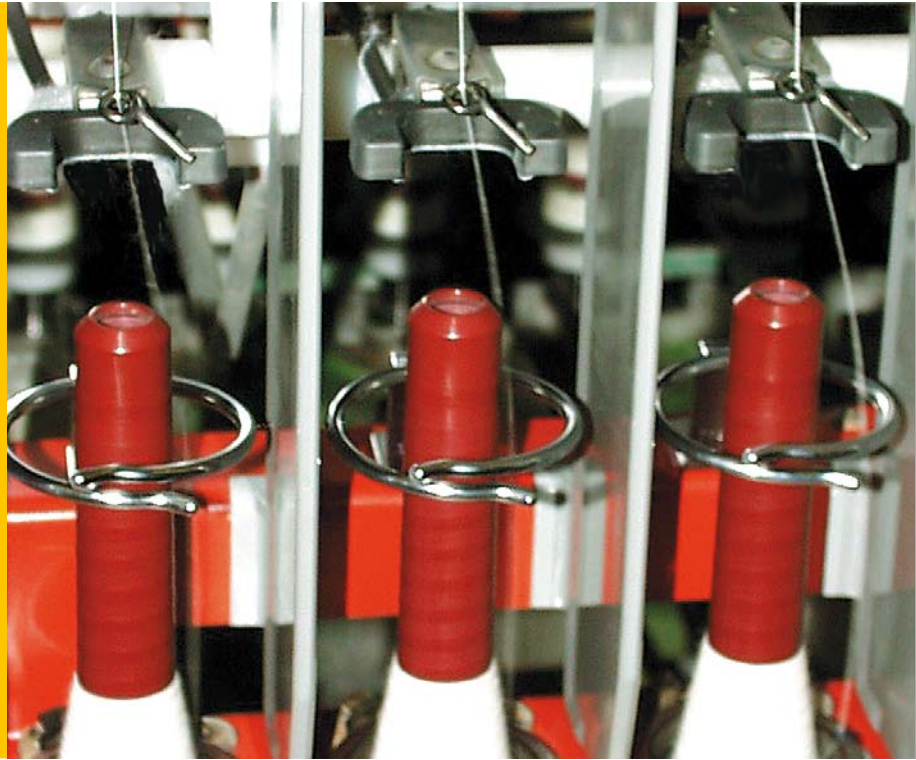


OptiSpin

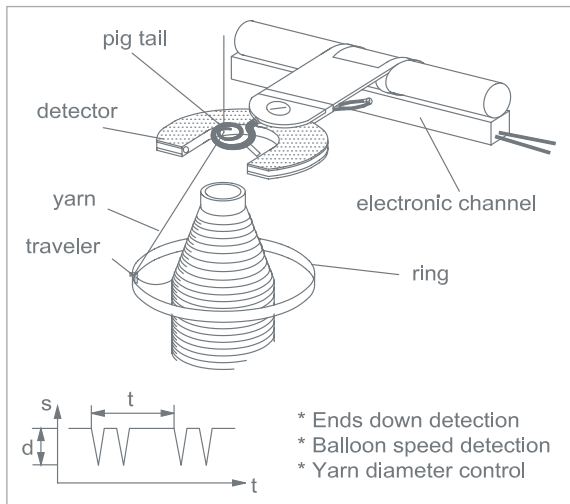


On-line quality monitoring on ring spinning frames

With OPTISPIN, BMS offers a sensor for each individual ring spindle, allowing accurate recording of the spindle speed and real-time detection of yarn breakages. The stops are always assigned to the correct spindle, regardless of the length of the machine.

Interfaces are available to the speed inverter of the ring frame, allowing to increase the speed in case the ends down level remains below a defined threshold. As a result, an optimum and consistent quality level is achieved at maximum efficiency.

All sensors are connected to a PC-based central unit. All information concerning production, efficiency, ends down and slipping spindles is available on the display or can be printed out on an external printer. Connected to BMS's SPINMASTER production management system, data from all machines is centralized in one database.



Principle of operation

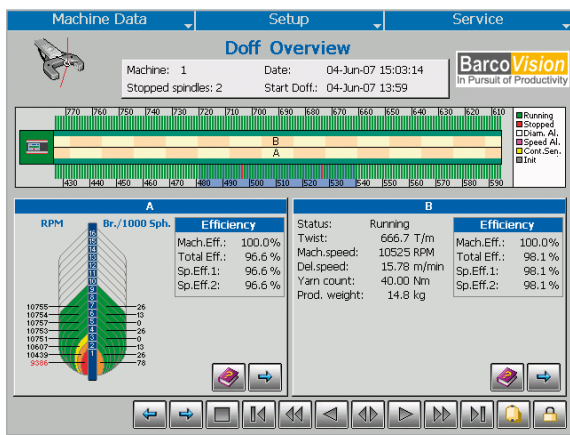
The OPTISPIN sensor is installed right below the pigtail. It consists of a photo receiver facing a light emitting diode. During each revolution, the yarn balloon interrupts the light beam twice. The time between two successive interruptions serves as the basis for the calculation of the balloon speed, while the amount of light obstructed during the interruption is used as a rough diameter measure.

Sensor Control Unit (SCU)

All sensors on one machine are connected to the SCU. This unit offers a touch screen Windows-based user interface, USB interface and Ethernet connection. The integrated OPC server allows a PC to connect to the SCU via the OPTISPIN BROWSER allowing remote operation and service. The standard screen on the SCU shows a graphical machine view with color coded spindle status and side by side machine details.

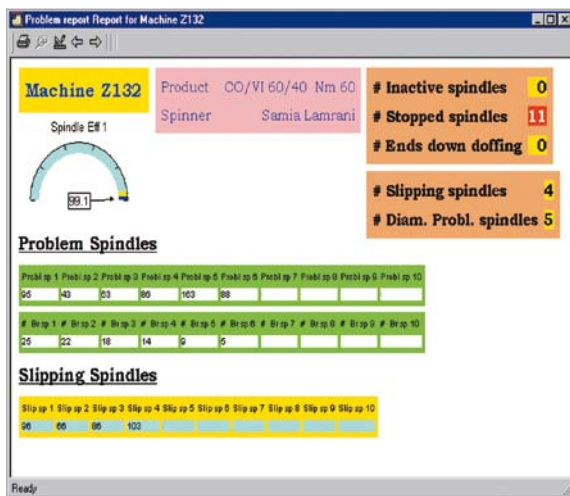
SpinMaster monitoring system

Through the OPC interface, all machines equipped with OPTISPIN can also be connected to the SPINMASTER production monitoring system. All connected twisters are shown in a color coded mill layout. Machines with off-standard conditions are automatically flagged.



Functionalities

- Accurate real time spindle speed detection allowing identification of slipping spindles.
- Indication of twist level based on spindle speed and delivery speed.
- Immediate ends down detection, including detection of raffles.
- Classification of yarn breakages during up or down movement of the ring rail and exact location in the bobbin build-up.
- Continuous yarn diameter estimation allowing detection of additional sliver or wrapping on draft cylinders.
- Flagging of problem spindles with section lights and lamp tree.
- Link to speed inverter for optimum control of spinning speed based on breakage level, ring rail up-down movement and bobbin build-up.
- Interface to roving stop unit.
- User friendly interface for set-up and reporting.
- Monitoring: produced weight, efficiencies and down time analysis.



Benefits

- Consistent quality.
- Increased efficiency.
- Reduced labor cost.
- Optimized speed profile as function of the bobbin build-up.
- Can be installed on all ring spinning frames.
- Independent of yarn count and traveler type.
- Simple mounting and cabling.
- Low power consumption.
- No moving parts, hence no obstruction for operators or automation devices.
- Limited maintenance.

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