On-line production control and regulation
Manufacturing of high-quality products requires accurate and close product control in order to ensure integrity of product components and avoid foreign objects in the final product. Non-destructive control systems working on-line improve product quality and facilitate automatic production regulation. Such features reduce total production costs.

Applications
The X-FORCE-SCAN is designed for on-line inspection of products moved by conveyor belt systems. The instrumentation uses high-resolution radiation transmission to measure area weight distribution. The instrumentation detects and identifies:

- Dimensions and shape of products
- Products of non-conforming shape or size
- Unit weight of products
- Material distribution across bandwidth
- Voids and density of products
- Packages with missing content
- Area weight and foreign objects in products.
Advantages

• Automatic calibration
• Complete picture of the weight distribution
• Detect invisible defects and hidden foreign objects of deviating density
• Non-conforming products can be rejected automatically
• Protect subsequent production units against damages from foreign objects on the conveyor
• Easy integration on existing production line
• Short payback time of the instrumentation

Description

The X-FORCE-SCAN measuring system is housed inside a chassis covered with metal plate. The measuring system includes:

• Guide-belt to direct the products through the measuring gate
• Measuring system with X-ray sources and high resolution detector arrays
• Gauging and data processing unit that also controls X-ray sources and detectors
• PC with monitor and software for generation of product library, selection of product data and presentation of results in numerical and graphical form.

The X-FORCE-SCAN is easily adapted to individual customer needs.

Features

• Area weight distribution and weight distribution profiles
• Detection of invisible objects of deviating density
• Programmable alarm levels
• Detection of physical dimension of objects
• Detection of packing for content deviations
• Output signals for automatic production regulation
• Output signals for automatic rejection of non-conforming products
• Software for running mass detection and registration of rejected products
• Integration with process control systems
• FORCE Technology remote support

Performance data

Conveyor speed: 0 - 1.500 mm/s
Detection width: 50 - 4.000 mm
Resolution: 1 x 1 mm²
Area weight range: 1.5 - ~100 kg/m²