PURITY SCANNER

Intelligent combination of optical and X-ray based inspection

SIKORA
Technology To Perfection

PURITY SCANNER intelligently combines X-ray technology with a dual optical system. This combination ensures the detection and sorting of pellets with metallic and organic impurities in the pellet itself and on its surface.

Thanks to the specially developed X-ray technology, the PURITY SCANNER is the first system to inspect even colored (e.g. black) pellets for impurities and automatically sort them out.

Quality begins with the purity of the material

The purity of XLPE and PP pellets, which are used, for example, to insulate medium, high and extra-high voltage cables as well as onshore and offshore cables, is a decisive feature for the quality of the end product. Breakdowns in the discharge test due to contaminated material endanger product safety and can result in six-digit costs. Against this background, continuous quality control in the production process is essential.

Online inspection and sorting

The PURITY SCANNER is a unique system for 100% online inspection and sorting of plastic pellets. The PURITY SCANNER combines X-ray technology with a dual optical camera system and reliably detects contamination from 50 µm both inside the plastic pellet and on its surface. Contaminated individual pellets are automatically sorted out so that only pure material is processed for cable insulation.

Specifications

Application Fields	- Raw material production - Compounding / Masterbatch - Plastics processing - Extrusion - Outsourced sorting
Inspection Methods/Sensor Technologies	X-ray and optical cameras
Smallest Detectable Contamination Size	X-ray: 50 µm (cube 3D), 50 x 50 x 50 µm Optical: 50 µm (square 2D), 50 x 50 µm
Throughput	Depending on geometry and specific weight of the material to be inspected, there are throughputs possible from a few kilograms up to one ton/hour* per device. A combination of devices allows for the inspection and sorting of higher throughput capacities.
Permissible Ambient Temperature	+ 5 to + 45 °C
Air Humidity	max. 95 % (without condensation)
Interfaces	RS232, USB Optional: industrial fieldbus (e.g. Profinet IO, EtherNet/IP, Profibus-DP, CANopen, DeviceNet), LAN, OPC DA/UA
Power Supply	3 ph 400 V AC (± 10 %), 50/60 Hz (± 3 %); 2,700 VA Compressed air supply: min. 6 bar / max. 8 bar / Air quality class 3 (ISO 8573.1)
Dimensions	1,958 x 1,012 x 641 mm (width x height x depth)

* This refers to a system with optical inspection. Systems that combine optical and X-ray technology provide a throughput up to 600 kg/hour per device.

Your advantages

- 100 % online inspection of plastic pellets and automated sorting of metallic contamination, Black Specks and inhomogeneities from 50 µm
- Dual inspection: X-ray technology and optical cameras
- Increased reliability and life span of the cable
- Reduces production costs by the elimination of scrap, repairs and claims

Subsea and EHV cables require a challenging purity degree of XLPE-material
Inspection and analysis of XLPE and HPTE material at medium and high-voltage cable production