The speck counter is an online system for automatic optical inspection of bulk materials such as flour or semolina and allows you to control quality in real time.

Speck-counting in the past....

... and today!

User interface
The fully automated system for monitoring the end-products enables you to work much more cost-efficiently and to increase the profit of the company. Through the assistance of real-time monitoring the production is operated closer to the desired quality and there is less wasted flour or semolina in the bran. The amount of final product is increased by up to 2.5%.

Example from practice
Based on one of our customers this is clearly visible.
The mill has a daily capacity of 300 tonnes of durum wheat.

Without speck counter-system, yield 75% :
⇒ Annual turnover in semolina (*) : € 35,437,500

With speck counter-system, yield 77,5% :
⇒ Annual turnover in semolina (*) : € 36,618,750

This represents an annual increase in revenue of **1.18 million euros**.
* Calculated at 450€ / ton, 350 production days

---

Maximizing production quantity

![Annual turnover with speck counter vs without speck counter](image)

Annual turnover
- with speck counter
- without speck counter

+1.181.250 €
**The optimal path** is found by the miller with the speck counter

The miller achieves quality improvement by changing the following parameters:

- Checking the raw material
- Moisture and filling (performance)
- Conditioning time
- Roller mill settings
- Sieve size
- Control of color and specks

---

**Conclusion**

The milling is a balancing act between yield and speck content, in this connection the speck counter is supporting you.
By malfunction, improper conditioning or break of sifters contaminants get into the final product, thus no longer salable. Specks and color changes are the result. The introduced online-system recognizes deviations from the specified tolerances early.

The system consists of the following components:

- bypass with screw conveyor in compact stainless steel construction; for manual cleaning purposes the screw conveyor can be drawn out from the casing
- color camera with lighting in a dust-proof stainless steel housing
- top quality PC with long life
- software for acquisition, analysis, display and storage of data
- control box with inputs and outputs
Secure your product safety and customers trust

- Counting specks (dark staining) or other contaminants by size and color
- Quality assurance, deviations are detected immediately, the staff can countermeasure in time
- Fully automated objective measurement, 24 hours a day, without subjective influences
- For each mill an ideal complement to existing quality assurance systems such as ISO, IFS, GMP, HACCP
- Traceability through continuous monitoring and recording

Further functions

- Remote maintenance (program changes, calibration, function monitoring)
- Support for mobile devices: allows you worldwide access to monitor and adjust the parameters
- Fully automatic sending of reports (optional)
User interface

- The user interface is displayed in a convenient Windows interface
- Shows two product lines, as well as all values and alarms simultaneously
- Visualisation of data through graphical charts
- Trend indicator for rapid detection of changes
- Setting limits
- For each product, a reference file can be created
- The assessment is absolutely objectively using digital image processing. Password protected changes of parameters are possible in seconds
- Orders will be automatically restarted after reaching a freely adjustable time (shift change). They can also be restarted via a pulse or manually.
**The system** offers user configurable alarm outputs with potential-free contacts that can be used for acoustic warning of deviations from specifications, or to switch off the mill (pre and main alarm).

---

**High measuring accuracy**

Before installing an accurate calibration is performed. The calibration afterwards is done locally with samples corresponding to the desired parameters. By this standardized procedure you obtain a very high accuracy. Measured values comply in all respects with the laboratory values. Due to the frequency of measurements (up to 86,000 measurements per day), the system has a higher accuracy than the laboratory measurement (snapshot).

This was confirmed in comparison with a one-year field experiment in comparison with the conventional determination in the laboratory.

Basis for this objective method were the "standard methods for grain, flour and bread", Publisher Moritz Schäfer, Association of Cereal Research, 6. extended edition, page 58f.