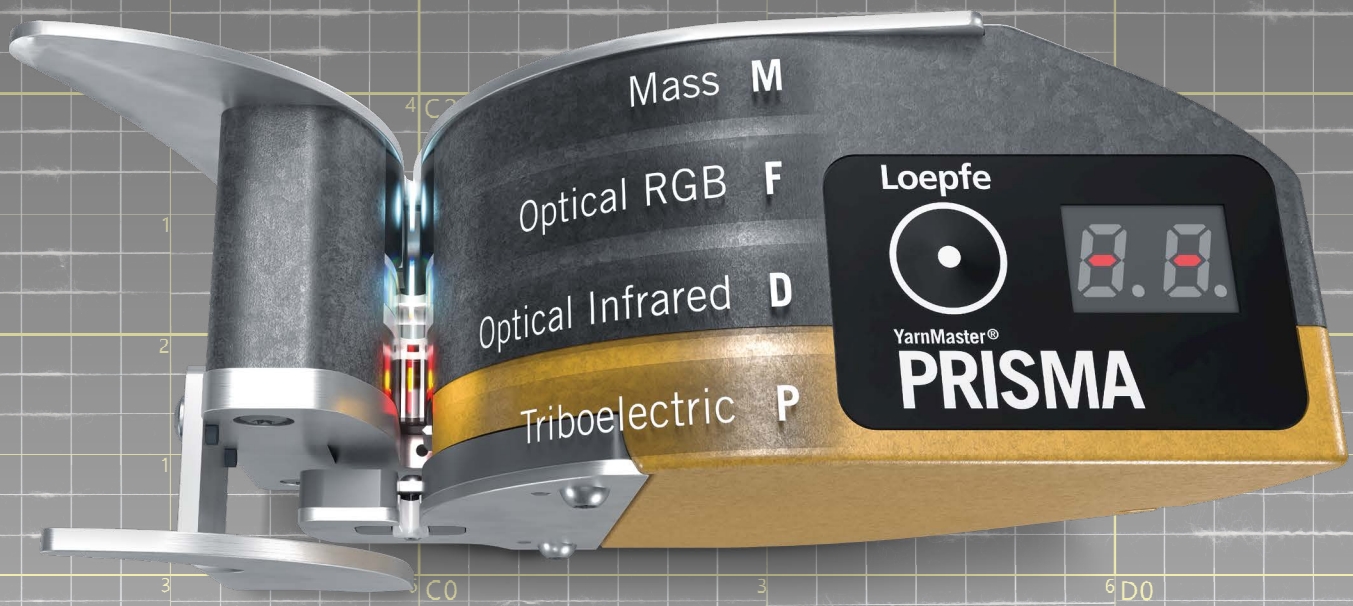
Loepfe

YARN FAULTS

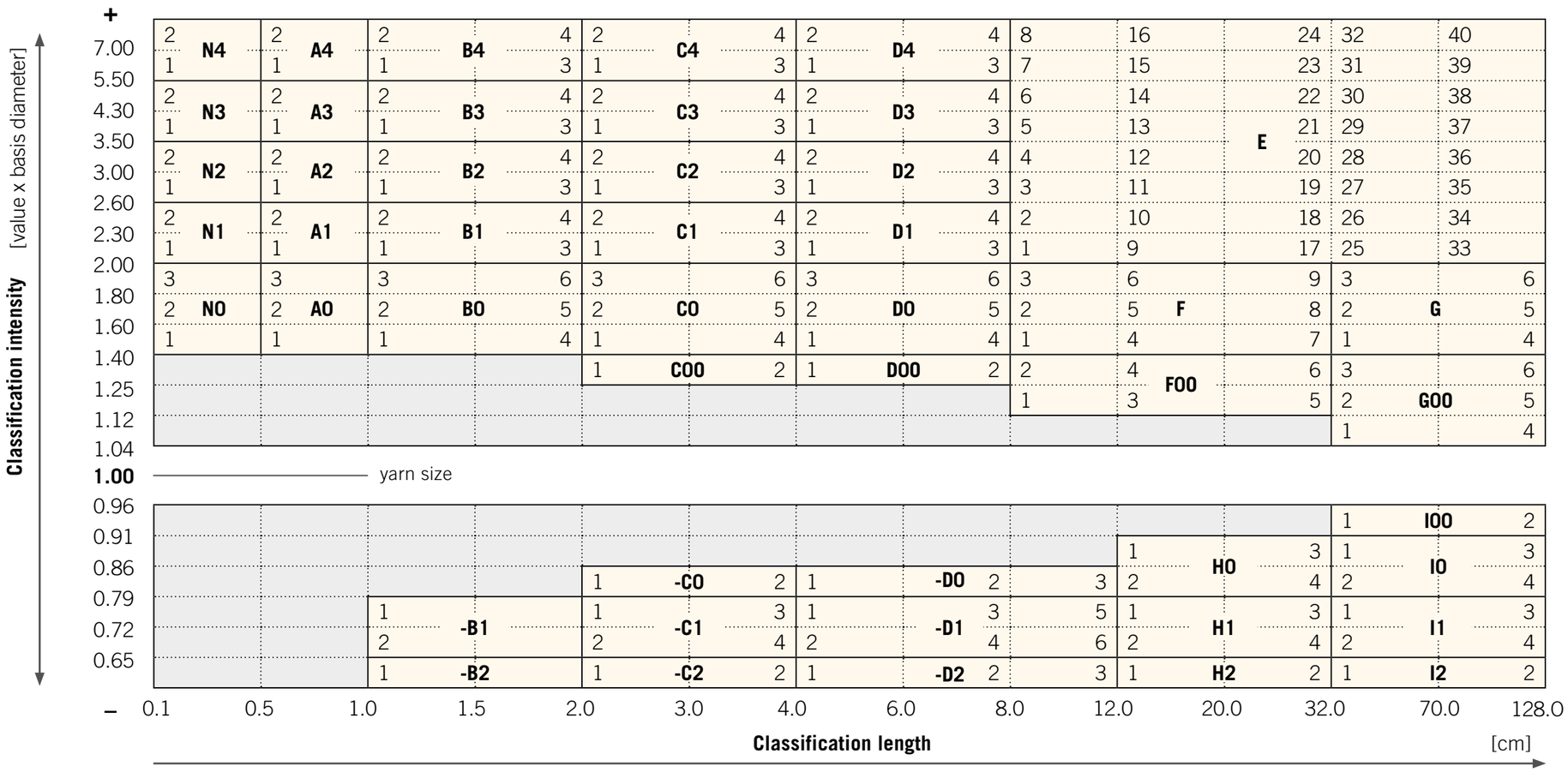


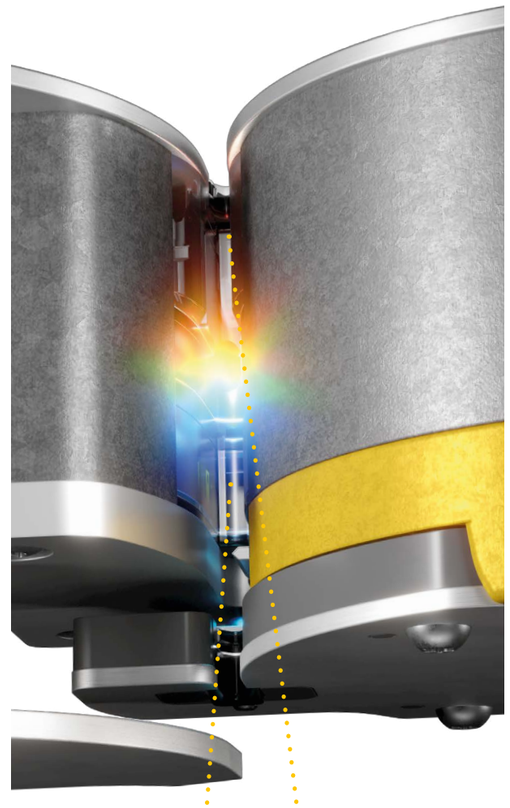
Basic clearing
- Classification matrix
- NSLT faults
- NSLT cluster faults
- Compactness issues
- LabPack
- Offcenter and missing cores

Foreign matter clearing
- Classification matrix
- Foreign matter
- Shade variations
- Organic matter

Polypropylene clearing
- P clearing matrix
- Polypropylene faults

NSLT clearing – classification matrix





Optical infrared sensor – D
Most accurate detection of basic yarn faults like NSLT and hairiness

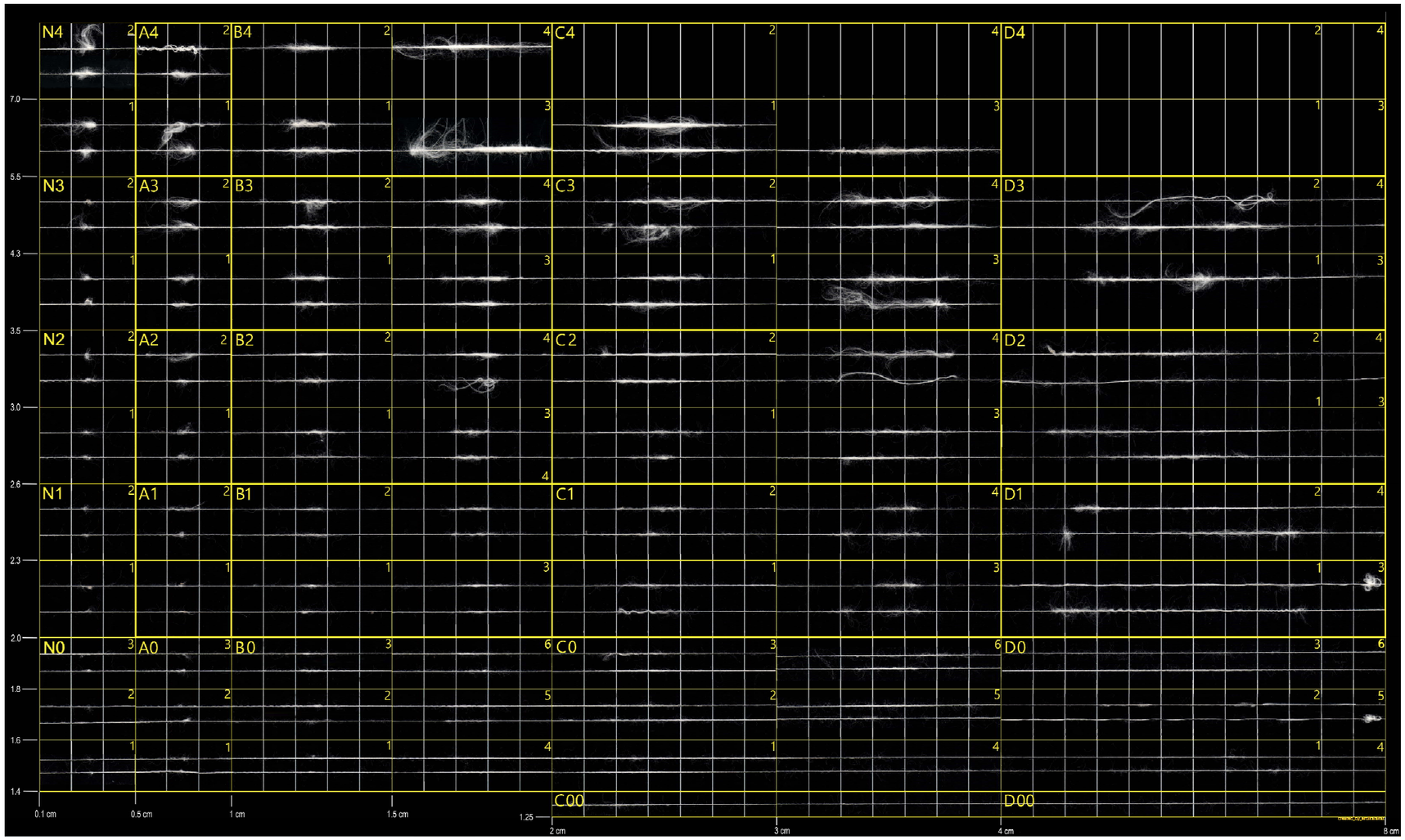
Mass sensor – M
Efficient detection of defective core yarns and wrong yarn counts

NSLT faults

It's worth looking into the removal of the most common faults in staple fiber yarns, such as neps, thick and thin places and long faults, that cause most of the cuts in the yarn clearing process.

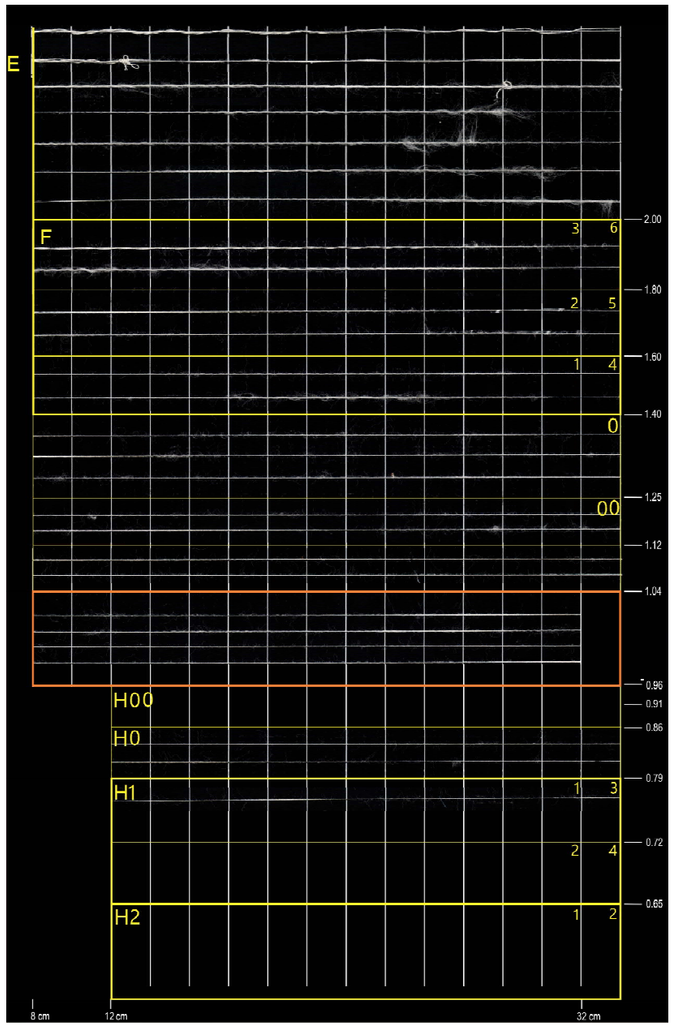
Based on correct fault detection and classification, and a precise cutting execution, PRISMA offers many advantages in NSLT clearing:

- Most efficient NSLT clearing based on dual measurement
- Highly customizable through a fully flexible setting curve
- Clear information to optimize the production process with the most detailed fault classification



Nep

Short



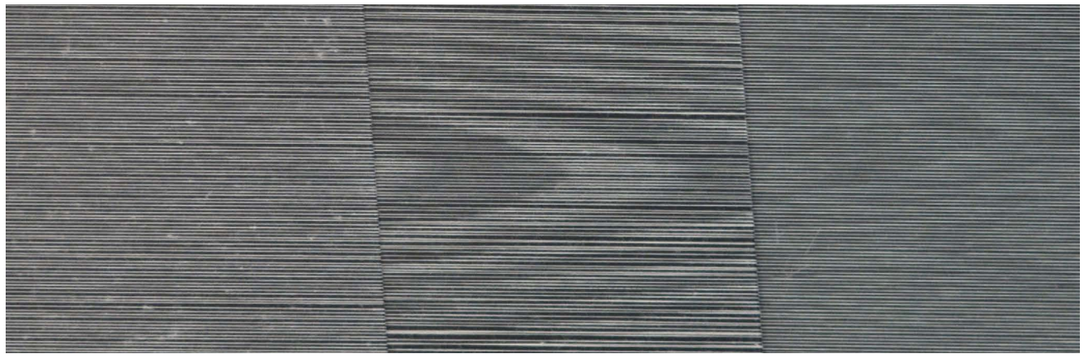
Thin

Long

Ne 30 reference

NSLT cluster faults

NSLT Cluster faults are events below the normal NSLT clearing limit that are not disturbing on their own. However, their irregular accumulation or periodical appearance will cause complaints in the downstream process which can be prevented with the NSLT Cluster feature.

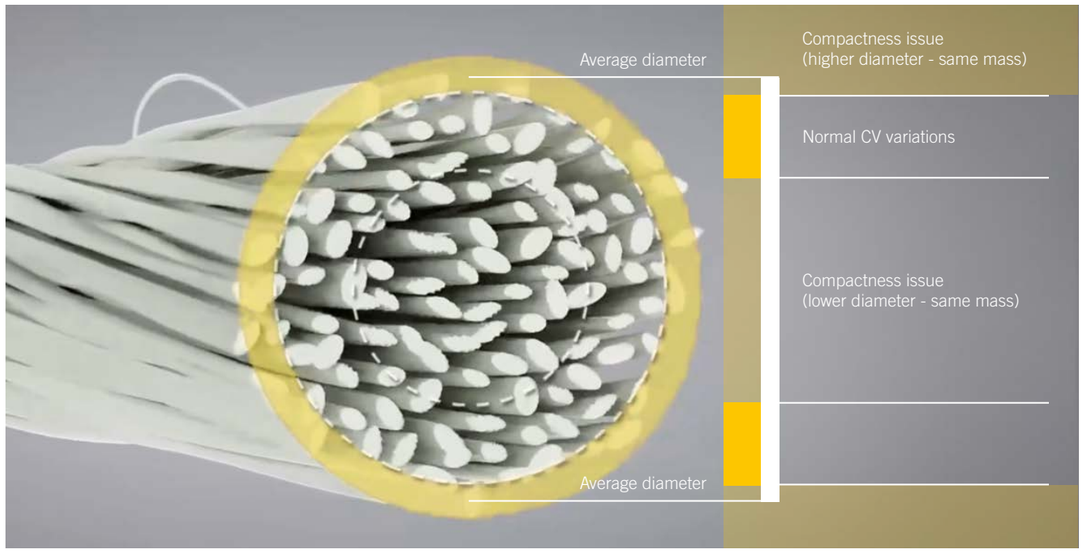


Nep Short Thin

Compactness issues

PRISMA's Compactness feature brings unmatched precision in detecting longer faults, twist deviations, hairiness, and compactness differences. The Compactness feature swiftly detects even the subtlest twist variations.

The essential tool in the world of compact yarn spinning.



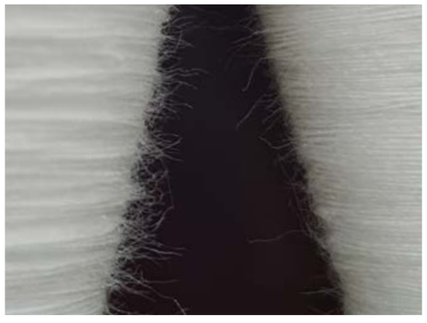
LabPack

Loepfe's LabPack is the trusted online laboratory solution for spinning mills worldwide. With real-time monitoring of key parameters — yarn quality, machine efficiency, and wear — LabPack ensures full control over 100% of the spun yarn at all times.

The PRISMA LabPack includes the following features:

VCV - Variable CV
The Variable CV channel (VCV) offers an innovative solution for early detection of diameter fluctuations – in real time and with an adjustable inspection length.

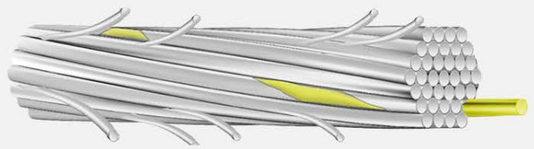
H - Hairiness
PRISMA's unique measurement method guarantees superior hairiness detection to ensure a uniform yarn surface at any time.



IPI - Imperfections
Capturing irregularities and imperfections online and in real time during the winding process is a central element of yarn quality assurance.

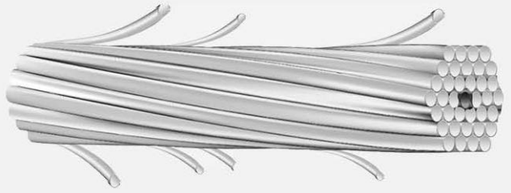
Offcenter and missing cores

Offcenter core



The mass remains the same but the diameter is influenced

Missing core



The mass decreases but the diameter remains the same

Producing a core yarn successfully involves many challenges. PRISMA is the solution, combining its unique simultaneous dual measurement with its core yarn features. Thanks to the simultaneous optical and mass sensor measurement, 100% of the yarn is analyzed in regard of mass and hairiness variations. This technique accurately detects the occurrences of missing and offcenter cores.

Discover the wide range of opportunities available to boost profitability, efficiency and yarn quality on the PRISMA Discover pages

Foreign matter clearing – classification matrix

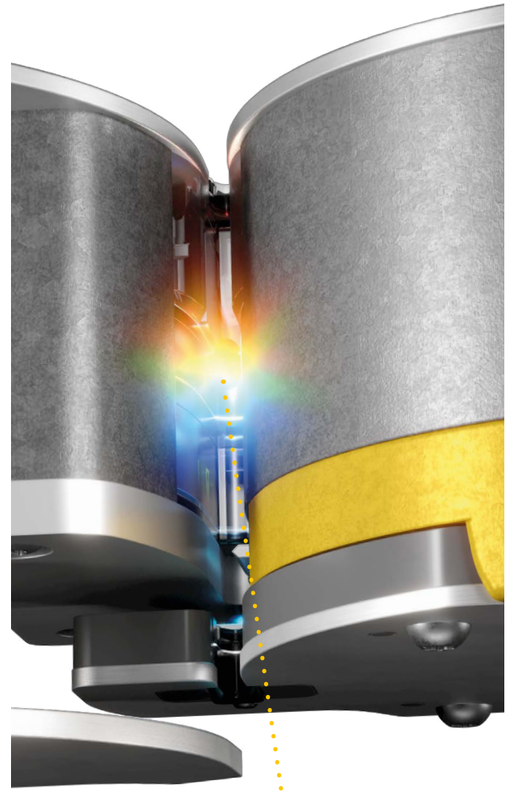
max. dark

Classification intensity	D-S	D-I	D-R	D-0
50	2 4 / 1 3	2 4 / 1 3	2 4 / 1 3	2 4 / 1 3
20				
15	2 4 / 1 3	2 4 / 1 3	2 4 / 1 3	2 4 / 1 3
12				
9	2 4 / 1 3	2 4 / 1 3	2 4 / 1 3	2 4 / 1 3
6				
4	2 4 / 1 3	2 4 / 1 3	2 4 / 1 3	2 4 / 1 3
3				
2		1 2	2 4	2 4
1			1 3	1 3
yarn color				
-1			1 3	1 3
-2		1 2	2 4	2 4
-3				
-4	1 3 / 2 4	1 3 / 2 4	1 3 / 2 4	1 3 / 2 4
-6				
-9	1 3 / 2 4	1 3 / 2 4	1 3 / 2 4	1 3 / 2 4
-12				
-15	1 3 / 2 4	1 3 / 2 4	1 3 / 2 4	1 3 / 2 4
-20				
-50	1 3 / 2 4	1 3 / 2 4	1 3 / 2 4	1 3 / 2 4

max. bright

0.1	0.50	1.0	1.5	2.0	3.0	4.0	8.0	12.8

Classification length [cm]



Optical RGB sensor – F
Unique all-color foreign matter detection, clever organic filtering and a 360° all-round view

Foreign matter faults Ne 40

RGB technology uses the additive RGB color model to illuminate yarn in the full spectrum of light. The detection of foreign matter and organic components of cotton within their true colors opens up new possibilities for recognition and classification. This enables monitoring of all foreign matter, including the smallest shade and glossiness differences in any type of yarn and color.

Mill Name

Machine Type

Clearer Model PRISMA DMFP

Yarn Type / Count KWP Ne 40 FOREIGN MATTER

Date

class	length
S4.3	0.8
I1.4	2.0
I1.4	2.0
I2.3	2.0
I2.4	2.0
I2.4	2.0
I3.2	1.2
I3.3	1.8
I3.4	1.6
R1.2	2.4
R1.3	4.0
R1.4	3.6
R1.4	3.2
R2.1	2.4
R2.2	2.8
R2.3	4.0
R2.3	4.0
R2.3	3.6
R3.1	2.8
R3.3	4.6
R3.4	4.0
R3.2	2.6
O2.1	6.0
O2.3	9.0

Foreign matter faults Ne 30

Mill Name

Machine Type

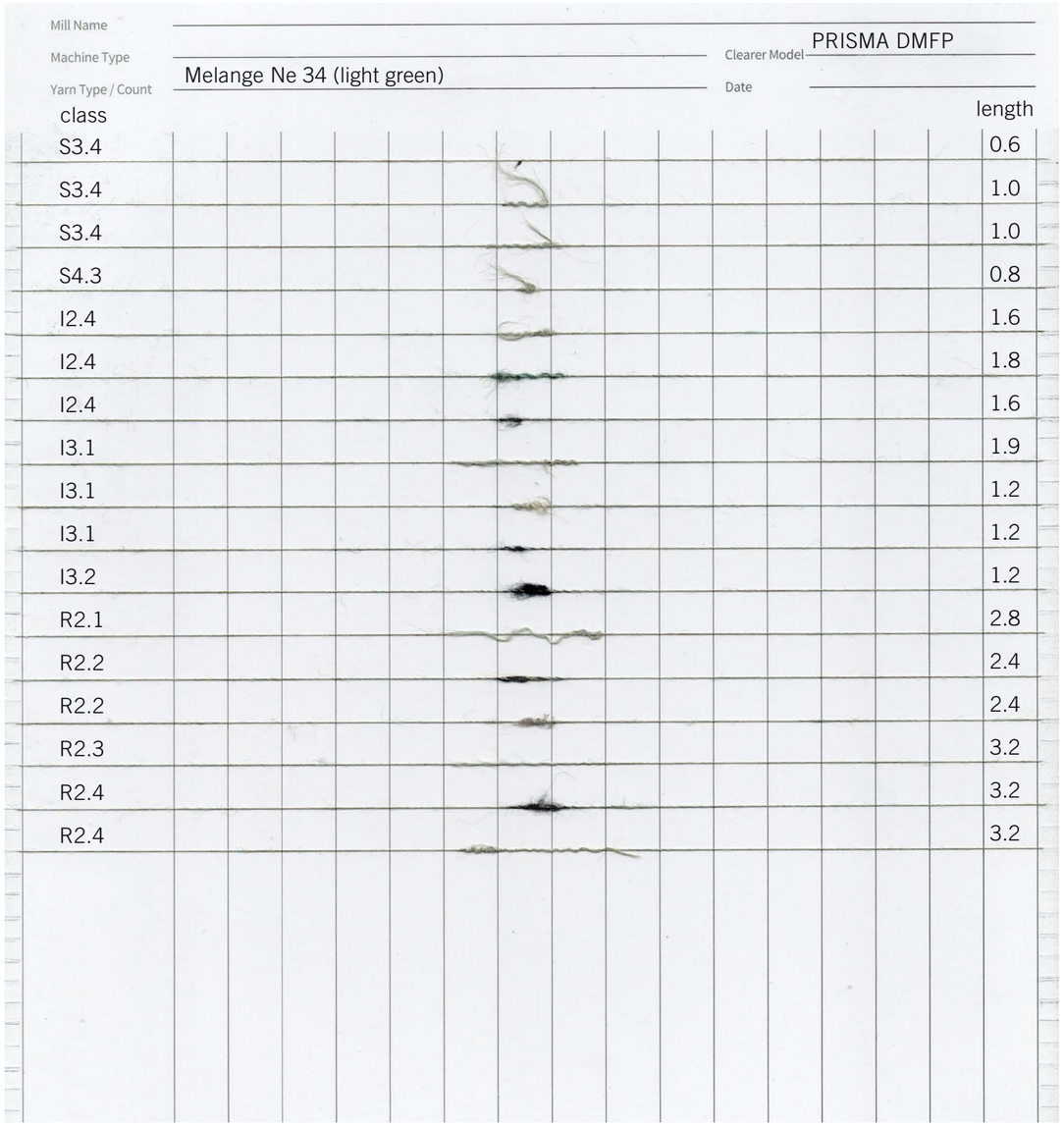
Clearer Model PRISMA DMFP

Yarn Type / Count Cotton Ne 30 Compact FOREIGN MATTER

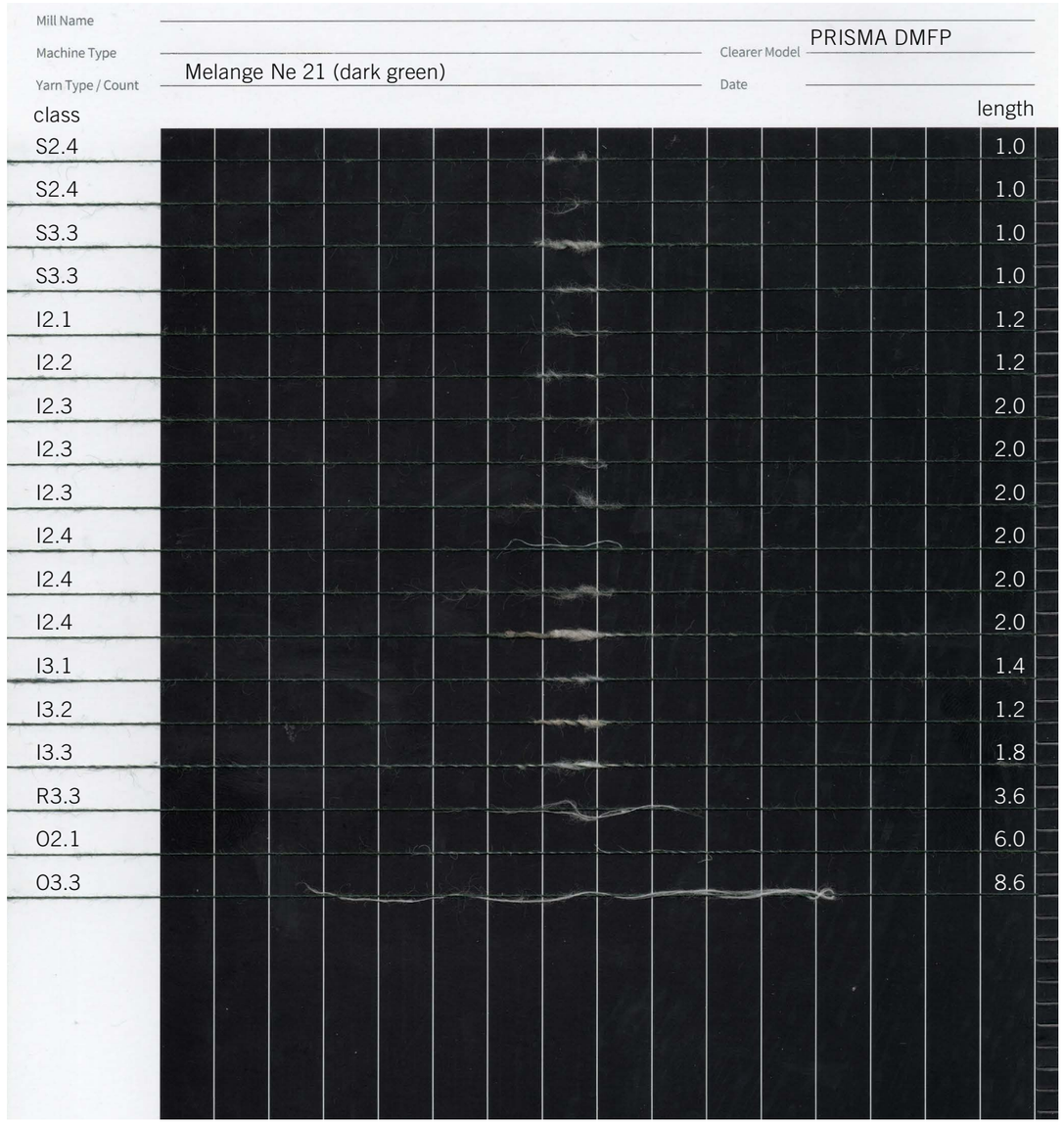
Date

class	length
S4.3	1.0
S4.3	0.6
I2.3	2.0
I2.4	2.0
I2.4	2.0
I2.3	2.0
I3.3	1.8
I3.3	2.0
I3.3	2.0
R1.4	3.8
R1.3	3.6
R1.4	4.0
R2.1	2.4
R2.2	2.4
R2.4	4.0
R2.4	3.2
R2.4	3.2
R3.1	2.4
R3.2	2.8
R4.1	2.8
O2.1	5.6
O2.2	5.6
O2.2	6.4
O3.1	5.6

Foreign matter faults Ne 34



Foreign matter faults Ne 21



Shade variations

Mélange yarns and color-effect yarns are a growing trend in the garment industry. To have an optimum mélange yarn, the fibers have to be mixed homogeneously in the right proportions in the spinning process. Even small shade variations or color deviations of the yarns may result in poor fabric quality after knitting or weaving.

PRISMA's RGB sensor technology enables the most accurate recognition and classification of shade and glossiness differences in any type of yarn color or blend.

12% black fiber share

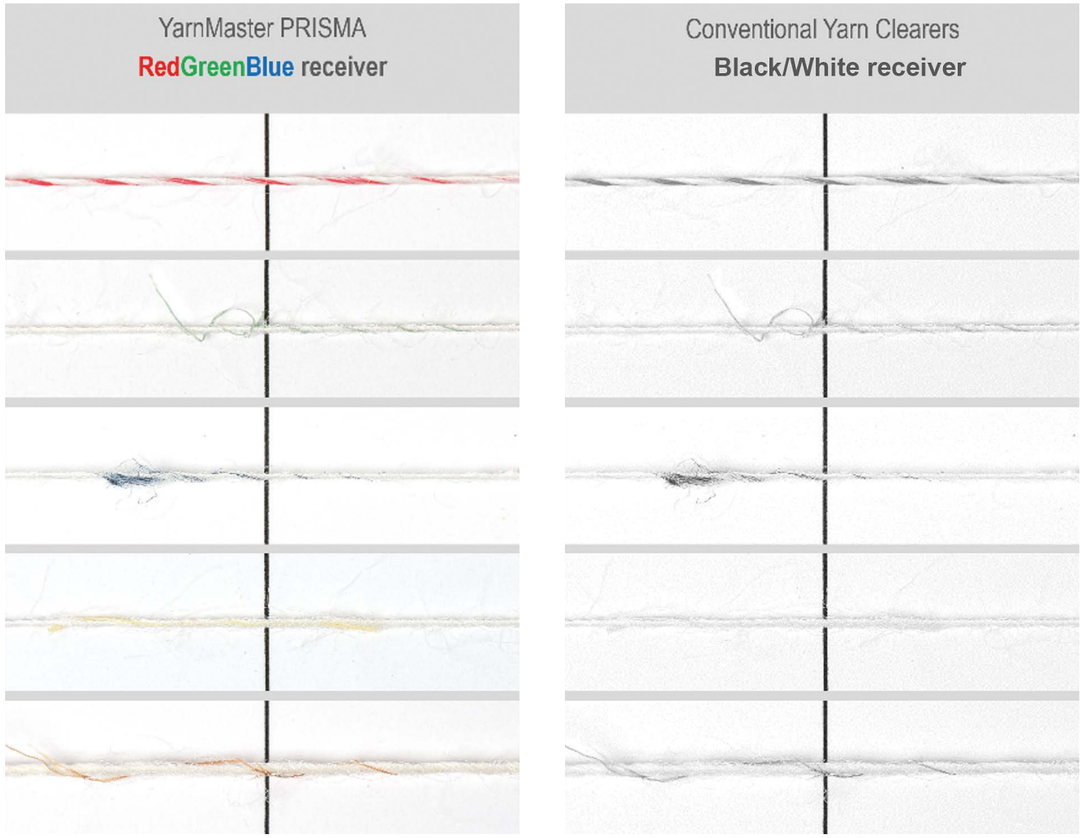
20% black fiber share

Ne30 Viscose

True color vision

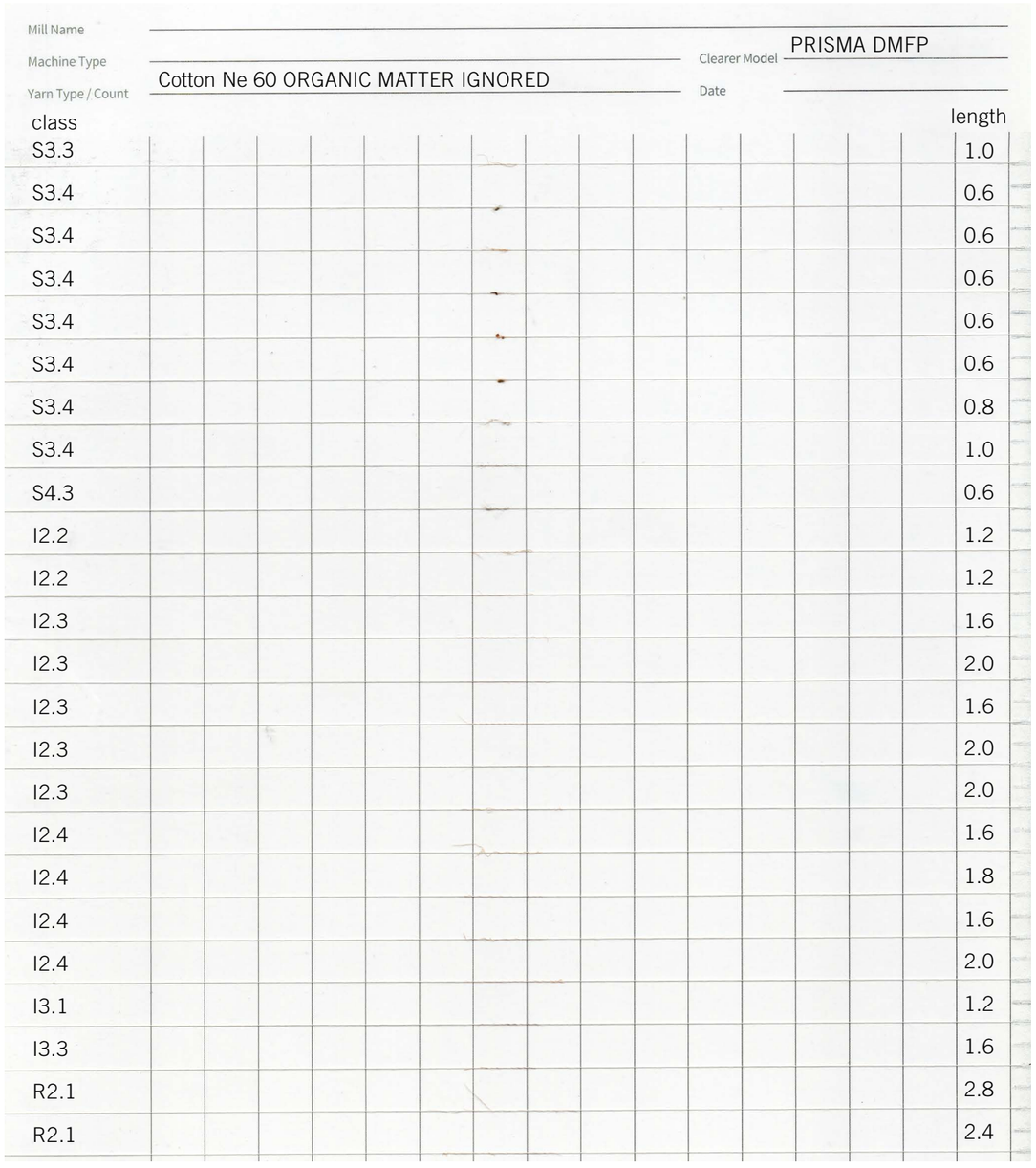
Only PRISMA recognizes and classifies foreign matter in its true colors providing the best and most efficient contamination control in yarn clearing. This gives quality managers peace of mind, knowing they're getting the best possible performance.

How foreign matter is seen by the sensors



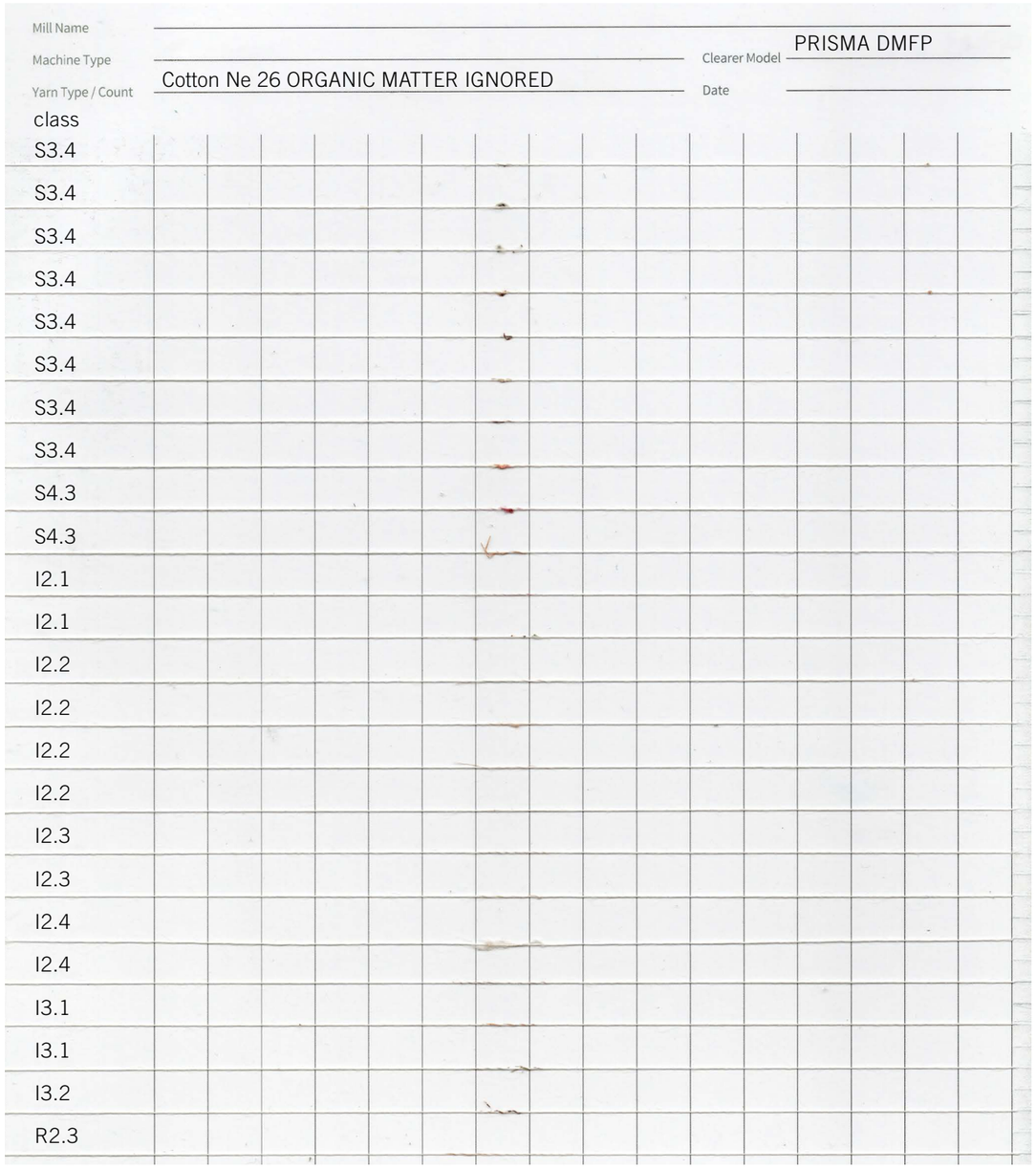
Organic matter ignored Ne 60

Based on the color-oriented selection of organic material in the cotton, an optimized detection and classification of disturbing or nondisturbing defects is achieved. Leading to a considerable reduction in clearer cuts and a higher winding efficiency while not compromising on quality.

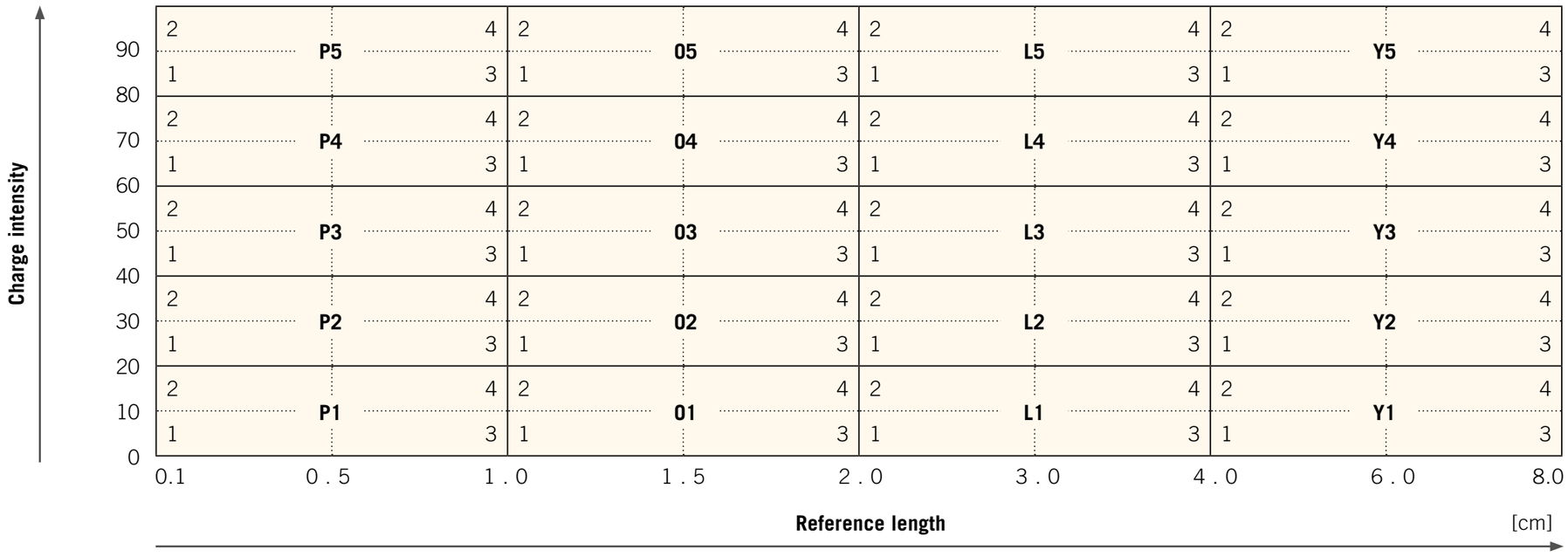


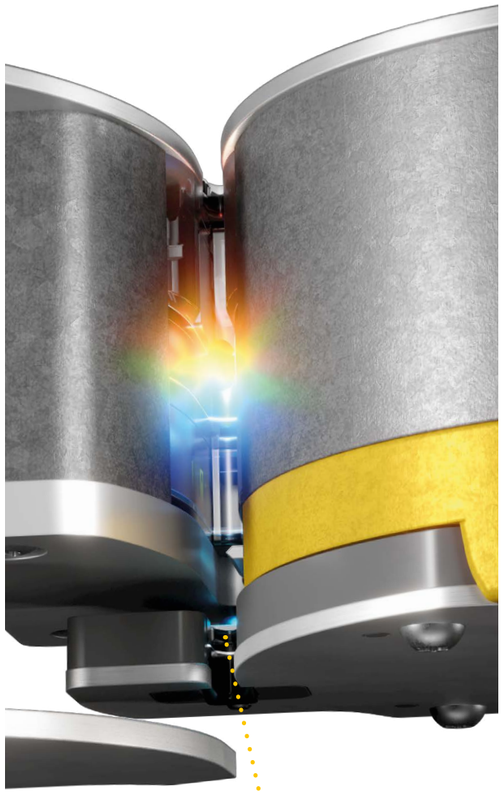
Organic matter ignored Ne 26

Loepfe's system, which was fed with numerous organic samples, can now recognize and classify organics as disturbing or non-disturbing without explicit instructions. This intelligent organic filtering offers customers more accurate detection of organic substances.



Polypropylene clearing matrix

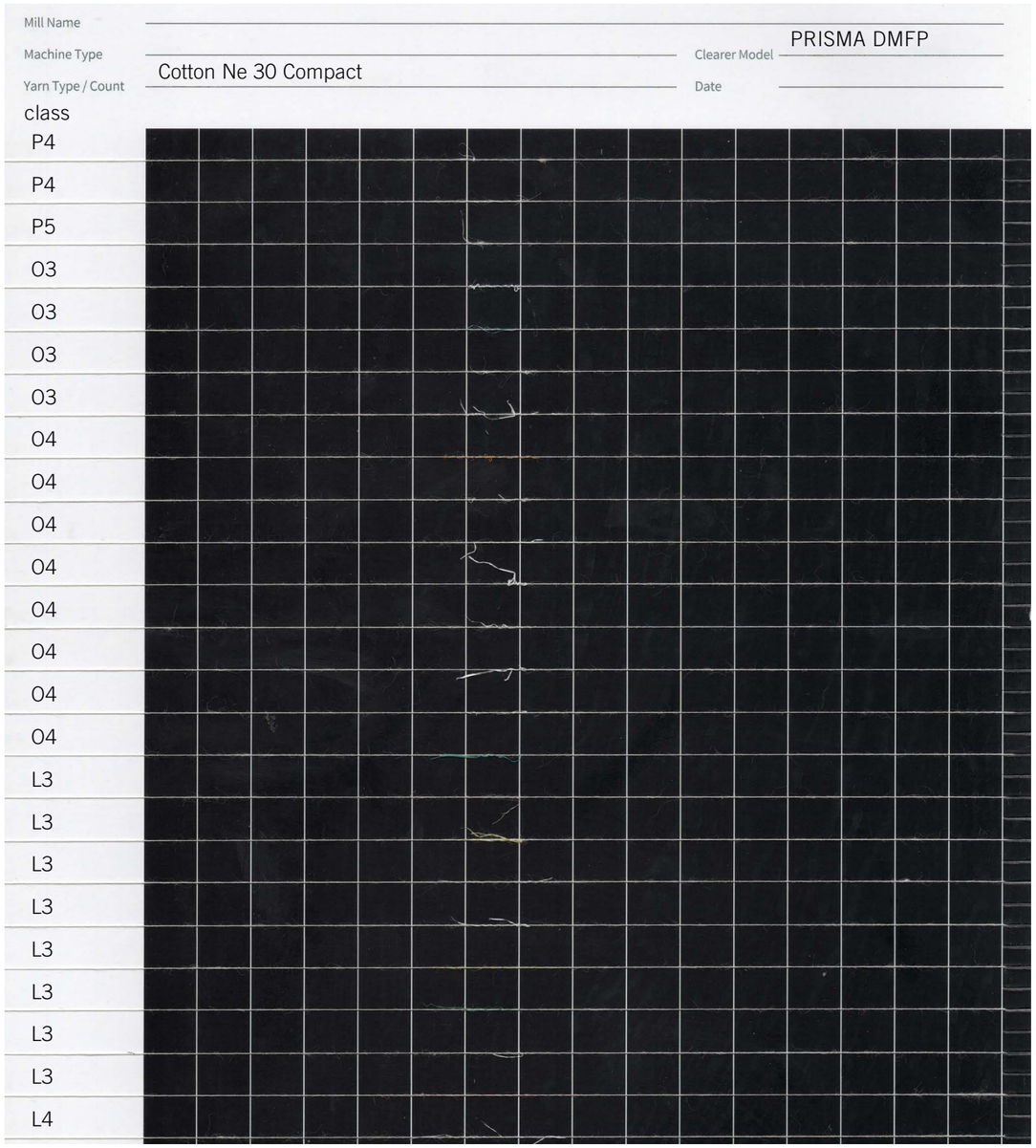




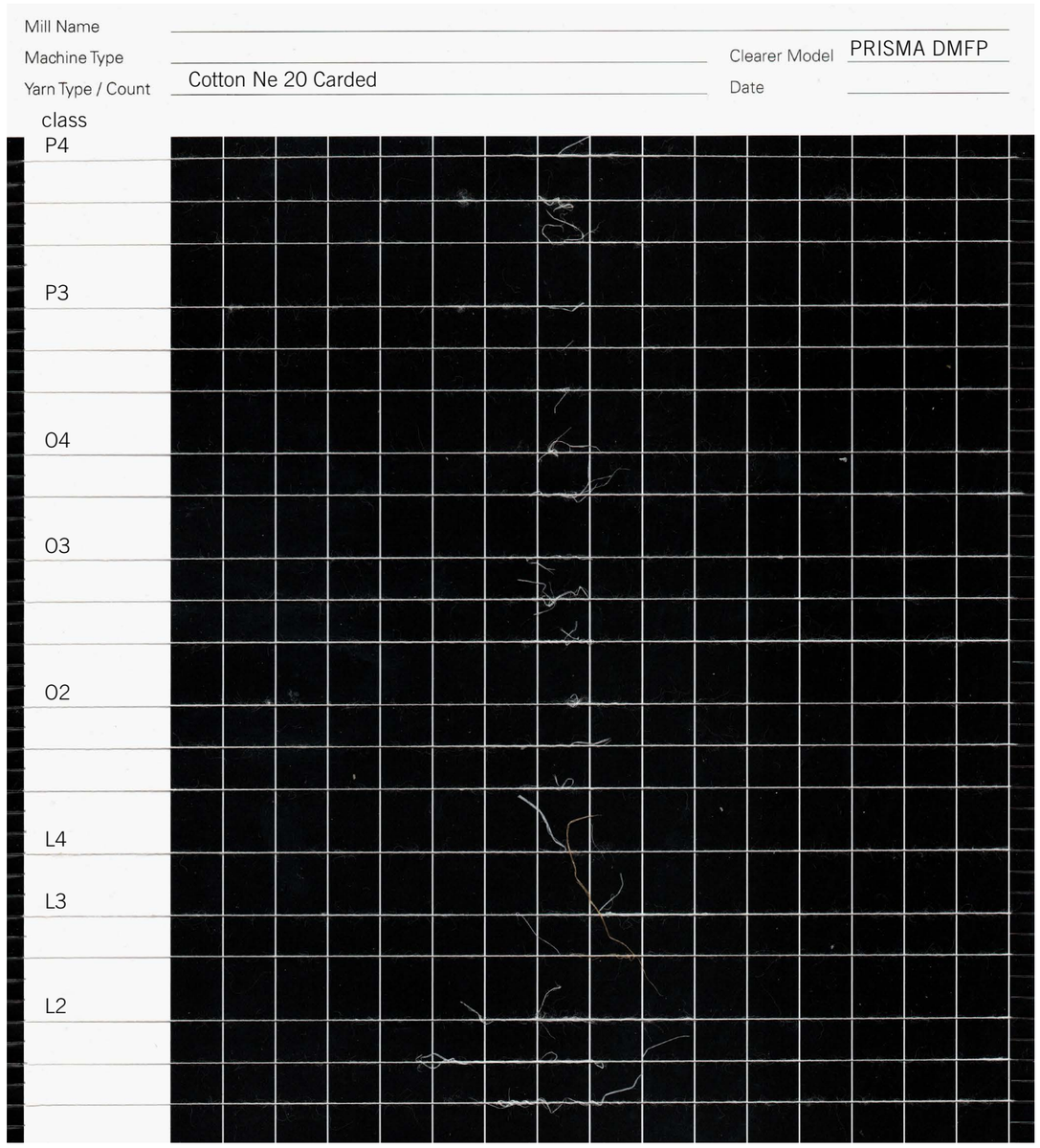
Triboelectric sensor – P
Secure detection of white and transparent polypropylene

Polypropylene faults Ne 30 compact

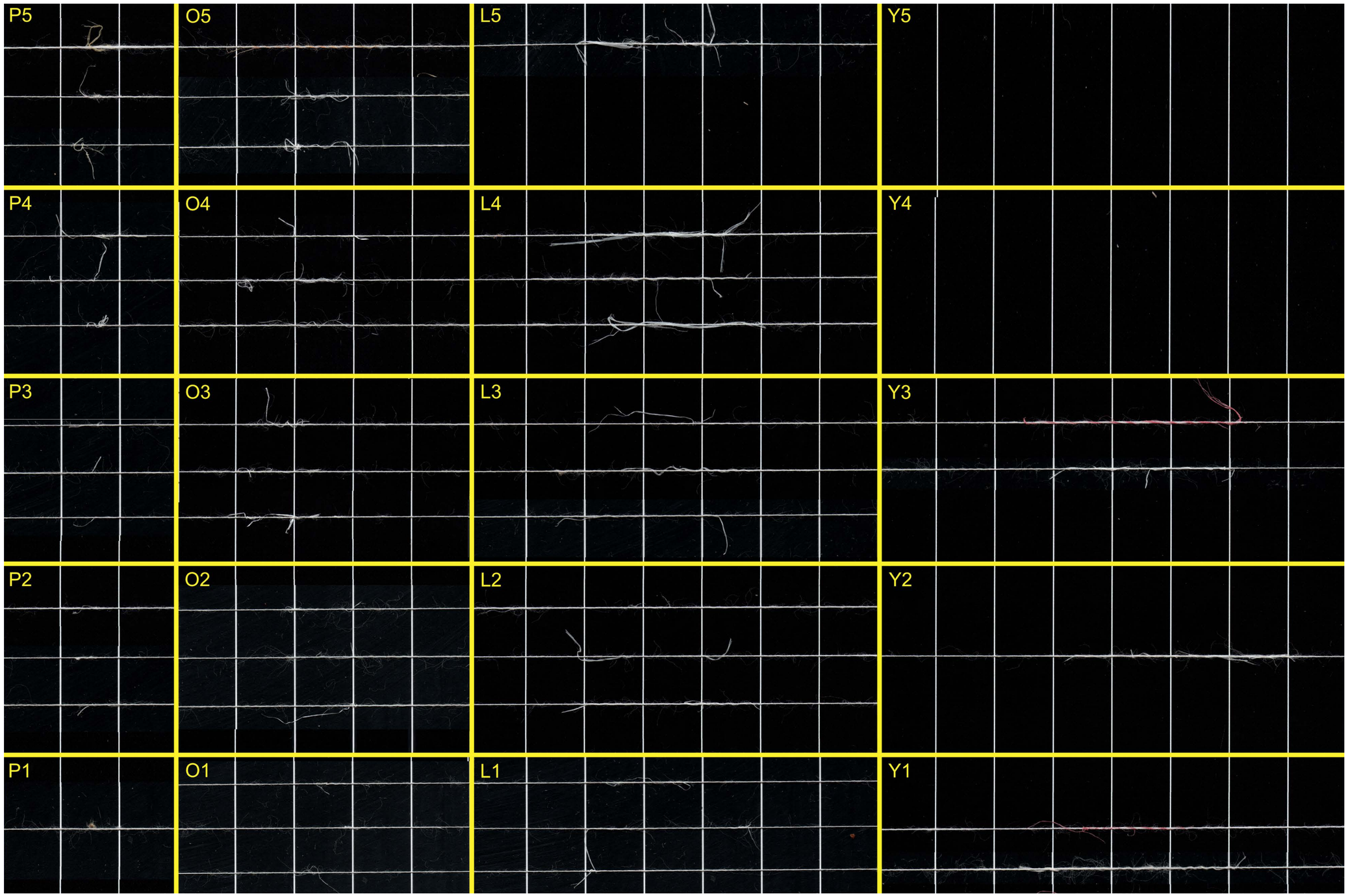
The PRISMA yarn clearers are equipped with the latest P sensors and a dedicated P-Matrix to ensure accurate settings and reliable results. PRISMA can securely detect white and transparent polypropylene and polyamide at any winding speed



Polypropylene faults Ne 20 carded



Close up of polypropylene faults



Loepfe Brothers Ltd.

The Pioneers

Since its establishment in 1955, Loepfe has been the pacesetter for innovation in textile quality control. Loepfe researches, develops and manufactures clever sensor systems in Switzerland to meet the needs of producers. Loepfe has excelled in sensor technologies for yarn and filament monitoring worldwide.

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Loepfe is part of the Vandewiele Group. Providing cutting-edge technology and effective solutions for the textile industry. Spinning mills around the world rely on our innovation at the highest level. Quality made in Switzerland.

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