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EVENNESS TESTER FOR SPUN YARNS, ROVINGS AND SLIVERS

MT EVENNESS TESTER

MESDAN LAB

MT EVENNESS TESTER Code 2341

For all types of natural, artificial and synthetic spun yarns

Description

MT EVENNESS TESTER is designed to measure with high accuracy the mass evenness and imperfections of yarn.
It is equipped with high quality capacitive sensor, which is suitable to test yarns, rovings and slivers without need of another external sensor, therefore it is very easy to control the mass variation in the whole spinning process, as well as to identify the exact origin of the faults in the spinning process by analysing the spectrogram.

Technical Features

- Exclusive capacitive MT-sensor suitable to test from very fine yarns (Ne 150 max.) to coarse slivers (35 g/m)
- Modular system for fully automatic operation upgrade and for hairiness testing
- Equipped with stand for roving and slivers
- Engineered, designed and manufactured in Italy
- Automatic calibration before testing
- Windows MT software with statistics, graphs and data storage
- Numerical and graphical results compatible with the most popular world standards

Modular system

H-sensor, code 2342 (optional).
Hairiness sensor to analyse yarn hairiness.
Determination of Hairiness (H) and standard deviation of Hairiness (sH).
Statistical and graphical elaboration of hairiness testing.
Diagram and spectrogram of the H value to verify the source of the hairiness in the spinning process.

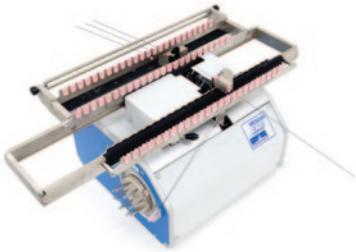
Moveable yarn creel - 24 positions - code 200 (optional).
24-position creel fitting wheels, easy to move. Suitable for cones and cops.
Equipped with adjustable yarn pretensioning disc.

Automatic Cop Changer - 24 positions - code 299A (optional).
Fully automatic 24-position device, suitable for all kinds of yarn and count.
Enabling fully automatic yarn testing without operator's attendance.
Suitable for cops and cones.
Compatible with other Mesdan Lab automatic testing equipment, such as "Autodyn" (automatic strength tester), "Twistmatic" (automatic twist tester), "Attrifil" (yarn friction tester).

UPS device, code 2341.900 (optional).
Uninterruptible power supply device, recommended to preserve the instrument in case of power supply fluctuations.

Mobile vertical creel

Yarn with/without hair



Auto Cop Changer

Results of each individual test

- CV% coefficient of mass variation
- U% mean deviation of mass variation
- AVE relative yarn count
- IPI with 4 channels for neps, thick places, thin places
- DR% with 4 channels
- CV (L)% with 4 reference lengths

Graphic data of each individual test

- Diagram of mass variations: inert or half-inert mode
- Spectrogram up to 160 channels

Statistics and other results

- Mean, range, standard deviation (s), CVB%
- 95% confidence limits (Q95%)
- IPI per 1000m (1 km) of yarn length
- DRT%, CV (L)T%, overall spectrogram
- Data and graphics saved in MT databank, printable and exportable to Excel format

Measuring Specifications

- Range of material: Ne 150 max. (yarn) to 35 g/m (sliver)
- Dynamic measuring range: ±12,5%, ±25%, ±50%, ±100%
- Measuring mode: inert or half-inert mode

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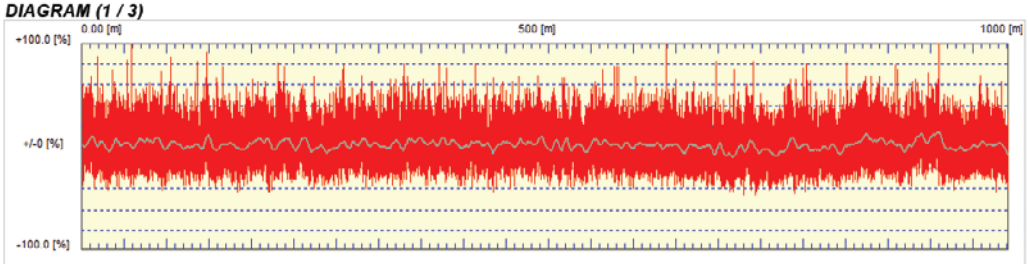
SINGLE TEST

print-out example

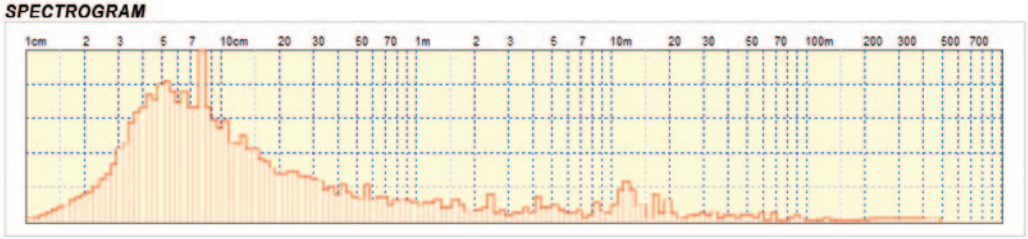
PRIMARY

n /Bob.	CV%	U%	AVE	CV(I/2)%	U(I/2)%	Thin -30% (/km)	Thin -40% (/km)	Thin -50% (/km)	Thin -60% (/km)	Thick +35% (/km)	Thick +50% (/km)	Thick +70% (/km)	Thick +100% (/km)	Nep +140% (/km)
1 / 3	13.79	10.89	102.38	4.00	3.16	1270.51	90.89	0.00	0.00	926.91	67.92	1.00	1.00	653.23

DIAGRAM (1 / 3)



SPECTROGRAM



GENERAL

n /Bob.	CV%	U%	AVE	CV(I/2)%	U(I/2)%	CV(L1)	CV(L2)	CV(L3)	CV(L4)	DR% 1	DR% 2	DR% 3	DR% 4
1 / 3	13.79	10.89	102.38	4.00	3.16	6.47	5.34	4.55	3.38	8.59	25.02	44.09	55.76
n /Bob.		Thin -30%	Thin -40%	Thin -50%	Thin -60%	Thick +35%	Thick +50%	Thick +70%	Thick +100%	Neps +140%	Neps +200%	Neps +280%	Neps +400%
1 / 3		1272	91	0	0	928	68	1	1	654	58	7	3
		1270.51/km	90.89/km	0.00/km	0.00/km	926.91/km	67.92/km	1.00/km	1.00/km	653.23/km	57.93/km	6.99/km	3.00/km

MT EVENNESS TESTER

- Material speed: 8 - 25 - 50 - 100 - 200 - 400 m/min
- Evaluating time: 10" to 20" at every increment of 10"
- Significant CV% and U%: 0,20% to 99,99%

Spectrogram

- Number of channels: max.160 channels
- Analyzed wave lengths:
- 2 cm to 1225.9 m at 400 m/min
- 1 cm to 613.0 m at 200 m/min

IPI (imperfections)

- Number of channels: 4
- Thin places: -30%, -40%, -50%, -60%
- Thick places: +35%, +50%, +70%, +100%
- Neps: +140%, +200%, +280%, +400%

Deviation rate DR%

- Number of channels: 4
- Reference length: 0.01 to 10 m
- Level: ±0.01% to ±99.99%

CV (L)%

- Number of channels: 4
- Reference length: 0.01 to 10 m

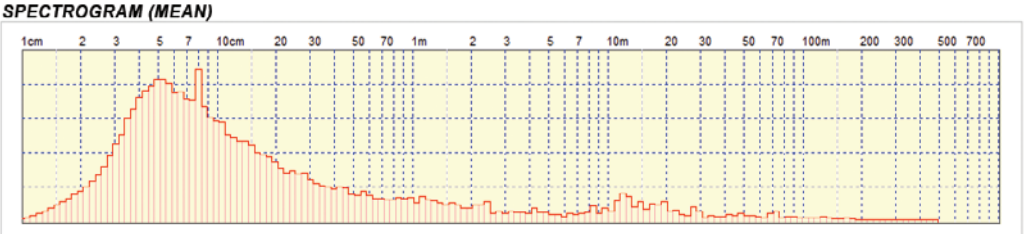
GROUP OF TESTS

print-out example

PRIMARY

%s	CV%	U%	AVE	CV(l/2)%	U(l/2)%	Thin -30% (/km)	Thin -40% (/km)	Thin -50% (/km)	Thin -60% (/km)	Thick +35% (/km)	Thick +50% (/km)	Thick +70% (/km)	Thick +100% (/km)	Nep +140% (/km)
1 / 1	13.58	10.71	102.83	3.52	2.79	1194.60	78.91	1.00	0.00	897.95	52.94	1.00	0.00	689.19
1 / 2	13.70	10.93	100.64	3.71	3.00	1350.41	115.86	3.00	0.00	920.92	66.92	1.00	1.00	717.16
1 / 3	13.79	10.89	102.38	4.00	3.16	1270.51	90.89	0.00	0.00	926.91	67.92	1.00	1.00	653.23
1 / 4	13.05	10.39	99.41	3.38	2.69	1079.73	66.92	0.00	0.00	680.20	41.95	1.00	1.00	700.18
1 / 5	12.96	10.18	103.36	3.39	2.72	993.84	57.93	0.00	0.00	650.24	33.96	1.00	1.00	589.31
Mean	**13.42**	**10.62**	**101.73**	**3.60**	**2.87**	**1177.82**	**82.10**	**0.80**	**0.00**	**815.24**	**52.74**	**1.00**	**0.80**	**669.81**
Min	**12.96**	**10.18**	**99.41**	**3.38**	**2.69**	**993.84**	**57.93**	**0.00**	**0.00**	**650.24**	**33.96**	**1.00**	**0.00**	**589.31**
Max	**13.79**	**10.93**	**103.36**	**4.00**	**3.16**	**1350.41**	**115.86**	**3.00**	**0.00**	**926.91**	**67.92**	**1.00**	**1.00**	**717.16**
Range	**0.83**	**0.74**	**3.94**	**0.62**	**0.47**	**356.58**	**57.93**	**3.00**	**0.00**	**276.67**	**33.96**	**0.00**	**1.00**	**127.85**
SD	**0.38**	**0.32**	**1.65**	**0.26**	**0.20**	**143.29**	**22.59**	**1.30**	**0.00**	**137.79**	**15.01**	**0.00**	**0.45**	**50.73**
CVb%	**2.86**	**3.05**	**1.62**	**7.26**	**6.96**	**12.17**	**27.52**	**162.98**	**0.00**	**16.90**	**28.45**	**0.00**	**55.90**	**7.57**
Q95%	**0.44**	**0.37**	**1.89**	**0.30**	**0.23**	**164.76**	**25.98**	**1.50**	**0.00**	**158.42**	**17.25**	**0.00**	**0.51**	**58.33**

SPECTROGRAM (MEAN)



COMPONENTS

- **Evenness tester**, code 2341, Measuring frame complete with capacitive sensor suitable for yarn, roving and sliver.
- **Personal Computer** with Windows O.S. and MT software in various languages.
- **Roving and sliver supports.**

DIMENSIONS / POWER SUPPLY

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

OPTIONAL

H-sensor (hairiness sensor)	code	2342
Auto Cop Changer (ACC) for automatic testing up to 24 bobbins (L) 570 x (W) 250 x (H) 230 mm, 17 kg	code	299A
Vertical creel for 24 bobbins to supply ACC (L) 600 x (W) 600 (H) x 1750 mm, 8 kg	code	200
UPS (uninterruptible power supply) device	code	2341.900

Photographs and descriptions of the present leaflet have to be considered as purely indicative and not binding

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