K.Handle

Visicon

Singulation with the highest throughput

The challenge

Large parcel volumes are typically delivered in bulk. As downstream processing devices – such as scales, scanners and sorters – require individual items, these bulk deliveries need to be singulated as quickly as possible. At this early stage, speed is essential to maximize overall performance and process efficiency.
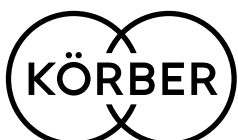
Our solution

Visicon generates a high-throughput flow of up to 18,000 singulated items per hour ready for downstream processing. At great speed it reliably converts a non-layered parcel bulk flow into a stream of singulated parcels with a pre-defined gap.
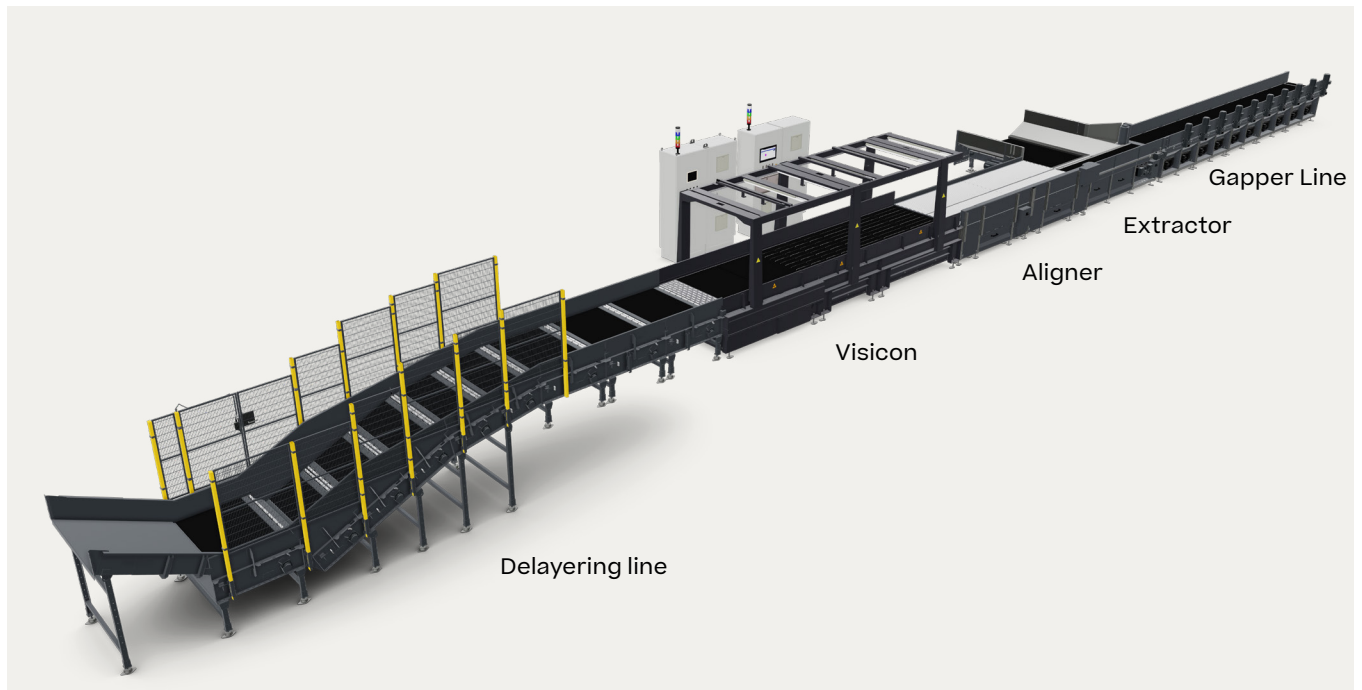
An integral part of Visicon is an advanced artificial intelligence-based vision system. It detects and records the shape, size and relative position of each parcel on the transition belts. With this real-time tracking data, the control system can flexibly stipulate important singulation parameters such as gapping, orientation and take-away direction. Visicon monitors and controls the conveying speed of the individual belts and the alignment

of each item. The patented, vision-based control system manipulates parcels by individually adjusting the speeds of a matrix of narrow conveyor belts. As a result, Visicon propels one parcel forward more quickly than another, creates gaps and thus gently singulates all consignments.

Customer benefits

- Highest throughput on the market with variable transport speed

- Reliable, gentle, efficient and accurate singulation of all formats and materials, including polybags

- Software-based control for flexible specification of key singulation parameters

- Quick and easy installation with pre-assembled components

- Artificial intelligence-based vision system

- Ready for Predictive Maintenance with Singulator 360

KÖRBER

Delayering line · Visicon · Aligner · Extractor · Gapper Line

Technical data - metric

Nominal throughput	up to 18,000 items per hour
Length	6,400 mm
Width	2,400 mm (with side cabinets)
Height	2,300 mm
Conveying width	1,600 mm
Output speed	1.1 m/s - 3.2 m/s (variable)
Temperature range	0 °C - 40 °C
Relative humidity range	10% - 90%
Target gap/pitch quality	+/-110 mm

Parcel spectrum

Length	120 mm - 1,300 mm
Width	100 mm - 900 mm
Height	3 mm - 900 mm
Weight	0.05 kg - 50 kg

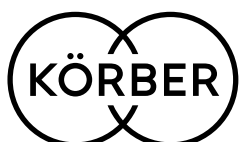## Up- and downstream modules

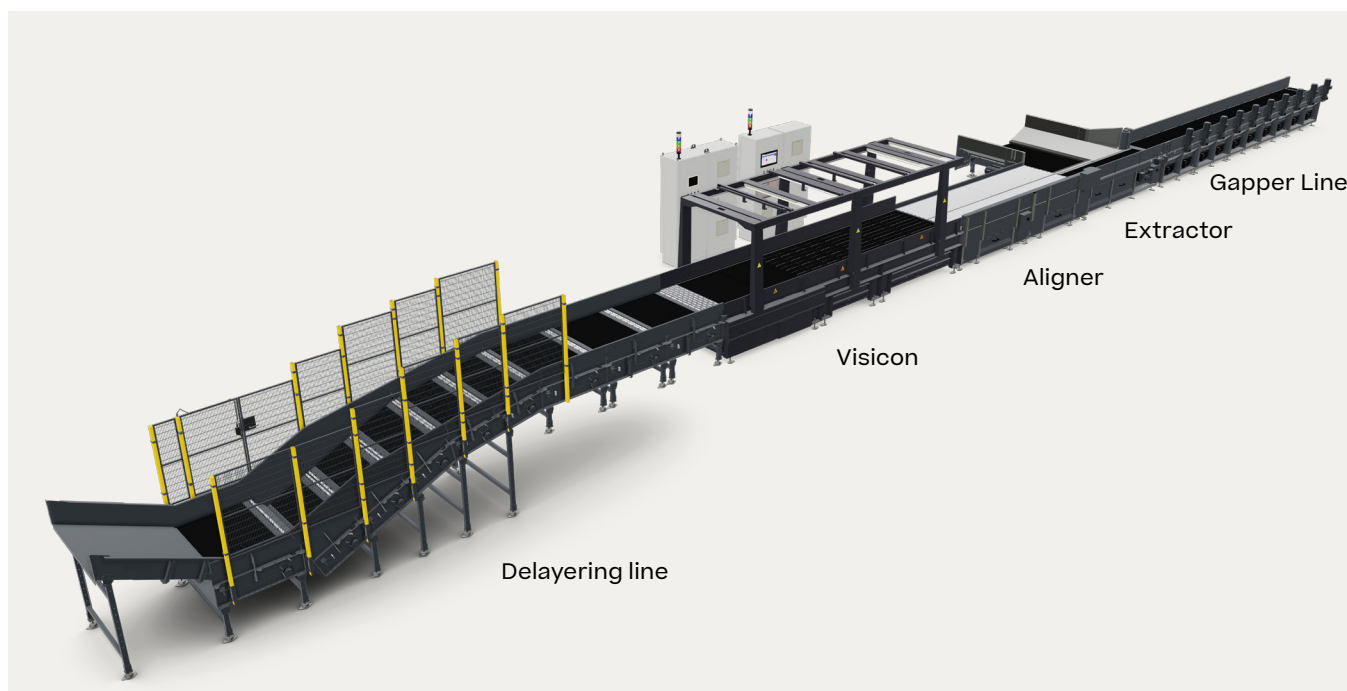Optimized up- and downstream modules complement Visicon's high-end functionality.

Upstream

Delayering line to prepare item flow for Visicon, turning a 3D bulk flow (items still on top of each other) into a 2D flow (shipments side by side).

Downstream

- Aligner to put the consignments in a row of singulated items

- Extractor (or Side-by-Side Eliminator, or Automatic Exception Handling) to remove e.g. side-by-side and non-machinable items

- Gapper Line to realize pre-defined gaps between singulated parcels

Delayering line · Visicon · Aligner · Extractor · Gapper Line

Technical data - imperial

Nominal throughput	up to 18,000 items per hour
Length	251.9 in
Width	94.5 in (with side cabinets)
Height	90.6 in
Conveying width	63.0 in
Output speed	3.6 ft/s - 10.5 ft/s (variable)
Temperature range	32 °F - 104 °F
Relative humidity range	10% - 90%
Target gap/pitch quality	+/- 4.3 in

Parcel spectrum

Length	4.7 in - 51.2 in
Width	3.9 in - 35.4 in
Height	0.1 in - 35.4 in
Weight	0.1 lb - 110.2 lb

Up- and downstream modules

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