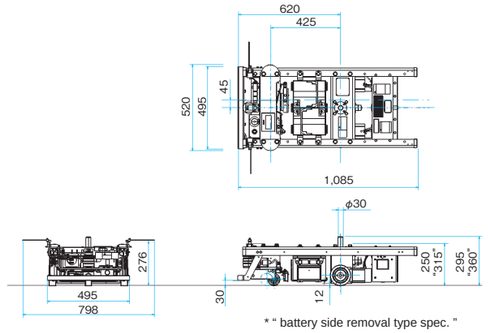
Specifications

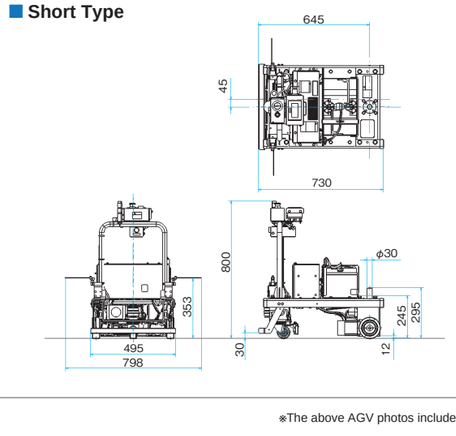
Item		Unit	Specification		
Type			Standard type		Short type
Travel direction		—	Forward	Forward/reverse (option)	Forward
Battery capacity (5 hrs)		V/Ah	32 (option)		
Key Cart dimensions	Overall length	mm	1,085	1,110	730
	Overall width	mm	495		
	Overall height	mm	250 (Standard) / 315 (battery side removal spec.) / 315 (HLC)		800
Cart weight		kg	75 / 136 (HLC) ※Inc, batteries		80 / 105 (HLC) ※Inc, batteries
Wheel base		mm	400 (when moving forward) / 450 (when reversing)		500
Min. guide tape radius		mm	R600 or C500		
Max. load capacity (Typical) *	When loaded	kg	200 (when traveling at 30 m/min. or less) / 100		—
	1-point towing	kg	500 / 750 (HLC)		
	3-point towing	kg	50 / 75 (HLC)		—
Max. speed*		m/min.	50 / 30 (HLC)		
Wheel size/ material	Drive wheels	mm	Φ125/urethane		
	Casters	mm	Φ75/urethane		
Min. above ground height		mm	12 (drive unit)		
Road surface level difference*		mm	5 (when traveling at 15 m/min.)		
Road surface undulations*		mm	10 (within cart body plane of projection) (when traveling at 15 m/min.)		
Floor construction		—	Concrete construction, bar arrangement depth: 70 mm or more		
Road surface finishing		—	Assumed coefficient of friction at design stage: 0.6		
Gradient (3 min. rating)		%	3 (with 200 kg load) / 1 (when towing 500 kg)		
Steering system		—	2-wheel differential speed steering		
Ambient temperature range		℃	0 to 40		
Ambient humidity range		%	20 to 100% RH (no condensation)		
Operating environment conditions		—	Standard indoor environment • There should be no dust, oil mist, or corrosive gas. • There should be no exposure to rain. • The road surface should not be wet or have puddles. • Optical sensors should not be exposed to direct sunlight. • There should be no exposure to thermal shock.		

Specifications can be changed without notice.
The data in the table are reference values
* The maximum transportable load may be significantly restricted depending on the dolly construction
* The maximum speed is determined based on actual drive unit performance
* These are the allowable ranges the Key Cart can operate, and does not guarantee durability under these conditions
* HLC (High Load Capacity)

■ **Standard Type**
"Lift battery type"



■ **Short Type**



※The above AGV photos include options.

Ver. 3.0

Simple AGV

KEY CART

Kaizen Easy Yourself

TOYOTA

TOYOTA INDUSTRIES CORPORATION
TOYOTA Material Handling Company

※The above AGV photos include options.

KEY CART ▶ [Kaizen Easy Yourself]

Designed and provided as an entry model AGV

Saving cost by selecting only necessary functions

Standard Type

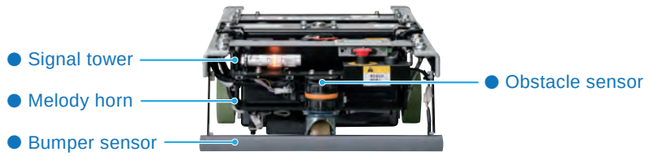
※The above AGV photos include options.

Short Type

※The above AGV photos include options.

▶ Simple mechanism & inexpensive !!

- Standard safety function
- Easy customize

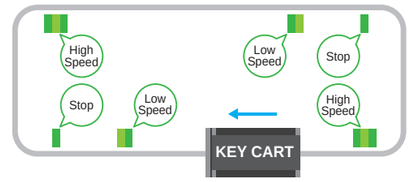


▶ Choose between 2 models to fit the application !!

- **Standard type** : Direct loading or under frame towing
  : Multi-purpose / multi-mode application
- **Short type** : Towing only and one direction only
  : Narrow & limited space application

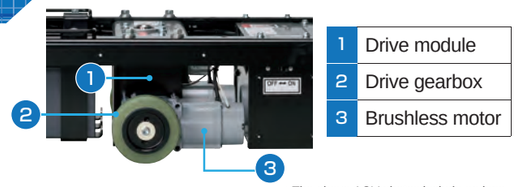
▶ Simple to layout & easy route changes!!

- Simple layout & easy route changes by magnetic guide tape
- Marker pattern operation control



▶ Easy maintenance!!

- Maintenance free drive module “brushless motor, chainless drive application, etc”
- No Power cables to get wound by wheel speed control steering

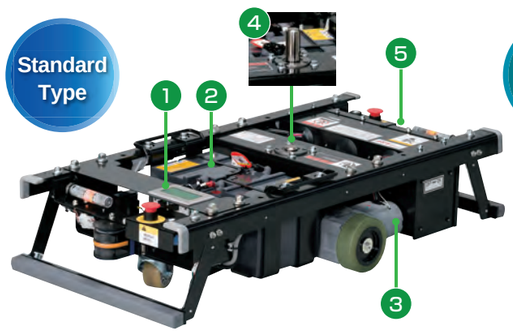


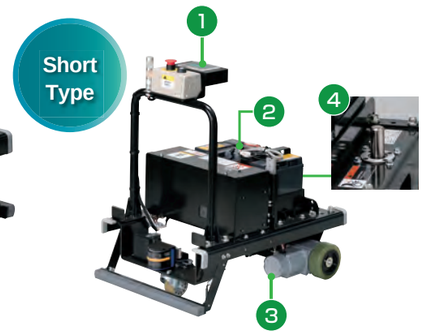
1	Drive module
2	Drive gearbox
3	Brushless motor

※The above AGV photos include options.

A variety of selectable options

Make up the functional AGV



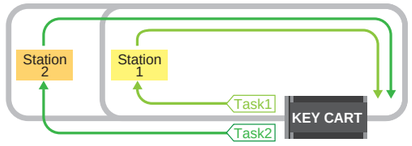


Main Options	
1	Touch Panel “TASK30” ,“TASK100”
2	Battery
3	Magnetic Brake
4	Electric Coupling Pin
5	Bi-direction Unit

※The above AGV photos include options.

OPTION ▶ Excel® spread sheet programming User friendly setting TASK30 / TASK100

■ 30 or 100 route pattern “task” setting



❶ Operation : call task No. on the T/P then start

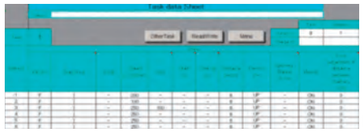
❷ KEY CART moves automatically according to “task” i.e. branching , stop & sensing zone

■ TASK30, TASK100 / touch panel presents the convenient multi functions available.

Guide tape status
Battery status
Error reset switch

Error display with color & character

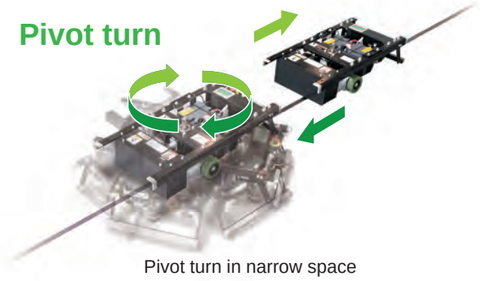
■ Task pattern uploaded by an Excel® file



Excel® spread sheets

■ Efficient multi operational patterns are available.

Pivot turn



Pivot turn in narrow space

Program steering

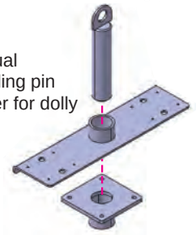
No guide tape needed for 90degree corner

※The above AGV photos include options.

OPTION ▶ Variety of attachments!!

■ Select the fit coupling attachments

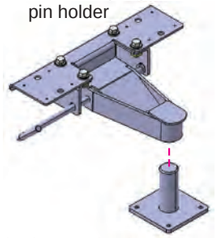
Manual coupling pin



Manual coupling pin holder for dolly

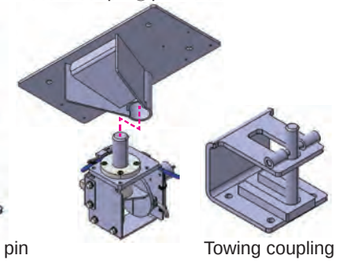
Manual coupling pin holder for body

Fixed coupling pin holder

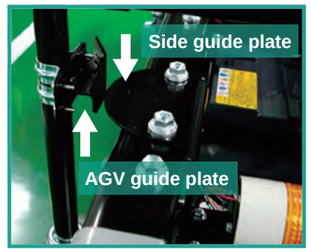


Fixed coupling pin

Electric coupling pin holder



Towing coupling



OPTION ▶ Other options

Bi-direction / Reverse option

Battery

Spare battery assemble

Lift change

Slide change

Battery cart

Standard type

Optical communication unit

Master ON switch

Whisker bumper

Touch panel cover

Options

AGV options	Standard Type		Short Type	
ITEM	option	Retrofit options	option	Retrofit options
Bi-direction	□	–	–	–
Whisker Bumper（Forward Only）	□	X	□	X
Whisker Bumper（Forward & Backward）	■	X	–	–
High load capacity（3point towing）	□	–	–	–
High load capacity（1point towing）	□	–	□	–
Magnetic Brake	□	–	□	–
Battery（with Cable）	□	X	□	X
Automatic Charge Electrodes（Right Side）	■	X	■	X
Automatic Charge Electrodes（Left Side）	■	X	■	X
Lift-Battery Type	■	X	–	–
Side Slide -Battery Type	■	–	■	X
TASK30 (Relative Address System)	□	X	□	X
TASK100 (Relative Address System)	□	–	□	–
Optical Communication Unit（Top Side）	■	X	■	X
Optical Communication Unit（Right Side）	■	X	■	X
Optical Communication Unit（Left Side）	■	X	■	X
Wireless LAN Port	□	–	□	–
Master ON Switch	□	X	□	X
Touch Panel Cover	■	X	■	X
Manual Coupling Pin Holder for Body	■	X	■	X
Fixed Coupling Pin	■	X	■	X
Electric Coupling Pin	■	X	■	X
Towing Coupling	–	–	■	X
Side Guide Plate	□	X	–	–

Peripheral options	Standard Type	Short Type
ITEM		
Spare Battery (Lift Type)	■	–
Spare Battery (Slide Type)	■	■
Battery Cart	■	■
Manual Coupling Pin	□	□
Manual Coupling Pin Holder for Dolly	□	–
Fixed Coupling Pin Holder	□	–
Electric Coupling Pin Holder	□	–
Attachment Plates of the Dolly	□	–
Battery Charger（AC100V）	□	□
Battery Charger（AC200V）	□	□
Battery Charger（AC220V）	□	□
Battery Charger（AC240V）	□	□
Automatic Battery Charger（Stroke:150mm）	■	■
Automatic Battery Charger（Stroke:500mm）	■	■
Automatic Battery Charger（Stroke:800mm）	■	■
Optical Communication Unit (Ground Side)	□	□
PC Cable（for RS-232c）	□	□
PC Cable（USB/232C Converter）	□	□
Magnetic Guide Tape（N pole, 30mm x 25m）	□	□
Magnetic Mark Tape（N pole, 50mm x 1m）	□	□
Magnetic Mark Tape（S pole, 50mm x 1m）	□	□

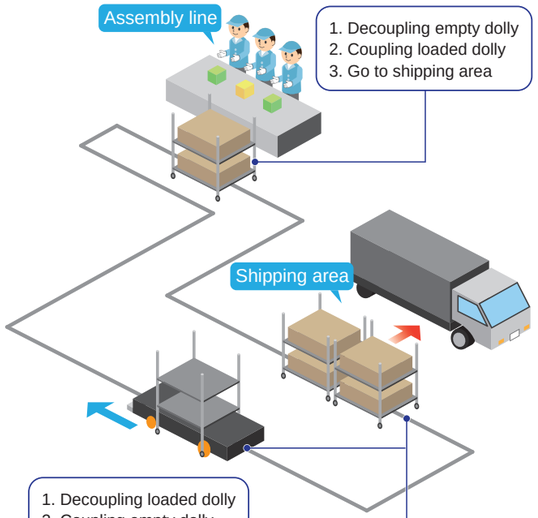
□…Option　X…Available
■…Option with limitation　–…Not Available

▶SYSTEM APPLICATIONS

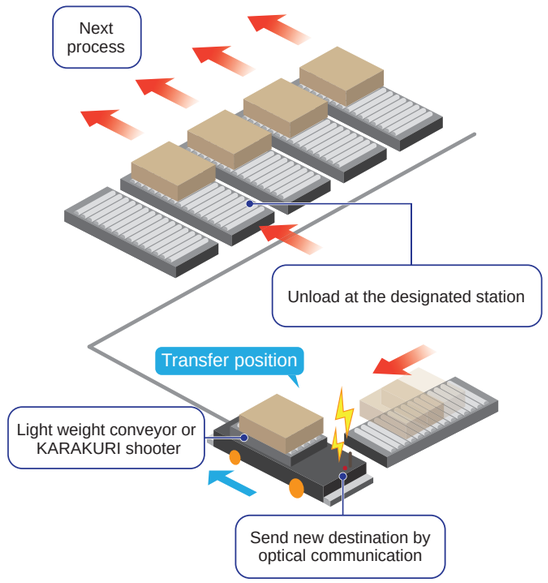
A variety of carts and attachments

※Carts & attachments are customer' s or local dealer' s supply.

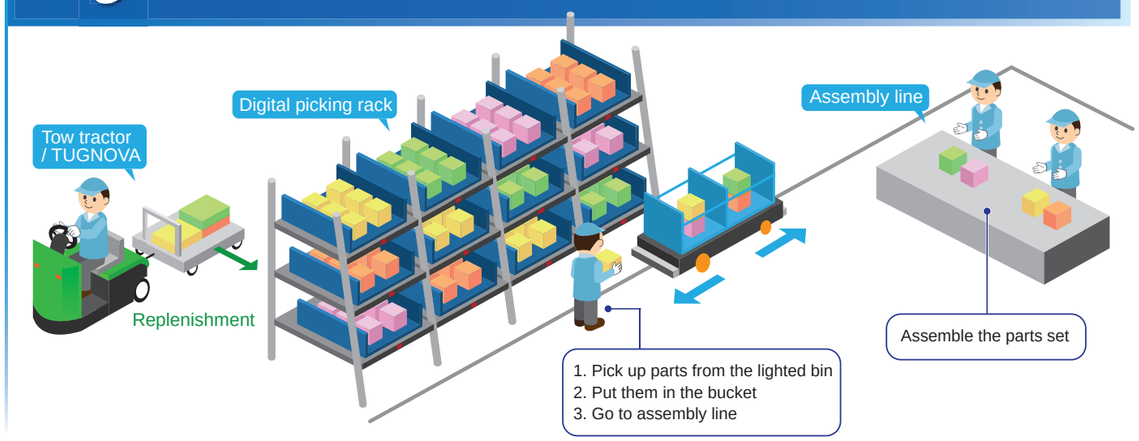
CASE 1 Automation of manual dolly



CASE 2 Automation of sorting



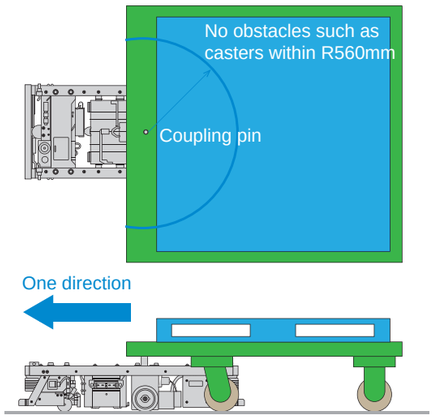
CASE 3 Set parts supply system



▶Loading or Towing capacity

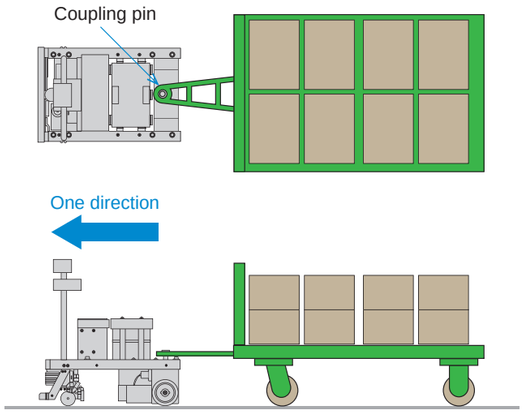
※Max capacity is reference info only.

One point coupling With wide cart “rear casters are rigid”



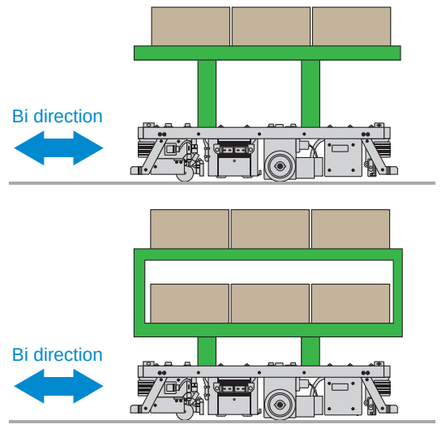
Max Towing Capacity : 500kg / 750kg (HLC)

One point coupling With manual dolly “rear casters are rigid”



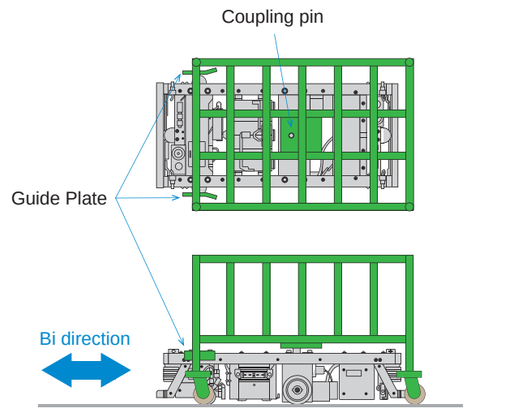
Max Towing Capacity : 500kg / 750kg (HLC)

Direct loading



Max Loading Capacity : 200kg

One point coupling & two points guiding With caster-cart “all casters are swivel”



Max Towing Capacity : 50kg / 75kg (HLC)

1. The moment of inertia of total load (cart + dolly + load) is dominant rather than the total load itself.
2. The higher the towing capacity, the closer the center of load should be to the coupling pin.
3. The lower the speed, the higher the towing capacity.
4. The load capacity and the towing capacity can be lower due to the load dimensions, load center offset, and so on.
5. Operational testing is requested prior to the commercial operation.
6. HLC : High Load Capacity.

▶High load capacity option

We can offer “High load capacity” option, for more loading capacity.

Option	Changing Parts (See right side picture)	Maximum loading capacity (kg)		
		3 point towing	1 point towing	Direct loading ※3
–	–	50	500	200
High load capacity (3 point towing) ※1, ※2	①	75	500	200
High load capacity (1 point towing) ※1	①・②・③	75	750	200

※1 : Maximum speed is 30m/min when selecting high load capacity option.
※2 : High load capacity option(3 point towing) is not available for short type.
※3 : Direct loading is only for standard type.