

Efficient Package Storage at Esprit

Automatic identification of labels as well as package weight and volume measurement including shape inspection / recognition of deformations

The task

Discharging defective packages before storing

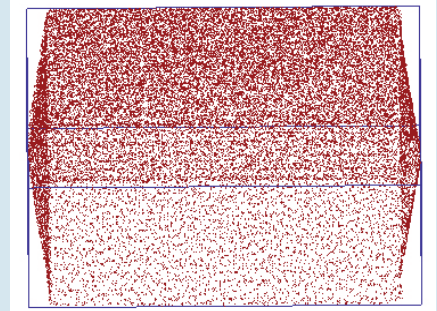
In the distribution center of the renowned fashion label, Esprit, in Mönchengladbach, Germany, textiles in cartons of various sizes are delivered and stored every day. At inbound goods, an internal label is automatically affixed to both of the longer sides of the carton. These labels enable the carton to be tracked as it moves through the conveyor system and the automated warehousing system. The boxes are sent to the warehouse along two conveyor belts, each 670 mm wide, at a speed of 1.2 m/s. However, the automated warehousing system can reliably process only faultless cartons. Damaged cartons can cause malfunctions of the automatic warehouse technology (mini-load) and therefore time-consuming manual adjustments.

Only an integrated solution, such as VIPAC D2, can remedy the problem. It automatically detects the barcodes, and at the same time, measures the volume and weight of the package while, first and foremost, reliably detecting carton deformations.



VIPAC enables the reliable detection and discharge of damaged cartons during the conveying process

Image of the volumetric data: Deviations in the contour of the carton (bulges) from the ideal shape or the smallest cuboid enclosing the package



Implementation

Integrated solution detects labels, volume, weight and defects

To ensure that defective cartons are discharged early enough, TGW Systems Integration, the general contractor for Esprit, relies on VITRONIC's volume measurement and contour inspection system, VIPAC D2 which is installed above the conveyor belt.

The system uses laser-based time-of-flight measurement technology and captures the surfaces and contours of the transported objects on all four sides inline. Thus, bulges and dents in the cartons that are 25mm or larger are detected reliably. Even lower tolerances can be realized if needed.

To capture supplier and internal labels (barcode reading), TGW has added a third-party solution to the entire system. Even the weighing technology was provided by the customer and seamlessly integrated into the VITRONIC solution. The data is analyzed in real time and transferred through a TCP/IP interface to the material flow controller (MFC).

Benefits

Efficient storing and lower costs

VIPAC D2 provides Esprit smooth and fully automated warehousing processes. Time-consuming and costly manual adjustments are avoided, and third-party systems for data capture and weight measurement can be easily integrated, enabling customers to choose from any third-party vendor.

The captured data flows directly into the integrated systems and can trigger, for example, logistic and accounting-related follow-up processes such as automated return shipments.

Technical Data

System	VIPAC D2 volume measurement system with shape inspection	Object dimensions	min. 400 x 300 x 200mm (LxWxH) max. 850 x 650 x 400mm (LxWxH)
Throughput / speed	2,400 cartons/h on each conveyor belt at a speed of 1,2 m/s	Integrated external systems	Barcode- / label reading, weighing technology
Contour inspection	Bulges and dents, 25 mm or larger on four carton sides		