Loepfe

SPINNING SOLUTIONS
BUILT TO SEE MORE

BUILT TO SEE MORE

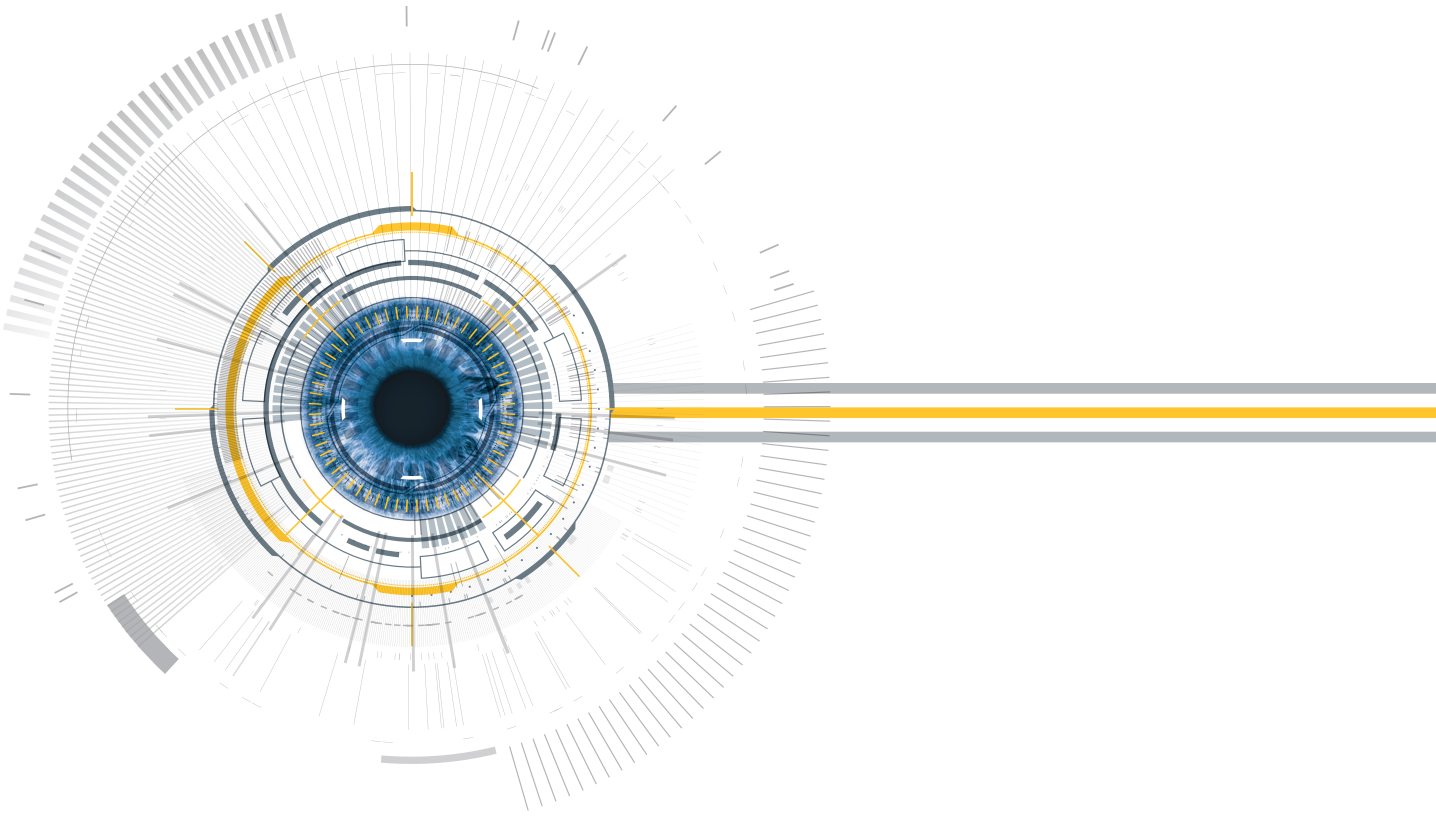
+ OPTICAL PRECISION

Loepfe invented the optoelectronic yarn clearers. The optical yarn control system is the most reliable and commonly used measuring principle worldwide. Optics, electronics, and software are the foundation of a precise and constant yarn quality control.

The outstanding advantages of an optical measuring principle are, that neither humidity, climatic changes nor the material to be checked, influence the measurement. Today, Loepfe is the worldwide leading manufacturer and solution partner for optoelectronic online quality assurance systems. Machine manufacturers, as well as spinning mills around the globe, use Loepfe technology from Switzerland. They know what to expect: Innovation at top level, quality made in Switzerland.

+ OPTICAL INSPECTION BY HUMAN EYE

Despite many high-tech methods, the qualitative assessment of the finished surface is always done with the human eye. Woven and knitted fabrics are judged on their appearance, wherein even surface texture and uniform color are clear signs of quality. A result that can only be achieved by a constant yarn quality control.

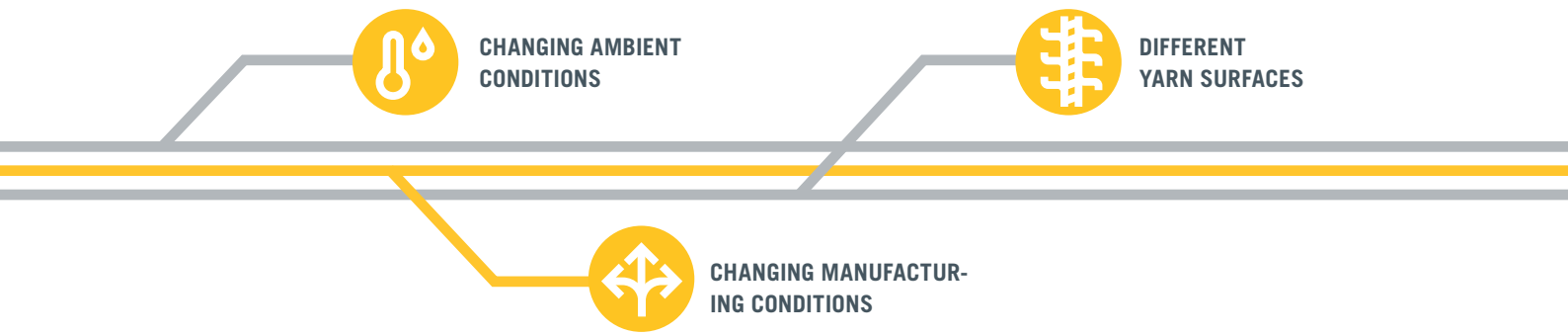


MASTER YOUR DAILY CHALLENGES

The optical measurement delivers precise and constant results unaffected by the daily challenges in a spinning mill such as:

- changing ambient conditions
- hairiness
- twist variations
- various materials
- any splicing systems
- contaminations
- foreign matter
- shade variations
- preparation and process faults

„Master your daily challenges – with optical precision for high-quality yarns and perfect textiles.“



YarnMaster ZENIT+

FOR WINDING

+ YARN CLEARING AT ITS BEST

The optoelectronic YarnMaster ZENIT+ guarantees 100 % online quality monitoring during the winding process to produce consistently high-quality yarns. With its three dedicated sensors, a single sensing head can be used for any application. The simple and precise clearer settings meet the highest requirements.

+ YOUR ADDED VALUE

Loepfe's optical yarn clearer provides reliable results under all production conditions. The precise detection and classification of faults enable the production of constant yarn quality thereby maximizing profitability. Steady output turns every spinning mill into a reliable partner within the whole production chain. In addition, the detailed quality and production reports provide information on options for optimizing the preparation and spinning process. Spinners can rely on peak technological performance from ZENIT+.

+ MEETS YOUR NEEDS

Fully cleared yarn to meet market demand.

- ➜ Detection of raw material related faults
- ➜ Fault classification with detection of spinning process related faults (NSLT)
- ➜ Precise detection of foreign matter in raw white and dyed yarn as well as smallest shade variations
- ➜ Secure detection of white and transparent polypropylene
- ➜ Automatic removal of Off-Standard bobbins
- ➜ Reliable quality control for fancy and core yarns
- ➜ Automated dust compensation with alarm functions based on smart thresholds
- ➜ Recallable settings ensure easy operation and reproducible high-quality
- ➜ Maintenance friendly for low operating costs

Sensing head YarnMaster® ZENIT+

SMART FACTS

Optical measurement of the yarn provides consistent results.

Application range

- For all staple fiber yarns and materials
- Yarn count: Ne 2.4 – 320, Nm 4.1 – 540
- Winding speed: up to 2000 m/min
- For all splicer types
- One sensing head covers it all

Comprehensive overall control

- Easy and precisely adjustable settings
- First information directly on the sensing head
- Quality and production data available in real time and shown in graphical reports
- Dashboard function informs about important cutting limits, off-limits and user defined alarms
- Scatter plot view shows a graphical representation of the yarn faults distribution
- Trend analysis provides information about preparation and spinning process related faults

24/7 ONLINE LABORATORY

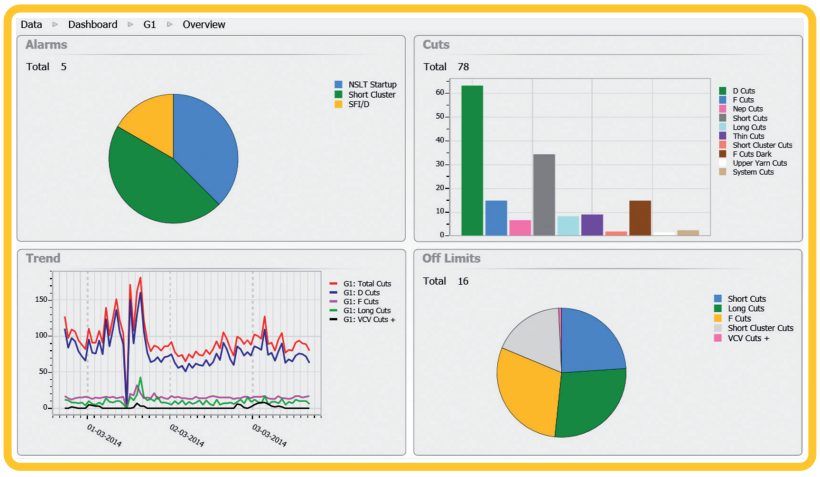
100 % online evaluation of quality data directly during the production process.

- Preventive maintenance
- Information on raw material
- Information on machine condition
- Diameter variations VCV
- Diameter variations SFI, SFI/D
- IPI diameter-releated imperfections

OFF-STANDARD BOBBINS

No longer rely on random samples thanks to automatic removal of Off-Standard bobbins.

- Yarn surface characteristics as SFI, SFI/D, VCV, IPI, Cluster
- OffCount
- OffColor
- NSLT



User-friendly interface: Trend analysis

+ FOREIGN MATTER F SENSOR

Foreign matter of any color and material are reliably detected.

- ➜ Detection of colored foreign matter in raw white and dyed yarn
- ➜ Detection and elimination of smallest shade variations

The yarn is illuminated from several sides to detect faults. The signals resulting from reflection and transmission are converted through algorithms into luminosity differences. The reference thereby is the brightness of the yarn color. Depending on the color, the clearer adapts to the basic brightness of the yarn during adjustment.

+ POLYPROPYLENE P SENSOR

The invisible becomes visible with the triboelectric P sensor.

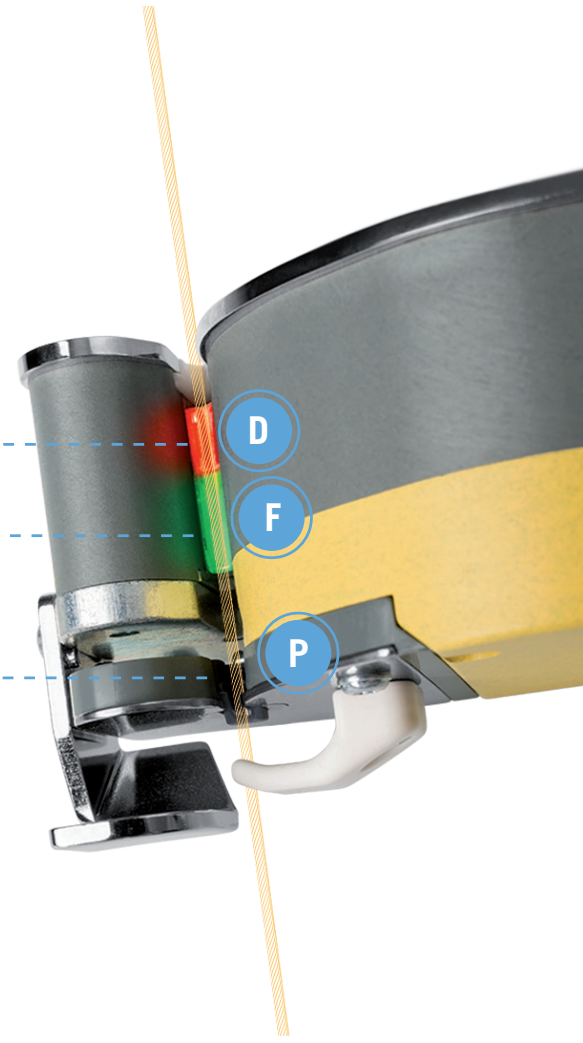
- ➜ Detection of raw white and transparent polypropylene
- ➜ Detection of white PP faults in blended cotton yarn
- ➜ Detection of even the finest synthetic foreign matter

While the yarn passes the P sensor, the fibers exchange electrons with the sensor. This effect is referred to as the „triboelectric effect“. When a synthetic fiber passes the electrode of the sensor, it is detected because of the triboelectric charge difference.

Optical D sensor
NSLT fault

Optical F sensor
for colored
foreign matter

Triboelectric P sensor
for white and transparent
synthetic fibers



Functional Range

ZENIT+	ZENIT+ F	ZENIT+ FP	
		●	**P CLEARING** → Clearing of synthetic foreign matter PP, PE foils, PES
	●	●	**F CLEARING** → Clearing and classification of foreign matter, dark and bright → Foreign matter clusters, dark and bright → Organic filter
	●	●	**OFFCOLOR (OPTIONS)** → Shade variations
●	●	●	**LABPACK (OPTIONS)** → Imperfections IPI, IPI alarm → Surface index SFI → Off-Standard bobbin detection SFI/D → Variable CV channel (VCV)
●	●	●	**QUALITY DATA** **Management Cockpit** → Dashboard view of trend, alarms, cut distribution, Off-Limits **Yarn clearing** → Channel clearing: NSLT → Class clearing: NSLT → Splice channel clearing: NSLT → Splice class clearing: NSLT **Classification** → Yarn faults: NSLT → Splice faults: NSLT → Scatter plot **Count monitoring** → Yarn count channel → Short count channel **Off-Standard** → Cluster channel for nep/short/long/thin → Class alarm → Off-Limit alarm **Reports** → Shift reports → Shift calendar **Administration** → Total 99 articles → Total 30 groups **Service** → Remote access (through MillMaster TOP) → Online help → Import/export data → TK software update → Message window with intervention

YarnMaster EOS & 3N1

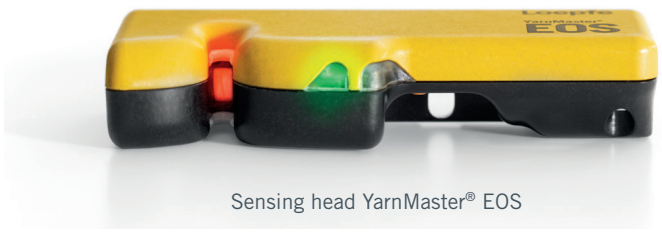
FOR OPEN-END SPINNING

+ EFFICIENT YARN CLEARING

The optoelectronic YarnMaster's EOS and 3N1 provide reliable clearing results in the open-end spinning process. The precise sensor ensures a constant yarn quality under all production conditions.

+ YOUR ADDED VALUE

With Loepfe's optical yarn clearer, the spinner's requirement of a consistent yarn quality combined with maximum machine efficiency is fulfilled. Precise adjustability contributes to the needed efficiency. Profitability can be increased by reliably detecting and eliminating yarn faults, which prevents adverse effects on downstream processing as well as the end product.



Sensing head YarnMaster® EOS

Sensing head YarnMaster® 3N1

+ MEETS YOUR NEEDS

Appropriate cleared yarn meets market specification. Precise digital yarn clearing for highest efficiency and lowest maintenance.

EOS

- ➜ Fault classification with detection of spinning process related faults (NSLT)
- ➜ Detection of yarn faults such as piecer, yarn count, irregularity, sliver faults and imperfections
- ➜ Fast and reliable detection of periodic faults to prevent moiré effects in the fabric
- ➜ Detection of yarn hairiness
- ➜ Reliable detection of cluster faults

Additional features 3N1

- ➜ Precise detection of foreign matter
- ➜ Secure detection of white and transparent polypropylene

+ SMART FACTS

Optical measurement of the yarn provides constant results.

Application range

- ➜ For all short staple fiber yarns and materials
- ➜ Yarn count: Ne 3–60, Nm 5–100
- ➜ Communication with any type of OE machine control

Comprehensive overall control

- ➜ Intuitive user interface ensures easy operating
- ➜ Quality and production data available in real time and shown in graphical reports
- ➜ Spectrogram analysis provides information about spinning and preparation related faults
- ➜ Fault classification

Functional Range

EOS	3N1	
		P CLEARING ➜ Clearing and classification of synthetic foreign matter PP, PE foils, PES
		F CLEARING ➜ Clearing and classification of foreign matter ➜ Foreign matter clusters, short and long
		Q-PACK (INCLUDED OPTION) ➜ Spectrogram ➜ Histogram ➜ Spectrogram alarm ➜ CVL curve
		QUALITY DATA **Monitoring overview** ➜ Current status and efficiency of all positions ➜ Zoom view of production group and selectable positions ➜ Efficiency trend **Yarn clearing** ➜ Class clearing: NSLT ➜ Splice class clearing: NSLT ➜ Moiré **Classification** ➜ Yarn faults: NSLT ➜ Splice faults: NSLT ➜ IPI: Neps, Thin, Thick ➜ List of positions and trend of defects **Count monitoring** ➜ Yarn count channel ➜ Sliver count channel ➜ Reference mean alarm **Off-Standard** ➜ IPI class alarm ➜ CV% alarm **Reports** ➜ Shift reports ➜ Shift calendar ➜ Event report **Administration** ➜ Total 10 articles ➜ Total 2 groups **Service** ➜ Remote access ➜ Import/export data on USB ➜ TK software update ➜ System snapshot

MILLMASTER TOP

FOR DATA MANAGEMENT

+ DATA MANAGEMENT COCKPIT

MillMaster TOP monitors YarnMaster ZENIT^{+} 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. The quality process is managed comfortably and offers a variety of control and optimization functions for the preparation and spinning process.

+ YOUR ADDED VALUE

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.

+ MEETS YOUR NEEDS

Fully optimized production for a consistent yarn quality.

- ➜ 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
- ➜ Off-Limit reports display the worst performing spindles

Trend & comparison report

+ SMART FACTS

Comprehensive production data and reports.

User interface

- ➜ Customizable and recallable settings allow quick and easy operation
- ➜ Dashboard view provides data for each machine individually
- ➜ Machine overview shows a spindle-group performance indicator
- ➜ Flop view shows the worst performing production group
- ➜ Traffic lights colors indicate a quick overview about the winding room performance

Functional range

- ➜ Data available on 3 workplaces
- ➜ Automatic machine recognition
- ➜ Connection of 1440 winding position
- ➜ Compatible with different YarnMaster winding clearer generations
- ➜ Updates via cloud
- ➜ Remote access
- ➜ History of setting and group changes
- ➜ Article and clearer settings management
- ➜ Shift calendar
- ➜ Reports can be exported in standards formats

Options

- ➜ Data available on 8 workplaces
- ➜ Connection of 7200 winding position
- ➜ Extended Off-Limit, trend and comparison reports
- ➜ Planning board
- ➜ Database access
- ➜ Clearer assistant (cut forecast)
- ➜ Report configurator
- ➜ Lab report

Winding room overview

Loepfe

Loepfe is part of the SavioGroup and the world's leading manufacturer of electronic control systems 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. Built to be on top.

SPINNING SOLUTIONS
BUILT TO SEE MORE

WEAVING SOLUTIONS
BUILT TO CONTROL

Connect with the Loepfe world

Loepfe Brothers Ltd.
8623 Wetzikon
Switzerland
www.loepfe.com

50527003 EN