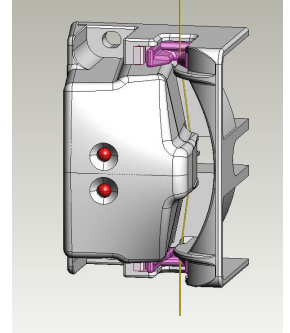


## DTY Quality Monitoring Unitens Plus

The requirement for On Line Quality Monitoring in DTY processes has recognised for many years and Unitens is well established as market leader in this sector.

Unitens Plus now takes Quality Monitoring in the DTY process to new levels, by integrating the functionality of the market leading FibreTQS Interlace monitoring system it to Unitens.

In addition to Tension and Interlace monitoring, Unitens Plus also offers enhance features of Ply Detection, Doff Timing and Package Length Measurement as well as the option of Guaranteed metered length packages.

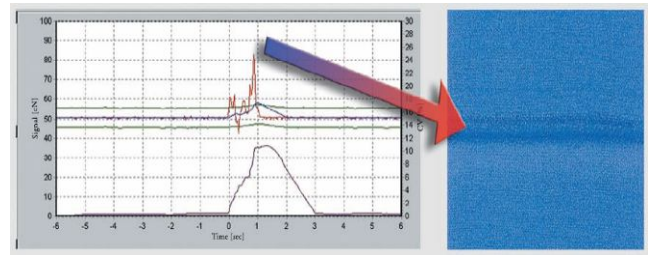


### Unitens Plus – Tension Measurements

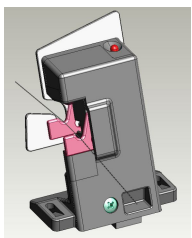
It is widely accepted that the most important quality parameter in texturing is the correct yarn tension measured directly after the twisting unit (T2).

Abnormal tension levels and peaks result in both bulk and dyeing faults which can be avoided with tension monitoring through identification of faulty packages by:

- Recording of tension faults
- Quality grading by the number of faults
- Display of fault events for error analysis



### Unitens Plus – Interlace



Interlace quality is becoming increasingly important in DTY yarn especially for Non Size warp applications. Unitens Plus provides full Interlace Monitoring, characterising:

- Interlace Level, Nodes / m
- Interlace Distribution, particularly maximum skip distance
- Interlace Intensity, the relative strength of the interlace nodes

### Unitens Plus – Enhanced Features

#### Pack Length Measurement

Accurate package length data is available for every package since start and stop times are accurately known.

#### Doff Timing

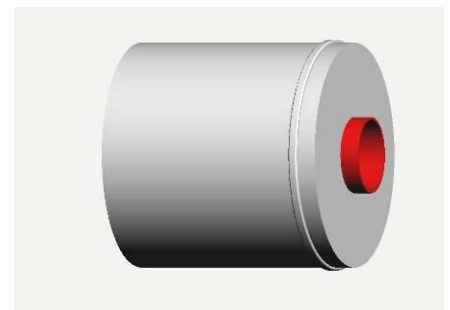
Fully automatic, gang and random doff timing using the sensor LEDs

#### Ply Detection

The FibreTQS Interlace sensor also replaces the end break sensor and provides ply detection allowing creel plying to be run without additional end break sensors

#### Metered Length (option)

Guaranteed metered length packages (Pat Pending) are uniquely guaranteed with a “belly band” automatically wound on to the package at doff, ensuring that all metered packages are clearly identified, making segregation at packing / testing straightforward.



**Unitens Plus - QUALITY DATA**

The data from the sensors is processed in distributed “sections”, with both quality fault and summary data being passed to the Unitens PC which stores this data for both the process and each package produced. This data is provided in user-friendly reports with full package grading as well as extensive facilities to aid process improvement, reporting includes:

**Current Data** Full details for each threadline  
Real time views  
Process Improvement tools including “worst” threadlines  
Details of off quality events

**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.

**Sensor Technology**

**UNITENS**

The Unitens tension sensor features a self compensating measurement principle, with both minimum guide wrap and a high frequency response. This well proven sensor technology provides the most accurate and responsive measurement with the minimum possible deflection of the yarn path. These features are of vital importance when processing at high speeds or with sensitive yarns.

The robust design also ensures long-term stability and reliability with typical failure rate < 0.5 % per year.

**FibreTQS**

The FibreTQS Sensors are infrared based optical sensors shadow the yarn against a photodiode and measure the profile variation. This signal is analysed to provide data on interlace level and denier change (ply detection).

The FibreTQS sensors are extremely durable, with no moving parts and do not require zeroing or calibration. The sensor also replaces the function of normal end break sensors on both new and retrofit installations.

**Unitens Plus Systems**

