



## **USTER® JOSSI VISION SHIELD 2**

The perfect starting point for  
Total Contamination Control

## What is Think Quality™?

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#### It is 'managing your textile mill with quality in mind'

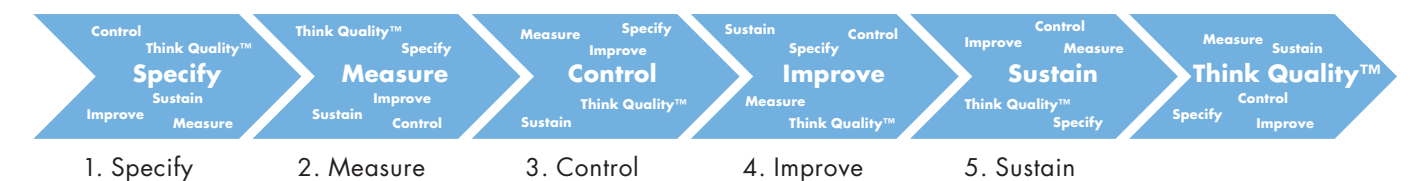
Today's textile markets are highly-competitive, throughout the entire value chain from fiber to fabric. Customers expect unique products, at the right quality and free from unacceptable defects, every time. Mills need to manufacture economically, with best-possible use of resources – especially raw materials and labor. These are major challenges, requiring comprehensive mill management strategies.

### Take control of your quality – Think Quality™

USTER's unique Think Quality™ approach is the way to 'manage your textile mill with quality in mind'. It integrates world-class USTER® products and services to ensure you always produce optimum quality, enhancing your reputation – as well as achieving predictable profits.

Think Quality™ means:

- Working to clear quality specifications from customers
- Controlling raw material sourcing, costs and yields
- Applying the best measurement and information systems
- Continuous production monitoring, for rapid response
- Understanding improvement options, through automated application know-how
- Benchmarking with USTER® STATISTICS
- Improve yield and assure quality of the final product



### Contamination control – a key challenge for mill management

Contamination is one of the most serious quality problems and needs to be managed extremely well.

The safest way to prevent rejects and quality claims is early detection and removal of foreign matter – especially polypropylene. Automatic checking protects downstream processes against foreign matter fragments.

Welcome to the USTER® JOSSI VISION SHIELD 2 – the starting point for 'Total Contamination Control'! With its capability to detect the smallest particles of foreign matter, it is ideal for yarn producers with particularly sensitive applications, with its Efficiency Booster feature adding even more value.





## Foreign matter contamination: the biggest problem needs the most advanced technology solution



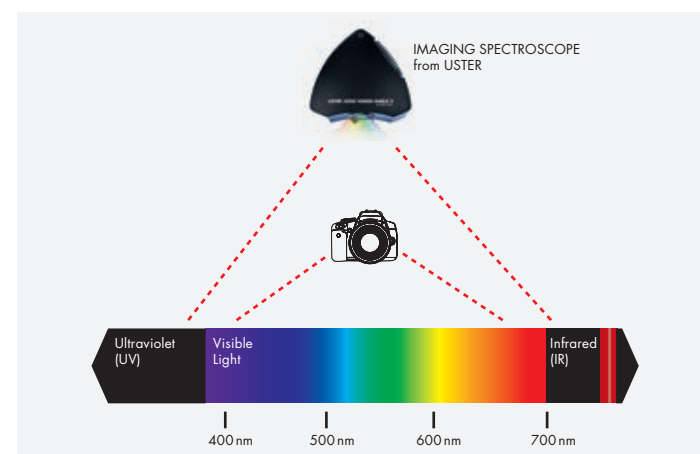
The USTER® JOSSI VISION SHIELD 2 shows best detection efficiency, at high production speeds. Virtually no colored or white synthetics pass the fiber cleaning stage. Combining multiple detection principles USTER® JOSSI VISION SHIELD 2 detects everything, but removes only what's necessary. This guarantees the lowest possible loss of good raw material.

- Ideal position for assured detection and removal of contamination
- USTER's top-technology includes IMAGING SPECTROSCOPES
- Quick Teach feature for automatic recognition of raw materials' true color



### Ideal position for best detection

Correct positioning of the fiber cleaning system in the blowroom is crucial. Tuft size is the key here. Contaminants can hide inside bigger tufts, and this can impact significantly on detection and the cost of removal. Positioned immediately after the fine opener, USTER® JOSSI VISION SHIELD 2 brings unrivaled detection power and removal efficiency, for top fiber cleaning performance.



### Top spectroscopy technology

USTER® high-end IMAGING SPECTROSCOPES for the USTER® JOSSI VISION SHIELD 2 are backed by 20 years' experience. Conventional camera-based systems can't match their performance. Operating across a much greater wavelength, USTER's spectroscopes can find contamination even within the 'invisible' range of IR and UV light. Fragments of contamination in light pastel colors and white are also no problem.



### Quick Teach system for color variations

Sophisticated technology, easy to operate: USTER® JOSSI VISION SHIELD 2 has the Quick Teach feature, which automatically 'learns' the correct color of the raw material. Other colors – even tiny variations – are classed as foreign matter for ejection. New raw material lots are 'learned' within seconds.

Left: Contaminant (hair) within cotton  
Right: Contaminant (hair) separated after Quick Teach



## Colored and optically-brightened material: unique sensor technologies protect spinners against costly quality claims

Synthetic materials are commonly used for packaging cotton bales. But spinners risk expensive claims when pieces get into a batch of raw material. USTER® *JOSSI VISION SHIELD 2* tackles synthetic contamination fragments with a range of unique sensor technologies.

- Unmatched performance in detection of colored synthetics
- LED technology (VTECT) identifies optically-brightened material



**Detection of colored synthetics**  
IMAGING SPECTROSCOPES pick up particles of colored synthetics as small as a single hair. The technology deals with various types of synthetic material, including polyester.



**LED technology for optically-brightened challenge**  
Regular light sources cannot distinctly show up optically-brightened material. USTER® *JOSSI VISION SHIELD 2* includes VTECT with durable LED technology to emit UV light, which picks out these contaminants for removal.



## USTER® JOSSI MAGIC EYE 2: unsurpassed detection of white and transparent polypropylene

Adding the USTER® JOSSI MAGIC EYE 2 to USTER® JOSSI VISION SHIELD 2 enhances contamination control. It provides reliable detection and highest elimination efficiency for transparent, white polypropylene and all other synthetics. This complete solution is the safest method of contamination control available.

- Foreign matter cannot escape detection
- Better selectivity minimizes waste of good fiber
- New digital technology: the detailed and true picture of contamination



**Assured foreign matter detection**  
Synthetic contaminants cannot escape detection by USTER® JOSSI MAGIC EYE 2 – not even challenging white and transparent polypropylene. Innovative technology enables most effective detection, regardless of overlappings, treatments, color or shapes of contaminants. USTER® JOSSI MAGIC EYE 2 'sees' the virtually invisible.



**Minimizing waste**  
New digital technology in the USTER® JOSSI MAGIC EYE 2 offers better selectivity of real contaminants. Its reliability in distinguishing between good and contaminated cotton is the basis for the effective reduction of waste. Statistics from practical applications prove that USTER® JOSSI MAGIC EYE 2 option makes a difference – with continuous savings in raw material clearly making a positive influence on profitability.



**Digital technology for deeper analysis**  
USTER® JOSSI MAGIC EYE 2 uses future-oriented technology for very fast and accurate analysis of the physical properties of contaminants – especially polypropylene.

Digital technology allows it to be connected, for the first time, to USTER® QUALITY EXPERT for advanced analysis. Fact-based adjustment of settings at USTER® JOSSI VISION SHIELD 2 and USTER® JOSSI MAGIC EYE 2 ensures that the yarn meets contamination requirements.

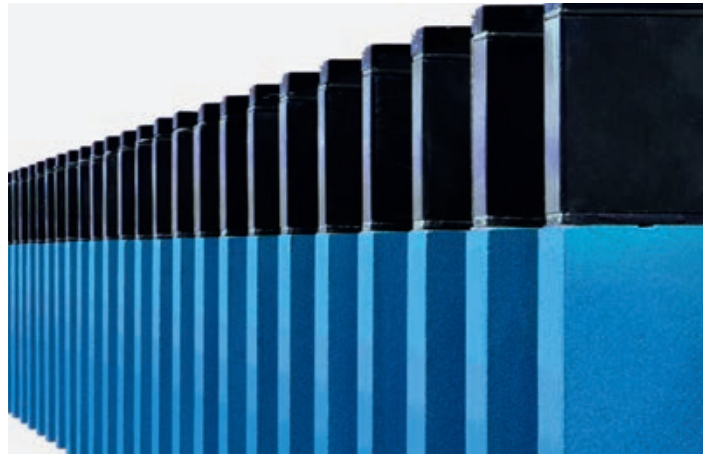




## Managing waste – to save costs and maximize value

The process of detecting and removing foreign matter contamination from cotton will inevitably generate some waste at the same time. Spinners need to ensure that a minimum of good fiber is lost. USTER® *JOSSI VISION SHIELD 2* uses a range of tools which preserve the value of the raw material.

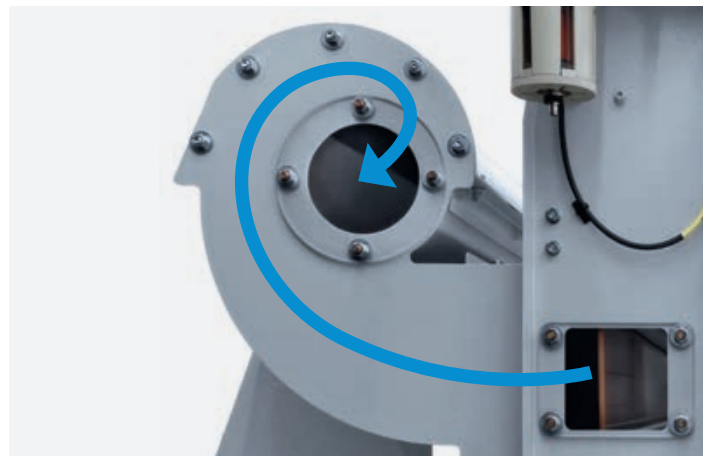
- Precisely-timed ejections greatly reduce waste
- ‘Cyclone’ feature ensures ejected waste stays out
- 75% less waste per ejection, mill proven



### Timing of ejections matters

USTER® *JOSSI VISION SHIELD 2* continuously measures the velocity of the cotton tufts at each individual detection zone – unique in fiber cleaning. Measurement of tuft velocity is essential in setting ejections for most economic operation.

In combination with the precision valve array, the timing and duration of each ‘ejection puff’ action to remove contaminants is precisely matched. Contaminants are therefore reliably taken out with as little ‘good’ material as possible being lost per ejection.

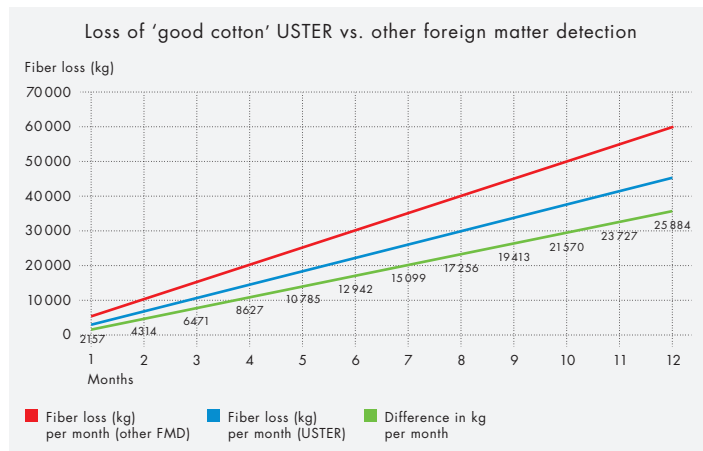


### ‘Cyclone’ feature keeps ejected waste out

The unique ‘cyclone’ feature uses a crossflow circulation, preventing waste from getting back into the production flow. The USTER® *JOSSI VISION SHIELD 2* ejection module guarantees efficient and economical operation.

### Mill comparison proves raw material savings

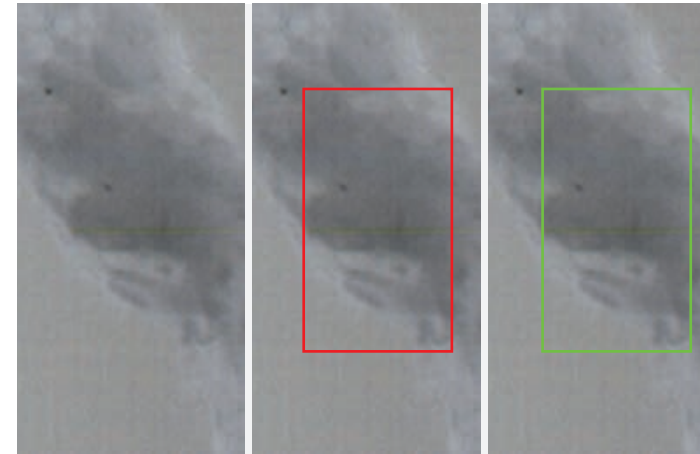
Mill trials around the world have proved that USTER® *JOSSI VISION SHIELD 2* has the lowest number of ejections and the lowest weight per ejection. The graph here compares USTER® *JOSSI VISION SHIELD 2* against another system, under the same mill conditions. It shows that USTER® *JOSSI VISION SHIELD 2* removes about 75% less cotton per ejection, saving tons of raw material every year.



## Efficiency Booster saves even more good cotton

The Efficiency Booster is designed to identify and filter contamination by ‘challenging’ fiber tufts, saving more good raw material. Variations in densities within a single tuft can cause some unnecessary ejections. USTER® *JOSSI VISION SHIELD 2* overcomes this with the Efficiency Booster. This provides an accurate view of the whole tuft, so that denser tufts containing contaminants are also correctly ejected.

- Close examination of cotton tufts results in ejecting only the ‘real’ contamination
- Customizable savings – quality and waste controlled by spinners



### Tuft close-up recognizes ‘real’ contamination

USTER® *JOSSI VISION SHIELD 2* has the advantage of working right after the fine opener, where tufts are smaller and more consistent. But Uster Technologies has taken this benefit a stage further by creating a characteristic ‘fingerprint’ of the tuft size, to distinguish between dense tufts and contaminants.

The level of savings from the Efficiency Booster depends on various factors, such as cotton type, contamination grade, settings, and ejection rates.



### Customizable savings

The Efficiency Booster reduces the amount of good cotton ejected and wasted. Customers can tailor the system to maximize savings, or increase the sensitivity to achieve better yarn quality. Spinners using very tight fiber cleaning settings will face consequently high ejection levels. A lot change with a new bale laydown can also result in increased ejections. In both cases, the Efficiency Booster gives significant raw material savings.

## Easy data handling, now and in future

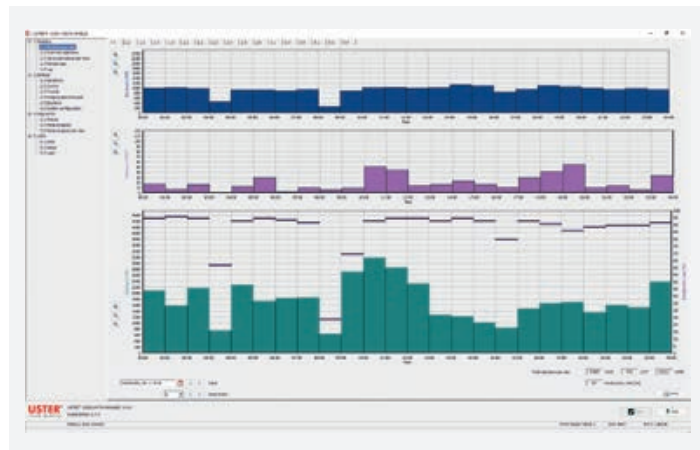
USTER is expanding the customer experience in the 'digital world'. Latest instruments include technology to explore new ways of monitoring foreign matter – enabling optimization of the fiber cleaning process with data-based recommendations. With the USTER® *JOSSI DATA MANAGER*, mills have a powerful data reporting tool to help maximize the system's benefits.

- New graphical user interface, ready for the future with more capacity
- USTER® *JOSSI DATA MANAGER* – as fast and reliable as decision-makers need
- Staff can take total control of contamination



### Future-oriented new graphical user interface

Quick overview of running performance in real-time on a new large touch-screen, presenting the most relevant data at a glance. User-friendly, quick and intuitive navigation makes data handling easy. Fit for the digital future: the system offers more capacity and the display more space to visualize analyzed data.



### Fast and reliable data

USTER® *JOSSI DATA MANAGER* extends the on-screen data display to provide detailed analysis. This guides spinners towards the right choices about cotton purchasing – based on real data – to manage their biggest production cost element. Other useful functions for improved handling of the process include storage of previous machine settings data, such as the 'stop-go ratio' of the fine opener.



### Contamination under total control

The Expert System of the USTER® *JOSSI VISION SHIELD 2* provides fiber cleaning KPIs such as machine performance, ejections per hour and run-stop statistics. Useful tools include an event log and tracking of laydowns and product changes. Connection to USTER® *QUALITY EXPERT* brings advantages for decision-makers and enables Total Contamination Control.

## High reliability and fast maintenance

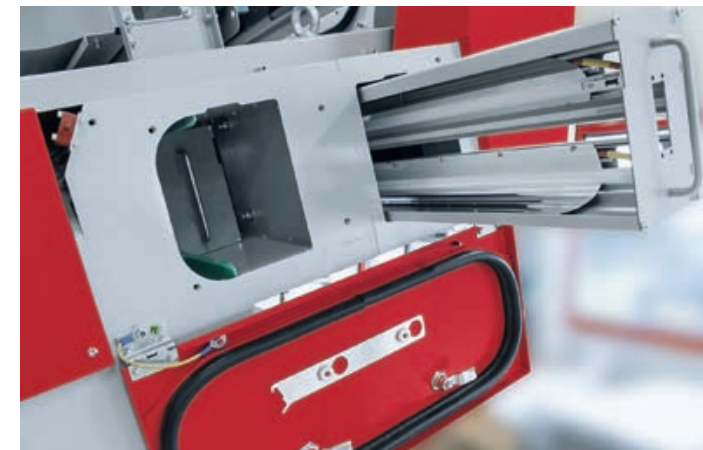
USTER® *JOSSI VISION SHIELD 2* is built to allow fast and easy access for maintenance, with minimum disruption to production. The core functions – accurate detection of defects and optimization of quality – remain paramount. A high level of long-term reliability is also guaranteed, through top-quality Swiss design, using premium components and construction standards, with robust software.

- Swiss reliability, for lasting system efficiency and performance
- Designed-in features make maintenance simple



### Swiss reliability and efficiency

Reliability is a given: with solid construction, intelligent cooling and software based on a robust industrial operating system, lifetime efficiency is assured. Detection accuracy and product quality are the fundamental principles.



### Designed for simple maintenance

USTER® *JOSSI VISION SHIELD 2* is designed for quick and easy access to key components such as the Illumination Set. Usually, there is no need to remove machine parts, and production can continue during routine tasks. The tight build integrity of the system also prevents dust accumulation.



# USTER® QUALITY EXPERT



Ring Spinning Optimization



Yarn Prognosis



Mill Analysis



Alarm Center



Total Contamination Control



USTER® QUALITY EXPERT is the Quality Management Platform™ for advanced process optimization across yarn manufacturing processes. A single system provides control, securing fiber, yarn and fabric quality. A combination of 100% in-line monitoring, precise laboratory testing and integrated intelligence delivers the power to predict potential faults and prevent claims. USTER® QUALITY EXPERT is available in two versions: either as a standalone solution via a dedicated client-server – or integrated within USTER® TESTER 6.

USTER's Application Intelligence is the foundation for merging textile application know-how with insightful analytics and connected products. Smart algorithms guide data-based decisions, extending the analytical possibilities as each additional instrument is connected.

USTER® QUALITY EXPERT and its Value Modules:

- **Alarm center** – creates awareness and triggers action
- **Mill analysis** – insightful analytics for data-based decisions
- **Yarn prognosis** – increases credibility between spinners and yarn users
- **Total Contamination Control** – for managing remaining contaminants in yarns at minimum possible cost
- **Ring Spinning Optimization** – the link to productivity and quality

## Total Contamination Control – for managing remaining contaminants in yarns at minimum possible cost

Total Contamination Control means precisely-controlled contamination levels in yarns, with minimum waste. USTER is the only single-source provider of this integrated solution.

- USTER® VISION SHIELD EXPERT: targeted blowroom alerts on contamination to trigger early reaction
- Optimization of foreign matter ejections and yarn clearer cuts, to balance efficiency and quality
- Preventive action with direct impact on profitability of ejections and remaining contamination levels



**Targeted blowroom alerts for early reaction**  
Smart alerts based on dedicated rules instantly detect changes in ejection levels and save raw material 24/7 in a less complex way. For instance, laydown changes with possible impact on contamination ejections will be recognized and relevant alerts triggered. Individual data is collected and consolidated by USTER® VISION SHIELD EXPERT, which also connects events to trend charts and shows effects over time.



**Optimization of ejections and cuts with benchmark reports**  
Due to the interaction of the initial control with USTER® JOSSI VISION SHIELD 2 and the final control at winding with USTER® QUANTUM 3, optimization is achieved with guidance by USTER Application Intelligence in an intuitive benchmark report. Balancing ejections and clearer cuts, the lowest remaining contamination levels in yarns can finally be controlled at the lowest costs.



**Preventive action with direct impact on profitability**  
Early ejections to control the level of contaminants in fabrics, and yarn classifications to indicate disturbing contamination remaining in yarns, provide potential for optimization. Proactive contamination control helps spinners to prevent faults, while reducing production costs significantly.



### The standard from fiber to fabric

USTER is the world's leading supplier of total quality solutions from fiber to fabric. USTER® standards and precise measurement provide unparalleled advantages for producing best quality at minimum cost.

### Think Quality™

Our commitment to state-of-the-art technology ensures the comfort and feel of the finished product – satisfying the demands of a sophisticated market. We help our customers to benefit from our applied knowledge and experience – to think quality, think USTER.

### Broad range of products

USTER occupies a unique position in the textile industry. With our broad range of products, we have a wide reach across the textile chain that is unmatched by any other supplier in the market.

### Optimal service

Know-how transfer and instant help – we are where our customers are. A total of 215 certified service engineers worldwide grants fast and reliable technical support. Benefit from local know-how transfer in your specific markets and enjoy our service à la carte.

### USTER® STATISTICS – the textile industry standards

We set the standards for quality control in the global textile industry. With USTER® STATISTICS, we provide the benchmarks that are the basis for the trading of textile products at assured levels of quality across global markets.

### USTERIZED® – brand your products with quality

USTERIZED® stands for 'defined quality assured' within the textile chain. We invite selected customers to join the USTERIZED® Member Program. More information at [www.usterized.com](http://www.usterized.com).

### USTER worldwide

With four technology centers, four regional service centers and 50 representative offices around the world, USTER is always sure of delivering only the best to its customers. USTER – committed to excellence, committed to quality. And that will never change.



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