



Auto-Transfer Type AGV Product Manual

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DR20 overview

Typically in a manufacturing plant or logistics centre, there will be a number of production lines or conveyor lines. The efficiency and cost of manual handling has lagged behind the needs of the automation era where goods need to be transported from one production line to another.

The automatic transfer type AGV (DR20 AGV) can achieve efficient and smooth "automatic transportation" without people. It is connected with the production line through the top loading docking conveyor to complete the automatic loading and unloading of the goods. It features a high level of automation, operating efficiency and safety.

Pallet transportation

DR20-DP Double pallet auto-transfer AGV

Functions

The DR20-DP is designed to work with automated palletising robots to transport the loaded pallets and replenish the empty ones automatically. AGV's are also suitable for applications such as automatic handling between the pallet transport lines.

Features

1. AGV's saves space in the building. The need for conveyor lines for empty pallets replenishment and buffering are reduced and the loaded pallet input system is connected with the conveyor lines.
2. Compared with laser forklift AGV's, the cost is reduced by 50%.
3. Open interfaces.

Bin transportation

DR20-SR Single roller loader AGV

Functions

The DR20-SR is applicable in various environments and industries such as E-commerce, express, third party logistics, apparel, pharmaceuticals, food and manufacturing. It is designed to achieve automatic transportation and delivery of goods between processes in an intelligent and flexible manner.

Features

1. Reduced number of conveyor lines.
2. Provides flexibility and space saving.
3. Open interfaces.

Technical Specifications

Item	Parameters
Navigation	Vision/Magnetic
Node	QR Code
Positioning accuracy	± 5mm
Safety protection	Infrared / Laser

Technical Specifications

Item	Parameters
Maximum payload	1500kg
Speed	0 – 60m/min
Dimension of cargo	1200(L) x 1000(W) x 1500(H)
Positioning accuracy	± 5mm
Loading device	Two layers of pallet handling roller

Technical Specifications

Item	Parameters
Maximum payload	2000kg
Speed	0 – 90m/min
Dimension of cargo	600(L) x 400(W) x 800(H)
Loading device	Electric roller



Automatic transfer of odd shaped and soft packaged goods

DR20-DB Double belt auto-transfer AGV

Functions

The DR20-DB is suitable for E-commerce, express, third party logistics, garment, pharmaceuticals, food and small and medium DC/RDC. It is designed to provide "goods to person" solutions for odd shaped pieces for automatic sorting and handling. The odd shaped pieces face towards the carton conveyor lines, sorting chutes and production lines.

Features

1. Intelligent sorting and high flexibility.
2. High handling efficiency.
3. Low investment cost.

Technical Specifications

Item	Parameters
Maximum payload	100kg
Speed	0 – 90m/min
Dimension of cargo	800(L) x 700(W) x 800(H)
Loading device	Two belts driven by rollers

DR20-B Belt auto-transfer AGV

Functions

The DR20-B is suitable for E-commerce, express, third party logistics, garment, pharmaceuticals, food and small and medium DC/RDC. It is designed to provide "goods to person" solutions for large pieces for automatic sorting and handling. The medium and large pieces face towards the carton conveyor lines, sorting chutes and production lines.

Features

1. Intelligent sorting and high flexibility.
2. High handling efficiency.
3. Low investment cost.

Technical Specifications

Item	Parameters
Maximum payload	300kg
Speed	0 – 90m/min
Dimension of cargo	600(L) x 400(W) x 500(H)
Loading device	One belt driven by rollers



APPLICATION

Express

The AGV is used for sorting odd shaped pieces. There are seven straight chutes in the operation and test site. The oversized, overweight and odd shaped mail can be sorted by this AGV system perfectly with a handling capacity of up to 63 pcs/h for each vehicle.

The AGV process handling:

- PDA login binds to the infeed station.
- PDA scans the barcode on the mail.
- AGV carries the mail from the infeed station.
- AGV transports the mail to the physical chutes.
- After the mail is unloaded, the information is uploaded automatically.
- AGV returns to the infeed stations.

The overall sorting process is automated, intelligent and unmanned.





APPLICATION

Garment

The total solution consists of a Robot Miniload System, fabric loading system, lift type AGV's, SLAM type AGV's and carton conveyor lines. The overall process of material supply includes the automatic storage of cloth pallets, intelligent fabric loading system and automatic delivery of cloth from the warehouse. This intelligent, automated system improves the fluency between processes, reduces lost time due to handling and error rate of delivery. The system ensures optimal production line efficiency and reduces lost production due to errors and downtime waiting for delivery of material.

Inventory information is shared between the MES and the WMS. The WMS updates corresponding tasks according to the status fed back by the WCS. The conveyors and the AGV's execute the tasks as required by the WCS and provide feedback of the task status to the WCS system. The WCS then passes the information to the WMS system. We integrate the logistics, process flow and flow of information together to transform traditional labour intensive manufacturing to Industry 4.0 intelligent manufacturing.





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