NEUMAG

Spunbond and meltblown solutions for filtration applications

From Melt to Nonwovens

Why we should be your partner

Based on our long-time experiences we developed the process and engineered spunbond and meltblown production lines from melt to nonwoven for filtration applications.

We are a leading solution provider of a wide range of nonwoven technologies – with spunbond, meltblown and airlaid solutions, we cover the technical and disposable nonwoven markets.

Efficient, flexible, economical

About 10% of the technical nonwoven fabrics produced worldwide are used in filtration. The market is split into the two segments of air/gas and liquid filtration and is characterised by a yearly growth of more than 7 %. By 2024, a total production volume of more than 610,000 tons of nonwoven fabric for filtration applications is expected. The ratio of gas and air filters to liquid filters is approximately 1:2.

Depending on the area of application, the demands on filters can be very high. Filters must achieve their separating performance at the lowest possible pressure loss, i.e. filter resistance. Hence, the pressure loss is one of the most important quality features of filters: the lower the pressure loss, the more energy-efficient is the filter of the corresponding filter class.

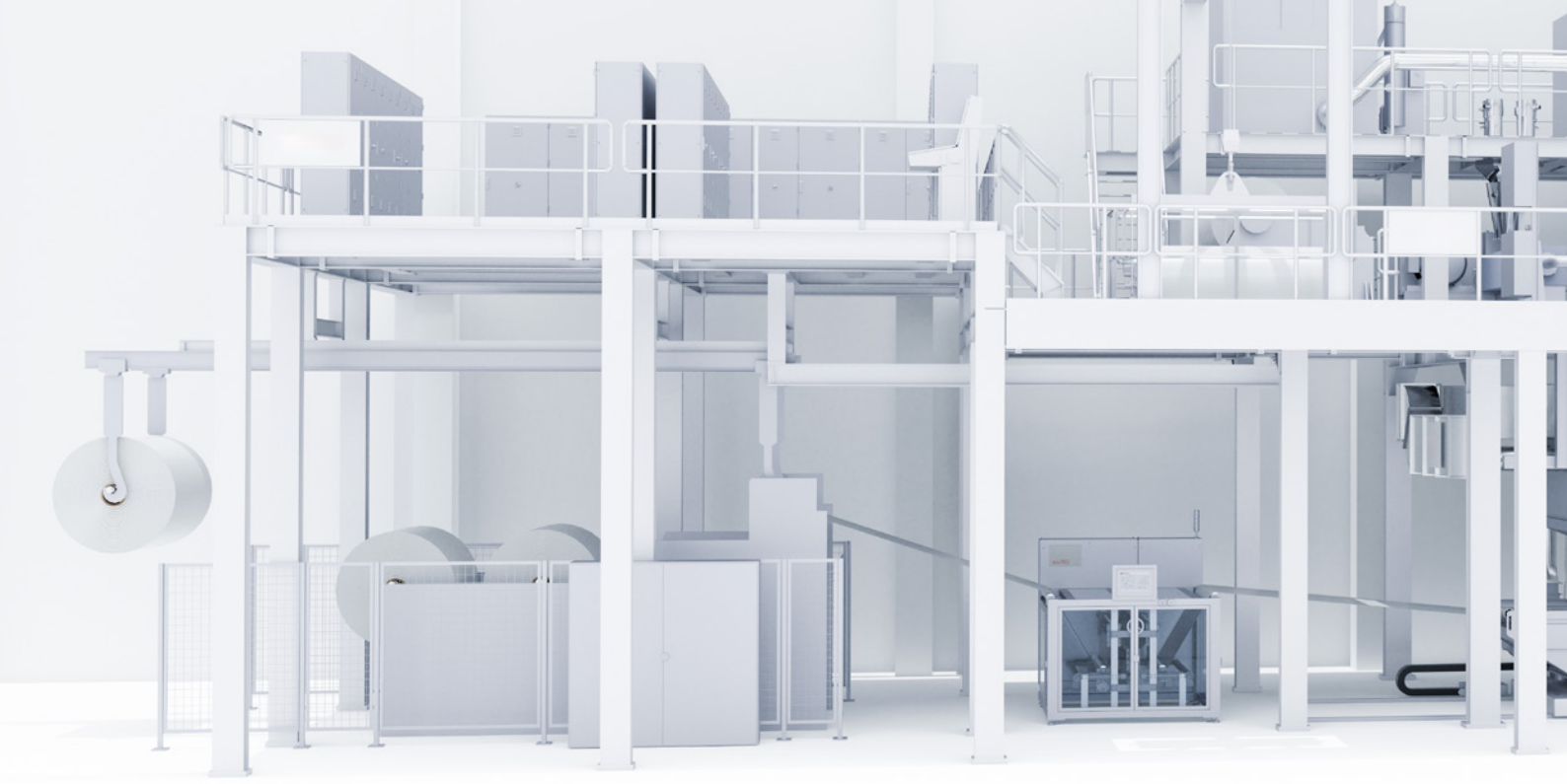
Efficient filters made of meltblown nonwoven fabrics

The meltblown technology is one of the most efficient methods for producing very fine and highly separating filter media from synthetic fibers. Depending on the application, the pore size of meltblown nonwoven fabrics ranges from 5 to 40 µm. The fineness of the meltblown fibers used for filter media lies within a range of 200 to 2,500 nm.

Meltblown process for numerous polymers

The polymers used for manufacture of the filters are as diverse as their fields of application. The spectrum ranges from PET, PLA, PBT polyesters, PA and polyolefines (PP, PE) all the way through to special plastics such as PPS and TPU. All these and further raw materials can be used in the production of filter media using the Neumag meltblown process.

The spinning process is characterised by its constant melt pressure distribution and simultaneously constant dwell time across the entire width of the plant. Furthermore, the innovative guiding and distribution of the hot process air outside the melt distributor effectively prevents so-called hotspots. As a result, even extremely sensitive raw materials can be processed into nonwoven fabrics with particularly homogeneous properties and basis weights.



Spunbond technology for filtration applications

With the special Neumag mixed-fiber spunbond technology, pleatable filter media are produced in only one step. The newly developed mixed-fiber technology enables combining of various filament cross-sections and polymers, in order to set ideal filtering and pleating performances, for example. Optionally, the filter efficiency can also be significantly increased by means of static charging.

With the Neumag spunbond technology, the melt distribution is based on the proven principle of melt pipelines of equal length over the entire width of the spinning beam. The unsegmented spin packs ensure a uniform melt distribution and polymer dwell time over the entire width of the plant as well as high throughputs – even with bicomponent fibers – and economical nozzle service life.

The process steps of spinning and quenching are decoupled from drawing and webforming. As a result, the spinning speed can be adjusted in a broad process window in accordance with the requirements for the polymer, the filament strength and the titer, virtually independent of the forming.

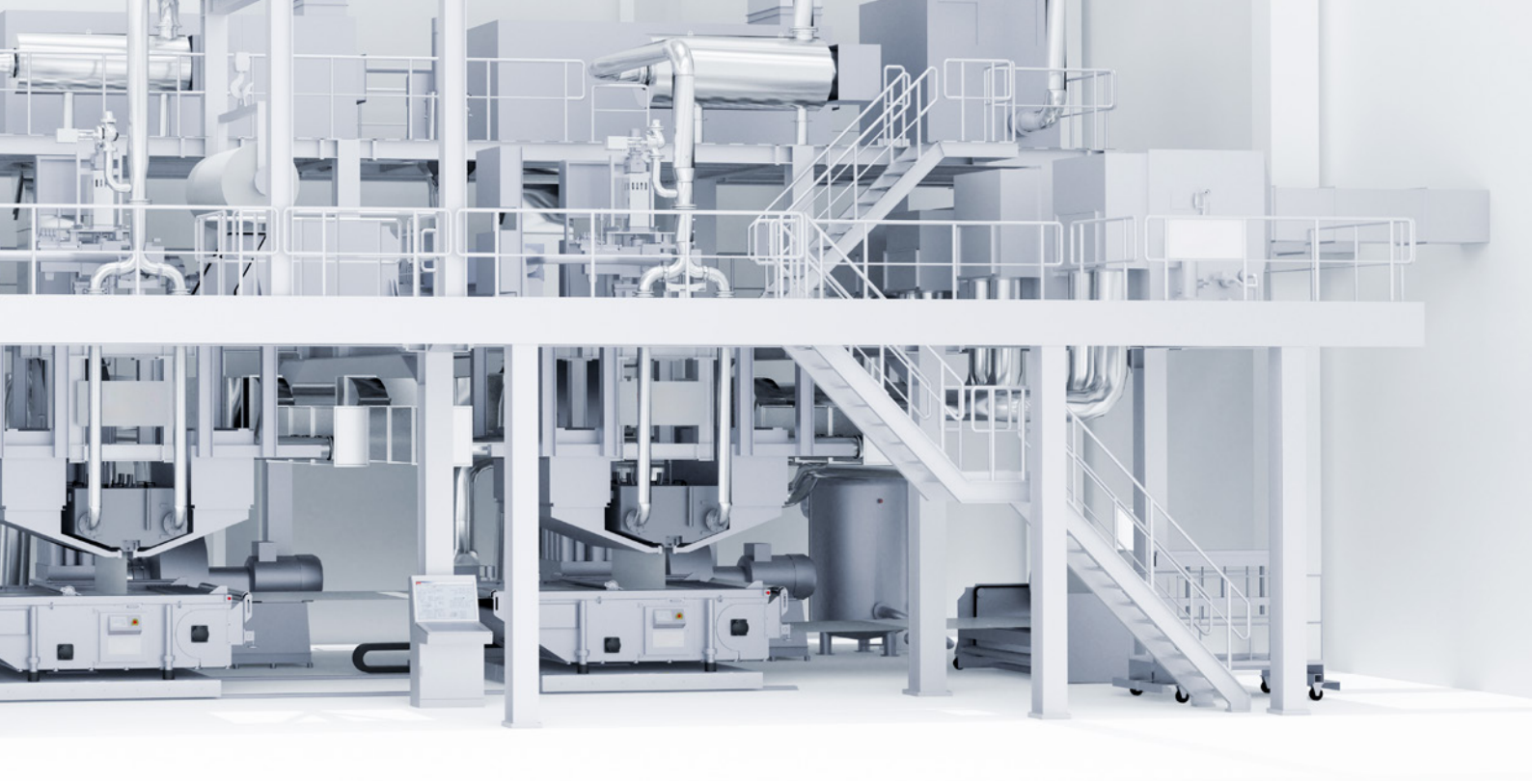
The newly designed filament forming also ensures improved evenness of the nonwoven fabric and minimises the subsequently required edge trim.

From the raw material to the finished nonwoven roll good

Neumag offers not only spunbond and meltblown plants for filtration applications, but also engineering solutions for complete concepts up to the finished nonwoven roll goods. Also the further processing steps required inline and offline are selected and designed tailored to the respective application and ensure reliable production of high-quality filter media for applications in the field of liquid and air filtration, such as pre-filters in automobile and HVAC filter systems (heating, ventilation and air conditioning).

Your benefits:

- High capacity
- Improved product performance
- High system flexibility
- High degree of automation
- Energy savings
- Operating manpower savings



Electro Charging Unit, ecuTEC+ for superior filter separation performance

To further increase the filter performance, nonwoven fabrics can be electrostatically charged inline. Neumag offers the Electro Charging Unit, ecuTEC+ for nonwoven fabrics. With its extreme flexibility enabling charging of the most diverse nonwoven fabrics, the Neumag ecuTEC+ stands out against other concepts currently available on the market. Users can freely choose from a large number of variation possibilities and set the optimum charging method and intensity for their filter application. The Neumag ecuTEC+ can also be used for the manufacture of highest-class filter media.

In-house technology centre for innovative development

As a high-tech company with a clear commitment to research and development, Neumag is committed to continuous innovation: in the extensively equipped spunbond and meltblown technical centre, processes and machine technology as well as the production of application-optimized nonwoven fabrics are continuously tested and further developed. For analysis of the nonwoven fabrics, extensive test equipment is available. Through Neumag's sales force, customers can also use the laboratory for their own product development and optimization.

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