

More freedom in conveyance, greater possibilities



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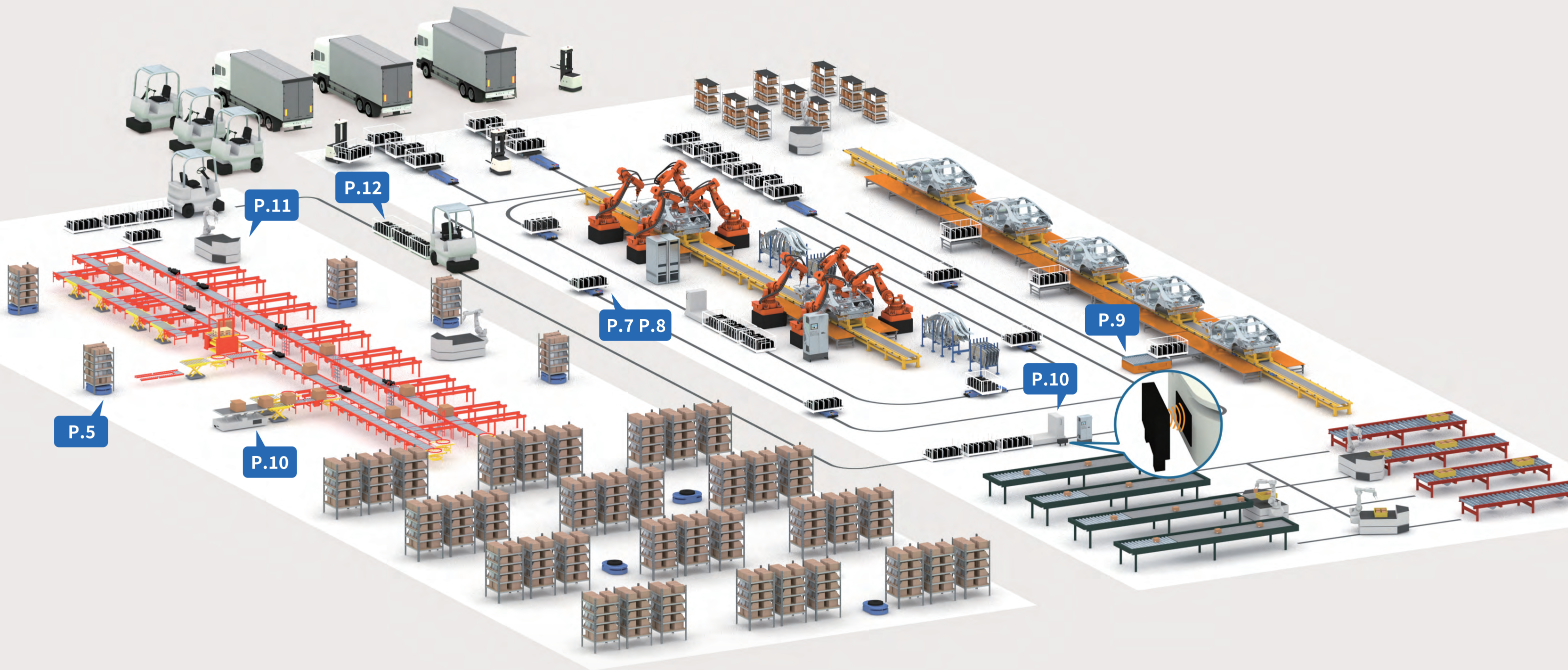


YouTube:
https://www.youtube.com/channel/UC6sy4acXNXbg04-Ls_vR5rg

AGV

Automatic Guided Vehicle

CATALOG



Providing the highest-quality AGVs for clients worldwide

Since our foundation, we have provided one-stop solutions and quality services to meet the diverse needs of clients, including design, manufacturing, installation, and after-sales services based on technological strength built up over many year in a wide range of fields.

Ask HEADS for custom-made solutions!

HEADS can offer quality solutions at a low cost in a short delivery time based on our vast experience and expertise in over 100 custom-made projects. Please feel free to contact us for details.



Rapid wireless charging

There is no need to replace dead batteries. Charging is automatically completed on production lines and no charging area is required. AGVs can work around the clock with wireless charging.

* 10mm displacement of the horizontal stop position is allowed.





Do you wish to:

- Risk of accidents when using a forklift for conveyance •
- Difficulties with recruiting for prolonged load handling tasks •
(even for light loads)
- Desire to save labor and conveyance costs •
- Desire to increase production uptime ratio •



HEADS' [AGVs] and [Wireless Charging] will resolve such concerns!

High-precision control for safe and secure driving!

No need for space or manpower for wireless charging!

Improved production cycles and productivity with around-the-clock operations!
Makes up for any labor shortage!



Various custom AGVs are offered in response to client requirements.



Low-floor type

Goes beneath a dedicated cart, and uses pins to secure and carry the cart.



Automatic transfer type

Fully automates not only conveyance but also loading and unloading operations with the conveyor unit equipped on the vehicle top.



Lift-equipped type

Carries and lifts up/down heavy workpieces for delivery after conveyance.

Please contact us for special specifications and models and load capacities not indicated in the catalog.

AGV HACOBOO LINEUP

Lineup

Autonomous type (SLAM)	HRT-S800	P.05
	HRT-S400	P.05
	HRC-S400	P.05

Low-floor type (300mm or lower in height)	HRT-M400	P.07
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Very-low-floor type (200mm or lower in height)	HRVT-M400	P.08
	HRVT-M450	P.08

Automatic transfer type	HRC-M series	P.09
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Cart-towing type	HRD-M series	P.10
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Lift-equipped type	HRL-M series	P.10
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Robot-equipped.	HRR-M series	P.11
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Outdoor type & outdoor cart type	HRO-M600 series	P.12
	HRG-E1000	P.12

AERO FACE (wireless charging)	P.13
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Autonomous AGV

High-precision AGV traveling using out Natural Feature Navigation requires no magnetic-tape guides and makes it easier to change routes.

Maps and travel routes are created on site and linked to traffic control and warehouse management systems for efficient allocation of AGVs.

Our portfolio in this class includes HRT-S800 (maximum load: 800kg) equipped with a lift mechanism, compact-size HRT-S400 (maximum load: 400kg), and heavy-duty HRT-S1000 (maximum load: 1000kg).

Natural Feature Navigation

New solutions for logistics!



* Image of the product in operation

AGVs travel while estimating their own location based on position information from laser sensors and generated map data. (in normal mode)

A hybrid system is employed to allow magnetic tape guiding for more precise positioning for linkage with other equipment, for example.



HRT-S800



Product specifications	
Size	1540 (L) x 1000 (W) x 275mm (H)
Maximum load	800kg
Travel directions	Forward, backward, pivot turning
Travel system	SLAM (autonomous)
Traffic control	ANT Server
Maximum speed	110m/min
Driving system	Powered wheel steering
Repeated stopping accuracy	±20mm
Battery	DC48V (lithium)
LiDAR	LiDAR x 2 (front and rear)

* Optional

HRT-S400



Product specifications	
Size	970 (L) x 550 (W) x 275mm (H)
Maximum load	400kg
Travel directions	Forward, pivot turning
Travel system	SLAM (autonomous)
Traffic control	ANT Server
Maximum speed	48m/min
Driving system	Powered wheel steering
Repeated stopping accuracy	±20mm
Battery	DC24V (lead)
LiDAR	270°LiDAR x 1

HRC-S400



Product specifications	
Size	1600 (L) x 745 (W) x 177mm (H) (Conveyor height: 500mm)
Maximum load	400kg
Travel directions	Forward, backward, pivot turning
Travel system	SLAM (autonomous)
Traffic control	ANT Server
Maximum speed	120m/min
Driving system	Powered wheel steering
Repeated stopping accuracy	±20mm
Battery	DC48V (lithium)
LiDAR	360°LiDAR x 1

Unit-type that tows a loaded platform from below

Low-floor AGV

Carries a platform engaged with lifter pins. Compatible with applications where dolly platform cannot be changed for particular objects to carry, and with narrow passages.

*Unit-type that can operate for long periods due to its compatibility with lead batteries



HRT-M400

Product specifications	
System	Magnetic
Control	PLC control
Maximum speed	50m/min
Other	- Emergency stop button - Melody playback
Safety	- Front and rear bumpers - Front and rear obstacle sensors (NPN, PNP)
Travel	Forward, backward, pivot turning (optional: traverse)
Size	1360 (L) x 640 (W) x 277mm (H)
Battery	Lead / lithium
Load capacity	400kg maximum

* Contact us for weight, dimensions, and details about traverse models.
* Please feel free to contact us for non-magnetic models.



190mm-high unit to tow a cage platform from below

Very-low-floor AGV

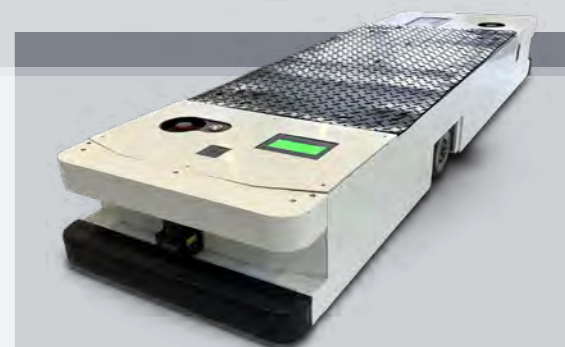
There are pin-type models that engage with cage platforms and lift-type models that lift a platform up/down to carry it. Capable of being used when dolly platforms carrying specific objects cannot be changed and in narrow passages. Lower than low-floor type AGVs; primarily for cage-type platforms.



HRVT-M400 pin-type tow

Product specifications	
System	Magnetic
Control	PLC control
Maximum speed	39m/min
Other	- Emergency stop button - Melody playback
Safety	- Front and rear bumpers - Front and rear obstacle sensors (NPN, PNP)
Travel	Forward, backward, pivot turning
Size	1500 (L) x 700 (W) x 190mm (H)
Battery	Lead / lithium
Load capacity	400kg maximum

* Contact us for information about autonomous models.



HRVT-M450 lift-up

Product specifications	
System	Magnetic
Control	Microcomputer
Maximum speed	45m/min
Other	- Emergency stop button - Melody playback
Safety	- Front and rear bumpers - Front and rear obstacle sensors (NPN)
Travel	Forward, backward, pivot turning
Size	1550 (L) x 450 (W) x 195mm (H)
Battery	Lithium
Load capacity	450kg maximum (350kg for pivot turning)

* Contact us for information about autonomous models.

Features of low-floor AGV

Safe Obstacle sensors

Automatically decelerates or stops the vehicle in the presence of any obstacle in the area and restarts when it is cleared.

Space Space saving and automation

AGVs enter spaces beneath a platform in specified locations.



* Attachment on platform

A pin fixation bracket is to be attached to the lower edge of a platform for positioning by pins.



Engaged. Starts traveling by towing.

Cost Low cost

Guiding by magnetic tape is a low cost program for travel routing that simplifies setting up and route changes. Vehicles stop driving when off the track.

Drive Forward, backward, and pivot turning

* Contact us for information about traverse models.

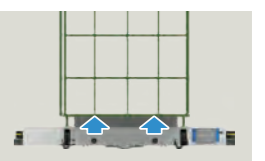
Features of very-low-floor AGV

AGVs enter spaces beneath cage platforms in specified locations.



HACOB00 HRVT-M450

Lifts up a platform from below by about 50mm and carries it.



HACOB00 HRVT-M400

Tows a cage platform coupled with a bracket on the unit.



Automatic transfer AGV

Equipped with a conveyor system to automate inter-conveyor transfer. Omnidirectional models are also available with up to 1t loading capacity.



HRC-M series

Product specifications	
Travel system	Magnetic
Control system	PLC control
Maximum speed	1-60m/min depending on weight
Safety	- Front and rear bumpers (optional: right and left bumpers) - Front and rear obstacle sensors (optional: right and left sensors)
Other	- Melody playback - Emergency stop button
Travel	Forward, backward, pivot turning (optional: traverse)
Size	Variable depending on workpiece dimensions
Battery	Lead / lithium
Load capacity	1t maximum

* Contact us for 1t or above models.



• Works in conjunction with various types of conveyor system



Pusher-type conveyors with electric cylinders



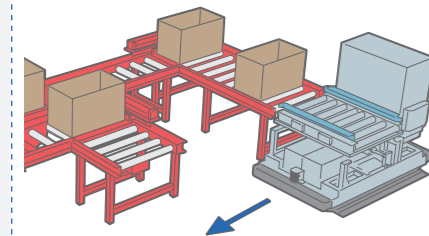
Chain conveyors



Ground conveyors; installation work and conveyor control setup to be performed by HEADS

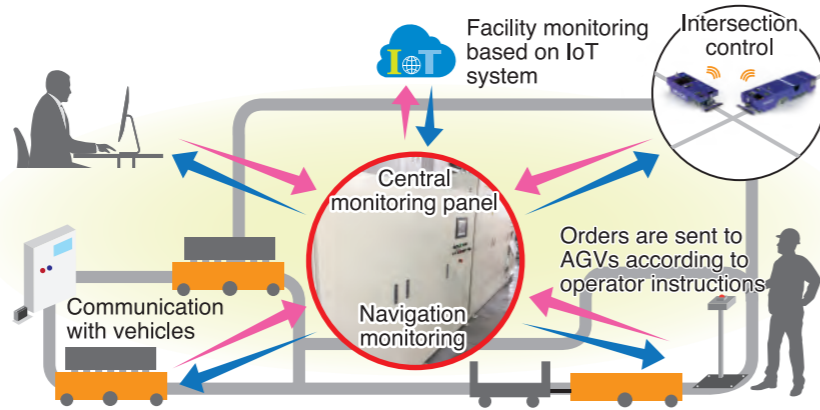
Linkage with other equipment

Our AGV proposal covers the entire logistics system.



AGV traffic control system

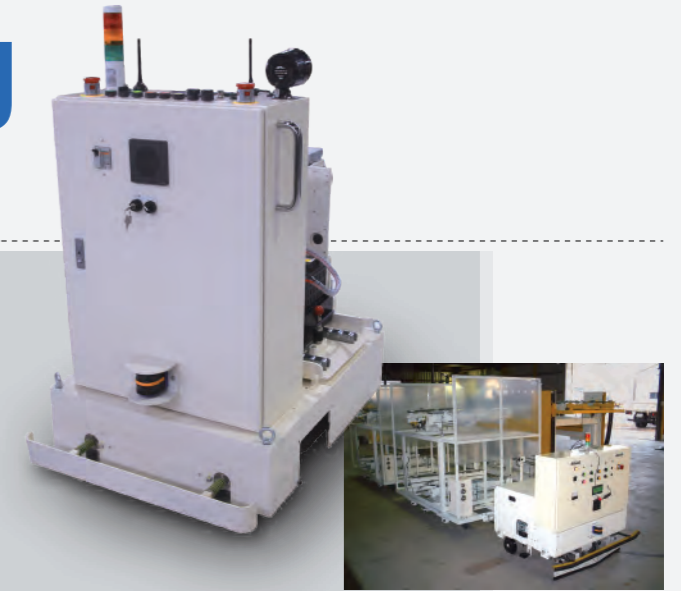
Sharing production orders and abnormality data, etc.



Cart-towing AGV

Entry model AGV to tow a cart from a start point to a destination. Can be coupled with a platform. Capable of automatic coupling and decoupling with a platform*.

* Towing capacity up to 2t



HRD-M series

Product specifications	
System	Magnetic
Control	PLC control
Maximum speed	1-60m/min depending on weight
Other	- Emergency stop button - Melody playback
Safety	- Front bumper - Front obstacle sensors
Travel	Forward, backward, pivot turning, quick reverse
Size	1000 (L) x 700 (W) x 1100mm (H)
Battery	Lead / lithium
Load capacity	2t maximum

* Dimensions and maximum speed may vary for 2t or above models. Please feel free to contact us for details.

Optional



Quick reverse for automatic coupling between a platform and pins.

Lift-equipped AGV

A lift is provided for height adjustment in the case of uneven ground.

Capable of picking up a workpiece from a hook, for example. The loading capacity is 1t.

* Omnidirectional models are also available with up to 1t loading capacity



E.g. 1t lift-equipped AGV - Lift height 500mm



* 500mm lifted



* 500mm lifted

HRL-M series

Product specifications	
System	Magnetic
Control	PLC control
Maximum speed	1-60m/min depending on weight
Other	- Emergency stop button - Melody playback
Safety	- Front and rear bumpers (optional: right and left bumpers) - Front and rear obstacle sensors (optional: right and left sensors)
Travel	Forward, backward, pivot turning, traverse
Size	Variable depending on workpiece dimensions
Battery	Lead / lithium
Load capacity	1t maximum

* Contact us for 1t or above models.

Robot-equipped AGV



Provided for the automation of in-plant conveyance operations, e.g. pick-and-place of parts.
 Fulfills diversifying needs beyond conveyance, ranging from AGV control to teaching robots from major robot manufacturers.
 Please feel free to contact us for compatibility with your preferred robot model.

HRR-M series

Product specifications

Travel system	Magnetic
Control system	PLC control
Maximum speed	1-60m/min depending on weight
Safety	- Front and rear bumpers (optional: right and left bumpers) - Front and rear obstacle sensors (optional: right and left sensors)
Other	- Melody playback - Emergency stop button
Travel	Forward, backward, pivot turning (optional: traverse)
Size	Variable depending on workpiece dimensions
Battery	Lead / lithium
Load capacity	Depending on robot models
Robot type	UR, Omron, YASUKAWA, Fanuc, Mitsubishi, DENSO, Kawasaki Heavy Industries, etc.

* Hand manufacturing and teaching are possible.



Teaching service is also available for non-collaborative robots

One-stop system offering covering mounting base construction, installation, control, and teaching for industrial robots



Outdoor AGV

Zippy AGV for outdoor application that can work in a wide range of conditions, e.g. inter- and inner-building passages, with the same usability as a conventional AGV.



HRO-M600 series

Product specifications

Travel system	Magnetic
Control system	PLC control
Maximum speed	60m/min variable depending on road gradient and weight
Safety	- Simple waterproof - Bumpers - Obstacle sensors
Other	- Emergency stop - Melody playback
Travel	Forward only
Size	1115 (L) x 700 (W) x 1100mm (H)
Battery	Lead / lithium
Load capacity	600kg

* May not drive depending on road level.
 * Contact us for 600kg or above towing models.



Outdoor cart AGV

Capable of traveling outdoor from one building to another, even on asphalt-paved and unroofed roads. It can also be operated using a manned mode, which is another significant advantage.

Effective for the mitigation of the burden on operators and improvement of operational efficiency.



HRG-E1000

Product specifications

Travel system	Electromagnetic
Control system	PLC control
Maximum speed	10km maximum
Safety	- Bumpers - Obstacle sensors
Other	- Emergency stop - Melody playback - Manned operation possible
Travel	Forward only
Size	Approx. 1800 (L) x 1200mm (W) (hooks not included)
Battery	Lead
Load capacity	1.5t

* May not drive depending on road level.
 * Including the tow car.



AERO FACE Wireless Charging

We offer an automatic non-contact charging system based on the principle of electromagnetic induction, which carries no risk of electric shock or sparking. Also, there is no need for the replacement of worn contact parts.

- Easily fitted to your existing AGVs
- No risk of electric shock or sparking
- Around-the-clock operation
- Space-saving chargers
- Rapid charging(100A)
- No battery exhaustion
- CCCV (Constant Current, Constant Voltage Charge)
- Affordable
- No need for a dedicated charging area
- Reduced human labor for charging
- Increased battery life
- No need for spare batteries
- Safe and secure
- Touch panel for charging monitoring



Compatible with 9.9KHZ (no need to apply for permission to use a high frequency band from the bureau of telecommunications)



Do you wish to:

- Lay shop wiring without the constraints associated with AGV charging
- Provide wireless-charging for existing AGVs
- Operate shop AGVs continuously around the clock

HEADS' proprietary wireless power-feeding system

AERO FACE to improve production line operations

Point 1 Space saving and labor saving

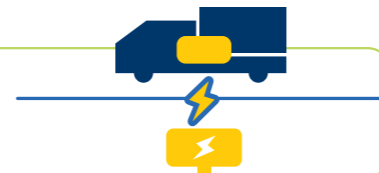


Point 2 Semi-permanent around-the-clock operation that eliminates manpower and downtime for charging

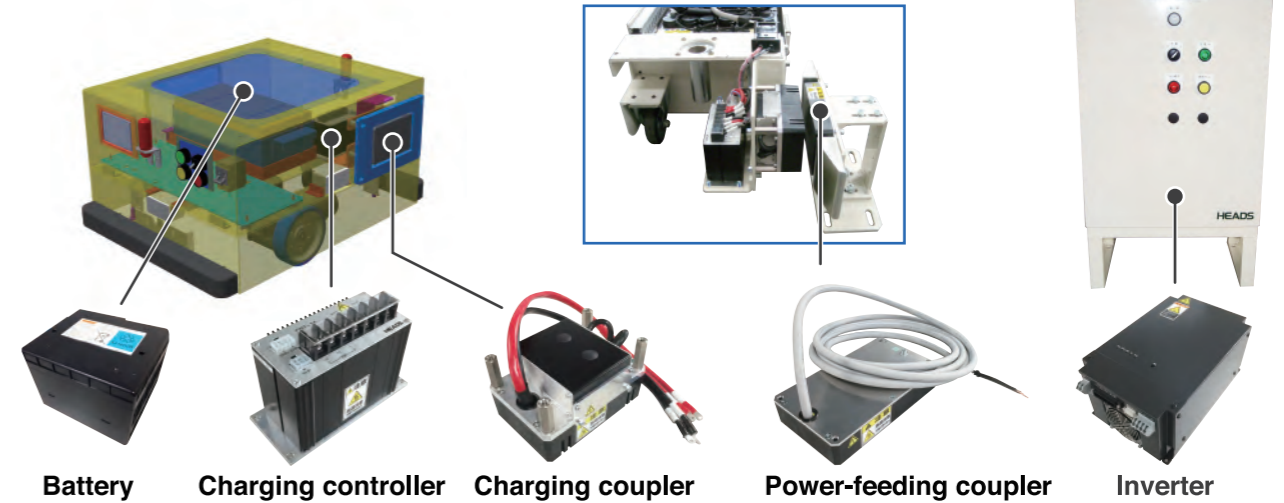


Point 3 Retrofitting to existing AGVs Minimizes initial investment for advanced charging systems

AEROFACE can be fitted to your existing AGVs. Provide wireless-charging for existing AGVs



Charging unit configuration



Wireless power-feeding kits

for lead batteries

1kW	Name	Inverter	Power-feeding coupler	Charging coupler	Charging controller
	Model	CON-G5520	MCOP-2T	SCOP-4C-T	CNT-24
24V charging					
Power Supply Voltage		AC200V 3Phase±10%	—	—	DC24V
Rated output		1kW	—	—	—
output frequency		9.9KHz			
charging current		15A(15mm)			
Size		D400×W200×H200mm	D33×W170×H100mm	D84×W150×H100mm	D70×W160×H110mm
Weight		7kg	1.2kg	2.3kg	1.2kg
Suitable Temperature		0~+40°C	0~+40°C	0~+40°C	0~+40°C

2kW	Name	Inverter	Power-feeding coupler	Charging coupler	Charging controller
	Model	CON-G569-N	MCOP-2-N	COP-4C-N	CNT-24
24V charging					
Power Supply Voltage		AC200V 3Phase±10%	—	—	DC24V
Rated output		2kW	—	—	—
output frequency		9.9KHz			
charging current		30A(15mm)			
Size		D135×W198×H332mm	D45×W150×H100mm	D84×W150×H100mm	D70×W160×H110mm
Weight		3kg	1.2kg	2.0kg	1.2kg
Suitable Temperature		0~+40°C	0~+40°C	0~+40°C	0~+40°C

5kW	Name	Inverter	Power-feeding coupler	Charging coupler	Charging controller
	Model	CON-G447-N	MCOP-8-N	SCOP-8C-N	CNT-48
48V charging					
Power Supply Voltage		AC200V 3Phase±10%	—	—	—
Rated output		5kW	—	—	—
output frequency		9.9KHz			
charging current		50A(50mm)			
Size		D290×W290×H425mm	D46×W190×H170mm	D97×W190×H170mm	200×W200×H225mm
Weight		18kg	3.5kg	6.5kg	6kg
Suitable Temperature		0~+40°C	0~+40°C	0~+40°C	0~+40°C

8kW	Name	Inverter	Power-feeding coupler	Charging coupler	Charging controller
	Model	CON-G469-N	CART-MCOP	CART-SCOP	CNT-48
48V charging					
Power Supply Voltage		AC200V 3Phase±10%	—	—	—
Rated output		8kW	—	—	—
output frequency		9.9KHz			
charging current		50A(50mm)			
Size		D290×W290×H425mm	D980×W480×H76mm	D861×W580×H96mm	D200×W200×H225mm
Weight		18kg	20kg	25kg	6kg
Suitable Temperature		0~+40°C	0~+40°C	0~+40°C	0~+40°C

for lithium-ion batteries

2kW	Name	Inverter	Power-feeding coupler	Charging coupler	Charging controller
	Model	CON-G557N	MCOP-2-N	COP-4C-N	CNT-24C
24V charging					
Power Supply Voltage		AC200V 3Phase±10%	—	—	—
Rated output		2kW	—	—	—
output frequency		9.9KHz			
charging current		30A(15mm)			
Size		D135×W198×H332mm	D45×W150×H100mm	D84×W150×H100mm	D102×W200×H135mm
Weight		3kg	1.2kg	2.0kg	2.5kg
Suitable Temperature		0~+40°C	0~+40°C	0~+40°C	0~+40°C

5kW	Name	Inverter	Power-feeding coupler	Charging coupler	Charging controller
	Model	CON-G590-N	MCOP-8-N	SCOP-8C-N	CNT-48C
48V charging					
Power Supply Voltage		AC200V 3Phase±10%	—	—	—
Rated output		5kW	—	—	—
output frequency		9.9KHz			
charging current		50A(50mm)			
Size		D425×W290×H290mm	D46×W190×H170mm	D97×W190×H170mm	D200×W200×H225mm
Weight		18kg	3.5kg	6.5kg	2.5kg
Suitable Temperature		0~+40°C	0~+40°C	0~+40°C	0~+40°C

