



Dare CBS-III  
**DAMON CROSS BELT SORTER**  
EFFICIENT PRODUCT SORTING SOLUTION



2018 V1.1

**Damon**  
*Damon Simplifies Logistics*

## Dare CBS-III system components

Key components of the cross belt sorter system include the infeed system, sorter host, outfeed system and the control system. The control system controls the induct of items from the infeed system to the sorter host for sortation. Product is sorted via the outfeed system to physical locations to complete the sorting process.

### ■ Infeed system:

To achieve high efficiency and accurate operation of the sorter host, the function of the infeed system is to automatically measure the physical parameters and identification information of items to be sorted and to ensure items are properly and synchronously inducted onto the high speed sorting vehicles. The Damon narrow belt infeed system can provide you with customized fully automatic, semi-automatic or manual infeed systems according to your working requirements.

### ■ Sorter host:

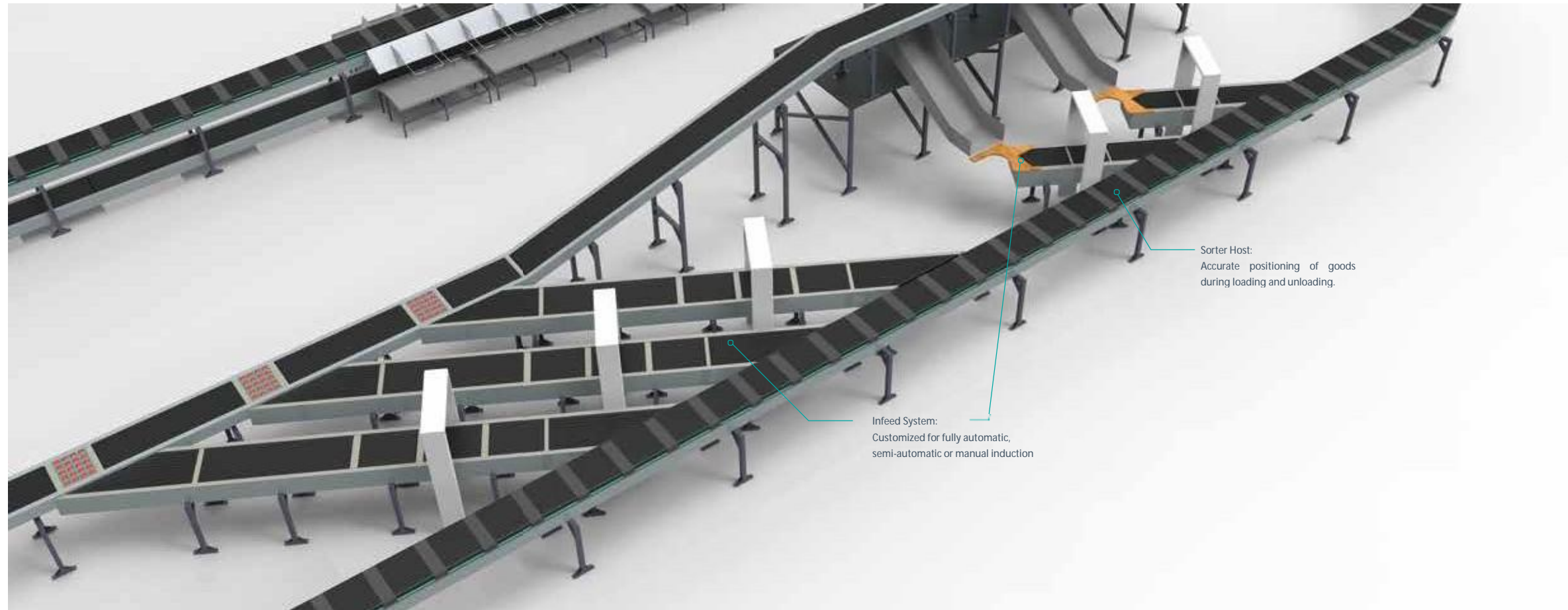
The sorter host is the main system component to achieve sortation with the function of delivering items to the correct sorting outfeeds according to the item's identification information. The Damon cross belt sorter system adopts servo direct drive technology providing instant start in milli-seconds to ensure items locate in the center of the vehicle during loading as well as reducing sorting error rates during unloading.

### ■ Outfeed system:

The outfeed system is the final stage of the sorting system. It temporarily stores the items delivered by the sorter host. At the same time, it will capture and display the related identification information of items and transmit this information to the master control system. Different types of outfeeds are available to match the diverse range of items that can be handled. Items can be directly sorted to outfeeds such as chutes, bag racks, roll cages etc. based on the size and shapes of the items to be sorted.

### ■ Control system:

The control system is the brains of the entire sorting system. It integrates mobile power supply technology, mobile communication technology, field bus, OPC communication, Industrial Ethernet communication, PLC servo and frequency conversion technology. The control system not only controls the function of each module but also exchanges data and management policies with the upper level management system. Through this exchange, the sorting system becomes an integral part of the total logistics management system.



Damon Cross Belt Sorter

Damon's cross belt sorter test loop



## Dare-CBS-III specifications



- The Damon cross belt sorter features high efficiency, low power consumption, high speed, low noise and low error rates at low cost. The sorter's low power consumption loop drive, cross belt servo drive and low running noise have achieved an advanced design to international standards. With a sorting rate of 25,000 p/h, it is the preferred choice by E-commerce, courier and apparel industries in China for intelligent sorting equipment.

Content	Specifications	Note
Mechanical Throughput	Main line speed: 2.0m/s, 15,000 pcs/h	Vehicle throughput
Types of Items Handled	Satchels, packages, cartons, totes, clothes	Excluding fragile items
Item Loading Specifications	440 x 700 @ 600mm pitch 440mm x 700mm @ 600mm pitch (two levels) 440mm x 800mm x 2 @ 1200mm pitch	One vehicle with one belt One vehicle one belt / two levels One vehicle with two belts
Item Dimensions	800mm L x 600mm W x 350mm H 100mm L x 100mm W x 50mm H	Two belts occupied One belt occupied / 600 x 400
Item Weight Capacity	0.1~30 kg	
Infeed Capacity	3000 p/h/unit	Based on 400 x 400
Infeed Method	Fully automatic, semi automatic	
Main Line Drive	Linear motor	
Cross Belt Drive	Servo motorized roller	
Cross Belt Power Source	Sliding wire pickup	Panasonic
Noise Level	<65db (Excluding environmental noise and steel platform vibration noise)	Cross belt main line

## Dare-CBS-III features

### 1. Low consumption loop drive technology (linear motor)

- High performance line set
- Small gap, wheel guided, bilateral solenoid drive
- High thermal conductive aluminium thermal interface material
- High density heat flow exhaust and cooling technology
- Integrated modular technology



Linear Motor



Cross belt servo motorized roller direct drive technology

### 2. Cross belt servo motorized roller direct drive technology

Pulse counting replaces conventional synchronous drive ensuring accurate alignment of items.

- Servo motorized roller drive enables more accurate infeed and outfeed of packages with different weights.
- Vehicle starts in milliseconds providing fast reaction and high efficiency
- Simple construction of the vehicle body provides space saving, reduced weight, reduced energy consumption and easy installation and maintenance.



High speed, low noise

### 3. High speed, low noise

A perfect mix of a super light aluminium vehicle body with optimized construction and low running noise design provides a noise level under 65dB.



Modular construction

### 4. Modular design for fast disassembly and maintenance

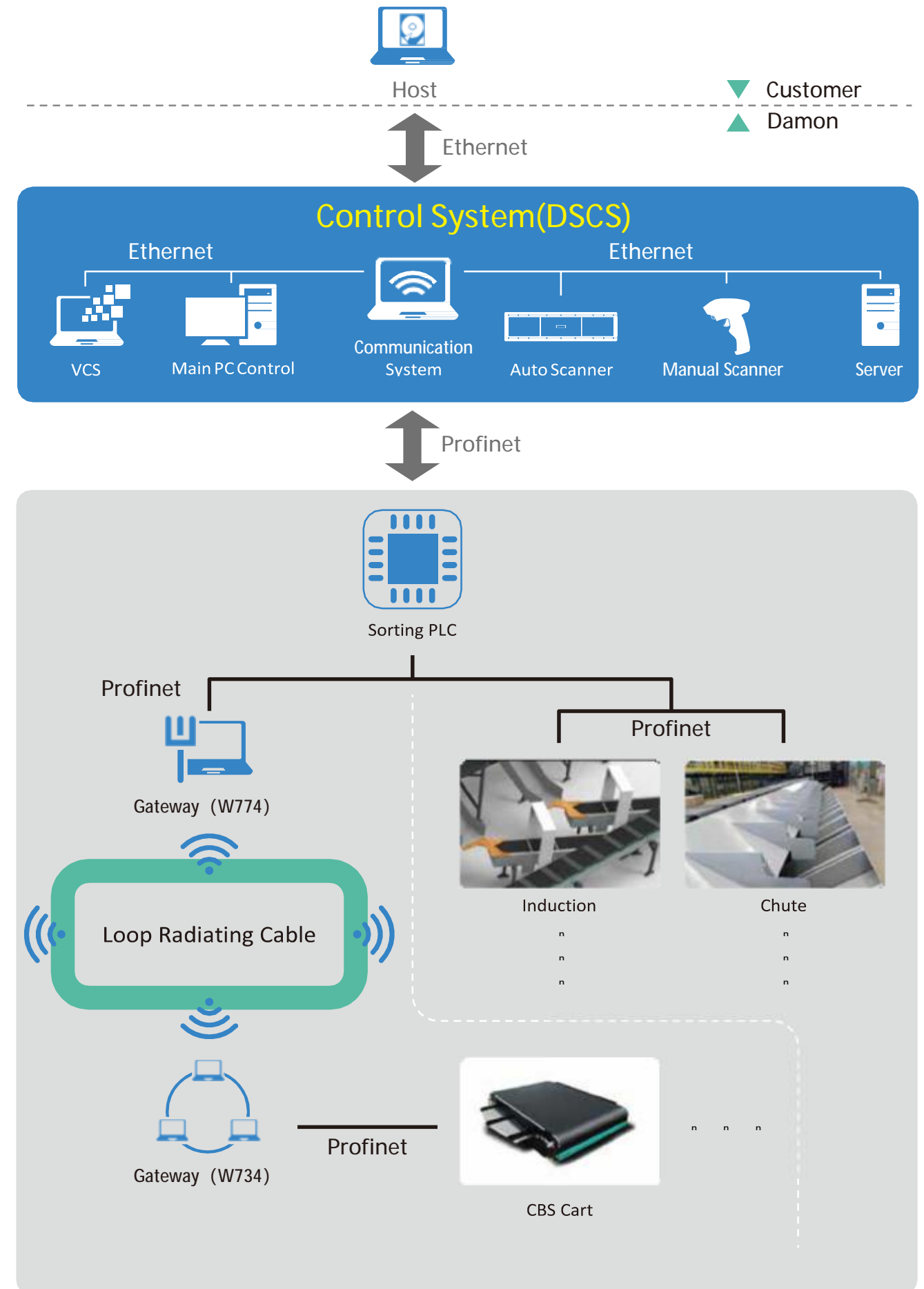
Introducing technology with an industrial design for modular construction and fast assembly and disassembly. This results in extremely easy maintenance and the ability to change a cross belt vehicle within only 5 minutes.



Camera barcode recognition system

### 5. Mechatronics features:

Damon employs a loop cable which transmits radio waves. Thanks to the high-speed roaming technology, cart control accuracy can be ensured no matter how long the sorter loop is. The control system utilizes Profinet, TCP / IP and RS485 for communications. To achieve high performance PRODAVE and OPC communication technology is used.



Site installations





Damon, a listed company on the Beijing Stock Exchange (stock code: 830805 Damon Science and Technology), is a leading intelligent logistics system and equipment provider in China. Damon focuses on intelligent logistics conveying and sorting systems including product research and development, manufacturing and project services. Damon serves the e-commerce, courier, clothing, pharmaceutical, manufacturing and other various industries to improve the competitiveness of our customer's logistics systems which always receives wide acclaim.

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