

## Real-time quality for bulk material: Mogensen MikroSort® online particle size checker

Quality control of bulk materials has become a focus in many industries in recent years. Such distinguishing features of quality such as particle size, particle size distribution and the importance of keeping the product within the size distribution curve always entails laboratory analysis.

Each laboratory analysis takes time from the sample to the result. Because of this time lag, control measures are always too late.

This gap is filled by the Mogensen MikroSort® Online particle size checker. It offers the possibility, for nearly all kinds of bulk material, to scan the complete or partial material stream continuously. Particle size and shape are analysed instantly, accurately and with repeatability.

The size checker gives a new means of plant monitoring and control, for example: Online monitoring and control of crushers; immediate detection of plugged or damaged screen mats; avoidance of plugging of concrete hoses by oversized particles; detection of bad burning in limestone shaft kilns. The in-time changing of screen mats keeps oversized pellets from the customer. A change in grain shape or size distribution as a result of wear indicates the right time to change crusher wearparts.



Screenshot: Histogram of a grain size distribution

### Applications:

- Monitoring and control of crushers, mills and screening plants covering particle size and two-dimensional shape.
- Quality assurance for asphalt or concrete plants or their suppliers.
- Monitoring and control of loading equipment (e.g. including a quality protocol for the customer)
- Blending of different size material to meet pre-established mix-ratio specification using the actual particle size distribution
- Control of particle size distribution for kiln feedstock to reduce energy consumption and optimise the burning process
- Monitoring and control of pelletising process

### **Your benefit:**

- optimise costs for wear parts
- freely adjustable limits and alarm thresholds indicate errors immediately
- active control of material blending to your customers requirements
- avoid discard production and all follow-up costs
- avoid complaints or damage claims
- customer-oriented production and improved quality assurance
- satisfied customers and improved market acceptance

### **Technical data:**

The Mogensen MikroSort® online particle size checker measures grain size and shape continuously in two dimensions within a range of 2 to 300 mm without interrupting the production process. Compared to other similar systems it offers a huge variety of grain size bands, high throughput capacity and several years of experience in mining and quarrying business.

The size checker measures and analyses the dry and individual, non agglomerating particles of your material continuously.

A modern digital CCD line-scan camera measures each particle and the processing software analyses up to 10.000 particles per second. The most modern technology allows fast and accurate data processing. External ports allows connection to your PLC or any commercial network system.

Regular throughput in the range of 1 to 70 tonnes per hour, depending on the material.

Each unit can scan and analyse several materials simultaneously.

The particle size analysis is represented in tabular, graphical or electronic form. Also the PLC-signals will be adjusted individually to meet the customers' requirements.

The scope of delivery includes the camera, light system and the electronic control. Further feeding devices (vibratory feeder, chute) will be included if necessary and tailored to your specific needs. A device for the continuous sampling is not included. The size checker can be integrated in your plant, e.g. in a regular conveyor crossing units.

### **Summary:**

- feed: Bulk material, dry, individual, non agglomerating
- size range: 2 to 300 mm
- throughput: 1 to 70 tonnes per hour or even more, depending on the particle size
- ability to process several materials on one unit simultaneously
- continuous display of the results in tabular, graphical or electronic form
- feedback of alarm or control signals to the PLC or plant control room



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