QUALITY CONTROL TESTING EQUIPMENT FOR TEXTILES

MESDANLAB
LABORATORY EQUIPMENT

COMPLETE TESTING SOLUTIONS

MESDAN

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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 Divison 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.

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Legend

This catalogue is composed of 5 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

YARNS

FABRICS

YARN AND FABRIC DYEING / FINISHING

MISCELLANEOUS

Fiber Laboratory, conditionned according to ISO 139

Yarn Testing Laboratory

Fabric & Garment Testing Laboratory

FIBRES

CONTEST-F2 High Volume Cotton Testing Equipment

3302F

Automatic cotton classing equipment to test all cotton classification values, such as: length, strength, elongation, micronaire, maturity, colour grade and trash.

It can test both raw cotton and lint.

Test results are independent from operator influence, due to its highly automated operation.

Classing module is calibrated with international standard materials.

Fully automatic.

Designed, engineered and manufactured in Italy.

CONTEST-F2 has been developed to measure all relevant fiber data from cotton bales.
The instrument consists of 3 modules:

Module 1 measures all parameters related to the length and strength classification of raw cotton, like upper half mean length,mean length, uniformity index, strength, elongation, short fiber index, moisture, as well as the spinning consistency index.

Module 2 evaluates the color and appearance classification of raw cotton, such as colour grade, Rd, +b, trash count, trash area, and leaf grade;

Module 3 provides a full characterization of the fiber fineness for raw cotton, like micronaire and maturity index, as well as all other properties which can be accessed through a fully cleaned material (lint fiber), such as the lint surface area (mike), maturity ratio, percentage content of mature fibers, fineness, and standard fineness.

FIBER TESTING - example of obtainable data

Subsample		*Micronaire & Maturity*							*Length & Strength*										
	SCI	***Mic***	***Mat***	***Mike***	***MR***	***PM***	***H***	***Hs***	***UHML***	***ML***	***UI***	***SFI***	***Str***	***Elo***	***Rd***	***+b***	***C-Grade***	***Tr Cnt***	***Tr Area***	***Leaf***
		µg / inch	index	µg / inch		%	mtex	mtex	mm	mm	%	%	g / tex	%						
1	135	4.75	0.87	4.66	0.944	83.4	192	204	29.93	25.11	83.9	7.2	29.8	7.1	73.8	9.6	32-2	50	0.42	5
2	141	4.75	0.87	4.71	0.967	85.1	191	197	29.64	24.92	84.1	7.2	31.9	7.5	73.8	9.7	32-1	47	0.54	5
3	137	4.71	0.87	4.67	0.989	86.7	185	187	29.48	24.70	83.8	7.4	30.9	7.2	73.7	9.5	32-2	40	0.36	4
4	141	4.75	0.87	4.68	0.951	83.9	192	202	29.80	24.97	83.8	7.3	32.4	7.0	73.7	9.4	32-2	50	0.32	5
5	136	4.76	0.87	4.72	0.954	84.2	194	203	29.15	24.42	83.8	7.5	31.0	7.8	74.5	9.6	32-1	40	0.28	4
6	136	4.74	0.87	4.71	0.973	85.6	190	195	28.78	24.21	84.1	7.4	30.5	7.4	73.7	9.7	32-1	42	0.28	4
7	136	4.76	0.87	4.66	0.967	85.1	188	195	29.71	24.89	83.8	7.4	30.8	7.4	74.0	9.4	32-2	46	0.27	4
8	135	4.82	0.87	4.68	0.966	85.1	189	196	29.36	24.55	83.6	7.5	31.1	7.5	74.2	9.4	32-2	47	0.37	5
9	137	4.73	0.87	4.70	0.941	83.2	195	207	29.83	24.91	83.5	7.5	31.3	6.9	74.3	9.7	32-1	46	0.25	4
10	138	4.83	0.87	4.66	0.998	87.4	183	184	29.68	24.82	83.6	7.5	32.0	7.2	73.5	9.5	32-2	56	0.68	6
Mean	**137.2**	**4.76**	**0.87**	**4.69**	**0.965**	**85.0**	**189.9**	**196.9**	**29.54**	**24.75**	**83.8**	**7.4**	**31.2**	**7.3**	**73.9**	**9.55**	**32-2**	**46**	**0.38**	**4.6**
CV%	1.63	0.79	0.08	0.50	1.90	1.61	1.92	3.74	1.20	1.13	0.24	1.63	2.44	3.75	0.43	1.33		10.7	36.5	15.2
StdDev	2.2	0.04	0.00	0.02	0.018	1.37	3.6	7.4	0.36	0.28	0.2	0.1	0.8	0.3	0.3	0.13		5	0.14	0.7
Min	134.7	4.71	0.87	4.66	0.941	83.2	183	184	28.78	24.21	83.5	7.2	29.8	6.9	73.5	9.40		40	0.25	4
Max	141.1	4.83	0.87	4.72	0.998	87.4	195	207	29.93	25.11	84.1	7.5	32.4	7.8	74.5	9.70		56	0.68	6
Q99	2.0	0.03	0.00	0.02	0.016	1.21	3.2	6.5	0.31	0.25	0.2	0.1	0.7	0.2	0.3	0.11		4	0.12	0.6

RAW
LINT

NATI ADVANCED Neps and Trash Indicator 3280C

Suitable for cotton, synthetic and blended slivers as well as raw cotton material.
By means of an optoelectronic system, **NATI Advanced** measures Neps, Seed Coat Neps, Trash and Dust, in different size classes:

>0,5 ; >0,7 ; >1 mm for Neps/Seed Coat

>0,15 ; >0,25 ; >0,50 mm for Trash/Dust.

Specifically designed to be fast, reliable and easily transportable to the production site for continuous testing, **NATI Advanced is the only instrument** presently available on the market **measuring and classifying automatically Neps and Trash** content in sliver samples of large size, up to 6 m (30 g approximately, depending on sliver count).

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

To complete the cotton profile on raw cotton, **NATI Advanced can be linked to CONTEST-F2 for a full cotton quality classification.**

The combined and simultaneous use of **NATI Advanced** with **CONTEST-F2** allows them to share the same graphical user interface of CONTEST-F2, appearing on the same screen and on the same printout, including the following fiber testing data:

Neps count/g [>0.5 mm]
Neps count/g [>0.7 mm]
Seed Coat Neps count/g [>1.0 mm]
Total Neps count/g [>0.5 mm]
Dust count/g [>0.15 mm]
Trash count/g [>0.25 mm]
Total Trash count/g [>0.15 mm].

Optional:

Mini thermal printer	Code 3280A.136
Trolley	Code 3280.900
Electronic high precision balance	Code 165.756

Power supply: 115 Vac or 230 Vac, 50 Hz or 60 Hz
Weight: 35 kg
Dimensions: (L) 400 x (W) 379 x (H) 700 mm

FIBER TESTING - example of obtainable data

Subsample *NATI Advanced*

	Neps	SC Neps	Tot Neps	Trash	Dust	Tot Trash
	Cnt / g	Cnt / g	Cnt / g	Cnt / g	Cnt / g	Cnt / g
1	202	18	220	76	370	446
2	204	27	231	95	646	741
3	209	27	236	111	588	699
4	189	30	219	110	689	799
5	222	34	256	124	762	886
6	225	30	255	113	654	767
7	210	27	237	105	606	711
8	199	42	241	159	865	1024
9	217	28	245	92	687	779
10	167	10	177	41	136	177
Mean	**204.4**	**27.3**	**231.7**	**102.6**	**600.3**	**702.9**
CV%	8.3	31.4	9.9	30.0	34.5	33.5
StdDev	17.1	8.6	22.9	30.8	206.9	235.7
Min	167	10	177	41	136	177
Max	225	42	256	159	865	1024
Q99	15.1	7.6	20.3	27.3	183.2	208.7

RAW LINT SLIVER

CONTEST-S Stickiness tester

3304S

ITMF – ICCTM recognized

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

This unique equipment provides **cotton stickiness risk probability** on the basis of its grade, enabling spinners to anticipate proper actions to prevent machine jamming and improve bale management.

CONTEST-S is a precious tool for spinning mills, cotton traders, textile institutes, R&D labs and other cotton grading, arbitration and classing institutes.

Cotton STICKINESS phenomenon (also called “sugar” - honeydew) is analysed by means of a thermomechanical method - the only one officially recognized - able to detect stickiness deposits of different origin in the fibre web. Sticky deposits are classified in 5 size classes and 6 grade levels (the grade is the result of the sticky point size and quantity).

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.

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 to check cotton stickiness, for an easier bales management.

Sticky points average size.

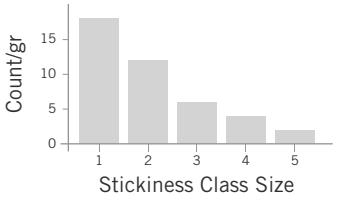
Sample weight: 3.5g

Testing speed: about 30 seconds / sample

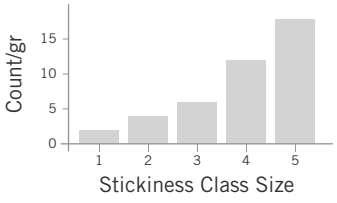
Reference Standards:
Stickiness: UNI EN 14278-3 (automatic thermodetection rotating drum device method).

Power supply: 230 Vac, 50/60 Hz, single-phase, 2 kW
Weight: 340 kg
Dimensions: (L) 1510 x (W) 960 x (H) 1410 mm

Sample A



Sample B



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

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

Tenso-Lab 4 Fibre strength-elongation 2512E

Tenso-Lab 4 is the latest generation of the well-known Tenso-Lab semi-automatic CRE tensile tester, designed with a mini incorporated PC. Low speed testing and high resolution of acquired data. The new model is distinguished by: new hardware, new components and new open software, and is also suitable for single fibre and fibre bundle testing.

Single fibre configuration - available accessories:
10N load cell (**Code 2512E.579**)
Single fibre pneumatic clamps (**Code 2512E.725**)
Pretensioning clips (**Code 331A.10**)
Foot switch (**Code 2512E.618**)

Fibre bundle configuration - available accessories:
100N load cell (**Code 2512E.581**)
Fibre bundle "Pressley" clamps set (holder and torque vice included), (**Code 2512E.720**)
Electronic torsion balance (**Code 165.720**)
For the full Tenso-Lab 4 description, see YARNS section.

Reference Standards: UNI, UNI EN, UNI EN ISO, ISO, ASTM, M&S, JIS, BS, IWS, NEXT, ...
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
Weight: 82 kg
Dimensions: (L) 370 x (W) 480 x (H) 1415 mm

Pressley Fibre strength 231A

To determine the resistance of cotton fibres. It is fitted with one pair of clamps and spacer for testing at a distance ranging from 0" to 1/8". The use of Pressley requires an electronic "torsion balance" with 0.01 mg resolution (**code 165.720**).

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

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

Weight: 3.5 kg
Dimensions: (L) 330 x (W) 100 x (H) 125 mm

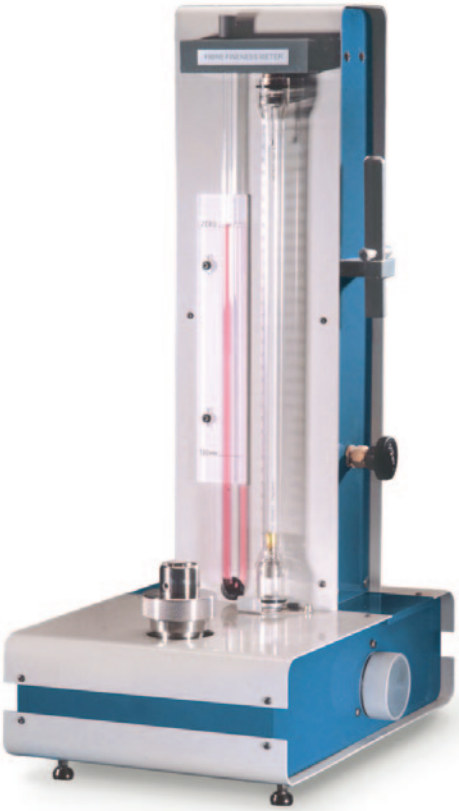
Electronic Torsion Balance 165.720

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**) and Tenso-Lab 4 (**Code 2512E**), this type of balance is needed.

Digital reading. **Mini USB communication port**.

Weighing capacity: 60 g
Resolution: 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



Micronaire Cotton fineness 199C

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 about 2.5 grams sample (depending on the reference Standard).
Complete with electric vacuum-pump generating the air flow.
Non hygroscopic plug for instrument calibration.
The use of MICRONAIRE requires an electronic scale with 0.01 g resolution (**Code 165.762**).

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 Wool fineness 272C

For the control of the wool fibre fineness.
Measurement from 16 to 36 microns.
Test with about 2.5 grams sample (depending on the reference Standard).
Complete with electric vacuum-pump generating the air flow.
Non hygroscopic plug for instrument calibration.
The use of AIR FLOW requires an electronic scale with 0.01 g resolution (**Code 165.762**).

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

Universal standard calibration cottons for calibration of **Length and Strength in High Volume Cotton Testing Equipment:**

SHORT/WEAK Upland	Code 199.30
LONG/STRONG Upland	Code 199.32
SHORT/WEAK ELS (Pima)	Code 199.34
LONG/STRONG ELS (Pima)	Code 199.36

MicroLab Fibre-yarn analysis

250E

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; analyse 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 image acquisition, for production of measurements and comments on the stored images and measurements directly on the live images and statistical analysis of the acquired measurements.

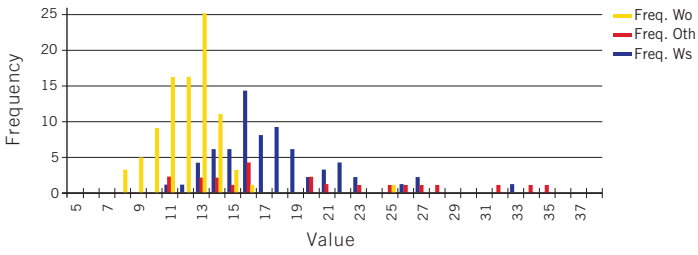
Fibre Microscope Kit (Code 250.325) for the microscopic analysis (fibres, yarns, and fabrics). Instructions for sample's preparation.

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

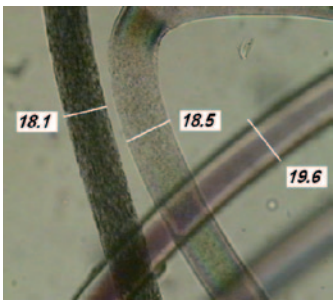
Optional:

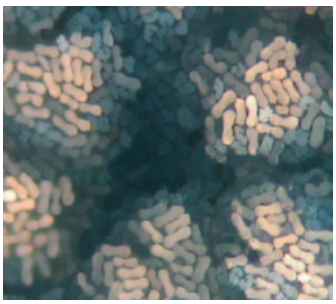
63X LENS enabling 2830X magnification on screen.	Code	250.336
C-STEP CONNECTOR WITH 0.5X LENS it allows to halve the magnification on screen and double the sample field of vision.	Code	250.338
Set of 50 slides.	Code	191.50
Set of 200 slide covers.	Code	191.52
Immersion oil bottle.	Code	191.54
Optical fibre illumination device.	Code	250.318



	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 micronaire analysis of a blend made of 3 different fibres





Binocular Microscope 1000X 191H

Binocular model, suitable for fibre and filament analysis.
The combination of eyepieces and lenses enables a magnification range from 40X to 1000X.

Equipped with built-in LED lamp and micrometric stage for focusing.

Double focus: macrometric and micrometric.

Optional:

Videocamera 16 Mpx CMOS (code 250.436) and adapter.

Power supply: 100 up to 240 Vac, 50/60 Hz, single-phase
Weight: 6 kg
Dimensions: (L) 120 x (W) 200 x (H) 350 mm

Microtome 256A

Hand operated model to produce accurate 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 bottle

tool kit (tweezers, scissors, needles, thread, etc.)

fibres and yarns preparation plate

tool for fabric observation

Raw Cotton Selector 3282

Small laboratory carding machine to prepare homogenous cotton fibre samples. It enables to prepare 2/2,5 g samples in short time and without the influence of operator's ability on results. Ideal also for the preparation of small mélange samples of dyed cotton fibres.

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

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 for different fibre drawing levels (6.35 preset dafault value).
Adjustable speed from 5 to 12 m per minute.
Impurities counting and classification by means of 6 electronic counters.
Equipped with magnifying lens 3X with light and table clamp.

Optional:

Printer (**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

The Analyser separates lint and non-lint, dust content (dundruff for cashmere) using the carding principle, to determine the percentage content of trash, lint, non-fibre material in raw cotton samples of about 100 g.
Essential to define fibre yield, for cashmere in paticular.

Optional:

Electronic precision balance, 320 g capacity and 0,001 g resolution (**Code 165.756**)

Power supply: 400 Vac, 50 Hz, three-phase + ground
Weight: 190 kg
Dimensions: (L) 640 x (W) 950 x (H) 1300 mm

Oil Extractor 273B

Electronic instrument with digital reading of set temperature for quick measurement (in about 15 minutes) of oil, grease, lubricant percentage content in fibres, yarns and textiles.
For sample preparation, the use of an analytic balance with 0.0001 g resolution (Code 165.752, optional), is essential with this instrument.

Optional:

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

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase
Weight: 6 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 / ASTM standards.

Equipped with inner glass door for inspection and two shelves.

Inner capacity: 250 litres.

Adjustable temperature ranging from +8°C to +80°C, ±0,5°C precision (only with the following ambient working conditions: from +18°C to +35°C and from 30% to 70% RH).

Relative humidity ranging from 20% R.H. to 90% R.H., ±2% accuracy.

Digital reading of temperature and humidity.

Automatic water inlet (from mains) into the tank.

Optional:

Water tank external source	Code 1722.10
Additional steel shelf	Code 251.250

Reference Standards: UNI EN ISO 139, ASTM D1776, UNI EN 1149.

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) 730 x (H) 1390 mm

Wrap Reels for Slivers & Rovings

Electronic 254A-254B

Available drum circumference: 1 metre (**Code 254A**) or 1 yard (**Code 254B**).
Adjustable drum speed: from 0 to 100 m/min., with ±1 cm accuracy.
Automatic stop at preset length.
Designed to prevent any possible drawing of the fibre sample.
Ideal to eliminate the human error and reduce the CV% in the count analysis.
Equipped with digital counter, bobbin holder and cutter.

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

Hand Operated 159A-159B

Available drum circumference: 1 metre (**Code 159A**) or 1 yard (**Code 159B**).
Equipped with digital counter, bobbin holder and cutter.

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

Type	Reel circumf.	Code
electronic	1 m	254A
	1 yd	254B
hand operated	1 m	159A
	1 yd	159B

YARNS

Wrap Reels for Yarns

Electronic

To prepare yarn skeins of a preset length for further count or CLSP measurement.

Supplied complete with creel for spools and small bobbins with adjustable double bar yarn tensioner.

Winding speed: 150 rpm, as per the testing method requirements.

Equipped with digital counter.

Automatic stop at the preset length.

Reference Standards:
UNI EN ISO 2060, ASTM D1907, ASTM D2260

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase
Weight: 40 kg
Dimensions: (L) 580 x (W) 480 x (H) 450 mm

Hand Operated

To prepare yarn skeins of a preset length for further count or CLSP measurement.

Equipped with digital counter for yarn length measurement.

Supplied with creel for spools and small bobbins with adjustable double bar yarn tensioner.

Reference Standards:
UNI EN ISO 2060, ASTM D1907, ASTM D2260

Weight: 35 kg
Dimensions: (L) 580 x (W) 480 x (H) 450 mm

Type	Reel circumference	Positions	Code	
			with CE safety cover	without CE safety cover
electronic	1 m	7	161MA	161M
electronic	1 m	10	161XA	161X
electronic	1 yd	7	161YA	161Y
electronic	1.5 yd	7		161W
hand operated	1 m	7		160M
hand operated	1 yd	7		160Y

Optional Accessories for Wrap Reels

Stationary Adjustable Yarn Tensioners

Yarn tensioner, for very coarse yarns requiring very high pretension (for example carpet yarns), or for the preparation of fine texturized synthetic yarns hanks for crimp testing.

This optional should be fitted on the yarn guide support, to be used as an alternative to the double bar fitted on the feeding creel.

Available models:

7-position Yarn tensioner	**Code 161M.330**
10-position Yarn tensioner	**Code 161X.332**

Fixed Tensiometer 160M.334

For the accurate and continuous measurement of the yarn tension during the wrapping reel process; particularly required in case of synthetic yarns, as an alternative to the fixed tensioner (Code 161M.330)

Available reading ranges (to be specified at order):

3-12 cN
5-20 cN
5-30 cN
10-50 cN
10-100 cN
20-250 cN

Yarn Data Logger (YDL) 3115

Quality Control Software specifically developed to collect data of all Mesdan Lab yarn testing instruments into a unique report, as regards:

Count: Average Count, Δ (nominal count - actual count), CV%, (Count Analyser II & Count Lab Software).

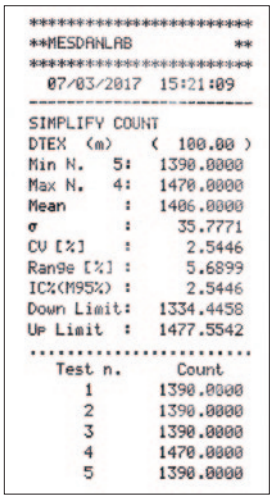
Evenness: CVm%, U%, H (Hairiness), Thin -50%, Thick +50%, Neps +200, (MT Evenness & Hairiness Tester).

Yarn Friction: Average μ, CV%, (Attrifil II & Attrifil III).

Twist: Average twist, (TPM, TPI), CV%, Twist direction, (Twistmatic II & Twist Lab).

Strength: Breaking force, Tenacity, Rkm, CV% force, Elongation, CV% EI, (Tenso-Lab 3, Tenso-Lab 4, Autodyn series & Autofil).

Count Analysing Systems



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**MESDANLAB          **
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  07/03/2017  15:21:09
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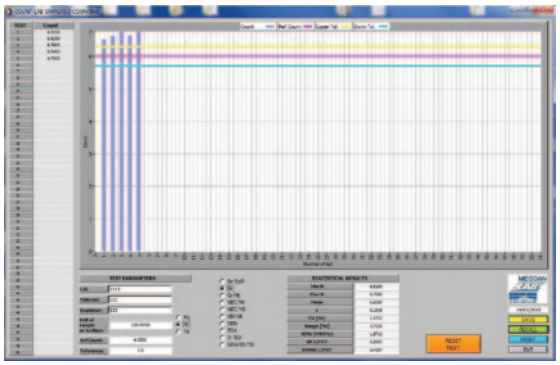
SIMPLIFY COUNT
DTEX  (m)    (  100.00 )
Min N.   5:   1390.0000
Max N.   4:   1470.0000
Mean     :   1406.0000
σ        :     35.7771
CV [%]   :      2.5446
Range [%] :     5.6899
IC%(M95%) :     2.5446
Down Limit:  1334.4458
Up Limit  :  1477.5542
.....................
  Test n.      Count
     1       1390.0000
     2       1390.0000
     3       1390.0000
     4       1470.0000
     5       1390.0000
```



Count Analyser II 1666

To determine the count of slivers, rovings and yarns, as well as the fabric weight per m².

COUNT ANALYSER II, consists of: electronic counter (with microprocessor, built-in data management software, digital display, built-in mini printer) and high-precision electronic balance (to be selected from a wide range).

Measuring systems available: Nm/m, Nec/yd, Nec/m, Nec/yd (inch), den, dtex, Tex, KTex (gr/m), g/m², grains/yd, g, YSW.

Statistical data: average, min and max count, standard deviation (sigma), CV%, Range %, IC% (95%), upper and lower limits.

Sample length or area settable for the different measuring systems, from min 0,01 up to max. 999,99 (m, inch, yd or m²).

A diagram of distribution is created.

2 different testing methods available: “SIMPLIFIED” and “NORMAL COUNTING”. The “NORMAL COUNTING” allows the analysis per different testing groups, and the evaluation of the results distribution referred to a pre-set normal count.

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

Electronic balance - 620 g capacity - 0,01g resolution - pan size Ø 150 mm (suitable for yarns) **Code 165.762**

Electronic balance - 320 g capacity - 0,001 g resolution - pan size Ø 120 mm (ideal for synthetic filaments and fine yarns count testing) **Code 165.756**

As optional, other models can be selected from a wide range.

Reference Standards: UNI EN ISO 2060, ISO 2060, ISO 3801, ISO 9073-1, ISO 3374, UNI EN 29073-1, UNI EN 12127, UNI 5114, UNI 8014-2/3/4, BS 2471, ASTM D1907, ASTM D2646, ASTM D3776

Power supply: 115 up to 230 Vac, 50/60 Hz, single-phase
Weight: 2 kg (balance excluded)
Dimensions: (L) 300 x (W) 200 x (H) 120 mm (balance excluded)

Count Lab Software 165.630

Suitable to determine the count of slivers, rovings and yarns, as well as the fabric weight per m².

COUNT LAB SOFTWARE acquires data from the balance (not included, to be selected), converts them into a count figure, and elaborates a report of the statistical values. The report, shown on the PC monitor, can be printed and/or saved.

Recommended solution in case data storage is required.

Measuring systems available: Nm/m, Nec/yd, Nec/m, Nec/yd (inch), den, dtex, Tex, KTex (gr/m), g/m², grains/yd, g, YSW.

Statistical data: average, min and max count, standard deviation (sigma), CV%, Range %, IC% (95%), upper and lower limits.

Sample length or area settable for the different measuring systems, from min 0,01 up to max. 999,99 (m, inch, yd or m²).

A diagram of distribution is created.

Optional:
Electronic balance (to be selected from a wide range of models)
PC available on demand

Reference Standards: UNI EN ISO 2060, ISO 2060, ISO 3801, ISO 9073-1, ISO 3374, UNI EN 29073-1, UNI EN 12127, UNI 5114, UNI 8014-2/3/4, BS 2471, ASTM D1907, ASTM D2646, ASTM D3776

Attrifil III Yarn friction

233C

Computerised instrument for automatic measurement of the friction coefficient of yarns.
Recommended for wax or paraffin evaluation and control of the waxing process.

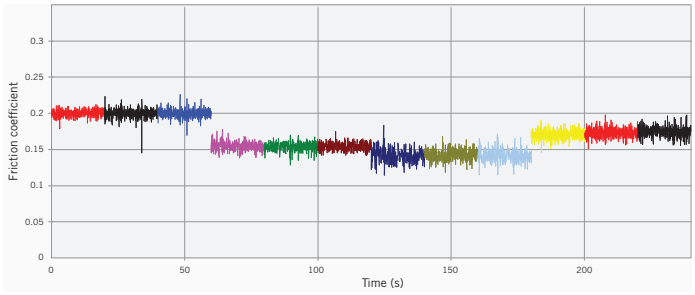
Automatic execution of multiple tests on a single package of yarn without operator attendance.

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.

High-precision electronic tension meters to monitor the incoming (T1) and outgoing (T2) yarn tension before and after the yarn has run around the metallic friction pin, reaching 180° wrapping angle, in compliance with the test method.

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.

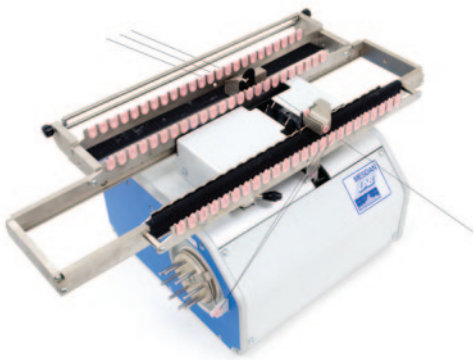
Software for the equipment management (parameter settings) and for data processing and storage. Print-out of test results, statistics, graphical representation of single test coefficient of friction and average value.



Optional:

Pc, printer

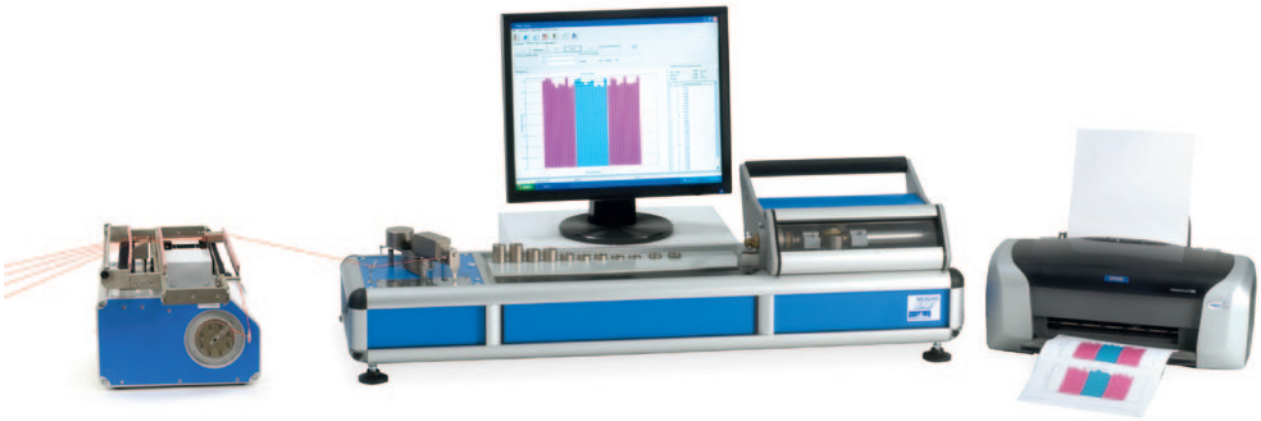
Auto Cop Changer, to automatically perform tests up to 24 different bobbins	Code	299A
Creel, necessary with Auto Cop Changer	Code	201



Reference Standards: ASTM D3108

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase
Air supply: 6 bar
Weight: 29 kg
Dimensions: (L) 470 x (W) 330 x (H) 310 mm

Twistmatic II Fully Automatic twist tester 2532



Fully automatic computer-based twist tester with dedicated software.

The automation includes:

the loading phase;

the twist measurements;

the statistical analysis.

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 human errors.

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

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 sections of the same bobbins at preset intervals.

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

Twist results available either per metre (TPM) or rotations per inch (TPI).

Fixed distance between clamps: 50 cm.

The software is included, while PC and printer are available on request.

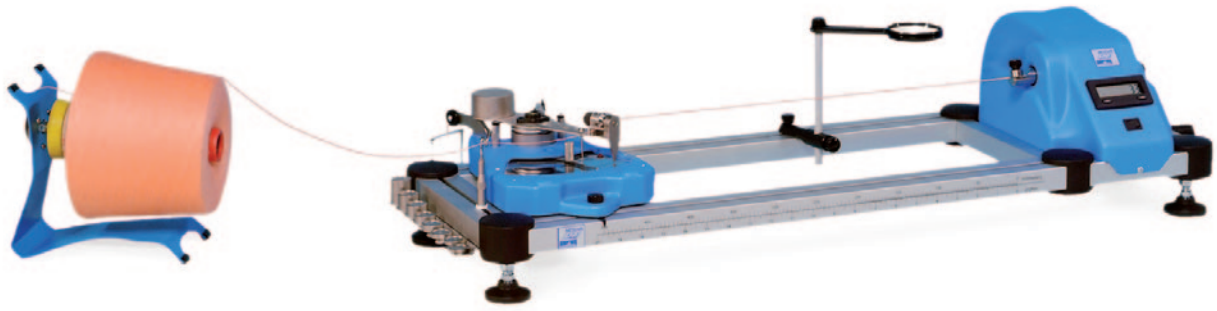
Optional:

Auto Cop Changer (A.C.C.)	Code	299A
Mobile Vertical Creel	Code	201

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

Hand-operated Twist Tester 2531D



Manual twist tester for twist measurement on single and plied yarns (“S”/“Z”).

Traditional“ and “Direct” test methods available

Adjustable test length (distance between clamps) from 1 to 50 cm (0.39-19.7 inches).

Built-in digital tachometer 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.

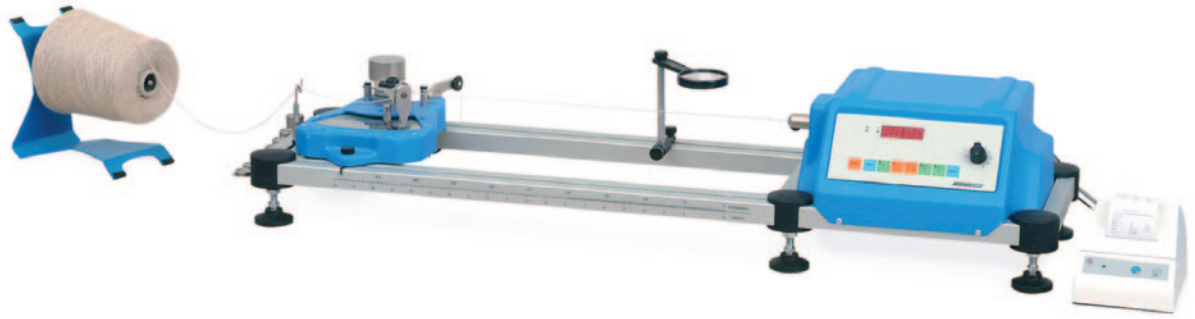
Accessories included: magnifying lens, fixed calliper, pretension weights, bobbin holder.

Optional: additional pretension weights (0,5 N, 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:

a) "Traditional" method: untwisting and retwisting, for single yarns.

b) "Schutz" method: untwisting, retwisting and double counter-check, for OE yarns, worsted and slippery yarns.

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

Adjustable test length (distance between clamps) from 1 to 50 cm (0.39-19.7 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).

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

Optional:

Mini thermal printer **Code 2531C.136**

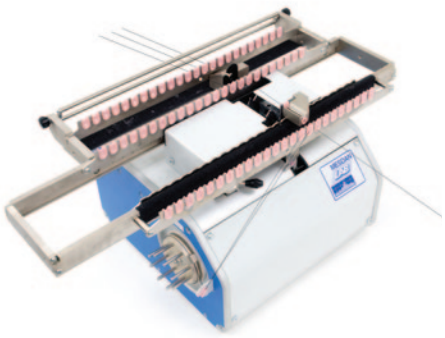
Additional pretension weights (0.5 N,1 N, 1,5 N and 2 N) **Code 2531C.104**

PC and printer available on request.

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

Auto Cop Changer (A.C.C.) 299A



Endowed with 24 positions and an integrated knotter, it allows to automate the change of the feeding yarn during the testing process of several Mesdan Lab equipment with no need of operator attendance.
Simple and fast yarn loading; suitable for a wide range of yarns.

Available also a 36-position model, **Code 299B**.

The combination of the Mobile Vertical Creel and the Auto Cop Changer (A.C.C.) guarantees the best automation configuration (not limited to Mesdan testing equipment only).

Power supply: 12 V, DC
Air supply: 6 bar
Weight: 17 kg
Dimensions: (L) 570 x (W) 250 x (H) 230 mm

Mobile Vertical Creel 201

Specifically conceived for feeding yarns to different automatic instruments, such as twist tester, yarn friction tester, evenness tester, laboratory knitting machine, where it is necessary to automatically feed the equipment with the yarn coming from many bobbins.
It can be combined with the Auto Cop Changer (A.C.C.), to automate a variety of yarn testing equipment.

Available models:

Code 201, compatible with most equipment

Code 200 (with highly accurate tensioners), particularly recommended for the MT Evenness Tester.

Weight: 8 kg
Dimensions: (L) 600 x (W) 600 x (H) 1750 mm

Autofil Automatic strength tester - 24 Positions

2518

AUTOFIL is a fully automatic 24-position yarn strength tester and represents the diamond tip of the new generation of Mesdan tensile strength testers.

It can also test threads, hanks and fabrics in the semi-automatic mode, with the maximum force of 1,5 kN.

The built-in PC, the incorporated 24-position bobbin changer, its versatile applications, its completely new and compact design and the extremely high testing speed, are only some of the features characterizing the new AUTOFIL.

Designed and manufactured in Italy to meet the highest testing standards, AUTOFIL is managed by the latest and user-friendly software, today in use for all the new generation of Mesdan Lab dynamometers, which includes a series of pre-set testing routines. New testing routines can also be easily created and saved by the end user.

AUTOFIL can be supplied with ISO9001 calibration report.

Optional:

Wide range of interchangeable load cells.
Vast range of interchangeable pneumatic and mechanical clamps (for hanks / LEA, fabrics) and jaws for fabrics (rubber or metal flat), for seam slippage/Grab (various dimensions), Contact Line for stretch/recovery, etc.

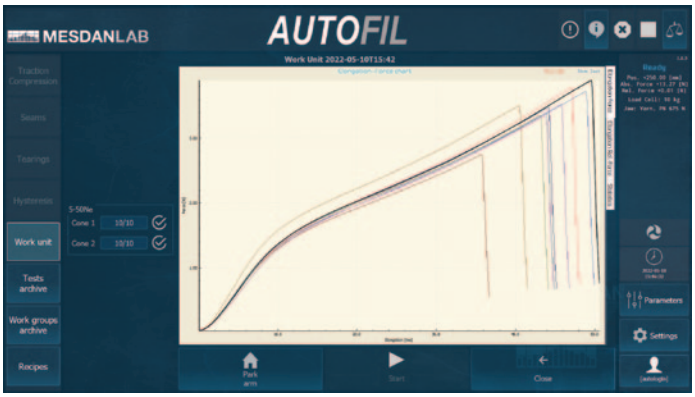
Special kit for testing spandex (on demand)

Foot switch **Code 2512E.618**

Trolley Creel, 24 positions (highly recommended) **Code 2518.201**

Power supply: 230 Vac, 50/60 Hz, single-phase
Weight: 180 kg
Dimensions: (L) 800 x (W) 680 x (H) 1520 mm

Example of elongation force



Available Load Cells:

Nominal capacity	Effective capacity	Load cell Accuracy	Resolution	Code
20 N	10 N	0.4 cN	0.0002 cN	2518.580
100 N	60 N	2 cN	0.001 cN	2518.581
500 N	340 N	10 cN	0.005 cN	2518.583
1000 N	690 N	20 cN	0.01 cN	2518.584
5000 N	3490 N*	100 cN	0.05 cN	2518.585

*Max load capacity: limited to 1500 N

Tenso-Lab 4 Tensile strength tester

2512E

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 ± 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.

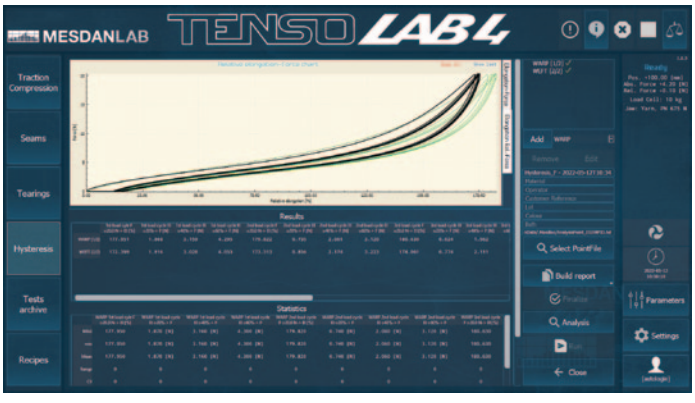
Available a variety of interchangeable mechanical and pneumatic clamps for yarns, such as:

Pneumatic clamps for yarns (complete with metal & rubber jaws)	**Code 2512E.700**
Pneumatic clamps for medium-light fabrics, 100 mm wide (jaws not included)	**Code 2512E.705**
Foot switch	**Code 2512E.618**
LEA clamps for hanks (manual mode)	**Code 2510.990**

Other clamps for yarns and fabrics are available on request.

Power supply: 115 -240 Vac, 50/60 Hz, single-phase
Weight: 82 kg
Dimensions: (L) 370 x (W) 480 x (H) 1415 mm

Example of Hysteresis cycle test



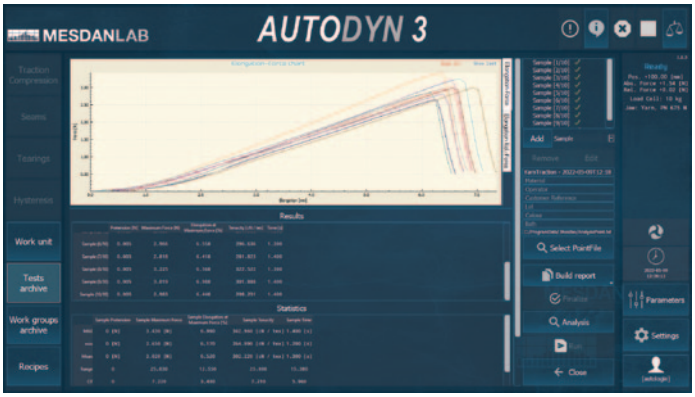
Available Load Cells:

Load cell capacity	Load cell accuracy	Resolution	Code
10 N	0,2 cN	0.0001 cN	2512E.579
20 N	0,4 cN	0.0002 cN	2512E.580
100 N	2 cN	0.001 cN	2512E.581
500 N	10 cN	0.005 cN	2512E.583
1000 N	20 cN	0.01 cN	2512E.584
5000 N	100 cN	0.05 cN	2512E.585

Autodyn 3 Automatic strength tester - 1 Position

2517

Example of yarn traction



Available Load Cells:

Load cell capacity	Load cell accuracy	Resolution	Code
10 N	0,2 cN	0.0001 cN	2512E.579
20 N	0,4 cN	0.0002 cN	2512E.580
100 N	2 cN	0.001 cN	2512E.581
500 N	10 cN	0.005 cN	2512E.583
1000 N	20 cN	0.01 cN	2512E.584
5000 N*	100 cN	0.05 cN	2512E.585

*Max load capacity (only Code 2517): limited to 3000 N

Among the new generation of MESDAN LAB tensile STRENGTH testers, AUTODYN 3 is the new **single-position automatic** version.

Ideal to automatically perform yarn testing of bobbins and packages, AUTODYN 3 incorporates an automatic yarn loading system. It is based on the new structure of the well-known TENSO-LAB 4 (new design, new hardware and new components), and replaces the former Autodyn II (code 2513 and 2514).

AUTODYN 3 can be used also in the semi-automatic mode, in order to test other textile materials as well, such as fibers, threads, hanks/LEA, fabrics and garment accessories, with the maximum capacity of 3 kN.

For the maximum testing versatility available on the market, it is equipped with a built-in PC and a modern and user-friendly software, already including some pre-set standard testing routines; new testing routines can also be easily created and saved by the end user.

Fully designed and manufactured in Italy, to meet the highest testing requirements.

Optional:

Wide range of interchangeable load cells.
Vast range of interchangeable pneumatic and mechanical clamps (for hanks / LEA, fabrics) and jaws for fabrics (rubber or metal flat), for seam slippage/Grab (various dimensions), Contact Line for stretch/recovery, for single fibre (pneumatic clamps and pretensioning clips), for fibre bundle (“Pressley” clamps, with holder and torque vice), etc.

Foot switch
(necessary for fabric pneumatic clamps) Code 2512E.618

Standard compliant to major testing methods (ISO, ASTM, JIS, BS, IWS, NEXT, M&S, etc.).

Officially approved by Marks & Spencer.
ISO 17025 Calibration Certificate (Accredia - ILAC) available on demand.

Power supply: 115 -240 Vac, 50/60 Hz, single-phase
Weight: 82 kg
Dimensions: (L) 370 x (W) 480 x (H) 1415 mm

Example of Load Cell

Splice Scanner III

2553

Portable electronic strength tester built in accordance with ISO, UNI, ASTM, DIN test methods. Endowed with printer and USB port. Conceived to measure strength and elongation of parent and spliced yarns. 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.

Data output: force, elongation,tenacity (rkm) and the relative statistical analysis (min., average, max. force of elongation, CV%).

3 different testing modes:
basic, strength tester, and splice scanner.

The "Splicer Scanner" mode is ideal to check the splicer efficiently directly at the winding machine. This mode allows to perform tests on a reference parent yarn and to compare this result with those obtained on spliced yarns divided into groups (up to 10 tests; up to 64 groups), where every group corresponds to a winding heads.

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* MESDANLAB          *
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----------------------
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.    Elong.    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
```

Reference Standards: UNI EN ISO 2062, ASTM D2256

Power supply: 115 Vac / 230 Vac, 50/60 Hz
Weight: 10 kg
Dimensions: (L) 450 x (W) 330 x (H) 140 mm

Optional:

Battery kit 115 - 230 Vac	Code 2553.3240
Manual mechanical clamps for slippery yarns	Code 2550.120
Ergonomic Trolley with battery kit compartment	Code 2550.150

MT Evenness Tester

2341

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

Index of regularity (I)

The instrument is supplied with a personal computer with Windows OS.

Technical features:

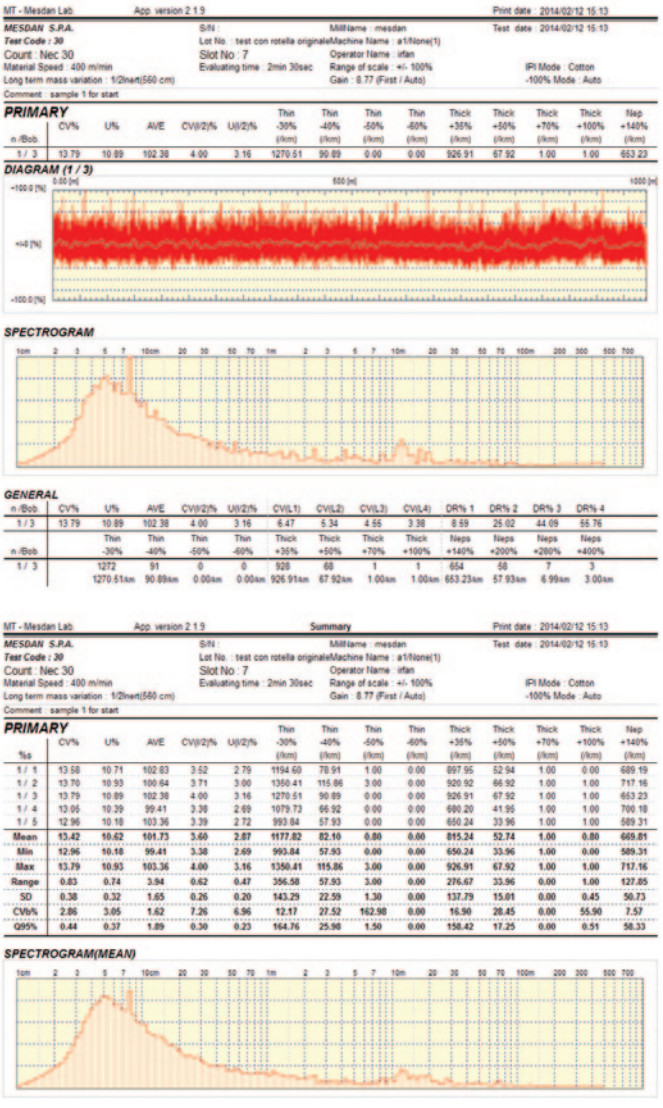
Count range: from 35 g/m (sliver) to Ne 150 max (yarn) - beyond this range, it is recommended to evaluate from time to time.
Sample speed: from 8 to 400 m/min.
160 channels spectrograph

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	200
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

Example of test report



Planofil Yarn inspection machine 2520

Electrical instrument to assess yarn imperfections - such as hairiness, neps, regularity, and general appearance.
Electronic speed adjustment.
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.

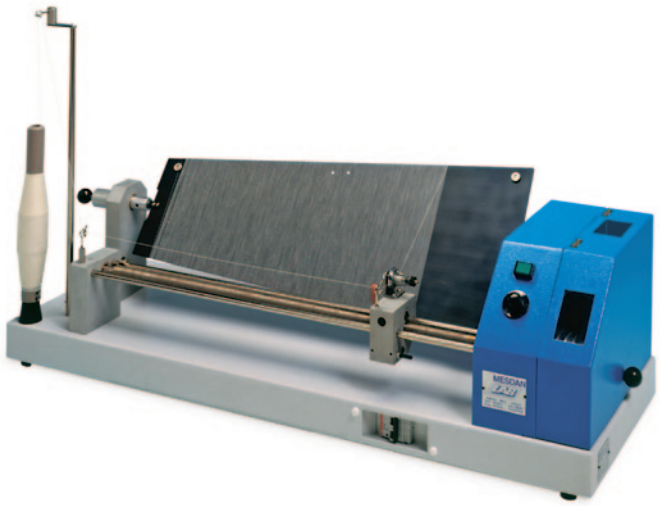
Version equipped with CE safety cover: **Code 2520A**.

Optional:

Black table	Code	2520.580
White table	Code	2520.590
Special “plus” pulleys for bulky yarns	Code	2520.290

Reference Standards: ASTM D2255 (for regular cotton yarns)

Power supply: 230 Vac, 50/60 Hz, or 115 Vac, 60 Hz, single-phase
Weight: 24 kg
Dimensions: (L) 910 x (W) 330 x (H) 530 mm



Planofil Kit Two 2521

This special model allow 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.

Version equipped with CE safety cover: **Code 2521A**.

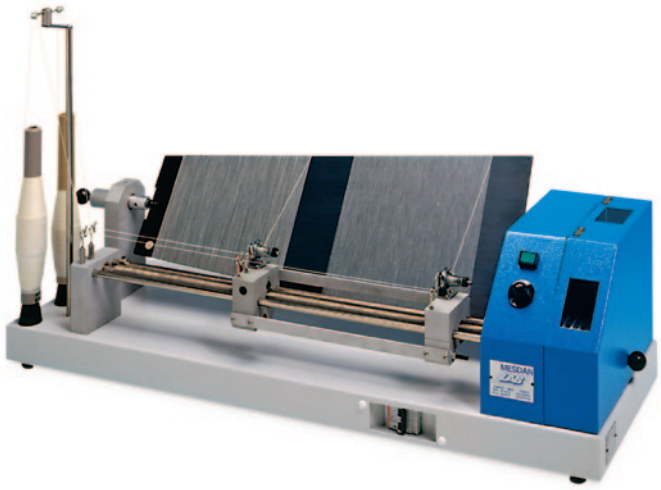
Optional:

Black table	Code	2520.610
White table	Code	2520.620
Special “plus” pulleys for bulky yarns	Code	2520.290

Two black tables are supplied with Planofi Kit Two

Reference Standards: ASTM D2255 (for regular cotton yarns)

Power supply: 230 Vac, 50/60 Hz, or 115 Vac, 60 Hz, single-phase
Weight: 24 kg
Dimensions: (L) 910 x (W) 330 x (H) 530 mm



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

Aqua-Lab Moisture regain tester 2450

Moisture analysis 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 humidity 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.
Its 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 it 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), and 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 fibres and yarns 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, 26,7 kg
Yarn package Sensor: (L) 250 x (W) 170 x (H) 85 mm, 19,7 kg
Fibre Sensor: (L) 325 x (W) 375 x (H) 430 mm, 24,2 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

ITMF – ICCTM recognized

Scirocco Fully automatic regain oven

172B

Automatic moisture regain oven designed to measure moisture regain and humidity content percentage in textile materials, according to ISO, ASTM, IWTO, UNI, UNI EN ISO Standards. Software and 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 the test 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).

A semi-automatic model is also available (**Code 245B** "Libeccio", without PC and software management), where the activation of the heating and weighing steps needs operator manual attendance.

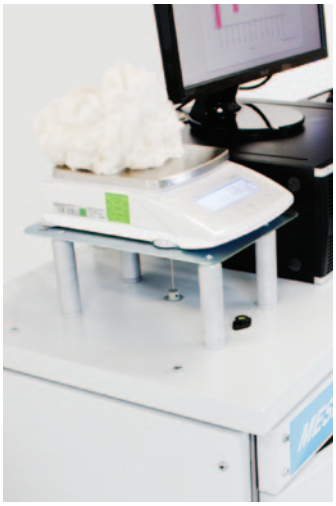
Equipped with PC, electronic balance (2200 g capacity/0,01 g accuracy), colour printer, and LCD monitor.

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

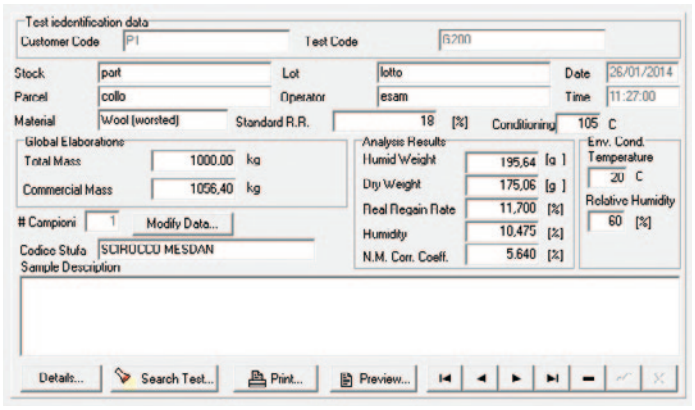
A graph for temperature monitoring can be displayed during the test.

Reference Standards:
UNI EN ISO 2060, ISO 2060, ISO 6348, ISO 6741-1, ISO 6741-2, ISO 6741-3, ASTM D1576, ASTM D2495, IWTO 33 - 03, IWTO 34 - 98, UNI 1335, UNI 9213-1, UNI 9213-2, UNI 9213-3, UNI 9213-4, UNI 9213-5, UNI 9213-6.

Power supply: 230 Vac, or 400 Vac, three-phase, 50/60 Hz, 10kW
Weight: 209 kg (Code 172B); 150 kg (Code 245B)
Dimensions: (L) 1000 x (W) 700 x (H) 1230 mm (Code 172B)
(L) 980 x (W) 700 x (H) 1350 mm (Code 245B)



Example of report:



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 20/02/13	Time 14.38.31
Test Code	Test			
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				

Humy Tester III

185C

Digital electronic portable instrument for the instantaneous measurement of the residual humidity percentage contained in textiles.
LCD display with 20 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: ±1%.

Optional:

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
electrode for fabrics (surface ø: 30 mm)	Code	185.426
probe for ambient temperature / humidity	Code	185.428
electrode for fibres and plastic chips	Code	185.432
electrode for fibres in bales (2 pcs)	Code	185.434

Reference Standards: DCS 194 (Decathlon)
Power supply: 9 V battery
Weight: 0,3 kg
Dimensions: (L) 95 x (W) 40 x (H) 230 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

“Standard” Yarn Sample Winder 171A

Suitable for regular spun yarns and 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 yarns can be wound simultaneously.

Width of winding can be pre-set.

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 pitch (winding density) adjustment.

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

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

Adjustable spacing, automatic stop.

Maximum winding speed: 1000 turns/min.

Up to 12 yarns 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) 850 x (W) 500 x (H) 580 mm

Spectro Wind 171C

Single yarn sample winder, ideal for colour gauging and sampling for spectrophotometer analysis.

Particularly suitable for winding a dyed yarn on a single small sample cardboard to be used for spectrophotometer or visual analysis.

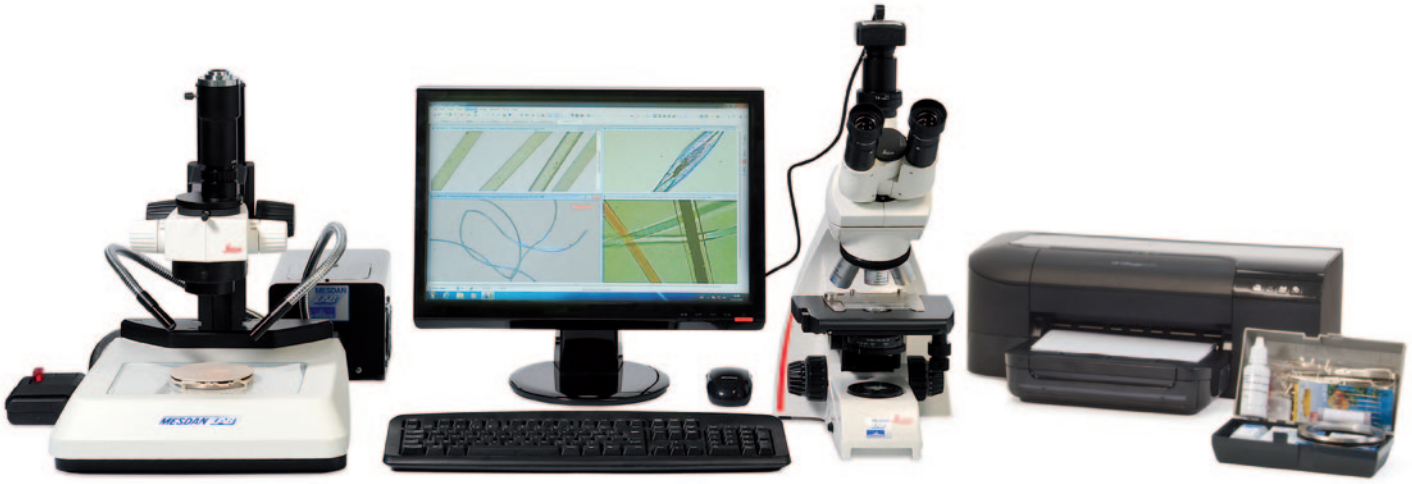
Micrometric highly accurate regulation of yarn coils.

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

Standard winding width: 45 mm (other winding widths are available on demand).

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase
Weight: 19 kg
Dimensions: (L) 360 x (W) 500 x (H) 500 mm

Video Analyser Fibre-yarn-fabric microscopic analysis 250D



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. It can measure the count (dtex/ den) of yarns and round section filaments; analyse the quality of Lycra filaments into the yarn, as well as the compactness of non-woven fabrics, yarns and fibre sections; measure section surfaces and perimeters; analyse mechanical parts (i.e. needle points, spinnerets, etc); reduce warp and weft density of fabrics to a cm or an inch; process, store and print the obtained 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 image acquisition, production of measurements and comments on the stored images and measurement directly on the live images, statistical 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

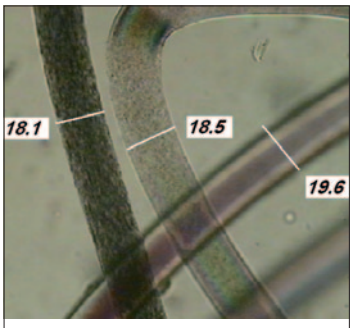
C-STEP CONNECTOR WITH 0.5X LENS (for Stereo Microscope). This connector allows to halve the magnification on screen and double the sample field of vision. Code 250.334

TRINOCULAR KIT (for Stereo Microscope) to display the sample image either on the PC monitor or in the oculars. Code 250.340

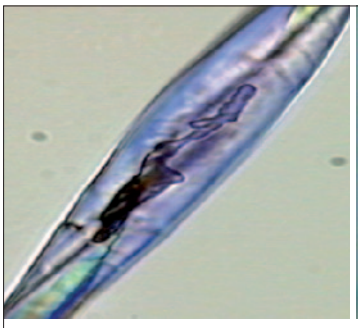
Reference Standards: ISO 137, UNI EN 12751, UNI 5423, UNI ISO 1130, ASTM D629, ASTM D2130, ASTM D276, AATCC 20, IWTO 8, IWS TM24, NIKE (section H, fiber content testing requirements)

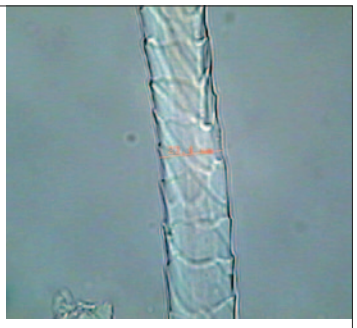
Power supply: 100 up to 240 Vac, 50/60 Hz
Weight: 53 kg
Dimensions: (L) 1080 x (W) 700 x (H) 700 mm

Examples of the most typical applications of Video Analyser:

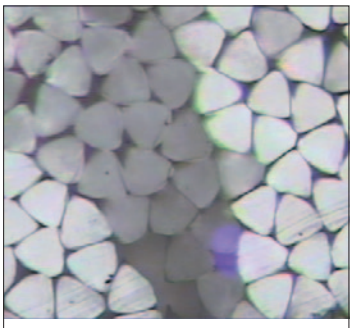


Fibre identification of fineness

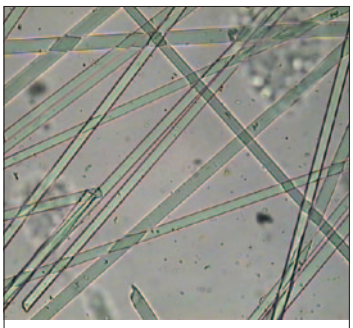




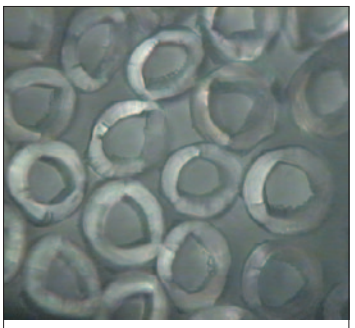
Length view of cotton fibre and wool fibre



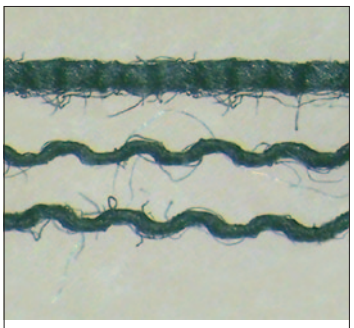
Viscose fibre (section view)



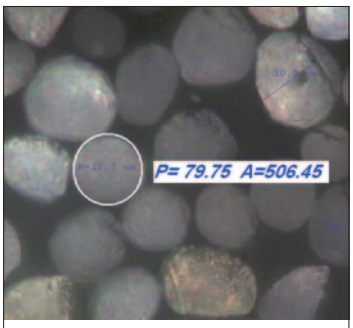
Glass fibre



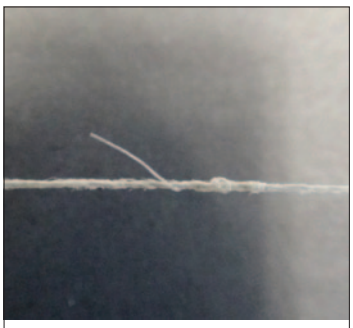
Section of round hollow fibres



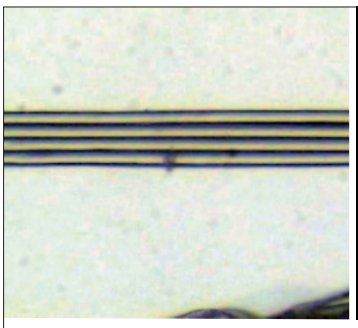
Yarn crimp evaluation

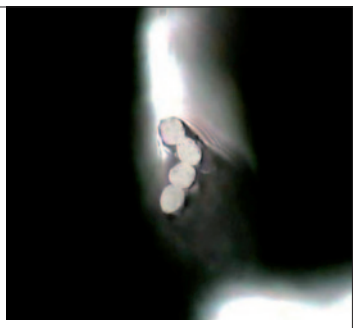


Perimeter & area

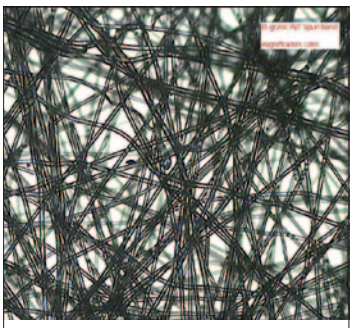


Lycra core protrusion

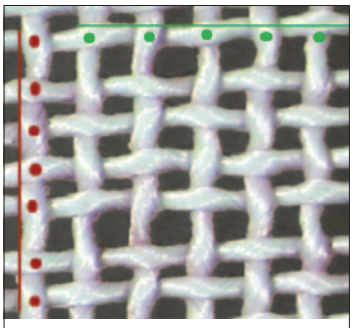




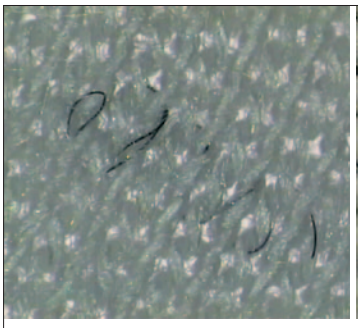
Analysis of Lycra filaments

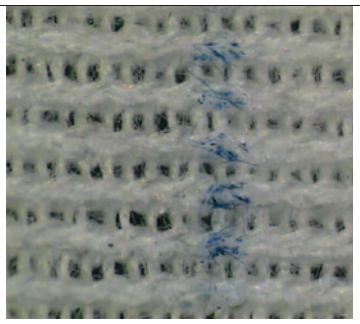


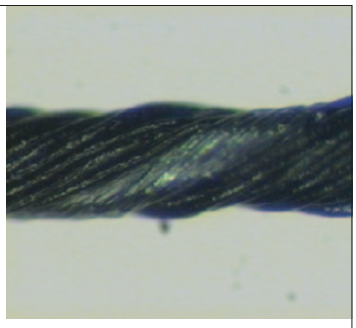
Non-woven regularity



Fabric density assessment

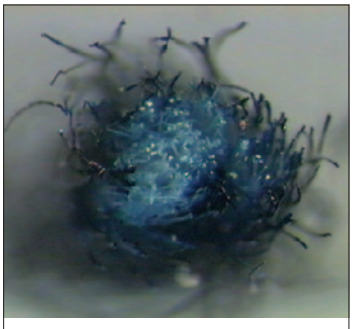






Contamination analysis

Parts inspection - comparison



Section of indigo yarn

Dye Scanner Yarn-knit (Dye) uniformity

2940A-B

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.

Adjustable rotation speed of cylinder, from 0 to 450 rpm.

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

Electronic counter to set sample length and number of samples.

Automatic lubricating system of the cylinder.

Endowed with fabric fineness adjustment mechanism.

Interchangeable Cylinder with 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.

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

Yarn alignment device.

Knot detector.

Two models available:

For 24 bobbins **Code 2940B**

For 36 bobbins **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

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.

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

* 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.

Laboratory Shredding Machine Textile recycling 337S

Mesdan Laboratory Shredding Machine is a very compact and user-friendly instrument, to transform small samples of any industrial textile waste (fabrics, yarns, slivers, etc.) and worn-out clothes into fibres.

Important equipment for textile manufacturers, institutes and R&D, to evaluate any possibility of mechanical recycling on Lab scale (even with a very low quantity of material) for being then re-produced on large scales.

Specifically designed to obtain fibers to be re-used in a spinning process (textile-to-textile recycling), and to work in combination with the Mesdan Lab Mini Spinning Line.

Equipped with touch screen control panel and PLC, to select the best setting depending on the primary material to be processed, to optimize the fibre length and the level of opening.

Customized settings can be saved and recalled in case of need.

The equipment is composed of two feeding rollers, five workers and a main drum, all individually driven by an inverter.

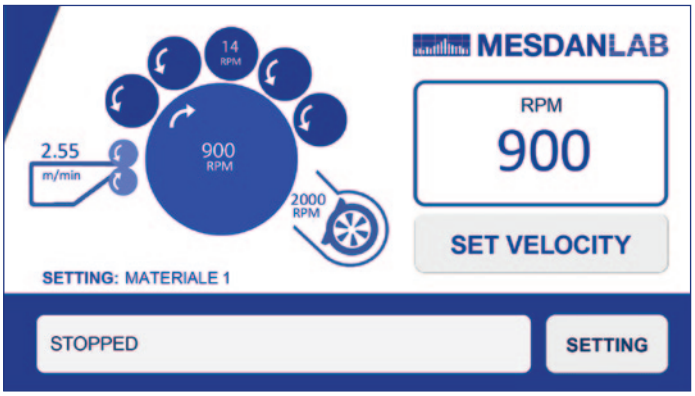
Independent speed setting of feeding rollers, main cylinder, workers and air suction system.

Working width: 450 mm.

Feeding belt dimensions: 982 x 441 mm.

Feeding speed: adjustable, from 0,001 m/min to 4 m/min.

Production capacity: up to 1 kg/min (depending on the weight of the feeding material).



Power supply: 400 Vac, three-phase, 50/60 Hz
Weight: 600 kg
Dimensions: (L) 2500 x (W) 926 x (H) 1350 mm

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 blended, mélange and wollen yarns, schools and university

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
Ideal sample size: 20-50 gr; min 5 - max 100 gr, depending on the fibre type.
Working width: 500 mm (19.69")
Web max. width: 480 mm (18.90")

Optional:

Coiler web condenser, **Code 337A.6**, specifically designed for Laboratory Carding Machines to transform the carded web into sliver, and collect it into a proper can, for further processing.

Power supply: 230 Vac, or 400 Vac + N, three-phase, 50/60 Hz
Weight: 640 kg
Dimensions: (L) 1910 x (W) 850 x (H) 1440 mm

Coiler web condenser

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 drawing range, from 2x up to 8x.
Adjustable distance between drawing rollers.
Adjustable drawing speed and pressure.

Optional:

Flyer Twisting Unit **Code 3371.2**

Power supply: 230 Vac, 50/60 Hz, or 115 Vac, 60 Hz, single-phase
Weight: 300 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 pairs of drawing rollers, to draw the sliver up to 400 times.
Spinning capacity: from Ne 8 up to Ne 80.
Electronic setting of delivery speed, twist, draw and twist direction.
Variable speed drive: from 3500 to 25000 rpm.
Ring diameter: 45 mm; tube length: 200/240 mm.
Spindle speed: up to 25000 rpm.
Special creel for sliver and roving bobbins included.

Kit for core-yarn available on request, (**Code 3108A.16**).
Digital control panel, to show in real time: rpm – tpm – break draft - total draft - delivery speed in m/min - etc.

Power supply: 115 Vac 60 Hz, or 230 Vac, 50/60 Hz, single-phase
Weight: 335 kg
Dimensions: (L) 1000 x (W) 700 x (H) 2100 mm

Wind Lab Hard Cone 6” 3374S

Electronic winder with two heads, for hard cones.

Adjustable winding speed: from 200 up to 1200 m/min.

Winding traverse: 6” (152 mm).

Take-up tubes: cylindrical or conical (to specify at order)

Automatic stop at preset package diameter.

Self-cleaning yarn tensioner

Waxing device

Also available:

Wind Lab Hard Cone 4” with two heads	**Code**	**3374R**
Wind Lab Soft Cone 6” with two heads	**Code**	**3374Q**
Wind Lab Soft Cone 4” with two heads	**Code**	**3374P**

Power supply: 230 Vac, 50/60 Hz, single-phase or three-phase; 400Vac, 50/60 Hz, three-phase
Weight: 85 kg
Dimensions: (L) 700 x (W) 700 x (H) 1430 mm

Mini Assembly Lab 3372A Mini assembly winder

Single head assembly winder to produce cylindrical cones to be twisted.
Endowed with electronic panel for parameter settings, (such as length meter and automatic stop).
Winding speed: from 200 up to 1200 m/min.

Power supply: 115 Vac, 60 Hz, or 230 Vac, 50/60 Hz, single-phase
Weight: 80 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 control panel to set winding parameters: spindle speed, tpm., winding angle, “S”/“Z” direction. Quantity of processed yarn (in meters) is displayed.
Spindle type 202B with adjustable speed from 150 up to 15200 rpm.
Twisting collecting from 30 to 100 m/min.
6” winding traverse and 4° 20’ conicity.

Power supply: 115 Vac, 60 Hz, or 230 Vac, 50/60 Hz, single-phase
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 ref. table).

Endowed with fabric fineness regulation mechanism.

Automatic lubricating system of the cylinder.

Ergonomic control panel complete with:

electronic yarn length meter;

variable speed regulation from 0 to 450 rpm;

Led indicators monitoring machine’s functions;

Also available: Double Lab Knitter, **Code 294F** equipped with two independent cylinders.

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 (Code 294E); 200 kg (Code 294F)
Dimensions: (L) 450 x (W) 850 x (H) 1750 mm (Code 294E); (L) 600 x (W) 850 x (H) 1750 mm (Code 294F)

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

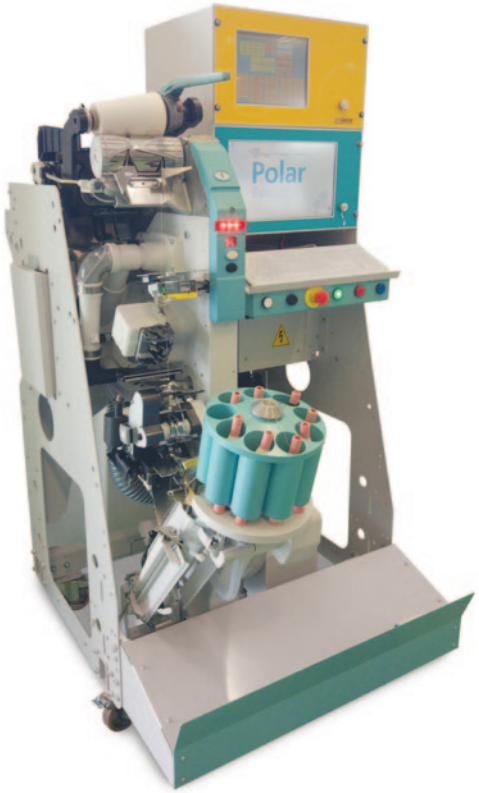
package quality

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



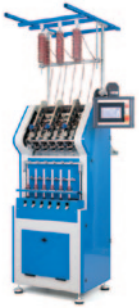
Mini Spinning / Recycling Layout

Single yarn

1 LABORATORY CARDING MACHINE
MINIATURE CARDING MACHINE - 337A
OPTIONAL: COILER - 337A.6

2 STIRO ROVING LAB
MINIATURE DRAW FRAME - 3371
OPTIONAL: FLYER TWISTING UNIT - 3371.2

3 RING LAB
MINI RING SPINNING - 3108A



Plied Yarn

5 WIND LAB
ELECTRONIC WINDER WITH TWO HEADS
AVAILABLE MODELS:
FOR HARD CONES 6" (CODE 3374S)
FOR HARD CONES 4" (CODE 3374R)
FOR SOFT CONES 6" (CODE 3374Q)
FOR SOFT CONES 4" (CODE 3374P)

5A POLAR EVO WIND-LAB
AUTOMATIC SINGLE-HEAD WINDER - 3374D

6 MINI ASSEMBLY LAB
MINI ASSEMBLY WINDER - 3372A

7 TWISTER LAB
TWO FOR ONE LAB TWISTER - 3373

Knitting

4 LAB KNITTER
YARN-KNIT (DYE) UNIFORMITY - 294E

4A DOUBLE LAB KNITTER
YARN-KNIT (DYE) UNIFORMITY - 294F

RECOMMENDED SPINNING 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

Recycling

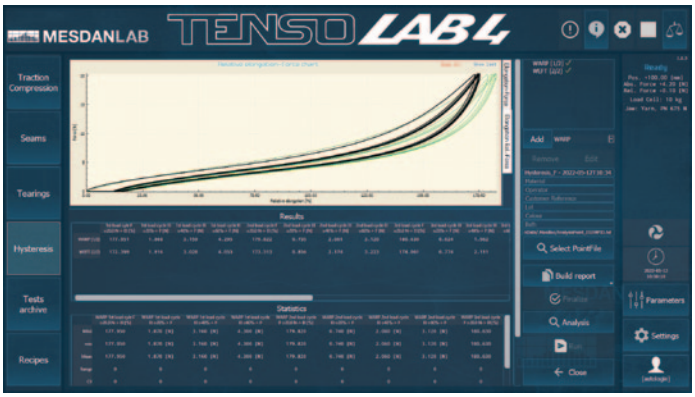
LABORATORY SHREDDING MACHINE
TEXTILE RECYCLING - 337S

FABRICS

Tenso-Lab 4 Tensile strength tester

2512E

Example of Hysteresis cycle test



Available Load Cells:

Load cell capacity	Load cell accuracy	Resolution	Code
10 N	0,2 cN	0.0001 cN	2512E.579
20 N	0,4 cN	0.0002 cN	2512E.580
100 N	2 cN	0.001 cN	2512E.581
500 N	10 cN	0.005 cN	2512E.583
1000 N	20 cN	0.01 cN	2512E.584
5000 N	100 cN	0.05 cN	2512E.585

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 ± 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, etc.

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:

Pneumatic clamps for yarns (complete with metal & rubber jaws) **Code 2512E.700**

Pneumatic clamps for medium-light fabrics, 100 mm wide (jaws not included) **Code 2512E.705**

Foot switch **Code 2512E.618**

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

Other clamps for yarns and fabrics are available on request.

Power supply: 115 -240 Vac, 50/60 Hz, single-phase
Weight: 82 kg
Dimensions: (L) 370 x (W) 480 x (H) 1415 mm

Some of the available clamps for Single Column Strength Tester

Fibre bundle 0" & 1/8" Clamps (Pressley Method), **Code 331A.2** (clamps) + **Code 331A.8** (clamps holders)

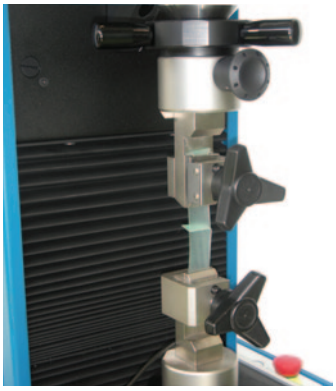
Pneumatic Clamps for single fibre, (**Code 2512E.725**)

Pneumatic Clamps for yarns, complete with metal & rubber jaws, **Code 2512E.700**

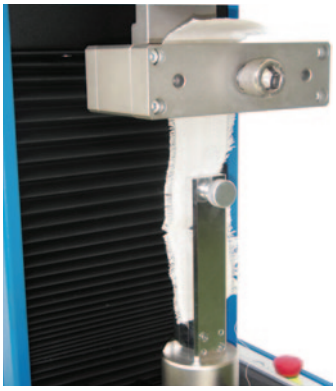
Pneumatic Clamps ("Bollard") for high-tenacity yarns, **Code 2512E.760**

Pneumatic Clamps for medium-light fabrics, up to 60 Kg capacity approx, 100 mm width, **Code 2512E.705**

Pneumatic Clamps for medium-heavy fabrics, up to 300 Kg capacity approx., **Code 2512E.730**

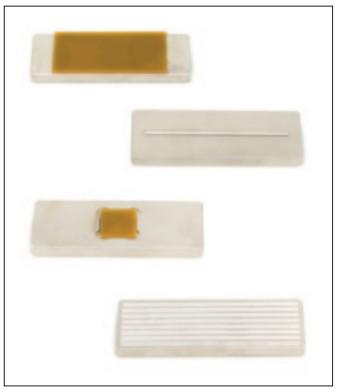


Mechanical PBF Clamps for films, width 25mm, **Code 2512A.997**



Nail tearing tool, bottom part (UNI 7275), **Code 2512A.856**

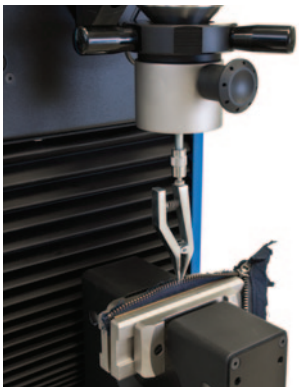
Mechanical Loop Clamps for stretch & recovery evaluation, according to ASTM D4964, **Code 2510.932**



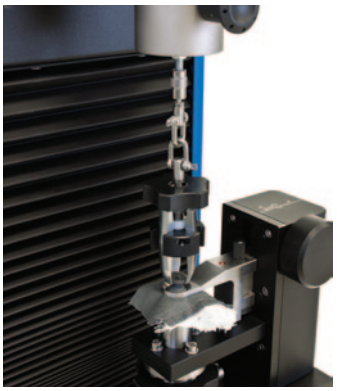
Example of interchangeable jaws, rubber/knurled, Grab, Contact Line, etc.

Zipper testing kit (ASTM D2061), **Code 194E.28**

Upper Long Nose Vise Grip, for trousers' hooks and other accessories, according to M&S P115 (for buttons), **Code 194E.10**



Element for Zipper Kit (**Code 194E.28**), in compliance with ASTM D2061 Standard

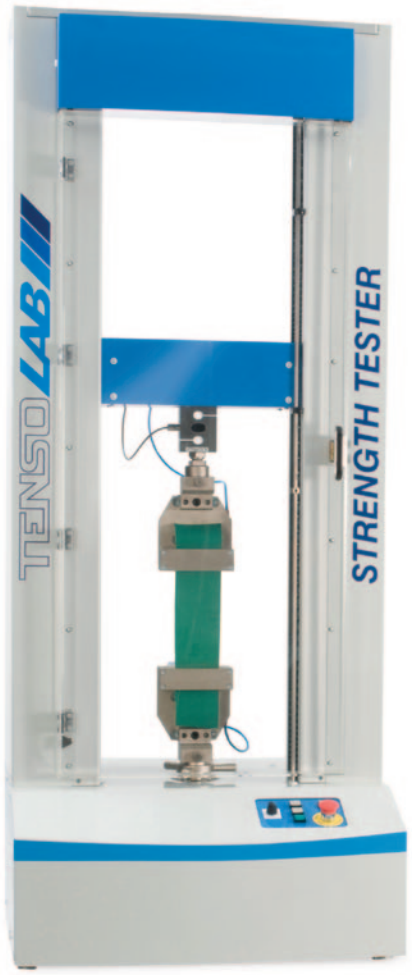


Upper Universal Grip (**Code 194E.6**), Lower Fabric Clamp (**Code 194E.4**), for buttons, etc.

Upper (**Code 194E.16**) & Lower (**Code 194E.14**), Grasp Button Kit, & Lower Fabric Clamp (**Code 194E.4**), for buttons, etc.

Upper Stud Grip (**Code 194E.12**), Lower Fabric Clamp (**Code 194E.4**), to test male parts of baby snaps, etc.

Tenso-Lab 1000 - 5000 Tensile strength tester 2516 - 2515



Two-column universal electronic strength tester, built according to CRE (Constant Rate of Extension) testing principle, developed to meet the high quality testing requirements of universities, research institutes and leading companies. Maximum capacity: 5000 kg (50 kN), **Code 2515**, and 1000 kg (10 kN), **Code 2516**. Suitable to test also technical textiles, geo-textiles, non-woven and industrial textiles in general.
Twin ball bearing screws ensure the smooth movement of the crossbar, sliding between two reinforced guide columns that prevent any deformation of the framework.

Speed range: 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 1000 and 5000 are PC controlled and can perform a full range of tests, included 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:

Max. capacity (N)	Accuracy (cN)	Code
20	0,4	.276
100	2	.280
1.000	20	.282
5.000	100	.283
10.000	200	.284
*50.000	1.000	.288

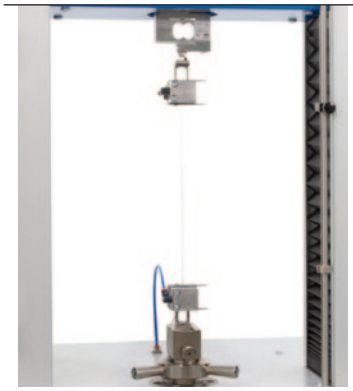
* only for Code 2515, Dual Column Tenso-Lab 5000

Tenso-Lab series complies with a variety of testing methods ISO, UNI, UNI EN, UNI EN ISO, ASTM, M&S, NEXT, JIS, etc..

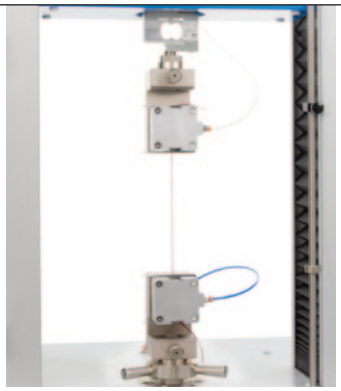
Officially approved by Marks & Spencer.
ISO 17025 Calibration Certificate (Accredia - ILAC) available on demand.

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase
Weight: 322 kg
Dimensions: (L) 900 x (W) 600 x (H) 1900 mm

Some of the available clamps for Dual Column Strength Tester

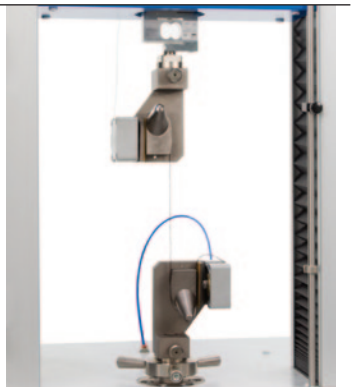


Pneumatic clamps for delicate yarns (POY, Lycra, cotton, worsted yarns), 20N max capacity, **Code 2510.978**



Pneumatic clamps for standard yarns and sewing threads, 50N max capacity, **Code 2510.982**

Mechanical clamps for normal yarns, 30N capacity, **Code 2512E.994**

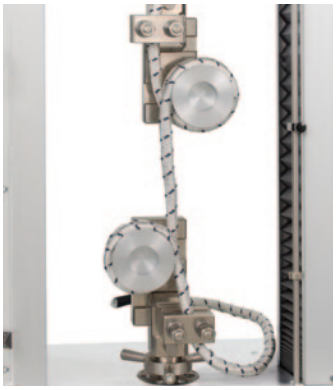


Clamps for high tenacity yarns with conical introducer, **Code 2510.980**

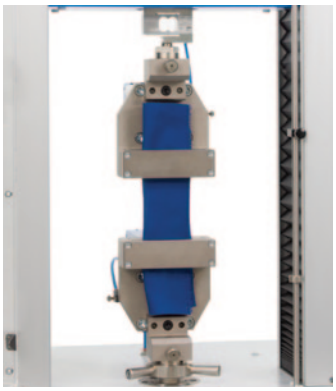
Mechanical clamps for high tenacity yarns, Scott 300, **Code 2510.996**

LEA clamps for hanks, **Code 2512E.990**

Self-tightening high tenacity clamps for ribbons, 100 mm wide, **Code 2512E.920**



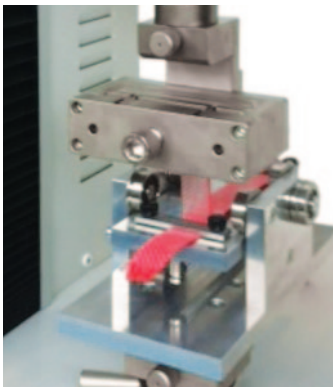
Self-tightening high tenacity clamps for ropes, **Code 2515.988**



Pneumatic maxi clamps with rubber jaws for high tenacity & heavy fabrics, 100 mm wide, **Code 2510.130**

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

Mechanical clamps for non-woven and geo-textiles, (EN ISO 10319), 200 mm width, with rubber jaws, **Code 2515.142**

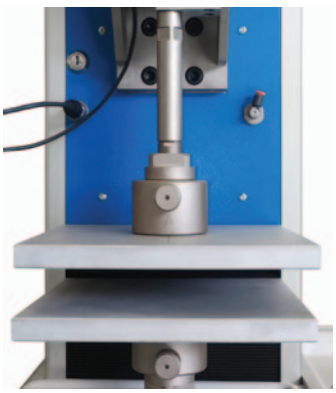


Adhesion peel bond kit (roller type, UNI EN ISO 11644; IUF 470; UNI EN 388 Annex C, 2017). Available on demand

CBR perforation Testing Kit for non-wovens (EN ISO 12236, UNI 8279-14), **Code 2510.690**

Perforation Testing Kit according to EN 388 Standard, **Code 2510.681**

Perforation/punching Testing Kit (ASTM D6797, ISO 90735), **Code 2512E.799**

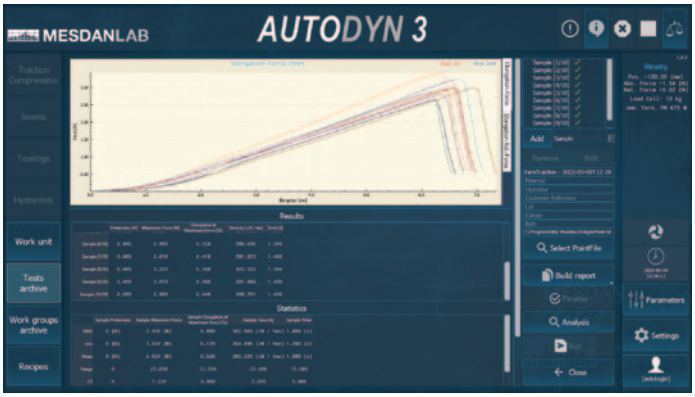


Compression Test Set. Available on demand

Autodyn 3 Automatic strength tester - 1 Position

2517

Example of yarn traction



Available Load Cells:

Load cell capacity	Load cell accuracy	Resolution	Code
10 N	0,2 cN	0.0001 cN	2512E.579
20 N	0,4 cN	0.0002 cN	2512E.580
100 N	2 cN	0.001 cN	2512E.581
500 N	10 cN	0.005 cN	2512E.583
1000 N	20 cN	0.01 cN	2512E.584
5000 N*	100 cN	0.05 cN	2512E.585

*Max load capacity (only Code 2517): limited to 3000 N

Among the new generation of MESDAN LAB tensile STRENGTH testers, AUTODYN 3 is the new **single-position automatic** version.

Ideal to automatically perform yarn testing of bobbins and packages, AUTODYN 3 incorporates an automatic yarn loading system. It is based on the new structure of the well-known TENSO-LAB 4 (new design, new hardware and new components), and replaces the former Autodyn II (code 2513 and 2514).

AUTODYN 3 can be used also in the semi-automatic mode, in order to test other textile materials as well, such as fibers, threads, hanks/LEA, fabrics and garment accessories, with the maximum capacity of 3 kN.

For the maximum testing versatility available on the market, it is equipped with a built-in PC and a modern and user-friendly software, already including some pre-set standard testing routines; new testing routines can also be easily created and saved by the end user.

Fully designed and manufactured in Italy, to meet the highest testing requirements.

Optional:

Wide range of interchangeable load cells.
Vast range of interchangeable pneumatic and mechanical clamps (for hanks / LEA, fabrics) and jaws for fabrics (rubber or metal flat), for seam slippage/Grab (various dimensions), Contact Line for stretch/recovery, for single fibre (pneumatic clamps and pretensioning clips), for fibre bundle (“Pressley” clamps, with holder and torque vice), etc.

Foot switch
(necessary for fabric pneumatic clamps)

Standard compliant to major testing methods (ISO, ASTM, JIS, BS, IWS, NEXT, M&S, etc.).

Officially approved by Marks & Spencer.
ISO 17025 Calibration Certificate (Accredia - ILAC) available on demand.

Power supply: 115 -240 Vac, 50/60 Hz, single-phase
Weight: 82 kg
Dimensions: (L) 370 x (W) 480 x (H) 1415 mm

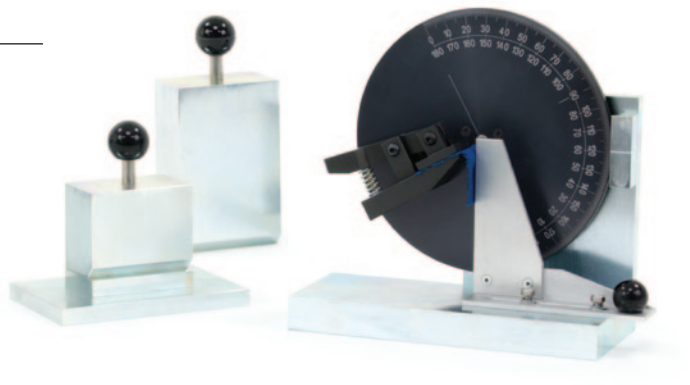
Example of Load Cell

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, GB/T3819.

Weight: 7,5 kg
Dimensions: (L) 250 x (W) 200 x (H) 350 mm

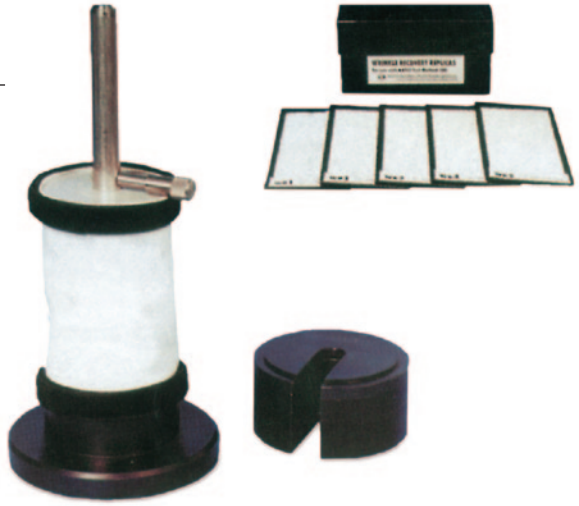


Wrinkle Recovery Tester 3110

To determine fabrics resistance to wrinkling.
Equipped with a set of standard comparative reference photographs, a set of weights (0.5 kg, 1 kg, 2 kg), and two fixing clamps with support.

Reference Standards: AATCC 128, ISO 9867.

Weight: 9 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.
Also used 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, IWS TM 31, UNI 9276, BS 2863, BS 2865, BS 2866, UNI EN 14970.

Weight: 1,8 kg
Dimensions: (L) 1500 x (W) 80 x (H) 40 mm

Martindale Abrasion and pilling tester 2568

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.

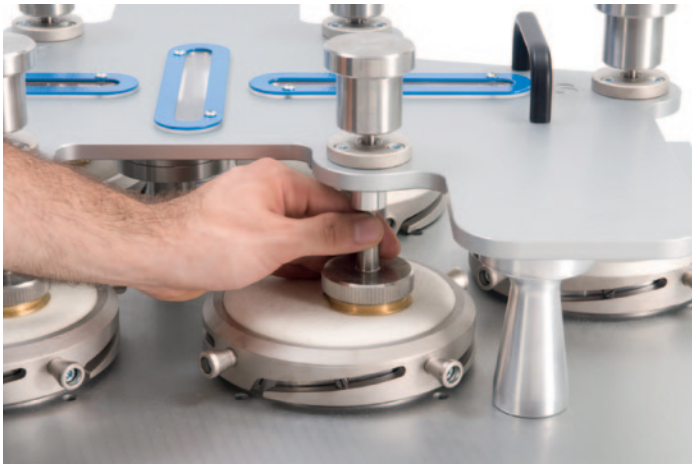
Compulsory Accessories (at least 1 is needed):

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
Pilling Assessment Viewer	Code 173N
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.



Reference Standards:

ABRASION, 38 mm Ø: UNI EN ISO 5470-2, UNI EN ISO 12947, UNI EN 13770, UNI EN ISO 20344, ISO 13520, ISO17704, 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 (formerly BS 5690:1991), UNI EN ISO 12947-1-2-3-4 (formerly SN 198529), UNI EN ISO 12947(formerly SFS 4328 - EMPA Method), UNI EN ISO 26082-1 [IULTCS/IUP 53-1], 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,GB/T 21196.1.2.3.4, GB/T 13775, FZ/T 20020, JIS L1096.

PILLING, 38 mm Ø: IWS TM 196, ASTM D4970, M&S P140, M&S P17, GB/T 4802.2.

PILLING, 90 mm Ø: UNI EN ISO 12945-2 (formerly SN 198525), GB/T 4802.2.

Officially approved by Marks & Spencer for:
ABRASION test: M&S P18C, M&S P19, M&S P19A, M&S P19B, M&S P19C.
PILLING test: M&SP17, M&S P140.

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

Burstmatic Bursting tester

338E

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 specimen as well as the specimen extension prior to bursting and can also perform release-and-extension cycle tests.

Such test can be carried out in two different ways:

following a specific testing standard already present in the software, or according to customised 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, graphs showing the dynamic behaviour of the tested fabric, either during bursting or cycling tests, can be displayed.
All testing parameters, results and graphs 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).

Officially approved by Marks & Spencer.

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

Available test areas:

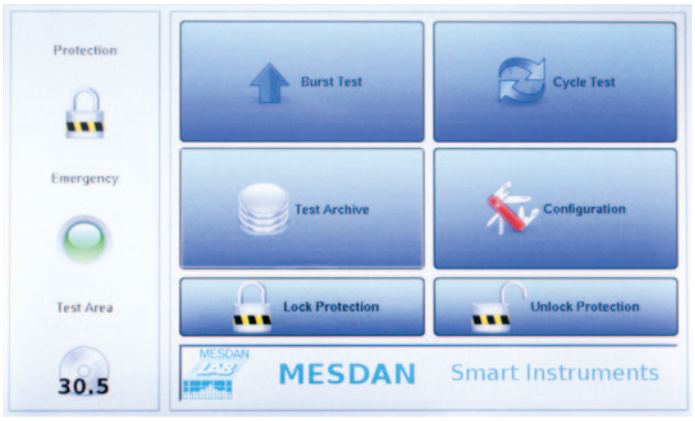
Area	Diameter	Standard
7.3 cm²	30.5 mm	UNI EN ISO 13938-2, ASTM D3786,M&S P27, WOOLMARK TM29, NEXT 22
7.8 cm²	31.5 mm	ASTM D3786, WOOLMARK TM29
10 cm²	35.7 mm	UNI EN ISO 13938-2
50 cm²	79.8 mm	UNI EN ISO 13938-2 M&S P27, ADIDAS 4.09
100 cm²	112.8 mm	UNI EN ISO 13938-2

Reference Standards:
GB/T 7742, FZ/T 01030/60019, JIS L1018.

Measurement range:

Distension	mm	inches	cm
Min	0.1	0.004	0.01
Max	70.0	2.756	7.00
Resolution	0.1	0.004	0.01

Pressure	bar	kPa	psi
Max pressure	10	1000	145
Resolution	0.001	0.1	0.02



Elmendorf 275A

Instrument to test tearing resistance of cloths, artificial leather, paper.

Interchangeable pendulums available:

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

Reference Standards: UNI EN ISO 13937-1, UNI EN ISO 4674-2, UNI EN ISO 6383-2, UNI EN ISO 1974, ASTM D1424, TAPPI T414, GB/T 3917.1, ASTM D751, FZ/T 75001, GB/T 455, JIS K1728.2, JIS L1096

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

Spray Rating Tester 333A

To determine the surface wetting resistance of fabrics.
As optional, standard reference photographs are available (**Code 333A.2**).

Reference Standards: UNI EN ISO 4920, AATCC 22, BS 4323, BS 3424 part 26, M&S P23, M&S P133

Weight: 5 kg
Dimensions: (L) 280 x (W) 280 x (H) 500 mm

Also available Water Impact Penetration Tester, **Code 333B**.

Reference Standards: AATCC 42, ISO 18695

Digital electric-hydraulic Bursting Tester 338D

To determine fabrics resistance to bursting.

Pressurising device with precision volumetric pump.

Safety valve for pressure control.

Adjustable speed

Automatic test duration record.

Measuring range: from 0 to 50 bar (0 to 5000 kPa).

Subdivision: 0,01 bar.

Supplied with: a kit of 12 membranes, a kit of 12 O-rings, 1 bottle of oil, 1 wrench for ring dismantling.

Reference Standards: UNI EN ISO 2758, ISO 3303, ISO 3689, ASTM D3786, WoolmarkTM29, UNI EN ISO 13938-1 (except point 6.1.3)

Power supply: 230 Vac, 50 Hz, single-phase
Weight: 32 kg
Dimensions: (L) 500 x (W) 400 x (H) 400 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, GB/T 4802.3, JIS L1076

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

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.

Some of the 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**

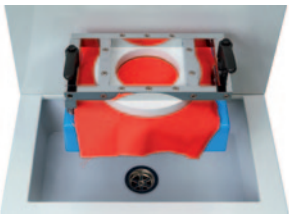
Other models for leather, rubber, paper, etc, are available.

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**

Different pressure weights and additional feelers can be supplied on demand.

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



Water Proof Water permeability 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. Standard Test Area: 100 cm² (other options available on demand). Measuring range: 0-50.000 mm/H_2O.

Available models:

with adjustable pressure up to 10 m/H_2O **Code 3241C**
with adjustable pressure up to 20 m/H_2O **Code 3241D**
with adjustable pressure up to 50 m/H_2O **Code 3241E**

Supplied complete with "touch screen" display for setting and reading analysis results.
Software available on request.

Reference Standards: UNI EN ISO 811, ISO 1420-A, UNI EN 1928, UNI EN 13795-1, UNI EN 13859-1, UNI EN 1734, UNI 4818, UNI 5123, AFNOR G-07 057, DIN 53886, BS 2823, BS 3321, BS 3424 part 26, AATCC 127, AATCC 208, JIS L1092, JIS K6328, GB/T 4744, FZ/T 01004

Power supply: 230 Vac, 50/60 Hz, single-phase
Weight: 80 kg
Dimensions: (L) 540 x (W) 540 x (H) 1700 mm

Air Tronic Plus Air permeability 3240E-F-G

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.
The air permeability value is expressed in mm/sec. and other units.
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**.
Equipped with: wheels, touch screen display, built-in suction unit with cooling system with high noise reduction, and digital Flux Meter (to perform fast tests).

Optional:

Medical Mask Testing Kit, **Code 3240E.36**

Data Management Software, PLC Software for average pore size calculation, built-in micro printer, Automatic Pressure Drop Regulator, Seal Fixing Rings, Template Area Adapter, available on demand.

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), GB/T 5453/13764
For Mask Testing Kit (ref. models 3240B, 3240E and 3240F): EN 14683:2019 (Annex C) and ASTM F2100:2019 (point 9.2)

Power supply: 230 Vac, 50/60Hz single-phase
Weight: 76 kg (model 3240E); 100 kg (model 3240F & 3240G)
Dimensions: (L) 620 x (P) 620 x (H) 1170 mm

Code	Depressure [10 Pa = 1 mm H_2O]		Air flow	Flux meter	Standard Test Area	Optional Test Area
	Pa	mm H_2O	l/h (min-max)	cm²	cm²	cm²
3240E	0-2500	0-250	50-5800	Digital (1 unit)	2-5-10-20-50-100	38
3240F*	0-2500	0-250	50-5800	Digital (2 units)	2-5-10-20-50-100	38 / 25 ☑
3240G**	0-2500	0-250	50-360.000	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 3240G). ** The air permeability range of model 3240G, for highly impermeable fabrics (like parachutes), goes from a minimum of 1.4 mm/sec up to a maximum of 500.000 mm/sec.
Remarks: bench model also available on demand (**Code 3240B**).

Elmatic Elmendorf tearing tester

275D

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

sample pre-cut

pendulum release

sample tearing

reading of the laceration value

blocking of the pendulum

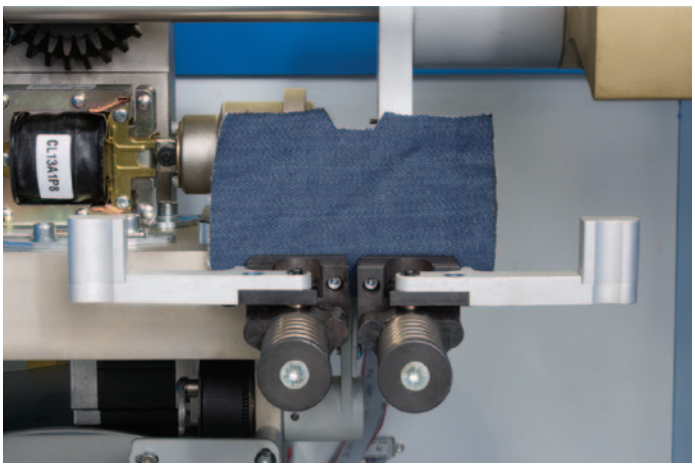
restoring of the pendulum to its starting position

Suitable for all kinds of textiles, technical and protective fabrics, as well as for paper, cardboard, natural and artificial leather, plastic, nonwoven and other materials. Model with a high laceration capacity, ranging from 1600 to 30.000 cN. Pendulum complete with additional check weights, supplied as standard with the 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
Paper - according to: TAPPI T414, UNI EN ISO 1974

Other reference Standards: GB/3917.1, FZ/T 60006, FZ/T 75001, GB/T 455, JIS L1096, JIS K7128.2

Officially approved by Marks & Spencer.



Power supply: 115 up to 230 Vac, 50/60 Hz, single-phase
Weight: 66 kg
Dimensions: (L) 510 x (W) 700 x (H) 630 mm

MacroLab Yarn-fabric microscopic analysis 250F

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 image acquisition (on which measurements and comments can be produced), for measurement on the "live" images directly, and for statistical 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
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

Hoff-Lab Press 3370B

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

Equipped with a PLC for the control of 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 4**.

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

Power supply: 400 Vac, 50 Hz, three-phase + N
Weight: 310 kg
Dimensions: (L) 2000 x (W) 1000 x (H) 1600 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, NEXT 20

Weight: 2 kg
Dimensions: (L) 170 x (W) 170 x (H) 150 mm

Electronic balance weight per m² 165.742

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 ø 120 mm.

Power supply: 115 Vac or 230 Vac, 50/60 Hz, single-phase
Weight: 2 kg
Dimensions: (L) 210 x (W) 180 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 cylindrical rubbing finger (16 mm diameter), a rectangular rubbing finger (19 x 25,4 mm), and a pack of crocking clothes. Each rubbing finger is equipped with a proper weight, in order to reach 9 N.

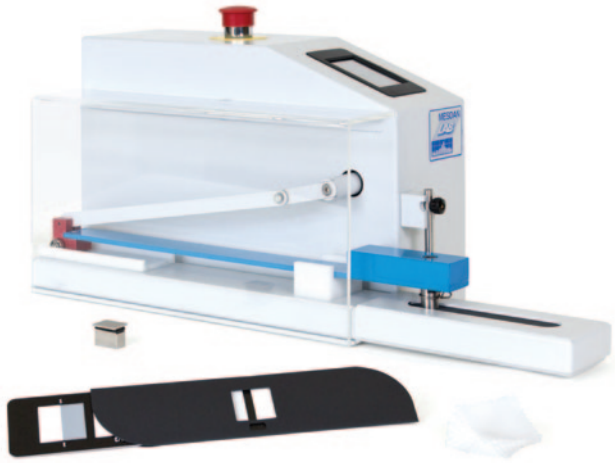
Optional:

1 pack of 500 cotton crocking cloths Code 198.422

ISO Grey scale A03 Code 267A

Reference Standards: UNI EN ISO 105 X12, AATCC 165, AATCC 8, M&S C8, NEXT 6, GB/T 3290, GB/T 5712

Weight: 8 kg
Dimensions: (L) 670 x (W) 220 x (H) 210 mm



Electric Crock Meter 198B Rubbing fastness

Electric model to determine colour fastness to rubbing, fitted with a digital counter. The Crock Meter is supplied complete with a cylindrical rubbing finger (16 mm diameter), a rectangular rubbing finger (19 x 25,4 mm), a pre-installed weight (to reach 9 N), and a pack of crocking clothes.

Optional:

1 pack of 500 cotton crocking cloths Code 198.422

ISO Grey scale A03 Code 267A

Reference Standards: UNI EN ISO 105 X12, AATCC 165, AATCC 8, M&S C8, NEXT 6, GB/T 3290, GB/T 5712

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 exposed to hot air. Suitable for 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 +50°C to +280°C.
Accuracy: ± 1°C.

Available models:

Inside dimensions (L) 408 x (W) 372 x (H) 422mm.
Capacity: 60 litres. Weight: 44 kg Code 251G

Inside dimensions (L) 498 x (W) 477 x (H) 512mm.
Capacity: 120 litres. Weight: 60 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

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: UNI EN ISO 105 X11, UNI EN ISO 105 P01, AATCC 117, AATCC 133, GB/T 5718, GB/T 6152, FZ/T 01077

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 105E04; AATCC 15; IWS TM 175.

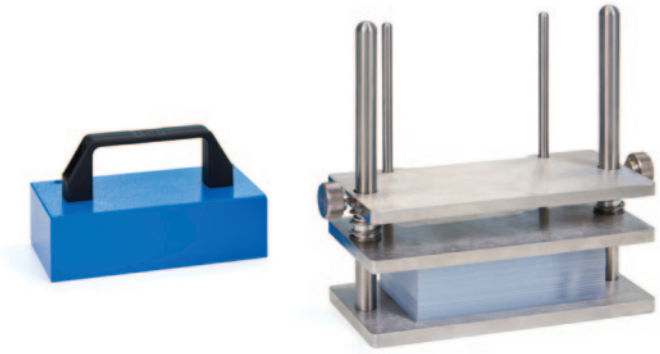
Colour fastness to swimming pool and sea water, in compliance with the following standards UNIEN ISO 105 E01; AATCC 106; AATCC 107; IWS TM 6.

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 (115x60mm each), complete with one metallic container

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



Optional:

Multifibre fabrics DW 010 (ISO 105)	Code	257.424
ISO Grey scale A03 (ISO 105) to assess colour staining	Code	267A
ISO Grey scale A02 (ISO 105) to assess colour fastness	Code	267C
Kit of chemicals to reproduce acid and alkaline perspiration (in compliance with ISO, BS, IWS)	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	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) x 380 x (H) 433 mm

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:

Set of Blue standard scale for light fastness (50 units)	**Code**	**325.2**
Humidity test control fabric (Htc)	**Code**	**325.30**
ISO Grey scale A02	**Code**	**267C**
Sample holders (3 pcs.)	**Code**	**193A.100**

Reference Standards: UNI EN ISO 105 B01, AATCC 16.1, GB 8430, JIS L0843

Power supply: 230 Vac, 50/60 Hz, single-phase
Weight: 30 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**
ISO Grey scale A02	**Code**	**267C**
Sample holders (3 pcs.)	**Code**	**193A.100**

Reference Standards: UNI EN ISO 105 B01, UNI EN ISO 105 B02, UNI EN ISO 105 B04, UNI EN ISO 105 B06, AATCC 16.1, AATCC 16.3, AATCC 169 Option 3, GB 8430, JIS L0843

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 program setting of different functioning cycles.

Optional:

Polyester makeweight / ballast	Code 310.72
Stability template and percentage ruler for dimensional stability assessment	Code 310.14
Memory card UNI EN ISO 6330	Code 310B.90

Memory cards for other test methods and 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, GB/T 8629, FZ/T 70009

Power supply: 230 Vac or 400 Vac, 50 or 60 Hz, three-phase
Weight: 198 kg
Dimensions: (L) 720 x (W) 690 x (H) 1320 mm

Tumble Dryer 3111

Recommended model to dry samples washed by Wascator, Code 310B.
Capacity: 5 kg - Timer: 99,99 min.
Equipped with electronic processor for accurate temperature control within ±1°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

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 ±1°C.

It can be used also for atmospheric dyeing up to +98°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.

Other models available on demand:

16-position model	Code	311M
8-position special model, complying with UNI EN ISO 105-C06 (Test E2S) Standard	Code	311L2

Optional:

Stainless steel beakers 550 cc for colour fastness	Code	311.18
Stainless steel beakers 1200 cc for colour fastness	Code	311.20
Set of 50 pieces of stainless steel spheres (for wet washing tests)	Code	311.2
Set of 12 pieces of stainless steel discs (for dry cleaning tests)	Code	311.4
Adjustable base for instrument placement (for models 311L & 311L2)	Code	311L.22
Adjustable base for instrument palcement (for model 311M)	Code	311M.24
ISO Grey scale A02	Code	267C
ISO Grey scale A03	Code	267A
Multifibre fabric DW 010	Code	257.424
Multifibre fabric TV	Code	257.426

Other types of Multifibre fabrics are available on request

Reference Standards: UNI EN ISO 105 C06-C08-C09-C10-C12-D01-E03-E12-X05, UNI EN ISO 11643, IUF 434, AATCC 61-1A-2A-3A-4A-5A, AATCC 86, AATCC 132, AATCC 151, AATCC 190, M&S C4A-C5-C37-P3B, NEXT TM2, TM2a, TM3, TM3a, TM5, GB/T 3921, GB/T 5711, JIS L0844

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.

Available in two models:

ISO Grey scale A02 for colour change	Code	267C
ISO Grey scale A03 for colour staining	Code	267A

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

AATCC scale for colour change	Code	267D
AATCC scale for colour staining	Code	267E

Blue Scale 325.2

Set of 50 cards in pure wool, each with 8 sticked blue scale gradations.
To test colour fastness of cloths exposed to light, in accordance with ISO Standard 105, ATCC

Standard Adjacent Fabrics

Suitable for colour staining tests according to ISO 105 standards.

Available in the following versions:

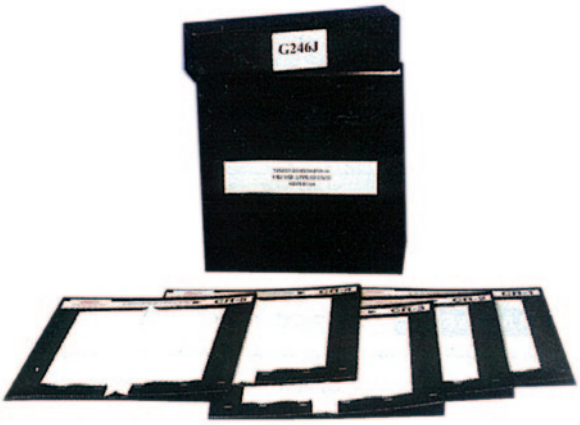
F01 Wool (10x4 cm - 50 pcs.)	Code	323.8
F02 cotton (limbric) - (10x4 cm - 50 pcs.)	Code	323.6
F02 Viscose (1 m)	Code	323.10
F03 Polyamide (Nylon 6.6, 1 m)	Code	323.12
F04 Polyester (1 m)	Code	323.14
F05 Acrylic (1 m)	Code	323.16
F09 Cotton rubbing cloth (Lawn) - (500 pcs.)	Code	198.422
D01 Cotton for dry cleaning (Drill) - (1 m)	Code	323.4

Multifibre DW 010 257.424

Standard fabrics for colour staining tests, according to ISO 105 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, but for high-temperature washing tests.



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, UNI EN ISO 15487

Soap Powder 310.10

To perform tests of colour fastness to washing, as per the ISO 105, 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

ISO Flammability Lab 3392E

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. Equipped with serial port for connection with Personal Computer, and for data storing and print.

Optional:

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, UNI EN 1624, UNI EN 1625

Power supply: 115 Vac or 230 Vac, 50/60 Hz
Net weight: 50 kg
Dimensions: (L) 650 x (W) 750 x (H) 1200 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

probes 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, DIN 54345-1

Note: before the static electricity measurement, sample has to be conditioned at +23°C ±1° and R.H. 25% ± 5%, with Climatest (Code 1722).

Power supply: 230 Vac, 50/60 Hz, single-phase
Weight: 4 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 circular blades

Equipped with safety cover.

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

Power supply: 230 Vac, 50/60 Hz
Weight: 21 kg
Dimensions: (L) 550 x (W) 320 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 linear blades
- 1 standard calibration neoprene sheet
- 1 bi-adhesive tape, 1 roll
- 1 aluminium foil, 1 roll

Equipped with safety cover.

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 operator safety features.

Reference Standards: UNI EN 13595-2, UNI EN 13594, UNI EN 14120

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

Integrated Sweating Guarded Hot Plate System

3123B

The Sweating Guarded Hot Plate, also called “Skin Model”, is used to measure and control the thermo-phisio-biological properties of fabrics and layers through a complex measurement of thermal resistance to a heat flux (RCT), and water vapour resistance to a water vapour flux (RET), in an environment having thermal and humidity steady conditions, as per UNI EN ISO 11092, ASTM F1868 and ASTM D1518 (Option II).

The iSGHP-8.2 system, endowed with 8” square test plate, includes:

Hot Plate with integral sweating surface, computer controlled variable airflow rates, gravity fed fluid supply system, and ambient temperature and humidity probes.

Also available iSGHP-10.5 model, with 10” square test plate.

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

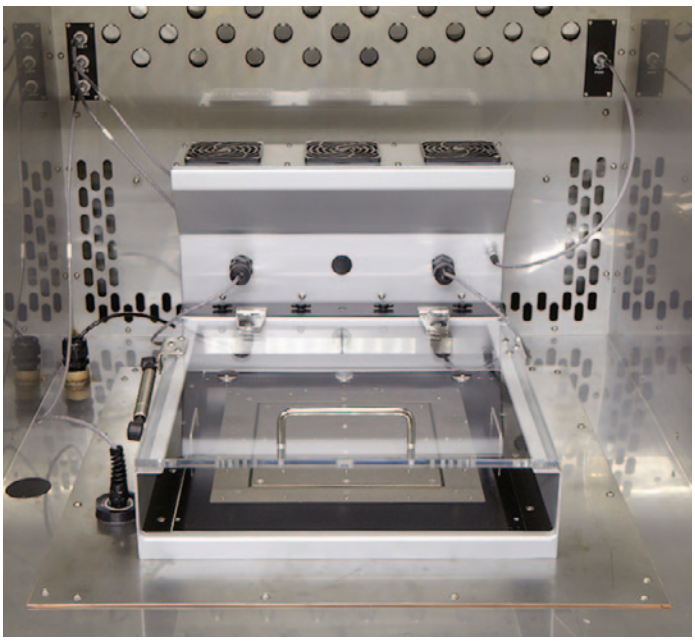
Its ergonomic layout yields a comfortable working height of approximately 42” (107cm) above the floor, and other thoughtful touches include a high intensity LED cabinet light, a removable top shelf for the preconditioning of fabric samples, and a large insulated door with viewing window.

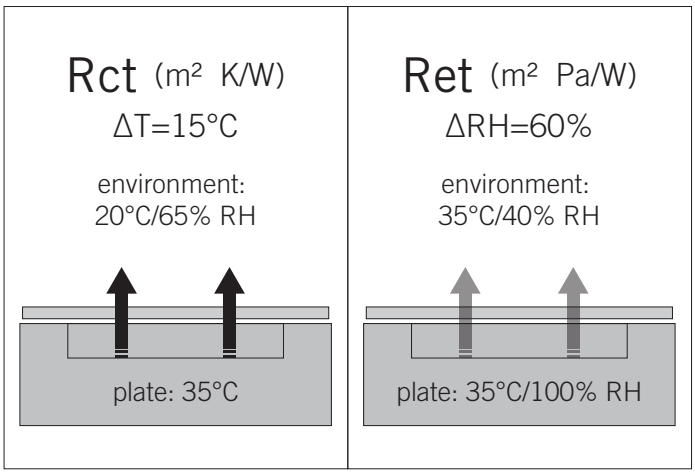
For sweating tests the SGHP Hot Plate utilizes the chamber’s water source, and a unique porous wicking assembly on both Hot Plate and guard ring ensures a uniform wetted surface.

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

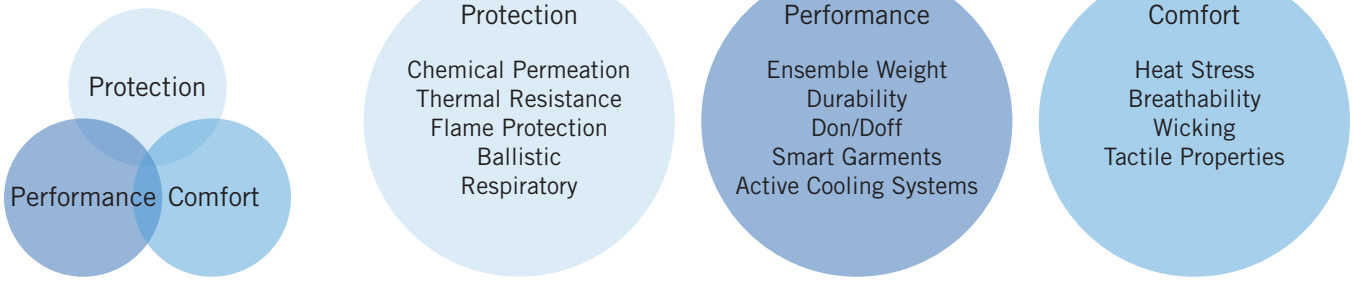
Reference Standards:
ISO 11092, ISO 13029, ASTM F1868, ASTM D1518 Option II, ASTM D1518 Option I, GB/T 11048, CEN/TR 16422:2012, UNI EN 31092, NFPA 1971

Power supply: 220/240 Vac, 50/60 Hz, single-phase
Weight: 448 kg
Dimensions: (L) 910 x (W) 990 x (H) 1780 mm





Thermetrics Advanced Thermal Measurement Technology



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).

YARN AND FABRIC DYEING/FINISHING

Auto-Chroma IR Infra Red dyeing

323EA

Dosage 1 Dosage 2

Auto-Chroma IR "click-valve"* Infra-red dyeing machine.
For the first time ever a Lab Infra-red dyeing machine that works on fill it & shut it principle.

Main features:

Programmed temperature control for raise, hold, and cooling.

Automatic dosing control of auxiliary products.

Ideal to dye pieces of fabrics, yarns, fibres and blends.

Suitable for all types of dyes, and dyeing methods.

This fully automatic chemical dosing and temperature & time control is achieved by a specially designed round dye pot. Each pot has 2 special automatic dosing reservoirs with "click-valve"(patented).

The temperature range for heating and cooling is ambient to +135°C, rate of heating from +0,1 up to +2°C/min.

Cooling by means of water heat exchanger and air circulation fan above 500 m³/hour.

The automatic dosing eliminates the stop&start operations, e.g. stops to add dye, stop to add alkali, and so on.

The instrument is equipped with an elegant colour "touch screen".

The machine is supplied with several dyeing programs designed by experts (e.g. Pes, Cot, Cot/Pes, Wool, etc.).

A special (patented) 300 cc round pot is available, and can be used for any liquor ratio covering the following volumes:
100 - 150 - 200 - 250 and 300 cc.

The maximum number of pots on a standard machine is 12.

The saved programs can be easily recalled again for the next occasions of dyeing, so even a small change to a standard program is saved, e.g. if an additional auxiliary is added for turquoise shades, that program is saved in the machine and can be recalled when lab trials of turquoise colours is undertaken.

The essential innovative advantages of this dyeing machine are:

Easy of use

Touch screen control panel

Save and recall memory system

Low liquor ratio dyeing is possible

Auto-Chroma IR excludes the negative effect called "temperature dips and hot spots" which influences dyeing results among samples of the same type

Time factor: important dyeing time reduction due to the automatic dosing of dyestuffs alkali and auxiliaries

Dye accuracy factor: due to micro-metric step by step dosing and the fact that the machine does not need to be stopped (unlike other IR machines with manual/syringe dosing)

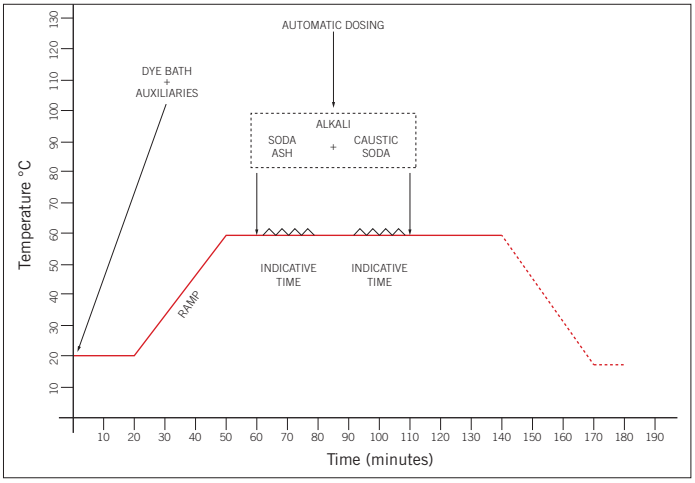
Reproducibility factor: due to the special (patented) pot design the sample absorbs the colour in an absolute perfect manner

Ergonomic factor: definitively the most silent IR machine nowadays available

Auto-Chroma IR is built entirely out of the best quality stainless steel, practically indestructible.

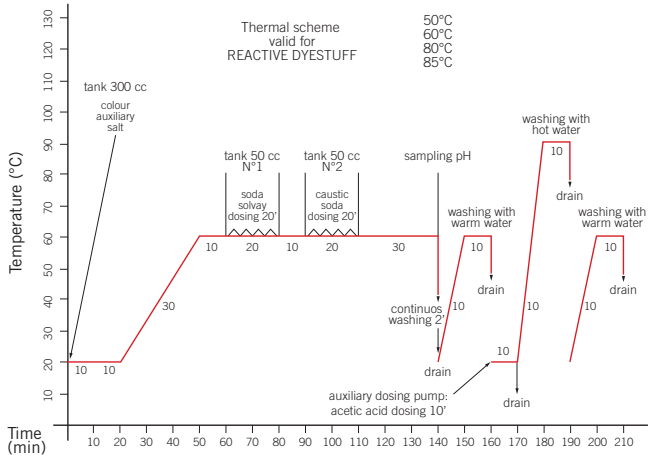
Power supply: 400 Vac, 50 Hz, three-phase + N
Weight: 240 kg
Dimensions: (L) 1500 x (W) 880 x (H) 850 mm

A typical isotherm cotton dyeing program (Reactive Dye at +60°C)



Giotto HT Automatic dyeing machine

323T6



Fully automatic dyeing machine, from pre-treatment to washing off - Load unload principle (similar to bulk).

It can dye yarn skeins and fabrics made of any dyeable fibres and their blends.

All Parameters are fully programmable, including Auto Dosing.

Equipped with about 50 selectable different dyeing programs, each with graphic display.

Basic model endowed with 3 automatic dosing tanks.
To obtain a fully automatic version, 2 additional dosing pumps can be added to each dyeing unit.

Up to 6 dyeing positions, either H.T. (+135°C) or atmospheric (+98°C), or combined.

Each dyeing position is independent.

Also available models with different bath capacity (300 cc, 600 cc, 1600 cc, 6000 cc).

On demand, the instrument can be equipped with dyeing positions having different bath capacity.

Suitable to create processes and plan batches online like for bulk machines.

Thanks to the fully automation and to the very high precision, Giotto Dyeing Machine can obtain the same results reached by the production machineries on the laboratory samples dyed according to the same processes and recipes.

Liquor ratio from 1:7 up to 1:40 (depending on GSM of fabric to be dyed).

Continuous programmable Reduction clearance possible (for PES and its blends), allows for continuous dyeing of PES Blends.

Picture showing the 3 automatic dosing tanks.

Excellent repeatability within one bath and reproducibility among baths - delta (<0,4 CMC 2:1) and RFT (> 95%).

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

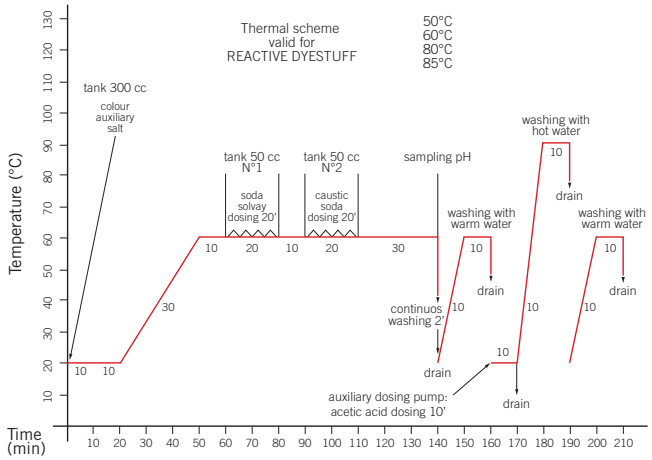
Also available a single-position machine with 9000 cc tank capacity, Giotto HT 9000 (Code 323T6.216), ideal for a combined use with DYE SCANNER or with LAB KNITTER, to determine the dyeing affinity and to check, after dyeing, the presence of any faults inside the fabrics.

Giotto HT 9000 (+135°C) is also suitable for dyeing of polyester fabrics and yarns and for the final “stripping” on dyed polyester fabrics.

For samples with a max. dry weight of 300 g.

Lodo HT

323P6



Laboratory dyeing machine with 3 INDEPENDENT DYEING UNITS, suitable for both atmospheric dyeing (up to +98°C) and high temperature dyeing (up to +135°C), ideal for dyeing of small yarn cones, bulk fibres, fabrics wrapped on beams, and yarn skeins.

Available in different configurations (from manual to fully automatic version).

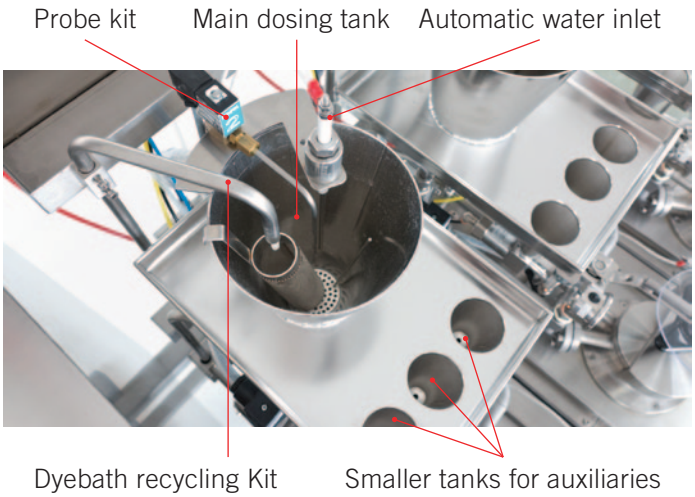
The dyeing process is achieved by dyeing static samples with a circulating dye bath flow, from inside-outside and vice versa, thanks to the reversible circulation pump supplied with the main instrument.

Lodo HT main characteristic is its modular design, the possibility to increase its AUTOMATION level and dyeing REPEATABILITY to the top level, in order to reach the highest possible Right First Time (RFT). For this scope, some unique technological solutions have been developed, all available on demand as optional accessories.

Each single dyeing unit of Lodo HT can be equipped with an AUTOMATIC DOSING SYSTEM consisting of 1 main tank (in which the dye bath is poured) and 3 additional smaller tanks, for auxiliary products.

Besides quality, when the time factor and dyeing quantity are involved, the addition of other accessories (such as the EXTRA PUMP D-4 and D-5 DOSING KITS) will ensure a COMPLETE AUTOMATION and guarantee the highest dosing ACCURACY (exclusion of human error) and the highest possible RFT.

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



Technical features:

Up to 6 independent dyeing positions are available on demand.

Models with 1000 cc bath capacity is available on demand (to be defined at the time of the tender).

Programmable built-in PLC microprocessor with touch screen display.

Automatic dosing of dyeing recipe, alkali and auxiliary products.

Automatic continuous washing.

Automatic drain of the dyeing bath.

Reversible circulation pump.

Automatic indirect water cooling system.

Automatic soaping.

Fabric Colour

323S5
Atmospheric sample dyeing machine

Laboratory instrument for atmospheric dyeing (+98°C), suitable for dyeing and washing of tubular fabrics, knitted cloths, and other kinds of orthogonal fabrics (included samples of carpets and fitted carpets).

Dimensions of rotating drum: Ø 450 x 500 mm., with dyeing bath of 60 litres.

Equipped with programmable microprocessor (up to 50 programs can be saved).

Depending on the type of sample, it is possible to dye or wash a quantity of fabrics of about 2,5 kg.

Temperature control and regulation of dyeing bath (max +98°C).

Optional: automatic loading of dyeing recipe, auxiliary products, and final bath drain.

On request, other models with different dyeing capacity are available:

20 litres (**Code 323D**)

38 litres (**Code 323S2**)

240 litres (**Code 323S7**)

Power supply: 400 Vac, 50 Hz, three-phase + N
Weight: 240 kg
Dimensions: (L) 1800 x (W) 1030 x (H) 1380 mm

Padder Lab

3399

HORIZONTAL Padder Lab. Laboratory equipment for the foulard dyeing of fabric samples. Fabrics are cold dyed, squeezed on rollers and then rolled up for the storage. It's also possible to dye small A4-size fabric samples.

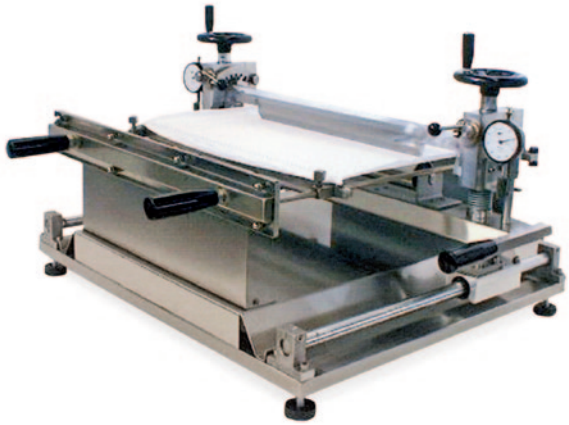
Roller length: 300 mm.

Adjustable speed from 0 to 12,5 m/min, by means of a potentiometer.

On request, the VERTICAL Padder Lab is available, ideal for the preparation of fabric auxiliary products in the process of printing and finishing.

Jigger Lab also available, **Code 3112**.

Power supply: 400 Vac, 50 Hz, three-phase + N
Weight: 130 kg
Dimensions: (L) 1000 x (W) 600 x (H) 730 mm



Coating Lab 3114

Laboratory equipment for spreading and coating of auxiliary and finishing substances.

Suitable for the finishing - at ambient temperature - of all type of fabrics and flat materials.

The sample holder rack (450 x 450 mm) is interchangeable with other Mesdan Lab equipment: Fabric Lab Dryer (**Code 3106B** and **3106**), Stenter Lab Dryer (**Code 3106A**), Fabric Vapour Lab (**Code 3107** and **3107A**), to make the downstream heat treatments easier.

Weight: 40 kg
Dimensions: (L) 650 x (W) 550 x (H) 400 mm

Fabric Lab Dryer 3106B

Hand operated instrument to dry, fix and vulcanise fabric samples after dyeing or impregnation.

The instrument is also suitable for thermo-fixing fabric samples before washing, to check their shrinkage.

Equipped with 1 sample holder frame (dimensions: 450 x 450 mm).

Adjustable temperature from +50°C to +230°C.

Complete with timer.

On request, model with 2-position sample holder is available (**Code 3106**, as in photo)

Optional: telescopic frame 450x450mm (adjustable length and width **Code 3106A.6**)

Power supply: 230 Vac, 50 Hz, single-phase
Weight: 156 kg
Dimensions: (L) 1060 x (W) 960 x (H) 750 mm

Stenter Lab Dryer 3106A

Small miniature RAMEUSE, suitable to dry dyed fabric samples, but especially to hot fix the fabrics.

High quality model, with separated heating and drying phases on the two fabric faces.

Forced air ventilation device to automatically control and preset the temperature up to +220°C.

Possibility to adjust the warm air flow from the blowers (separately for lower and upper blower).

Equipped with fabric sample holder frame (450x450 mm) with pins (automatic extraction) and with an adjustable slider.

Control panel with timer, to set test duration.

Optional: telescopic frame 450x450mm (adjustable length and width **Code 3106A.6**)

Power supply: 400 Vac, 50 Hz, three-phase + N
Weight: 350 kg
Dimensions: (L) 1130 x (W) 1345 x (H) 770 mm

Light Lab

173B

Light chamber for sampling.

With the following 4 light sources:

- Daylight lamp D65 6500 K
- Fluorescent lamp 4000 K
- UV ultra violet lamp
- F Incandescent tungsten lamp

Complete with hour counter device.

Optional: 45° fixed angle table, **Code 173B.76**

Reference Standards:
BS 950-1, DIN 6173

Power supply: 230 V, 50/60 Hz, single-phase
Weight: 30 kg
Viewing area: (L) 675 x (W) 395 x (H) 370 mm
Overall dimensions: (L) 715 x (W) 415 x (H) 600 mm

Verivide Light Box

Colour Assessment Cabinets (CAC), available with 60 and 120 cm viewing area width, and with 4 or 5 different light sources, to bechosen from the following ones:

- D65 “Daylight” - 6500 K
- TL 840/P15 Fluorescent - 4000 K
- UV Ultraviolet
- “F” Tungsten filament - 2800 K
- “A” Tungsten Halogen - 2856 K (as an alternative to “F” type)

Reference Standards:
ISO 3664, BS 950-1, DIN 6173, M&S, ASTM.

Available models:

Code	N. of Light Sources	Viewing Area Dimensions (mm)
173E	4	680 x 380 x H 335
173F	5	680 x 380 x H 335
173G	4	1240 x 590 x H 545
173H	5	1240 x 590 x H 545

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

Other laboratory equipment for dyeing and finishing is available on request.

MISCELLANEOUS

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: 13 measurements, including minimum and maximum values.

Equipped with a set of ferrules.

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 ±0,01% of reading (from 600 to 25000 rpm).

Selectable length: meters, inches, feet and yards.

Storage capacity: 14 readings, including minimum and maximum values.

Complete with accessories (a set of ferrules).

Power supply: 1,5 V battery x 3

Electronic Tachometer 1810E

Optical model for contact and non-contact measurements.

Measuring range: up to 99999 rpm with ±1 revolution accuracy (non-contact) and up to 25000 rpm (contact).

Measuring distance: 2 m max.

Storage capacity: 13 measurements, minimum and maximum values included.

Equipped with a set of ferrules.

Power supply: 1,5 V battery x 2

Electronic Tachometer 1810H

Optical model for contact and non-contact measurements.

Measuring range: up to 99.999 rpm with ±1 rpm accuracy (non-contact) and up to 25000 rpm with ±2 rpm accuracy (contact).

Measuring distance: 2 m max.

Storage capacity: 14 readings, including minimum and maximum values.

Equipped with a set of ferrules.

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:

ZEF type, from 0,5 to 50 cN with 0,1 cN accuracy	Code	1836C
ZEF type, from 0,5 to 100 cN with 0,1 cN accuracy	Code	1836D
ZEF type, from 1 to 200 cN with 0,1 cN accuracy	Code	1836E
ZED type, from 1.0 to 200.0 cN with 0,1 cN accuracy	Code	1837B
ZED type, from 1 to 500 cN with 1 cN accuracy	Code	1837C

Warp Tensiometer DXK

To determine the 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

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 tensionpeaks. 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

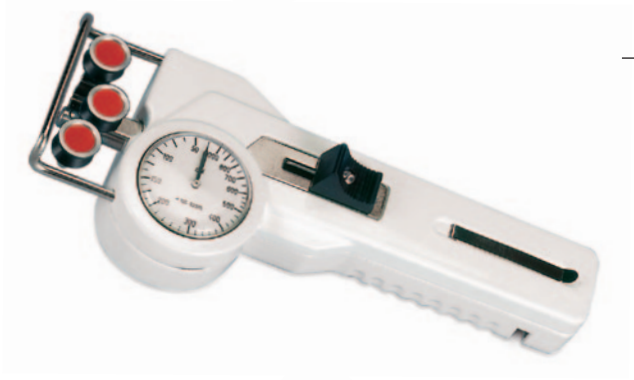
tension range from 2.0 to 500.0 cN with steel guide rollers suitable for yarn speed up to 2000 m/min. Resolution: 0.1 cN Code 1830H

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.

Reading scales:

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

Other models with different reading scale available on demand

Mechanical Tensiometer ZF2/ZD2

Particularly suitable for knitting and hosiery machines.

Reading scales:

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 150 to 18000 rpm
Power supply: rechargeable battery **Code 186Q**

Strobo Lab 186H

Digital reading stroboscope with built-in rechargeable battery, particularly suitable for the control of ring spinning frames, twisting,knitting and hosiery machines.

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

Led Stroboscope 186P

Professional stroboscope with innovative LED technology.

Excellent performance with high reliability and reduced maintenance.

Ideal to visually analyse any periodic or rotational motion, and for speed measurement.

Several applications in various sectors of industrial production, maintenance and research field, such as:
measurement of rotational speed, frequency or period - observations on printing machines and textiles - vibration control - quality control - research laboratories - etc.

Capacity: up to 25,000 FPM with flashing frequency adjustment by two potentiometers, for quick and precise coarse and fine adjustment.

Flashing synchronization from internal oscillator.

Adjustable light intensity and sharpness of the image.

Power supply: rechargeable lithium-ion battery + 230 Vac 50/60 Hz via the supplied charger/adapter
Weight: 780 g
Dimensions (L) 70 x (W) 115 x (H) 195 mm

Writing Thermo-hygrograph 180B

To monitor and register the environmental temperature and relative humidity.

Measuring range from: 0°C to +40°C (±1,5% accuracy) and from 0 to 100% R.H. (accuracy ±3% from 0 to 40% R.H.; ±5% from 40 to 100% R.H.).

Complete with 52 weekly diagram paper sheets.

Measuring principle achieved by means of a special bundle of hair.

Power supply: 1,5 V battery

Electronic Psychrometer 288C

Portable equipment for the direct reading of the environmental temperature and humidity.

Measuring range: from -200°C to +650°C (±0.1°C), and from 0 to 100% R.H. (±0.1%).

Digital reading.

Different probes available on demand.

Optional:

11,3% R.H. calibration solution	Code 288C.2
33,0% R.H. calibration solution	Code 288C.4
75,4% R.H. calibration solution	Code 288C.6
Combined probe temperature/humidity	Code 288C.10

Power supply: 9 V battery

"Assmann" Psychrometer 196C

Model with dry or wet bulb to determine the environmental humidity and temperature in a specific ambient,where the equipment has to be installed.

Endowed with two mercury thermometers with measuring range from 0°C to +50°C (±0.2°C accuracy).

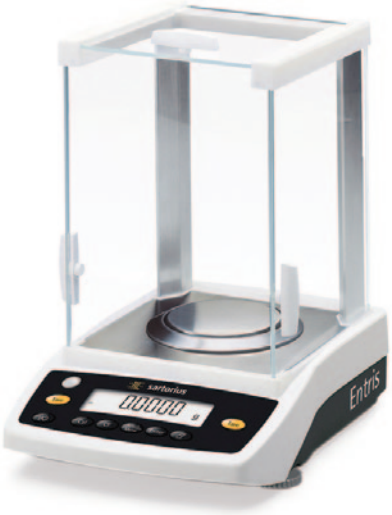
Complete with electric fan with adjustable air flow speed.

Power supply: 1,5 V battery

“Sartorius” analytic Balance 165.752

120 g weighing capacity and 0,0001 g accuracy.
Digital reading. RS232 interface port.
Pan size: ø 90 mm.

Power supply: 100 up to 230 Vac, 50/60 Hz, single-phase
Weight: 4.8 kg
Dimensions: (L) 317 x (W) 219 x (H) 345 mm



“Sartorius” precision Balance 165.756

320 g weighing capacity and 0,001 g accuracy.
Digital reading. RS232 interface port.
Pan size: ø 120 mm.

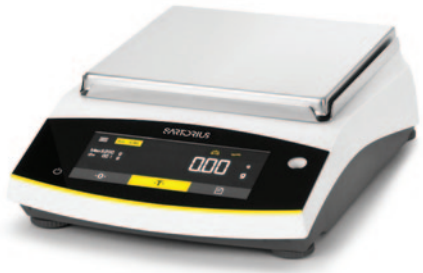
Power supply: 100 up to 230 Vac, 50/60 Hz, single-phase
Weight: 3.6 kg
Dimensions: (L) 230 x (W) 303 x (H) 136 mm

“Sartorius” multi-purpose Balance 165.810

820 g weighing capacity and 0,01 g accuracy.
Digital reading. RS232 interface port.
Pan size: 182 x 182 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 weighing pan.



Thermo Balance 165.502

200 g weighing capacity and 0,001 g accuracy.
Mini USB port.
Infrared heating system, with range from +40°C to +200°C.
Main available information: dry material weight %, lost weight of the material (mg), humidity %.
Particularly suitable for the measurement of the humidity content in specific thermoplastic chips

Power supply: 115-230 Vac, 50/60 Hz, single-phase
Weight: 6.2 kg
Dimensions: (L) 215 x (W) 400 x (H) 210 mm

Other models are available on request.

Digital Thermometer 244B

Measuring range: -200°C +1370°C
Resolution: +0,1°C up to +600°C
Instrument accuracy: ± 0,5°C from 0 to +200°C, ±2°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

Yarn Length 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 Thickness Gauges

The following models are available:

Depth of jaws: 200 mm. Thickness reading range: 30 mm
Accuracy: 0,1 mm **Code 188F**

Depth of jaws: 200 mm. Thickness reading range: 10 mm
Accuracy: 0,01 mm **Code 188R**

Depth of jaws: 30 mm. Thickness reading range: 1 mm
Accuracy: 0,001 mm **Code 188G**

Depth of jaws: 200 mm. Thickness reading range: 30 mm
Accuracy: 0,01 mm **Code 188Z**

Other models are available on request

UV Wood 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 pH-meter 322C

Measuring scale: from -2.00 to 19.99 pH.
Accuracy: 0.01 pH.
Application range: from -5°C to +50°C.

Optional:

pH probe	Code 322C.2
temperature immersion probe	Code 322C.32
pH 4, 7, 10 buffer solution kit	Code 322C.52

Other probes available on request

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 ports for PC connection (optional: software and PC).

For fabric pH evaluation, a specific "**Aqueous Extract pH Kit**" is available on demand.

Power supply: 120-230 Vac, 50-60 Hz
Weight: 1,2 kg
Dimensions: (L) 160 x (W) 231 x (H) 94 mm

Viscosimeter 3220B

Rotational viscosimeter for quick measurement of viscosity in compliance with ISO and ASTM Standards.

Speed range: from 0.01 to 200 rpm.

Accuracy: ±1%.

Viscosity range: up to 6.000.000 mPas.

USB port.

Reference Standards: ISO 1652, ISO 2555, GB 10247

Power supply: 100-240 Vac, 50/60 Hz
Weight: 7 kg
Dimensions: (L) 351 x (W) 372 x (H) 629 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.

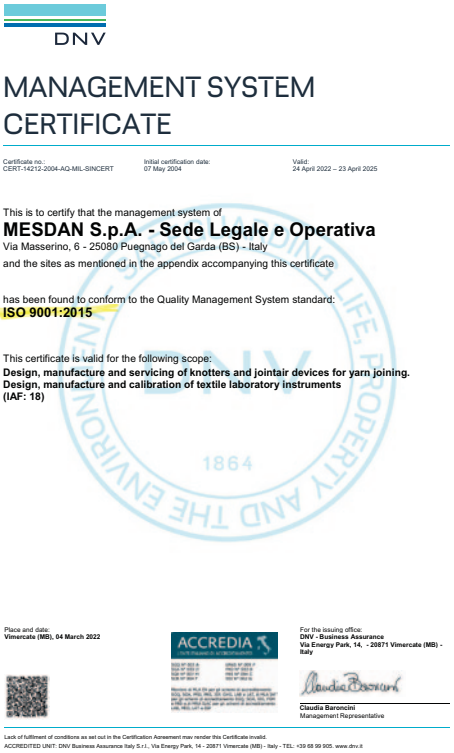
Since then, MESDAN® S.p.A. has successfully undergone through the periodical audits of the Certifying Body and complete re-assessment of certification of its Quality Systems.

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 received the accreditation N. 279T Rev. 04 for the calibrations indicated in the LAT Accredia database, reported in their web site www.accredia.it.

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.



DNV

MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: CERT-14212-2004-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

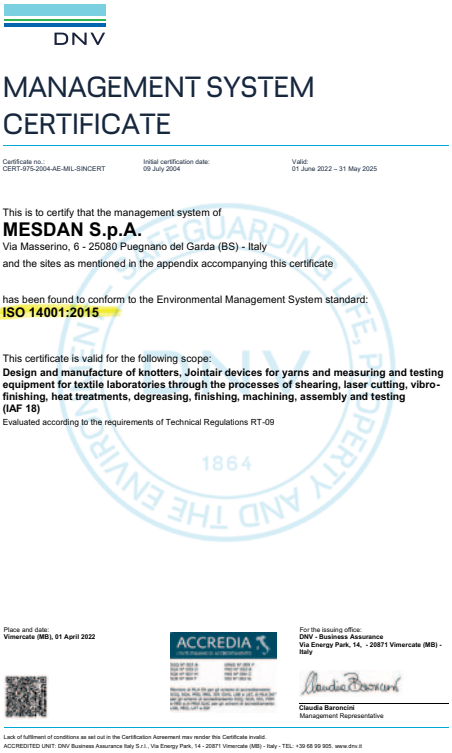
This certificate is valid for the following scope:
Design, manufacture and servicing of knotters and jointair devices for yarn joining.
Design, manufacture and calibration of textile laboratory instruments
(IAF: 18)

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
Management Representative

Lack of fulfilment 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 68 99 905. www.dnv.it



DNV

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), 01 April 2022

For the issuing office:
DNV - Business Assurance
Via Energy Park, 14, - 20871 Vimercate (MB) - Italy

Claudia Baroncini
Management Representative

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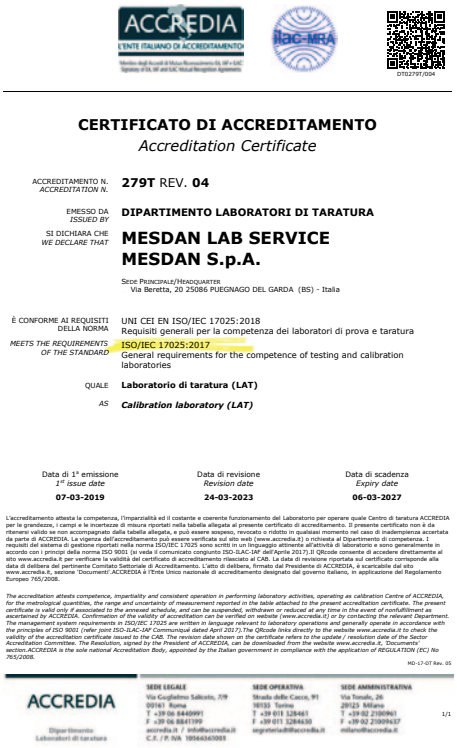

ACCREDIA
L'ENTE ITALIANO DI ACCREDITAMENTO

DIT.0279T/004

CERTIFICATO DI ACCREDITAMENTO
Accreditation Certificate

ACCREDITAMENTO N. / *ACCREDITATION N.*: **279T** REV. **04**

EMESSO DA / *ISSUED BY*: **DIPARTIMENTO LABORATORI DI TARATURA**

SI DICHIARA CHE / *WE DECLARE THAT*:
MESDAN LAB SERVICE
MESDAN S.p.A.

SEDE PRINCIPALE/HEADQUARTER
Via Beretta, 20 25086 PUEGNAGO DEL GARDA (BS) - Italia

È CONFORME AI REQUISITI DELLA NORMA: UNI CEI EN ISO/IEC 17025:2018
Requisiti generali per la competenza dei laboratori di prova e taratura

MEETS THE REQUIREMENTS OF THE STANDARD: ISO/IEC 17025:2017
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*	Data di revisione / *Revision date*	Data di scadenza / *Expiry date*
07-03-2019	**24-03-2023**	**06-03-2027**

L'accreditamento attesta la competenza, l'imparzialità ed il costante e coerente funzionamento del Laboratorio 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 estinto, sospeso o revocato in qualsiasi momento e a data da parte di ACCREDIA. La vigenza dell'accreditamento può essere verificata sul sito web (www.accredia.it) o richiesta al Dipartimento di competenza. I requisiti del sistema di gestione riportati nella norma ISO/IEC 17025 sono scritti in un linguaggio attinente all'attività di laboratorio e sono generalmente in accordo con i principi della norma ISO 9001 (si veda il comunicato congiunto ISO-ILAC-IAF dell'Aprile 2017).Il QRcode consente di accedere direttamente al sito www.accredia.it per verificare la validità del certificato di accreditamento rilasciato al CAB. La data di revisione riportata sul certificato corrisponde alla data di delibera del pertinente Comitato Settoriale di Accreditamento. L'atto di delibera, firmato dal Presidente di ACCREDIA, è scaricabile dal sito www.accredia.it, sezione 'Documenti' ACCREDIA è l'Ente Unico nazionale di accreditamento designato dal governo italiano, in applicazione del Regolamento Europeo 765/2008.

The accreditation attests competence, impartiality and consistent operation in performing laboratory activities, operating as calibration Centre of ACCREDIA, for the metrological 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, withdrawn or reduced at any time in the event of nonfulfillment as ascertained by ACCREDIA. Confirmation of the validity of accreditation can be verified on website (www.accredia.it) or by contacting the relevant Department. The management system requirements for ISO/IEC 17025 are written in language relevant to laboratory operations and generally operate in accordance with the principles of ISO 9001 (refer joint ISO-ILAC-IAF Communique dated April 2017).The QRcode links directly to the website www.accredia.it to check the validity of the accreditation certificate issued to the CAB. The date of revision on the certificate refers to the date / resolution of the Sector Accreditation Committee. The resolution, signed by the President of ACCREDIA, can be downloaded from the website www.accredia.it, "Documenti" section.ACCREDIA is the sole national Accreditation Body, appointed by the Italian government in compliance with the application of REGULATION (EC) No 765/2008.

MD-17-DT Rev. 05

ACCREDIA
Dipartimento Laboratori di taratura

SEDE LEGALE
Via Guglielmo Saliceto, 7/9
00161 Roma
T +39 06 8440991
F +39 06 8841199
accredia.it / info@accredia.it
C.F. / P. IVA 18566560585

SEDE OPERATIVA
Strada delle Cacce, 91
10135 Torino
T +39 011 3264611
F +39 011 3264630
segreteria@accredia.it

SEDE AMMINISTRATIVA
Via Tonale, 26
20125 Milano
T +39 02 2100961
F +39 02 21009637
milano@accredia.it

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MESDAN® affiliations

ATCC®

ASTM INTERNATIONAL

SDC® ENTERPRISES LIMITED

member of ACIMIT
ITALIAN TEXTILE MACHINERY

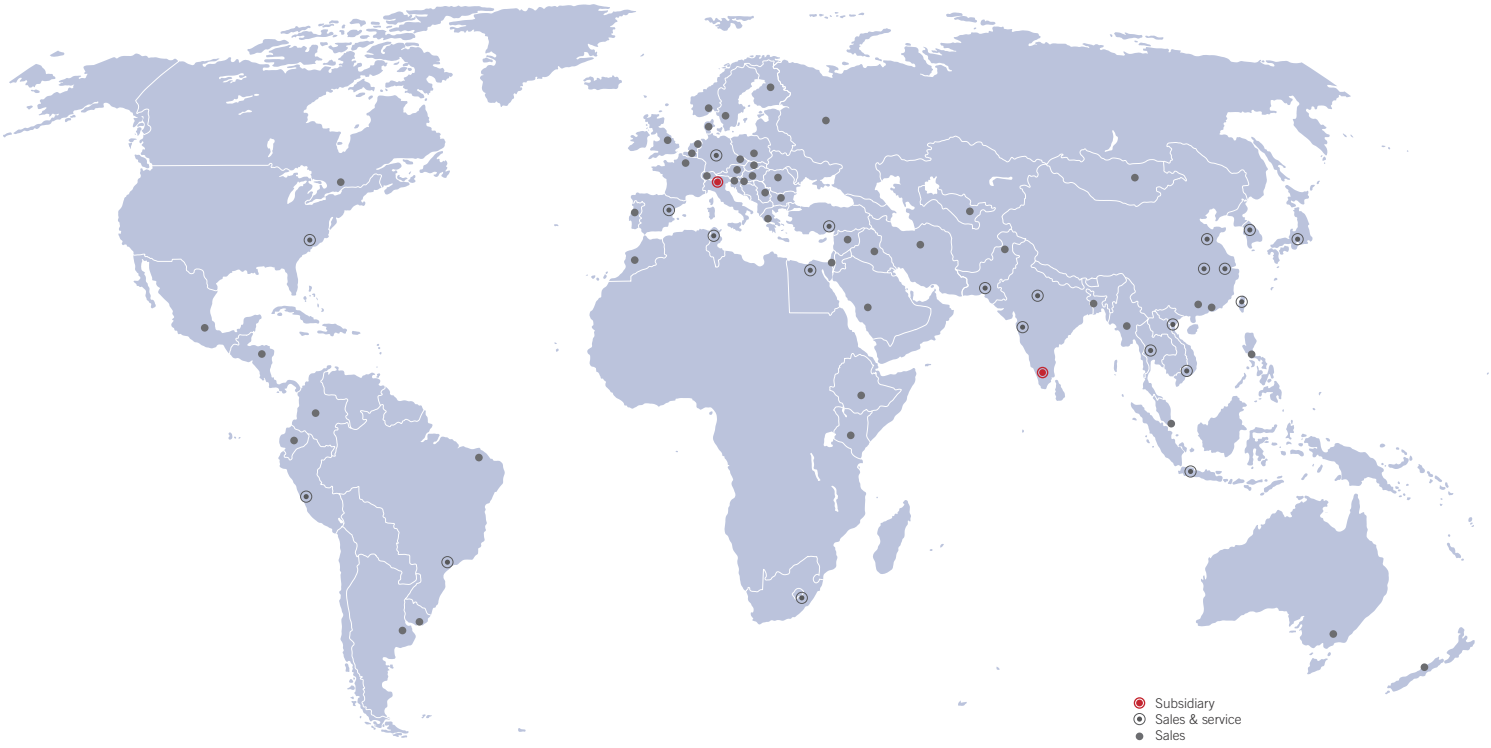
WWW.MESDAN.COM

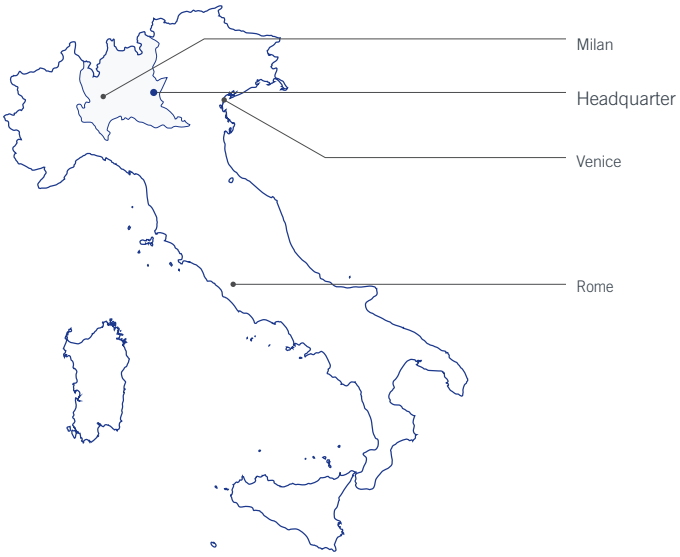
Mesdan Lab is a division of MESDAN® S.p.A.

MANAGEMENT SYSTEM CERTIFICATION

DNV

ISO 9001 • ISO 14001





MESDAN® headquarter

Mesdan Lab new plant

MESDAN

MESDAN S.p.A. - Via Masserino, 6
25080 Puegnago del Garda (BS) - Italy
Phone +39 0365 653142
Fax +39 0365 651011
sales@mesdan.it - **www.mesdan.com**