

Monofilament control.

FibreVision Fibre TQS

In Monofilament yarn production FibreVision FibreTQS on-line monitoring provides an accurate and reliable measurement of diameter variation, identifying both long term faults (high CV of diameter) and short term faults.

The FibreTQS system provides:

- Full grading of all packages/bobbins with full quality reports available
- A range of software tools to aid quality improvement and cost reduction

FibreTQS Sensors

In the monofilament process a single optical sensor is used on each threadline. This sensor provides accurate measurement of diameter variation carrying out profile measurement:

Diameter variation

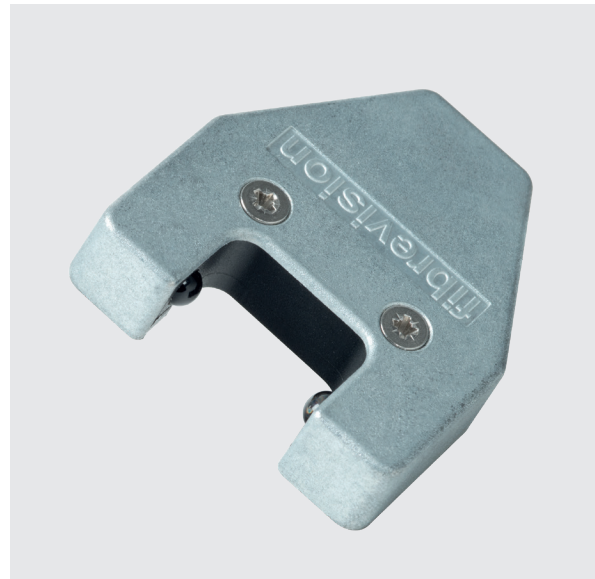
A very sensitive measurement of the short term variation in the profile of the yarn identifying

- General process instability (high CV faults)
- Weld spots
- Slubs
- Thin sections

Quality benefit

FibreTQS not only provides better quality 1st grade yarn, together with a lower percentage of 2nd Quality and reject yarn, with a full quality report on every package, but it also provides extensive software tools to allow substantial improvement in the fundamental quality of the process by:

- Rapid identification of repeating faulty threadlines
- Identification of positions drifting towards downgrade limits



Features and benefits

→ Replaces end break sensors

Standard end break sensor replaced, no extra guides, easy operation

→ Lower maintenance costs

Single optical sensor, no moving parts, no calibration required

→ Contamination compensation

Cleaning not normally required, sensors automatically compensate for any contamination. In extreme situations maintenance alerts warn if cleaning on any sensor is necessary before accuracy is affected.

→ Quality indication

LEDs on each sensor or alternatively an LED panel indicate the quality of the current package

Quality benefit

- Identification of short term or cyclic faults that would not be seen in off line testing
- Identification of quality trends that allows preventative maintenance to be more effectively planned

Quality data

The data from the sensors is processed in distributed "sections", with both quality fault and summary data being passed to the FibreTQS PC software which stores extensive quality data for each package produced.

This data is provided in user-friendly reports with full package grading and extensive facilities to aid process improvement:

Current data

- Full details for each threadline
- Real time views
- Process Improvement tools including "worst" threadlines
- Details of off quality events
- Fault analysis tools

Package data

- Full quality reports on every package produced
- Mean and variability data for each monitored parameter
- Details of any off quality events
- Capture graphs for transient events

Historical data

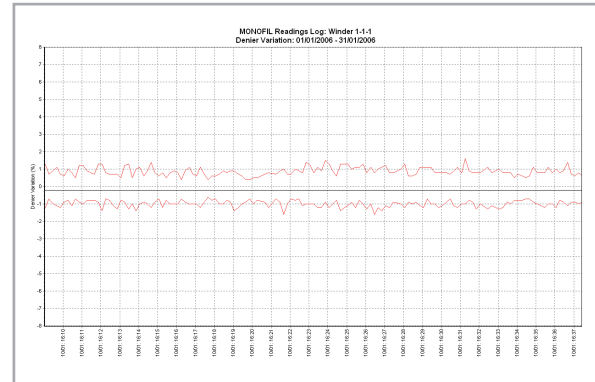
Trend data for each monitored parameter is available for each threadline and each merge group to allow assessment of both long and short-term process trends.

Contamination compensation

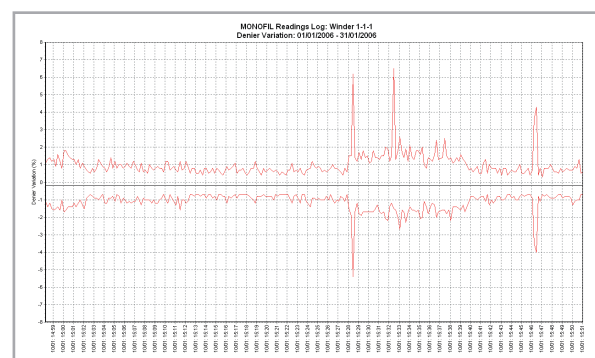
Cleaning not normally required, sensors automatically compensate for any contamination. In extreme situations maintenance alerts warn if cleaning on any sensor is necessary before accuracy is affected.

Plant integration

- Data export for every completed pack
- Multi machine controller available to control/view all machines



Stable threadline



Unstable threadline with slubs (thick places) detected

Typical process data

Typical denier variation data from stable and unstable threadline is shown in the trend data graphs on the right. The black line represents the mean data values whilst the red lines represent the minimum and maximum values (graph 1 & 2).