

## CROSS BELT SORTER FOR FAST, ACCURATE, BAGGAGE SORTATION

# XSORT



Purpose-built for airport baggage handling, with sustainability engineered in.



## BEYOND AUTOMATION



## FAST, ACCURATE, SORTATION

### IMPROVE SPEED, ACCURACY, AND EFFICIENCY OF BAGGAGE SORTATION

Alstef Group's new **XSORT** - Cross Belt Sorter (CBS) offers unparalleled efficiency, accuracy, and versatility. This innovative sorting system boasts **high throughput capacity**, capable of handling a wide range of baggage sizes at high speed. Its compact design ensures **optimal space utilization**, making it suitable for terminals with limited floor space.

**XSORT** is equipped with **robust safety features** and seamless integration capabilities, providing airports with enhanced operational control and real-time visibility. As Alstef Group continues its tradition of delivering superior automation solutions, **XSORT** sets a new standard for sorting efficiency and performance in the industry.

#### ECO-CONCEPTION APPROACH: RENEWABLE AND RECYCLABLE MATERIALS



- XSORT utilizes sustainable **lightweight aluminium** in its construction, reducing energy consumption during transportation and installation while maintaining structural integrity.
- The low carbon aluminium used in XSORT requires **less energy during production**, further reducing its environmental impact and promoting resource efficiency.
- Aluminium is lightweight and **fully recyclable** without any loss in quality, fostering a closed-loop system that minimizes waste generation and preserves natural resources.
- The production of the base material aluminium members is **ASI certified** (Aluminium Stewardship Initiative).
- In addition to the extensive use of aluminium, care has been taken to **reduce the use of plastics** i.e. the floors of the on-board conveyors are made of wood

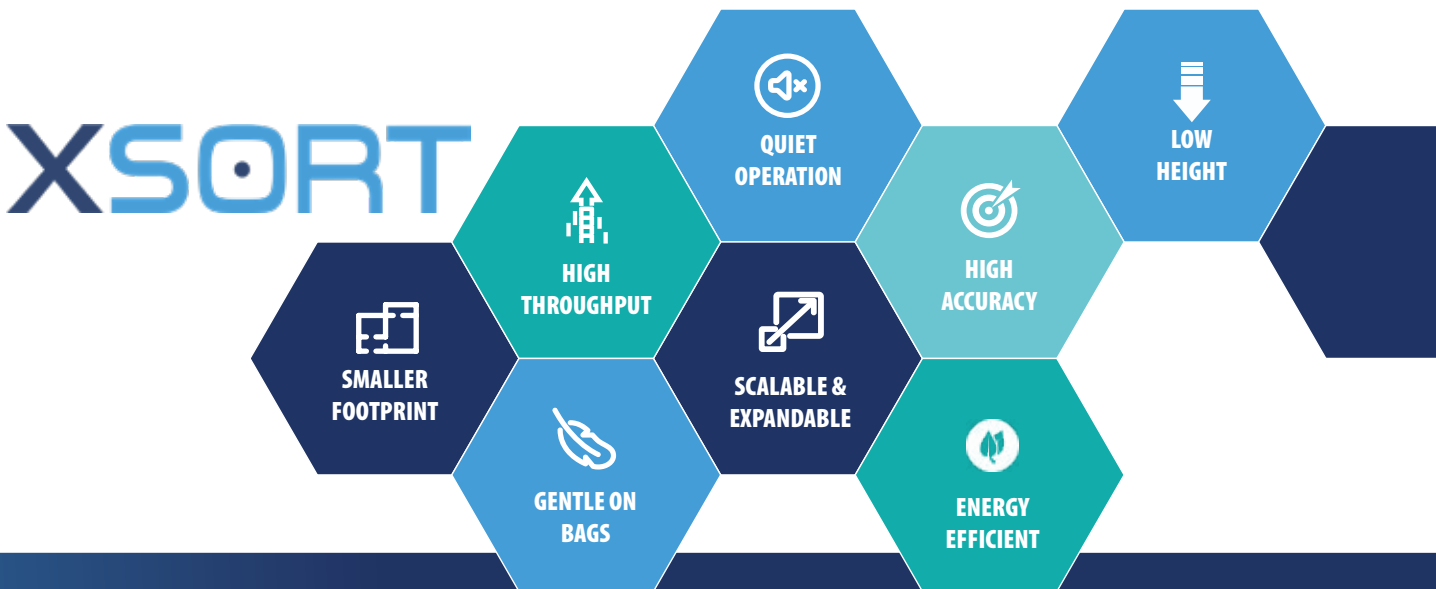


# BENEFITS OF A CROSS-BELT SORTER SOLUTION

## KEY ADVANTAGES OVER ALTERNATE SORTATION OPTIONS

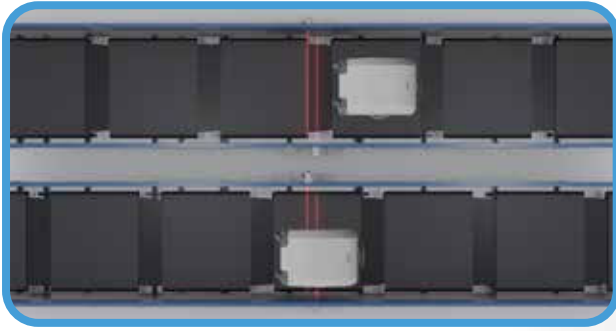
**XSORT** provides a **smooth transfer** by traveling at the same speed as the induction conveyor. Bags effortlessly move from the induction belt to **XSORT** without friction and with a smooth discharge. **XSORT** efficiently processes large volumes of bags at high speed, decreasing wait times and **enhancing operational efficiency**. Designed to be **compact and flexible**, **XSORT** has a **low height, minimized footprint**, and the ability to cater for **5° and 11° inclines**. Bags are inducted based on size and position and **XSORT** controls and manages baggage offload and realigns bags if needed.

With **fewer moving parts** and **native IOT**, **maintenance is minimized** due to **reduced points of wear**. Additionally, **XSORT** **optimizes energy consumption** by adjusting its speed according to capacity, and it boasts **low overhead clearance** compared to alternative sorter solutions.

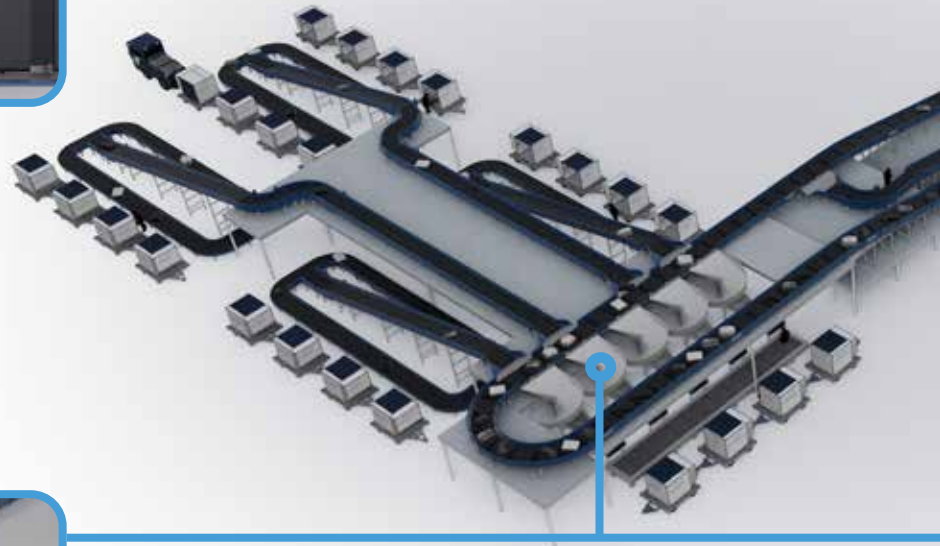


## BAG CENTERING

- Detect location of bag in relation to the centre of conveyor
- Add/subtract offset and reposition bag to discharge position



# XSORT



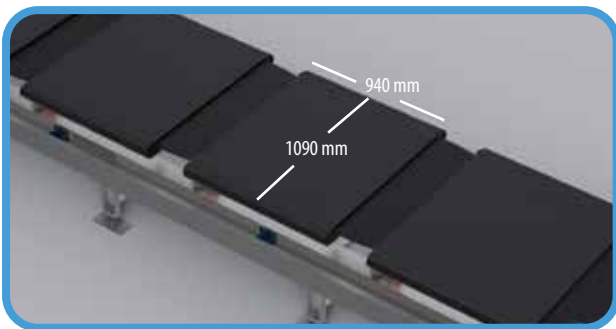
## CHUTE OPTIONS

- Chute on conveyor
- Narrow chute for single offload
- Large chute for multiple offloads
- Spiral chute



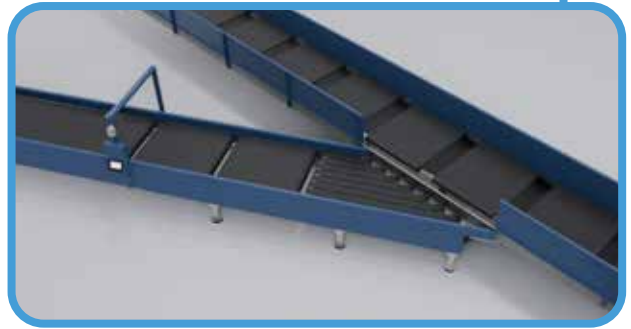
## CELL SIZE

- Length 1090 mm
- Width 940 mm
- Reject chute for bags loaded across two cells



## SORTER INDUCT LINES

- Metering conveyors to create space between bags
- Measuring light grids
- Multi-belt 30° merge conveyor



# KEY SYSTEM COMPONENTS

## SAFETY CONTROLLED MAINTENANCE ACCESS AREA

- Quickly and safely maintain or replace cells
- Maintenance rail for ergonomic removal of cells



## TECHNICAL SPECIFICATIONS

### Bag Characteristics

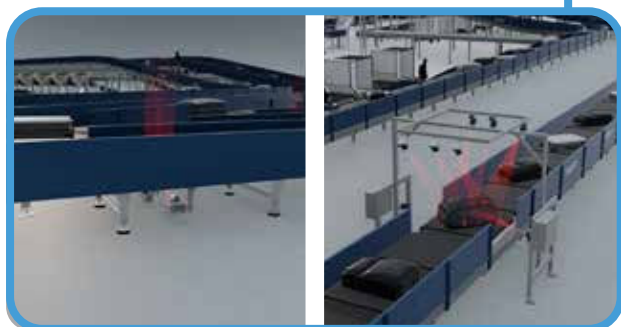
Min bag dimensions	200x200x100 mm
Max bag dimensions	900x700x500 mm
Min weight	3 Kg
Max weight	60 Kg

### Sorter Characteristics

Maximum speed of the sorter	2.5 m/s
Throughput max (speed 2.5m/s)	7500 bags/h
Size of cells	1090 x 940 mm
Pitch of cells	1200 mm
Curve radius	3000 - 4000 mm
Horizontal curves angle options	15, 30, 45, 60, 75, & 90°
Vertical slopes	5° & 11°
Overall height	500 - 3500 mm

## BAR CODE SCANNING OPTIONS

- 90° under-belt scanner (bottom face read)
- 270° ATR (five face read)





## PERFORMANCE AND CONTROL OPTIMIZATION OF MATERIALS AND MAINTENANCE

Compliant with the latest regulations including Machine Directive 2006/42/EC and EN619 requirements, **XSORT** is designed to optimize performance and efficiency through the use of lightweight trolleys and high-performance - low friction wheels.

### Performance Features:

- Maintenance free linear synchronous drive motors
- High-efficiency permanent magnet motors
- Wireless induction power system
- WiFi communication system
- Incorporates best-practice safety systems
- Redundancy of contactless electrical power system
- The electrical architecture based on harnesses cables for easy installation and maintenance
- Redundant safety PLC per safety standard EN619, prevents stoppage of the sorter in case of PLC failure

**XSORT** seamlessly integrates with existing airport SCADA system which provides a dynamic BHS visualization interface and also connects to existing Sortation Allocation Control (SAC) solutions. This facilitates real-time monitoring, precise sorting allocation, and efficient coordination with wider airport systems ensuring optimized baggage handling operations and enhancing overall system synergy.

### ECO-CONCEPTION APPROACH: ENERGY SAVINGS



- XSORT's speed adapts to capacity optimizing energy consumption
- XSORT utilises the latest generation of SLC synchronous linear motors with optimum efficiency
- Linear motors: reduced trolley weight and low wheel friction coefficients
- On-board conveyor motors provide low coefficient of friction between floor plates and belts



## SUPPORT AND MAINTENANCE

### REDUCED MAINTENANCE AND REAL-TIME SYSTEM MONITORING

Alstef Group offers full support options for **XSORT** including on-site operations and maintenance support and remote hot lines, alongside native **BAGXPRT** IoT-driven predictive maintenance, which assists to significantly reduce operational expenditure (OPEX). **BAGXPRT** aids to pro-actively identify and resolve issues before they escalate which minimizes downtime, enhances system reliability, predicts wear of components to avoid sorter failure and ultimately streamlines operational costs, ensuring sustained efficiency and cost-effectiveness in the long term.

Real-time status and control of the sorter is available via machine screen panels located at induction, on the main cabinet and in the maintenance area, allowing for speed control, carrier selection, and conveyor speed adjustments.

Alstef Group's CMMS - maintenance engineering tools provide functionalities such as tracking and planning of maintenance schedules and monitoring of works in progress relating to the baggage handling system. Our solutions can facilitate the management of spare parts stock - including inventories, entries/exits, purchases etc, and the management of both material and human resources.

#### **Simplified Preventative Maintenance:**

- Commonly available components with high uptime
- Contactless motorization of power supply with no moving parts - eliminates wear
- Sealed bearings - lubricated for life

#### **Simplified Corrective Maintenance:**

- Simplified disassembly
- The modular design of the electrical architecture of the carriers allows for easy dismantling – plug and play
- Simplified disassembly process for 30° induction belts

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