Smart Manufacturing In Textiles

ESSENTIAL - Rieter Digital Spinning Suite

Are we Ready for the Future?

Smart machines and smart systems are key to success
Are we Ready for the Future?

Smart machines and smart systems are key to success

1. Data is the new oil in today’s industrial world
2. AI is making business smarter
3. In 5-10 years, the decision to buy machines will be made by intelligent systems
Holistic Approach

Connecting the dots in the spinning mill

- The major challenge for spinning mill operations is to achieve better yarn quality with lower manufacturing cost and higher flexibility.

- It is important to have synergies across the complete production process.

- ESSENTIAL helps to know the real-time data analysis for the entire spinning mill, providing crucial key performance indicators and achieve streamlined production.
ESSENTIAL Digital Network

All-in-one management system

API required* Connected

Stock planning
Interest and overhead
Yarn inventory

Connected

VARIOline Card Draw frame Lap former Comber Draw frame Roving frame End spinning Winding Palletizer

Connected

Filter station Compressor Power Laboratory Quality Spare parts

*Application programming interface developed by Rieter
ESSENTIALmonitor

Zoom in and zoom out for required information at real-time

Manager/Owner

Supervisor

Operator

Mill

Machine group

Machine 360°

Single Spindle ISM

“Big Boss View”

Gap analysis

Quick actions
ESSENTIAL – Rieter Digital Spinning Suite

ESSENTIALmonitor module with exciting new features, ESSENTIALoptimize connecting the dots in spinning

Graph showing performance over time with and without ESSENTIAL.

ESSENTIALmonitor
1. Threshold trigger
2. Improvement suggestions
3. Planned maintenance
4. Cop analysis
5. Reports

ESSENTIALoptimize
1. Default machine settings
2. Quality dashboard
3. Ring-Winder-Connect
ESSENTIALmonitor

Features of ESSENTIALmonitor improve processes in the entire spinning mill

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<tbody>
<tr>
<td>1. Notifications via e-mail or SMS</td>
<td>1. During the shift: event-based</td>
<td>1. Maintenance activities → daily tasks in calendar view</td>
<td>1. Ends down zone-wise</td>
<td>1. Production summary</td>
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<tr>
<td>2. Default and customized setup</td>
<td>2. End of the shift: shift-based</td>
<td>2. Detailed alarm via ticketing system (SMS or e-mail)</td>
<td>2. Natural ends down data</td>
<td>2. Production report</td>
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<td>5. Climate</td>
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ESSENTIAL optimize – Default Machine Settings

ESSENTIAL provides customers the optimal machine settings to run efficiently

Feature available for:
- Draw frame I: SB-D 50
- Draw frame II: RSB-D 50
- Lap forming: E 36
- Comber: E 90
- Ring spinning: G 38/K 48
- Air-jet spinning: J 70
ESSENTIALOptimize – Quality Dashboard: Example

Monitoring the thick places in sliver and evaluating its impact in the spinning process

→ Thick places on draw frame II (shift 5) increase roving breakage later on (shift 6)

- Draw frame 2: Thick places 24
- Roving frame 2: Roving breaks 46
Detecting the off-standard quality spindles to keep the targeted quality

- The winding machine detects that off-standard quality is produced at spinning position #43 of the ring spinning machine.
- If the error has not been rectified by an operator, the LED at the spinning position #43 lights up.
- Using different LED light frequencies and colors, the operator can recognize which error it relates.
Success with ESSENTIAL

146 ESSENTIALmonitor systems sold all over the world since 2020

*without China, India and Turkey
Thank You