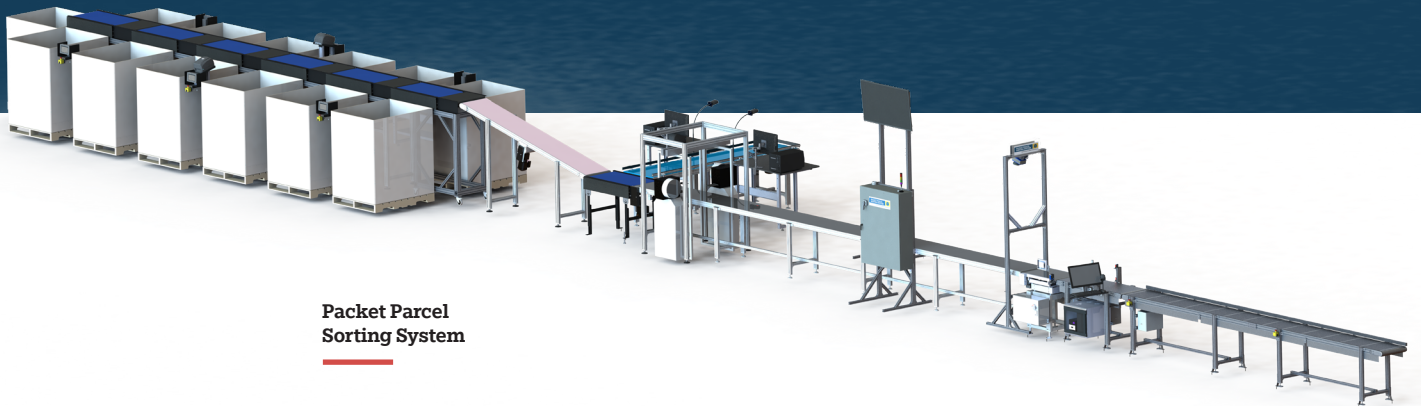


# Parcel Packet Sorting System (PPSS)

Feed, Scan, Weigh, Dimension,  
and Sort Parcels & Mail



Parcel Parcel  
Sorting System



Engineering Automation. Delivering Success.

# AFFORDABLE PARCEL SORTING FOR ECOMMERCE, SMALL POSTAL & PRIVATE DELIVERY

## VERSATILE & MODULAR

The Packet Parcel Sorting System (PPSS) handles a wide variety of package sizes from small packets up to medium size parcel at speeds from 2,000 to 4,000 pieces per hour. The system reads package barcodes, dimensions, weighs, and sorts. If labeling is required, either an automatic labeling applicator or an efficient manual labeling system allows flexible processing options. Optional OCR or legal for trade dimensioning can be added. Multiple robust and reliable sorting technologies are

available from cost-effective pneumatic pushers, roller ball diverting belts or a pneumatic diverter roller system for dual sided outputs. The sorting outputs can accommodate postal bags, Gaylords or wheeled containers, or a combination. The sorting system handles packages and parcels up to 24" x 15" x 18". Maximum weight per piece is 22 lbs. If heavier weight processing is necessary, a larger version is available that can handle items up to 75 lbs., with a maximum processing speed of 3,000 pieces per hour.



Large Packet Parcel  
Sorting System

## PRICED TO PLEASE

The Parcel Sorting System Series is priced to give you the quickest payback possible. This is achieved by designing for purpose with affordability and flexibility as prime goals. The versatile nature of the system allows you to pick

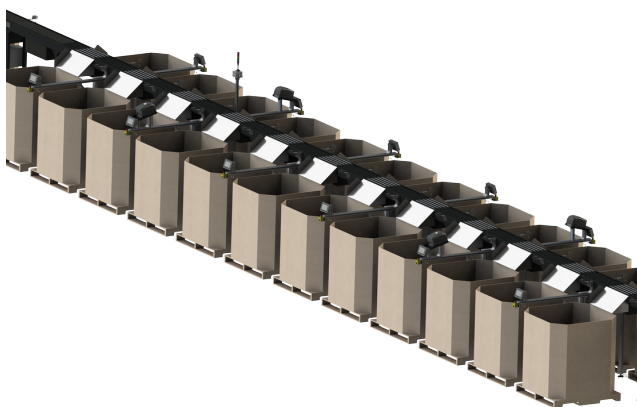
and choose the components that fit the specific needs of your operation. And we use best-in-class technologies from leading manufacturers, resulting in high quality equipment priced affordably.

## OPTIMIZING PROCESSING EFFICIENCY

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Flexibility and modularity are key attributes of the PPSS system. Its design allows using the system with various features and differing number of operators to most economically process the packages on a given day. For demanding periods, the PPSS can accommodate up to four-persons feeding packages on the induction belt. However, on slower days, it can be operated with only one feeder. It is designed to provide the ability to use the number of operators to feed compatible packets and parcels at high speeds required to meet that day's workload. This same approach is provided for with the manual labeling process.

The standard solution includes ID's interfacing to a customer's IT system via customer provided RestAPIs or other software integration methods. By allowing customers to maintain the business logic of their process, customers can quickly and cost effectively adapt those rules without incurring delays and additional fees. The PPSS provides the means of capturing data more productively and executing their business processes at much lower cost per piece.



The purchase of the system provides a comprehensive solution that includes the equipment and the commissioning, acceptance testing, and training for the customer staff responsible to operate the system. For ongoing support, ID Parcel & Mail provides various levels of service and support to keep the PPSS running reliably over many years.

The system comes with conveyors, optional turn modules, barcode reading systems, dimensioning and inline weighing subsystems, optional labeling subsystems, and machine controls, safety system, and power distribution to transport packets and parcels through each processing stage through to the sorting outlets to finalize packages by the desired sorting logic. The sorting subsystem can be configured for different types of containers including rolling containers, Gaylords, staging chutes or postal bags for direct bagging of small items. Controls with hardware and software can be added to the system to allow piece to container tracking of packages for manifesting directly off the system. Container Bundle Label printers provide an internal label for each closed container after it is pulled from the system.

## SOME OF THE STANDARD & OPTIONAL FEATURES OF THE PPSS

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- Manual package feeding at speeds up to 1,000 to 1,500 pieces per hour per operator, depending on package sizes and weights.
- Capable of processing a wide range of parcel types and sizes from small mailing packets to medium cartons.
- Precision in-line weighing scale captures up to 22 lbs. (10Kg) parcels and its length, width and height dimensions at +/- .4" (10mm) accuracy. Options for certified weighing & dimensioning available.
- A range of high-speed barcode reading systems with integrated LED lighting systems for 1D/2D barcodes or OCR image acquisition are available, depending on budget & application requirements.
- Automatic or manual labeling via ID Parcel & Mail's proprietary parcel queue and label printing matching logic to each package for fast label printing and application either by hand or automatically via print & apply labeling systems using robotic technology.
- Innovative pass-through conveyor design for sorting parcels that do not require labelling.
- ID Parcel & Mail's integration with customer IT system via multiple industry standard methods.
- Rugged and highly reliable conveyors and sorting systems with various diverting technologies can be configured with the desired number of outlets to match both customer's budget and processing needs.
- Tracking sensors and itemized piece tracking to the outlet containers with the optional sorter outlet control panels and container labeling systems provide manifesting pieces to containers.



*Over Under Conveyor Design for faster manual labeling and direct sorting when desired*

## KEY BENEFITS

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- Up to 4-5x throughput per man hour compared to current manual processing.
- Fewer sorting errors versus manual sorting.
- Capable of running with as few as 3 operators during low volume days or shifts.
- Much higher capacity with less space consumption.
- Ergonomic design allows clear view of workflow and identification of issues.
- Proven domestic and cross-border processing expertise with flexible solutions that provide 100% processing solution.
- Low initial capital investment with a faster return on investment.
- Lower staff and maintenance costs.
- Engineered for postal operations and multiple shift processing utilization.



Small PPSS

## SYSTEM DETAIL DESCRIPTION

### Product Range of System

The PPSS processes all types of packages including boxes and cartons, plastic and paper envelopes, and clothing in poly or Tyvek bags. Dimensions range from very small packets and mailing parcels to medium sized cartons. Packages must generally maintain their shape and have a firm, flat bottom with a straight edge to justify during induction.

Packages that are equal to or smaller than the optimal dimensions stated in the System Specifications can meet the design throughput rate of 4,000 pieces per hour, assuming 100% induction success and label printing rates based

on the average queue time. Large packages will consume more than one induction target thereby reducing system throughput.

### Operational Processing

The PPSS is designed and can be configured with one or more zones depending on a customer's processing requirements:

#### Zone 1 – Induction & DWS (Dimensioning, Weighing, Scanning)

Packages are inducted onto the PPSS by operators placing each package between the lines on the Induction conveyor justified to the guide rail.



Sorting System with both sorting to Gaylord boxes and postal bags



*Automatic labeling option*

Packages must be placed with the barcode facing up to ensure reliable barcode readability.

The packages travel through a barcode scanning area, the dimensioning arrays, and then across the weighing scale. The result of each process is captured and saved with the package barcode id read by the barcode scanning system. Successfully processed packages are conveyed to the next zone. If the barcode is not read, the package can be rejected at the end of the Induction DWS zone for reprocessing.

### **Optional Zone 2 – Automatic Labeling or Manual Label Printing stations**

For applications that require package labeling, the PPSS transfers the package barcode, weight, and dimensions through the software interface to a customer's IT system for business logic routing and label creation. For simpler applications, routing and sorting logic can be maintained via internal sorting schemes directly on the PPSS. As the package arrives at the labeling system or stations, the PPSS transmits the appropriate information to the labeling printers/systems to ensure the correct package is tracked and labeled.

If labeling is not required, the PPSS can be configured without a Zone 2 or with a simple bypass conveyor for sending packages directly to the sorting system, Zone 3.

### **Zone 3 – Sorting System**

The PPSS has multiple options for sorting systems. From fully automated sorting systems with as few as two or three sorting outlets to

larger systems with up to 100 sorting outlets can be configured on the PPSS.

For really low volume operations, the simplest sorting solution is an exit conveyor that moves the packages to a manual sorting area where operators grab and sort packages.

For small sorting requirements, one or several sorting modules can be combined to provide automatic package sorting and tracking of pieces to a small number of the sorting outlets and containers.

For larger volume applications, multiple sorting outlets can be provided with sorting to multiple container types. Typically, these systems will have 20 to 100 sorting outlets. Packages can be sorted to Gaylord or rolling containers, postal bags or sacks, chutes for palletizing, or other containers that customers use for material handling in their operation.

Depending on whether packages received a new label and barcode tracking ID in the labeling zone, a second barcode scanning system is added to read the new barcode id label to identify the package after manual labelling and re-induction. The PPSS will match the package id number to the sort outlet destination assigned by the IT system from Zone 1 processing. The package is tracked and conveyed to the assigned sort outlet and upon arriving, diverts into the outlet container. Tracking sensors mounted in the conveyor before each diverting point confirm the package is arriving as expected. The system has touch screen control at the sorter outlets for operators to signal to the main system that the outlet container is getting changed allowing the PPSS to report pieces to outlet containers. A printer close by the containers prints an internal tracking label for each closed container. Data is saved by container ID number so it can be passed back to the customer IT system for final container labeling and dispatch to its postal or carrier partners.

# SYSTEM SPECIFICATIONS

Processing Range	Minimum	Maximum
Dimensions for the standard model Larger sizes can be accommodated with different conveyors/subsystems.	4" X 4" X 0.25" (101mm x 101mm x 6mm) L X W X H	24" X 15" X 17.7" (610mm x 381mm x 450mm) L X W X H
Optimized Dimensions for Maximum Throughput	15" (381mm) or less in length	
Weights	0.1 lbs. (45 grams)	22lbs. (10Kg)
Weight Accuracy	e value 0.02lb	
Product Types	Boxes, Poly Bags, Packets	
System Features		
Software	Complete Machine Control and User Interface Solution	
Safety System	Emergency stop system at all operator locations along with appropriate safety labeling for PPSS	
Barcode Reader Details		
Types	1D & 2D	
Minimum Size	10 mil	
Lens/Lighting	Self-focusing with embedded LED illumination	
Sorting Technologies		
Pop Up	4000pph Throughput for Optimized Package Sizes	
ModSort	3000pph Throughput, Well Suited for Irregulars	
Pusher	2000pph Throughput, Very Cost Effective	
Optional Features and Functions		
Reject Module	Automatically rejects pieces that do not match machine spec, failed to scan or weight, or rejected by customer IT system.	
Metering Device	Accumulate and release pieces at desired flow.	
Over/Under Conveyors	Provides a bypass under Manual Labeling Zone for packages that only require sorting. Support fast manual labeling with simple ergonomic labeling processing.	
Labeling Solutions	Automatic: Print and Apply Labelers employed with X/Y/Z applicators or Robotic Cells for automatically applying package labels	Manual: Using from 2 to 10 Labeling Workstations and Over/Under Conveyors, operators scan packages from the Accumulation conveyor with hands-free scanners and label the packages and then place on the Takeaway Conveyor
Bag Chutes/holders	Gives machine ability to sort directly into a mail bag. Provides easy postal bag/sack attachment to the PPSS for direct sorting into postal bags.	
Large Package Chutes and Gravity Rollers	Directs packages from the PPSS sorting system to a queue for post processing using manual fine sorting or pallet building.	
Sorter Outlet Control Panels	Provides a Touch Screen Interface between every two sorter outlets to close containers, print container labels, and update the PPSS when a new container is in place for receiving packages. This feature allows the PPSS to track packages to specific containers or bags.	
Container Label Printer	Label printer on sorter for labeling finished containers as they are cleared off the sorter.	
Optional Work Stations		
BCR Scanner	Hands Free 1D & 2D	
Software	ID Parcel & Mail work stations software or integrate customer software.	
Desk	Ergonomic desk for manual labeling process.	
Printers	Multiple printers supported, with self peel options. Multiple label formats supported.	
Environmental		
Electrical Power	Typically:208/400;3 Ph;60 or 50 Hz;20 to 150 Amps (depending on system size) 5 Wire Connection.	
Pneumatic Air	Clean, Dry Compressed Air Supply @100 PSI (6.89 Bar); (21.24 to 141.58 lpm) depending on system size.	
Network	Two 1Gb CAT6 Ethernet Connections	
Temperature/Humidity Operating Range	50-95° F (10 -35° C) /20-80% non-condensing	
Certifications	CSA,CE, OIML	



ID Parcel & Mail Solutions Headquarters

## WHAT SETS US APART

ID Parcel and Mail Solutions is a nimble and experienced organization that provides affordable solutions without sacrificing quality. We do so by identifying the essential needs of our customer's operation. This way we can configure or design a system that achieves critical goals without the added cost of a higher speed system that can't be fully utilized,

or with ancillary components that would otherwise add to the cost. We build our systems with best-in-class technologies from leading manufacturers. And because we're a smaller organization we do not carry the significant overhead that many larger automation system providers do. The result is the highest quality product at a low-cost point.

## TRUSTED PARTNERSHIPS

For over 26 years, we've been providing robust and complex systems for well-established organizations that include Air Business, Ltd (a subsidiary of An Post), Asendia, ePost Global Shipping, The Mail Group, Post Danmark (now PostNord), PostNL & TNT Post, Deutsche Post/DHL Global Mail, and Royal Mail. Solutions have included standard and custom hardware and software designs and solutions from very simple and easy to maintain products to fully

automated OCR and sorting systems used around the clock. Data integration is a critical aspect of automation and ID Parcel and Mail has provided a range of solutions from very simple to sophisticated customer IT systems such as Microsoft SQL, SAP or proprietary customer APIs for data that is used in routing packages and mail, customer invoicing of postage and fees, customs and shipment manifesting, and operational reporting and tracking.



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