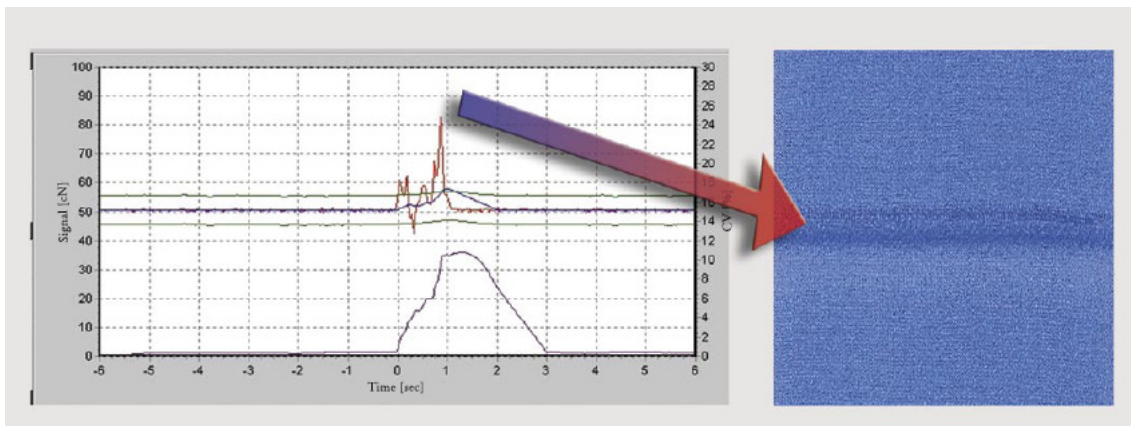




Win-OLT

On-line monitoring in production process of synthetic filaments Win-OLT – on-line monitoring of yarn tension

Quality control in texturing means “On-line Tensor” Win-OLT.
The industry standard for high yarn quality and optimised production.



The most important quality parameter in texturing is the correct yarn tension. Abnormal tension levels and peaks result in dyeing problems.

The increased quality demanded for textured yarns, the use of new materials and of microfilaments, together with an increase in texturing speeds, require quality controls that are more and more extensive. The quality control procedures, which are sometimes very labor intensive, can be substantially reduced by using on-line process monitoring, e.g. by measuring yarn tension continuously.

In the case of Win-OLT, RETECH has developed a yarn tension measuring system that continuously monitors yarn tension, records yarn breaks, calculates downtimes and provides machine efficiency and quality data.

Substantial advantages are

- Waste reduction due to early detection
- 100 % quality control during production
- Cost effective quality assurance
- Documented production process
- Short pay back periods
- Latest hardware and software
- Multi-tasking, easy connection to networks for tele-service and control by internet or intranet
- Wide range of facilities for fault detection by application of user defined parameters
- User-friendly computation by means of graphic data
- Language options – including Chinese and Korean
- Analysis of production data by the program
- Recording of yarn tension at all positions enabling long term analysis
- Optical indication of package quality by means of LED sensors
- Integral doff timer
- Optimized label printing options
- Simple connection to existing yarn cutting systems
- Extendible software architecture for future additions, e.g. for measuring package density (PD).

The Win-OLT system guarantees

- Continuous tension monitoring
- Recording of yarn faults
- Quality classification by number of faults
- Display of events for error analysis
- Optical “quality-alarms”
- Detection of surge speed

- Faults are recognised immediately
- Detection of faults that infrequently occur
- Indications on type and source of fault by graphic presentation
- Optimisation of spinning process

The Win-OLT system consists of a sensor, microprocessor and a computer system, together with the appropriate software. The sensors and system are available for all types of texturing units.

However texturing is not the only use for this system. It is also suitable for monitoring the yarn tension in other textile processes. Examples of this are spinning, winding, covering and draw twisting, among others.

Win-OLT Hardware

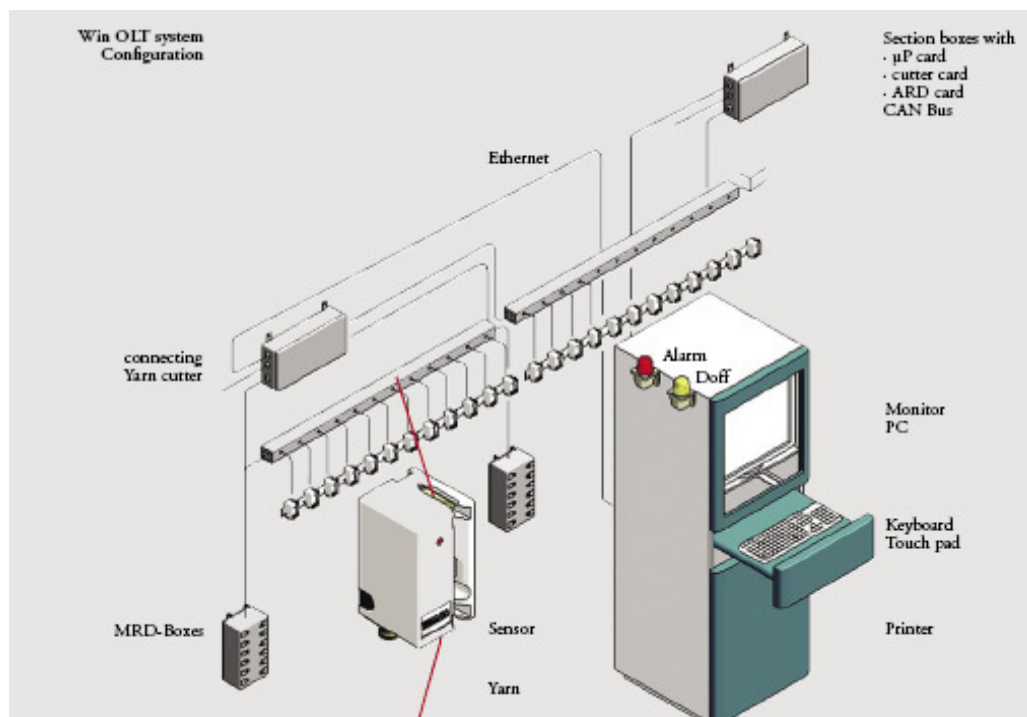
The Win-OLT hardware features an open system structure for simple and customer-friendly integration into new or existing texturing machines. The components comprise modern, high performance electronics, which ensure rapid processing of data.

Advantages

- Modular system structure enabling installation on all texturing machines and twist units
- Simple connection to machine interfaces and/or other systems due to standard interface (CAN bus)
- Additional cards, which enable a simple and economical interface with existing yarn cutters on the machines
- Instantaneous information concerning current package quality from the LED located on the yarn tension sensor ZKS51
- Optical signals, located both on cabinet and sensor, indicating the time of doffing
- Possibility to doff individual positions via the "Manual Random Doffing Box" for achieving equal package running times (even for older machines). This is an ever-increasing requirement in many downstream processes for textured PA and PES
- Possibility of using label printers to print labels for documenting the package quality
- Possibility to connect up to 480 sensors to the system
- User-friendly software maintenance through FLASH EPROM

Yarn tension sensor ZKS

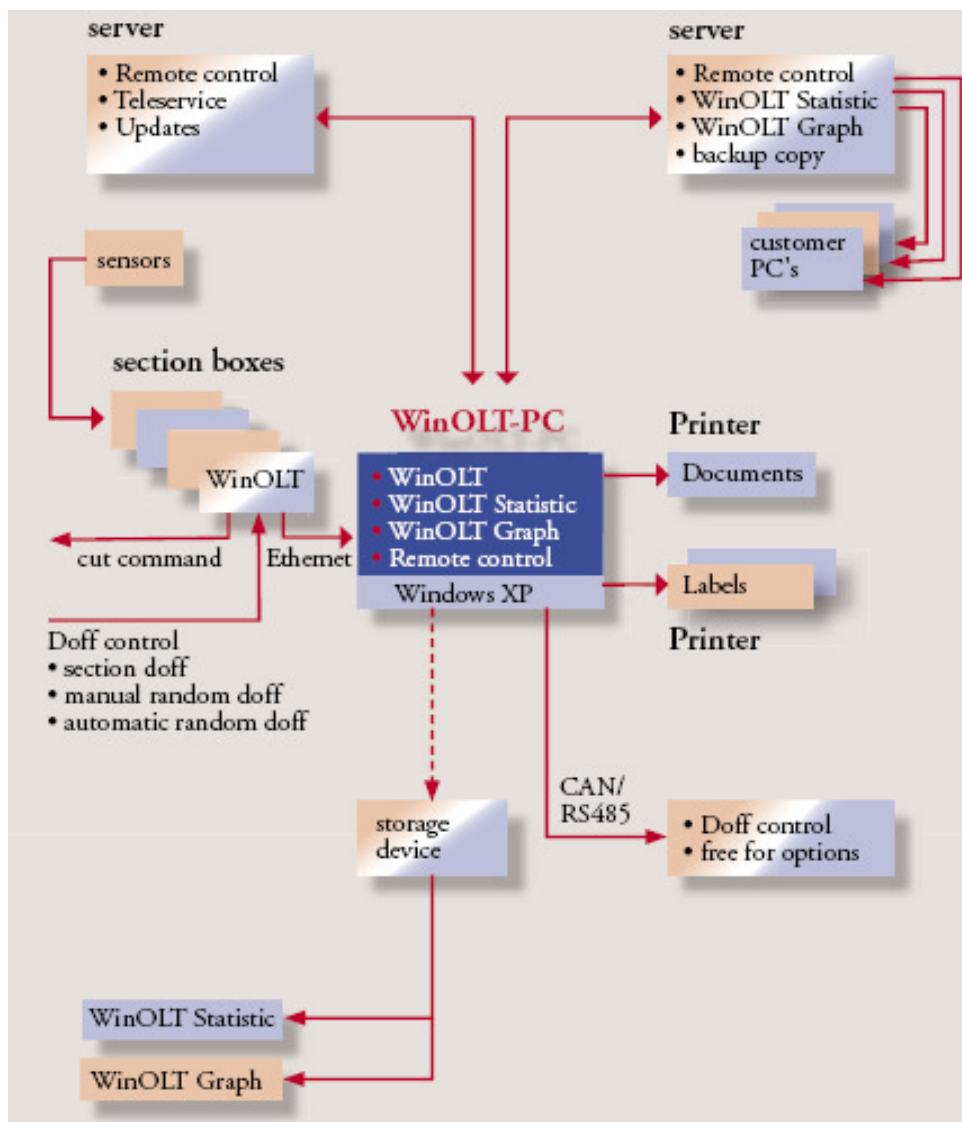
The measurement principle is based on the HALL effect. Here, through the measurement of magnetic field intensity, a signal that is proportional to yarn tension is converted into a voltage. Continuous measuring accuracy over many years is ensured through the above measuring principle and the compact and stable structural design of the sensor.

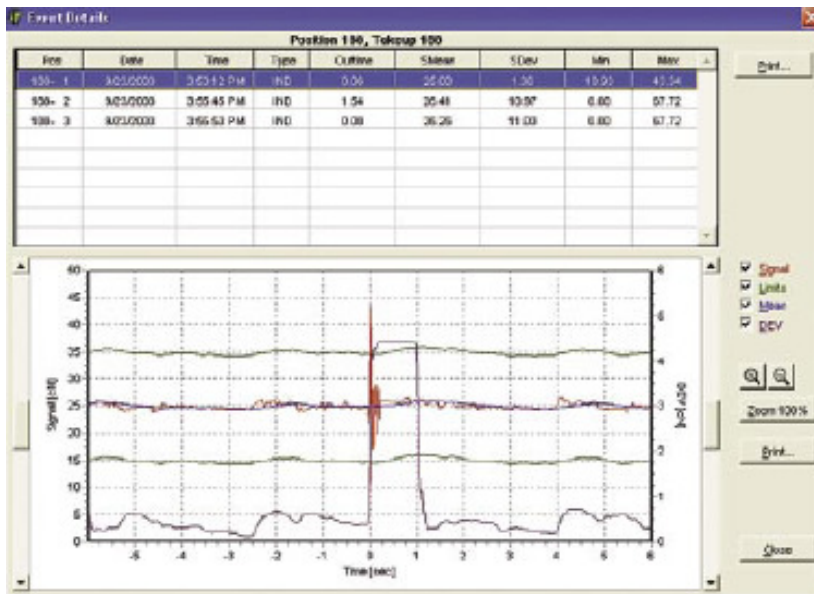


Win-OLT Software

Advantages

- WINDOWS XP operating system
- Modular structure and easier fulfilment of customer wishes
- Self-evident graphic and tabular displays
- Input masks for simple handling
- Multiple error recognition tolerance limits for individual quality requirements
- Freely selectable fault occurrence numbers for defining A, B or C quality
- Storing of individual tension trace faults for cause analyses
- Quality displays via tables, signal lamps and sensor LED, yarn cutting possibilities
- Production display according to yarn length, weight and run duration
- Tables showing the actual statistical values of each position
- Password protection for 1 user, extendable to 10 users
- Pre-set for LAN
- Multiple analysis of the entire production by the Win-OLT statistics program



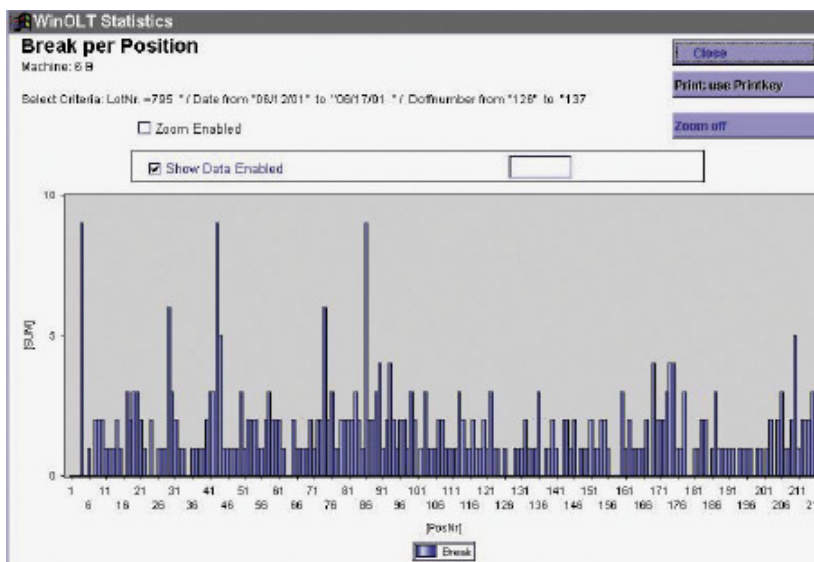


Working mode

After the input of all process parameters and the start of production, Win-OLT monitors the yarn tension at every position 50 times per second.

If the number of pre-defined faults is exceeded, it will be clearly recorded in the table and indicated both by the sensor LED and a bright alarm indicator located on top of the cabinet.

If a machine has been fitted with a quality level yarn cutting device, Win-OLT will then, when requested, cut the yarn for these instances.



Control working mode and analysis

During production many problems can accumulate, which are not easily recognised. Without process tension control, these faults are usually only detected later in the fabric.

The Win-OLT software offers many options for obtaining a clear overview of production and quality situations at any time. If there are unknown problems with machine positions, Win-OLT offers a graphical option to find the origin of the fault.