

## HYUNDAI REFRIGERATED VAN MIGHTY EX6, EX7, EX8, EX9



Hyundai Refrigerated Vans are a great way of preserving frozen food and produce in optimal frigid condition during transport. They feature a powerful refrigeration unit that supplies cold air to the body of the truck for low temperature maintenance.

The 80 mm-thick polystyrene-insulated panels used for the body offer superb thermal insulation by effectively blocking the penetration of external heat.

- Human-Oriented High Quality Hyundai Design
- New Technology for Advanced Protection
- Smooth, Responsive & Economical
- Super Strong Frame
- Trouble-free service



# HYUNDAI MIGHTY

TECHNICAL SPECIFICATIONS	EX6	EX7
Engine Model:	D4DD/D4DB13	D4DD/D4DB13
Engine Type:	4 stroke-cycle, water-cooled, direct-injection diesel engine with Turbo Charger Intercooler.	4 stroke-cycle, water-cooled, direct-injection diesel engine with Turbo Charger Intercooler.
Number of Cylinder:	4 in-line	4 in-line
Piston Displacement (cc):	3907	3907
Compression Ratio:	17.5:1/18.0:1	17.5:1/18.0:1
Max. Power (ps/rpm):	140/2800, 130/2900	140/2800, 130/2900
Max. Torque (kg.m/rpm):	38/1600, 38/1800	38/1600, 38/1800
Steering:	4-Spoke, Ball-nut type, Tilt & Telescopic steering column.	4-Spoke, Ball-nut type, Tilt & Telescopic steering column.
Transmission:	5 forward and 1 reverse.	5 forward and 1 reverse.
Gross Vehicle Weight:	6500 kg	7200 kg
Empty Vehicle Weight:	3030 kg	3240 kg
Max. Speed (Km/h):	107/103.8	104/107.7
Max. Gradeability (tan $\Theta$ ):	0.403	0.359/0.273
Fuel System:	ECU Control/In-line Type	ECU Control/In-line Type
Overall (LxWxH) :	(mm-6210 X 2180 X 2345) (Feet-20.3 X 7.1 X 7.6)	(mm-6720 X 2180 X 2915) (Feet-22 X 7.1 X 9.5)
Deck (LxWxH) :	(mm-4340 X 2060 X 2057) (Feet-14.2 X 6.7 X 6.7)	(mm-4877 X 2185 x 2057) (Feet-16 x 7.1 x 6.7)
Wheel Base in mm:	3850	3850
Rear Axle:	Full floating type	Full floating type
Front Axle:	Reverse Elliot type " I " beam	Reverse Elliot type " I " beam
Tire & Wheel:	Single Front, Dual Rear	Single Front, Dual Rear
Tire Size:	7.00R16-10PR	7.50R16-12PR
Brake:	Hydraulic with vacuum servo assistance, dual circuit.	Hydraulic with vacuum servo assistance, dual circuit.
Min. Turning Radius:	7.5m	7.5m
Drive:	Right Hand Drive, 4 X 2	Right Hand Drive, 4 X 2
Suspension:	Semi-elliptic, laminated leaf springs with FRONT/REAR shock absorber.	Semi-elliptic, laminated leaf springs with FRONT/REAR shock absorber.
Fuel Tank Capacity:	100 Liter	100 Liter
Body Type:	Steel Material	Steel Material
Battery:	24V	24V
Ground Clearance:	195mm	220mm



**Engine**



**Adjustable steering wheel**

The tilt angle and distance can be easily adjusted to ensure the perfect driving position.



**Center console**

The center fascia includes a nicely sized console for storage convenience.



**Long stay mirror**

The long-stay mirrors eliminate the blind spot permitting safer lane changes. Optional.



**Audio System**

The top-end T800 AM/FM radio offers Bluetooth capability, plays MP3s, CDs and accepts USBs and AUX inputs.



**Steel wheels**

Highly durable steel wheels are built to withstand punishment.



# HYUNDAI MIGHTY

TECHNICAL SPECIFICATIONS	EX8	EX9
Engine Model:	D4DD/D4DB13	D4DD/D4DB13
Engine Type:	4 stroke-cycle, water-cooled, direct-injection diesel engine with Turbo Charger Intercooler.	4 stroke-cycle, water-cooled, direct-injection diesel engine with Turbo Charger Intercooler.
Number of Cylinder:	4 in-line	4 in-line
Piston Displacement (cc):	3907	3907
Compression Ratio:	17.5:1/18.0:1	17.5:1/18.0:1
Max. Power (ps/rpm):	140/2800, 130/2900	140/2800, 130/2900
Max. Torque (kg.m/rpm):	38/1600, 38/1800	38/1600, 38/1800
Steering:	2-Spoke, Ball-nut type, Tilt & Telescopic steering column.	2-Spoke, Ball-nut type, Tilt & Telescopic steering column.
Transmission:	5 forward and 1 reverse.	5 forward and 1 reverse.
Gross Vehicle Weight:	7800 kg	8200 kg
Empty vehicle Weight:	3250 kg	3250 kg
Max. Speed (Km/h):	111/107.7	111/107.7
Max. Gradeability (tan $\Theta$ ):	0.322/0.321	0.322/0.321
Fuel System:	ECU Control/In-line Type	ECU Control/In-line Type
Overall (LxWxH) :	(mm-6720 X 2180 X 2915) (Feet-22 X 7.1 X 9.5)	(mm-6720 X 2180 X 2915) (Feet-22 X 7.1 X 9.5)
Deck (LxWxH) :	(mm-4877 X 2060 X 2057) (Feet-16 X 6.7 X 6.7)	(mm-4850 X 2060 X 2057) (Feet-15.9 X 6.7 X 6.7)
Wheel Base in mm:	3850	3850
Rear Axle:	Full floating type	Full floating type
Front Axle:	Reverse Elliot type " I " beam	Reverse Elliot type " I " beam
Tire & Wheel:	Single Front, Dual Rear	Single Front, Dual Rear
Tire Size:	7.50R16-12PR	7.50R16-12PR
Brake:	Hydraulic with vacuum servo assistance dual circuit.	Hydraulic with vacuum servo assistance dual circuit.
Min. Turning Radius:	7.5m	7.5m
Drive:	Right Hand Drive, 4X2	Right Hand Drive, 4X2
Suspension:	Semi-elliptic, laminated leaf springs with FRONT/REAR shock absorber.	Semi-elliptic, laminated leaf springs with FRONT/REAR shock absorber.
Fuel tank Capacity:	100 Liter	100 Liter
Body type:	Steel Material	Steel Material
Battery:	24V	24V
Ground Clearance:	220mm	220mm



**Alloy wheels**  
Mighty looks even more handsome and stylish with the optional lightweight alloy wheels.



**Detachable upper front panel**  
The detachable design allows for quick inspections and easier servicing.



**Passenger air conditioning**  
Controls are positioned centrally between the driver and front passenger for the maximum convenience of both.



**Rear lamps**  
Large rear lamps provide excellent illumination and are easy to service.



**Parking console**  
This console features a storage bin and cupholder for the driver's convenience.



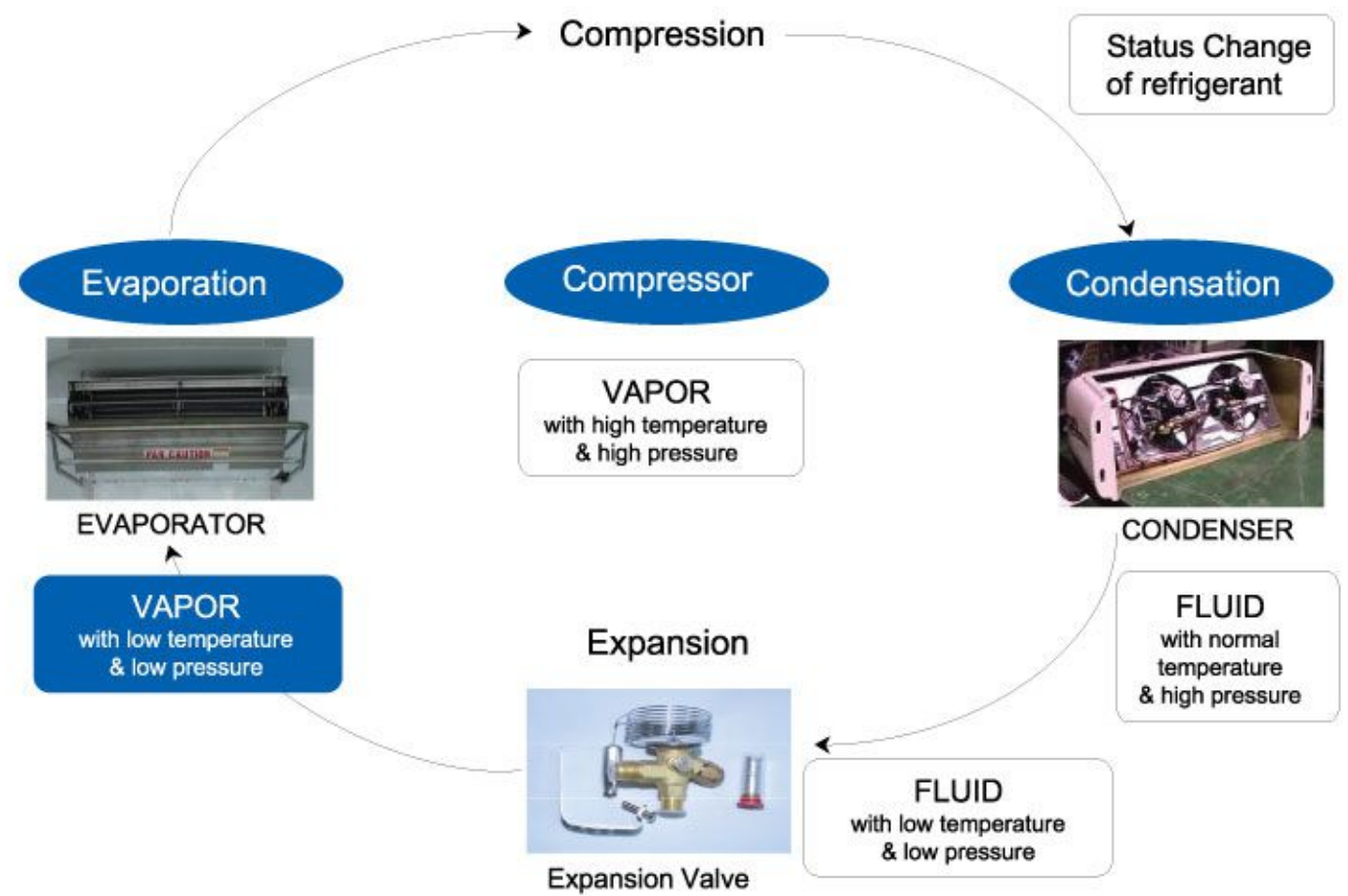
**Room lamp**  
The large room lamp provides excellent coverage throughout the cabin.



## Refrigerated Body Details

Panel	: 80 mm, Aluminum Flat
Floor	: Ribbed Stainless Steel
Insulation	: Polystyrene or Polyurethane
Refrigerator	: Main engine type
Freezing Temperature	: 0°C ~ -20°C
Common Specification	: SUS430 Floor, Air Rib, Rear Twin Swing Door, Rear Marker Reflector LED Room Lamp, Emergency Bell (Inside).
Usage	: Food item, Dairy Products Fish Metal, Poultry Pharmaceuticals, Vegetables Fruits etc.

## Freezing Cycle



Compressor



Condenser



Evaporator



**READY  
STOCK**

**Corporate Office**  
Police Plaza Concord, Level # 7, Plot # 2  
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Fax: (+88) (02) 55 045150  
E-mail: Sales@hnsautomobiles.com  
Web: www.hnsautomobiles.com

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Fax: (+88) (031) 252 3482, 251 4006  
E-mail: sales@hnsautomobiles.com

► Please contact

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Van Truck

Dry Van  
Refrigerated Van  
Insulated Van  
Cool Van



Dry / Refrigerated Van



Insulated / Cool Van

- Dry / Refrigerated / Insulated / Cool Vans are available for the HD45 ~ 320 platforms.  
(However, only HD 65 / 72 are recommended for the cool van due to cooling performance. Not recommended for HD120 model and above.)
- They can be manufactured after options have been selected according to customer requirements.
- Prior consultation with the Special Vehicle Team is required for special vans other than the standard vans.

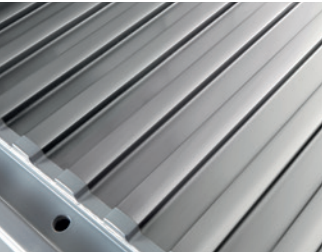
Caution : Standard vans are not designed to load heavy equipment such as forklifts.  
Heavy equipment may damage the floor and the van box.  
Please consult with the Special Vehicle Team if such use is required.

Refrig / Insul / Cool Van Standard Specifications

		Dry Van	Refrig Van		Cool Van
Interior					
Common Specifications		Dry Van Body + Apitong Floor + GI Panel + Rear Door + Ventilator + Reflection Film +Emergency Bell + LED Room Lamp	Ref. Van Box + Refrigerator Unit + SUS430 Corrugated Floor + Air Rib + Rear Twin Swing Door + Rear Marker Reflector + LED Room Lamp + Emergency Bell		Dry Van Body + SUS430 Corrugated Floor + Refrigerator Unit
Panel		GI 40mm (or 50mm)	AL 70mm (or 80mm)		GI 40mm
Ref. System		X	Main engine	Sub engine	Main engine type
Air rib		X	O		X
Floor		Apitong Wood	SUS430		SUS430
	Thickness	15mm (or 18mm)	1.2mm (+Wood 5mm + Polystyrene 65mm + GI Plate 0.5mm)		
Key Markets		Distributors handling products that are not sensitive to temperature changes	Bakery shops, confectionery companies distributing frozen desserts		Distributors handling agricultural and livestock products/refrigerated foods
		Cosmetics, clothing, electronic products, office furniture, furniture and bedding distributors	Dairy product distributors and food manufacturing businesses		Dairy product distributors and food manufacturing businesses
		Printing/publishing companies, bakery/pastry shops, flower shops	Distributors handling agricultural and livestock products/frozen foods		Department stores, bakery/ pastry shops
		* Eutectic Van is recommended for transporting ice cream / frozen fruit			
Option		HD45~HD320 Same Conditions			



Floor



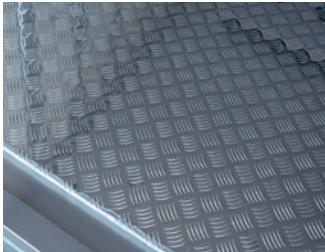
**SUS430 floor**  
Ref. / Ins. / Cool  
HD45~HD320  
  
Note: [Standard](#)



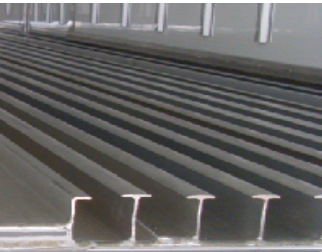
**Apitong wood floor**  
Dry / Wing Body  
HD45~HD320  
\* Thickness : 15mm  
Apitong Wood  
  
Note: [Standard](#)



**SUS304 floor**  
Ref. / Ins. / Cool  
HD45~HD320  
  
Note: [Option 1](#)



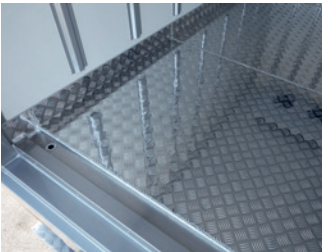
**AL checked floor**  
Ref. / Ins. / Cool / Dry  
HD 45/65/72/78/120  
\* Anti-corrosive, Light Weight  
  
Note: [Option 2](#)



**AL T-floor**  
Ref. / Ins. / Cool  
HD120  
\* Improves chill circulation of the floor plate, which makes faster cooling than in common ref. vans and cooling efficiency increased  
  
Note: [Option 3](#)



**SUS 304 flat floor**  
Ref. / Ins. / Cool  
HD45~HD320  
\* Suitable for cases in which wheels like trolleys are used for loading  
  
Note: [Option 4](#)



**SUS 430 checked floor**  
Ref. / Ins. / Cool / Dry  
HD45~HD320  
  
Note: [Option 5](#)

Reinforcement can be applied to **AL checked, SUS304 Flat, SUS 430 checked floor**.  
Please consult with Hyundai Special Vehicle Team

Refrigerator Van floor reinforced

- Option 1**
- Uneven floor material SUS430 installed as standard is changed to SUS304 (bolts / rivets are also made of SUS304)
  - For more information about difference between SUS430 and SUS304, Please refer the material property reference
- Option 2**
- For the dry van, AL Checked steel plate (3.2mm) is applied onto the standard Apitong wood floor
  - For the Ref. / Ins. Vans, AL Checked steel plate (3.2mm) is applied after standard SUS 430 floor has been removed
- Option 3**
- If this option is selected, 5~60mm of floor height is raised compared to the standard floor
- Option 5**
- It is mainly selected with the reinforcement options, and can also be selected as a separate option
  - General options and reinforcement options plus SUS430 Checked Floor have some differences. For details, please contact Special Vehicle Team

Reference Information about Stainless Steel

	Apitong	Stainless SUS 430	Stainless SUS 304
Series	-	Ferrite (Fe-Cr)	Austenite (Fe-Cr-Ni)
Composition	Apitong Wood	Cr 18%	Cr 18% + Ni 8%
Strengths	Low moisture content, hardness, less shrinkable	Basic use (magnetism)	Corrosion / thermal resistance Low Temperature Strength (No magentism)
Weaknesses	Scratches and dent not suitable for wet area	Low corrosion resistance (ver. Sus 304)	Higher cost
Scope of Use	Trailer deck, furniture, flooring	Kitchen sink, Family bath (Standard)	Turbine vessels, aircraft, vehicles (Option)

\* Cr-Ni is 300 family, Cr-Ni-Mn is 200 family ⇒ Categorized by Cr, Ni, Mn composition

Panel

Aluminum

**Aluminum 70mm panel**  
Ref. / Ins.  
HD45~HD120 : 70mm  
HD170~320 : 80mm  
Note: [Standard](#)

Galvanized Iron

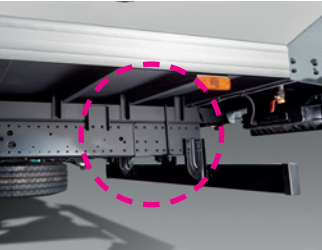
**Galvanized iron 40mm panel**  
Cool / Dry  
HD45~HD72 : 40mm  
HD120~320 : 50mm  
Note: [Standard](#)

40 mm 70 mm 100 mm

**Aluminum 100mm panel**  
Ref. / Ins. / Cool  
HD45~HD320  
Note: [Option 1](#)

Aluminum


**Aluminum outside panel**  
Dry  
HD45~HD320  
Note: [Option 2](#)



**Body frame extension**  
Ref. / Ins. / Cool / Dry  
HD 65/72/78  
\* HD65~78 : 250~350mm  
HD120 : 400mm  
Note: [Option 3](#)

- Option 1**
- Polystyrene panel thickness varies among refrigerated vans while the exterior plate thickness (0.5mm) is fixed.
- Option 2**
- Exterior panel thickness varies for dry vans while polystyrene(40~50mm) thickness is fixed.
  - Achieved weight reduction of about 50% compared to GI plate for improved fuel efficiency.





### Panel

**Body size up/down (per m<sup>3</sup>)**  
Ref. / Ins. / Cool / Dry  
HD 45/65/72/78  
\* based on STD C/CAB  
**Note:** Option 4 (+Option 3)

**Option 4 (+Option 3)**

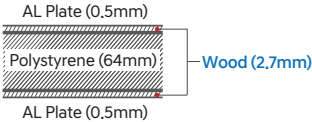
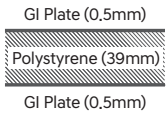
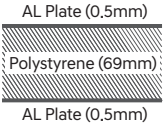
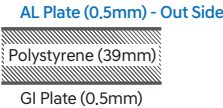
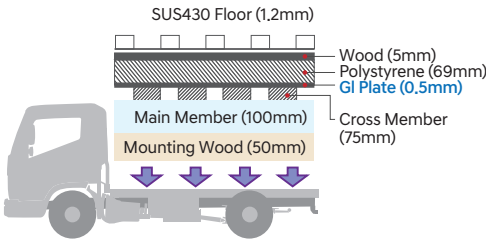
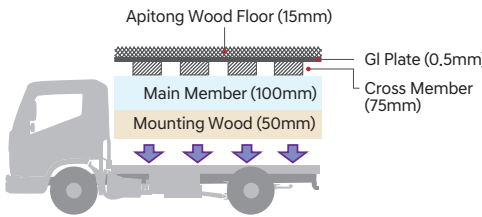
- Option 3 (Body Frame Extension) must be selected together when the length is extended (forced option)
- Left and right viewing angles must be ensured when the width is extended and the local laws and safety regulations must be checked when the option is selected
- The box size cannot be changed for HD120 or higher models

### Maximum Size up Specification


Contents	HD45			HD65/72 (78)		
	L	W	H	L	W	H
Dry / Cool	3,460	1,850	1,850	4,900	2,100	2,100
Ref. / Ins.	3,460	1,770	1,800	4730	2,040	2,000

Max. Size up : +50mm(width) / +150mm (height) / +⅓ of wheelbase (length)


Panel Reference Information

	Refrig / Insul	Dry / Cool
Side	Aluminum 	Garvanized Iron 
Front	Light Weight Anti-Corrosive (In comparison to GI) High Cost	Anti-Corrosive (In comparison to steel) Low cost (In comparison to Aluminum)
Upper		
Floor		


### Door Types




**Rear door**  
Ref. / Ins.  
HD45~HD320  
Door frame : Dry → Steel,  
Ref./Ins./Cool → Steel(Outside)  
SUS430(Inside)  
**Note:** Standard



**Side swing door (Standard / Large)**  
Ref. / Ins. / Cool / Dry  
HD45~HD320  
Door frame : Dry → Steel  
Ref./Ins./Cool → SUS430  
**Note:** Option 1(STD), Option 2(Large)



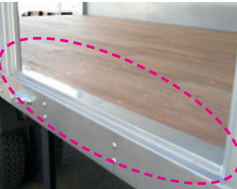
**Triple rear door**  
Ref. / Ins. / Cool / Dry  
HD45/65/72  
**Note:** Option 3




**Roll-up door (Rear / Side)**  
Ref. / Ins. / Cool / Dry  
HD45/65/72  
**Note:** Option 4

**Option 1 (STD), Option 2 (Large)**


- The side step is mounted as standard when the side door is selected (can also be changed to folding step-type)
- It can be mounted in LH or RH, and is mounted in the general direction (LH Driven → RH, RH Driven → LH) unless otherwise specified
- 2ea doors can be mounted to one side, and they can be changed to swing-type two-door on customer request
- The door lock is the key type
- For dry vans, the lower sill of the door is removed to enhance user convenience
- When the SUS304 floor is specified then Side Door Frame and Rear Door Frame (inside) are also changed to SUS304




Lower sill removed (dry van)




Standard side step




Wide side step



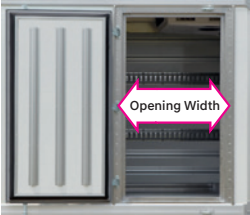
Folding side step



Rear/side lockable key



Side double swing door




Contents (Width)		HD45	HD65	HD72	HD120
Dry / Cool	Standard	878	←	←	1,016
	Large	1,167	←	←	1,167
Ref. / Ins.	Standard	855	←	←	988
	Large	1,144	←	←	1,139

**Option 3**


- Frame material of the triple rear door - Dry : steel, Ref./Ins./cool : inside(SUS430), outside(Steel)

**Option 4**

- Material of roll up door : Aluminum Panel (insulation function included)  
Dry van : 40mm, Ref./Ins./cool : 50mm
- Frame material of rear roll up door: steel in all vehicle types
- Frame material of side roll up door - Dry : steel, Ref./Ins./cool : SUS430



Side Roll up door cover (Height - 350mm)



Rear door lockable key (Height - 180mm)



## Features



### Refrigerator

Ref. / Cool  
HD45~HD320

Note: [Standard](#)

※ Caution: Customers requiring a refrigerator upgrade should first check with special vehicle team for correct chassis amperage



### Water drain valve

Ref. / Ins. / Cool / Dry  
HD45~HD320

\* Total 3 valves  
(2 at rear, 1 at front)

Note: [Standard](#)



### Ventilator

Dry  
HD45~HD320

Note: [Standard](#)



### Body endout marker lamp

Ref. / Ins. / Cool / Dry  
HD45~HD320

\* 2 at rear, 2 at front

Note: [Standard](#)



### Air rib

Ref. / Ins.  
HD45~HD320

\* Mounted in height direction

Note: [Standard](#)



### LED room lamp

Ref. / Ins. / Cool / Dry  
HD45~HD320

\* HD45~78 : 6EA, HD120 : 8EA

Note: [Standard](#)



### Inside emergency bell

Ref. / Ins. / Cool / Dry  
HD45~HD320

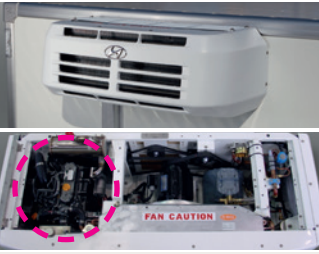
Note: [Standard](#)



### Standby motor

Ref. / Cool  
HD45~HD320

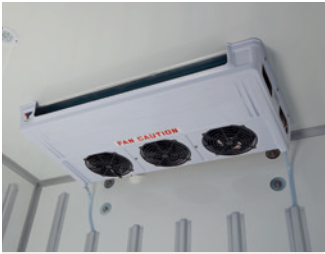
Note: [Option 1](#)



### Sub-engine refrigerator

Ref.  
HD72

Note: [Option 2](#)

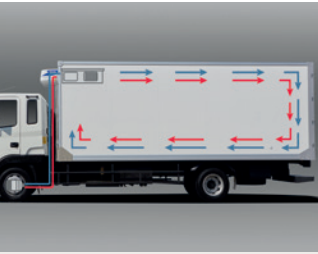


### Heating unit (only)

Dry  
HD45~HD320

\* Radiator type

Note: [Option 3](#)



### Two-way air conditioner (refrigerator & heating)

Ref. / Cool  
HD45/65/72/78

\* Reverse cycle type

Note: [Option 4](#)

## Features

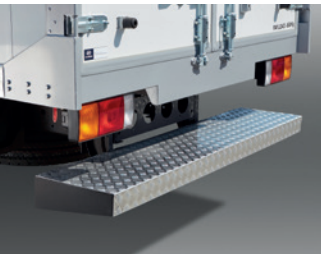


### Aluminum rear bumper step

Ref. / Ins. / Cool / Dry  
HD45~HD320

\* Dimension : 100 x 100mm

Note: [Option 5](#)



### Aluminum rear bumper step (wide-type)

Ref. / Ins. / Cool / Dry  
Above HD160

\* Dimension : 550 x 50mm

Note: [Option 6](#)



### Body endout marker lamp

Ref. / Ins. / Cool / Dry  
HD45~HD320

\* Mounted in height direction

Note: [Option 7](#)



### Side endout marker (reflector or LED)

Ref. / Ins. / Cool / Dry  
HD45~HD320

\* Based on one row  
(either LH or RH)

Note: [Option 8](#)



### Air spoiler

Ref. / Ins. / Cool / Dry  
HD45~HD320

The shape may defer by van body builders

\* Material: FRP

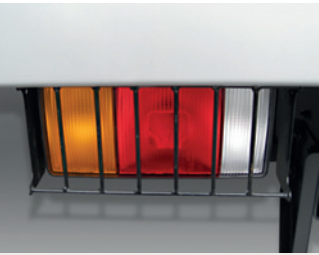
Note: [Option 9](#)



### Rear rubber bumper

Ref. / Ins.  
HD45~HD320

Note: [Option 10](#)



### Rear lamp cover

Ref. / Ins. / Cool / Dry  
HD45~HD320

\* Material: Steel

Note: [Option 11](#)

### Option 1

- Provides electrical power for refrigerator operation when engine is off and is mounted next to the refrigerator (refrigerator-integrated type).
- Standard Spec: 380V, 3-Phase, 50~60Hz, single phase not recommended for current stability reasons.
- Electricity specs of the corresponding country should be considered first when this option is selected.



### Option 2

- Temperature reaches -22°C in a vacant vehicle and under no-load conditions
- Single compressor system is mounted when this option is selected.

### Option 3

- Mounted to the position where the refrigerator is installed and temperature is controlled in 0.10°C increments (0°C ~ +15°C range).

### Option 4

- Mounted to the position where the refrigerator is installed and temperature is controlled in 0.10°C increments (within -15°C ~ +15°C range).

### Option 5

- AL checked plate is applied to the steel square step and projects about 60mm from the box end.
- Tubular-type rear step is mounted as standard equipment when this option is not selected.



## Features



### Power gate (2 cylinder arm-type)

Ref. / Ins. / Cool / Dry  
HD45~HD320  
Material : Steel or Aluminum  
Loading Capacity : 600kg  
(average)

Note: Option 12



### Power gate (vertical-type)

Cargo truck  
HD45~HD320

Note: Option 13



### Plastic curtain (side/rear)

Ref. / Ins. / Cool  
HD72

Note: Option 14



### E-track/belt

Ref. / Ins. / Cool / Dry  
HD45~HD320

Note: Option 15



### Reinforcement

Ref. / Ins. / Cool / Dry  
HD45~HD320

Note: Option16

### Option 6

- Wide-type AL rear bumper step is recommended for HD160 and above as the box-entering height is more than 1M.
- The step projects about 70~100mm from the box end.

### Option 7

- Front 2ea and rear 2ea are mounted in amber and red colors, respectively.

### Option 8

- Reflector type: red/amber 1 set, HD45/65/72: 2 sets, HD120 or higher: 3 sets installed
- LED type: basically red (color can reflect customer request) HD45/65/72: 2, HD120 or higher: 3 installed

### Option 9

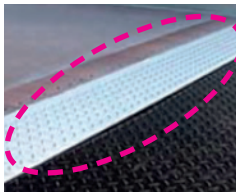
- For reducing the air resistance

### Option 10

- Lower frame, slip-proof sub-frame is mounted as standard

### Option 12

- It is a up-and-down motion & folding type, and only mounted to vans (1,400mm max vehicle width)
- The horizontal space between the box and the gate when the gate is opened can be covered by additional steel plate (Dry: Steel, Refrg/Insul/Cool: SUS430)
- Semi-automatic type (using remote controller) taking 10~15 seconds from closed to open position
- It can be used instead of the rear door, and for this use, rain-proof auxiliary door is required to cover the space between the upper side of the box and the closed gate



Assistance plate



Rain-proof auxiliary door



Power Gate Controller

### Option 13

- It is a up-and-down motion & folding type, and only mounted to cargo van only and not to any other van types
- It is a semi-automatic type (using remote controller) taking 10~15 seconds from closed to open position
- Lift capacity varies by model but is about 1T on average



## Features

### Option 14

- Hook-type which are fully detachable
- Plastic curtain prevents cold loss when loading/unloading frozen goods

### Option 15

- One belt per E-track row (each row of LH/RH) is mounted as standard, and installed to LH and RH sides
- The material is steel for dry vans, and SUS430 for Refrg/Insul vans
- Can be added as a complete E-track & belt set; the belt alone cannot be added
- When the E-track is mounted, additional plates can be installed inside the side panel, which reinforces the panel
- The air rib is mounted transversely in Refrg/Insul vans (no impact on freezing performance)



For Dry Van



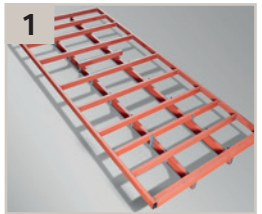
For Ref. Van



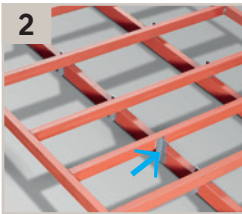
E-TRACK / BELT

### Option 16

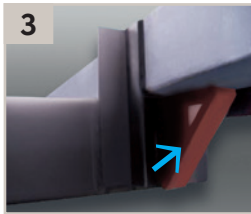
- Essential where road condition are not good or for traveling on rough roads
- Standard: Dry van 8 points, Ref. van 7 points    Hard: Dry van 17 points, Ref. van 16 points
- Special : Hard reinforcement + E-track 2 rows



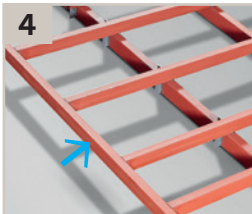
Number of the main frame members increased



Front main frame reinforcement cross member added



Frame connections reinforcement member added



Front main frame fore reinforcement plate added



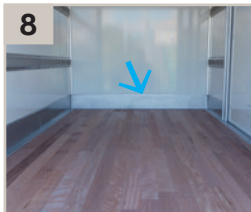
Main frame triangular reinforcement brace added



Cast rear corner brace



Box front anti-slip reinforcement plate



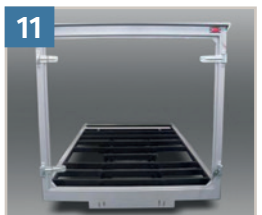
Box inside lower steel plate reinforced  
- only for dry vans



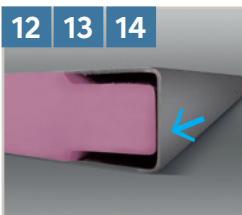
Rear door frame corner side reinforced



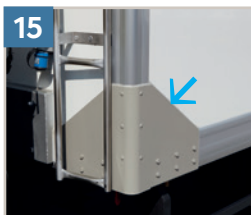
Rear door frame triangular reinforcement brace added



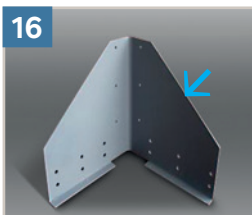
Rear door frame steel plate thickness changed



Inside side panel, steel plate added to riveting parts,  
Inside front panel, steel plate added to riveting parts,  
Inside column panel, steel plate added to riveting parts



Cast front corner brace



Cast inner corner brace



Rear door frame fastened with mono rivets

\* 10) From HD160, the size is increased and shape is changed compared with HD45~72

\* 11) The thickness is changed to 3.2mm and 4mm from the standard 2mm for HD45~120 and HD160 or higher, respectively

\* 17) The number of rivets is increased by 50% compared to standard riveting



Power Gate Reference Guide

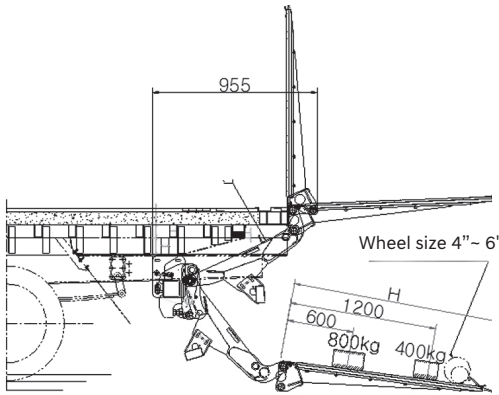
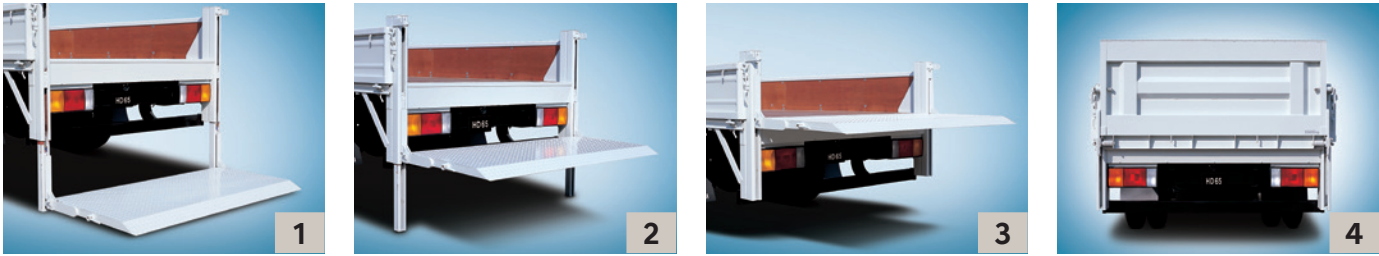
2-Cylinder Arm-Type

	HD65		HD72	HD120		HD160	HD250	HD320
Platform size (mm)	1,400 x 2,000	1,400 x 2,010	1,400 x 2,180	1,400 x 2,420	1,400 x 2,480	1,400 x 2,495	1,400 x 2,495	1,400 x 2,495
Weight (kg)	220		220	240		250	260	265
Lift Capacity	800			1,000				
Lift Speed	10~20sec							
System	Hydraulic system remote control switch							
Battery	DC 24V							



Vertical-Type

	HD65		HD72	HD120		HD160	HD250	HD320
Platform size (mm)	800 x 2,000	800 x 2,010	800 x 2,180	800 x 2,420	800 x 2,480	800 x 2,495	800 x 2,495	800 x 2,495
Weight (kg)	200		200	210		210	230	235
Lift Capacity	800			1,000				
Lift Speed	10~20sec							
System	Hydraulic system remote control switch							
Battery	DC 24V							



\* Details about the installation position and operation can vary depending on manufacturer, truck body builder and customization requirements. Payload and loading positions also vary by truck platform.

Eutectic Cold Van

Eutectic technology uses Phase Change Material (PCM) to deliver constant refrigeration regardless of whether the vehicle is in operation or not. 220-380VAC refrigerator cools down the PCM panels to-30°C and then while the vehicle is running, the stored chill is slowly emitted without requiring external power input.

Advantages

- **Cost Saving** : Costs are reduced by 35% compared to sub-engine method.
- **Temperature maintenance** : Keeps the latent temperature constant without any power source.
- **Noiseless** : No noise while driving.
- **Efficient** : Maintains an average of -25°C when the ambient temperature is +35°C during the daytime.
- Maintains low temperatures regardless of whether the engine is running or not because the independent refrigeration system.

Disadvantages

- **Charging time** : Requires 8~10 hours to charge and cannot move while charging.
- **Parking space** : Need enough space for charging.
- **Internal space** : Eutectic storage plates decrease internal volume by about 5% compared to conventional freeze trucks.
- **Temperature setting** : The set temperature cannot be changed.
- **Weight** : Ceiling installation of PCM cold plate increases weight by 20% compared conventional top.

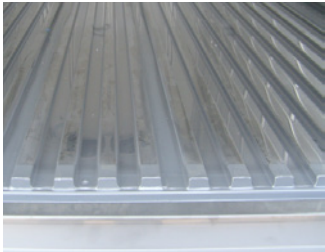


Inside

- It reduces temperature to -30°C by using the electrically charged eutectic plates, and lasts up to 12 hours.
- Basically 7 ~ 8 eutectic plates are mounted according to vehicle type.
- Skin FRP 2mm + FRP 2mm, 100mm panel are applied and require 220/380V - 3-phase - 50~60Hz.
- Standard specs are provided here, however, they are subject to change according to customer requirements (other customer-ordered options can be installed besides those indicated here).



Body



**SUS430 floor**  
Eutectic cold van  
HD45 ~ HD170

Note: [Standard](#)



**Side door (1 each)**  
Eutectic cold van  
HD45 ~ HD170

Note: [Standard](#)



**Rear door (1 each)**  
Eutectic cold van  
HD45 ~ HD170

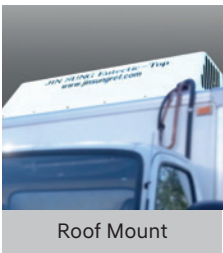
Note: [Standard](#)



**Eutectic plate**  
Eutectic cold van  
HD45 ~ HD170  
Material is STS 304 1.2t,  
and PCM-33°C solution is  
charged  
Note: [Standard](#)



**Urethane panel**  
Eutectic cold van  
HD45 ~ HD170  
Excellent performance with  
poly-urethane panel to insulate  
the ambient with relatively  
strong solidity.  
Note: [Standard](#)



Roof Mount



Upper Mount



Under mount

**Condensing unit**

Eutectic cold van  
HD45 ~ HD170  
Operated by 3 phase electric power 380V or 220V  
with 50Hz or 60Hz.  
\* The condenser Takes the high-temperature, high-pressure gas from the  
compressor and condenses it into liquid from by cooling it with external air.  
Note: [Standard](#)

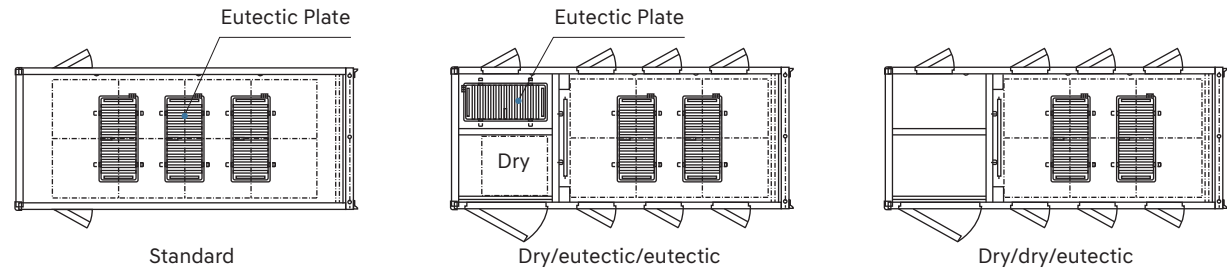


**Layout change**  
Eutectic cold van  
HD45 ~ HD170

Note: [Option 1](#)

**Option 1**

- The box size and layout can be changed according to uses
- If the box is changed, options like side door change, inside partition, inner panel and trolley are selectively added
- For HD45, the layout cannot be changed without modifying the box size



**Option 2**

- Standard type and the anti-freezing heat wire is included along the edges (630W x 1,050H & 600W x 1,200W Two types)
- Door size cannot be changed

Body



**Side door (standard)**  
Eutectic cold van  
HD45 ~ HD170

Note: [Option 2](#)



**Side door (big size)**  
Eutectic cold van  
HD45 ~ HD170

Note: [Option 3](#)



**Side door  
(recessed-type)**  
Eutectic cold van  
HD45 ~ HD170  
Note: [Option 4](#)



**Central lock**  
Eutectic cold van  
HD45 ~ HD170

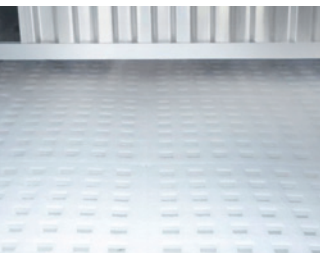
Note: [Option 5](#)



**Plastic curtain  
(Side/Rear)**  
Eutectic cold van  
HD45 ~ HD170  
Note: [Option 6](#)



**AL rear bumper step**  
Eutectic cold van  
HD45 ~ HD170  
Note: [Option 7](#)



**FRP+ PE skid floor**  
Eutectic cold van  
HD45 ~ HD170  
Note: [Option 8](#)



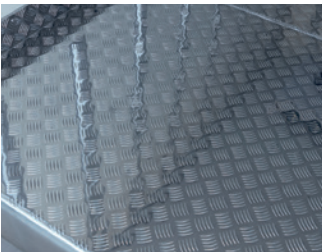
**Inner partition**  
Eutectic cold van  
HD45 ~ HD170  
Material : Zinc Plated  
Note: [Option 9](#)



**E-track & clamp**  
Eutectic cold van  
HD45 ~ HD170  
Material : SUS430  
Note: [Option 10](#)



**Trolley**  
Eutectic cold van  
HD45 ~ HD170  
Note: [Option 11](#)



**SUS430/304  
checked floor**  
Eutectic cold van  
HD45 ~ HD170  
Note: [Option 12](#)



**Solenoid valve**  
Eutectic cold van  
HD45 ~ HD170  
Note: [Option 13](#)

**Option 3**

- Locking type and the size can be changed according to customer requirements (standard 800W x 1200H)
- The locking bar material is SUS304 (lockable key box is included)

**Option 4**

- Recessed-type door includes anti-freezing heated wire; dimensions can be changed according to customer requirements

**Option 5**

- Customers can lock and unlock every box door with central lock switch



Body

**Option 6**

- Can be mounted to both rear and side doors, and for the side door, it consists of 12 ~ 15 rectangular plastic curtains of 200mm width per door

**Option 7**

- AL checked plate is applied to cover the steel square step
- Tubular-type rear step is standard when this option is not selected  
(The standard rear step is an option which can be selected at the first stage of building your C/Cab)

**Option 8**

- If damaged, the damaged part alone can be replaced as it is a removable/detachable floor  
(however, the trolley cannot be selected when selecting this option)

**Option 9**

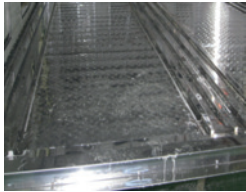
- Zinc plated square pipes are mounted horizontally/vertically and can be removed and reattached as necessary, in order to facilitate easier classification of cargo
- Partitions can be connected from the floor to the ceiling according to customer requests, and can be installed so that they are only separated near the door (size can be adjusted)
- If this option is selected, the additional side door must be selected (one side door is needed per partition)
- The trolley cannot be selected when this option is specified

**Option 10**

- It cannot be selected with the inner partition option
- Normally, this option is bundled with the trolley option

**Option 11**

- The trolley is a standardized product but dimensions can be changed to customer requirements
- The material is zinc plated bars and includes an anti-slip stopper on the wheels
- The stopper is installed at the body front once the trolley option has been selected
- It can be used with the FRP Checked / Inner Partition options
- The trolley rail is included as a standard when this option is selected
- The trolley can only pass through the rear door
- The side door must be changed to the big size to make entry and exit possible



Trolley Rail

**Option 12**

- It changes the floor plate to SUS checked type

**Option 13**

- Provides On/Off function
- It is an option which can be selected for Dry/Refrg/Refrg. or Refrg/Refrg/Refrg when the box layout is changed
- Used to set the temperature to the maximum low

Installation of Electric Charging Cable



Charging Time

Vehicle cannot be driven during charging time  
(8 ~ 10 hours)

- 1.1. Install the switchboard for electric charging cable as above.  
( Please keep in mind that the electric current must match the compressor current. )
2. Connect electric charging cable.
3. There are four electric lines in a charging cable: G (green color) is for earth line and the others are for electric power.
4. After connecting the charging cable from the switchboard, please connect the charging cable to the control box of eutectic cold top.
5. About 15 min later, the compressor will start running.
6. If the compressor does not start running, please reverse any two of the 3 electric power lines so that it can synchronize phases between the switchboard and the compressor.

Bottle Carrier



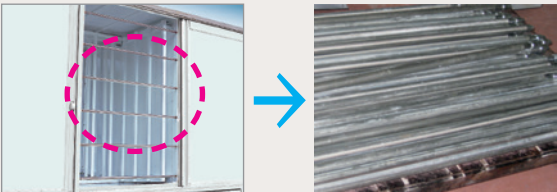
HD72 Bottle Carrier

Inward slope prevents cargo from shifting

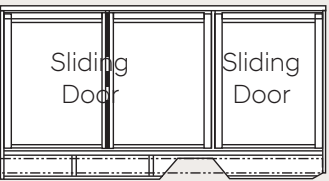
Inside floor Inclination: 4~6°

- The standard vehicle types are HD65 / 72 / 78 / 120, and they have 8 bays (LH/RH, 4 bays per side).
- HD170 or higher models are not recommended as the height from the ground to the van makes bottle loading difficult (subject to confirmation of forklift loading capability).
- HD170 or higher models can also be manufactured (if forklift loading capability is confirmed) by reducing the number of bays (2~3 bays for LH side).
- The frame (R.O.H) length varies -300mm ~ +300mm according to the bottle carrier body size.
- The size and number of bays can be changed, but the body size and loaded pallet size must be first considered.
- 8-bay / 12-bay / 16-bay are standard configurations but 6-bay / 10-bay are also possible on special request.
- The recommended spec is a v-shaped type, and the flat floor is also possible on customer request, but it is not recommended due to the possibility of roll-over during turns.

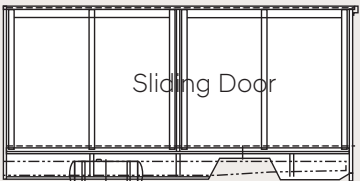
- A pair of zinc-plated pipes are provided for each bay as bottle guards.



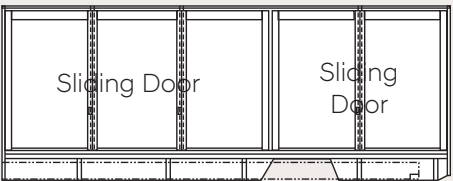
Aluminum pipe



**6-Bay**  
LH/RH, 3 Bays for each  
Sliding Door



**8-Bay**  
LH/RH, 4 Bays for each  
Sliding Door



**10-Bay**  
LH/RH, 5 Bays for each  
Sliding Door



# Van Truck

Bottle Carrier

## Body



### Inner partition

Bottle Carrier  
HD65 / 72 /120

Note: [Standard](#)



### SUS430 flat floor (V-shpaed)

Bottle Carrier  
HD65 / 72 /120

Note: [Standard](#)



### Side folding step

Bottle Carrier  
HD65 / 72 /120

Note: [Standard](#)

### Reinforcement

Bottle Carrier  
HD65 / 72 /120

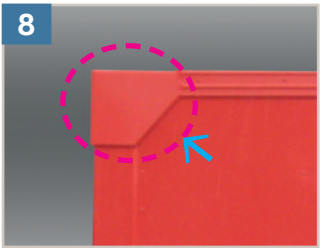
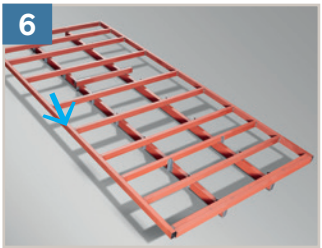
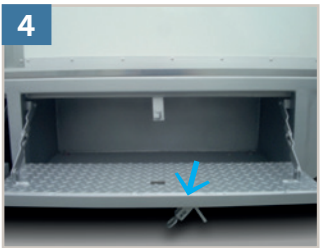
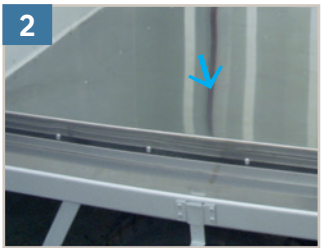
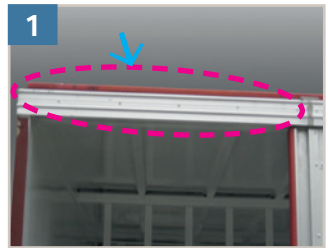
Note: [Option 1](#)

### Option 1

- If reinforced, 0.3 ton of G.V.W is increased (axle-weight regulations of the corresponding country must be checked)

	Contents	STANDARD	REINFORCEMENT	REMARKS
1	Roof Rail	3.2t	4t	Steel
2	Floor Rivet (KVEX4.8)	AL Rivet (Side is Steel)	SUS Rivet	Rivet number unchanged
	Floor	SUS430 1.2t	SUS430 1.5t	
3	Box Panel	GI Steel Plate 0.7t	GI Steel Plate 0.8t	Front/Middle/Rear
4	Folding Step Pipe	2.3t x 40mm x 40mm	3.2t x 50mm x 50mm	Steel
5	Frame Pipe	2.3t x 75mm x 45mm	3.2t x 100mm x 50mm	Front/Middle/Rear
		3.2t x 50mm x 50mm	3.2t x 45mm x 75mm	Cross Member
		2.3t	3.2t	Center
		2.3t x 40mm x 20mm	2.3t x 50mm x 30mm	Door Frame
6	Corner Reinforcement	-	Add Reinforcement	Conner

## Bottle Carrier Reinforcement Reference Information



# Van Truck

## Wingbody

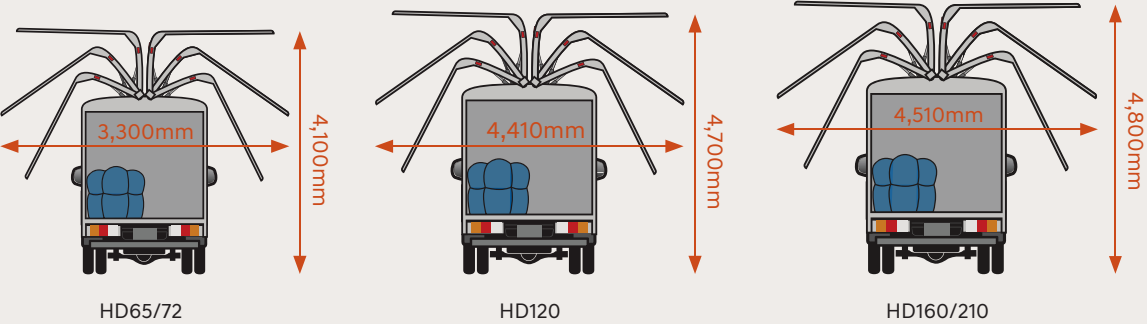


- HD65 ~ 320 long wheelbase are standard  
however all vehicle types can be manufactured as Wingbody

- Both sides are raised using an electro-hydraulic control system making the Wingbody especially suited for quick forklift loading/unloading



\* Pallet units are standardized for easy handling



\* Dimensions can be changed according to the box manufacturing size



# Van Truck

Wingbody

## Body



### Air spoiler

Wingbody  
HD65 ~ HD320

Note: [Standard](#)



### Rear door

Wingbody  
HD65 ~ HD320

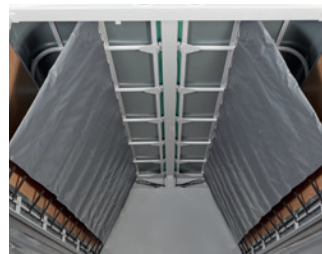
Note: [Standard](#)



### Apitong wood floor

Wingbody  
HD65 ~ HD170  
Above HD250, steel checked floor is applied

Note: [Standard](#)



### Protective cover (fabric)

Wingbody  
HD65 ~ HD320  
Elastic band applied

Note: [Standard](#)



### Wing controller

Wingbody  
HD65 ~ HD320  
Hydraulic Power Pack  
RH/LH each side

Note: [Standard](#)



### Inside work lamp (LED)

Wingbody  
HD65 ~ HD320

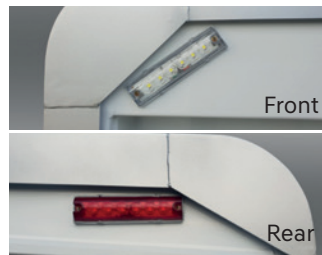
Note: [Standard](#)



### Work lamp switch (C/Cab)

Wingbody  
HD65 ~ HD320

Note: [Standard](#)



### Body endout marker lamp (LED)

Wingbody  
HD65 ~ HD320

Note: [Standard](#)



### Aluminum side gate

Wingbody  
HD65 ~ HD320  
Light Weight / Anti-corrosive  
Thickness : 40mm  
height : 600mm (~HD170)  
800mm (HD250~)

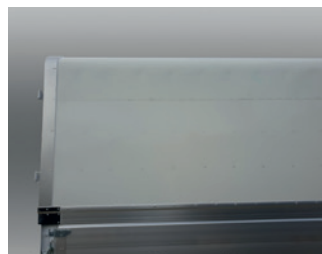
Note: [Standard](#)



### Side gate assistance device

Wingbody  
HD65 ~ HD320

Note: [Standard](#)



### Aluminum panel (0.8mm)

Wingbody  
HD65 ~ HD320

Note: [Standard](#)



### Hydraulic cylinder

Wingbody  
HD65 ~ HD320

Note: [Standard](#)

Van Truck

# Two-way Refrig / Cool Van



- Can be used as refrigerator van and cool van (maintain -18°C ~ 0°C).
- Additional refrigerator / movable partitions are mounted and dedicated panels are applied to the standard refrigerator van.
- The panel/frame reinforcement is applied as a standard but the electric fan is not included and the side door is optional.
- As there are two refrigeration units, sub-engine level freezing is possible when the movable partitions are removed.
- Alternators with a minimum 70A rating are highly recommended. Kindly discuss your requirements with the Special Vehicle Team.



### Bulk condenser

Two-way of Ref. / Cool van  
HD65 / 120

Note: [Standard](#)



### SUS304 flat floor

Two-way of Ref. / Cool van  
HD65 / 120  
\* HD65 : 750mm,  
HD120 : 1,000mm

Note: [Standard](#)



### E-track/belt (2-row)

Two-way of Ref. / Cool van  
HD65 / 120  
Equipped with Air Rib  
Horizontal

Note: [Standard](#)



### Additional evaporator

Two-way of Ref. / Cool van  
HD65 / 120

Note: [Standard](#)



### Movable partition

Two-way of Ref. / Cool van  
HD65 / 120  
Purpose: Partition partition Ref./Cool  
Material : ABS panel + Sponge  
Thickness : 75 mm

Note: [Standard](#)







NEW  
THINKING.  
NEW  
POSSIBILITIES.

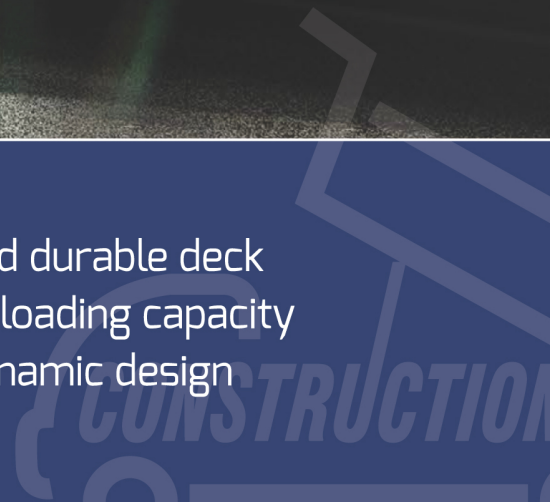


HEAVY DUTY DUMP TRUCK UP TO 40 GVW

**X**CIENT



- Low fuel consumption
- Extra rigid dump body
- High efficient dumping mechanism
- Wide and durable deck
- Greater loading capacity
- Aero dynamic design





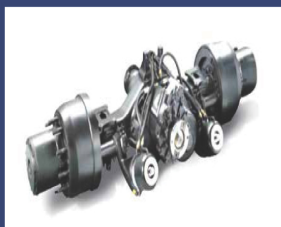
# HYUNDAI Xcient Dump Truck (Heavy Duty)

Powerful Dumping Mechanism and High-Tensile Steel Deck

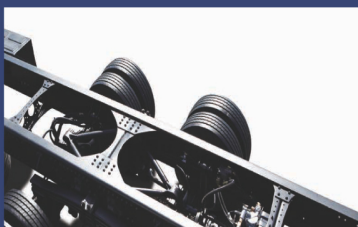


Engine Model		D6HB38	D6HB3H
Emission Standart		Euro-III	
Drive & Cab Type		RHD, 6x4, Day / Sleeper Cab	
Dimensions (mm)			
Wheel Base		4,590 (3,240 + 1350 )	5,650 ( 4,300 + 1350 )
Overall			
	Length	7,450	9,820
	Width	2,490	2,565
	Height	3,295	3,390
Wheel Tread	Front	2,060	2,075
	Rear	1,840	1,905
Overhang	Front	1,540	1,540
	Rear	1,120	2,390
Ground Clearance (mm)		265	365
Fording Depth		500	700
Min. Turning Radius	m	6.4	8.9
Angle of Approach	°	25	30
Angle of Departure	°	30	35
Weight (kg)			
Curb Weight		10,910	11,425
*Gross Vehicle Weight		32,300	40,000
*Max. GVW includes the front and rear axle loads based on the tubeless radial tires permissable load.			
Calculated Preformance			
Max. Speed	Km/h	91	80
Max. Greadability	%	39	59
Engine Specifications (Make: Hyundai)			
Engine Type		4 Stroke-cycle, water cooled, direct-injection diesel engine with Turbo Charger Intercooler.	
Number of Cylinder		6 in - line	
Piston Displacement (cc)		9,960	
Bore x Stroke (mm)		122 x 142	
Compression Ratio		17 : 1	
Max. Power (ps/rpm)	Euro III	380 PS / 375 hp (280KW) @ 2000 rpm	
Max. Torque (kg.m/rpm)	Euro III	173 kgm (1697 Nm) @ 1200 rpm	
Fuel Injection Pump		Electronic Unit Injector (EUI) system	
Cooling System		Pressure type with thermostat, forced circulation by centrifugal water pump	
Lubrication System		Forced Lubrication system by gear pump	
Electrical System			
Battery		12V x 2, 150 AH	
Alternator		24V - 70A	
Starter		24V - 6.0kw	

High-Capacity Rear Axle Each of the single and hub reduction rear axles are capable of carrying extra load.



Superior Chassis Safety : A chassis built with high-tensile steel ensures driving comfort as well as excellent vehicle handling.



Double Frame – additional durability The double frame prevents deflection of the chassis from overloading.





# HYUNDAI Xcient Dump Truck (Heavy Duty)

Powerful Dumping Mechanism and High-Tensile Steel Deck



Clutch		Hydraulic control with Air pressure assistance, Coil Spring Single dry plate, Pre-Damper. Outside Dia x Inside Dia: Ø430 x Ø242	
Transmission System			
Model		H160S6	ZF16S1830
Make		Hyundai	ZF
Type		Manual	
No. of Gears		6 forward and 1 reverse	16 forward and 2 revers
Gear Control Mechanism		Floor shift, Mechanical remote control	
Axle			
No. of Axle	Nos	03	
Axle Type	Front	Reverse Elliot type "I" beam	
Axle Capacity (Front)	Kg	8000	
Axle Type	Rear	Single Reduction	Hub Reduction, Hypoid Gear
Axle Capacity (Rear)	Kg	13,000 x 2	16,000 x 2
Tire & Wheel			
Tire size	F/R	12R22.5 - 16PR	12.00R24 - 18PR
Wheel size	F/R	22.5 x 8.25	24 x 8.5v
Steering		2-Spoke, Ball-nut type, Tilt & Telescopic Steering column.	
Brake			
Service Brake		Full Air, Dual circuit fixed S cam with spring loaded chambers	
Parking Brake		Spring loaded type chamber on the front wheel and the 1st/2nd rear wheel	
Auxiliary Brake		Exhaust Brake, ABS, ASR	
Suspension			
Type	Front & Rear	Semi-elliptic, laminated leaf springs with shackle link (Multi leaf spring)	
Fuel Tank capacity & Material		400 Liter, Steel	
Dump Body Specificatiions			
Type		All Steel, with tailgate dropping facilities	
Dump Volume		16 CBM	
Dumper Leggth	mm	5220	
Dumper Width	mm	2300	
Dumper Height	mm	1306	
Thickness of deck plate	mm	8	
Thickness of side plate	mm	6	
Thickness of front plate	mm	6	
Hoist type		Marrel type / Telescopic type	
Tipping angle		53.5 <sup>0</sup>	



Annotation: In order that product improvement may be introduced at any time, specifications are subject to change without prior notice.



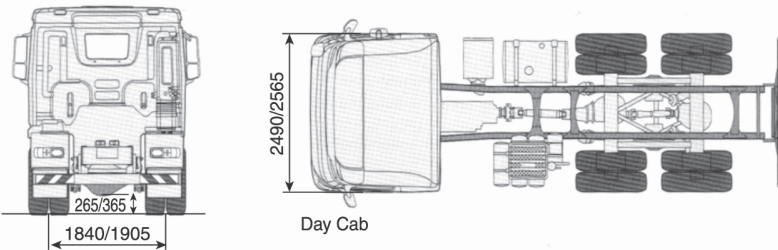
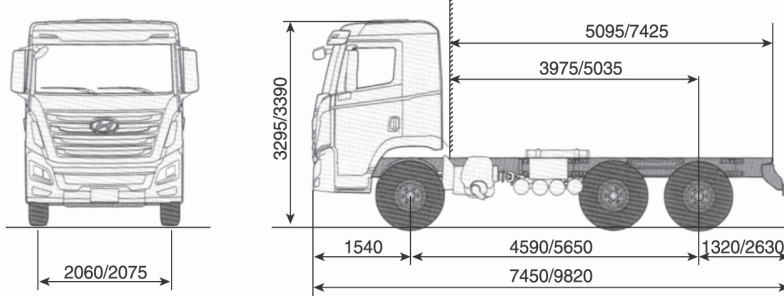
# HYUNDAI **XCIENT** Dump Truck

## The smart driving space presented only by XCIENT

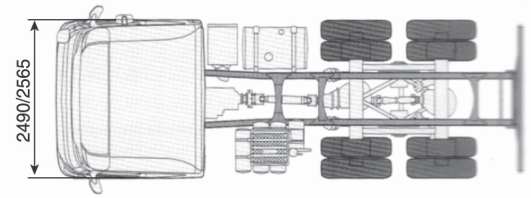
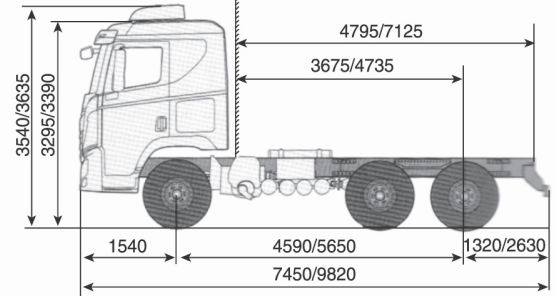
A total of about 100 functions including a crash pad with optimally arranged hand-reach switches, audio, multi-display, Bluetooth, hands-free system, cruise switch add comfort to your driving.



Short / Long Wheelbase



Day Cab



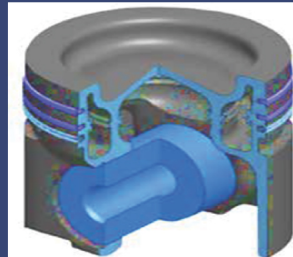
Sleeper Cab

## Improved fuel efficiency Further improvement of profit

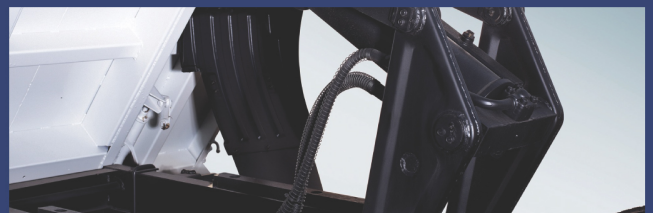
With its 7% improved fuel efficiency, XCIENT is guaranteed for maximum practicability and efficiency.



Powertec Engine



High-volume turbocharger Excellent operability and fuel efficiency due to the extended maximum torque generation in middle-to-low speed engine rotation.



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