



AUTOMATIC PARCEL SINGULATOR

BULK PARCEL HANDLING FOR AUTOMATIC INDUCTION UNITS FOR LOOP SORTERS

The Automatic Parcel Singulator transforms a bulk flow of parcels into a flow in which each parcel is uniformly separated, spaced and aligned before the in-feed to the automated induction of a high-speed loop sorter.

With the capability to handle a wide variety of items, the Automatic Parcel Singulator provides a single system for handling parcels, flats, totes and sealed bags from the collection and distribution sorting areas. Cyclical operation enables the Automatic Parcel Singulator to adjust the speed of the parcel flow in response to changing levels of demand at the induction.

FEATURES

- › Transforms a bulk flow of parcels into a singulated flow for high-capacity sortation
- › Specifically designed for automatic induction units and loop sortation systems (Pull system)
- › Optimised integration into a new or existing facility with efficient use of available space
- › Power-saving efficiency through variable-speed drives and sleep mode
- › Compact design with a minimum number of moving parts for less wear and tear

BENEFITS

- › Optimises the capacity and efficiency of parcel handling
- › Adjusts capacity to meet changes in demand
- › Downstream and upstream control of parcel flow
- › Provides an ergonomic working environment for staff
- › Provides savings in the overall operation

FROM BULK FLOW TO SPACED AND ALIGNED



As a fully automated system, the Automatic Parcel Singulator minimises the need for manual handling and supervision during normal operation.

THE SINGULATION PROCESS

The parcels are transported from the bulk in-feed area to the Automatic Parcel Singulator by feed lines which can be fitted with fully automatic container tippers, boom conveyors and loading conveyors.

As small batches of parcels enter the Automatic Parcel Singulator's in-feed, they pass over a conveyor with skewed rollers. These align the parcels so that they are released in a single flow with a uniform gap between each parcel.

The seamless integration of the Automatic Parcel Singulator into a loop sortation

system enables a pull system which adjusts the flow of parcels to meet changing levels of demand at the induction.

The downstream induction line controls the call-up of parcels from the Automatic Parcel Singulator which, in turn, calls-up parcels from the upstream bulk system.

DOUBLE-DETECT DATA CAPTURE

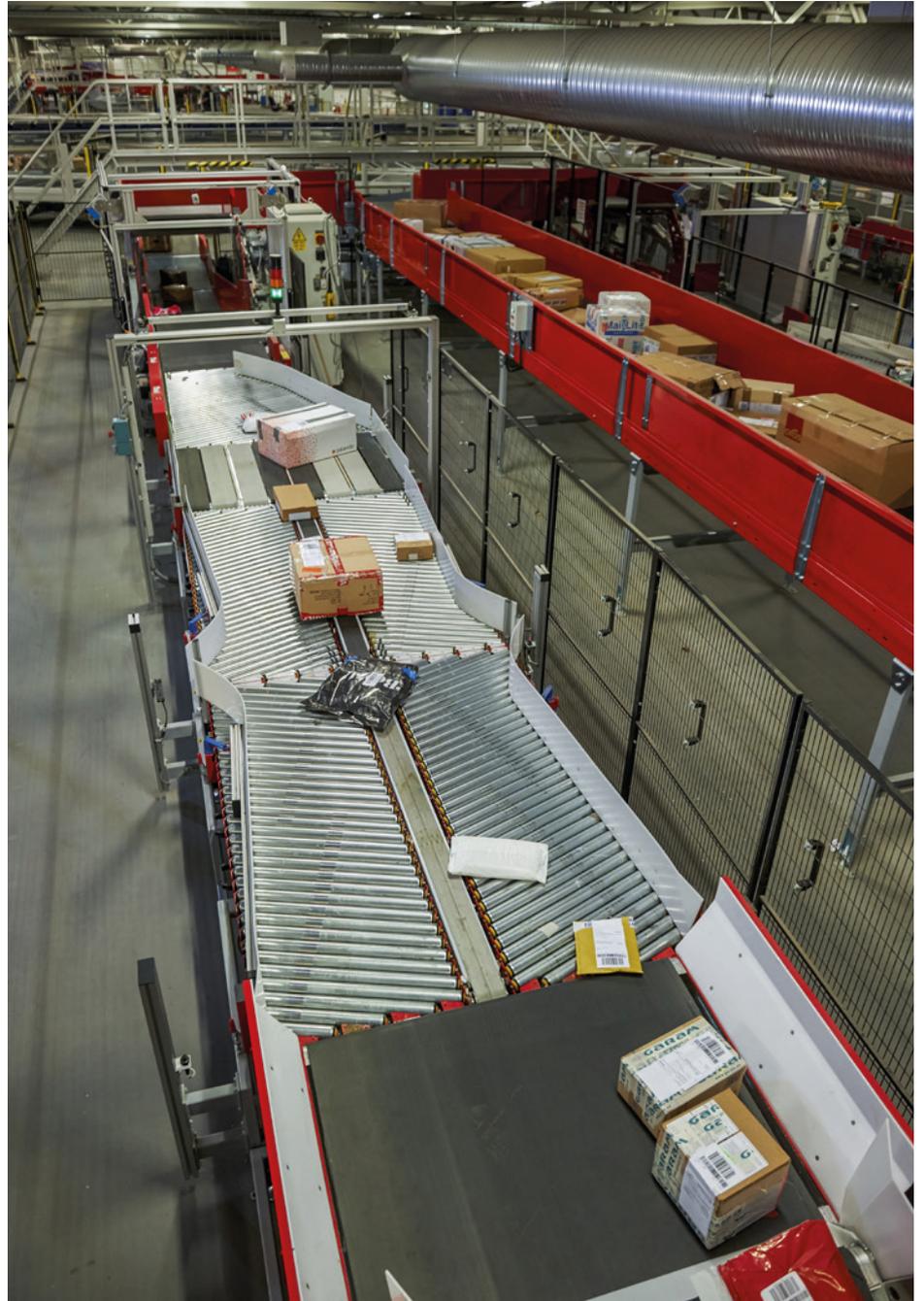
As the parcels leave the Automatic Parcel Singulator's rollers they continue onto a conveyor for Double Detection before entering the automatic induction of the loop sorter.

The Double Detection system automatically checks the dimensions of each parcel for items which are over-length, over-height or an abnormal shape, such as double parcels.

Items which are detected as out of gauge are automatically removed from the main flow via a dynamic, high-speed vertical diverter which is optimised to match the speed of the conveyor. The diverted out-of-gauge parcels can be processed downstream of the Automatic Parcel Singulator.

FAST AND FLEXIBLE INTEGRATION

The high level of configuration flexibility means that the Automatic Parcel Singulator can be retro-fitted into the feeding line of an existing loop sorter, or for integration into a new parcel handling system. Both retro-fit and new installations can achieve a compact footprint and highly efficient use of available space, in addition to offering reduced installation and commissioning times.



ENERGY EFFICIENCY

The Automatic Parcel Singulator is controlled by a state-of-the-art PLC and frequency inverters capable of re-using kinetic energy which enable the system to combine maximum capacity and throughput with minimum energy consumption.

When no parcels are detected, the system enters a sleep mode which reduces energy consumption. When parcels arrive at the in-feed point, the Automatic Parcel Singulator automatically restarts and matches the speed of the conveyor to the number of parcels which need to be processed.

In addition to reducing energy consumption, the combination of sleep mode and variable speed drives also

minimises wear and tear to enable the Automatic Parcel Singulator to achieve very low maintenance levels.

SPECIFICATIONS

Dimensions:	Max.	Min.
Length (mm)	1200	100
(in.)	47.2	3.9
Width (mm)	700	100
(in.)	27.6	3.9
Height (mm)	700	10
(in.)	27.6	0.4
Weight (kg)	35	0.1
(lb.)	77.2	0.2

Capacity: Up to 3,500 items/hour dependent on the capacity of the induction.

Items: Parcels, flats, totes, sacks, sealed bags etc.

