100% inspection of nonwoven web material for medical protection and hygiene products

The highest level of reliable quality testing for the demanding production of medical hygiene material: New High-speed inline color cameras identify previously undetectable material defects

The demand for protective masks according to FFp2 standard, protective covers, and other nonwoven-based products for both the medical and the hygiene sector is growing dramatically in the corona crisis. An even more reliable 100% control in the now rapidly developing new production lines is indispensable.

Since conventional inspection systems for plastic films detect defects using black and white cameras, critical color defects such as oil spots cannot be classified correctly and maybe even missed altogether. To tackle this problem, ISRA VISION has now developed a solution that is unique on the market: The SMASH inspection systems have now been enhanced with a new embedded vision color camera and HDR technology that also detects the coloring of the material and any defects for the best possible classification. In addition to their compact design, the innovative all-in-one modules are highly cost-effective. This is achieved by using fewer and smaller components to enable leaner systems and lower investment costs while aiding integration and simplifying maintenance.

The future belongs to color cameras: In order to be able to reliably detect and distinguish between black-and-white and color defects, it is necessary to have genuine color cameras as opposed to the color LED, given its limitations. ISRA has now introduced a unique embedded color camera in 8K resolution. The revolutionary, intelligent color camera enables a black-and-white and a color image to be generated simultaneously in a single scan. There are no concessions when it comes to resolution – even at high speeds.
Compared the competition, which only offers B/W cameras with colored LED lighting, ISRA’s genuine embedded color cameras offer real advantages thanks to their additional HDR technology. Dirt, thin areas, and holes in the material can be reliably detected and classified, delivering crucial advantages over competitors. Instead of just one image, multiple images are captured with varying light intensities seen from different angles. The solution is for manufacturers of a wide range of web products and is suited for a variety of applications. As with the company’s image processing hardware and software, ISRA’s camera and lighting technologies are designed and manufactured in-house. In this way, all components are precisely tailored to each other and guarantee the optimum in visual intelligence.

Quality printing for today’s globalized markets poses increasing challenges for manufacturers of plastic films. The competition is growing, as are the expectations of customers in downstream industries. Flawless product quality is now a must for films intended for use in flexible packaging, separator layers in battery production, and nonwoven products from the food and aseptic, hygiene and pharmaceutical industries. Just as detecting defects through intelligent data analysis and classification, root cause analysis is, therefore, essential in order to identify and remedy the causes of defects in production as part of a zero-defect strategy. This is the only way to meet the high standards required in the long term. By doing so, the producer raises both product quality and process efficiency.
The ISRA embedded color camera combines the benefits from black and white cameras with the additional detection and classification of color cameras and HDR technology.

Detection and classification of defects is much easier with this kind of color reports.
The ISRA Inspection software makes invisible defects visible to optimize the production process in time.