



# AIRPORT GROUND SUPPORT EQUIPMENTS

Carrying Your Minds and The Future



# Carrying Your Minds and The Future



## Carrying Your minds and the Futures.

The 21st century is called the age of information and movement.

The tremendous increase in air cargo traffic has greatly intensified the need for efficient cargo handling. The rapid growth in volume and size of cargo, coupled with the characteristic high speed of air cargo, has amplified the need for dependable ground support equipment, an efficient handling system, and an air cargo system within highly developed facilities.

Since 1967, when it entered the field by developing lines of container and pallet trailers, Hanaoka Sharyo has used its abundant experience to develop products that are now in use at major airlines and international airport throughout the world.

Hanaoka Sharyo has offered highly adaptable products and technology since its early recognition for the need toward GSE products.

And we started focusing on the concept and skills of universal design at the beginning of 2000s, and made our original evaluation standard as an evaluation item for product development.

## PRODUCTS HISTORY

- 1967 Development & launch of airport ground support equipment. (Trailer for DC8, etc)
- 1969 Product development & launch of two-way towing container trailer for B747.  
(Many airline companies adopted it officially, and the product is used at major airports all around the world)
- 1973 Development & launch of various types of pallet trailers for B747
- 1978 The world's first development & launch of 20-foot low profile trailer for airport use.
- 1986 The passenger baggage cart PUSH CART won the Good Design Award.
- 1990 Product development & launch of Two-way towing High speed container trailer.
- 2004 Product development & launch of the passenger baggage cart PUSH CART UD based on the research results on universal design.

## Persistence and Profound Knowledge

### High-speed two-way towing function

This function enable toeing connected multiple trailers(4-6 units) forward or backward. In addition, even when towing speed is more than 35 kilometers per hour, steady running can be secured.



### Casters

The dual tires casters for heavy loading, which are used for pallet trailers, etc., were developed with our original technology, and realize excellent running stability.



### Restraints

The restraints fix air cargo containers and pallets safely and firmly.



### Rollers exclusive for trailers

The specially designed rollers for trailers enable man-powered movement of air cargo containers/pallets with 1-7 tons of deadweight on trailers.





# CONTAINER DOLLY

Both Way Towing Type

Through Loading (Dolly to dolly can be available)

**4 Wheel Knuckle Steering  
One Bed Type**



**H•DLC-R**

## H•DLC-R

H•DLC-R (High Speed, Lighter Turntable)

H•DLC (High Speed)

**DLC**

### MAIN SPECIFICATIONS

Length	3,785mm	Max. load	2,500kg
Width	1,809mm	Capacity	LD-1/-3/-4
Height	543mm	Tare Weight	Approx.960- 1,000kg(R type)
Bed Height	508mm	Running speed	24-35km/h(H type)
Wheel	16x5-9 Solid Rubber Tire, 3.50Dx9 Rims		
Parking Brake	Lever Brake (acts on front wheel)		

Option; LD-2 Restraint

**4 Wheel Knuckle Steering  
Two Bed Type**



**H•DLE**

## H•DLE

H•DLE (High Speed)

**DLE**

### MAIN SPECIFICATIONS

Length	3,686mm	Max. load	1,600kg
Width	1,809mm	Capacity	LD-1/-3
Height	543mm	Tare Weight	Approx.850kg
Bed Height	508mm	Speed	24-35km/h(H type)
Wheel	4.00-8 Solid Rubber Tire, 3.00Dx8 Rims		
Parking Brake	Lever Brake (acts on front wheel)		

Option; LD-2 Restraint

**4 Wheel Knuckle Steering  
Three Bed Type**



**DLG**

## DLG

DLG-R (Lighter Turntable)

**DLG**

### MAIN SPECIFICATIONS

Length	4,525mm	Capacity	2,500kg
Width	1,809mm	Capability	LD-1/-3/-4/-8
Height	543mm	Tare Weight	Approx1,100kg
Bed Height	508mm	Running speed	24km/h
Wheels	16x5-9 Solid Rubber 3.50Dx9 Rim		
Parking Brake	Lever Brake (acts on front wheel)		

Option; LD-2 Restraint

# CONTAINER DOLLY

One Way Towing Type



## 4 Wheel Knuckle Steering



SEA

## SEA

### MAIN SPECIFICATIONS

Length	3,686mm	Capacity	1,600kg
Width	1,809mm	Capability	LD-1/-3
Height	543mm	Tare Weight	Approx. 650kg
Bed Height	508mm	Running speed	24km/h
Wheels	4.00-8 Solid Rubber Tire, 3.00D×8 Rim		
Parking Brake	Lever Brake (acts on front wheel)		

Option; LD-2 Restraint, Towbar actuated parking brake system

## SEM

### MAIN SPECIFICATIONS

Length	3,135mm	Max. Capacity	1,600kg
Width	1,850mm	ULDs	LD-1/-3
Height	543mm	Tare Weight	Approx. 620kg
Bed Height	508mm	Max. Speed	24km/h
Wheel	4.00-8 Solid rubber Tire, 3.00Dx8 Rims		
Parking Brake	Lever Brake (acts on front wheel)		

Option; LD-2 Restraint

## Front Wheel Knuckle Steering Rear Wheel Fixed Axle



SEM

## Front Turntable Steering Rear Wheel Fixed Axle



SSB

## SSB

### MAIN SPECIFICATIONS

Length	3,686mm	Max. Capacity	1,600kg
Width	1,809mm	ULDs	LD-1/-3
Height	543mm	Tare Weight	Approx. 620kg
Bed Height	508mm	Max. Speed	24km/h
Wheel	4.00-8 Solid rubber Tire, 3.00Dx8 Rims		
Parking Brake	Towbar actuated parking brake system		

Option; LD-2 Restraint



# CONTAINER DOLLY

## One Way Towing Type

### Through Loading (Dolly to dolly can be available)

#### 4 Wheel Knuckle Steering



SQ

## SQ

#### MAIN SPECIFICATIONS

Length	3,385mm	Max. Capacity	1,600kg
Width	1,809mm	ULDs	LD-1/-3
Height	543mm	Tare Weight	Approx. 800kg
Bed Height	508mm	Max. Speed	24km/h
Wheel	4.00-8 Solid Rubber Tire, 3.00Dx8 Rims		
Parking Brake	Lever Brake (acts on front wheel)		

Option; LD-2 Restraint

## SR

#### MAIN SPECIFICATIONS

Length	3,050mm	Capacity	1,600kg
Width	1,800mm	Capability	LD-1/-3
Height	553mm	Tare Weight	Approx. 800kg
Bed Height	508mm	Running speed	24km/h
Wheels	4.00-8 Solid Rubber Tire, 3.00Dx8 Rim		
Steering System	Front Wheels Turntable Steering		
Parking Brake	Towbar Actuates parking brake system		

Option; LD-2 Restraint

#### Front Turntable Steering Rear Wheel Fixed Axle



SR

#### Front Wheel Knuckle Steering Rear Wheel Fixed Axle



SLG

## SLG

#### MAIN SPECIFICATIONS

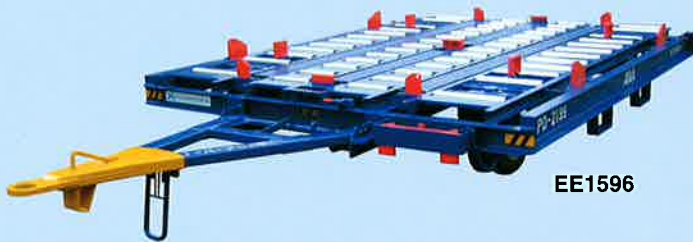
Length	4,190mm	Max. Capacity	2,500kg
Width	1,809mm	ULDs	LD-1/-3/-4/-8
Height	543mm	Tare Weight	Approx. 1,100kg
Bed Height	508mm	Max. Speed	24km/h
Wheel	16x5-9 Solid Rubber Tire, 3.50Dx9 Rims		
Parking Brake	Lever Brake (acts on front wheel)		

Option; LD-2 Restraint

# PALLET CONTAINER DOLLY



## 10FT End Loading End Towing Type Caster Steering



EE1596

## EE1596

### MAIN SPECIFICATIONS

Length	5,470mm	Capacity	6,800kg
Width	2,700mm	Capability	88"x125", 96"x125", LD-1/-3
Height	613mm	Tare Weight	Approx. 1,300kg
Bed Height	508mm	Running Speed	24km/h
Wheels	4.00-8 Solid Rubber Tire, 3.00Dx8 Rims		
Restraints	Manual Operated		
Rear Hitch	Drop Pin Type		
Parking Brake	Lever Brake		

Option; LD-4/-8 Restraint, Tow Bar Brake is available  
Tow Bar Weight Reducing Device (Tow Bar Balancer)

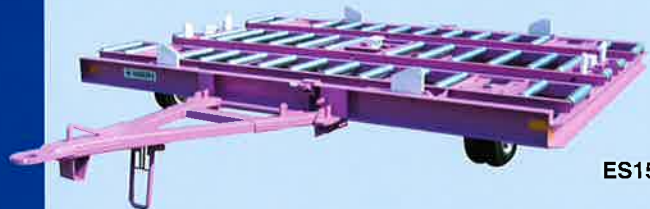
## ES1596

### MAIN SPECIFICATIONS

Length	4,620mm	Capacity	6,800kg
Width	3,550mm	Capability	88"x125", 96"x125", LD-1/-3
Height	613mm	Tare Weight	Approx. 1,300kg
Bed Height	508mm	Running Speed	24km/h
Wheels	4.00-8 Solid Rubber Tire, 3.00Dx8 Rims		
Restraints	Manual Operated		
Rear Hitch	Drop Pin Type		
Parking Brake	Lever Brake		

Option; LD-4/-8 Restraint, Tow Bar Brake is available  
Tow Bar Weight Reducing Device (Tow Bar Balancer)

## 10FT End Loading Side Towing Type Caster Steering



ES1596

## SE1596

### MAIN SPECIFICATIONS

Length	5,280mm	Capacity	6,800kg
Width	2,660mm	Capability	88"x125", 96"x125", LD-1/-3
Height	593mm	Tare Weight	Approx. 1,300kg
Bed Height	508mm	Running Speed	24km/h
Wheels	4.00-8 Solid Rubber Tire, 3.00Dx8 Rims		
Restraints	Manual Operated		
Rear Hitch	Drop Pin Type		
Parking Brake	Lever Brake		

Option; LD-4/-8 Restraint, Tow Bar Brake is available  
Tow Bar Weight Reducing Device (Tow Bar Balancer)

## 10FT End Loading With Turn Table Bed Type Caster Steering



SE1596



# 20FT PALLET CONTAINER DOLLY

**EE3096 20FT End Loading End Towing Type  
Caster Steering**

**ES3096 20FT Side Loading End Towing Type  
Caster Steering**



EE3096

## EE3096 SE3096

### MAIN SPECIFICATIONS

Length	8,400mm	Capacity	13,600kg
Width	2,620mm	Capability	20ft, 96"x125"
Height	607mm	Tare Weight	Approx. 3,000kg
Bed Height	520mm	Running Speed	15km/h
Wheels	16x5-9 Solid Rubber Tire, 3.50Dx9 Rim		
Steering System	Caster Steering (Front 4 Swivel, Rear 4 Rigid)		
Restraint	Manual Operated		
Parking Brake	Lever Brake		

Option; Capacity 13,600kg to 27,000kg is available  
Tow Bar Brake, Tow Bar Weight Reducing Device (Tow Bar Balancer).

## ME3096

### MAIN SPECIFICATIONS

Length	8,400mm	Capacity	13,600kg
Width	2,700mm	Capability	20ft, 96"x125"
Height	625mm	Tare Weight	Approx. 3,000kg
Bed Height	508mm	Running Speed	15km/h
Wheels	16x5-9 Solid Rubber Tire, 3.50Dx9 Rim		
Steering System	Caster Steering (Front 4 Swivel, Rear 4 Rigid)		
Restraint	Manual Operated		
Parking Brake	Lever Brake		

Option; Tow Bar Brake,  
Tow Bar Weight Reducing Device (Tow Bar Balancer)

**20FT Multi Loading End Towing Type  
Caster Steering**



ME3096

Model: ME3096 has Inverted Casters on the bed. The casters are heavy-duty casters and make ULDs to transfer or to rotate on the bed easily. ULDs are loaded/unloaded from/ to both side and end direction.



**10FT End Loading With Turn Table Bed Type  
Caster Steering**



EE1596T-C

## EE1596T-C

### MAIN SPECIFICATIONS

Length	5,470mm	Capacity	6,800kg
Width	2,650mm	Capability	88"x125", 96"x125"
Height	613mm	Tare Weight	Approx. 1,400kg
Bed Height	508mm	Max. Speed at full load	24km/h
Wheels	4.00-8 Solid Rubber Tire, 3.00Dx8 Rim		
Steering System	Manual Operated		
Restraint	Drop Pin Type		
Parking Brake	Lever Brake		

Option; LD-4/-8 Restraint, Tow Bar Brake is available  
Tow Bar Weight Reducing Device (Tow Bar Balancer)

# BULK CART

**Steel Panel,  
Cargo Net and Waterproof Sheet  
Without Roof**



BCA

## BCA

### MAIN SPECIFICATIONS

Length	3,997mm	Capacity	1,600kg
Width	1,524mm	Tare Weight	Approx.630kg
Height	1,722mm	Length, Cargo Space	2,400mm
Bed Height	508mm	Width, Cargo Space	1,400mm
Wheel	4.00-8 Solid Rubber Tire, 3.00Dx8 Rims (Solid Tire available)		
Parking Brake	Towbar actuated parking brake system		

## BCC

### MAIN SPECIFICATIONS

Length	3,560mm	Capacity	1,600kg
Width	1,400mm	Tare Weight	Approx670kg
Height	1,605mm	Length, Cargo Space	2,600mm
Bed Height	508mm	Width, Cargo Space	1,200mm
Wheel	4.00-8 Solid Rubber Tire, 3.00Dx8 Rims (Solid Tire available)		
Parking Brake	Towbar actuated parking brake system		

**Aluminum Panel,  
Gull- Wing Door  
With Roof**



BCC

**Steel Panel,  
Waterproof Sheet With Roof**



BCB

## BCB

### MAIN SPECIFICATIONS

Length	3,375mm	Capacity	1,600kg
Width	1,510mm	Tare Weight	Approx700kg
Height	1,986mm	Length Cargo Space	2,370mm
Bed Height	586mm	Width Cargo Space	1,430mm
Wheel	4.00-8 Solid Rubber Tire, 3.00Dx8 Rims (Solid Tire available)		
Parking Brake	Towbar actuated parking brake system		





## ULD Transport Vehicle



## Transport Vehicle



## Marshalling Vehicle



# RELATED PRODUCTS



## Work Stand



## Tire Service Cart



## Roller Rack



## Slave Pallet



## Loading Bridge



## Stage





# PASSENGER BAGGAGE TROLLEY

Design based on the universal design concept, the passenger baggage trolley is easy for diverse users to use

## Automatic Brake System Installed



PC-70

## PC-70

### MAIN SPECIFICATIONS

Length	1,040mm	Max. load	100kg
Width	576mm	Tare Weight	Approx.21kg
Height	953mm	Nesting Space	240mm
Caster Wheel	130mm dia	Finishing	Chromium plating Nylon Coating

Basket			
Length	220mm,	Width	430mm, Depth 165mm

## PC-E70

### MAIN SPECIFICATIONS

Length	960mm	Max. load	100kg
Width	615mm	Tare Weight	Approx.27kg
Height	955mm	Nesting Space	330mm
Caster Wheel	125mm dia 150mm dia	Finishing	Chromium plating Nylon Coating

Basket			
Length	190mm,	Width	480mm, Depth 240mm

## Escalator Passenger Baggage Trolley Automatic Brake System Installed



PC-E70

## Transit Trolley Automatic Brake



SC-70

## SC-70

### MAIN SPECIFICATIONS

Length	680mm	Max. load	30kg
Width	545mm	Tare Weight	Approx.17kg
Height	965mm	Nesting Space	240mm
Caster Wheel	100mm dia 125mm dia	Finishing	Chromium plating Nylon Coating

Basket			
Length	415mm,	Width	385mm, Depth 280mm

## SC-1

### MAIN SPECIFICATIONS

Length	630mm	Max. load	30kg
Width	550mm	Tare Weight	Approx.18kg
Height	990mm	Nesting Space	200mm
Caster Wheel	100mm dia	Finishing	Nylon Coating

Basket			
Length	375mm,	Width	385mm, Depth 280mm

## Transit Trolley



SC-1

# AIRPORT GROUND SUPPORT EQUIPMENTS

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