



Loepfe

YarnMaster®

# PRISMA CLEVER YARN CLEARING



- Profitable
- Efficient
- Easy



# Clever yarn clearing

## Superiority in reach

Clever yarn clearing for winding combines superior yarn clearing performance with great value. PRISMA is the solution for spinning mills that need high quality yarns at maximum machine efficiency. As the only yarn clearer on the market featuring comprehensive four-sensor measurement methods, PRISMA stands out as the most advanced yarn monitoring system for basic, foreign matter, and polypropylene clearing. Reduce costs, enhance efficiency and improve yarn quality with PRISMA, the clever choice for modern spinning mills.

PRISMA is a dynamic system that is evolving to market needs. All functionalities are designed with the needs of spinners in mind, contributing to a significant increase in yarn quality, reduction in yarn waste, and boosting winding machine and production efficiency.

In addition to its technological superiority, PRISMA offers the cleverest and most effortless yarn clearing experience on the market. Time and resources are saved while efficiency and quality remain stable at the highest level. PRISMA's clever yarn clearing is the ultimate solution for spinning mills, providing support and security, optimum user experience, and time and cost savings.

## Only with PRISMA

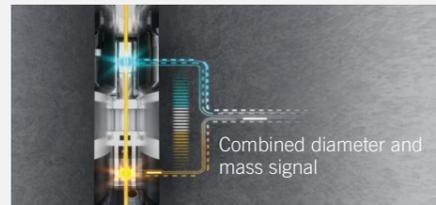
### Unique four sensor technology

Superior clearing results under all circumstances with four dedicated sensors



### Real dual measurement in all models

Best fault detection with seamless optical and capacitive measuring signals



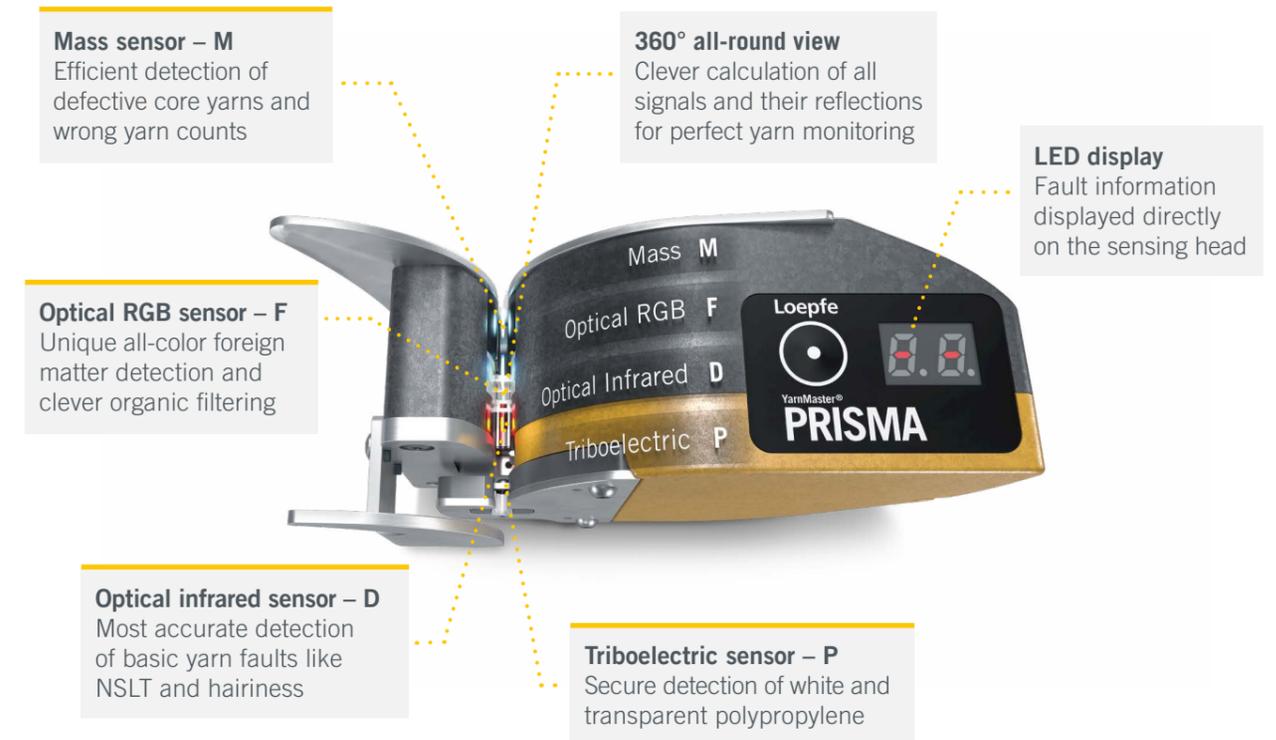
### RGB all-color foreign matter detection

Unmatched contamination control with a 360° true color vision



## Unique four sensor technology

PRISMA combines unique four sensor technology with smart software and the Millmaster TOP data management system to deliver a powerful performance in yarn quality control and process optimization. Only PRISMA offers four dedicated sensors for four different clearing tasks, providing the most accurate fault detection and clearing possibilities. This precision eliminates unjustified cuts, significantly improving efficiency and yarn quality.



# Only with PRISMA

## RGB all-color foreign matter detection

PRISMA's all-color foreign matter detection provides spinning mills with new possibilities in terms of quality, profitability and raw material utilization.

The unique RGB technology achieves outstanding measuring accuracy using 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. It enables monitoring of all foreign matter, including shade and glossiness differences in any type of yarn color or mixture.

This allows not only the removal of everything unwanted but also retains what is not disturbing. Fulfilling the ultimate goal of producing the needed yarn quality with the highest efficiency.

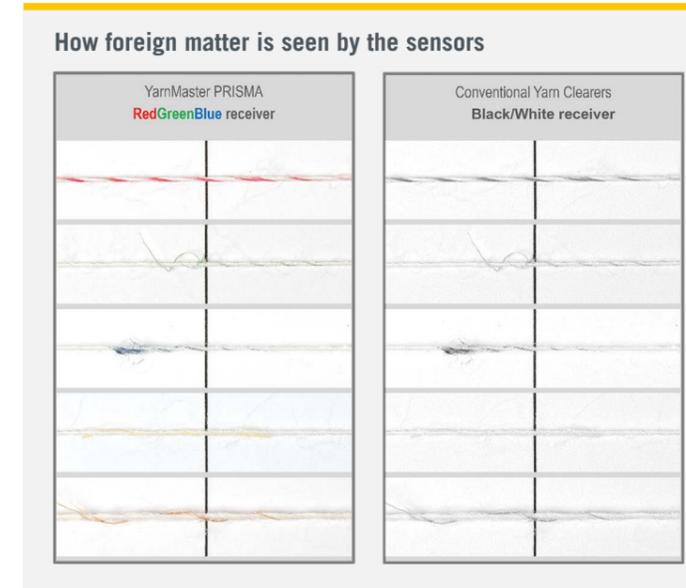
### Clever organic filtering

Based on the color-oriented selection of organic material in the cotton using RGB technology, an optimized detection and classification of disturbing or non-disturbing defects is achieved. Loepfe has fed the system with thousands of samples of organics, to teach the filter whether organics need to be removed or not, leading to considerable savings, clearer cuts and higher winding efficiency.



### 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.

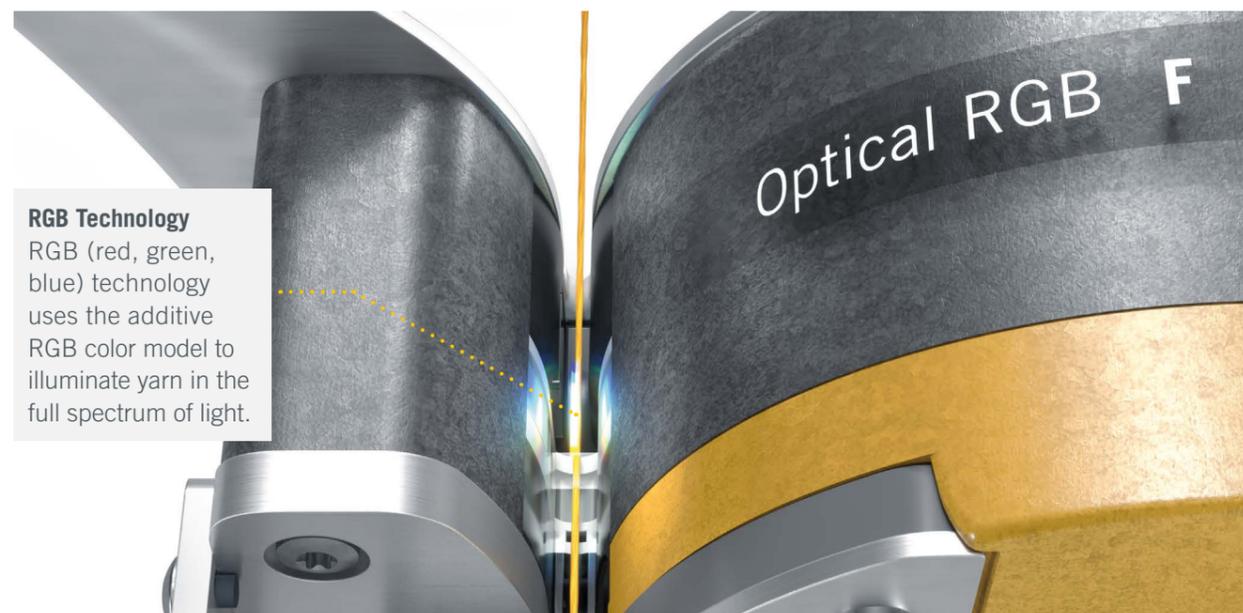
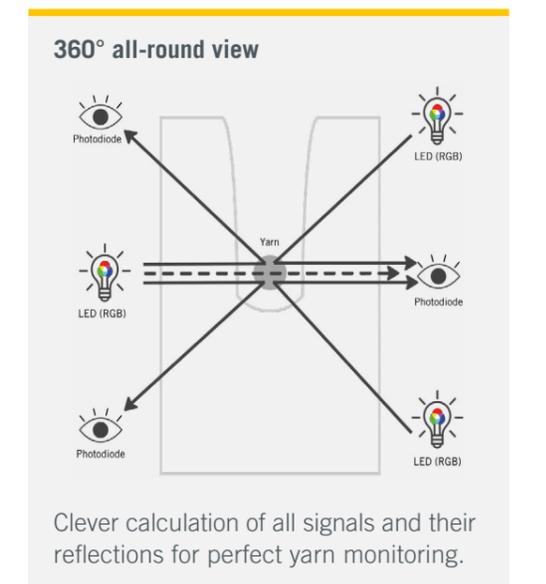


### Secure detection of polypropylene with the unique P sensor

Loepfe has been at the forefront of mastering the triboelectric effect for years, and PRISMA is the latest testament to this expertise. Equipped with the latest P sensors from the 4<sup>th</sup> generation and a dedicated P-Matrix, PRISMA ensures accurate settings and reliable results. PRISMA is the solution to ensure reliable detection of white and transparent polypropylene in yarn production.

### 360° all-round view

PRISMA is the only sensor on the market with an unparalleled number of signals and an unmatched ability to monitor yarn with a 360° all-round view. Exclusively, PRISMA uses several front and background lights for foreign matter clearing guaranteeing a view from every angle. Furthermore, dedicated signals for basic yarn fault detection as well as polypropylene detection complete the monitoring – resulting in unparalleled accuracy in fault detection and classification.



**RGB Technology**  
RGB (red, green, blue) technology uses the additive RGB color model to illuminate yarn in the full spectrum of light.



## Real dual measurement in all models

PRISMA's simultaneous dual measurement is the most effective way to detect basic faults in yarn quality control. This provides spinning mills with the best yarn quality while reducing waste, splice cycles and energy consumption.

PRISMA's optical infrared and mass sensors work in harmony, combining the two outputs into one signal. The seamless combination of optical and capacitive measuring methods results in the best recognition and classification of faults by length and intensity. The sensor takes into account factors such as raw material, type of fault, length of the fault, or even hairiness.

Spinning mills that rely on PRISMA can be sure of the highest profitability at all times.

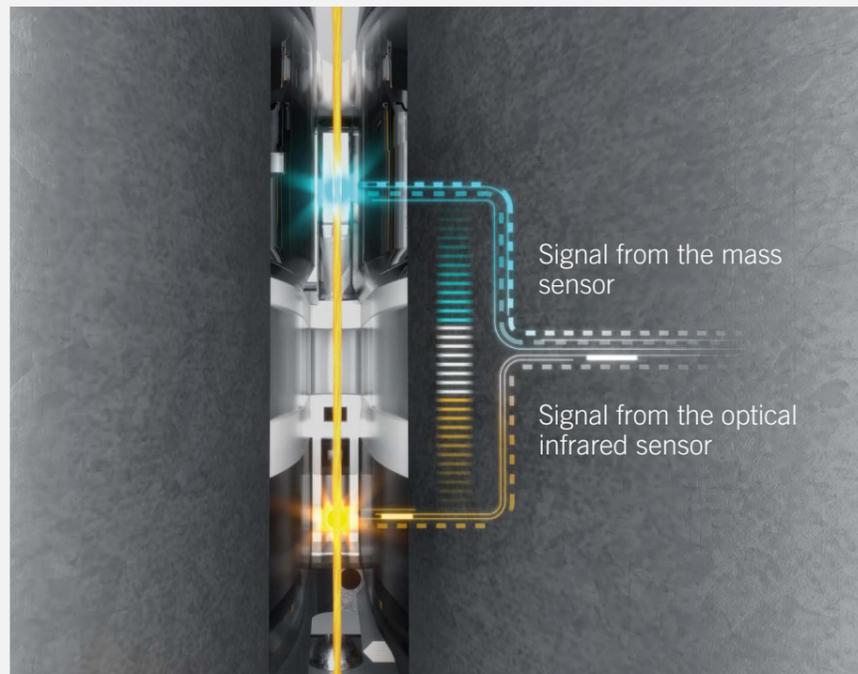
### Ease of use

The simultaneous dual measurement technology is exceptionally user-friendly. There's no need for the user to be concerned with configuring or combining the two sensors, nor choosing which sensor should take precedence in evaluating and determining whether a fault needs cutting or not. The smart functionality of the PRISMA clearer system guarantees an optimal setup is always achieved.

### Simultaneous dual measurement

PRISMA utilizes two powerful sensor technologies and unique software for simultaneous signal processing.

As a result, PRISMA's dual measurement capabilities remain unparalleled in today's market.



Dual measurement

## Effortless operation with Autoclearing

PRISMA Autoclearing offers the cleverest and most effortless yarn clearing experience on the market. Providing support and security, optimum user experience, time and cost savings while efficiency and quality remain stable at the highest level.

### Autostart

Autostart offers the fastest and safest way to create secure settings for new and existing articles. The clever software automatically creates clearing curves for all matrixes, based on yarn quality data from the first 100km/group. This eliminates the need to manually go through all matrixes and their curve settings which makes the Autostart feature a must-have for any quality manager.

It saves up to one hour of setting time when creating a new article. Likewise, the persons in charge can be sure that with PRISMA's built-in intelligence, the winding process is set up for optimum performance.

After the completion of the Autostart, the curves can be fine-tuned according to the individual needs, if required. As further support, the trusted Loepfe Testmode can be used for fine-tuning the settings.

### Autocorrect

If changes are necessary during the winding process, the operators can rely on the Autocorrect function. Autocorrect can be used to readjust the clearing curve based on the quality data of running articles. This ensures a quick and correct reaction to changes at any time. Furthermore, the sensitivity level of Autocorrect can be used to finetune clearing curves very precisely. The cut forecast provides an overview of the rising or falling cuts of the planned changes. This allows decision-making with a balance of efficiency and quality in mind.

### Automatic creation of the clearing curve with Autostart



Example NSLT matrix: Development of the curve from start to completion after 100 km/group



Autoclearing

## Better yarn quality

### Eliminate color variations – OffColor feature (Option)

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. The optional feature OffColor completes the unique technology by detecting color variations. As the OffColor feature is cleverly combined with the two textile alarms, Bobbin startup alarm and Length limit alarm, PRISMA offers the most efficient color variation detection.

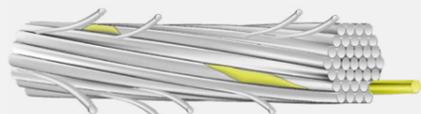
### Prevent processing a wrong yarn count or color – Bobbin startup alarm

The Bobbin startup alarm is the perfect solution for any spinning mill looking to increase its profitability. This textile alarm detects bobbins with the wrong count, and optionally with the wrong color, within the first 11 to 20m, providing the fastest detection of faulty bobbins on the market.

### Successful core yarn production – Core yarn feature

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 optical variations. This technique accurately detects the occurrences of missing and offcenter cores.

#### Offcenter core



The mass remains the same but the diameter is influenced

#### Missing core



The mass decreases but the diameter remains the same

### LabPack 24/7 online laboratory (Option)

Real-time, in-depth quality reports on 100% of the wound yarn, allowing action to be taken to enhance the complete spinning process.

- Maximized raw material utilization and consistent yarn quality
- Optimize service and maintenance work to save cost
- Access to the SFI/D surface variation matrix: curve clearing and classification

Complete information on:

- 100% of the processed material
- SFI value: variation of hairiness
- IPI diameter-related imperfections

### NSLT Cluster feature

Periodic faults are disturbing in the final fabric and could lead to the fault patterns known as moiré and strippiness. Non-periodic small fault accumulations are also disturbing and can lead to an uneven fabric appearance. With the unique Cluster feature, available for neps, short, long, and thin clusters it is possible to reliably detect off standard bobbins with such faults.



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

## Increased profitability and efficiency

### Maximize efficiency and maintain quality – Matrix Clearing

Loepfe's unique matrix clearing maximizes efficiency by providing the same yarn quality with less cuts, reducing waste, splice cycles and energy consumption. The clearing matrix paves the most advanced way to optimize clearing limits and offers the longest observation lengths on the market:

- OffCount (Deviations in Count) up to 50m
- SFI/D (Hairiness and CV) up to 80m
- OffColor (Deviations in Color) up to 50m

PRISMA removes long faults in the yarn with a single cut and accurately identifies them, providing the most complete picture of the yarn structure in the process.

### The missing piece in compact yarn spinning

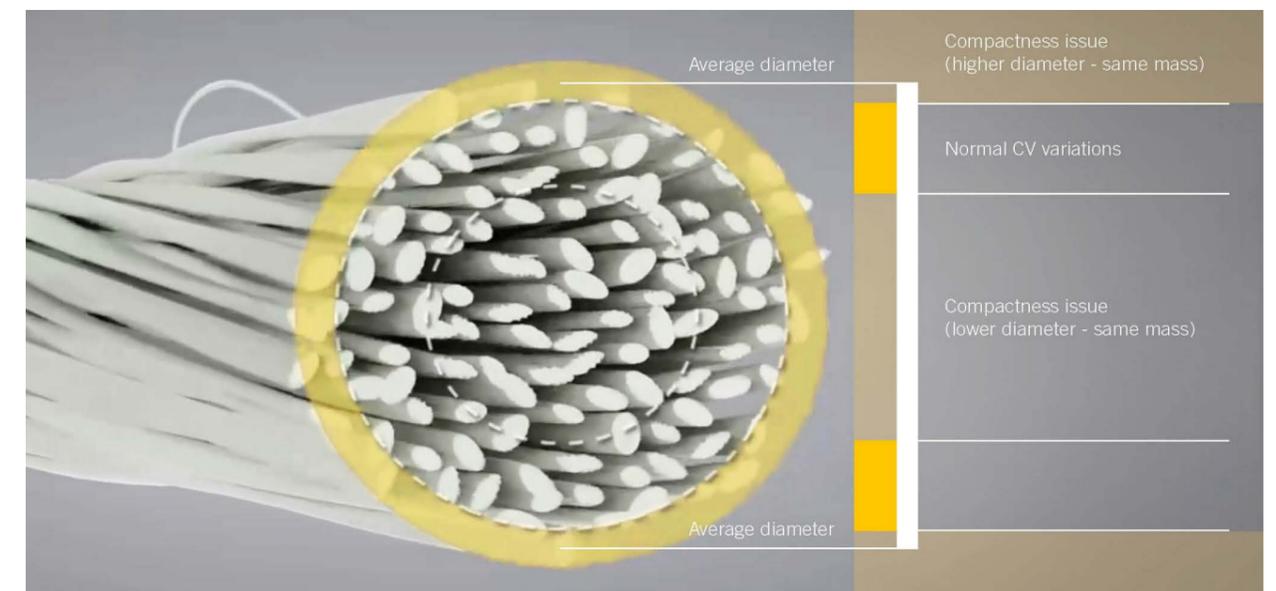
PRISMA's Compactness feature brings unmatched precision in detecting longer faults, twist deviations, hairiness, and compactness differences. The Compactness feature swiftly detects even the subtlest twist variations. The essential tool in the world of compact yarn spinning.

### Process optimization with color mapping

The PRISMA operating system provides a Cut History in which the detected colors are displayed for each cut. This enables data-based decisions on quality mill management optimization and helps to increase efficiency from the blow-room to the winding machine.

### Improve profitability – Length limit alarm

PRISMA's Length limit alarm maximizes winding machine and production efficiency with fewer splices and less hard waste. If a fault reaches the set Length limit a signal to remove those long faults from the package is sent to the winding machine. The spindle position is now alarmed and the operator has the possibility to decide if the bobbin remains within the process or will be removed to be used within second-grade process.



Compactness

# Real-time data management

## MillMaster® TOP

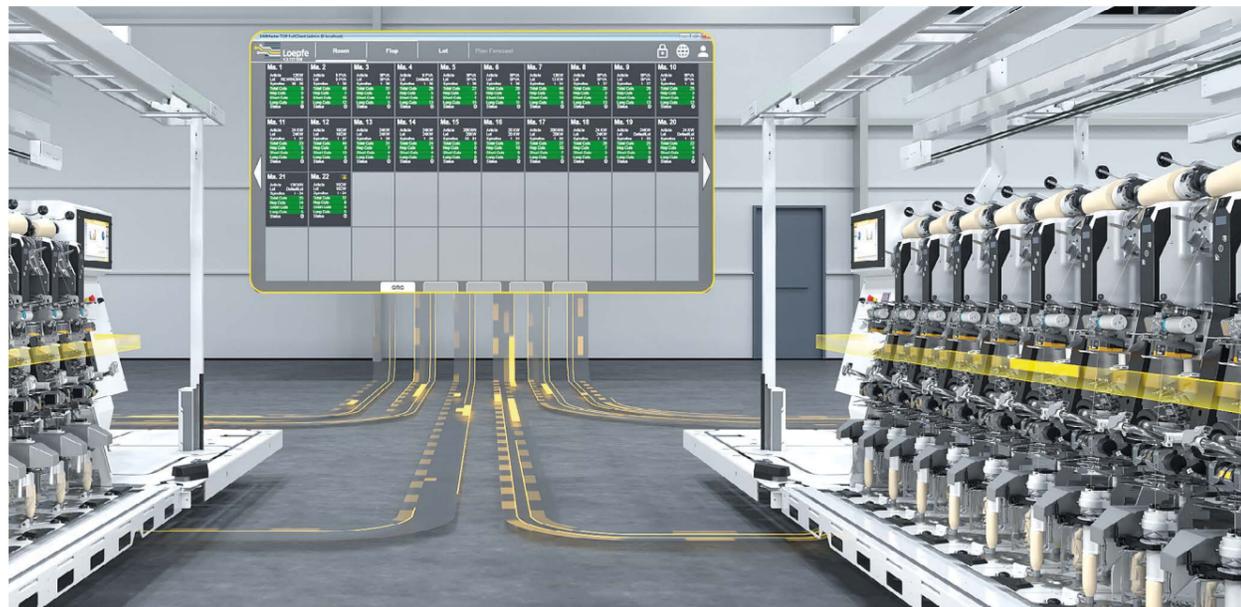
MillMaster TOP monitors YarnMaster PRISMA yarn clearer data online and in real-time. The data of all connected machines and winding units are combined and shown in value-added reports for fully optimized yarn production.

Loepfe's data management system provides a precise overview of the quality processes. The comprehensive reports allow for conclusions to be drawn regarding the entire yarn production process including raw material, preparation and spinning. The error sources can thus be located and quickly resolved. These targeted actions lead to optimized production, prevent costly maintenance and guarantee a consistent yarn quality.

The data management system MillMaster TOP 2.0 complements every PRISMA yarn clearer installation for optimal process efficiency.

### Fully optimized process for profitable yarn production

- Informative and graphical reports for: Lots, shifts and intermediate shifts, spindles, groups, yarn counts, articles/ lots, articles/shifts
- Trend analyses compare the output of different machines over time and ensure a continuous improvement of performance and quality
- Planning boards help achieve maximum efficiency with lot planning and winding machine scheduling
- Clearer assistant shows the influence of different settings with a precise cut forecast
- OffLimit reports display the worst performing spindles



MillMaster TOP Know-How

# Functionalities

## YarnMaster® PRISMA

### Application range

- One sensing head covers it all
- For all staple fiber yarns (Cotton, natural fibers, synthetic, blend, mélange, fancy and core yarn)
- Yarn count: Ne 2.4–320, Nm 4.1–540
- For all splicer types
- Winding speed up to 2200m/min.



### Polypropylene clearing

- Polypropylene matrix clearing of synthetic foreign matter (PP, PE, PES etc)

### OffColor (option)

- Offcolor matrix clearing and classification
  - dark
  - bright
- Bobbin startup alarm for Offcolor
- Length limit alarm for Offcolor

### Foreign Matter clearing

- Foreign matter matrix clearing and classification
  - dark
  - bright
- F Cluster clearing and classification
  - dark
  - bright
- Organic filtering and classification
- Color mapping
- Color histogram

### LabPack (option)

- SFI/D matrix clearing and classification (hairiness)
- Labpack IPI
- Labpack SFI surface index
- IPI alarm
- Length limit alarm for SFI/D

### DM clearing

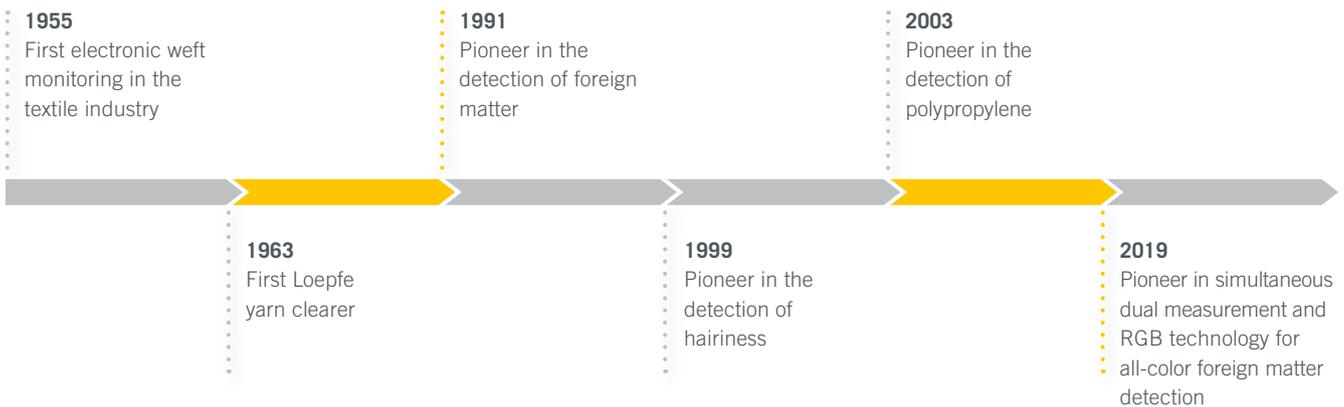
- NSLT matrix clearing and classification
- NSLT cluster clearing and classification
- Offcount matrix clearing and classification
- Compactness feature
- Core yarn clearing and classification
  - OffCentric Core
  - Missing core
- Splice matrix clearing and classification
- Autoclearing with Autostart and Autocorrect
- Fancy yarn detection
- Conductive yarn detection
- OffStandard bobbins
- Length limit alarm for OffCount
- Bobbin startup alarm for OffCount
- OffLimit alarm
- Class alarm

(D) optical Infrared, (M) mass, (F) optical RGB, (P) triboelectric

# Loepfe Brothers Ltd.

## The Pioneers

Since its establishment in 1955 Loepfe has been the pacesetter for innovation in yarn 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. Machine manufacturers, as well as spinning and weaving mills around the world, rely on our innovation at the highest level. Quality made in Switzerland.

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