



## MULTISORTING SUITE

The Multisorting Suite is a family of innovative cross-belt sorters for logistics, courier and postal applications.

It can be used in courier and postal hubs to sort packets, parcels and trays for forwarding to other hubs or final destinations or in manufacturing and distribution plants to sort and route a large variety of cartons. Installations consist of a continuous loop transport system, a number of induction lines to load parcels automatically onto the transport system, and a large quantity of unloading outlets.

The Multisorting Suite is based on cross-belt handling technology, which is the preferred technology for ensuring optimum handling of all articles, including objects that are fragile, have high friction surfaces, or are irregular in shape.

The transport system is made up of trains of carts, with onboard cross-belt cells that, moving perpendicularly to the direction of the carts, both assist parcel loading from an induction line and provide parcel unloading to the assigned destination. Each train is equipped with a processor to allow all cells to be managed independently.

Each cart may bear one or two cross belt cells according to the configuration. Standard cart and cell lengths can be modified to best meet specific customer requirements.

The typical layout is based on a loop designed for flexible configuration depending on type and number of outlets required, room available and existing structural constraints.

Although the Multisorting Suite is based on consolidated technology, it includes a number of innovations and improvements that position the product as one of the most advanced, high performance propositions in its category.

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## MAIN TECHNICAL FEATURES

- Configurable propulsion system: premium version based on synchronous linear motors that are not subject to wear, ensure low noise levels and allows dynamic change of speed and value version with wheel drive traction, to increase mechanical efficiency
- Configurable energy transmission to onboard batteries or energy accumulation systems that ensures a constant flow of power for moving cross-belts, either by means of contactless induction system or by sliding contacts
- Wireless signal transfer to drive individual cells
- Motor-rollers on cells, eliminating the need for belt transmission mechanisms
- Configurable with one or two cells for cart, to best adapt to different item sizes
- High-strength, long-life rails, coated in stainless steel and larger diameter wheels with improved hardness, which significantly reduce friction
- Distributed cell control to increase sorter reliability
- Long-life, self-lubricating bearings
- Flexible unloading trajectory configuration in the Parcel Sorter version: customizable offload speed
- High loading capacity, with 30-degree induction lines and acceleration/speed adjustment according to sorter throughput, in order to increase the stability and correct orientation of parcels, and maximize production capacity
- Wide range of outlet types based on belt conveyors, straight or spiral chutes, gravity roller conveyors, as well as outlets discharging directly into bags
- Modular components enabling scalable performances and flexible layout.

## FOCUS ON MAIN BENEFITS

These innovative design choices bring to customers a number of benefits, including:

### **Very high reliability**

All Multisorting Suite components have been designed and produced to deliver maximum availability (> 99,9%) and operating consistency. All critical components have built-in redundancy. Each train of carts has a “head cell” with an onboard processor that manages the carts and their cells independently of each other and other trains. Therefore, in the event of a failed cell do not affect the operation of other cells and can be replaced during scheduled maintenance.

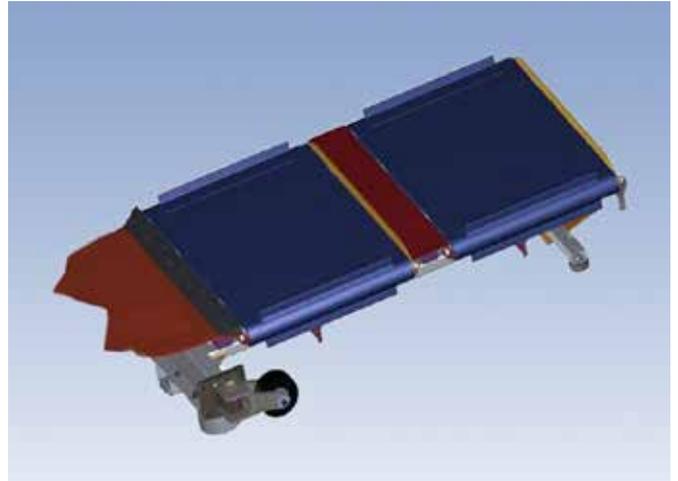




### Low operating expenditure

The Multisorting Suite features very low energy consumption. Further significant savings can be obtained by reducing the sorter speed and its throughput according to the volume arrival profile. Based on typical traffic fluctuations at logistics hubs, it has been estimated that adjusting speed according to real operating requirements can achieve energy savings of more than 30% compared with constant speed systems. High sorting capacity and flexible speed control offer an attractive return on investment for customers.

Moreover, the Multisorting Suite has limited maintenance requirements and all operations are simple to perform.



### Very high configurability

The layout of the sorter loop can be configured flexibly according to logistics flows inside the sorting hub, available room for installation, and the structural constraints of the building. Important features of the MPHS are exceptional component modularity, the availability of many different types of outlet and the possibility of varying the number and position of induction lines and outlets in the loop.

The full modularity of the system gives our customers investment protection. It is possible to integrate or remove modules quickly and easily at any time during the product lifetime.

## INTEGRATION WITH RECOGNITION TECHNOLOGIES

The Multisorting Suite increases productivity and delivers high throughput and sorting accuracy by integrating state-of-the-art material handling solutions with advanced identification and recognition technologies.

The following components are compatible and easy to integrate:

- Image readers (for objects in motion and with varying depth of focus)
- Multidirectional bar code decoding systems (based on laser or image reading technology)
- OCR for address interpretation
- Videocoding systems
- Multidirectional RFID decoding systems
- Manual coding stations
- Security scanners
- Tracking & Tracing systems.

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## TECHNICAL SPECIFICATION

The Multisorting Suite features sorters with different cell dimensions so that the most suitable version can be supplied to meet specific customer requirements. However all sorter models comply with, and in some cases exceed, the maximum object dimensions usually requested by couriers and postal operators.

Maximum weight can be more than the maximum limit of 50kg established by UPU for International Postal Services.

Objects are as far as possible loaded on a single cell with their long side perpendicular to the carrier transport direction, thus maximizing the operating capacity.

The whole Multisorting Suite allows to sort and route a large variety of small to large mail items in paper or plastic packaging, regular and irregular, rigid/ non-rigid, tightly packaged or with shifting contents.

## CHARACTERISTICS

	MPKS	MPHS 2C	MPHS
	Multisorting Packets System	Multisorting Parcel Handling System Double Cell	Multisorting Parcel Handling System
Max Size Items [mm]	900 x 650 x 500 (LxWxH)	1200 x 800 x 800 (LxWxH)	1500 x 800 x 800 (LxWxH)
Max Item weight [kg]	20	> 50	> 50
Minimum product dimensions	100 x 75 x 1	150 x 100 x 1	150 x 100 x 1
Max sorter speed [m/s]	Up to 2	Up to 3	Up to 3
Sorter Nominal Capacity [cells/h]	12,000	18,000	13,500
Cell pitch [mm]	600	600	800
Cell size [mm]	450 x 650	460 x 1150	600 x 1300
Max Cells per item	2	2	2
Incline	Up to ±12 degrees	Up to ±12 degrees	Up to ±12 degrees
Sorter Noise level	< 65 dB(A)	< 65 dB(A)	< 65 dB(A)
Environmental conditions	5°C to 45°C max. humidity 90% non condensing	5°C to 45°C max. humidity 90% non condensing	5°C to 45°C max. humidity 90% non condensing