Advanced Yarn Control Solutions

YARN QUALITY CONTROL LINE

Intelligent Solutions for Textile Processes Quality Control

BTSR®
Intelligent Solutions for Textile Processes Quality Control

Production Quality Control is a ‘must’ for any manufacturer who aims at playing a relevant role in the global competition.

BTSR offers a wide range of flexible solutions able to measure parameters and features of the controlled yarn in order to guarantee the top quality of the yarn/process being used.

Yarn tension measurement, yarn clearing analysis, yarn twisting/shagginess counting as well as collected yarn length measurement are fundamental requirements to be monitored for an accurate quality control of the production processes.

BTSR is your Quality Partner by providing the most suitable solution according to your textile process quality control needs.

Flexible Solutions for the most accurate Quality Control in your Textile Process

Each BTSR Yarn Quality Control System consists of a dedicated control terminal (SMART MATRIX series) and a variable number of devices which are easily installed along each textile process when a yarn quality control has to be implemented.

The possibility of programming the detection capability of the sensors according to the type of yarn to be processed guarantees a perfect symbiosis between sensor and yarn.

A comprehensive range of Quality Control Solutions
THE PERFECT SYMBIOSIS
BETWEEN YOUR PLANT
AND YARN
First Quality Control Systems combining Maximum Productivity and Top Quality goals

SMART MATRIX On-board Terminals
SMART MATRIX Terminal is a true “micro-computer” for complete machine programming and monitoring.

Features and Benefits
- Easy and quick sensor identification (up to 200 sensors) thanks to the Automatic Numbering Procedure (BTSR Patent).
- Advanced Programming Features - program the sensor technical features according to your process quality control requirements.
- Real-time display of single sensor working status.
- Data collection and storage of anomalies detected by each single sensor.
- Absolute flexibility - possibility of quickly changing the sensor technical features according to the article to be processed.

HIGH-TECH Sensors
BTSR Yarn Quality Sensors represent the most advanced result in terms of innovation and technology, combining ergonomy and miniaturization, reliability and top performance.

Features and Benefits
- Immune from environmental conditions thus guaranteeing top quality analysis performance even in the most critical applications.
- Easily programmable devices to fully fit the textile process quality control standards.
- Miniaturized dimensions, flexible and easily adaptable to the control of any type of yarns (traditional yarns, elastomers, technical fibers, …) and process working conditions.
- When destined to the OEM market, BTSR Sensors can be easily integrated into textile machines and installed as retrofit on already working machines.

Production Report Printing
Data Report and printing with analysis of technical faults. A valuable support for managers and operators to improve the quality level of production.

CERTIFICATE YOUR PROCESS QUALITY!
SMART MATRIX CLEARER & ISSC Sensors

Main Applications: Yarn Clearing Quality Control in Yarn Preparation Textile Processes (Winding, Doubling, Twisting, Interlacing, ...).

MAIN FAULT DETECTION FEATURES
Detect and analyze yarn irregularity/anomalies (neps, slubs, added / missing ply, missing /broken yarn, ...).

ISSC sensors are ELECTRONIC CLEARERS (DSP - Digital Signal Processors) able to detect the yarn profile ‘image variation’, thus signalling possible anomalies and monitoring yarn quality levels.

Features and Benefits
- Immediate stop of the machine position and/or activation of control devices (cutters, ...), in case of detected fault.
- Immune from environment / yarn conditions (humidity, conductivity and machine vibrations).
- No yarn-sensor contact for a perfect monitoring without affecting the characteristics (e.g. tension) of the yarns.
- Double leds (red and green) and ‘touch light’ function for easy monitoring and diagnosis.
- Create, modify and save parameter settings related to up to 40 articles for an easy and quick sensors programming / reprogramming.
- Yarn count monitoring and check with the ‘learn count’.
- Fully Parametric System - for each type of defect, possibility to set each sensor’s deviation quality tolerance limit and to get faulty conditions signals when set values are exceed.

ENSURE COST-EFFECTIVENESS AND FAULT-FREE YARN
SMART MATRIX TENS & TS5/D - TS7 Sensors

Main Applications: Yarn Tension Measurement and Analysis on Yarn Preparation Processes (Winding, Doubling, Copsing, Texturing, Interlacing, ...), Warping Processes, Quilting Machines, Embroidery Machines.

**TS5/D sensors** - Based on DSP (Digital Signal Processor) Technology, convert the tension exerted by the yarn on the sensor’s loading cell into digital signal.

**TS7 sensors** - DSP Technology-based sensors, provided with SENSOR IN-SENSOR OUT Double Connector for easy and quick wiring.

**Features and Benefits**

- **Accuracy** - accurate analysis of the tension values measured on the yarn under control in your textile process.
- **Precision** - perfect measurement and analysis of the yarn tension thanks to BTSR TS5 ‘Tension Smart Scanning’ Sensor.
- **Advanced Sensor Programming** - A comprehensive range of programmable working parameters (i.e. normal yarn working tensions, min. and max. tension thresholds, min. and max. peak tensions beyond which the position or the whole machine shall be stopped, yarn missing condition, ...).
- **‘Articles’ Memorization** - create, modify and save parameter settings related to up to 40 articles for an easy and quick sensor programming / reprogramming.

**Special**

**TS4 analogic sensor**

TS4 is a precise yarn tension measuring device, specifically designed for texturing machines. With TS4 it’s possible to implement yarn collection or treatment integrated with textile machine operating in “closed loop”. This allows immediately reacting to any yarn tension variation, thus obtaining new quality results in production of textile fiber treatment.
SMART MATRIX MTC & IS3F/MTC Sensors

Main Applications: Precise Measurement and Analysis of the number of twistings / balloons on Twisting Processes (i.e. Tyrecord and Carpet Twisting Processes, …)

Features and Benefits

- Detect the yarn ‘image variation’ thus signalling possible failures during the twisting process of two/three yarns.
- Control whether the number of twistings applied to the yarn is within the expected range for the article being processed.
- Programming sensor detection features according to the quality control requirements and the article being processed (i.e. max number of twistings per second [meter/inch], shagginess effect reduction filter, sensor’s sensitivity).
- Create, modify and save parameter settings related to up to 40 articles for an easy and quick sensor programming / reprogramming.

HIGHEST ACCURACY ENSURING CORRECT YARN PACKAGE LENGTH

SMART MATRIX TWIST & IS3F/TTS Sensors

Main Applications: Precise Measurement and Analysis of the number of twistings / balloons on Twisting Processes (i.e. Tyrecord and Carpet Twisting Processes, …)

Features and Benefits

- Detect the yarn ‘image variation’ thus signalling possible failures during the twisting process of two/three yarns.
- Control whether the number of twistings applied to the yarn is within the expected range for the article being processed.
- Programming sensor detection features according to the quality control requirements and the article being processed (i.e. max number of twistings per second [meter/inch], shagginess effect reduction filter, sensor’s sensitivity).
- Create, modify and save parameter settings related to up to 40 articles for an easy and quick sensor programming / reprogramming.

YARN TWISTING PROCESS CONSTANTLY UNDER CONTROL

HIGHEST ACCURACY ENSURING CORRECT YARN PACKAGE LENGTH