QUALITY AUTOMATION GMBH

together we make innovation visible

SUCCESS STORY

MODERNIZATION AND RETROFIT OF A NONWOVEN PRODUCTION LINE

Increase efficiency, reduce downtime, secure the future — with targeted modernizations and retrofits supported by Quality Automation.

Successful Modernization in Nonwoven Fabric Production

As part of a current project, we were able to demonstrate how targeted modernizations and retrofits of existing nonwoven production lines can sustainably increase productivity — without exceeding the machine and process limits specified by the manufacturer.

The main objective was to reduce downtime, improve energy efficiency, and ensure the long-term availability of spare parts.

Project Goal: Reliability, Availability, and Energy Efficiency

The customer faced the challenge of adapting an existing system to new production requirements without investing in a completely new installation.

We developed a retrofit concept that combined electrical, control-related, and mechanical modernizations — tailored to the respective system type and manufacturer.

By using modern drive systems with energy recovery, optimized sensor technology, and new monitoring functions (e.g., fill level and length measurements), system availability was significantly increased and energy consumption reduced.

At the same time, the operator benefits from simplified spare parts management, as many components were converted to current industry standards.

The Result: Higher Availability, Lower Energy Demand

After completion of the retrofit, the system proved to be significantly more reliable, more energy-efficient, and easier to maintain.

Downtime caused by outdated components or difficult-to-procure parts was significantly reduced.

The modernization makes it possible to continue processing different fiber types safely — within the limits defined by the manufacturer.

New products or fiber types can only be integrated into the line in close coordination with the machine and system manufacturer.

Scope of the Modernization

As part of the project, various system components in nonwoven production were revised and optimized, including:

- Fiber preparation — also known as bale opener / bale opening
- Fine opener
- Fiber transport
- Extraction systems, e.g., Krempel suction systems
- Box feeder
- Mixing chamber, also known as flock mixing system
- FBK, also known as Krempel feeder
- Upgrades of weighing systems
- Carding machine / nonwoven carding machine
- Storage, especially cross-lapper storage
- Web forming machine
- Finishing needle machines
- Hydraulic and electric winders / rewinders
- Individual winding solutions

We translate regulatory requirements into concrete, measurable criteria.

Note:

Additional measurement and warning functions were integrated to signal the need for material supply or maintenance to operating personnel at an early stage.

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YOUR ADVANTAGE THROUGH RETROFIT

Cost Savings

Retrofit typically costs up to 60% less than a new installation and often amortizes within just a few years.

Extended Service Life

Through modernization, the service life of existing systems can be extended by several years.

Reduced Training Effort

Personnel already know the basic systems, meaning expensive and intensive training can be avoided.

Less Production Downtime

Retrofits can be implemented step by step and usually with shorter downtime compared to complete replacement.

Compliance with Current Requirements

Existing machines can be brought up to the latest state of technology and legal requirements without the need for a complete rebuild.

ABOUT US

We are not a manufacturer of nonwoven production systems, but specialists in modernization, retrofit, and maintenance of existing systems from various manufacturers. Through our expertise in automation technology, drive systems, energy efficiency, and safety technology, we extend the service life of your systems and increase their availability — economically, safely, and future-proof.

If you would like to modernize your system to reduce downtime, save energy, and minimize spare parts risks, contact us.
Together with you, we develop a retrofit concept that fits your system and your production goals.

OUR SERVICE

CE-Declaration of Conformity

Systematic evaluation of your machine to ensure compliance with all relevant standards

Cyber-Security

Protection of your machines and systems against digital attacks — for secure remote maintenance and reliable production data

Risk Assessment & Technical Documentation

Identification, evaluation, and documentation of all hazards — as the basis for standards-compliant and legally secure machine certification.

Recurring Inspections DGUV

Regular safety and functional inspections in accordance with DGUV and VDE requirements — for maximum operational safety and legal certainty.

Run-Down Time Measurement

Precise determination of the run-down distances and times of your machines — for correctly dimensioned safety distances and maximum workplace safety.

Michael Sünder
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Retrofit, drive technology, process analysis, maintenance and repair

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