MEIDEN

Meiden Automated Guided Vehicles

General Catalog for AGVs

We always supply systems
meeting our customers' needs.

Empower for new days

Is there any method of reducing man-hours?

Is there any higher business efficiency?

Is more effective productivity attainable?

Please entrust the Meiden AGVs with your business activities!

High technical capability fostered for many years

Meiden's motor-related technologies, accumulated for more than one century under the name of "Meiden Motors," are supporting the AGV core motors and their control and guidance technologis.

Abundance of production experience and know-how

Through the supply of AGVs, our production experience and know-how have supported the Japanese automotive industries for many years. Such a technical accumulation is actively utilized for the development of future AGVs.

Abundance of product lineups

From tens of kilograms to tens of tons, our products can cope with a wide range of weights to be transported.
A variety of running and guidance systems are available.

Customization of optimal AGVs

Many kinds of useful options are available for system structuring with a wide range of expansibility.
We can offer you an optimal AGV system according to your site and purposes.

A great solution with Meiden AGVs!

We propose the optimal systems for our customers' sites.

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Product Lineups

An optimal AGV system can be offered, chosen from abundant product lineups.

Traveling performance

- All-directional traveling
- Optional except forwarding
- Forward, backward
- Optional for backward
- PS: Programmable steering optional

Guidance system

- Magnetic / laser
- Magnetic
- Overhead rails
- Unilateral rails

Max. load

- 1.0t

P6-7

Truck Type

AGVs with vehicle sizes and carriers custom-order-designed and manufactured according to the shape and mass to be transported

High-functional type outstanding in all factors of traveling performance, stopping accuracy, and customization easy

The newest high-functional AGV

3MC-M10

PS · Magnetic · 1.0t

The newest high-functional AGV

3MC-M30/60

PS · Magnetic · 3.0t/6.0t

Standard type

2ACB Series

PS · Magnetic / laser · 0.5t

Medium- and large-size work carrier

2ACB Series

PS · Magnetic / laser · 1.0t

P8-9

Full flat low-platform type

AGVs that can tow the customer's vehicle by creeping through it

Slip-in unit load vehicle

U-CART Series

Magnetic · 1.3t

The newest high-functional AGV

3MS-M10

PS · Magnetic · 1.0t

P10

Partial low-platform type

AGVs for transferring conveyers of ultra-low-platform body

Partial low-platform type

2ACBP Series

PS · Magnetic / laser · 2.0t

P10

Ultra-heavy article type

AGVs most suitable for trackless transportation of ultra-heavy articles

Ultra-heavy article type

ACB200/300 Series

PS · Magnetic · 30t

P11

Forklift Type

A function of omnidirectional traveling ensures effective and efficient transportation.

Side-Fork Type Pallet Transport AGV

3ML-M11

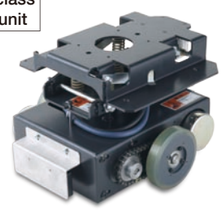
PS · Magnetic / laser · 1.1t

P12

Meiden AGV Kit

Low-price AGVs that permit arbitrary assembly

Heavy class driver unit



Driver unit

Control unit

Operator switch

Meiden AGV Kit

MK2/5 Series

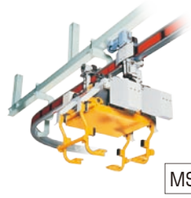
Magnetic · 1.0t

P13

Overhead traveling rail-guided trolley system

Rail-guided trolley most suitable for high-speed transportation

MST1



MST3

Overhead traveling rail-guided trolley system

MST1/3 Series

165 m/min · Overhead rails · 300kg

P13

Floor traveling rail-guided trolley system

Rail-guided trolley most suitable for high-speed transportation

Floor traveling rail-guided trolley system

3MF-10 Series

200 m/min · Unilateral rails · 1.0t

3MC-M10

PS Magnetic 1.0t

Smart realization of automated transportation

Excellent traveling performance

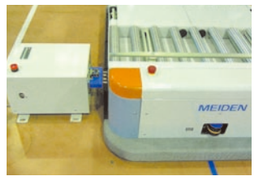
- Traveling in all directions is possible, such as forward, backward, right, left, slantwise, and spin turn.

- Efficient operation is possible with a high degree of freedom, making full use of spin-turn performance.
- High-speed and high-accuracy traveling is possible, thanks to the AC servo driving function adopted.

Auto-charger unit (optional)

Features:

- Around-the-clock continuous operation is possible with a feature of automatic charging.
- Charging is performed after confirming the stop position of AGV.



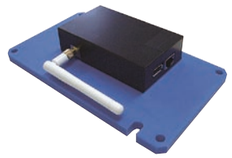
Outstanding operationability

- Operation is easy with the aid of a simple touch-panel type operator.
- The AGV status is displayed for easy route setup and system structuring.

Wireless LAN unit (optional)

Features:

- Using a wireless LAN unit, high-speed communication with a ground station can be carried out.
- Wireless Standard IEEE802, 11b/g/n 2.4GHz
- Used for the designation of destination or controls at crossing points.



Specifications

Type	3MC-M10
Premissible load	1000kg
Driving, steering system	Front wheel drive, front wheel steering
Guidance system	Magnetic guidance
Traveling direction	Forward, backward, sideways, slantwise and spin turn
Max. traveling speed	Forward/backward 60m/min, sideways 30m/min

Cargo transfer height	400mm (Lead-acid battery)
Stopping accuracy	±5mm
Vehicle size	W1150×H420×D1950mm
Minimum turning radius	730mm
Vehicle mass	600kg
Voltage	48V enclosed lead-acid battery, auto-charge type

3MC-M30/60

PS Magnetic 3.0t/6.0t

Features

- Stoppage accuracy upgraded ±10mm
- Forward・backward, traversing, slantwise, and spin turn possible with 2-wheel differential drive system
- Automatic battery charging
- Wireless LAN accommodated

Specifications

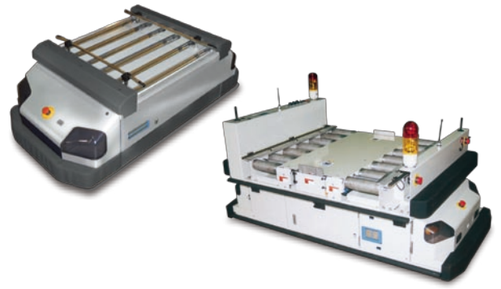
Type	3MC-M30	3MC-M60
Permissible load	3000kg	6000kg
Driving steering system	Front/rear wheel driving and steering system	
Guidance system	Magnetic	
Traveling direction	Forward, backward, sideways, slantwise, and spin turn	
Max. traveling speed	Forward/backward 60m/min, sideways 30m/min	Forward/backward 30m/min, sideways 15m/min

Cargo transfer height	477mm (cargo transfer unit excluded)
Stopping accuracy	±10mm
Vehicle size	W1522×H477×D2740mm
Minimum turning radius	1200mm (Forward traveling 30m/min.)
Vehicle mass	1550kg
Power supply	48V enclosed lead-acid battery, auto-charge type

2ACB

PS Magnetic / laser 1.0t

There are product lineups from small to medium types to be chosen according to cargo sizes. This model is most suitable for intra-process transportation in production lines.



Features

- This is a standard AGV of the 3-wheel type vehicle.
- The carrier coms in the roller table (2-serial, 3-serial, and 2-stage type), lifter, and push-pull type, useful in a variety of applications.
- 2ACB1.5(150kg loading), 2ACB2.5(250kg loading), 2ACB5(500kg loading) and 2ACBM10(1000kg loading).

Specifications

Type	2ACB1.5/2.5	2ACB5	2ACB10
Driving, steering system	Front wheel drive, front wheel steering		
Traveling driection	Forward (Backward: optional)		
Max. traveling speed	60m/min		
Vehicle size	W685×H340×D1400(1600)mm	W800×H350×D1750mm	W1200×H425×D2200mm

Size of 2ACB2.5 in ( ).

ACBM All-directional type

PS Magnetic / laser 2.0t

Most suitable for transportation in a narrow space.

Features

- This AGV is of the front/rear wheel driving and steering type.
- Traveling forward/backward, traverse slantwise, and spin turn is possible.
- Travering is possible in a narrow space.
- Because it is possible to be moved to all direction, the cycle time can be shortened.
- ACBM2.5 (250kg loading), ACBM5(500kg loading), ACBM10 (1000kg loading), and ACBM20 (2000kg loading)

Specifications

Type	ACBM2.5	ACBM5	ACBM10	ACBM20
Driving, steering system	Front/rear wheel driving and steering type			
Traveling function	All-direction and spin-turn			
Max. traveling speed	60m/min			
Vehicle size	W755×H360×D1600mm	W950×H400×D2000mm	W1270×H480×D2300mm	W1270×H530×D2300mm

U-CART

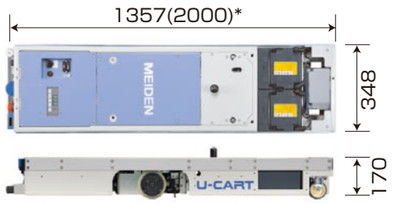
Magnetic 1.3t

Max. performance with ultra-low-platform body

U-CART S　　U-CART L

Features

- Ultra-low-platform slim body with a total height of 170mm and total width of 348mm
- 4 types of tractive weight available from 300kg to 1300kg.
- If an optional radio LAN is used, the U-CART destination is instructed by radio waves from a ground control panel.
- When a guide route is established with the use of magnetic tapes, the traveling route can be easily set up by simply sticking the magnetic markers to the stop positions.
- Since a maximum of 200 stop positions and stations can be set up, complicated traveling routes can be established easily.
- An optional auto-charge device is conveniently applicable to 24-hour operation.
- Standard equipment is provided with auto-coupling pins for connection with AGVs.



* Size of TWTS type in ( ).

Specifications

Type	U-CART S (FWS system)		U-CART L (TWTS system)	
	High-speed type	High-load type	High-speed type	High-load type
Permissible load	300kg	800kg	600kg Traversing, 230kg	1300kg Traversing, 480kg
Driving & steering system	Front wheel drive, front wheel steering		Front/rear wheel drive and steering	
Guidance system	Magnetic tapes			
Traveling direction	Forward (Backward for optional)		Forward, backward, traverse, slantwise, and spin turn	
Max. traveling speed	60m/min	30m/min	60m/min	30m/min
Creepage traveling	5m/min			
Stopping accuracy	±15mm (±10mm for unit body)			
Working time	4.0hr (Continuous with auto-charge feature)		2.5hr (Continuous with auto-charge feature)	
Vehicle size	W348×H170×D1357mm		W348×H170×D2000mm	

* H202mm for U-CART L high-load type

3MS-M10 Full flat low-platform type

PS Magnetic 1.0t

A vehicle height of only 190mm is realized for a live load of 1.0 ton. All-directional traveling is possible.

Features

- Full flat low-platform type, vehicle height 190mm
- Cargo transfer lifter installed, a lift of 60mm
- Stoppage accuracy upgraded with an AC servomotor, ±5mm
- Forward・backward, traversing, slantwise, and spin turn possible with 2-wheel differential drive system
- Automatic battery charging
- Wireless LAN accommodated

Specifications

Type	3MS-M10
Permissible load	1000kg
Guidance system	Magnetic
Driving steering system	2-wheel differential drive system (both front and rear)
Traveling direction	Forward, backward, sideways, slantwise, and spin turn
Max. traveling speed	Forward/backward 60m/min, sideways 30m/min
Power supply	48V enclosed lead-acid battery, auto-charge type

Lift	60mm
Stopping accuracy	±5mm
Minimum turning radius	700mm
Vehicle size	W700×H190×D2550mm
Vehicle mass	500kg

2ATB

PS Magnetic 300kg

This series is most suitable for transporting caster type pallets.

Features

- This is an all-surface ultra-thin type AGV.
- It creeps through the basket vehicle that is towed and transported.
- It is of the three-wheel type and stable traveling is assured. The turning radius is short and the workability is substantially improved.
- 2ATB06 (300kg traction, vehicle height 200mm)

Specifications

Type	2ATB06
Driving, steering system	Driving, steering with 1 wheel (front), follower wheel (rear)
Guidance system	Magnetic
Traveling direction	Forward, backward
Max. traveling speed	60m/min (Ordinary running, forward)
Standard working time	4 hours (Continuous operation by automated battery charge)
Vehicle size	W500×H200×D1600mm

2ACBP Partial low-platform type

PS | Magnetic / laser | 2.0t

The advantage of the low-platform type are expertly utilized. Cargoes can be moved to existing conveyers with a variety of floor levels.

Features

- This AGV has an ultra-low load carrying platform of 105mm high (2ACBP1.5/2.5).
- The lifter adopted (200～1000mm) has a roller turntable that can effectively utilize such a low floor level. It is also applicable to conveyer-to-conveyer transportation with a difference in loading height.
- 2ACBP1.5 (150kg loading) and 2ACBP2.5 (250kg loading)
- 2ACBP10 (1000kg loading) and 2ACBP20 (2000kg loading)

Specifications

Type	2ACBP1.5	2ACBP2.5	2ACBP10	2ACBP20
Driving, steering system	Front wheel drive, front wheel steering			
Traveling direction	Forward (Backward: optional)			
Max. traveling speed	Forward 60m/min (Backward 30m/min)			
Vehicle size (H for platform height)	W660×H105×D1485mm	W885×H105×D1820mm	W1200×H800×D2720mm	W1200×H1050×D2920mm

ACB 200 300 Heavy article type

PS | Magnetic | 30t

Most suitable for railless transportation of heavy articles.

Features

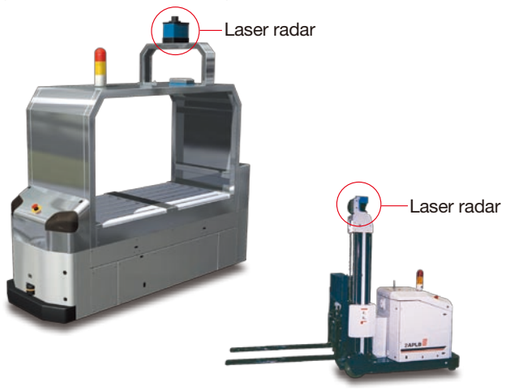
- According to the sizes, shapes, and mass of the cargoes, customized design and production can be offered.
- This is a compact AGV of the truck type where the driving and controlling blocks are concentrated.
- The tight turn property is outstanding due to the useful function of spin turn and program steering.
- Workability and safety are assured and concentrated into a configuration of a low-platform cargo.
- ACB200 (20t loading) and ACB300 (30t loading)

Specifications

Type	ACB200	ACB300
Driving, steering system	Front wheel steering, driving system	
Max. traveling speed	30m/min	
Standard working time	3h (full-load continuous traveling)	
Platform size	W1400×H420×D5200mm	W1410×H530×D6300mm
Vehicle size	W1505×H1764×D7236mm	W1555×H2090×D8461mm

Laser radar AGV

No guide wires are required and the working layout can be freely changed. Utilization is possible irrespective of AGV types.
(AGV Kit & U-CART excluded)



Features

- Distance and angles are measured in conjunction with the reflectors installed on the ground so that the present position and posture can always be identified for safe guidance.
- No guidance by magnets and electromagnetic means is needed.
- Route information can be downloaded and uploaded by radio.
- Layout design and modification can be done by off-line work with a personal computer.

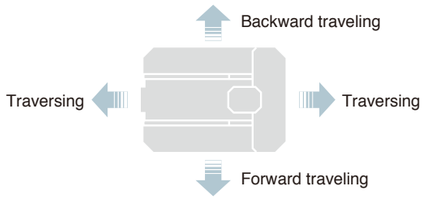
Specifications

Category	Item	Contents	Data
Performance	Laser radar	Position detection period	8Hz
		Reflector detection angle resolution	O.1deg
		Reflected detection angle range	360deg
		Reflected beam detection distance	30m
		Laser output class	Class1 (essentially safe)
		Laser wavelength	905nm(infrared domain)
	AGV	Constant position stop accuracy	±10mm
		Guiding system	Laser radar
Functions	Coarse setting	Coarse editor	AutoCAD
	Safety function	Failure in reflector detection	Emergency stop after self-travering
	Reflector unit	Measuring method	Auto-telemetry
	Error unit		Provided
	Self diagnostic function		Provided

3ML-M11 Side-Fork Type Pallet Transport AGV

PS | Magnetic / laser | 1.1t

A function of omnidirectional traveling ensures effective and efficient transportation.



Features

- Even along a passage of 2400mm in width, it is possible to gain access to the destination without changing the posture.
- A 180°spin-turn is possible in a passage of 3000mm in width.
- Omnidirectional obstacle sensors and bumpers are installed in order to secure high safety.
- Since the brushless motor is adopted for the driving unit, properties of cleanliness and maintainability have been improved.

Specifications

Guidance system	Magnetic guidance or laser-type radar
Driving for traveling	2-wheel differential drive unit × 3 units
Traveling direction	Forward/backward traveling, traversing, and spin turn
Max. traveling speed	60m/min.
Max. lift	1000mm, or 1800mm for optional
Max. lift ascending speed	250mm/sec.
Reach stroke	1350mm
Reach speed	250mm/sec.
Transport pallet size	Max. 1200 × 1200mm
Max. transporting weight	1100kg (Cargo center 600mm, deviation from the center of gravity ±50mm)
Stopping accuracy	Machine base end ±10mm, fork end ±30mm
Vehicle dimensions	W2278 × L1748 × H1738
Min. turn radius	1500mm (Forward/backward traveling 15m/min.)
Self-weight	2050kg

2APLB Low lift type

PS | Magnetic / laser | 1.0t

This AGV is most suitable for pallet carriage work.

Features

- This type of AGV can perform a low lift, assuring a lifting height of 800/1000 mm.
- Its overall mass has been suppressed below two tons so that it can get into an elevator to accomplish multi-storied duty. As a whole, its cargo handling efficiency can be intensified.
- Direct put-on pallets can be handled.
- It is a motor-powered type for both travering and lifting. These is on chance of floor contamination by lubricating oil.
- 2APLB8 (800kg loading) and 2APLB10 (1000kg loading)

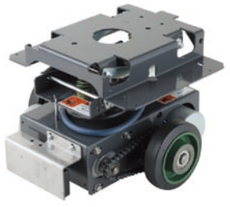
Specifications

Type	2APLB8・10
Max. traveling speed	Conter-fork direction 60m/min. Fork direction 30m/min.
Max. load	800/1000kg
Max.lift	800/1000mm
Vehicle size Vehicle height (mast height) / Total vehicle length (fork length)	W845×H1000(1620)×D2340/2420(700)mm
Working time	8hr (Continuous with auto-charge feature)

Meiden AGV Kit MK2/5 Series

Wouldn't you like to gave such an AGV? Anyone can use it. This is an open interface AGV that permits easy system structuring.

Basic unit



Light-weight drive unit

Heavy-weight drive unit

Control unit

Operating switch

Setting of options

- Batteries
- Battery charger
- Battery voltmeter
- Setter on vehicle (A/B type)
- Laminate pilot lamp
- Pipe-fabricated bumper
- Wireless controller
- Tape bumper
- Obstacle sensor
- Traveling melody unit
- Magnetic tape marker
- Urethane tire
- Manual operation pendant
- Magnetic brake

Simple how to use !

- The AGV offered meets arbitrary requirements, from a basic unit to a completed vehicle.
- Start/Stop operetion is simple with a single button.
- Since an external I/O circuit is released to be open, any customer can establish a favorite system.

Flexible interaction possible with layout change !

- Stick a magnetic tape to the floor surface-That's all. By taking such an easy action, a traveling route can be easily set up.
- When markers are installed on the floor, operation control for acceleration and deceleration can be accomplished easily.
- Using a simplified back-traveling function, varios running routes can be established.

Expansibility that is attractive !

- By connecting the extension terminals, obstacle sensors can be added or automatic cargo transfer control can be realized.
- Shutter interlock can be provided.
- There are two control systems available according to applications.

Command mark system: Command markers are stuck to the floor for simple control.

Relative address system: Operation is programmed for each mark on the floor for complicated operation control.

Specifications

	Light weight class (MK2)			Heavy weight class (MK5)	
	Standard type	High-speed type	Heavy-load type	High-speed type	Heavy-load type
Guidance system	Magnetic guidance system				
Traveling direction	Forward Optional (backward, traverse, and spinturn*1)				
Rated load*2 (1 unit/2 units)	250/350kg	250/350kg	500/700kg	500/700kg	1000/1400kg
Rated speed*3	30m/min	60m/min	30m/min	60m/min	30m/min
Stopping accuracy	Standard ±30mm (±15mm:optional)			±15mm	
Climbing ability (5m continuous)	2% (at rated load) 3% (at 70% load)				
Source voltage	DC24V				
Operating environment	Ambient temperature:0 ~40℃ Relative humidity: 20 ~80% Course level difference:within 6mm (Speed: 15m/min) Course waviness: within 10mm				

*1 The load for spin-turn motion is half the rated load.
*2 Including self-weight
*3 Full-charged with empty frame load

6 types available according to applications

Pipe carrying vehicle type

Customers can easily change the body.

Sheet metal carrying vehicle type

This vehicle is suitable for carrying heavy articles.

Dual mode (manual & AGV) handle cart type

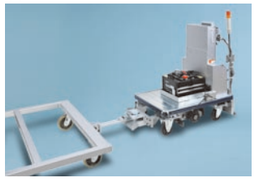
This cart is equipped with a handle cart type frame.

Flat vehicle type

This vehicle has a flat top surface where no embossed parts are located.

Vehicle with a towing hook type

This is an exclusive vehicle equipped with a traction hook.



Towing hook type (Motor-powered disconnection type)

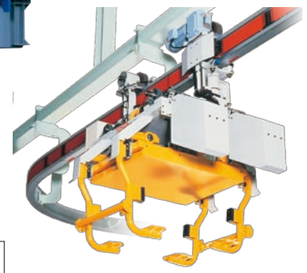
Vehicle towing and automatic uncoupling can be carried cut.

MST1 3 Overhead traveling rail-guided trolley system

165 m/min | Overhead rails | 0.3t

Spaces in a factory can be effectively utilized, thus most suitable for high-speed transportation.

MST1



MST3

Features

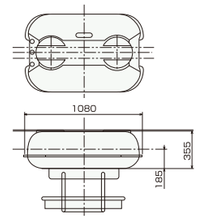
- High-speed transportation as been realized. This is a top class achievement in this field. As a result of the adoption of the autonomous running system, ground control can be carried out simply.
- The MST3 is a semi-custom-order type carriage that can flexibly cope with the shape of a job.

Specifications

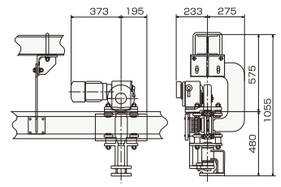
Type	MST1	MST3
Feeder system	Trolley power feeding	
Max. cargo mass	100kg	300kg
Traveling speed	165m/min	120m/min
Raise/lower speed	20m/min*	10m/min
Raise/lower stroke	4m	4m
Stop accuracy	±5mm	
Min. turning radius	1m	1.5m

* 30m/min : optional

Unit (mm)



MST1



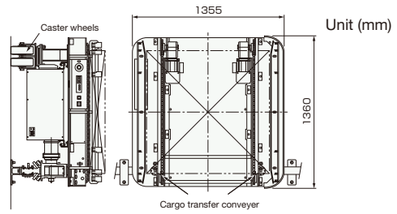
MST3

3MF-10 Floor travering rail-guided trolley system

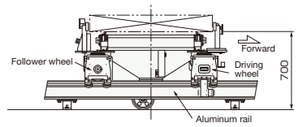
200 m/min | Unilateral rails | 1.0t

Most suitable for sorting and pickup work in front of an automated warehouse.

Special type



Unit (mm)



Standard type

Features

- This is a rail-guided trolley system that is capable of high-speed transportation at 200m/min.
- It demonstrates its power for high-speed cargo handling work to be done in front of an automated warehouse.
- It uses the realtime consentrated control system by wireless LAN.
- It uses a signal travering rail. Work startup time has been reduced.
- Load transfer height: A low floor level of floor surface +700mm has been realized.
- Turning radius on the rail: A tight turn of 600mm, which is superb!
- A special type for a cargo transfer height of 300mm is available.
- In addition to orbiting operation, roundtrip operation type is also available.

Specifications

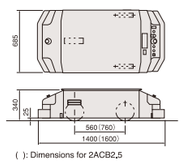
Pallet size	W1100×D1100mm
Cargo mass	1000kg
Traveling speed (Max.)	200m/min
Load transfer speed (Max.)	30m/min
Turning radius (on the rail)	600mm (30m/min or less)
Stopoing accuracy	±5mm
Truck size	W1355×H810×D1360mm
Load transfe hight	700mm
Operation control system	Concentrated control system by ground control panel
Max.No.of operataion trucks	30
Max.No.of station	100

External dimensions

unit (mm)

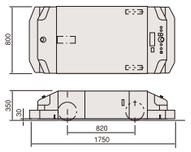
Standard AGV

2ACB1.5/2.5

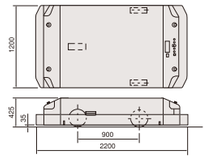


( ): Dimensions for 2ACB2,5

2ACB5

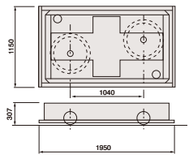


2ACB10

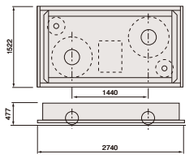


All-directional AGV

3MC-M10

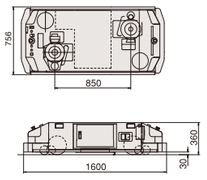


3MC-M30/60

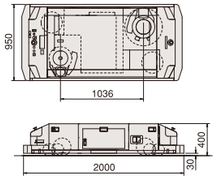


All-directional AGV

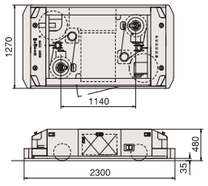
ACBM2.5



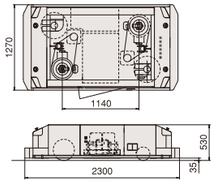
ACBM5



ACBM10

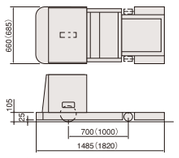


ACBM20



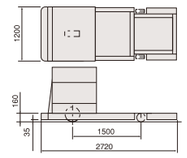
Low-platform AGV

2ACBP1.5/2.5

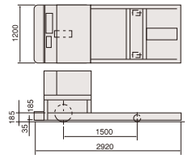


( ): Dimensions for ACBP2,5

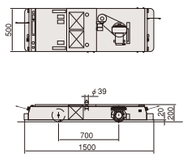
2ACBP10



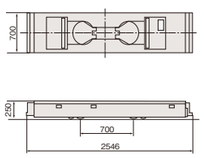
2ACBP20



2ATB06

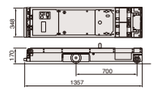


3MS-M10

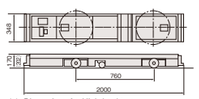


Low-platform AGV

U-CART S



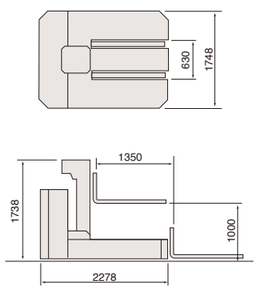
U-CART L



( ): Dimensions for High-load type

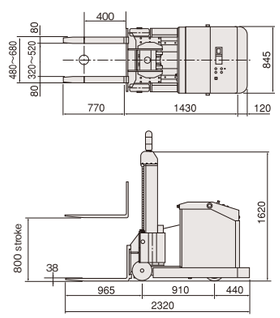
Side-Fork

3ML-M11

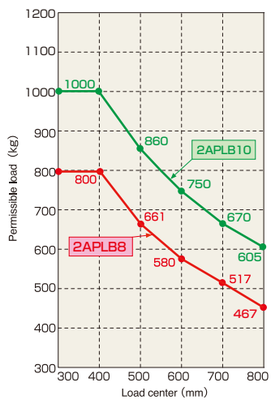


Low lift

2APLB8



Low lift loading data



● Since the above data are based on calculations, a margin of more than 10% should be taken into account.

Table of specifications

			Standard AGV				All-directional AGV						Low-platform AGV							Side-Fork	Low lift
Items			2ACB 1.5	2ACB 2.5	2ACB 5	2ACB 10	ACBM 2.5	ACBM 5	ACBM 10	ACBM 20	3MC-M10	3MC-M 30/60	2ACBP 1.5	2ACBP 2.5	2ACBP 10	2ACBP 20	2ATB 06	U-CART S	U-CART L	3ML-M11	2APLB 8-10
Performance	Permissible load (including transfer unit)	kg	150 (250)	250 (400)	500 (750)	1000 (1500)	250 (400)	500 (750)	1000 (1500)	2000 (3000)	1000 (1500)	3000/ 6000	150 (250)	250 (400)	1000 (1500)	2000 (3000)	Traction 300	Traction 800 High-speed type 300	Traction 1300 High-speed type 600	1100	800/1000
	Guidance system		Magnetic bars / Magnetic tapes / Laser				Magnetic bars / Magnetic tapes / Laser				Magnetic bars / Magnetic tapes		Magnetic bars / Magnetic tapes / Laser				Magnetic bars / Magnetic tapes	Magnetic tapes		Magnetic bars / Magnetic tapes / Laser	
	Driving, steering system		Front wheel driving, front wheel steering				Front/rear wheel driving, steering						Front wheel driving, front wheel steering						Front/ rear wheel driving, steering	Front/rear wheel driving, steering	Front wheel driving, front wheel steering
	Traveling direction	Backward	Optional				○						Optional				○	Optional	○	○	○
		All-directional	—				○						—				—	—	○	○	—
		Spin turn	○																		
	Max. traveling speed	m/ min	60				Forward/backward 60 Traversing 30 (3MCM60 Forward/backward 30 Traversing 15)						Forward 60 Backward 30					30 High-speed type 60	30 High-speed type 60 Traversing 30	Conter-fork direction 60 Fork direction 30	
	Elevation speed	mm /s	—				—						—							250	150
	Reach speed	mm /s	—				—						—							250	—
	Minimum turning radius	mm	700	850	900	1000	1000	1250	1400	1500	730	1200	800	1200	1600		700	525	750	1500	1600
	Stopping accuracy (Speed before stop: 8m/min)	mm	±10								±5	±10	±10					±15		Machine base end ±10 fork end ±30	Traveling, elevation ±10
	Climbing ability (5m continuous)	%	2																		
	Standard working time	h	8				8			6	8		8				Continuous (auto-charge only)	3	2	8	
Major dimensions	Vehicle length / ( ) Spec. for backward	mm	1350 (1400)	1550 (1600)	1655 (1750)	2080 (2200)	1600	2000	2300		1950	2740	1485 (1535)	1820 (1960)	2720 (2840)	2920 (3040)	1600	1357	2000	1748	2320/2420
	Vehicle width	mm	685		800	1200	756	950	1270		1150	1522	660	685	1200		500	348		2278	845
	Vehicle height / ( ) Spec. for high load type	mm	340		350	425	360	400	480	530	420	477 Except cargo transfer machines	550	800	900	1050	200	170	170 (202)	1738	1000
	Load-carrying platform height / ( ) Spec. for high load type	mm	340		350	425	360	400	480	530	400	477	105	105	160	185	200	170	170 (202)	35~1035	31~831
	Minimum ground height	mm	25		30	35	30		35		30		25		35		20			35	35
	Self-mass	kg	190	220	360	770	290	490	990	1200	600	1550	180	250	800	1200	200	200	320	2050	1300/1450
Storage batteries	Type		Open type lead batteries for battery replacement system, enclosed type lead batteries for auto-charge system																		
	Voltage	V	24		48		24	48					24		48		24			48	
Auto-charge			Optional														○	Optional			
Radio LAN			Optional (LAN)																		

Note. Road surface where AGV cannot be used:

Water and oil are prevalent. | Inclination is 3% or more. | Road surface heavily contaminated | Asphalt-covered road surface

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