

Press release

## Control of contamination, defence against defects

*USTER launches automated quality monitoring for nonwovens producers*

**Uster, Switzerland, 2<sup>nd</sup> September 2020: Nonwovens producers are well aware of the potential threat posed by contamination in end-products. Not only does it damage user perceptions of quality, it could also prevent products from meeting important standards such as ‘flushability’. In some cases, hard particles in finished goods might even result in class actions and lawsuits by consumers. USTER can protect against these risks with its new fiber cleaning system – and offers full control of contamination and defects by combining two automated solutions for quality monitoring.**

Nonwovens production lines demand tough standards. Material throughput is very high, while wear and tear on machines through abrasive fibers adds extra constraints. These challenges are met by the USTER® *JOSSI VISION SHIELD N* fiber cleaning system, which was especially developed for the high-output synthetic nonwovens industry. Thanks to its wide and deep channel, USTER® *JOSSI VISION SHIELD N* is designed to be installed on high-production lines. The machine is built with the most durable materials, using stainless steel to prevent abrasion in areas which come into contact with the fibers. For the record: USTER® *JOSSI VISION SHIELD N* is made in Uster, Switzerland.



*USTER® JOSSI VISION SHIELD N – Contamination sorter for the nonwovens industry*

USTER® *JOSSI VISION SHIELD N* is the result of surveys, close collaboration with international nonwovens companies and countless hours of field tests. Installation is easy, since the fiber cleaner's slim design fits perfectly into existing lines – and it readily copes with the pace of standard production environments. For best detection results, the fiber cleaner is tuned to identify the typical disturbing contamination types in nonwovens, including colored fibers, metal or wood particles and grease deposits.

### **Proven detection technology**

Though USTER® *JOSSI VISION SHIELD N* is brand new, it is based on well-proven technology. In fact, it's acknowledged as the leading fiber cleaning system specifically adapted to the needs of the nonwovens industry. Introduced to the market 20 years ago, there are 3,500 systems currently installed worldwide and the technology has been continuously improved. The field of experience was in spinning mills processing cotton. In that sector, contamination is a serious issue – and is even more critical for producers of fleece for the hygiene and medical applications. Some nonwovens producers rely on USTER® *JOSSI VISION SHIELD 2*, the fiber cleaning system with the most sophisticated detection technology, to guarantee zero contamination standards. The same applies in security paper printing of cotton for currency, where specialist producers place complete trust in the USTER equipment.

While other technologies use conventional color cameras, the built-in spectrosopes of USTER® *JOSSI VISION SHIELD N* operate on a much greater wavelength. This enables it to find contamination even within the 'invisible' range of infrared and ultraviolet light, even detecting contamination fragments of the same or similar shade as the fibers themselves – down to the fineness of a human hair.

A further advantage is the positioning of the system. For fiber cleaning, bundle size is the key: small contaminant particles can hide inside bigger bundles, making them especially difficult to locate when the material is more compressed. USTER® *JOSSI VISION SHIELD N* is ideally located in the line to overcome this, directly behind the fine opener. This ensures that the fiber bundles pass the spectrosopes in their most open state.

### **No waste worries**

Initially, nonwovens producers might be wary of applying the system's outstanding contamination detection performance – the fear being that too much raw material would be wasted through contamination ejections. But that's not the case with USTER® *JOSSI VISION SHIELD N*! The velocity of the fiber bundles is continuously measured. Precision valves then match the timing and duration of each ejection of contamination, so that a minimal amount of 'good' material is taken out each time, even at high production throughputs. "It is important to ensure a minimum of good fiber is lost. Trials have shown that the advanced USTER technology results in about 75% less waste comparing with other fiber cleaners – saving tons of raw material every year," says Giacomo Frattesi, Product Manager, Uster Technologies.

Extra assurance comes with the Quick Teach feature, in which USTER® *JOSSI VISION SHIELD N* automatically 'learns' the correct color of each new raw material lot within seconds. This prevents any annoying false ejections when changing lots. Additionally, it is possible to view pictures of every ejected contaminant on the touchscreen, to verify that only the required material is removed.

### **An unbeatable combination**

The nonwovens industry today faces constantly increasing quality requirements. Trends such as a greater focus on product quality by end-users are driving demands for more comprehensive control over contamination, and also over defects arising in the production process.

At the fiber preparation stage, USTER® *JOSSI VISION SHIELD N* ensures the best possible initial inspection and removal of contamination. Then, at the end of the production sequence, USTER® *EVS FABRIQ VISION N* handles automated detection and marking of all the main defects caused during production – and of any remaining contamination.

This combined solution makes it possible today for nonwovens producers to protect quality, avoid material waste and take full advantage of the potential for process optimization. “The combination of USTER® *JOSSI VISION SHIELD N* and USTER® *EVS FABRIQ VISION N* means that USTER can offer a complete quality monitoring solution for the nonwovens industry,” says Frattesi.