



# **BEUMER ROBOTPICK AUTONOMOUS BULK PARCEL SINGULATION**



## BEUMER robotpick automates bulk parcel singulation, transforming unpredictable bulk parcel streams into a continuous, singulated flow for high-performance automated sortation.

The rapid growth of e-commerce has increased pressure on parcel hubs to process higher volumes while managing labour shortages, rising operating costs and ever-changing parcel mixes. Traditional manual singulation can become a bottleneck, limiting throughput and increasing operational complexity.

BEUMER robotpick transforms bulk parcel

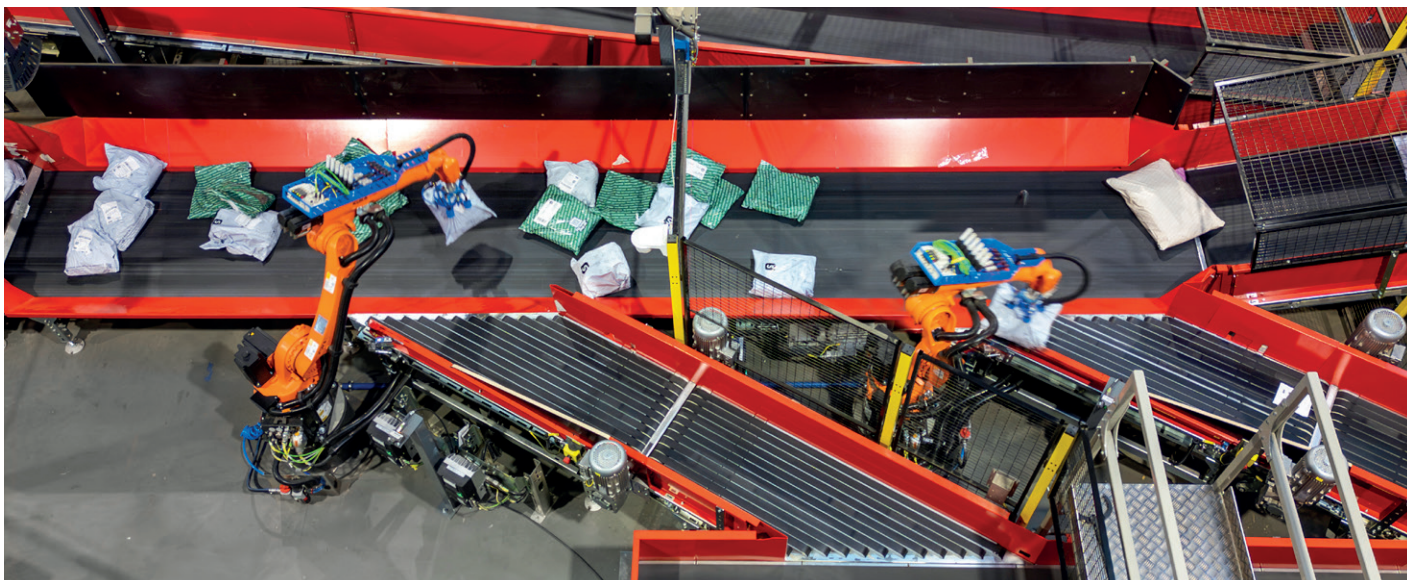
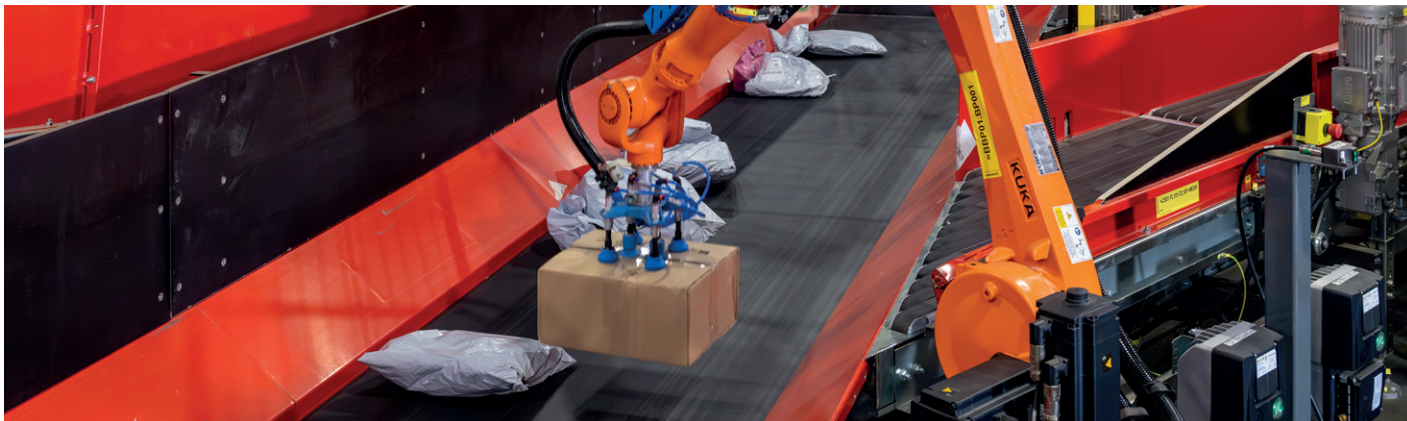
handling with fully autonomous robotic picking and singulation. With the correct parcel mix and operating conditions, it offers CEP operators uninterrupted, high-capacity bulk flow by automating 99.9% of the bulk handling process, including polybags, carton bags, cardboard boxes, letters and other difficult parcel types. The BEUMER robotpick combines singulation with placement directly for automated

induction to help maximise the use of high-capacity sortation systems.

BEUMER robotpick delivers a complete, scalable system that improves throughput, reduces manual intervention and provides the flexibility to adapt as operational demands evolve.

### WHY CHOOSE BEUMER ROBOTPICK?

- › Fully autonomous parcel picking and singulation
- › Automates 99.9% of the bulk handling process
- › Complete BEUMER end-to-end solution
- › Intelligent handling of rejected and recirculated parcels
- › High operational availability
- › Flexible integration into new and existing facilities
- › Modular, scalable architecture
- › Proprietary vision and robot control technology
- › Integrated SCADA monitoring and BG Insight analytics
- › Data-driven maintenance support
- › Proven technology (more than 1.75 million parcels handled in a live customer environment)



#### OPTIMAL THROUGHPUT

BEUMER robotpick automates one of the most labour-intensive stages of parcel handling. It enables intelligent robotic picking that maintains consistent performance around the clock. Each robot cell handles up to 1,600 parcels per hour, and multiple cells can be combined to increase overall system capacity.

#### SCALABLE CAPACITY

BEUMER robotpick grows alongside your operation. The modular architecture supports a standard configuration of one to four robot cells, with the option to add further cells as parcel volumes increase without redesigning the entire system. This scalable design also simplifies investment planning, enabling operators to add capacity only when needed.

#### MAXIMUM AVAILABILITY

Designed for continuous operation, BEUMER robotpick automatically returns unpicked parcels for another attempt. Unpicked or dropped items are fed safely back into the bulk flow, minimising interruptions and reducing manual

intervention.

In addition, individual robot cells can be stopped for servicing, repairs or software updates without affecting the productivity of the remaining cells on the same line.

#### INTELLIGENT PICKING

Every parcel that BEUMER robotpick handles is analysed individually using BEUMER's proprietary computer vision system. The software identifies optimal pick points, adjusts robot movement according to parcel size and characteristics, dynamically controls the vacuum gripper and continuously synchronises with conveyor movement to maximise successful picks while protecting parcel integrity.

Larger or more challenging parcels are handled using a more conservative movement profile, while smaller, easier parcels are picked more rapidly to maximise throughput.

#### OPERATIONAL FLEXIBILITY

Modern parcel streams include cartons, polybags, mailers and irregular packaging.

BEUMER robotpick handles a broad range of common parcel types while automatically identifying items outside specification for alternative handling.

#### INTEGRATED SOLUTION

Unlike standalone robotic systems, BEUMER robotpick forms part of an integrated logistics solution. BEUMER Group develops, owns and supports the complete technology stack, including computer vision, robot control software, vacuum gripping technology, parcel feeding, mechanical layout, system interfaces, SCADA monitoring and BG Insight performance analytics.

# SMART FEATURES THAT IMPROVE PERFORMANCE

## ADAPTIVE VACUUM GRIPPING

The intelligent vacuum gripper on BEUMER robotpick continuously adjusts suction cup position, orientation and activation pattern to optimise every pick, reducing double picks and unnecessary energy consumption.

## FLEXIBLE PARCEL PLACEMENT

BEUMER robotpick can accurately orient and place parcels onto a variety of conveyor layouts, including:

- Triangular destination belts
- Curved destination belts
- Perpendicular destination belts

This flexibility simplifies integration into existing facilities.

## DATA-DRIVEN MAINTENANCE

Operational monitoring through BEUMER SCADA and performance analysis via BG Insight enable predictive, data-driven maintenance, reducing scheduled down-

time and improving long-term system availability.



## TECHNICAL HIGHLIGHTS

| FEATURE                 | SPECIFICATION                                   |
|-------------------------|-------------------------------------------------|
| CAPACITY                | Up to 1,600 parcels/hour per robot cell*        |
| STANDARD CONFIGURATION  | 1-4 robot cells                                 |
| PARCEL WEIGHT           | 0.1-5 kg                                        |
| PARCEL DIMENSIONS       | 100 × 100 × 3 mm to 450 × 350 × 350 mm          |
| COMPATIBLE PARCEL TYPES | Cardboard boxes, polybags, carton bags, letters |
| OPERATING TEMPERATURE   | 0-40°C                                          |
| MAXIMUM HUMIDITY        | 90% RH (non-condensing)                         |

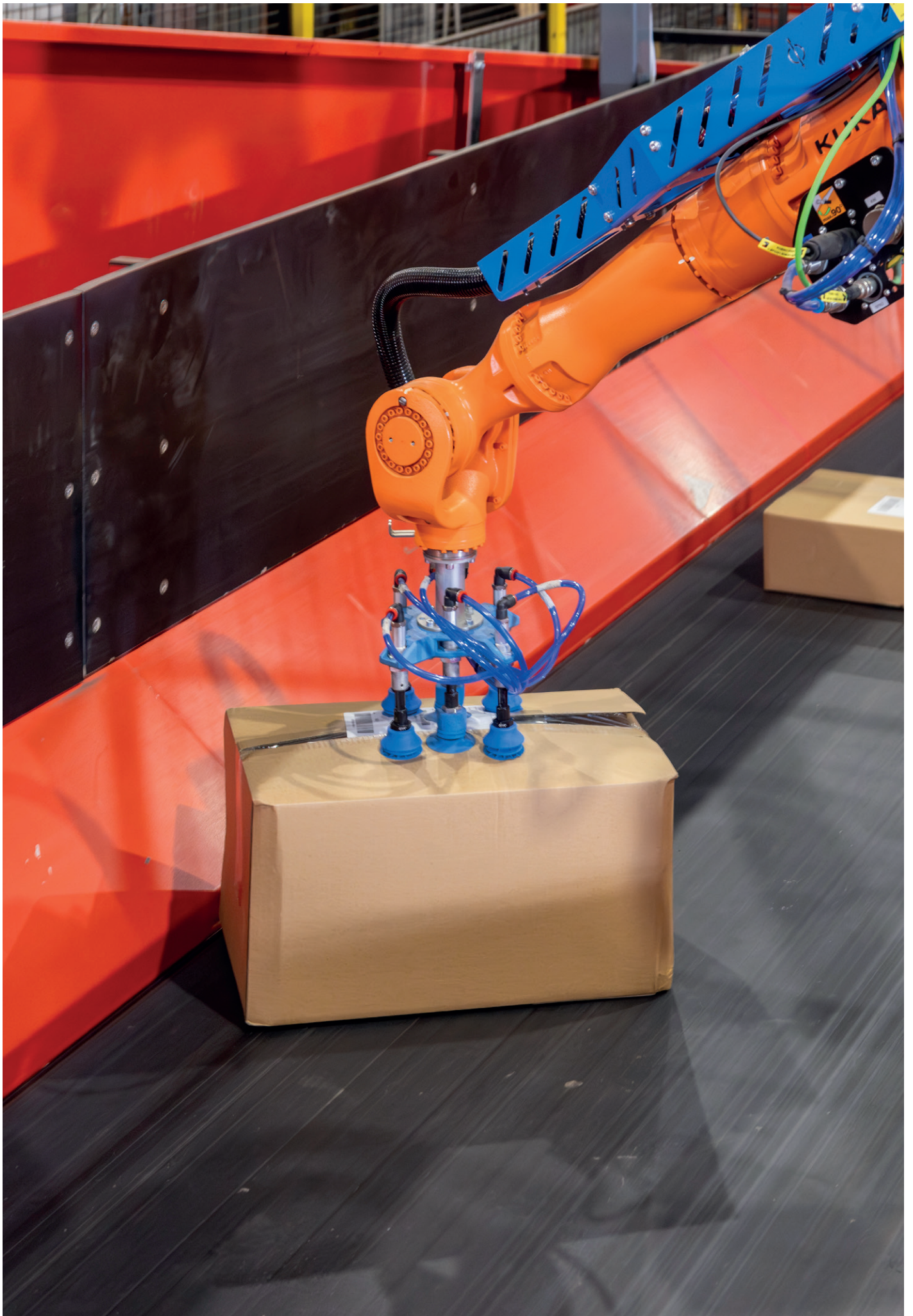
*\*Performance depends on parcel mix and operating conditions.*

## THE BEUMER DIFFERENCE

Every parcel operation is different, which is why there is no one-size-fits-all approach to automation.

In addition to BEUMER robotpick, BEUMER Group offers a comprehensive portfolio of parcel handling and sortation solutions for CEP operators. BEUMER's team works closely with each customer to assess their operational requirements, automation potential and expected return on investment before recommending the most appropriate singulation solution.

Whether the best fit is robotic automation, conventional induction or a hybrid approach, BEUMER Group delivers the solution that best supports each parcel centre's operational and business objectives.



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