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Q-eye simplifies video inspection integration for mills

Unilux Inc., Saddle Brook/NJ, designer and manufacturer of stroboscopic surface inspection systems, unveils Q-eye, its streamlined, high-resolution video inspection system. The new system will enable mill operators to spot defects as small as 1 mm across a strip 150 cm wide at production speeds up to 1 350m/min. Using commercially available image-capture hardware and software, Q-eye can be deployed within hours after commissioning.

A basic two-camera system will meet the needs of a vast majority of hot and finishing mill applications worldwide as well as coating processing lines. Each camera, an 8-bit black-and-white unit with a video resolution of 1392 · 1040 pixels, can see a 1 mm defect on a 1600 mm-wide strip moving at full production speeds of 1350 m/min. With camera and strobe light arrays located before the recoiler or at critical inspection points along the process, operators at control consoles can now see the strip without leaving their workstations. swz

A typical finishing line system arrangement with the Q-eye high resolution video inspection system

Photo: Unilux

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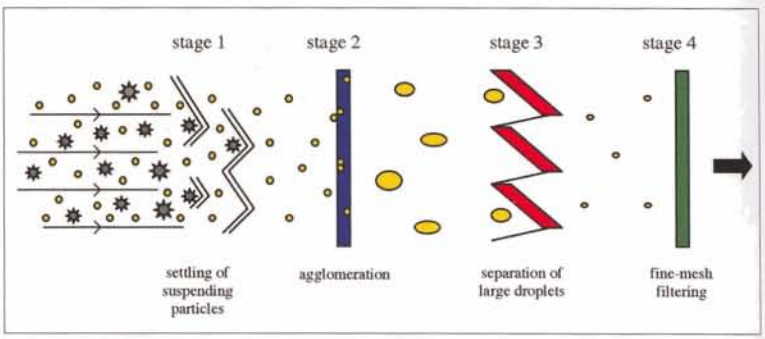
Effective separation at grinding process

Schuh Anlagentechnik GmbH, Castrop-Rauxel, presents a new suction plant produced by a belt grinder of stainless steel. The system enables the reliable disposal of exhaust air loaded by oil mist and suspending particles. The system provides the separation in four stages – settling of suspending particles (1), agglomeration (2), separation of droplets (3), and fine-mesh-filtering (4).

Stage 1 realizes the settling of suspending particles via speed-reduction in combination with impact separation, so that great particles including the mechanical waste of the grinding process are separated from the exhaust air. So afterward only the liquid rate of the oil mist exhaust air mixture must be filtered. In stage 2 aerosols in the diameter range greater than 1 µm coalesce to larger droplets. Due to speed increasing of impingement, the droplets are caught up and remain there. The combination of the single effects from inertia, rectifying process and diffusion enables the separation of the great oil droplets in stage 3. The efficiency of the drop separation increases with the rising number of detours of the gas flow, such as the adaption of speed. In stage 4 a compact filter with an oil and water rejecting diaphragm is used, to filter the remaining condensed mists to a high degree of purity.



Scheme of the separation course

Courtesy: sch

Technical data:

Exhaust air temperature:	approx. 40 °C
Exhaust air composition:	Metal dust (stainless steel AISI 300 / 400) / Oil mist
Exhaust air rate:	40 000 m³/h

The choice of a suitable filter medium with defined composition of material and geometry in each stage allows rates of separation up to 99 % and is also applicable for aerosols less than 1 µm.

swz

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