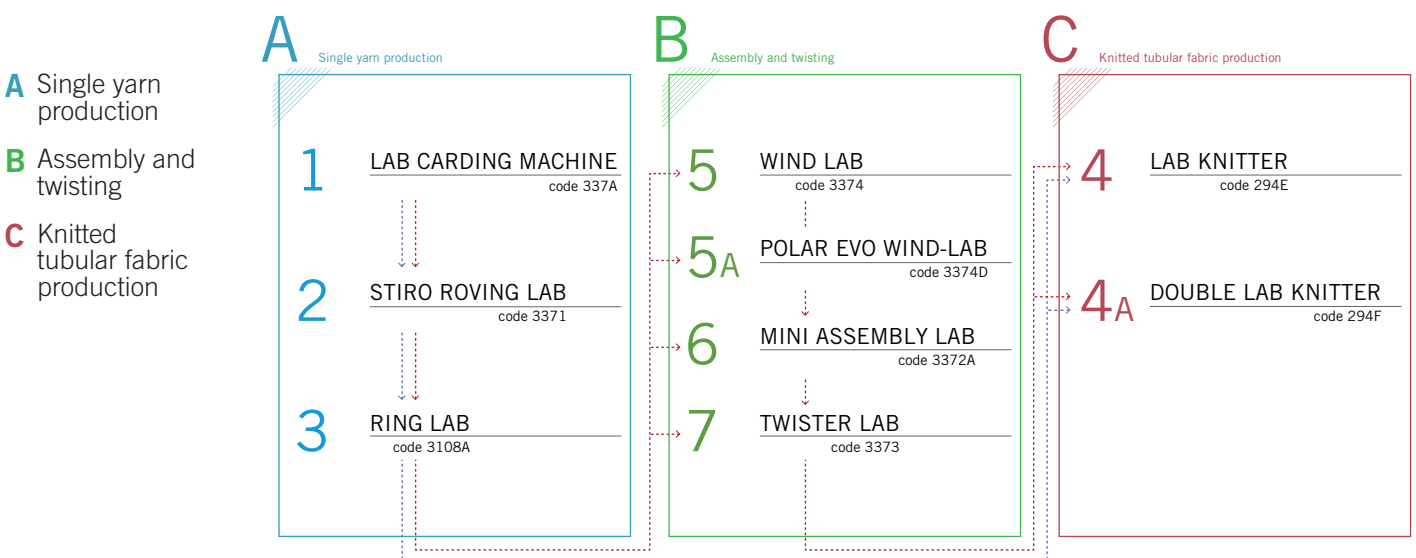
Installed power: 4 kW - Electrical consumption: 2kW

Compressed air consumption: 8 normal litres

Weight: 340 kg

Dimensions: (L) 1000 x (P) 1100 x (H) 1900 mm

Mini Spinning Layout



RECOMMENDED CONFIGURATIONS

Basic (for spinning mills):

Single yarns assessment: 1+2+3+4

Plied yarns assessment: 1+2+3+6+7+4

Top (for research centres and institutes):

With manual winder: 1+2+3+5+6+7+4A

With automatic winder: 1+2+3+5A+6+7+4A

FABRICS

| | | | |
|------|--|------|-----------|
| p 44 | Tenso-Lab 4 / Tensile strength tester | Code | 2512E |
| p 45 | Tenso-Lab 5000 / Tensile strength tester | Code | 2515 |
| p 46 | Autodyn II / Automatic tensile strength tester | Code | 2514 |
| p 47 | Available clamps for Tenso-Lab and Autodyn | | |
| p 49 | Crease Recovery Tester | Code | 3109 |
| p 49 | Wrinkle Recovery Tester | Code | 3110 |
| p 49 | Crimp Tester | Code | 320A |
| p 50 | Martindale | Code | 2568 |
| p 51 | Burstmatic / Bursting tester | Code | 338E |
| p 52 | Spray Rating Tester | Code | 333A |
| p 52 | ICI Pilling & Snagging Tester 4 positions | Code | 279G |
| p 52 | Digital electric-hydraulic Bursting Tester | Code | 338D |
| p 53 | Elmendorf | Code | 275A |
| p 53 | Pneumatic Fabric Stiffness Tester | Code | 3396 |
| p 53 | Thickness-Lab / Thickness tester | Code | 1880 |
| p 54 | Water Proof | Code | 3241C |
| p 54 | Air Tronic Plus | Code | 3240C-E-F |
| p 55 | Elmatic / Elmendorf tearing tester | Code | 275D |
| p 56 | MacroLab / Yarn-fabric analysis | Code | 250F |
| p 57 | Portable Microscope | Code | 2604 |
| p 57 | Pick Counters | | |
| p 57 | Microscope for fabrics | Code | 191G |
| p 57 | Circular Sample Cutter | Code | 175B |
| p 57 | Electronic balance per m ² | Code | 165.664 |
| p 58 | Crock Meter / Rubbing fastness | Code | 2540 |
| p 58 | Electric Crock Meter / Rubbing fastness | Code | 198B |
| p 58 | Forced Ventilation Conditioning Oven | Code | 251G |
| p 59 | Sample Press Lab | Code | 1750A |
| p 59 | Hoff-Lab Press | Code | 3370B |
| p 60 | Scorch Fastness / Sublimation tester | Code | 312A |
| p 60 | Perspirometer | Code | 257A |
| p 60 | Incubator | Code | 251L |
| p 61 | Sun Lab / Light fastness | Code | 325A |
| p 61 | Xenon Lab / Light fastness | Code | 325E |
| p 62 | Wascator | Code | 310B |
| p 62 | Tumble Dryer | Code | 3111 |
| p 62 | Dry Cleaning Machine | Code | 310F |
| p 63 | Top Loading Home Washer | Code | 310H |
| p 63 | Front-loading Home Tumble Dryer | Code | 3111B |
| p 63 | Autowash II / Wash-Dry colour fastness | Code | 311L |
| p 64 | Grey Scales | | |
| p 64 | Blue Scale | Code | 325.2 |
| p 64 | Standard Adjacent Fabrics | | |
| p 64 | Multifibre DW 010 | Code | 257.424 |
| p 64 | Multifibre TV | Code | 257.426 |
| p 65 | AATCC/ISO Crease Appearance Replicas | Code | 310.94 |
| p 65 | AATCC/ISO Seam Smoothness Appearance Replicas | Code | 310.96 |
| p 65 | AATCC/ISO Smoothness Appearance Replicas | Code | 310.74 |
| p 65 | Soap Powder | Code | 310.10 |
| p 65 | ECE/IEC Reference Detergent | | |
| p 66 | Vapour Permeability Tester | Code | 3122 |
| p 66 | Water Vapour Test | Code | 3395 |
| p 66 | Static Lab | Code | 291B |
| p 67 | Glove Cut Tester | Code | 3394A |
| p 67 | Linear Cut Resistance Tester | Code | 3394B |
| p 67 | Impact Abrasion Lab | Code | 2563 |
| p 68 | ISO Flammability Lab | Code | 3392E |
| p 69 | 45° Flammability Tester | Code | 3392C |
| p 69 | Horizontal Flammability Tester | Code | 3392D |
| p 69 | Vertical Flammability Tester | Code | 3392G |
| p 70 | Sweating Guarded Hot Plate | Code | 3123 |
| p 71 | Integrated Sweating Guarded Hot Plate System | Code | 3123B |
| p 72 | ANDI Thermal Manikin | | |
| p 72 | Automotive Thermal Comfort | | |
| p 72 | Drying Rate Tester DRT201 | | |



Tenso-Lab 4 is the latest generation of the well-known Tenso-Lab semi-automatic tensile tester. The new model is distinguished by:

New hardware:

high sensibility and robustness (can be used to test both fibres and high tenacity fabrics), direct-drive ball bearing screw, low speed operation available, extended capacity to 5000N, ...

New components:

improved load cells performances (higher accuracy level and new capacity load cell added), quick load cell & clamps/jaws exchange, ...

New open software:

more intuitive and easy to operate, SQL database and standard Ethernet machine connection to data export, no restriction on testing routines (can be created by the enduser, no special skills needed)

Features:

Built according to the CRE (Constant Rate of Extension) testing principle

Belt free, direct-drive ball bearing screw

Automatic pretension and automatic load cell and clamp recognition

Top quality load cells (manufactured by HBM – Germany), accuracy class $\pm 0,02\%$

High resolution sensor integrated into the motor ensures accurate clamp position (less than 0,02 mm)

Possibility to perform tests at extremely low speed

Automatic reset of force values when load cell/clamps are changed

High resolution of acquired data

High return speed (1800 mm/min)

Quick load cell exchange (only 10 sec. compared to 2 min. of other models)

Advanced alarm system prevents accidents; safety clamp movement system

The Software is modern, flexible and easy to use, it includes a series of standard testing routines. New testing routines can be created by the enduser, no special skills needed

Reference Standards: ISO, UNI, UNI EN, UNI EN ISO, ASTM, M&S, NEXT, JIS.

Officially approved by Marks & Spencer.

ISO 17025 Calibration Certificate (Accredia - ILAC) available on demand.

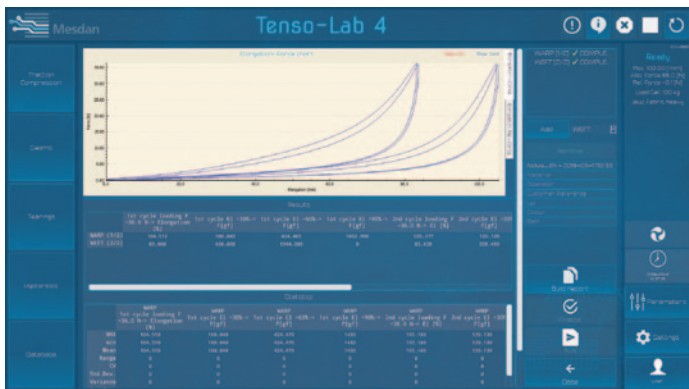
A variety of interchangeable mechanical and pneumatic clamps for yarns and fabrics is available.

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Weight: 75 kg

Dimensions: (L) 480 x (W) 370 x (H) 1415 mm

Example of Hysteresis cycle test



Available Load Cells:

| Load cell | Load Accuracy [cN] | Resolution [cN] |
|-----------|--------------------|-----------------|
| 20 N | 0,4 | 0.0002 |
| 100 N | 2 | 0.001 |
| 500 N | 10 | 0.005 |
| 1000 N | 20 | 0.01 |
| 5000 N | 100 | 0.05 |



Two-column universal electronic strength tester (CRE) developed to meet the high quality testing requirements of universities, research institutes and leading companies. With a maximum capacity of 5000 kg (50 kN), it is suitable to test also technical textiles, geo-textiles, non-woven and industrial textiles in general. Twin ball screws ensure the smooth movement of the crossbar, sliding between two reinforced guide columns that prevent any deformation of the framework. Available a 1000 kg (10 kN) version, **Code 2516**.

Working speed: from 0.5 to 500 mm/min

Maximum travel of the crossbar: 1200 mm (without clamps)

Inner distance between the columns: 400 mm

Developed to be used with a wide range of easily interchangeable load cells and clamps, both mechanical and pneumatic.

Tenso-Lab 5000 is PC controlled. Thanks to the different operating softwares available, it can perform traction, compression, tearing, delamination, adhesion, seam slippage tests and hysteresis cycles, according to specific international standards.

A Mechanical Extension Device is available as optional, for a further check of elongation on very rigid samples with low intrinsic elongation.

Available load cells:

maximum capacity 2 daN (kg) **Code 2515.276**

maximum capacity 10 daN (kg) **Code 2515.280**

maximum capacity 100 daN (kg) **Code 2515.282**

maximum capacity 500 daN (kg) **Code 2515.283**

maximum capacity 1000 daN (kg) **Code 2515.284**

maximum capacity 5000 daN (kg) **Code 2515.288**

precision of load cells: 0,05%

Several types of clamps, both mechanical and pneumatic, are available according to the type of standards.

Pc available on request.

Reference Standards: ISO, UNI, UNI EN, UNI EN ISO, ASTM, M&S NEXT, JIS.

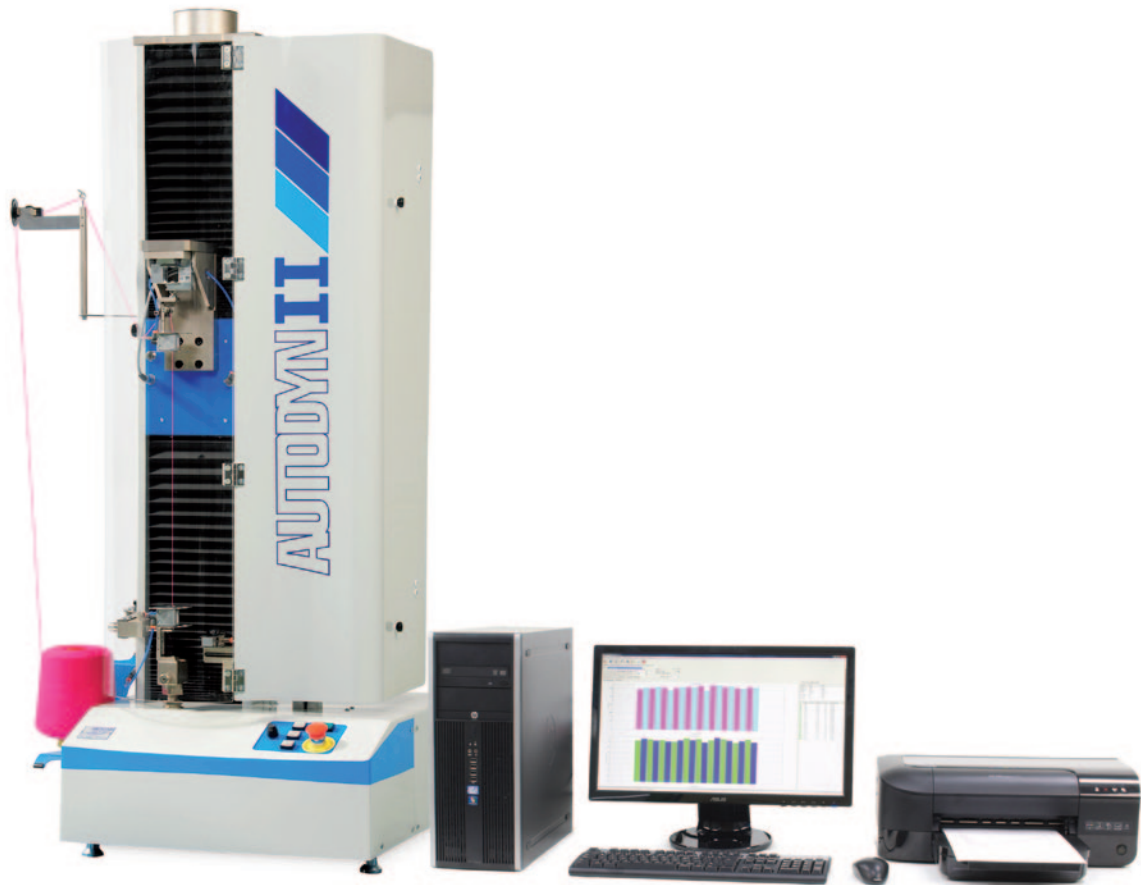
Officially approved by Marks & Spencer.

ISO 17025 Calibration Certificate (Accredia - ILAC) available on demand.

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase, 300 W

Weight: 322 kg

Dimensions: (L) 900 x (W) 600 x (H) 1900 mm



Modular strength tester designed to execute automatically tensile tests and hysteresis cycles on yarns; it semi-automatically executes traction, compression, tearing test on fabrics, covering adhesion tests, tensile test on yarns and hanks (lea test).

Automatic single column strength tester with movement resulting from a ball bearing screw; it is controlled by a software which runs all the functioning phases. Thanks to the specific modular software, Autodyn II allows performing tests in compliance with the main international standards or according to parameters set by the operator which can be saved for future need.

Autodyn II can fit different load cells easy to be changed with maximum capacity of 1000N, and a wide range of pneumatic and mechanical clamps.

Working speed: from 10 to 5000 mm/min.

Modular design specifically conceived for textile industries requiring both automatic and semi-automatic testing of yarns, hanks, fabrics, covering cloths and seams.

Available also in the 24-position automatic version - **code 2514A**

Optional:

PC, printer

interchangeable load cells of 20 N, 100 N, 1000 N

wide range of mechanical and pneumatic grips for yarns, hanks, and fabrics

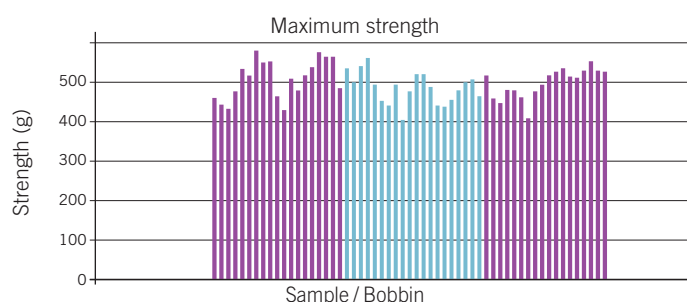
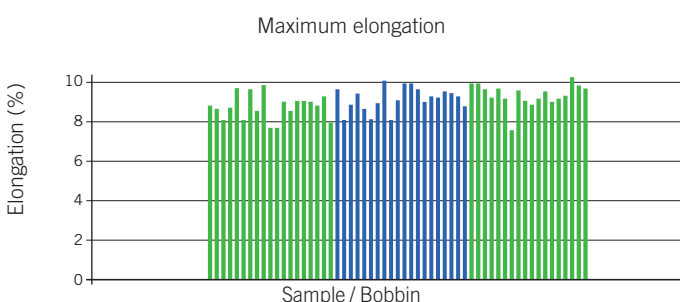
Reference standards: ISO, DIN, ASTM, BS, UNI, M&S standards

Power supply: 115 Vac or 230 Vac, 50/60 Hz, 300 W

Air supply: 6 bar

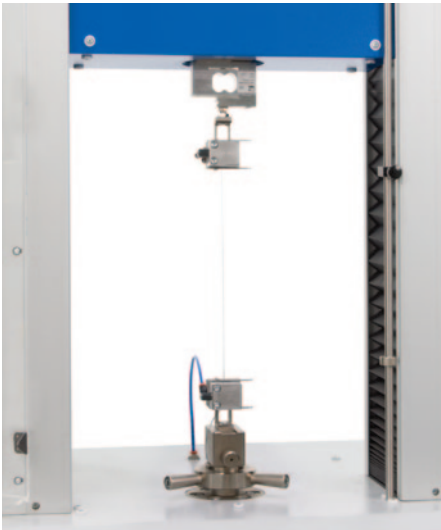
Weight: 85 kg

Dimensions: (L) 610 x (W) 610 x (H) 1340 mm



Available clamps for Tenso-Lab and Autodyn

continued on next page →



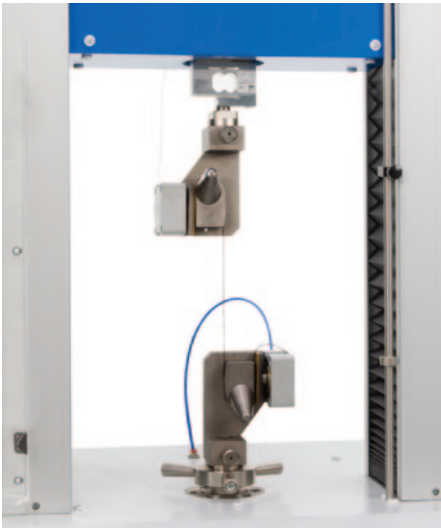
Pneumatic clamps for delicate yarns such as POY, Lycra, cotton and worsted yarns (20N max capacity), **Code 2510.978**



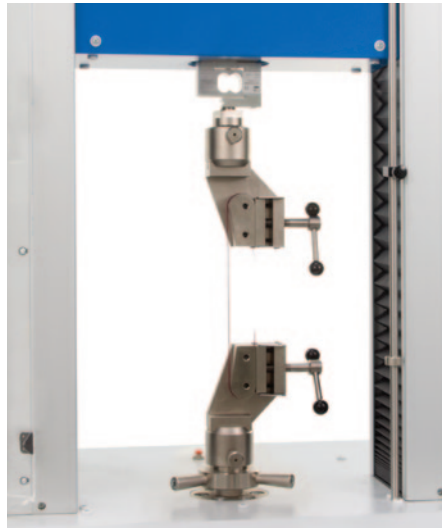
Pneumatic clamps for standard yarns and sewing threads (50N maximum capacity), **Code 2510.982**



Mechanical clamps for normal yarns (30N capacity), **Code 2510.994**



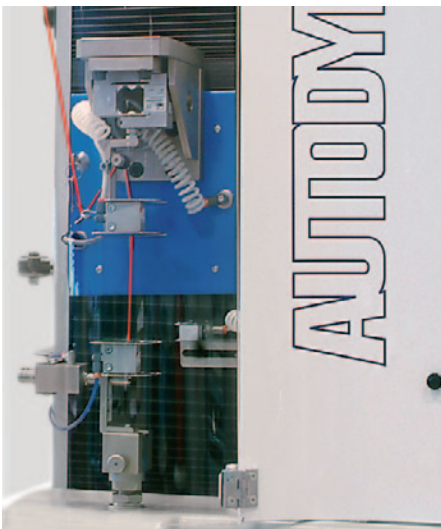
Clamps for yarns (high tenacity) with conical introducer, **Code 2510.980**



Mechanical clamps for high tenacity yarns:
- Scott type 100 – **Code 2510.995**
- Scott type 300 – **Code 2510.996**



LEA clamps for hanks, **Code 2510.990**



Mini clamps for yarns up to 20N (for Autodyn only), **Code 2513.918**. Maxi clamps for yarns up to 50N (for Autodyn only), **Code 2513.930**

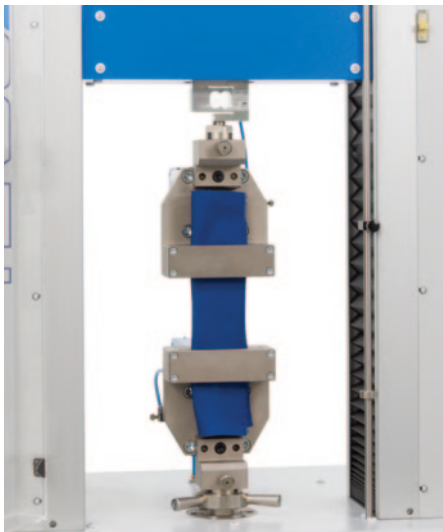


Self-tightening high tenacity clamps for ribbons 100mm wide, **Code 2510.920** (for Tenso-Lab 1000-5000 only)



Self-tightening high tenacity clamps for ropes (for Tenso-Lab 1000-5000 only), **Code 2515.988**

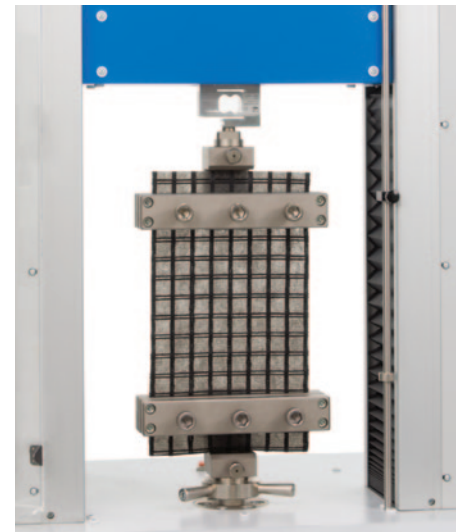
Available clamps for Tenso-Lab and Autodyn



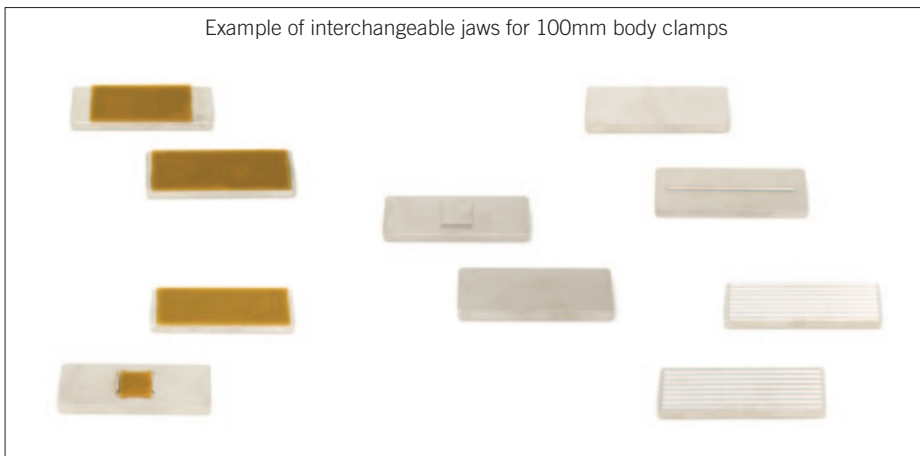
Pneumatic maxi clamps with rubber jaws, 100mm wide, **Code 2510.130** for high tenacity and heavy fabrics (for Tenso-Lab 1000-5000 only).
Pneumatic standard clamps with rubber jaws, 100mm wide, **Code 2510.844** for light fabrics.



Mechanical clamps with rubber jaws, 100mm wide, **Code 2510.846**



Mechanical clamps for non-woven, 200 mm wide, with rubber jaws **Code 2510.142**. Also available for geotextiles.

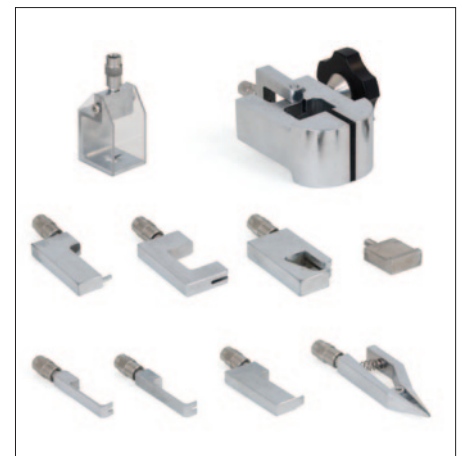


Example of interchangeable jaws for 100mm body clamps

- rubber covered jaws 100mm
- "grab"/rubber jaws 25x25mm

- "grab" jaws 25x25mm

- contact line jaws 100mm
- knurled jaws 100mm



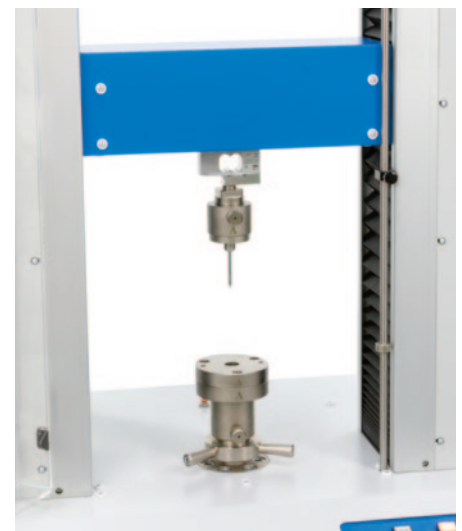
Special testing kit, to ensure that zips are appropriately applied, **Code 194E.28**



Tool for perforation test of non-wovens in compliance with UNI and ISO Standards (for Tenso-Lab1000-5000 only) CBR Type, **Code 2510.690**



Tool for perforation test of non-wovens, Persoz type, **Code 2510.800**



Perforation testing kit according to En 388 standard, **Code 2510.681**

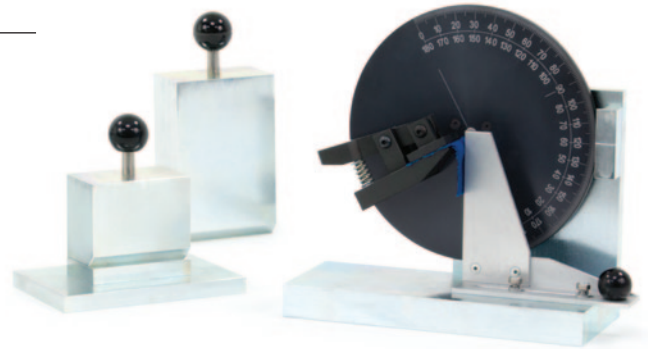
Crease Recovery Tester 3109

To determine recovery characteristics of fabrics undergoing a preset pressure for a specific period of time.

Reference standards: ISO 2313, AATCC 66, UNI EN 22313, M&S P22

Weight: 8 kg

Dimensions: (L) 250 x (W) 200 x (H) 350 mm



Wrinkle Recovery Tester 3110

To determine fabrics resistance to wrinkling.

Equipped with one standard comparative reference photographs, one 0.5 kg weight, one 1 kg weight, one 2 kg weight, and two fixing clamps with support.

Reference standards: AATCC 128, ISO 9867.

Weight: 9,5 kg

Dimensions: (L) 150 x (W) 150 x (H) 330 mm



Crimp Tester 320A

To determine crimp on yarns, caused by weaving and knitting processes.

The device is used also to measure with absolute accuracy the length of a yarn section, in order to determine, after weighing, the yarn count.

Reference standards: ISO 7211-3, IWSTM 31, UNI 9276, BS 2863, BS 2865, BS 2866

Weight: 2 kg

Dimensions: (L) 1500 x (W) 80 x (H) 40 mm





Instrument for the control of abrasion and pilling on almost any kind of woven and knitted fabrics, non-wovens, socks, gloves, natural and artificial leather, both dry and wet samples.

Model with 9 positions with LCD touch screen display, equipped with single and total rotation counter.

3 types of test can be performed: abrasion, pilling, and straight-line motion.

Also a **6-position model**, Code 2568A, is available on request.

Compulsory Accessories (at least 1 is needed):

Set of 9 sample holders, 38 mm Ø, for ABRASION test (according to UNI EN ISO 12947-1), **and PILLING test** (according to ASTM D4970) **Code 2568.900**

Set of 9 sample holders, 90 mm Ø, for PILLING test (according to UNI EN ISO 12945-2) **Code 2568.300**

Optional:

Abradant Fabric (1,6x1m) **Code 314.12**

Backing Foam (pack of 25 pcs) **Code 314.32**

Backing Felt disc, 140 mm Ø (set of 24 pcs) **Code 314.8**

Woven Felt disc for Pilling test, 90 mm Ø, (set of 24 pcs) **Code 314.20**

Set of photographs (ASTM) SM50 for pilling test on woven fabrics (3x4 pcs) **Code 314.14**

Set of photographs (ASTM) SM54 for pilling test on knitted fabrics (3x4 pcs) **Code 314.16**

Set of photographs (EMPA 991) for PILLING test of woven fabrics **Code 314.18**

Set of photographs (EMPA 992) for PILLING test of knitted fabrics **Code 314.24**

Sample cutter 38 mm Ø for ABRASION & PILLING test **Code 2560.322**

Sample cutter 90 mm Ø for PILLING test **Code 2560.324**

Sample cutter 140 mm Ø for PILLING test **Code 2560.320**

ISO 17025 Calibration Certificate (Accredia - ILAC), on demand.

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase
Weight: 100 kg - Dimensions: (L) 800 x (W) 750 x (H) 410 mm



Officially approved by Marks & Spencer for the following tests:

- M&S P17 Pilling method P1
- M&S P18C Enhanced Pilling
- M&S P19 Martindale Abrasion Resistance of Apparel Fabrics
- M&S P19A Martindale Abrasion Resistance of Handbags and Belt Fabrics
- M&S P19B Martindale Abrasion Resistance of Upholstery
- M&S P19C Martindale Abrasion Resistance for Shirts
- M&S P140 Martindale Assessment of surface disturbance on fabrics containing micro fibres.

Reference standards:

ABRASION, 38 mm Ø: UNI EN ISO 5470-2, UNI EN ISO 12947, UNI EN 13770, UNI EN ISO 20344, ISO 13520, ISO 17704, UNI EN ISO 17076-2, UNI EN 388 6.1.3 (2017), UNI EN 530, UNI EN 13520, ASTM D4966, BS 3424-24 TM 27A, UNI EN ISO 12947-1-2-3-4, IWTO 40, IWS TM 112, VDA 230-211, M&S P18C, M&S P19, M&S P19A, M&S P19B, M&S P19C, JIS L1018 6.18.5 meth E, ADIDAS GE 63.

PILLING, 38 mm Ø: IWS TM 196, ASTM D4970, M&S P140, M&S P17.

PILLING, 90 mm Ø: UNI EN ISO 12945-2.



Pneumatic bursting tester to determine the bursting resistance of woven and knitted fabrics, non-wovens and cardboard. The instrument measures the required pressure necessary to burst a tested specimen as well as the specimen extension prior to bursting.

Such test can be carried out in two different ways:
following a specific testing standard already present in the software;
free adjustment of testing parameters.

Besides, Burstmatic can measure the hysteresis (fatigue cycling tests) as well, the specimen behaviour when subject to cycling extensions and relaxations. All settings are freely programmable. Next to this, on a colour wide touch-screen, all the testing parameters, statistic results, graphics showing the dynamic behaviour of the tested fabric either during bursting or cycling tests, can be displayed.

All testing parameters, results and graphics can be stored into the Burstmatic database. The sample distension height is measured by means of laser technology.

Equipped with:

pressure rate auto-check system (no need for calibration foils)

extension height verification system (the use of Johansson gauge blocks is suggested)

a dedicated air inlet for pressure gauge connection (when calibration is needed).

Possible Tests:

Bursting tests using customised settings (freely programmable)

Cyclical tests using customised settings

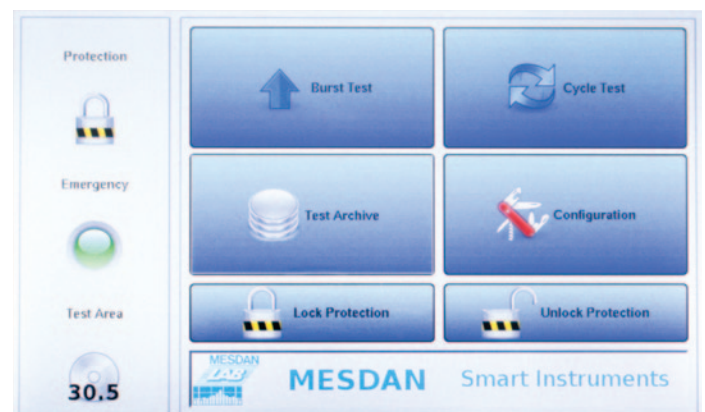
Officially approved by Marks & Spencer (M&S).

Available test areas:

| Area | Diameter | Standard |
|---------------------|----------|--|
| 7.3 cm ² | 30.5 mm | ISO 13938-2, ASTM D3786, M&S P27, WOOLMARK TM29, NEXT 22 |
| 7.8 cm ² | 31.5 mm | ASTM D3786, WOOLMARK TM29 |
| 10 cm ² | 35.7 mm | ISO 13938-2 |
| 50 cm ² | 79.8 mm | ISO 13938-2, M&S P27, ADIDAS 4.09 |
| 100 cm ² | 112.8 mm | ISO 13938-2 |

Measurement range:

| Distension | mm inches cm | | | Pressure | bar | kPa | psi |
|------------|--------------|-------|-------|------------|-------|--------------|------|
| | Min | 0.1 | 0.004 | | 0.01 | Max pressure | 10 |
| Max | 70.0 | 2.756 | 7.00 | Resolution | 0.001 | 0.1 | 0.02 |
| Resolution | 0.1 | 0.004 | 0.01 | | | | |



Power Supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Net Weight: 65 kg

Dimensions: (L) 370 x (W) 460 x (H) 530 mm



Spray Rating Tester

333A

To determine the surface wetting resistance of fabrics.
As optional, standard reference photographs are available (Code 333.2).

Reference standards: ISO 4920, AATCC 22, UNI EN 24920, BS 4323, BS 3424 part 26, M&S P23

Weight: 5 kg

Dimensions: (L) 280 x (W) 280 x (H) 500 mm



ICI Pilling & Snagging Tester 4 positions

279G

Instrument particularly suitable for testing pilling on knitted fabrics.
Model equipped with four boxes.
Complete with revolution counter.
Speed setting: 30/60 rpm.

Upon request, 2-position model (Code 279H) can be supplied.

Optional:

special set of nails, to perform snagging test (Code 279.16)
drum for pilling and snagging test, according to M&S P18 (Code 279.28).

Reference standards: UNI EN ISO 12945-1, BS 5811, IWS TM 152, ADIDAS 4.08, ADIDAS 4.25, ICI 444, M&S P18A, M&S P18B

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Weight: 69 kg

Dimensions: (L) 980 x (W) 660 x (H) 800 mm



Digital electric-hydraulic Bursting Tester

338D

To determine fabrics resistance to bursting.
Pressurising device with precision volumetric pump.
Safety valve for pressure control. Control lever for test execution, emptying operation and automatic zero setting at release.
Control device run by an electric engine at variable speed, with automatic stopwatch to check test duration.
Glycol fluid. Measuring range: from 0 to 50 bar (0 to 5000 kPa).
Subdivision: 0,01 bar. Supplied with: 12 membranes of pure para rubber, 12 O-rings, 1 bottle of liquid, 1 wrench for ring dismantling.

Reference standards: UNI EN ISO 2758, ISO 3303, ISO 3689, ISO 2960, ISO 13938-1 (except point 6.1.3), ASTM D3786, Woolmark TM29, UNI EN ISO 13938-1 (except point 6.1.3)

Power supply: 230 Vac, 50 Hz, single-phase

Weight: 30 kg

Dimensions: (L) 500 x (W) 400 x (H) 400 mm

Elmendorf

275A

Instrument to test tearing resistance of cloths, artificial leather, paper. Interchangeable pendulums having the following capacities can be supplied:

- pendulum: 1.600 g **Code 275A.126**
- pendulum: 3.200 g **Code 275A.128**
- pendulum: 6.400 g **Code 275A.130**

Reference standards: UNI EN ISO 13937-1, UNI EN ISO 4674-2, UNI EN ISO 6383-2, UNI EN 21974, ISO 1974, ASTM D1424, TAPPI T414, NEXT 17, GB/T 3917.1, DIN 53128

Weight: kg 6 (pendulum excluded)
Dimensions: (L) 380 x (W) 180 x (H) 380 mm



Pneumatic Fabric Stiffness Tester

3396

For the quick and accurate measurement of fabric stiffness. A plunger of 25,4 mm (1 inch) diameter pushes the fabric through a 38 mm (1,5 inch) diameter hole and the maximum force is recorded.

Selectable measurement units are: 50 kgf, 500N, 100lb.

Reference standards: ASTM D4032

Power supply: 100 up to 230 Vac, 50/60 Hz, + battery
Weight: 18 kg
Dimensions: (L) 500 x (W) 500 x (H) 600 mm



Thickness-Lab Thickness tester

1880

Laboratory thickness tester, with digital reading, suitable for woven and knitted fabrics, non-wovens, geotextiles and leather. Reading capacity from 0 to 10 mm, with 0,01 mm accuracy. RS232 port available.

Available models:

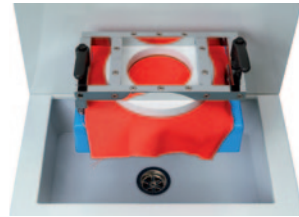
- in compliance with UNI EN ISO 5084 standard (textiles) 20 cm² - 0.1 and 1 kPa **Code 1880**
- in compliance with UNI EN ISO 9863-1 standard (geotextiles) 25 cm² - 2 kPa **Code 1880B**
- in compliance with UNI EN ISO 9073-2 standard (non-woven) 25 cm² - 0.5 kPa and 1 kPa or 10 cm² - 5 kPa **Code 1880C**

Other models for leather, rubber, paper, etc, are also available. Pressure weights and additional plates for each model are available as optional. A version with a measuring range from 0 to 25 mm can also be supplied.

Optional: software for data acquisition and storage **Code 1880.2**

Power supply: Battery, 3 V, Mod. CR2032, 190 mAh
Weight: 23 kg
Dimensions: (L) 250 x (W) 310 x (H) 300 mm





Water Proof

3241C

Instrument for the analysis of the water permeability of textile materials. It enables to determine the hydrostatic pressure needed for water passage through samples. It also measures the resistance of the samples to water passage at a constant hydrostatic pressure. The tested sample has a surface of 100 cm² and it is fixed with a special air tight system.

Adjustable pressure: 0-9999 mm/H₂O.

“Plus” model (Code 3241D) with adjustable pressure up to 20.000 mm/H₂O is also available.

Supplied complete with “touch screen” for setting and reading of the analysis results.

Software available on request.

Reference standards: EN ISO 20811, DIN 53886, AFNOR G-07057, ISO 811, BS 2823, BS EN 3424 part 26, AATCC 127, UNI 5123, ISO 1420-A

Power supply: 230 Vac, 50/60 Hz, single-phase

Weight: 50 kg

Dimensions: (L) 540 x (W) 540 x (H) 1700 mm

Air Tronic Plus

3240C-E-F



AIR TRONIC PLUS is a fast and silent electronic instrument to determine the air permeability (meant as speed of the air flow vertically passing through the sample under preset and known testing conditions) of woven, knitted and non-woven fabrics, industrial fabrics for technical use, artificial leather, felt, velvet and paper. It can calculate also the average pore size of woven fabrics, a unique feature important for the filtration industry, their evaluation and classification.

The air permeability value is expressed in mm/sec. and, thanks to the different testing template areas supplied with the instrument, the air permeability range is extremely wide and goes from a minimum of 1.4 mm/sec up to a maximum of 8056 mm/sec*. The air permeability range of model 3240C (special high capacity model available on demand), goes from a minimum of 180 mm/sec up to a maximum of 55555 mm/sec.

The air permeability value can be also expressed in m/sec. and l/minutes.

AIR TRONIC PLUS is equipped with wheels, as well as a user-friendly touch screen display, a built-in suction unit with cooling system (granting a noise level reduction of about 20-30 dB, in comparison with the “standard models”), and a digital Flux Meter (to perform fast tests).

Optional: Control Lab, Data Management Software, PLC Software
Option for average pore size calculation, built-in micro printer, Automatic Pressure Drop Regulator, Seal Fixing Rings, Template Area Adapter.

Reference standards: UNI EN ISO 9237, UNI EN ISO 9073-15, UNI EN ISO 7231, ASTM D737, ASTM D3574 (only model 3240F), JIS L 1096 meth A, NWSP 070.1 RO (15)

Power supply: 230 Vac, 50/60Hz single-phase

Weight: 76 kg (model 3240E) - 100 kg (model 3240F)

Dimensions: (L) 620 x (P) 620 x (H) 1170 mm

| Code | Depressure [10 Pa = 1 mm H ₂ O] | | Air flow | Flux meter | Standard Test Area | Optional Test Area |
|--------|--|---------------------|-------------|-------------------|--------------------|--------------------|
| | Pa | mm H ₂ O | | | | |
| 3240E | 0-2500 | 0-250 | 50-5800 | Digital (1 unit) | 2-5-10-20-50-100 | 38 |
| 3240C | 0-2500 | 0-250 | 6500-100000 | Analogic (1 unit) | 5-20-25-50-100 | 38 |
| 3240F* | 0-2500 | 0-250 | 50-5800 | Digital (2 units) | 2-5-10-20-50-100 | 38 / 25 ☐ |

* Special model, which conforms to ASTM D3574 as well (in addition to all other Standards of models 3240E and 3240C).

Remarks: bench models are also available on demand (Code 3240A and Code 3240B).



The only ELMENDORF on the market able to automatically perform the following operations:

- sample pre-cut
- release of the laceration pendulum
- reading of the laceration value
- blocking of the pendulum
- reset of the pendulum into the starting position

Suitable for all kinds of clothes, technical and protective fabrics, as well as for paper, cardboard, natural and artificial leather. Model with a high laceration capacity, ranging from 1600 to 30.000 g. Pendulum complete with additional check weights, supplied as standard with the instrument.

Instrument equipped with alphanumeric keyboard and digital reader for the measurement of the laceration values that can be printed or transferred to a PC through a RS 232 serial port. Instrument fully protected and complying with the strictest EU safety norms.

Reference standards:

Textile - according to: UNI EN ISO 13937-1, UNI EN ISO 4674-2 (coated fabrics), ASTM D1424, ASTM D751 (coated fabrics), UNI EN ISO 1974, M&S P29

Plastic - according to: UNI EN ISO 6383-2-method 360A

Paper - according to: TAPPI T414, UNI EN ISO 1974

Officially approved by Marks & Spencer.

Power supply: 115 up to 230 Vac, 50/60 Hz, single-phase

Net weight: 66 kg

Dimensions: (L) 510 x (W) 700 x (H) 630 mm





High performance computerised system conceived for the analysis of fabrics, non-wovens, etc.
Ideal to analyse yarn structures, detect defects, reduce warp and weft density of fabrics to a cm or an inch, and to analyse mechanical parts.

It enables to process, store and print the produced measurements, the related statistics (min., average, max. values, CV%) and the distribution graphs.

The system is composed of:

Stereo Microscope with magnification on screen from 16X to 189X, with illuminated base, for the analysis of fabrics, yarns and mechanical parts like rings, needles and spinnerets.

Led Ring Light Illuminator

PC complete with LCD monitor and photographic quality printer.

Professional digital colour camera, 1/2.33", CMOS, 16.0 Mpixel, USB 3.0, to acquire images from microscope.

Software for the image acquisition (on which measurements and comments can be produced), the measurement on the "live" images directly, and the statistic analysis of the acquired measurements.

Fibre Microscope Kit for the microscopic analysis; instructions for sample's preparation.

Reference standards:

ISO 137, UNI EN 12751, UNI 5423, UNI ISO 1130, ASTM D629, ASTM D2130, ASTM D276, AATCC 20, IWTO 8, IWS TM24, NIKE (section H, fiber content testing requirements)

Optional:

OPTICAL FIBRE ILLUMINATION DEVICE (for a perfect illumination of a sample from different adjustable angles).

Code 250.318

C-STEP CONNECTOR WITH 0.5X LENS
The installation of this connector allows to halve the magnification on screen and double the sample field of vision.

Code 250.334

TRINOCULAR KIT

To display the sample image either on the PC monitor, or in the oculars.

Code 250.340



Power supply: 100 up to 230 Vac, 50/60 Hz
Weight: 50 kg
Dimensions: (L) 1600 x (W) 700 x (H) 700 mm

Portable Microscope 2604

Pocket-size microscope with 40X magnification and grazing light.

Pick Counters

Pick counter 10x10 mm and 12X **Code 2601**

Pick counter 25x25 mm and 7X **Code 2605**



Portable Microscope



Pick Counters

Microscope for fabrics 191G

Stereoscopic microscope with trinocular head frame, particularly indicated for fabric and yarn analysis.

Standard magnification from 7X to 45X.

Incident and transmitted illumination.

Optional:

A pair of oculars 20X and additional lens 2X, to reach a maximum of 180 enlargements **Code 191.66**

Code 191.70

Additional lens 0.5X, to reach the standard magnification **Code 191.64**

Adaptor for Reflex type camera (T2 ring not supplied) **Code 191.68**

Power supply: 230 Vac, 50/60 Hz, single-phase

Weight: 7 kg

Dimensions: (L) 200 x (W) 250 x (H) 400 mm



Circular Sample Cutter 175B

Cutting area: 100 cm².

Cutting depth: 5 mm. Model with 4 blades.

Equipped with one cork support plate and four spare blades.

Reference standards: ISO 3801, UNI EN 12127, ASTM D2646, ASTM D3776, BS 2471, BS 3424, M&S P65, M&S P65A, NEXT 20

Weight: 2 kg

Dimensions: (L) 170 x (W) 170 x (H) 150 mm



Electronic balance per m² 165.664

Digital reading electronic balance particularly suitable to check the weight per m² of fabrics and paper, by means of pre-cut round cloth samples with a surface of 100 cm².

The reading capacity of the balance, by using 100 cm² round cloth samples, allows the measurement of a maximum weight of the fabric up to 30000 g/m², with an accuracy of 1 g/m².

Weighing capacity: 300 g and 0,01 g accuracy.

Pan size \varnothing 120 mm.

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Weight: 1,9 kg

Dimensions: (L) 200 x (W) 200 x (H) 60 mm



Crock Meter Rubbing fastness

2540



Instrument to determine colour fastness to rubbing, fitted with a digital reading counter. The instrument is supplied complete with a rubbing dowel with 1,6 cm diameter, a dowel with 1,9x2,54 cm dimensions, (each dowel is equipped with a proper weight, in order to reach 9 N), and one set of crocking clothes.

Optional:

1 set of no. 500 pieces of cotton crocking cloth **Code 198.422**

Grey scale A03 **Code 267A**

Reference standards: UNI EN ISO 105 X12, AATCC 165, M&S C8, NEXT 6

Weight: 8 kg

Dimensions: (L) 670 x (W) 220 x (H) 210 mm

Electric Crock Meter Rubbing fastness

198B



Electric model to determine colour fastness to rubbing, fitted with a digital counter. The Crock Meter is supplied complete with a rubbing dowel with 1,6 cm diameter, a dowel with 1,9x2,54 cm dimensions, one pre-installed weight (to reach 9 N), and one set of crocking clothes.

Optional:

Code 198.422

no. 500 pieces of cotton crocking cloth

Code 267A

Grey scale

Reference standards: UNI EN ISO 105 X12, AATCC 8, AATCC 165, M&S C8, NEXT 6

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Weight: 18 kg

Dimensions: (L) 610 x (W) 220 x (H) 300 mm

Forced Ventilation Conditioning Oven

251G



High-tech oven suitable for crimp checking in yarns and for checking the dimensional stability of fabrics in hot air.

Suitable for the hot cleaning of mechanical spinnerets, for drying and heating of any type of textiles.

Supplied complete with temperature digital regulator and two grid-type shelves made of stainless steel.

Forced ventilation of the heating air.

Operating temperature range: from room temperature to +280°C.

Accuracy: $\pm 1^\circ\text{C}$.

Available models:

Inside dimensions (L) 408 x (W) 372 x (H) 422mm.

Capacity: 60 litres. Weight: 40 kg

Code 251G

Inside dimensions (L) 498 x (W) 477 x (H) 512mm.

Capacity: 120 litres. Weight: 50 kg

Code 251H

Inside dimensions (L) 593 x (W) 522 x (H) 797mm.

Capacity: 250 litres. Weight: 90 kg

Code 251P

Power supply: 230 Vac or 400 Vac, 50/60 Hz

Sample Press Lab

1750A

Hydraulic punch cutting machine with high cutting capacity. Ideal to cut textile, leather, rubber and soft plastic specimens, to be used for different types of testing (such as strength, weight per square metre, flexion, bursting tests, etc.).

Cutting capacity: 16.000 kg

Maximum cutting surface: 400x800 mm

Maximum cutting stroke: 80 mm

Cutting device can be activated by means of a safety button.

Reference standards:

ASTM, ISO, DIN, AFNOR and UNI standards only.

Power supply: 400 V, three-phase, 50/60 Hz

Weight: 870 kg

Dimensions: (L) 980 x (W) 900 x (H) 1410 mm

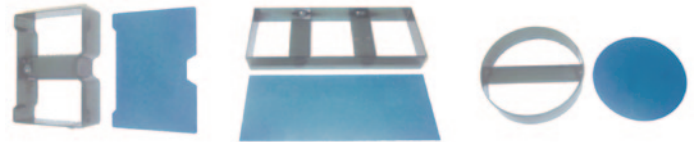
Optional:

Punching knives

Circular, rectangular and square, with straight and jagged blade - different dimensions on demand.

Punch thickness: 30 mm

Cutting stroke: about 5 mm



Hoff-Lab Press

3370B

Vaporising ironing machine to check the dimensional stability of orthogonal and knitted fabrics during ironing tests.

Hoff-Lab Press is equipped with a PLC device which controls the automatic pressing, sample vaporising and suction cycles. The test is set through a control panel, where some preset programs are available. The operator can anyway create and save new programs.

Suction is performed by the lower board. Suction depressure complies with international standards and can be certified by third parties.

Ironing board dimensions: 600 x 800 mm

Optional:

Electric boiler for vapour production, **code 3370 2**.

Reference standards: DIN 53894-2, NF G07 212, ASTM D2724, IWS TM 290, JIS L1096 method H2, H3, H4, JIS L1909

Available also model **Code 3370A**, which conforms to all the same standards, except for DIN and NF standards.

Power supply: 400 Vac, 50 Hz, three-phase + N

Weight: 310 kg

Dimensions: (L) 1400 x (W) 1000 x (H) 1600 mm



Scorch Fastness Sublimation tester 312A

To determine colour fastness to hot pressing and dry heat and to perform sublimation tests.

Heating plates dimensions: 125x125 mm (5"x5").

Temperature range: from +125°C to +230°C.

Pressure: 4 kPa

Reference standards: ISO 105 X11, AATCC 117, 133, BS 1006

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Weight: 15 kg

Dimensions: (L) 260 (W) 460 (H) 240 mm

Available also **Code 312B**: 5 plates, dimensions: 102x29 mm, (4"x1.13").

Perspirometer 257A

Incubator 251L

Instruments to check:

colour fastness to perspiration, in compliance with the following standards: UNI EN ISO 105- E04; BS 1006; BS EN 20105; AATCC 15; IWS TM 175

Colour fastness to swimming pool and sea water, in compliance with the following standards UNI EN ISO 105 E01; BS 1006; BS EN 20105; AATCC 106; AATCC 107; IWS TM 6.

Colour yellowing to phenol, in compliance with ISO and AATCC standards.

The system is composed of:

Code 257A - Perspirometer; standard weight of 5 kg, optional; set of plexiglas 21 plates (100x40 mm each), complete with one metallic container

Code 251L - Incubator cabinet with measuring, temperature range: from +5°C above room temperature to +80°C; accuracy: ±0.5°C at 37°C

Optional:

Multifibre fabrics DW 010 (ISO 105 e BS 1006) **Code 257.424**

Grey scale A03 (ISO 105 e BS 1006) to assess colour staining **Code 267A**

Grey scale A02 (ISO 105 e BS 1006) to assess colour fastness **Code 267C**

Kit of chemicals to reproduce acid and alkaline perspiration (in compliance with ISO, BSI, IWS, IWS TM) **Code 257.8**

Weight: 4,54 kg for AATCC standard **Code 257.4**

Set of glass: 10 plates (100x40x3 mm each) **Code 257.18**

Colour yellowing to phenol Kit for ISO (105x18 mm) **Code 257.10**

Weight: 5 kg for ISO standard **Code 257.20**

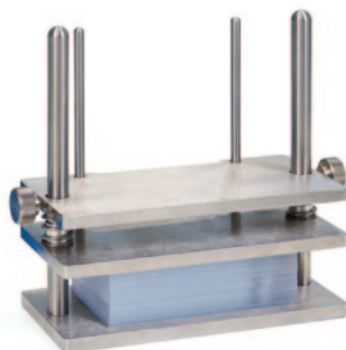
Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase
Weight: 45 kg

Inner dimensions: (L) 300 x (W) 240 x (H) 300 mm

Outside dimensions: (L) 550 x (W) 350 x (H) 420 mm



code 312B



picture: 257A + 251L

Sun Lab Light fastness

325A

Equipment for the analysis of the colour fastness to the light of a 1500W Xenon lamp.

The following parameters are monitored, controlled and stabilized:

- temperature measured on the specimen with the B.S.T. method;
- lamp irradiance.

Possibility of specimen irradiance (one filter is included at customer's choice); other filters are supplied as optional:

UV 310 filter + IR (exposure behind the window) **Code 325.34**

UV 280 filter + IR (outdoors exposure) **Code 325.38**

UV 280 filter (outdoors exposure) **Code 325.42**

UV 310 filter (exposure behind the window) **Code 325.46**

Timer included.

Optional: see optional accessories available for Xenon Lab **Code 325E**.

Reference standards: ISO 105, BS 1006

Power supply: 230 Vac, 50/60 Hz, single-phase

Weight: 29 kg

Dimensions: (L) 750 x (W) 390 x (H) 400 mm



Xenon Lab Light fastness

325E

Equipment for the analysis of the colour fastness to the light of a 1500W Xenon lamp in a chamber with preset humidity, controlled by ultrasonic device.

The following parameters are monitored, controlled, and stabilized:

- temperature;
- humidity;
- lamp irradiance.

Filter UV 310 nm for the simulation of indoors conditions.

Possibility of specimen irradiance: see Sun Lab (code 325A) description, for filter specifications.

Optional:

Set of Blue standard scale for light fastness (50 units) **Code 325.2**

Humidity test control fabric (Htc) **Code 325.30**

Grey scale type A02 **Code 267C**

Set of 3 sample holders 100 (x3) **Code 193A.100**

Reference standards: ISO 105 B02 (except A.1.4); BS 1006

Power supply: 230 V, 50/60 Hz

Weight: 60 kg

Dimensions: (L) 750 x (W) 390 x (H) 1000 mm

Specimen tray dimensions: 280 x 200 mm





Wascator

310B

High precision washing machine officially acknowledged as a standard reference for washing tests on fabrics. Wascator is also suitable for checking effects of washing detergents and chemical products.

Equipped with microprocessor for setting several programs of different functioning cycles.

Optional:

Polyester makeweight **Code 310.72**

Stability template and percentage ruler for checking the dimensional stability **Code 310.14**

Memory card UNI EN ISO 6330 **Code 310B.90**

ECE / IEC detergents available on demand

Reference standards: UNI EN ISO 6330, UNI EN ISO 5077, IWS TM 31, IEC 456, M&S P1, M&S P1A, M&S P3A, M&S P12, M&S P91, M&S P99, M&S P99A, M&S P134

Power supply: 230 Vac or 400 Vac, 50 or 60 Hz, three-phase
Weight: 195 kg

Dimensions: (L) 720 x (W) 690 x (H) 1315 mm



Tumble Dryer

3111

Recommended model to dry samples washed with Wascator, **Code 310B**.

Capacity: 5 kg - Timer: 99,99 min.

Equipped with electronic processor for accurate temperature control within $\pm 1^{\circ}\text{C}$.

Reference standards: UNI EN ISO 6330, ISO 6330, AATCC 135, M&S P1A, M&S P3A, M&S P3B, M&S P4A, M&S P12, M&S P91, M&S P99A, M&S P134

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase
Weight: 35 kg

Dimensions: (L) 600 x (W) 600 x (H) 850 mm



Dry Cleaning Machine

310F

Dry cleaning machine internationally acknowledged as a standard reference to check the dimensional stability of fabrics to dry washing.

Equipped with an electronic device for the control of the different washing programs.

Complete with drying system.

Reference standards: EN ISO 3175, AATCC 158

Power supply: 400 Vac, 50/60 Hz, three-phase
Net weight: 1200 kg

Dimensions: (L) 1460 x (W) 2100 x (H) 2000 mm

Top Loading Home Washer 310H

Washing machine with loading system from the top, to simulate domestic washing cycles. Equipment selected and certified by AATCC.

Reference standards: AATCC 88B, AATCC 88C, AATCC 124, AATCC 130, AATCC 135, AATCC 142, AATCC 143, AATCC 150, AATCC 159, AATCC 179

Power supply: 115 Vac, 60 Hz or 230 Vac, 50 Hz

Weight: 58 kg

Dimensions: (L) 699 x (W) 686 x (H) 1006 mm



Front-loading Home Tumble Dryer 3111B

Tumble dryer machine with loading system from the front, to dry samples after their washing with the Top Loading Home Washer (code 310H).

Equipment selected and certified by AATCC, to perform domestic drying cycles.

Reference standards: AATCC 88B, AATCC 88C, AATCC 124, AATCC 130, AATCC 135, AATCC 142, AATCC 143, AATCC 150, AATCC 159, AATCC 179

Power supply: 115 Vac, 60 Hz or 230 Vac, 50 Hz

Weight: 55 kg

Dimensions: (L) 737 x (W) 717 x (H) 1090 mm



Autowash II Wash-Dry colour fastness 311L

Instrument to determine the colour fastness to dry-cleaning or washing. Fitted with a computerised electronic temperature controller, accuracy $\pm 1^{\circ}\text{C}$. It can be used also for atmospheric dyeing up to $+98^{\circ}\text{C}$. Structure wholly made of very strong stainless steel.

Dual speed selection: 40 rpm (as requested by the standards for colour fastness) and 22 rpm (for dyeing tests).

Model designed to contain up to 8 interchangeable beakers of 550 cc or 1200 cc for colour fastness testing, according to the specific standard (European or American) in use.

Also suitable for soaping.

Available on demand a 16-position model, code 311M.

Optional:

Stainless steel beakers 550 cc for colour fastness Code 311L.18

Stainless steel beakers 1200 cc for colour fastness Code 311L.20

Base for instrument placement Code 311L.22

Reference standards: UNI EN ISO: 105 C06, 105 C08, 105 C09, 105 C10, 105 C12, 105 D01, 105 E03, 105 E12, 105 X05, 11643; AATCC: 61-1A, 61-2A-3A-4A-5A, 86, 132, 151, 190; M&S: C4A, C5, C37, P3B; IUF 434, NEXT TM2. Officially approved by Marks & Spencer (M&S)

Power supply: 400 Vac, 50/60 Hz, three-phase + N

Weight: 135 kg

Dimensions: (L) 1025 x (W) 757 x (H) 1127 mm



Grey Scales



For checking colour staining and fastness, according to ISO 105 (BS 1006).

Available in two models:

Grey scale A02 for colour change tests **Code 267C**

Grey scale A03 for colour staining tests **Code 267A**

AATCC grey scales for colour staining test and for colour fastness tests are also available:

AATCC scale for colour change tests **Code 267D**

AATCC scale for colour staining tests **Code 267E**



Blue Scale

325.2

Set of 50 cards in pure wool, each with 8 stuck blue scale gradations.

To test colour fastness of cloths exposed to light, in accordance with ISO Standard 105 (BS 1006), ATCC

Standard Adjacent Fabrics

Suitable for colour staining tests according to ISO 105 standards (BS 1006).

Available in the following versions:

F01 Wool (10x4 cm - 50 pcs.) **Code 323.8**

F02 cotton (limbri) - (10x4 cm - 50 pcs.) **Code 323.6**

F02 Viscose (1 m) **Code 323.10**

F03 Polyamide (Nylon 6.6, 1 m) **Code 323.12**

F04 Polyester (1 m) **Code 323.14**

F05 Acrylic (1 m) **Code 323.16**

F09 Cotton rubbing cloth (Lawn) - (500 pcs.) **Code 198.422**

D01 Cotton for dry cleaning (Drill) - (1 m) **Code 323.4**



Multifibre DW 010

257.424

Standard fabrics for colour staining tests, according to ISO 105 (BS 1006) norms, F10. The fabrics are made of fibres: secondary cellulose, acetate, cotton, polyamide, polyester, acrylic and wool. Supplied in packages of 10 m length each.



Multifibre TV

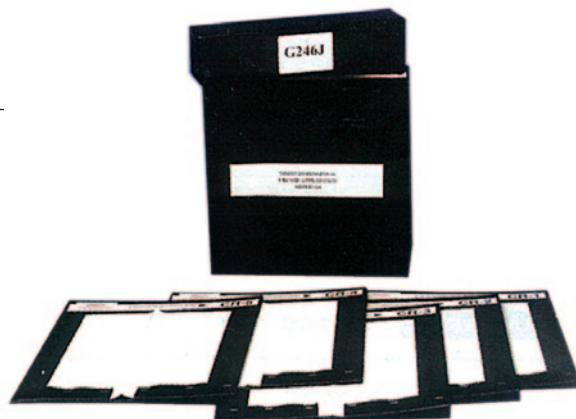
257.426

Same as DW010 **Code 257.424**, but for washing tests at high temperature.

AATCC/ISO Crease Appearance Replicas 310.94

Set of 5 standard references to visually evaluate the crease in the fabrics after washing.

Reference standards: UNI EN ISO 15487, ISO 7769 , AATCC 88C, AATCC 143, M&S P134



AATCC/ISO Seam Smoothness Appearance Replicas 310.96

Set of standard reference for the smoothness appearance of seams in fabrics after cleansing.

Reference standards: UNI EN ISO 15487, ISO 7770, AATCC 143



AATCC/ISO Smoothness Appearance Replicas 310.74

Set of 6 standard references for the visual assessment of the fabric smoothness after washing.

Reference standards: AATCC 124, AATCC 143, M&S P91, M&S P134, ISO 7768

Soap Powder 310.10

To perform tests of colour fastness to washing, as per the ISO 105 (BS 1006), CO1-CO5 standards.

ECE/IEC Reference Detergent

Detergent with or without bleaching agents, to be used for the colour fastness tests to washing, following the ISO standards.

| | |
|--------------------------------|-------------|
| ECE without phosphate (A) 2 kg | Code 310.32 |
| ECE with phosphate (B) 2 kg | Code 310.4 |
| IEC without phosphate (A) 2 kg | Code 310.16 |
| IEC with phosphate (B) 2 kg | Code 310.40 |



Vapour Permeability Tester 3122

To check the resistance of textiles to water vapour penetration.

The system is composed of:

- no. 3 pots complete with covers and gaskets
- no. 1 laboratory glass dryer, diameter 300 mm
- no. 1 25 ml pipette
- no. 1 kg silica gel

Electronic balance not included

Reference standards: UNI 4818 - 26

Weight: 20 kg

Dimensions: (L) 400 (W) 400 (H) 400 mm



Water Vapour Tester 3395

Instrument to analyse the water vapour permeability of leather, industrial fabrics and all permeable materials. Sample rotation speed: 75 ± 5 rpm. Ventilation system: with 3 blades rotating at 1400 ± 100 rpm.

The equipment is composed of:

set of rotating beaker holder for 6 positions, with rapid release system

6 glass beakers

protection system for the operator

Reference standards: UNI EN 420 International Standard for testing "Protective Gloves", UNI EN ISO 20344 and UNI EN ISO 14268 for leather, UNI EN 13515

Power supply: 230 Vac, 50/60 Hz

Weight: 25 kg

Dimensions: (L) 550 x (W) 650 x (H) 500 mm



Static Lab 291B

Equipment suitable for checking the static electricity properties of clothes, protective fabrics, shoe fabrics and leather materials.

It is composed of:

electronic control panel for the digital reading of the static electricity values (Ohm)

connecting cables

measuring heads for the static electricity reading as regards both the "surface" and "vertical" methods

Reference standards: UNI EN 1149-1, UNI EN 1149-2, AATCC 76

Note: before the static electricity measurement, sample has to be conditioned at $+23^{\circ}\text{C} \pm 1^{\circ}$ and R.H. $25\% \pm 5\%$, with Climatest (Code 1722).

Power supply: 230 Vac, 50/60 Hz, single-phase

Weight: 5 kg

Dimensions: (L) 500 x (W) 300 x (H) 300 mm



Glove Cut Tester

3394A

Equipment for checking the resistance of protective cloths to cutting. Suitable to perform tests on protective gloves against accidents, according to the EN 388 standard.

Accessories supplied with the equipment:

- 1 pack of aluminium paper with 0.01 mm thickness
- 1 pack of paper (filter) 65 g/m²
- 1 pack of reference fabric
- 2 sample holders
- 10 blades

Reference standards: UNI EN 388 6.2.2 (2017), UNI EN 13594

Power supply: 230 Vac, 50/60 Hz

Weight: 25 kg

Dimensions: (L) 500 x (W) 300 x (H) 420 mm



Linear Cut Resistance Tester 3394B

Instrument suitable to measure the resistance to cutting on protective clothing. Designed to perform tests also on protective gloves, according to the international Standards. Equipped with moveable 9-position sample holder, suitable to perform multiple tests - on the same specimen - with different applicable forces, in order to collect data to define the resistance to cutting by sharp objects.

The instrument is supplied with:

- 1 set of combinable weights to reach forces up to 61 N
- 20 Standard blades
- 1 Standard calibration neoprene sheet
- 1 Bi-adhesive tape, 1 roll
- 1 Aluminium foil, 1 roll

Reference standards: UNI EN ISO 13997, UNI EN 388 6.3 (2017), ASTM F2992/F2992M

Power supply: 230 Vac, 50 Hz.

Weight: 39 kg

Dimensions: (L) 800 x (W) 390 x (H) 400 mm



Impact Abrasion Lab

2563

Laboratory instrument suitable to:

Determine quality of protective suits like motor rider suits (both one-piece and detached), gloves etc. Made to protect motor-bikers from injuries caused by impact against the road surface.

Determine the resistance to abrasion of wrist, knee, elbow and hand protections.

Supplied complete with timer (in seconds), meter counter for abrasion, device to apply a pressure of 49N onto specimens, waste suction device, and safety device for the operator.

Reference standards: UNI EN 13595-2, UNI EN 13594, UNI EN 14120, UNI EN 388 6.6 (2017)

Power supply: 400 Vac, 50/60 Hz, three-phase + N

Compressed air supply: 5 bar

Net weight: 250 kg

Dimensions: (L) 1500 x (W) 500 x (H) 1500 mm





Instrument to determine the flammability resistance of textiles and the flame propagation rate onto **vertically** oriented textile materials.

Suitable to test:

- protective fabrics;
- technical fabrics in general;
- clothes and furnishing fabrics.

The instrument can be also used with toys, as well as with both natural and artificial leather.

ISO Flammability Lab is fully **automatic**, since it is equipped with a PLC that controls and records the movement of the burner, the distance of the same from the samples, and the flame propagation time from one set distance to the other one. The PLC is equipped with 1 RS232 serial port for connection with Personal Computer, and for printing of test results.

Optional:

Computer - Software - Printer

Radiator (**Code 3392E.40**) to analyse the flammability resistance of textile materials exposed to the heat of a radiator (as required by the EN 13772).

Reference standards: UNI EN ISO 15025, UNI EN ISO 6940, UNI EN ISO 6941, UNI EN 13772, UNI EN 407, UNI EN 1101, UNI EN 1102, UNI EN 1103, UNI EN ISO 14116, UNI EN ISO 14878

Power supply: 115 Vac or 230 Vac, 50/60 Hz

Net weight: 50 kg

Dimensions: (L) 650 x (W) 750 x (H) 1200 mm

45° Flammability Tester 3392C

Laboratory instrument to determine the flammability resistance of fabrics exposed to a flame with an angle of 45°.

Automatic model with timer (in seconds) that automatically stops the flame application at the end of the pre-set time, and consequently measures the flame propagation time to reach the target zone.

Made of stainless steel.

Transparent panel made of fire-resistant glass.

Reference standards: CS 191-53 (CFR 1610), ASTM D1230, NFPA 702, CA TB 117 (2000), BIFMA, FED STD 191A TM 5908, 16 CFR 1610

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Net weight: 20 kg

Dimensions: (L) 400 x (W) 350 x (H) 500 mm



Horizontal Flammability Tester 3392D

Automatic instrument to determine the flammability resistance of all kinds of materials used both in the automotive and aircraft industries.

Equipped with a timer (in seconds) to control the ignition time.

Reference standards: UNI EN ISO 17074, UNI ISO 3795, ASTM D5132, FMVSS 302, FAA, BOEING, AIRBUS, SAE J 369, CMVSS 302, JISD 1201, FAR Part 25 Appendix F Part 1

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Net weight: 12 kg

Dimensions: (L) 450 x (W) 200 x (H) 450 mm



Vertical Flammability Tester 3392G

Automatic instrument to determine the flammability resistance to a vertical flame of apparel fabrics, protective fabrics, curtains and children's sleepwear.

Equipped with a timer (in seconds) to control the ignition time.

Reference standards: ASTM D6413, ASTM F1506, NFPA 1971, NFPA 1975, NFPA 1976, NFPA 1977, NFPA 1981, NFPA 2112, FAR Part 25 Appendix F Part 1, CPAI 84 - Tent walls and tops, Federal Test method 5903, BOEING BSS 7230, AIRBUS AITM 2.0002

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase

Net weight: 38 kg

Dimensions: (L) 330 x (W) 340 x (H) 850 mm





Highly accurate instrument to determine the physiological “comfort” of fabrics.

Testing is performed by means of a transparent hot plate, called “skin model”, that simulates the process of heat and humidity transfer occurring in proximity of the human skin.

It provides the following data:

Thermal resistance (RCT) with scale from 0.002 to 2.0 m² K/W

Resistance to steam (RET) with scale from 5 to 1000 m² Pa/W

Index of permeability to steam (IMT)

Permeability to steam (Wd)

Max flux 1100 W/m²

The instrument is supplied complete with:

Hot plate for fabric specimens up to 8”x 8”

Electronic interface with heating and conditioning sensors

Heating device of the “skin model” plate

Air control device

Sensors for the measuring of air speed, temperature and relative humidity.

Personal computer complete with operating software

To carry out testing, the use of Climatest (**Code 1722S**) is necessary.

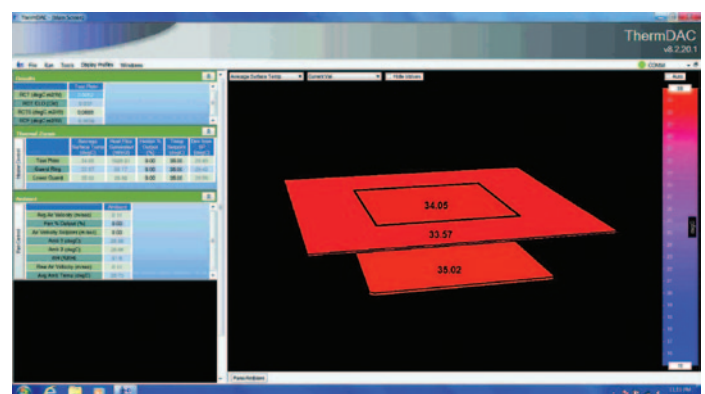
Reference standards:

ISO EN 11092, UNI EN 31092, ASTM D 1518, ASTM F 1868, NFPA 1971.

Power supply: 115 Vac or 230 Vac, 50/60 Hz

Weight: 52 kg

Dimensions: (L) 660 x (W) 610 x (H) 610 mm



Integrated Sweating Guarded Hot Plate System

3123B

The Sweating Guarded Hot Plate, or “Skin Model”, is used to produce accurate, repeatable measurements of thermal resistance (R_{ct}) and vapour permeability (R_{et}) for textiles as per UNI EN ISO 11092, ASTM F1868 e ASTM D1518 (Option II).

The iSGHP-8.2 and iSGHP-10.5 systems include Hot Plate with integral sweating surface, computer controlled variable airflow rates, gravity fed fluid supply system, and ambient temperature and humidity probes.

The system’s integrated chamber features an insulated stainless steel interior and a compact, space-efficient design.

Its ergonomic layout yields a comfortable working height of approximately 42” (107cm) above the floor, and other thoughtful touches include a high intensity LED cabinet light, a removable top shelf for the preconditioning of fabric samples, and a large insulated door with viewing window.

For sweating tests the SGHP Hot Plate utilizes the chamber’s water source, and a unique porous wicking assembly on both Hot Plate and guard ring ensures a uniform wetted surface.

Adjustable (motorized) plate height easily accommodates a variety of sample thicknesses, and our ThermDAC control and data logging software makes testing very simple.

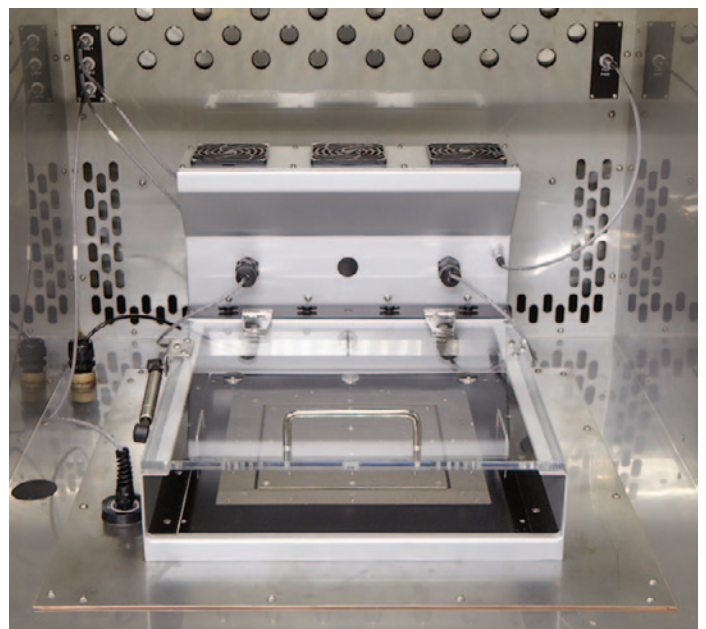
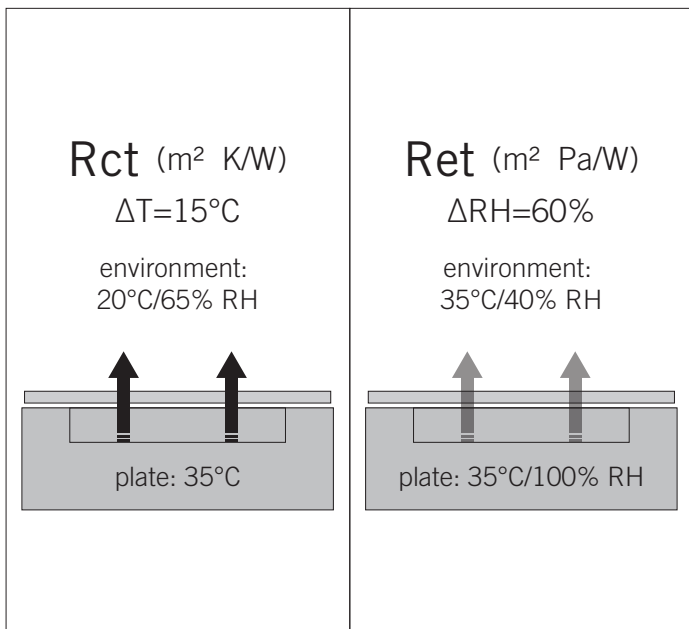
Reference standards:

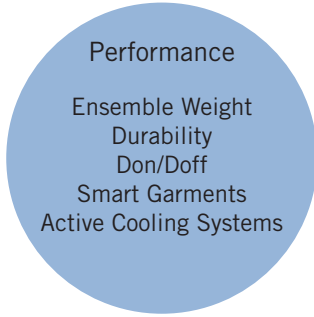
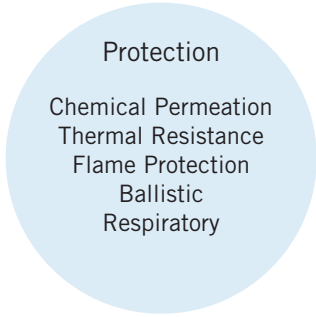
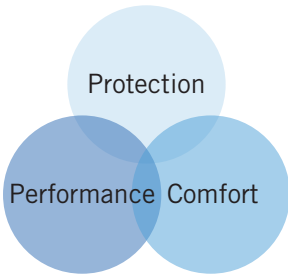
UNI EN ISO 11092, ISO 13029, ASTM F1868, ASTM D1518 Option II, ASTM D1518 Option I*, GB/T 11048, CEN/TR 16422:2012

Power supply: 220/240 Vac, 50/60 Hz, single-phase

Weight: 448 kg

Dimensions: (L) 910 x (W) 990 x (H) 1780 mm





ANDI Thermal Manikin

Sweating thermal manikin for advanced thermal comfort research, with exclusive features: Dynamic Heatflux Sensing and Active-Cooling; ANDI can measure both positive and negative heatflux (heat loss and heat gain) and respond to changing environmental conditions with unprecedented speed and accuracy.

Standard sweating model with 35 independent thermal zones.

Testing temperature range: -40°C to +50°C.

Precision carbon-epoxy shell with embedded sensor and resistance wire heating elements.

ANDI system includes manikin, control electronics, laptop PC, and ThermDAC control software.

Options:

- ManikinPC physiological control software
- Active Cooling technology, with external chiller
- Dynamic Heatflux Sensing (DHS)
- Sweating system with fluid distribution system, reservoir, and wicking fabric skin layer
- Walking motion stand
- External breathing system



Automotive Thermal Comfort

STAN Seat Test Manikin

“Back and buttocks” (8 thermal zones), developed to evaluate the thermal comfort and moisture management properties of automobile seating.

HVAC Automotive Manikin

Complete turn-key system for measuring the effect of vehicle heating and air conditioning designs on passenger comfort.



Drying Rate Tester DRT201

To determine the drying rate of a fabric based on the evaporative rate that occurs when a predetermined amount of water is absorbed into a fabric that is positioned upon a heated plate set to human skin temperature, and then dried with constant controlled airflow (in compliance with **AATCC 201**).

Available also “**Drying Rate Tester DRT200**” (Air Flow Meter), in compliance with **AATCC 200**.

MISCELLANEOUS

| | | | |
|------|-------------------------------------|------|----------------|
| p 74 | Electronic Tachometer | Code | 1810C |
| p 74 | Electronic Tachometer | Code | 1810G |
| p 74 | Electronic Tachometer | Code | 1810E |
| p 74 | Electronic Tachometer | Code | 1810H |
| p 75 | Tensiometer Zivy | | |
| p 75 | Electronic Tensiometer ZEF/ZED | | |
| p 75 | Warp Tensiometer DXK model | | |
| p 76 | Electronic Tensiometer DTS | | |
| p 76 | Electronic Tensiometer ETB | | |
| p 76 | Mechanical Tensiometer DX2 | | |
| p 76 | Mechanical Tensiometer ZF2/ZD2 | | |
| p 77 | Stroboscope | | |
| p 77 | Strobo Lab | Code | 186H |
| p 77 | Battery Powered Digital Stroboscope | Code | 186F |
| p 77 | Phonometer | Code | 243B |
| p 78 | Thermo-anemometer | Code | 287C |
| p 78 | Electronic Psychrometer | Code | 288C |
| p 78 | Sling Psychrometer | Code | 196B |
| p 78 | “Assmann” Psychrometer | Code | 196C |
| p 79 | Writing Thermo-hygrograph | Code | 180B |
| p 79 | Digital Thermometer | Code | 244B |
| p 79 | Optical Pyrometer | Code | 296D |
| p 79 | Orbital Shaker | Code | 3125A |
| p 80 | “Sartorius” analytic Balance | Code | 165.702 |
| p 80 | “Sartorius” precision Balance | Code | 165.704 |
| p 80 | “Sartorius” multi-purpose Balance | Code | 165.708 |
| p 80 | Thermo Balance | Code | 165.502 |
| p 81 | Digital Force Tester | Code | 194D |
| p 81 | Refractometer | Code | 266A |
| p 81 | Yarn Meter | Code | 298E |
| p 81 | Yarn Meter | Code | 298D |
| p 82 | Portable pH-meter | Code | 322C |
| p 82 | Bench pH-Meter | Code | 322L |
| p 82 | Viscosimeter | Code | 3220 |
| p 82 | UV Lamp | Code | 189A |
| p 83 | Portable Thickness Gauges | | |
| p 83 | Ultrasonic Cleaning Baths | | |
| p 83 | Melt-Flow Index | Code | 339B |



Electronic Tachometer 1810C

Digital contact reading from 0.1 to 25000 rpm and from 0.02 to 3810 m/min.

Available measuring scales for values reading: revolutions per minute, revolutions per hour, yard/min., yard/hour, m/hour, feet and inches per min. and per hour.

Selectable length: cm, m, inches, feet and yards.

Storage capacity of the last 10 measurements including minimum and maximum values.

Power supply: 1,5 V battery x 2



Electronic Tachometer 1810G

Contact reading.

Measuring range: from 1 to 25000 rpm and from 0,1 to 3810 m/min with ± 1 rpm accuracy (from 1 to 599 rpm), and $\pm 0,01\%$ of reading (from 600 to 25000 rpm).

Complete with accessories (equipped with a set of rubber ferrules).

Power supply: 1,5 V battery x 3



Electronic Tachometer 1810E

Optical model for contact and non-contact measurements. Measuring range from 6 to 99999 rpm with ± 1 revolution accuracy (non-contact) and from 1 to 25000 rpm (contact). Measuring distance: 2 m max.

Equipped with built-in memory system for the storage of the last 10 measurements, minimum and maximum values included.

Power supply: 1,5 V battery x 2



Electronic Tachometer 1810H

Optical model for contact and non-contact measurements. Measuring range from 6 to 99.999 rpm with ± 1 rpm accuracy (from 6 to 599 rpm), and $\pm 0,01\%$ of reading (from 600 to 99999 rpm).

Measuring distance: 2 m max.

Also a model for non-contact measurements only is available (code 1810L).

Power supply: 1,5 V battery x 3

Tensiometer Zivy

Available in the following scales:

| | | |
|--------------------------|------|------|
| TEN 5K 1 - 5 g (cN) | Code | 182A |
| TEN 12K 2 - 12 g (cN) | Code | 182B |
| TEN 30K 5 - 30 g (cN) | Code | 182C |
| TEN 70K 10 - 70 g (cN) | Code | 182E |
| TEN 120K 20 - 120 g (cN) | Code | 182F |
| TEN 170K 50 - 170 g (cN) | Code | 182G |



Electronic Tensiometer ZEF/ZED

Digital reading. Recommended for knitting, hosiery, warping and assembling machines.

Available reading scales:

| | | |
|---|------|------|
| from 0,5 to 100 cN with 0,1 cN accuracy | Code | 1836 |
| from 1 to 500 cN with 1 cN accuracy | Code | 1837 |



Warp Tensiometer DXK

To determine correct tension on warps both statically and dynamically.

10 mm measuring roller, to simultaneously measure 5 or 10 yarns.

Available in 3 versions:

| | | |
|---|------|------|
| DXK-300 with reading scale from 20 to 300 cN | Code | 2876 |
| DXK-1000 with reading scale from 100 to 1000 cN | Code | 2877 |
| DXK-2000 with reading scale from 200 to 2000 cN | Code | 2878 |

For dynamic analysis, the Tensiometer

DXK complete with the optional "Air Damping" tension absorber is recommended

Code 286.126



Electronic Tensiometer DTS



Digital reading. Particularly suitable for winding, twisting, warping machines. Distance between the two outer rollers: 66 mm. Reading of the real working tension and of tension peaks. Equipped with rollers suitable for yarn speed up to 2000 m/min. As optional, special rollers are available for yarn speeds up to 5000 m/min.

Available reading scales:

| | | |
|--------------------|------|------|
| from 0,2 to 200 cN | Code | 195A |
| from 0,5 to 500 cN | Code | 195B |
| from 10 to 1000 cN | Code | 195C |
| from 20 to 2000 cN | Code | 195D |

Other "DTX" models, equipped with software and USB cable, are available on demand.

Electronic Tensiometer ETB



Digital reading. Recommended for texturizing machines, automatic winders, warping machines and any textile machine where the lack of space makes the measuring difficult. Distance between the two rollers: 24 mm.

Available models:

tension range from 0.3 to 100.0 cN with steel guide rollers suitable for yarn speed up to 2000 m/min. Resolution: 0.1 cN **Code 1830F**

tension range from 2.0 to 200.0 cN with steel guide rollers suitable for yarn speed up to 2000 m/min. Resolution: 0.1 cN **Code 1830G**

tension range from 2.0 to 500.0 cN with steel guide rollers suitable for yarn speed up to 2000 m/min. Resolution: 0.1 cN **Code 1830H**

Other models are also available on demand:

ETPB models, with ceramic heads, suitable for yarn speed up to 6000 m/min.

ETX & ETPX models, equipped with specific software and USB cable

Mechanical Tensiometer DX2



Particularly suitable for winders, twisters and warping machines.

The following reading scales are available:

| | | |
|---------------------|------|------|
| from 10 to 50 cN | Code | 286N |
| from 20 to 200 cN | Code | 286P |
| from 20 to 400 cN | Code | 286A |
| from 50 to 1000 cN | Code | 286D |
| from 200 to 2000 cN | Code | 286W |
| from 400 to 5000 cN | Code | 286Y |

Mechanical Tensiometer ZF2/ZD2



Particularly suitable for knitting and hosiery machines.

The following reading scales are available:

| | | |
|-------------------|------|------|
| from 1 to 5 cN | Code | 286F |
| from 1 to 12 cN | Code | 2865 |
| from 3 to 30 cN | Code | 286G |
| from 5 to 50 cN | Code | 286H |
| from 10 to 100 cN | Code | 286I |
| from 20 to 200 cN | Code | 286L |

Stroboscope

Particularly suitable for the control of ring spinning frames, twisting, knitting and hosiery machines.

Analog reading, scale from 200 to 18000 rpm
Power supply: 115 Vac or 230 Vac, 50/60 Hz **Code 186A**

Digital reading, scale from 30 to 30000 rpm
Power supply: 115 Vac or 230 Vac, 50/60 Hz **Code 186M**

Digital reading, scale from 30 to 30000 rpm
Power supply: rechargeable battery **Code 186L**

Analog reading, scale from 200 to 18000 rpm
Power supply: rechargeable battery **Code 186D**



Strobo Lab 186H

Particularly suitable for the control of ring spinning frames, twisting, knitting and hosiery machines.

Digital reading stroboscope with built-in rechargeable battery. Complete with a special high luminosity lamp, for easier reading, even in case of high frequencies.

Measuring range: from 300 to 25000 rpm.

Accuracy: ± 1 rpm.

Power supply: 100 up to 230 Vac, 50/60 Hz, single-phase



Battery Powered Digital Stroboscope 186F

Special model with high luminosity lamp.

Particularly suitable for the control of ring spinning frames, twisting, knitting and hosiery machines.

Reading range: from 40 to 35000 rpm with ± 1 rpm accuracy. Complete with built-in rechargeable battery.

Power supply: 115 Vac or 230 Vac, 50/60 Hz, + battery



Phonometer 243B

Digital instrument of class 2.

Measuring range: from 30 to 130 dB.

Features: instantaneous measuring, max hold and battery level.

Power supply: 1,5 V battery x 3





Thermo-anemometer

287C

Digital reading. Particularly suitable for the measurement of temperature and air speed of the air conditioning and fan-ventilation systems in textile factories.

Recommended for spinning facilities, both natural and man-made fibres.

Measuring range: air speed from 0.01 to 30 m/sec ($\pm 3\%$ of reading or ± 0.015 m/s whichever is aerated); air temperature from $-17,8^{\circ}\text{C}$ to $+93,3^{\circ}\text{C}$ ($\pm 0,3^{\circ}\text{C}$).

Equipped with telescopic probe

Power supply: 1,5 V battery x 4



Electronic Psychrometer

288C

For the direct reading of the environmental temperature and humidity. Measuring range: from -20°C to $+80^{\circ}\text{C}$, and from 5% to 98% R.H. ($\pm 1,5\%$ R.H. accuracy in range from 10% to 90%). Digital reading.

Different probes available. Standard probe code 288C.10 (to be added).

As optional the following calibration solutions are available:

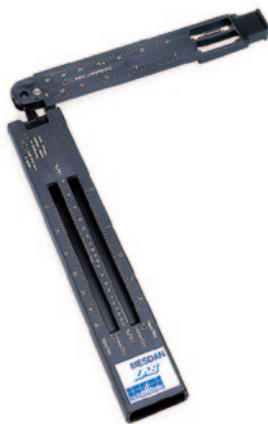
33,0% Rh solution

Code 288C.4

75,4% Rh solution

Code 288C.6

Power supply: 9 V battery



Sling Psychrometer

196B

Portable model for reading of environmental humidity percentage and temperature.

Reading scale: from 0 to 100% R.H., and from 0°C to $+45^{\circ}\text{C}$.

Measuring principle by means of a dry bulb thermometer and a wet bulb thermometer.



“Assmann” Psychrometer

196C

Portable model with dry or wet bulb to determine the environmental humidity and temperature.

Endowed with two mercury thermometers with measuring range from 0°C to $+50^{\circ}\text{C}$ ($\pm 0.2^{\circ}\text{C}$ accuracy).

Complete with electric fan.

Power supply: 1,5 V battery

Writing Thermo-hygrograph 180B

For the graphic reading of the environmental temperature and humidity.

Measuring range from: 0°C to +40°C ($\pm 1,5\%$ accuracy) and from 0 to 100% R.H. (accuracy $\pm 3\%$ from 0 to 40% R.H.; $\pm 5\%$ from 40 to 100% R.H.).

Complete with 52 weekly diagrams.

The measuring principle is achieved by means of a bundle of hair.

Power supply: 1,5 V battery



Digital Thermometer 244B

Measuring range: -200°C +1370°C

Resolution: +0,1°C up to +600°C

Instrument accuracy: $\pm 0,5^\circ\text{C}$ from 0 to +200°C, $\pm 2^\circ\text{C}$ from +200°C to the end scale and from -0,1°C to -200°C.

Optional probes suggested:

contact probe KTP 745

Code 244B.2

immersion probe, KTP 741

Code 244B.4

Other types of probes are available on request.

Power supply: 1,5 V battery x 3



Optical Pyrometer 296D

Electronic infrared thermometer for temperature measurement at distance.

Particularly suitable for ring spinning frames, twisting, texturizing and dyeing machines.

Measuring scale: from -50°C to +1000°C, with $\pm 2\%$ reading accuracy.

Adjustable emission with maximum peak function and acoustic alarm.

Power supply: 1,5 V battery x 2



Orbital Shaker 3125A

Orbital shaker suitable for extraction of aqueous pH from textile materials.

Equipped with a tray with 4 adjustable separators coated with rubber, and timer.

Tray dimensions: 550 x 450 mm.

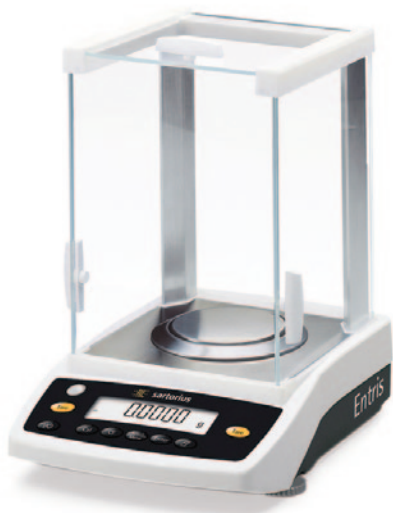
Adjustable electronic speed control from 50 to 230 rpm.

Power supply: 230 Vac, 50 Hz, single-phase

Weight: 20 kg

Dimensions: (L) 600 x (W) 550 x (H) 230 mm





“Sartorius” analytic Balance 165.702

120 g weighing capacity and 0,0001 g accuracy.
Digital reading. RS232 interface port.
Pan size: \varnothing 90 mm.

Power supply: 100 up to 230 Vac, 50/60 Hz, single-phase
Weight: 4.8 kg
Dimensions: (L) 230 x (W) 303 x (H) 330 mm



“Sartorius” precision Balance 165.704

320 g weighing capacity and 0,001 g accuracy.
Digital reading. RS232 interface port.
Pan size: \varnothing 115 mm.

Power supply: 100 up to 230 Vac, 50/60 Hz, single-phase
Weight: 3.6 kg
Dimensions: (L) 230 x (W) 303 x (H) 136 mm



“Sartorius” multi-purpose Balance 165.708

820 g weighing capacity and 0,01 g accuracy.
Digital reading. RS232 interface port.
Pan size: \varnothing 150 mm.

Power supply: 100 up to 230 Vac, 50/60 Hz, single-phase
Weight: 2.6 kg
Dimensions: (L) 230 x (W) 303 x (H) 87 mm

Other models available with higher capacity and with larger pan (180 x 180 mm).



Thermo Balance 165.502

150 g weighing capacity and 0,001 g accuracy. RS232 interface port. Infrared heating system, with range from +40°C to +220°C. Main available information: dry material weight %, lost weight of the material (mg), humidity %.

Power supply: 100 up to 230 Vac, 50/60 Hz, single-phase
Weight: 5.5 kg
Dimensions: (L) 213 x (W) 320 x (H) 181 mm

Other models are available on request.

Digital Force Tester

194D

To check the traction and compression strength; provided with USB / RS 232 port.

Available measuring units: N, kgf, lbf.

Measuring range: from 0 to 50 N (0.01N accuracy).

Different models are available on demand.

Recommended for the control of the drawing rollers in the spinning frames.

Complete with built-in rechargeable battery.

Power supply: 115 up to 230 Vac, 50/60 Hz, rechargeable battery

Weight: 0.4 kg

Dimensions: (L) 215 x (W) 65 x (H) 51 mm



Refractometer

266A

Portable model, suitable for the determination of the percentage of dry material in a solution, such as sizing.

Measuring range: 0 - 32%.



Yarn Meter

298E

Equipment to measure yarn tension, length and speed at the machine.

Maximum yarn speed: 1000 m/min.

Length measuring unit: metre or inch (± 1 cm or ± 1 inch accuracy).

Tension measuring range: 0-50 cN.

Power supply: rechargeable battery



Yarn Meter

298D

Reading of two different values:

yarn speed: from 0,1 to 1999 m/min.

quantity of absorbed yarn during a pre-set time: from 0.02 to 99999 m.

Digital reading.

Power supply: 9 V battery x 2

Weight: 0.22 kg





Portable pH-meter

322C

Measuring scale: from 0.00 to 14.00 pH.
 Probes on request.
 Accuracy: 0.01 pH.
 Application range: from -50°C to +400°C.
 Power supply: 1,5 V battery x 3



Bench pH-Meter

322L

Digital bench instrument, suitable for pH measurement in laboratory. Equipped with user interface and wide colour display (for real-time graph display). Very high accuracy and wide measuring range (from -2 to 20 pH).
 Bench pH-Meter is supplied with pH electrode, temperature probe, electrode holder, buffer solutions, cleaning solution, pipette, and 12 VDC adapter. Glass beakers (100 ml and 250 ml capacity) are available as optional.

Temperature Range: from -20.0 to 120.0°C / from -4.0 to 248.0°F / from 253.15 to 393.15 K.

Temperature Resolution: 0.1°C / 0.1°F / 0.1 K.

USB / RS232 communication ports for PC connection.

For fabric pH evaluation, a specific **"Aqueous Extract pH Kit"** is available.

Power supply: 120-230 Vac, 50-60 Hz

Weight: 1,2 kg

Dimensions: (L) 160 x (W) 231 x (H) 94 mm



Viscosimeter

3220

Rotational viscosimeter for quick measurement of viscosity in compliance with ISO 2555 and with ASTM standards.

54 Rotational speeds (between 0.01 rpm and 200 rpm).

Accuracy: ±1%.

Viscosity range:

(R-Version): 100 mPas - 40.000.000 mPas **Code** 3220A

(L-Version): 15 mPas - 6.000.000 mPas **Code** 3220

Power supply: 115 up to 230 Vac, 50/60 Hz



UV Lamp

189A

"Triwood" portable model with 6 lamps of 6 W each.

Suitable for the visual assessment of fibre impurities in yarn lots (for example: cotton with polyester).

Power supply: 230 Vac, 50/60 Hz, single-phase

Portable Thickness Gauges

The following models are available:

Measuring depth: 200 mm. Thickness reading range: 30 mm
Accuracy: 0,1 mm **Code 188F**

Measuring depth: 200 mm. Thickness reading range: 10 mm
Accuracy: 0,01 mm **Code 188R**

Measuring depth: 30 mm. Thickness reading range: 1 mm
Accuracy: 0,001 mm **Code 188G**

Measuring depth: 200 mm. Thickness reading range: 30 mm
Accuracy: 0,01 mm **Code 188Z**

Other models are available on request



Ultrasonic Cleaning Baths

Ultrasonic bath for a quick and perfect cleaning of glassware, spinnerets and texturing disks eliminating the toughest impurities hidden in holes and hollows.

The following models are available:

45 litres-22 kg - (L) 500 x (W) 300 x (H) 520 mm **Code 3101C**

28 litres-13.4 kg - (L) 505 x (W) 300 x (H) 200 mm **Code 3101B**

3 litres-3.2 kg - (L) 240 x (W) 137 x (H) 100 mm **Code 3101A**

Complete with heating system from +30°C to +85°C

Optional: lid, internal basket and detergent to clean the internal basket.

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase



Melt-Flow Index

339B

Automatic model to determine the fluidity index of thermoplastic materials exposed to heat.

The instrument carries out a volumetric procedure (MVI) and, by means of an optical system, determines the volume of the material extruded during a pre-set period of time. Equipped with a microprocessor that acquires, elaborates and displays both the single values and the average values (max. 12 values), and RS232 port for PC connection.

Temperature range: from +50°C to +400°C with $\pm 0,1^\circ\text{C}$ accuracy.

Reference standards:

UNI EN ISO 1133, UNI 5640, DIN 53735, AFNOR 51/016, ASTM D1238 meth. A-B, ASTM D2116, ASTM D3159, ASTM D3364, BS 2782/105 C PART.7 meth. A.

Power supply: 230 Vac, 50/60 Hz, single-phase

Weight: 30 kg

Dimensions: (L) 420 x (W) 330 x (H) 530 mm



Certificates and Calibrations

In 2004 MESDAN® S.p.A. obtained from Det Norske Veritas (DNV) the certification about Quality and Environmental Management System, in conformity with UNI EN ISO 9001 and UNI EN ISO 14001, with validity for design, manufacture and calibration of textile laboratory instruments.

Since then, MESDAN® S.p.A. has successfully undergone through the periodical audits of the Certifying Body and complete re-assessment of certification of its Quality Systems.



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: CERT-14215-2004-AQ-MIL-SINCERT Initial certification date: 07 May 2004 Valid: 24 April 2022 – 23 April 2025

This is to certify that the management system of
MESDAN S.p.A. - Sede Legale e Operativa
Via Masserino, 6 - 25080 Puegnago del Garda (BS) - Italy
and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Quality Management System standard:
ISO 9001:2015

This certificate is valid for the following scope:
**Design, manufacture and servicing of knotters and jointair devices for yarn joining.
Design, manufacture and calibration of textile laboratory instruments
(IAF: 18)**



MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: CERT-975-2004-AE-MIL-SINCERT Initial certification date: 09 July 2004 Valid: 01 June 2022 – 31 May 2025

This is to certify that the management system of
MESDAN S.p.A.
Via Masserino, 6 - 25080 Puegnano del Garda (BS) - Italy
and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Environmental Management System standard:
ISO 14001:2015

This certificate is valid for the following scope:
**Design and manufacture of knotters, Jointair devices for yarns and measuring and testing equipment for textile laboratories through the processes of shearing, laser cutting, vibro-finishing, heat treatments, degreasing, finishing, machining, assembly and testing
(IAF 18)**

Evaluated according to the requirements of Technical Regulations RT-09

Place and date:
Vimercate (MB), 04 March 2022



For the issuing office:
DNV - Business Assurance
Via Energy Park, 14, -20871 Vimercate (MB) - Italy

Claudia Baroncini

Claudia Baroncini
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV Business Assurance Italy S.r.l., Via Energy Park, 14 - 20871 Vimercate (MB) - Italy - TEL: +39 88 99 905. www.dnv.it

Place and date:
Vimercate (MB), 01 April 2022



For the issuing office:
DNV - Business Assurance
Via Energy Park, 14, -20871 Vimercate (MB) - Italy

Claudia Baroncini

Claudia Baroncini
Management Representative

Lack of fulfillment of conditions as set out in the Certification Agreement may render this Certificate invalid.
ACCREDITED UNIT: DNV Business Assurance Italy S.r.l., Via Energy Park, 14 - 20871 Vimercate (MB) - Italy - TEL: +39 88 99 905. www.dnv.it

Mesdan Lab can issue:

- Calibration Reports, complying with **UNI EN ISO 9001** (in some countries contractual calibration service for complete laboratories is available on demand).
- Calibration Certificate, complying with **ISO 17025** (Accredia - ILAC).

MESDAN® S.p.A. closely supports its international clientele in more than 70 countries by means of a capillary network of sales and service stations, which can provide qualified technical assistance.

MESDAN® affiliations



CERTIFICATO DI ACCREDITAMENTO

Accreditation Certificate

ACCREDITAMENTO N. **279T REV. 00**
ACCREDITATION N.

EMESSO DA **DIPARTIMENTO LABORATORI DI TARATURA**
ISSUED BY

SI DICHIARA CHE **MESDAN LAB SERVICE**
WE DECLARE THAT

SEDE PRINCIPALE/HEADQUARTER
• Via Beretta, 20 25086 PUEGNAGO DEL GARDA (BS) - Italia

È CONFORME AI REQUISITI DELLA NORMA **UNI CEI EN ISO/IEC 17025:2005** - Requisiti generali per la competenza dei laboratori di prova e taratura

MEETS THE REQUIREMENTS OF THE STANDARD **EN ISO/IEC 17025:2005** - General requirements for the competence of testing and calibration laboratories

QUALE **Laboratorio di taratura (LAT)**

AS **Calibration laboratory (LAT)**

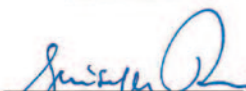
Data di 1ª emissione
1st issue date
07-03-2019

Data di Modifica
Modification date

Data di Scadenza
Expiry date
06-03-2023


Ing. Rosalba Mugno
Il Direttore di Dipartimento
The Department Director


Dott. Filippo Trifiletti
Il Direttore Generale
The General Director


Ing. Giuseppe Rossi
Il Presidente
The President

L'accREDITAMENTO attesta che il Laboratorio ha la competenza per operare quale Centro di taratura ACCREDIA per le grandezze, i campi e le incertezze di misura riportati nella tabella allegata al presente certificato di accreditamento. Il presente certificato non è da ritenersi valido se non accompagnato dalla tabella allegata e può essere sospeso o revocato in qualsiasi momento nel caso di inadempimento accertata da parte di ACCREDIA. La validità dell'accREDITAMENTO può essere verificata sul sito WEB (www.accredia.it) o richiesta direttamente al Dipartimento di competenza. Questo Laboratorio è accreditato in accordo alla norma internazionale UNI CEI EN ISO/IEC 17025:2005. L'accREDITAMENTO dimostra che il laboratorio possiede competenza tecnica per lo scopo definito e che opera secondo un sistema di gestione (si veda il comunicato congiunto ISO-ILAC-IAF dell'Aprile 2017).

Accreditation attests that the Laboratory has the competence to operate as calibration Centre of ACCREDIA, for the physical quantities, the range and uncertainty of measurement reported in the table attached to the present accreditation certificate. The present certificate is valid only if associated to the annexed schedule, and can be suspended or withdrawn at any time in the event of non fulfillment as ascertained by ACCREDIA. The in force status of the accreditation may be checked in the WEB site (www.accredia.it) or on direct request to relevant Department. This laboratory is accredited in accordance with the recognised International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer joint ISO-ILAC-IAF Communiqué dated April 2017).

Pag.1 di 1

ACCREDIA

Sede operativa: Strada delle Cacce, 91|10135 Torino - Italy|Tel. +39 011 328461|Fax +039 011 3284630
Sede legale: Via Guglielmo Saliceto, 7/9|00161 Roma - Italy|Tel. +39 06 8440991|Fax +39 06 8841199
info@accredia.it|www.accredia.it|Partita IVA - Codice Fiscale 10566361001

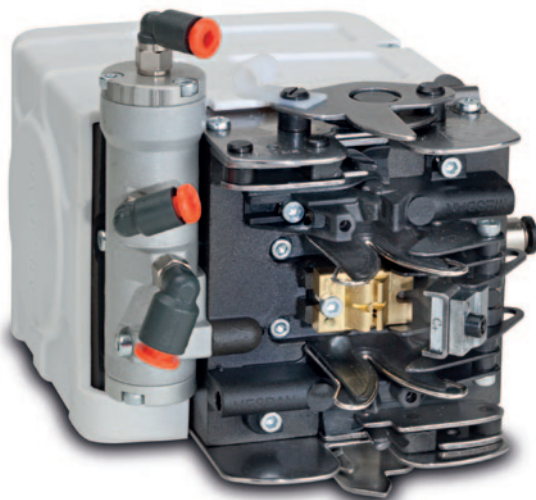
MESDAN® is famous all over the world not only for its vast choice of laboratory equipment, but also for its wide range of Yarn Joining solutions, such as:



Hand Knotters



Hand-operated
yarn splicers



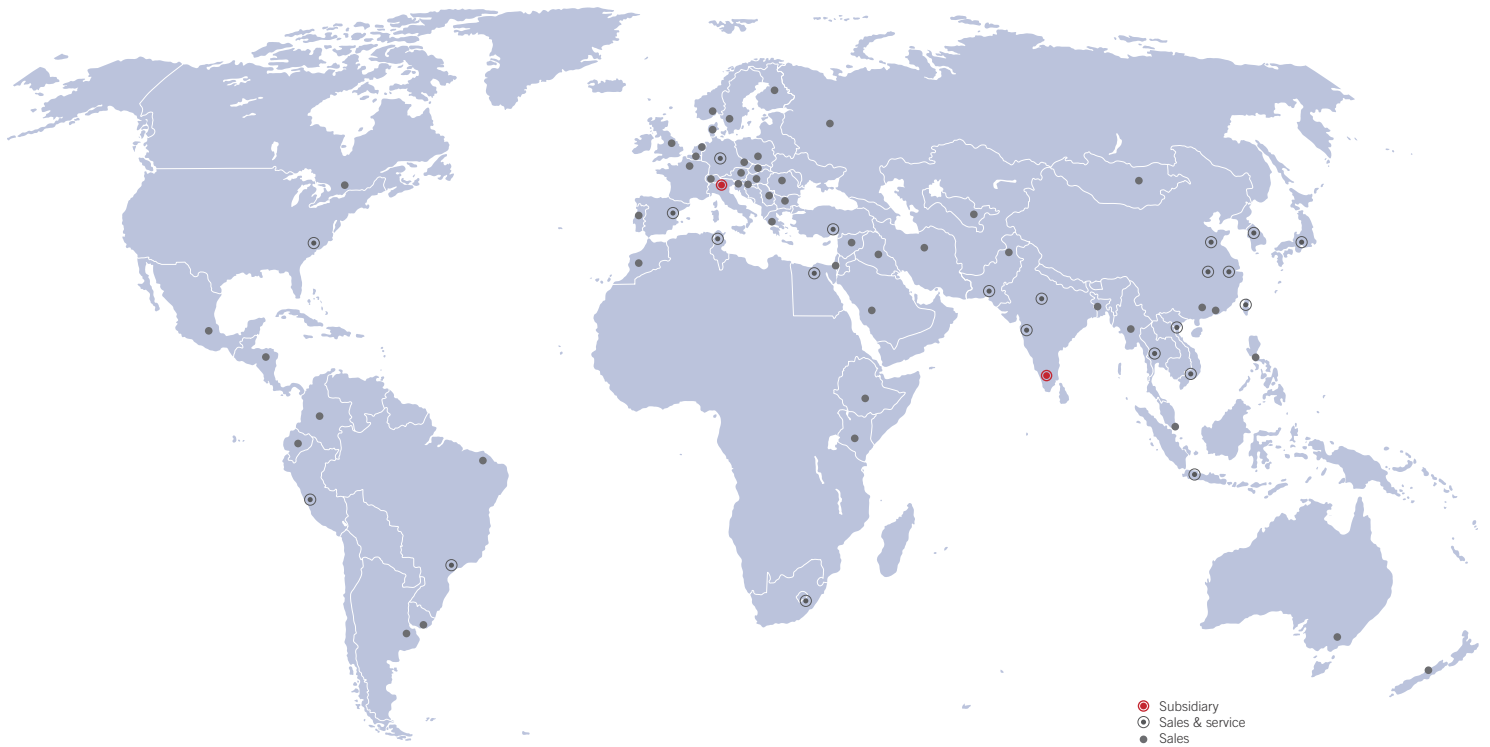
Automatic
yarn splicers



WWW.MESDAN.COM

Mesdan Lab is a division of MESDAN® S.p.A.





MESDAN®
headquarter



Mesdan Lab
new plant

