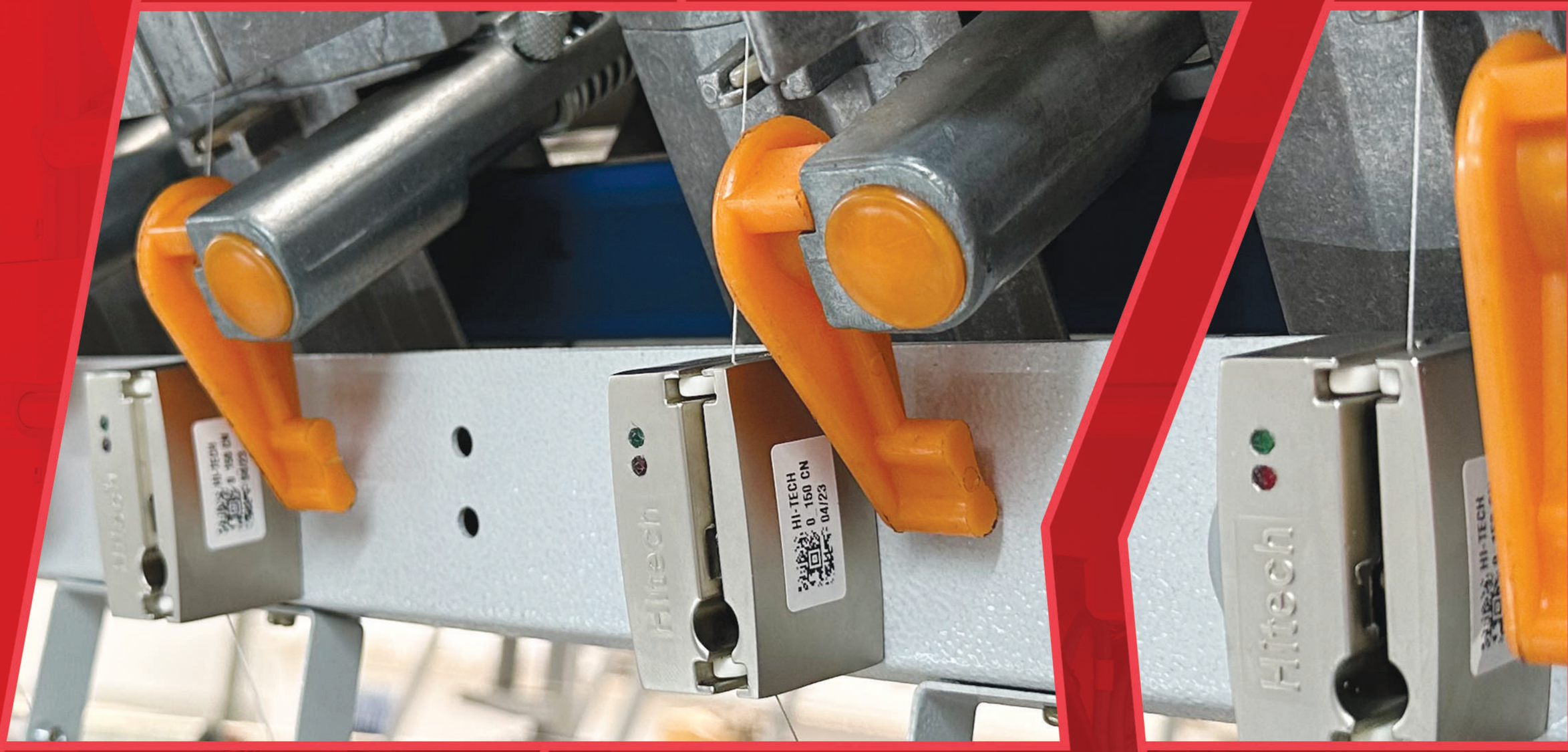
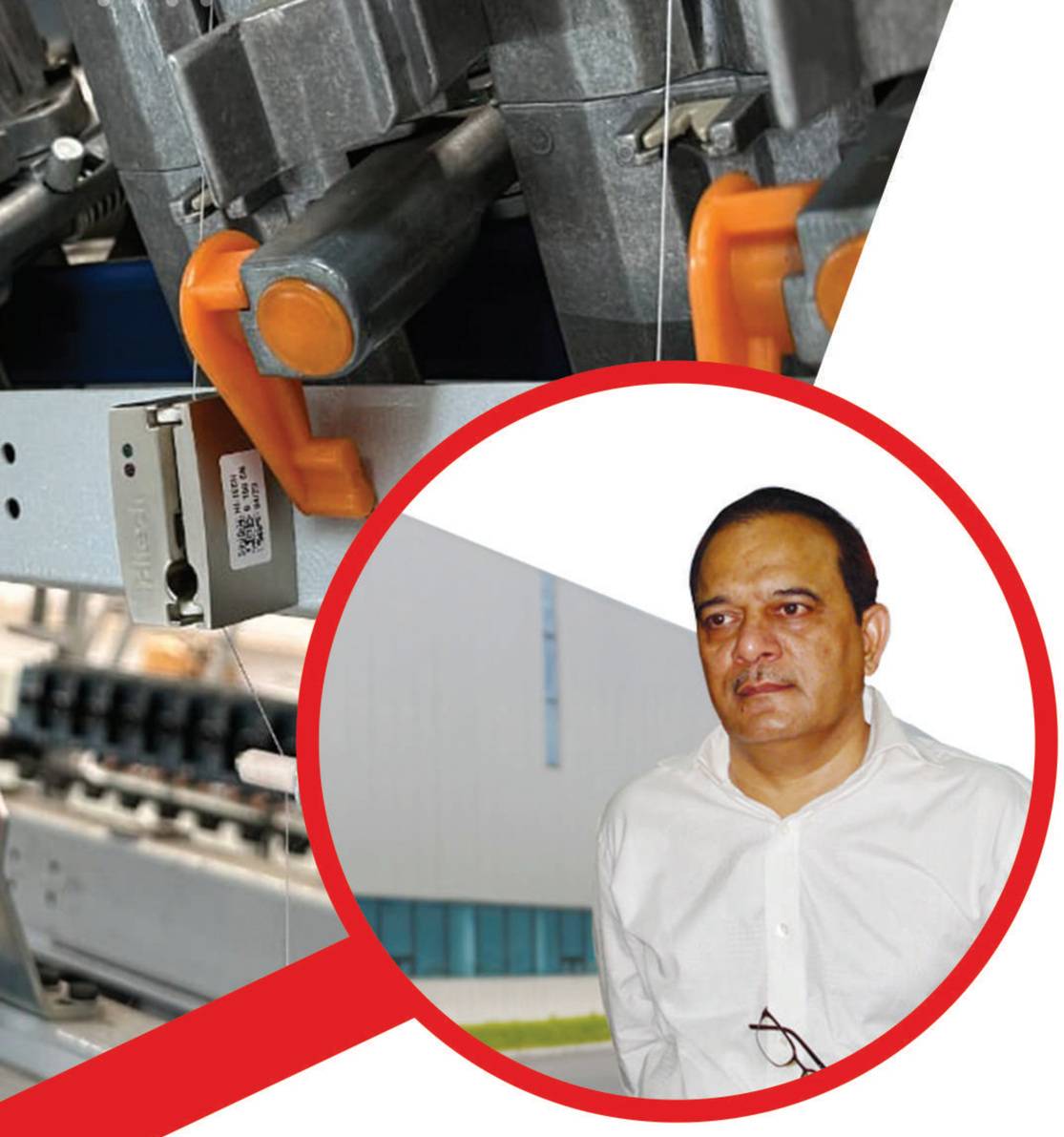
Hitech



YARN TENSION MONITORING SYSTEM

www.hitechtextile.in



Vision of our Founder

K.C.Patel (1955-2007)

Customers should be able to produce
"Perfect Yarn" (using Hitech Products and Solutions)

He always believed in the idea of **"Self reliant nation"** and set the base of a deep tech company.

Even today, his vision is a guiding light at Hitech and many individuals who had a chance to work with him."

In 1993, Hitech developed Online Yarn Tension Monitoring System (YTMS)

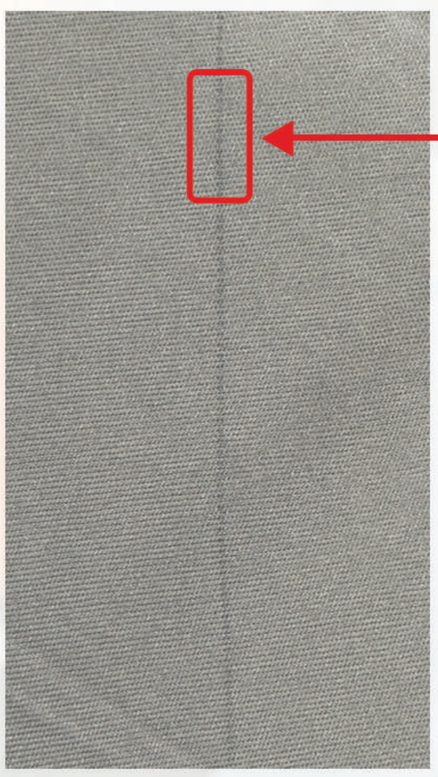
2,00,000 + NCD sold

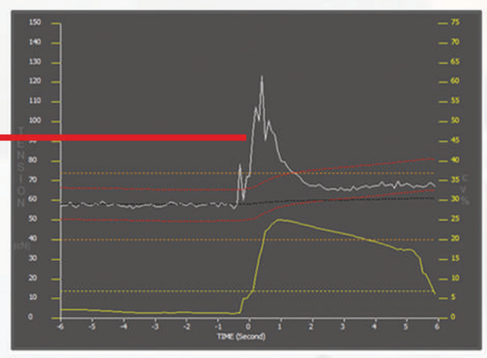
1300+ YTMS installed

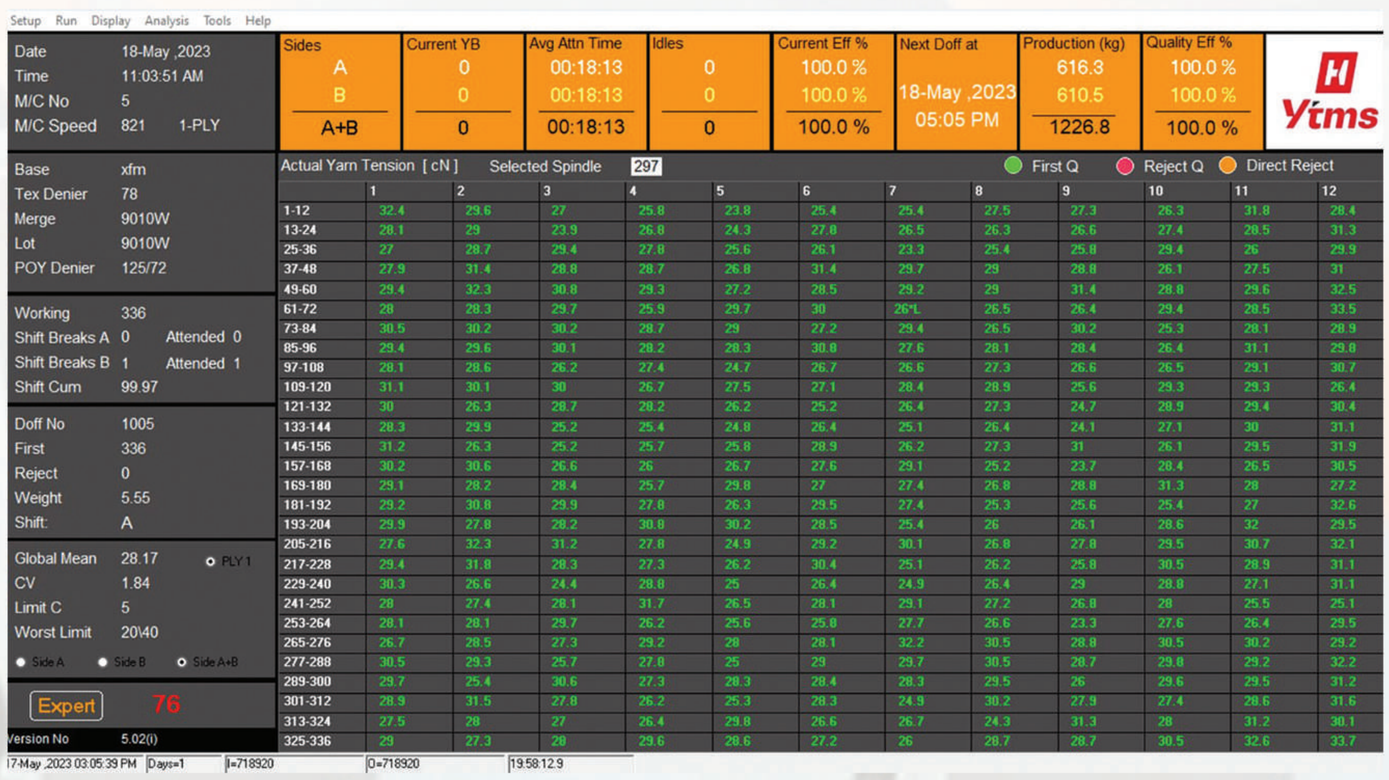
4,50,000 + Tension sensor installed

Slight variation in T2 tension may results in dyeing and other quality related problems, ***The YTMS System can take care of these problems through***

- Continuous monitoring of T2 tension (100 readings/second).
- Recording of Tension variation, CV%, and drifts using various monitoring limits.
- Down gradation of faulty packages by number and type of fault events.
- Alarms and cutter activation option for Faulty positions.
- Error analysis of stored events.
- Detect surge speed and optimize process parameters.
- Documented raw material faults to provide feedback to spinning







Current limitations

Method	Check Entire Package	Automatic Checking	Cheking Stage	Effectiveness
Manual Tension checking	No	No	At Line	Low
Tube Knitting & Dying	No	No	Off Line	Medium
Checker	No	No	Off Line	Medium
YTMS	Yes	Yes	On-Line	High

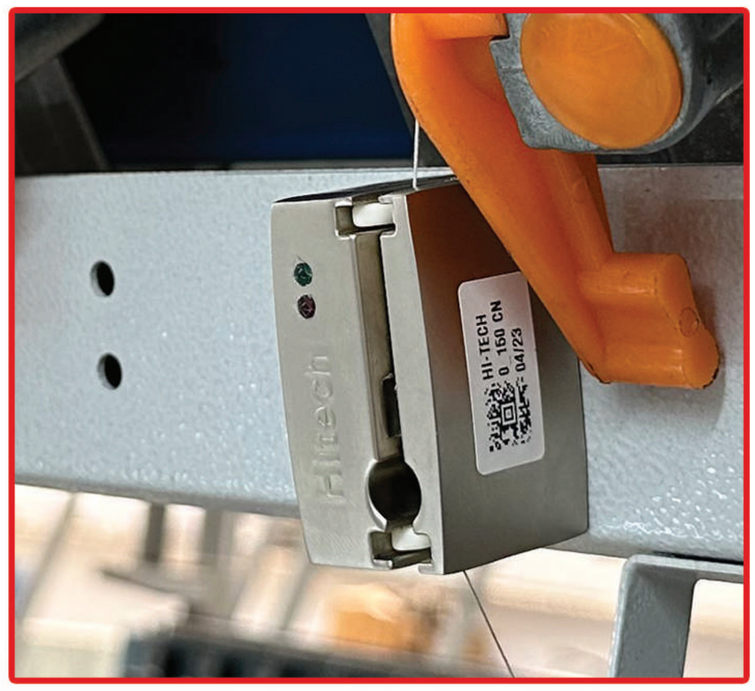
Concept of Online Tension monitoring system

- YTMS (Yarn Tension Monitoring system) continuously monitors yarn quality by monitoring **T2 tension.**
- This is achieved by installing a high accuracy tension sensor in T2 zone.
- System electronics and YTMS software process these data to records tension variations and peaks which exceeds control limits.

Sensor working principle

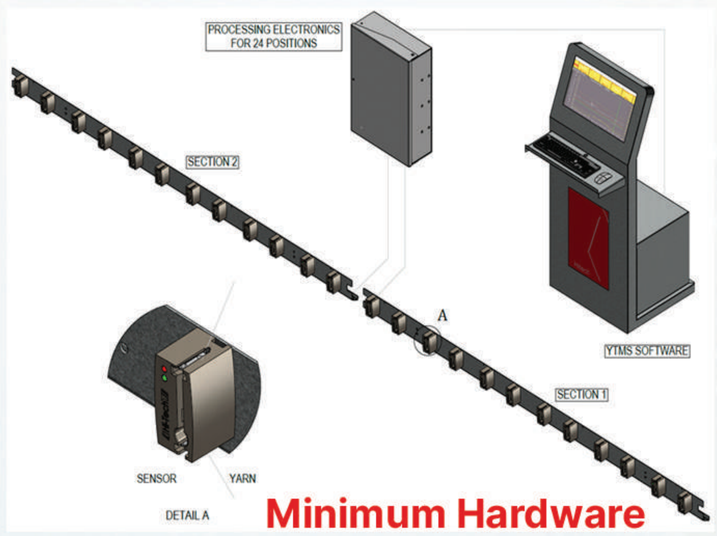
- Yarn tension deflects a high-quality spring element. This deflection is accurately measured using hall effect technology for further processing.
- The sensors are designed to operate in harsh industrial environment and are having very high long term stability and accuracy.

Parameter	Minimum	Maximum	UOM
Working principle	Hall effect		Technology
Measuring range	0	150	cN
Operating Temp	5	70	Deg C
Supply voltage	18	24	vdc
Output voltage	0.3	10.3	vdc
Current	20	35	mA



Guide material is 99.7% alumina, diamond-polished to 0.2-0.35 micron suitable to most yarn types

YTMS Hardware



Minimum Hardware

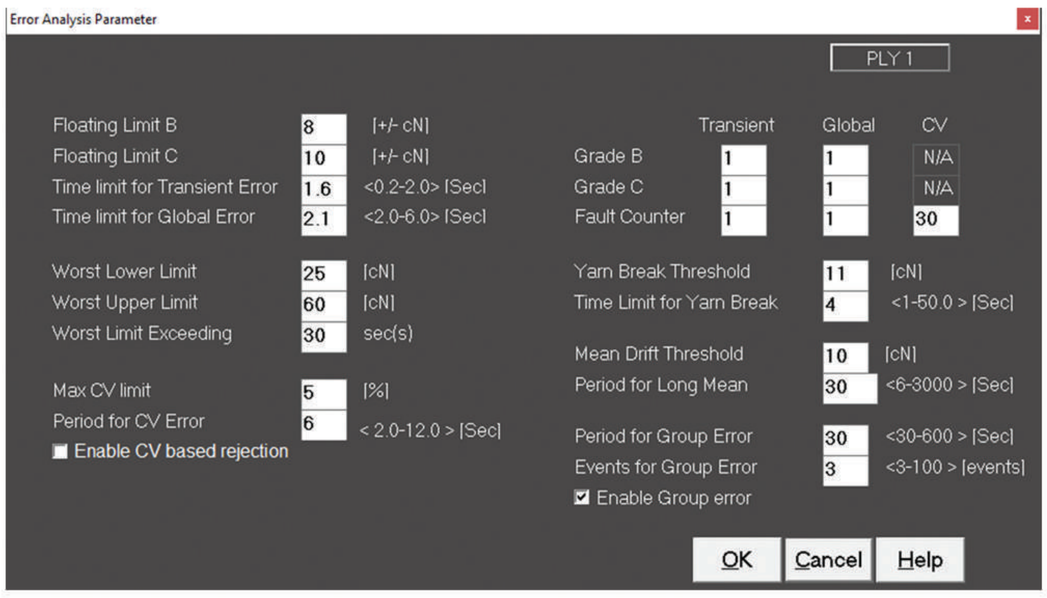
System highlights

- One controller card to perform all operations for 24 positions.
- Scan rate 100hz.
- Robust single chip ethernet architecture.
- Isolated mounting for easy maintenance.
- Optically isolated and fault tolerant IOs.
- Failure rate <0.0001%.

YTMS Home Screen

YTMS Quality Parameters

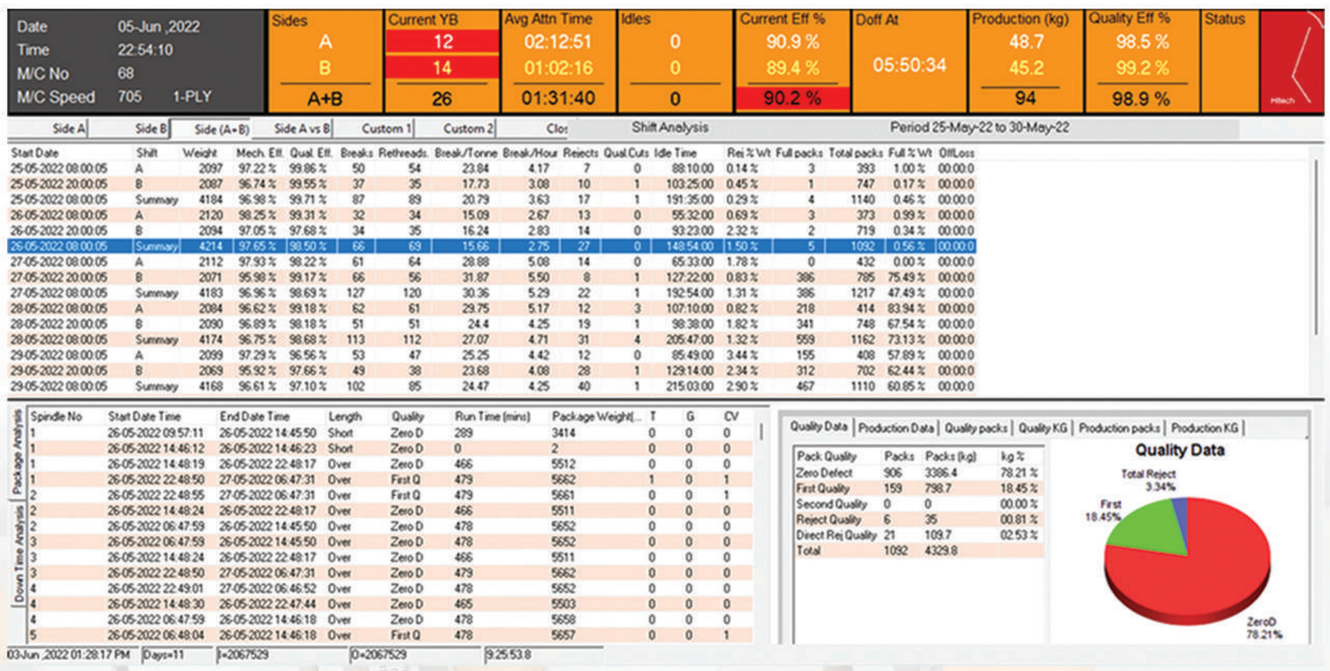
YTMS software can capture tension variation using following parameters



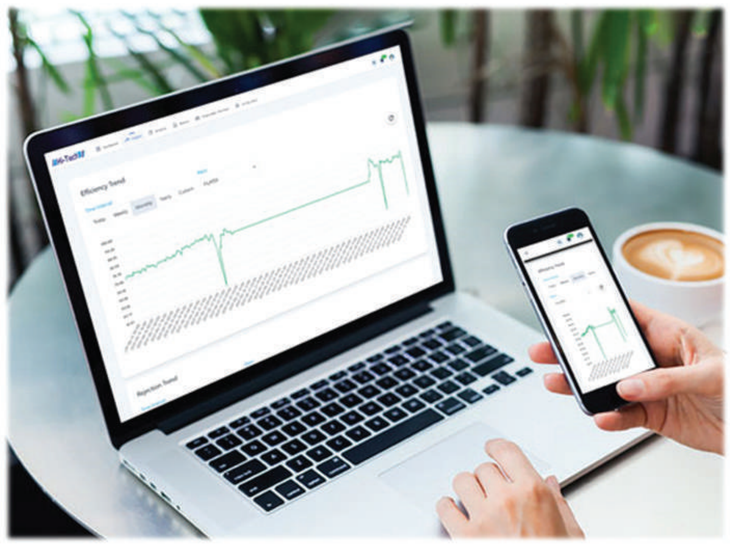
- Inter package Mean Tracking
- Mean Drift Detection (configurable period)
- Floating mean tracking
- Global & transient events. (configurable period)
- CV events.
- Peak Event recognition
- Group Error Detection
- Zero Defect position Display for producing Most premium yarns

YTMS Reports

- Side Wise Breaks displays
- Provision to Mark Idle positions.
- Reliable BPT/ BPH figures.
- Accurate Down time break up.
- Shift Wise / Doff Wise Reports.
- Detailed Package Report for accurate bobbin tracking.
- Graphical Reports for Quick comparison.

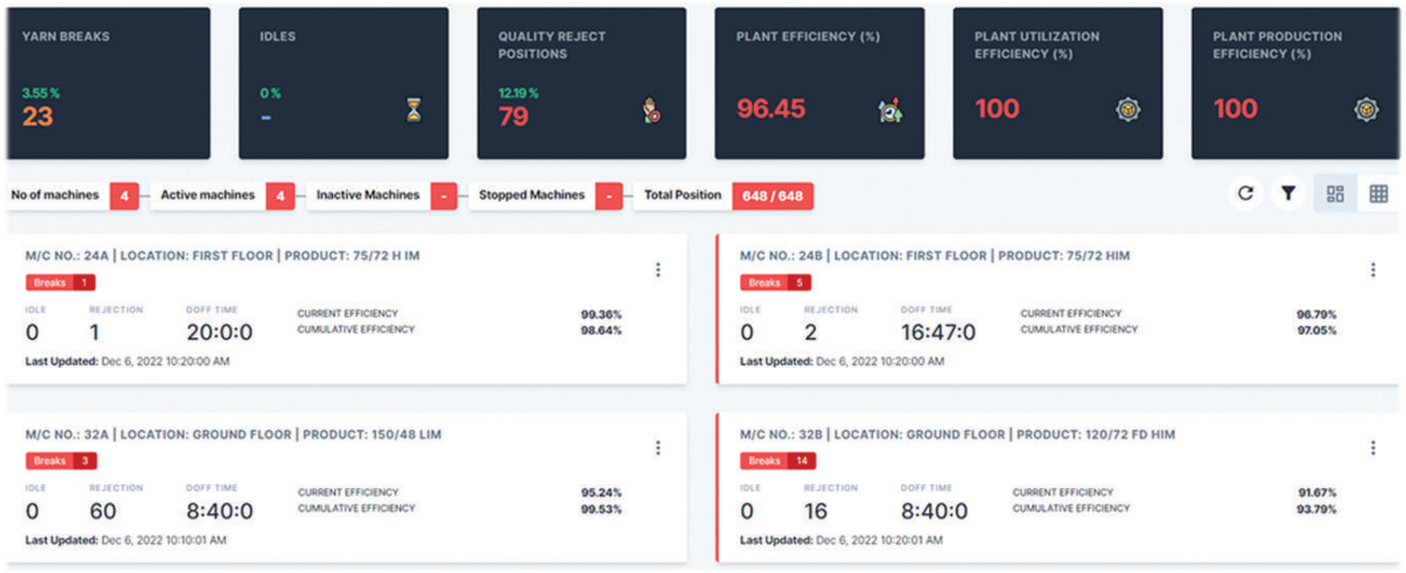


Centralized Production & Quality Monitoring System



- Cloud PQMS is a essential tool for remote monitoring of single machine or a group of machines.
- All this information is available through a secure cloud network on internet enabled PCs and mobile devices.

The system shows cumulative statics like plant wise production, efficiency, rejection, breaks to name a few to get a plant overview.



Plant and Machine efficiency trend

Industry's most informative cloud service

- Programmable email alerts
- Updated plant over view
- Detailed graphical view of various data like
- efficiency, rejection and idle/machine

Other products: Doffmatric
Auto Doffing system for manual type DTY and ATY Machines.

- **STORAGE FOR ONE PACKAGE**
- **STORAGE FOR TWO PAPER TUBES**
- **SHORT PACKAGE ISOLATION**
- **"QUICK DETACH" FEATURE REDUCES MAINTENANCE DOWNTIME.**
- **"COST EFFECTIVE SERVICE AND MAINTENANCE"**

Our Strength, Your Advantage

- 1100 + Active system.
- Made in India
- System uses latest in hardware and software Technology for robust performance.
- YTMS is Well accepted by variety of Quality conscious users world wide.
- Sensors uses mil grade raw material for reliable performance in harsh environment.
- Sensor failure < 0.001% / PA
- Reliable Sensor readings for Tighter Quality tolerance.

Hitech

CREATING VALUES THROUGH INGENIOUS TECHNOLOGIES

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