BEUMERGROUP

BEUMER PARCEL PICKER®
OPTIMISING INBOUND PARCEL BULK FLOW

LOGISTIC SYSTEMS

SMARTER BULK UNLOADING FOR BETTER GATE-TO-SORTER FLOW

An integrated solution for downstream efficiency with smarter unloading from gate-to-sorter to accelerate the inbound bulk parcel flow in distribution hubs.

Competition in the parcel-delivery sector is becoming tougher with online stores demanding later cut-off times for next-day delivery. For parcel-distribution hubs, this means that the ability to combine high capacity and rapid throughput is a high priority. To enable hubs to respond to these demands, the BEUMER Parcel Picker is a semi-automated system which transforms the inbound parcel process by increasing the efficiency of unloading bulk items and optimising the parcel flow throughout the full sortation system.

For Courier, Express and Parcel (CEP) companies, transfer volume needs to be increased without placing a physical load on employees. Often, there is a limit to the size of the building or the number of unloading doors which restricts the potential to increase unloading efficiency.

When it is not possible to increase the size of the building, or to add more doors, a viable solution is for the hub to optimise bulk parcel flow.

The BEUMER Parcel Picker enables hubs to increase the unloading capacity per door. With fast, safe and gentle handling, bulk parcels can be unloaded from trucks, trailers, swap bodies or roller cages. The gate-to-sorter process aligns all functions to deliver a positive benefit to the entire inbound process.

HIGHLIGHTS

- Optimises time-per-door efficiency compared to conventional unloading.
- Unload time 2-5 times quicker for swap bodies and trailers, depending on parcel mix.
- Faster inbound parcel flow into the distribution hub.
- Smarter gate-to-sorter process enables higher unloading throughput.
- Minimises the number of gates and building footprint.

GENTLE AND EFFICIENT BULK UNLOADING

Semi-automated and smooth handling of inbound parcels

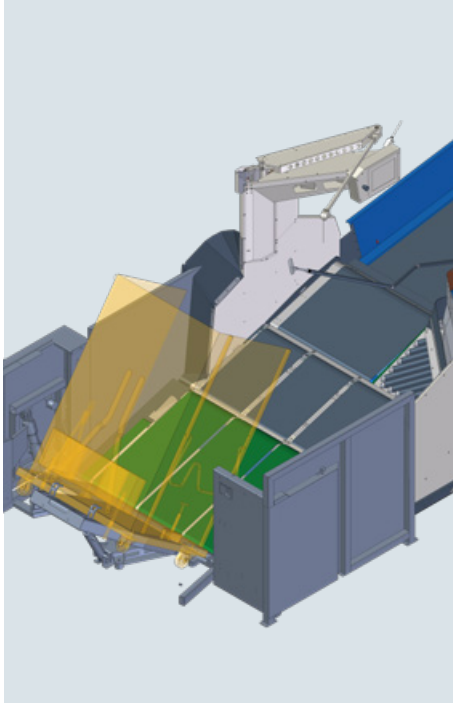
A throughput which more than doubles the manual unloading rate can be achieved by a trained operator unloading a typical parcel mix with the Parcel Picker.

FASTER UNLOADING OF BULK

Compared to manual unloading, the BEUMER Parcel Picker improves performance and eliminates the need for parcels to be physically lifted onto the inbound conveyors. By automating unloading in this way it avoids both putting a strain on operators and also the bottleneck created through limitations on the maximum number of kilograms that each operator can lift per shift. Thus the burden on operators is eased and the hub gains faster and more efficient inbound handling.

OPERATIONAL MODE ONE: UNLOADING LOOSE-LOADED TRAILERS

A telescopic conveyor is steered by the operator into the container or swap body and parcels are drawn onto the inbound conveyor system. As the unloading continues, the operator moves the Parcel Picker deeper into the trailer. Parcels are unloaded from the top to achieve gentle picking without unbalancing the load.



Unloading of roll cages and loose-loaded trailers

OPERATIONAL MODE TWO: WORKSTATION FOR UNLOADING OF ROLL CAGES

When not unloading swap bodies or trailers, easy adaptation allows the Parcel Picker to be used as a tipping station for the automatic unloading of roll cages. This extends the use of the Parcel Picker and optimises the unloading of roll cages as well as swap bodies and trailers.

All unloaded parcels are automatically taken downstream by the inbound conveyor for singulation processing. Side walls on the telescopic conveyor increase safety by preventing parcels from falling onto the floor.

HIGHLIGHTS

- Semi-automated and smooth handling of inbound parcels.
- Ergonomic design improves operator safety in the workplace.
- Robust technology designed and built to withstand work conditions.
- Integration without the need to modify swap bodies or trailers.
- Add-on solution enables tipping of roll cages.

INNOVATIVE PARCEL HANDLING FOR INBOUND UNLOADING

Fully integrated with sortation system

Integrating the BEUMER Parcel Picker with an automated singulation system delivers additional value and efficiency by optimising the parcel flow for the full inbound process.

SINGULATING FOR HIGHER PRODUCTIVITY

Automated singulation converts a bulk feed of parcels into a single, centred stream of evenly spaced parcels. The singulated parcel flow streamlines the induction of parcels onto a high-speed loop sortation system.

The singulation of parcels which are unloaded from trailers or roll cages is supported by two technologies:

- **Automatic Parcel Singulator** - Boosts the capacity and efficiency of the parcel handling process and adds sophisticated control of the parcel flows. Integration of an Automatic Parcel Singulator into a loop sortation system enables a pull function which adjusts the flow of parcels to meet the free capacity at the induction.
- **Robotic Singulator** - As an alternative bulk flow singulation technology, a Robotic Singulator can automatically pick smaller, individual parcels from the inbound conveyors. The parcels are then placed on a conveyor with uniform spacing and alignment before entering the in-feed for automated induction to the high-speed sortation system.

Integrating with an automated singulation system

Both singulation technologies have an integrated scanner system for automatic verification of the dimensions of each parcel before induction. The system will detect the result of the singulation and recirculate double-items for new singulation.

The BEUMER Parcel Picker and the automatic parcel singulation technologies can be integrated into new or existing sortation systems.

IMPROVED FOOTPRINT USAGE

In existing buildings, the BEUMER Parcel Picker enables the inbound throughput to be almost doubled with little alteration to the building structure. For green-field designs, automating the inbound process with the Parcel Picker increases throughput and helps to minimise the number of inbound gates and the footprint of the building.

SAFETY AND ERGONOMICS

The design of the operator workstation on the BEUMER Parcel Picker is based on the most recent scientific findings to support health and safety. A gap between the parcels and the operator is maintained during operation. The entire process provides an ergonomic solution which eliminates physical strain for the operators during parcel unloading. Ergonomic details include a motorised support which allows the height of the workstation to be adjusted to fit the physical height of the operator.

SPECIFICATIONS

- Capacity matches the parcel mix, characteristics and loading method: Up to 2,500 items/hour for a standard parcel mix and approx. 8,000 items/hour for small packets.
- Compatible with swap bodies and trailers.
- Standard configuration for trailers up to 53 feet.
- Automatic adjustment to trailer height to match the load and yard floor.
- Intuitive man-machine interface screen above the operator's platform constantly indicates optimum position during operation.

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BEUMER reserves the right to make modifications that serve technical progress.

MADE DIFFERENT

Products and technologies with the BEUMER label „made different" are characterized by enhanced sustainability. It is based on their economic, ecological and social performance evaluated by the BEUMER Sustainability Index (BSI).

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