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INDUSTRIAL VEHICLE

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HELI



New future with  
interconnection of  
digitalization and  
intelligence



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# PRODUCT MANUAL

## of Automatic Guided Industrial Trucks

\* Our products are subject to improvements and changes without notice.



# HELI

SERIES

## New future with interconnection of digitalization and intelligence

Heli Technology has a comprehensive logistics equipment product line, which is applied to intelligent factories and warehouses. The automatic guided trucks (AGV) products cover customized forklift fork type, carrying type and traction type, and we also have intelligent logistics equipment series products such as intelligent storage equipment, sorting equipment, robotic arm equipment, conveying equipment, etc.





A large, dark-colored Heli AGV i40 is shown in profile, facing right. It has a tall mast with a carriage and a large front body with the Heli logo and 'AGV i40' text. The background is a solid dark blue.

# HELI



**AGV**

New future with  
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## CQD16/20 AGV1B1LI CQD25/30 AGV11CLI

High lifting  
warehouse type AGV



### Application Scenario

Reach type AGV is commonly used for high-level storage of materials in factories.



### Characteristics

- e-commerce, and logistics center warehouses.
- Product Features
- Compact body, occupying smaller passage space;
- 1.6/2/2.5/3 ton multi-stage capacity selection;
- Full AC motor control, high efficiency;
- Large capacity lithium battery with long battery life;
- Side mounted automatic charging, high reliability;
- Automatic adjustment of fork pitch to adapt to multiple types of pallets;
- Multiple protections, intelligent security;
- Familiarized exterior design with a strong sense of technology.

### TECHNICAL DATA

Model	unit	CQD16-AGV1B1LI	CQD20-AGV1B1LI	CQD25-AGV11CLI	CQD30-AGV11CLI
Type	/	High lifting warehouse type	High lifting warehouse type	High lifting warehouse type	High lifting warehouse type
Navigation method	/	Laser	Laser	Laser	Laser
Rated capacity	kg	1600	2000	2500	3000
Max. lifting height	mm	8500	8500	8500	8500
Max. Travelling speed	km/h	7	7	7	7
Min. steering radius	mm	1637	1754	1845	1925
Right angle stacking width Pallet 1200*1200mm	mm	2791	2848	2990	3010
Repetitive positioning accuracy	mm	±5	±5	±5	±5
Communication method	/	5G/WIFI	5G/WIFI	5G/WIFI	5G/WIFI
Battery capacity	V/Ah	48/202	48/280	80/202	80/280
Truck weight	kg	3820	3846	4400	4660
Length, width, height (with fork of truck with standard configuration)	mm	2250*1360*3928	2293*1360*3928	2458*1438*3485	2458*1438*3485

NOTE:The above parameters are for reference only, subject to actual.





# CDD15-AGV4A5LI

## Stacking type AGV



### Application Scenario

Stacking type AGVs are commonly used for material transfer between warehouses, production lines, and different processes on production lines.



### Characteristics

- Compact body, occupying smaller passage space;
- Load capacity of 1.5 tons, 2m without load carrying reduction;
- Servo control, higher accuracy;
- Fully proportional valve, precise fork parking;
- Identify the end fork hole and automatically adjust the fork posture;
- The combination of laser and vision ensures comprehensive safety;
- Familiarized exterior design with a strong sense of technology.

### TECHNICAL DATA

Model	unit	CDD15-AGV4A5LI
Type	/	Stacking type
Navigation method	/	Laser
Rated capacity	kg	1500
Max. lifting height	mm	2000
Max. Travelling speed	km/h	5
Min. steering radius	mm	1218
Right angle stacking width Pallet 1200*1200mm	mm	2200
Repetitive positioning accuracy	mm	±10
Communication method	/	5G/WIFI
Battery capacity	V/Ah	24/100
Truck weight	kg	800
Length, width, height (with fork of truck with standard configuration)	mm	1670*856*1960

NOTE:The above parameters are for reference only, subject to actual.





# CDD16-AGV1C1LI

## Stacking type AGV



### Application Scenario

Stacking type AGVs are commonly used for material transfer between warehouses, production lines, and different processes on production lines.



### Characteristics

- Compact body, occupying smaller passage space;
- Load capacity of 1.6 tons, 3m without load carrying reduction;
- Side mounted automatic charging, integrated charger;
- Equipped with maintenance free AC steering motor;
- Multiple protections, intelligent security;
- Familiarized exterior design with a strong sense of technology.

### TECHNICAL DATA

Model	unit	CDD16-AGV1C1LI
Type	/	Stacking type
Navigation method	/	Laser
Rated capacity	kg	1600
Max. lifting height	mm	3600
Max. Travelling speed	km/h	4
Min. steering radius	mm	1340
Right angle stacking width Pallet 1200*1200mm	mm	2366
Repetitive positioning accuracy	mm	±5
Communication method	/	5G/WIFI
Battery capacity	V/Ah	24/173
Truck weight	kg	1090
Length, width, height (with fork of truck with standard configuration)	mm	1832*1010*2285

NOTE:The above parameters are for reference only, subject to actual.





# CPD10SQ-AGV1A1LI

## Counterbalanced type AGV



### Application Scenario

Counterbalanced type AGVs are commonly used for material transportation in narrow areas.



### Characteristics

- Omnidirectional driving, flexible operation;
- Load capacity of 1 ton, 2.9m without load carrying reduction;
- Large capacity lithium battery with long battery life;
- Side mounted automatic charging, integrated charger;
- Multiple protections, intelligent security;
- Familiarized exterior design with a strong sense of technology.

### TECHNICAL DATA

Model	unit	CPD10SQ-AGV1A1LI
Type	/	Counterbalanced type
Navigation method	/	Laser
Rated capacity	kg	1000
Max. lifting height	mm	4000
Max. Travelling speed	km/h	5
Min. steering radius	mm	1250
Right angle stacking width Pallet 1200*1200mm	mm	2840
Repetitive positioning accuracy	mm	±5
Communication method	/	5G/WIFI
Battery capacity	V/Ah	24V/280Ah
Truck weight	kg	2450
Length, width, height (with fork of truck with standard configuration)	mm	2430*1296*2500

NOTE: The above parameters are for reference only, subject to actual.





## CPD35SQ-AGV1A1LI

### Counterbalanced type AGV



#### Application Scenario

Three wheeled counterbalanced type AGV is commonly used for cargo loading, unloading, and indoor and outdoor material transfer.



#### Characteristics

- Small turning radius and strong passing ability;
- Load capacity of 3.5 tons, 3m without load carrying reduction;
- Front wheel dual drive, strong power;
- Large capacity lithium battery with long battery life;
- Side mounted automatic charging, integrated charger;
- Double side open door hood for more convenient repair and maintenance;
- Rubber tires for easy switching between indoor and outdoor operations;
- Multiple protections, intelligent security;
- Familiarized exterior design with a strong sense of technology.

#### TECHNICAL DATA

Model	unit	CPD35SQ-AGV1A1LI
Type	/	Counterbalanced type
Navigation method	/	Laser
Rated capacity	kg	3500
Max. lifting height	mm	5500
Max. Travelling speed	km/h	5
Min. steering radius	mm	1920
Right angle stacking width Pallet 1200*1200mm	mm	3872
Repetitive positioning accuracy	mm	±5
Communication method	/	5G/WIFI
Battery capacity	V/Ah	80/404
Truck weight	kg	5300
Length, width, height (with fork of truck with standard configuration)	mm	3421*1223*2430

NOTE: The above parameters are for reference only, subject to actual.





## CTD40-AGV11BLI CTD60-AGV1A1LI Straddle stacking AGV



### Application Scenario

The straddle stacking AGV is commonly used for the transportation of heavy goods.



### Characteristics

- Maximum load capacity of 6 tons, 3.5m without load carrying reduction;
- Wide legs can be customized for smooth handling of heavy goods;
- Large capacity lithium battery with long battery life;
- Multiple protections, intelligent security;
- Familiarized exterior design with a strong sense of technology.

### TECHNICAL DATA

Model	Unit	CTD40-AGV11BLI	CTD60-AGV1A1LI
Type	/	Straddle stacking	
Navigation method	/	Laser	Laser
Rated capacity	kg	4000	6000
Max. lifting height	mm	5000	5000
Max. Travelling speed	km/h	7	7
Min. steering radius	mm	1770	2124
Right angle stacking width Pallet 1200*1200mm	mm	2815	3225
Repetitive positioning accuracy	mm	±5	±5
Communication method	/	5G/WIFI	5G/WIFI
Battery capacity	V/Ah	48/404	80/404
Truck weight	kg	3400	4650
Length, width, height (without fork of truck with standard configuration)	mm	1960*1270*2476	2321*1270*2270
Leg width	/	can be customized	can be customized

NOTE: The above parameters are for reference only, subject to actual.



# HELI

## CBD30-AGV11ALI

### Handling type AGV

## CBD15/20-AGV4B1LI

### Handling type AGV



#### Application Scenario

Handling type AGVs are commonly used for point-to-point material transfer between ground level warehouses, production lines, and different processes on production lines.



#### Characteristics

- The truck body is compact and occupies minimal passage space.
- Load capacity of 1.5 tons/2 tons, lifting height of 205mm;
- Servo control, higher accuracy;
- The combination of laser and vision ensures comprehensive safety;
- Familiarized exterior design with a strong sense of technology.

#### TECHNICAL DATA

Model	Unit	CBD15-AGV4B1LI	CBD20-AGV4B1LI
Type	/	Handling type	Handling type
Navigation method	/	Laser	Laser
Rated capacity	kg	1500	2000
Max. Travelling speed	km/h	5	5
Min. steering radius	mm	1456	1456
Right angle stacking width Pallet 1200*1200mm	mm	2208	2208
Repetitive positioning accuracy	mm	±10	±10
Communication method	/	WIFI	WIFI
Battery capacity	V/Ah	48/40	48/40
Truck weight	kg	420	420
Length, width, height (with fork of truck with standard configuration)	mm	1644x932x1904	1644x932x1904

NOTE:The above parameters are for reference only, subject to actual.



#### Application Scenario

Handling type AGVs are commonly used for point-to-point material transfer between ground level warehouses, production lines, and different processes on production lines.



#### Characteristics

- Load capacity of 3 tons, lifting height of 205mm;
- Large capacity lithium battery with long battery life;
- Multiple protections, intelligent security.

#### TECHNICAL DATA

Model	Unit	CBD30-AGV11ALI
Type	/	Handling type
Navigation method	/	Laser
Rated capacity	kg	3000
Max. Travelling speed	km/h	4
Min. steering radius	mm	2264
Right angle stacking width Pallet 1200*1200mm	mm	2598
Repetitive positioning accuracy	mm	±5
Communication method	/	5G/WIFI
Battery capacity	V/Ah	24/272
Truck weight	kg	737
Length, width, height (with fork of truck with standard configuration)	mm	2434*958*2045

NOTE:The above parameters are for reference only, subject to actual.



## QFD-AGV

### Latent top up AGV



#### Application Scenario

After receiving the task, the latent top up AGV moves to the bottom of the shelf or bracket, and the lifting platform rises to support the goods, achieving the transportation of goods to people. The manual picking operation is carried out on the workbench based on the displayed information of the goods. After completion, the AGV moves the shelves to the warehouse. The powerful scheduling system and Warehouse management system can support large-scale, multi SKU, fast response, sporadic picking and other job scenarios.



#### Characteristics

- **Powerful scheduling system:**  
Accurate and efficient navigation methods;  
Multi vehicle and multi scene scheduling management, intelligent traffic management, real-time path planning, and efficient sorting.
- **Based on AI dynamic storage in the warehouse:**  
Based on the picking frequency of goods in the warehouse, intelligent classification of goods is carried out to optimize the shelf layout of popular and unsold goods, resulting in efficiency improvement and inventory structure optimization.
- **With an accuracy rate of over 99.97%:**  
Reduce manual intervention and judgment, and extensively utilize real-time and traceable warehouse management systems of lighting, color, and error prevention management. Reduce order errors and improve service levels.
- **Safe and reliable operation:**  
Adopting high-performance safety batteries, advanced radar obstacle avoidance and safety contact protection technology, and built-in fire extinguisher device.

#### TECHNICAL DATA

Model	Unit	QFD-AGV
Type	/	Latent top up
Navigation method	/	SLAM/QR code
Rated capacity (Customized)	kg	500
Max. Travelling speed	km/h	6
Min. steering radius	mm	In-place rotation
Repetitive positioning accuracy	mm	±5
Communication method	/	5G/WIFI
Battery capacity	V/Ah	48/40
Truck weight (standard configuration)	kg	200

NOTE: The above parameters are for reference only, subject to actual.





## Application Scenario

Latent traction AGVs are commonly used for material distribution between warehouses, production lines, and different processes on production lines.



## Operation method

The latent traction AGV lurks to the bottom of the material truck, and the lifting platform rises or settles to achieve material truck hooking, handling, or unloading.



## Application characteristics

- **Cost optimization:**  
A return period of 1-2 years.
- **Safe and reliable:**  
A reliable safety protection mechanism that slows down and stops in advance when encountering obstacles, and avoids intersections in advance to ensure work safety.
- **Optimize management:**  
According to manual line calls or order task responses, the handling task can be independently assigned to meet the automatic delivery of materials on the production line, with a stable rhythm and timely and on-demand delivery.
- **Standard interface:**  
It can seamlessly interface with upper level systems such as WMS/MES/ERP for users.
- **Flexible customization:**  
We provide standardized products and can also customize designs according to customer requirements.

## Latent traction AGV

## QFQD-AGV QFQS-AGV

### TECHNICAL DATA

Model	Unit	QFQD-AGV	QFQS-AGV
Type	/	Latent traction	
Navigation method	/	SLAM/Magnetic navigation	SLAM/Magnetic navigation
Rated capacity (Customized)	kg	500	500
Max. Travelling speed	km/h	3	3
Min. steering radius	mm	1000	1200
Repetitive positioning accuracy	mm	±10	±10
Communication method	/	5G/WIFI	5G/WIFI
Battery capacity	V/Ah	24/60	24/60
Truck weight (standard configuration)	kg	180	180

NOTE: The above parameters are for reference only, subject to actual.





WQY

Tail traction type AGV



Application Scenario

Indoor tail traction AGVs are commonly used for material distribution between warehouses, production lines, and different processes on production lines.



Operation method

The tail mounted material truck can tow multiple material trucks at once, meeting the needs of material supply and transportation of multiple goods in the workshop.



Characteristics

- **Cost optimization:**  
A return period of 1-2 years.
- **Safe and reliable:**  
A reliable safety protection mechanism that slows down and stops in advance when encountering obstacles, and avoids intersections in advance to ensure work safety.
- **Optimize management:**  
According to manual line calls or order task responses, the handling task can be independently assigned to meet the automatic delivery of materials on the production line, with a stable rhythm and timely and on-demand delivery.
- **Standard interface:**  
It can seamlessly interface with upper level systems such as WMS/MES/ERP for users.
- **Flexible customization:**  
We provide standardized products and can also customize designs according to customer requirements.

TECHNICAL DATA

Model	Unit	WQY
Type	/	Tail traction type
Navigation method	kg	SLAM/Magnetic navigation
Rated capacity (Customized)	km/h	500
Max. Travelling speed	mm	3
Min. steering radius	mm	1000
Repetitive positioning accuracy	/	±10
Communication method	V/Ah	5G/WIFI
Battery capacity	kg	24/60
Truck weight (standard configuration)		200

NOTE:The above parameters are for reference only, subject to actual.





## BFT-AGV

### Piggyback AGV



#### Application Scenario

Heli Piggyback AGVs are mainly used for inter line material distribution or transportation.



#### Operation method

Point to point transfer and transportation, the truck can be designed according to needs, can rotate in place, walk freely in narrow paths, and operate flexibly.



#### Characteristics

- **Cost optimization**  
A return period of 1-2 years.
- **Safe and reliable**  
A reliable safety protection mechanism that slows down and stops in advance when encountering obstacles, and avoids intersections in advance to ensure work safety.
- **Optimize management**  
According to manual line calls or order task responses, the handling task can be independently assigned to meet the automatic delivery of materials on the production line, with a stable rhythm and timely and on-demand delivery.
- **Standard interface**  
It can seamlessly interface with upper level systems such as WMS/MES/ERP for users.
- **Flexible customization**  
We provide standardized products and can also customize designs according to customer requirements.

#### TECHNICAL DATA

Model	Unit	BFT-AGV
Type	/	Piggyback
Navigation method	/	SLAM/Magnetic navigation
Rated capacity (Customized)	kg	500
Max. Travelling speed	km/h	3
Min. steering radius	mm	In-place rotation
Repetitive positioning accuracy	mm	±10
Communication method	/	5G/WIFI
Battery capacity	V/Ah	24/60
Truck weight (standard configuration)	kg	180

NOTE: The above parameters are for reference only, subject to actual.