Reicofil Technology
Setting the new standards for spunbond, meltblown and composite nonwovens.

The Extrusioneers
Reifenhäuser Reicofil
With Know-how to Innovative Technology.

More than 30 years ago, our first spunbond line went into operation – and it is still running today. Since then, we have set new standards in the production of spunbonded fabrics, meltblown, and composite nonwovens. Our innovative spirit, our expertise along the entire value chain, and our fascination for the perfect nonwoven are what make the difference. That is what we strive for.

REICOFIL spunbond technology:
Producing nonwovens of unrivaled quality.
Concentrated expertise of the Reifenhäuser Group
As part of the Reifenhäuser Group, we belong to the largest network for plastics extrusion technology in the world. More than 1,500 employees combine their extrusion expertise for the benefit of our technologies, R&D projects and services.

Highest quality standards
Our technologies enable economical, sustainable and reliable production of nonwovens to the highest quality.

That is what we strive for. Even so, we regularly think outside the box. Through our close collaboration and development cooperation with customers, suppliers and raw material manufacturers, we are dedicated to optimizing quality along the entire value chain. This starts with the raw material, and continues through the manufacturing process, right up to the perfect end product.

REICOFIL meltblown technology: Setting new standards in the filtration industry.

REICOFIL composite technology: Setting new standards in the hygiene and medical industry.
RF5 Technology
For Next Level Nonwovens.

Forward-looking ideas, a flow of ongoing development and fascination for perfect nonwovens – that’s RF5. Our latest machine generation for spunbond and composite nonwovens delivers quality never seen before. It is the most productive, most reliable and most efficient line technology we have ever engineered. And above that: with its all new digital tools it paves the way for intelligent production.

Machine Intelligence
With RF5 we venture into the fascinating world of machine intelligence. Digital features such as quality prediction, anomaly detection or predictive maintenance guide you to perfect quality and the most reliable process. It’s time to make use of all the valuable data your line provides. We have prepared solutions to do so - ready to be tailored to your special needs or for joint developments.

Less Contamination
We cannot guarantee a hardpiece-free nonwoven. But with the new RF5 technology we are getting close. For production using standard raw materials, hardpieces are reduced by up to 90 percent in comparison to RF4 nonwovens.
More Output
True to the motto more is more, we have significantly raised the output bar. Up to 270 kg per hour and meter width for spunbond and up to 70 kg per hour and meter width for meltblown is the measure of things to come. Take advantage of maximum speed even for higher grammages.

Higher Speed
The RF line is getting even faster: 1200 m/min is our new record. And even better: This value is the actual speed on the conveyor belt and can therefore be fully utilized in production. Effectively this means a 30 percent increase in line production speed.

More Uptime
Almost all the improvements to RF5 have a positive effect on uptime, both directly or indirectly. In addition to this, we took another close look at maintenance time: Quench chambers and secondary air gaps can now be cleaned much faster. The result is decreased downtimes and increased productivity.

Meltblown
RF5 technology offers the largest process window that has ever been available on our platform. You can decide whether to use the maximum output capacity and increase productivity by up to 35 percent, or whether to increase your current quality level by up to 20 percent. Production has never been this flexible.

Energy Efficiency
Right from the start of our company history we set ourselves the goal of reducing the specific energy consumption for each new line generation. It is a promise that we have kept for composite lines of the new RF5 generation.

For more information on RF5 please see our brochure “RF5 - Your Technology for Next Level Nonwovens.”
Standalone Meltblown Technology
Finest Filaments for Filtration and Absorbents.

Absorbent and elastic, or high filtration and barrier properties? With our single-row and multi-row meltblown technology combined with our spunbond know-how, we offer a complete technology kit for all product requirements. Always produce the meltblown nonwovens that are required for your application.

<table>
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<tr>
<th>Characteristics of Reicofil Technologies</th>
<th>Single-row MB</th>
<th>Multi-row MB</th>
<th>Spunbond</th>
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<tr>
<td>Throughput (kg/h/m)</td>
<td>10 – 100</td>
<td>40 – 150</td>
<td>150 – 270</td>
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<td>Mean Fiber Diameter (µm)</td>
<td>&lt; 1 – 5</td>
<td>3 – 15</td>
<td>10 – 30</td>
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<tr>
<td>Capillary Density (hpi)</td>
<td>25 – 75</td>
<td>50 – 125</td>
<td>150 – 170</td>
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<tr>
<td>Filament Strength</td>
<td>Minor</td>
<td>Medium</td>
<td>High</td>
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RF5 Single-row Technology
Optimum barrier and filtration properties

Multi-row Technology
Perfect elasticity and absorption properties

Highlights
- Filament diameter < 1µm
- Up to 75 hpi
- Suitable for HEPA Filter
- Constant fibre quality over the entire material web

Highlights
- High output rates
- Uniform basic weights
- Good filament strength

2 in 1:
With our interchangeable meltblown cassette both technologies can be used in one line.

New Single-row Die Design
Our innovative die design is a special engineered solution for ultrafine filaments and filter applications. It increases the capillary density from 50 to up to 75 hpi.

Filament Diameter

- Single-row 75 hpi
- Single-row 50 hpi
- Multi-row 0,3 mm hpi / 102 hpi
- Multi-row 0,5 mm hpi / 102 hpi
- Spunbond 1,2 den
RF Smart
Perfect Fit for Emerging Markets.

More is more. Sometimes you need to disregard this typical development approach. Instead, it makes sense to take a step back and to analyze what it is that producers really need. For example, when entering emerging markets or smaller markets. The answer: a low investment risk, moderate capacities and the very best quality. Wouldn‘t a technology that exactly meets these requirements be smart?

Low Investment
Low risk

Our Smart Technology is specifically adapted to the requirements of smaller markets and highly standardized. It can be integrated in existing buildings, leading to significantly reduced investment costs and a faster start of production.

Top Quality
High sales price

RF Smart is engineered to deliver highest Reicofil nonwoven quality. No compromises were made in this respect. The lines produce material suitable for applications in the hygiene and medical sector.
Moderate Capacities
Profitable production

What becomes a productivity advantage in large markets can be fatal in emerging markets: high capacities. For the Smart line we have therefore adapted the capacities to the requirements of smaller markets – ensuring profitable local production.

High Reliability
Quick pay-off period

RF Smart is as reliable as any RF line: We guarantee the familiar 7,200 annual production hours. In practice, however, our customers usually achieve significantly higher productivity. You can rely on plannable high productivity and a reasonable amortization period.
High Loft
Soft and Bulky
Spunbond Nonwovens.

Nonwovens are always a flat, paper-like product? Far from it. With the High Loft process we offer a technology platform for the production of especially bulky and soft nonwovens. Thanks to the new properties, spunbond nonwovens become an alternative to carded fabrics. Set yourself apart from the market by using different raw material combinations and bonding variations.

Technology
High Loft is based on the established Reicofil BiCo Technology, processing two different raw materials. The fibers crimp before laydown. Depending on the applied bonding, such as hot air or a special open calender pattern, the thickness and the softness of the nonwovens can be varied according to the needs of the application.

Applications
High Loft is the perfect choice for applications in the hygiene industry. Diapers or Femcare products, to name only some, can be upgraded considerably by using such soft and bulky spunbond nonwovens. But also industrial applications such as filtration or sound insulation can be targeted. Your options are manifold.
Reicofil Cooperations
Getting Better, Together.

We are convinced that only cooperation can result in truly great achievements. That’s why we rely on close cooperation with all our partners, on honest criticism, and trusting relationships. With our combined expertise along the entire value chain, we can create something new that will drive the whole industry. What would you like to work on with us?

Fighting Contamination
Supporting the industry

If you think of the perfect nonwoven, you picture a nonwoven without any contamination. This sometimes poses a real challenge to the industry. We have therefore decided to take on this challenge. Together with customers and converters, we have developed a solution in four stages of expansion.

Four-step contamination protection

**LEVEL A**
Contamination prevention by design (Available)

**LEVEL B**
Contamination avoidance by technology change (Available)

**LEVEL C**
Contamination detection by image processing and classification (Prototype – cooperate with us)

**LEVEL D**
Contamination prediction by digitalization (Prototype – cooperate with us)
Upgrades Benefitting from Latest Innovations

New line generations always set new quality standards. We want as many customers as possible to profit from our latest improvements – even without investing in a new line. That’s why we designed upgrades, which raise your existing equipment to a new level of nonwoven production. Catch up with RF5 technology or RF4 technology respectively.

Reicofil Quality Service Modules

Every customer has different service requirements. We match your needs. Our service modules help you run your individual production with as few unexpected interruptions as possible. If you do need the support of our Reicofil Quality Service (RQS) at any point, our experts are at your side – with prompt, highly qualified, worldwide service.

System Parts

When a part fails you need prompt delivery of the replacement part with hassle-free installation of the component. Reicofil Quality Service provides spare part service designed to meet precisely these requirements: With more than 60,000 parts on stock, our warehouse is one of the biggest in the industry.

Diagnostic Center

When it comes to service, one thing counts above all: Personal, expert consultation. With the Reicofil Diagnostic Center, we have built up a
Upgrade Highlights

Almost eliminate hardpieces
Upgrade your line from RF4 to RF4.5. We will exchange your quenching chamber to RF5 standard for almost defect free nonwovens (up to 90% less hardpieces).

Produce RF4 quality on RF3 lines
Upgrade your line from RF3 or RF3.1 to RF 3.4. We will modify your stretching unit to rise product quality to the max.

Combine your RF4 line with RF5 technology
Install RF5 beams into your existing RF4 X-positions and benefit from all advantages of the new technology.

Maximize MB output while minimizing energy input
Upgrade your composite line from RF4 MB to RF5 MB. We change the whole MB beam to rise the maximum output by up to 35 percent. Specific energy consumption will be reduced by up to 15 percent.

more opportunities. Find out which upgrades match your line technology.

worldwide network of service experts who can quickly come to your aid if problems arise. With your permission, our experts can provide support even more directly via a remote internet connection.

Site Management
Service – for us, this also has a second meaning: Taking preventative measures to ensure the high availability of your line. With proper maintenance and service work and with trained personnel, you can produce economically without interruption.

Service Logistics
Shipping, customs matters, express delivery: The supply of service parts is always associated with administrative tasks and logistics. We are internally specialized in managing these, we deliver quickly and on schedule, and we are happy to take over a share of these responsibilities for you.
# Technical Data

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<th>Line Design</th>
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