UTOC

UTOC CORPORATION

https://www.utoc.co.jp/

Construction videos
available on our website

UTOC
MASCOT CHARACTER
TOKUZOU-KUN

UTOC CORPORATION SPECIAL EQUIPMENT PROFILE

UTOC CORPORATION

SPECIAL EQUIPMENT PROFILE

ENGLISH

We execute the most effective heavy cargo transportation and plant construction solutions tailored to each customer's project needs.

Since its establishment in 1890, our company, known as "UTOC, the Leader in Heavy Cargo," has built a strong reputation and successfully undertaken numerous projects in power and plant sector. Utilizing state-of-the-art specialized project vehicles and equipment for heavy cargo transportation, we have introduced innovations ahead of our competitors.
Additionally, in overseas projects, we are engaged in constructing the world`s largest Ferris wheel and plants for major global companies with bases in Singapore and Thailand.
Going beyond the realm of heavy cargo transportation we continue to make significant strides as a mechanical engineering company.

CARRIER

P04

SUPER CARRIER

Enable a wide range of applications with versatile configurations and compact mobility.

- Improved mobility through compact design
- Highly flexible configuration tailored to the cargo
- Significantly increased loading capacity compared to conventional models
- Capable of movement in all directions

P06

SUPER CARRIER WIDE

Provides stable transportation with a low-floor design.

- Lower floor and wider vehicle width compared to conventional multi-axle vehicles
- Allow movement in all directions

LIFT

P08

TABLE LIFT

Quickly performs lifting and installation of extremely heavy objects.

- Lifting capacity of 300 tons per unit with 20% horizontal strength
- Handles all types of construction work, from assembly to dismantling

P10

SUPER LIFT

A next generation lifting device designed to handle all types of rapid construction work.

- Enhanced lifting capacity compared to conventional SUPER LIFTs
- Centralized Management of precise commands with remote control
- Configure the gantry flexibly to accommodate the cargo

P12

SUPER LIFT 200

A full power compact lifting device adaptable to various purposes.

- Ideal for operation in narrow spaces
- Compact design enables transportation and setup using a forklift
- Equipped with hydraulic pump and oil tank
- Possible with one man operation with wireless controller

CARRIER

P14

AERO CARRIER

A revolutionary heavy cargo transportation system that moves loads freely using air.

- Composed of load module and drive unit
- Prevents floor damage through load distribution
- Operates freely in all work space

Diverse configurations and compact mobility enable a wide range of applications

The World's Largest

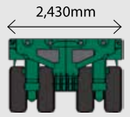
SUPER CARRIER

"SUPER CARRIER" is a specialized multi-axle vehicle with a total of 114 axles, consisting of eight 3-axle vehicles and ten 4-axle and 5-axle vehicles each, enabling a maximum loading capacity of 6,256 tons. It can be configured in a variety of combinations to suit different applications and construction sites. This versatility makes it capable of transporting a wide range of loads, from relatively compact equipment like bridges, transformers, and heat recovery boilers, to extremely large and heavy structures.

Features

Compact Size for Improved Mobility

The width has been reduced compared to previous models, now matching the 2,430mm size of a standard maritime container. This compliance makes land transportation easier and more convenient.



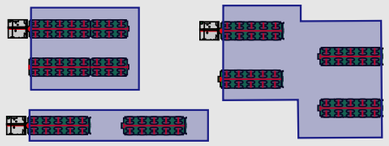
Significantly Increased Loading Capacity Compared to Previous Models

While being more compact than previous models, the loading capacity has been greatly improved. Additionally, linking multiple units allows for further expansion of loading capacity.

54.8ton / axle

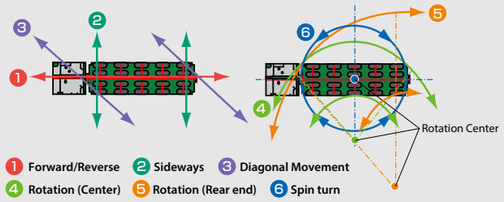
Highly flexible formations to suit your load

By combining units on each axle and synchronously operating a variety of formations, we are able to transport loads of all shapes and weights.



Movement in All Directions

With the ability to move forward, backward, sideways, diagonally, rotate, and perform spin turns, it can be maneuvered in any direction, allowing for precise installation in any location.



1 Forward/Reverse 2 Sideways 3 Diagonal Movement
4 Rotation (Center) 5 Rotation (Rear end) 6 Spin turn

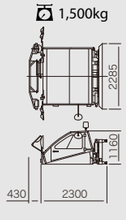
Vehicle specifications

Unit：mm ⚖：Weight of unloaded vehicle

There are two emergency stop switches on the power pack body and one on the operation remote control.

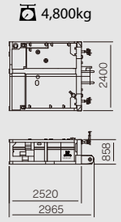
■ Cabin

⚖ 1,500kg



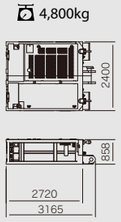
■ Power Pack (PFV210)

⚖ 4,800kg



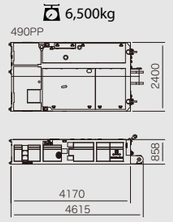
■ Power Pack (PP280)

⚖ 4,800kg



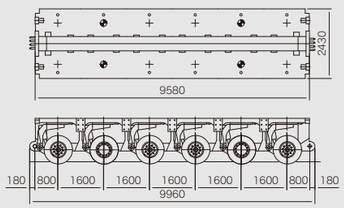
■ Power Pack (PFV490)

⚖ 6,500kg



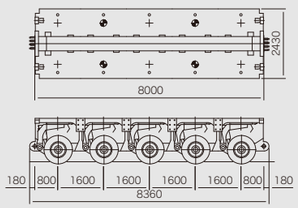
■ 6-axle vehicle
(Loading Capacity 329.9 ton)

⚖ 30,100kg



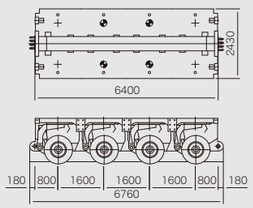
■ 5-axle vehicle
(Loading Capacity 274.7 ton)

⚖ 25,300kg



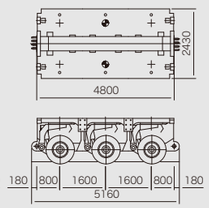
■ 4-axle vehicle
(Loading Capacity 219.4 ton)

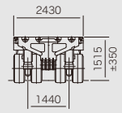
⚖ 20,600kg



■ 3-axle vehicle
(Loading Capacity 164.4 ton)

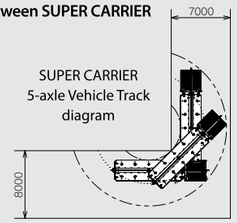
⚖ 15,600kg

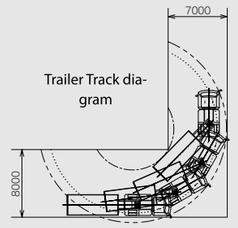




■ **Comparison of turning radius between SUPER CARRIER and Trailer**

Compared to a container trailer of similar length, it can maneuver with a smaller turning radius, allowing for greater flexibility in movement.





Use of SUPER CARRIER Construction Video available through QR code

Main Construction examples

10-axle single car train GT rotor weight: approx. 135 tons

5-axle side-by train*4 units weight: 77 ton

Providing stable Transportation with Low Floor

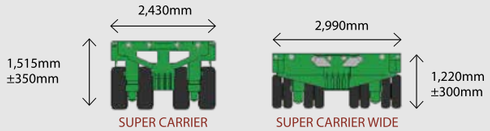
SUPER CARRIER WIDE

The "SUPER CARRIER WIDE" is a multi-axle specialized vehicle capable of carrying up to 320 tons using two four-axle trucks. With its wider body and superior stability as a standalone vehicle, the introduction of the SUPER CARRIER WIDE has expanded the range of applicable construction projects.

Features

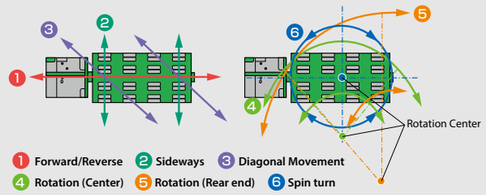
Compared to conventional multi-axle vehicles, this model features a lower deck height and a wider body

With a loading platform height of 1,220mm ± 300mm, it is significantly lower than our previous models, allowing for the transportation of heavy cargo even in locations with strict height restrictions, such as building interiors. Additionally, by widening the body to 2,990mm, the vehicle offers improved stability during standalone transportation.



Can move in all directions

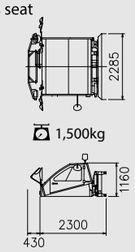
The vehicle can move in all directions, including forward, backward, sideways, diagonal movement, pivot turns, and spin turns, allowing for precise installation in any location.



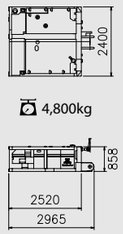
Vehicle Specifications

Unit：mm ⚖：Weight of unloaded vehicle

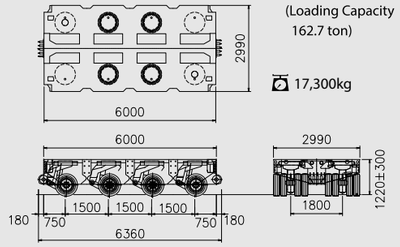
■ Driver's seat



■ Power Pack



■ 4-axle vehicle



Suggestions 01

SUPER CARRIER can carry a variety of heavy objects

Construction videos available on our website

On our website we have introduced construction video featuring UTOC's special vehicles. Be sure to check out the impressive scales and safety working scenes.

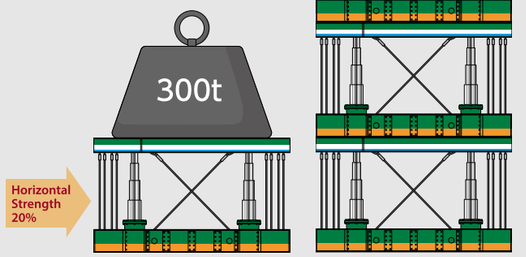
The "TABLE LIFT" (Hydraulic Jacking System) has a lifting capacity of 250 tons and 300 tons per unit by linking them together a wide variety of tasks can be performed.
Additionally, the horizontal load capacity is 20% as the vehicle load, and the double acting, four-stage extension jack ensures stable lifting even under varying loaf conditions. *The TABLE LIFT can be centrally controlled together with the SUPER LIFT.

Feature

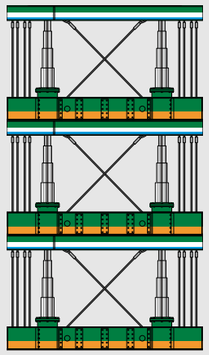
Lifting Capacity of 300 tons/unit + 20% horizontal strength

It can withstand a load of 300 tons across its entire surface and has a horizontal load capacity of 20%.

*In case of TABLE LIFT 300



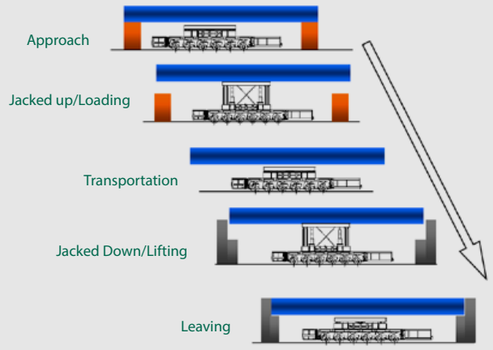
A lifting capacity of 300 tons



3 times the stroke with 3 levels

Supports all types of construction work from assembly to dismantling

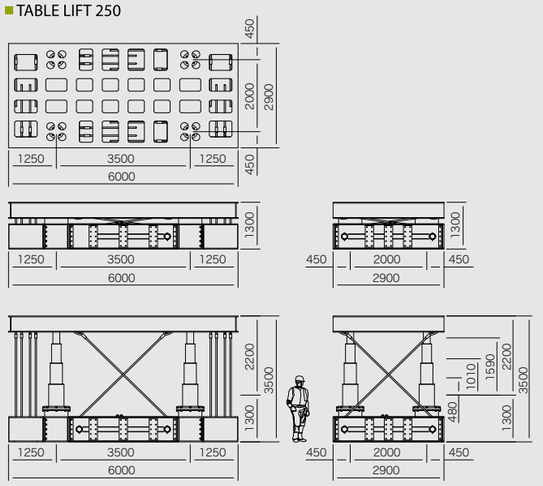
It can be installed on loading platform of SUPER CARRIER and used to lift and transport heavy objects (Plants, Bridges, Structures)



External Dimensions

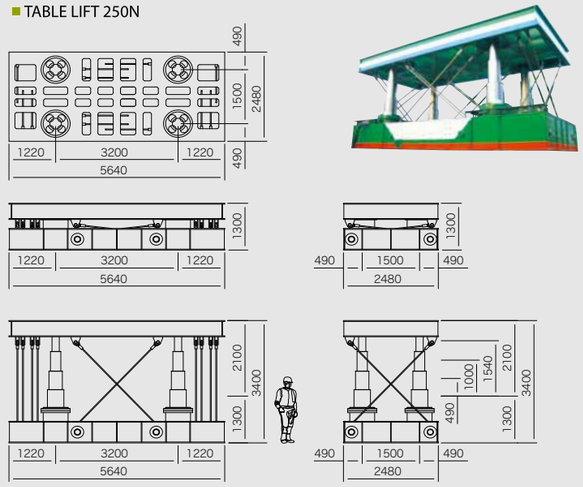
Unit：mm ⚖：Net Weight

■ TABLE LIFT 250



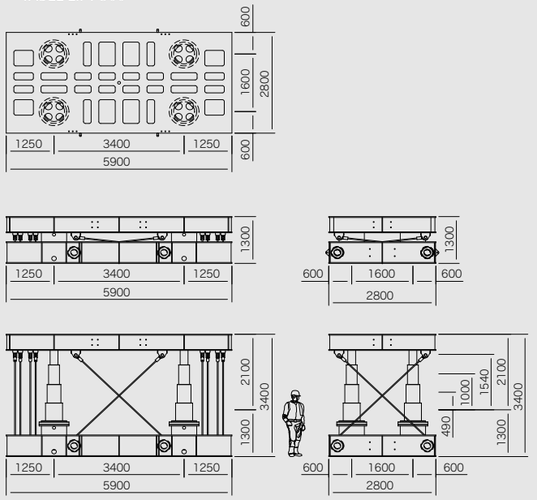
⚖ Main Unit: 30,000 kg, Hydraulic Unit: 3,300 kg / Hydraulic Hose length: 7 m

■ TABLE LIFT 250N



⚖ Main Unit: 25,000 kg, Hydraulic Unit: 4,300 kg / Hydraulic Hose length: 10 m

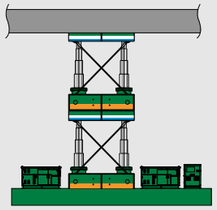
■ TABLE LIFT 300



⚖ Main Unit: 30,000 kg, Hydraulic Unit: 4,900 kg / Hydraulic Hose length: 15 m

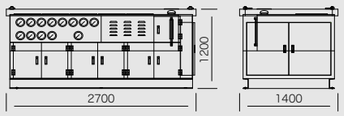
Recommended Arrangement

To operate two TABLE LIFTs, two pump units and one generator are used. By increasing the number of acles on the SUPER CARRIER, the entire lifting device setup can be mounted on it.

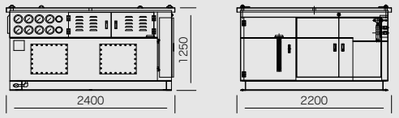


■ Pump Unit

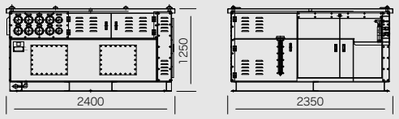
TL250



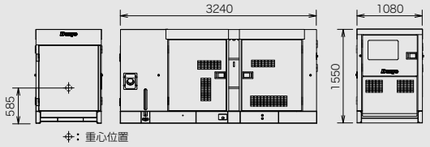
TL250N



TL300

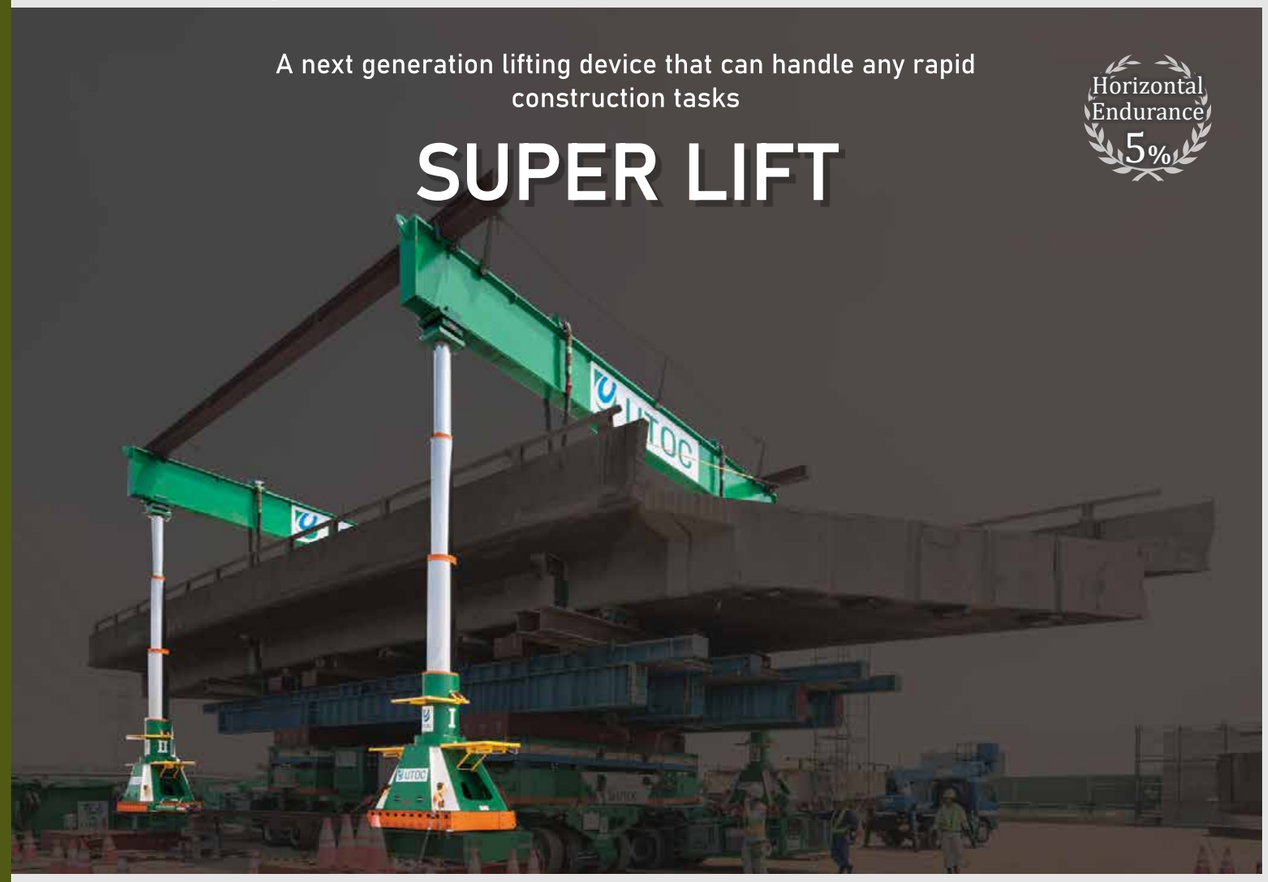


■ Power Generator



Safety Device

The system automatically stops if a pressure value error, displacement value error, or remote-control transmission error occurs.
It also stops when the emergency stop switch is pressed.



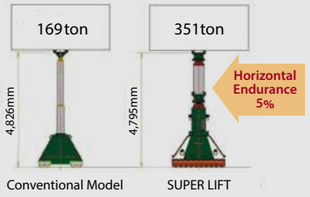
"SUPER LIFT" – A Cost-Effective Hydraulic Gantry System for Heavy Lifting.
The SUPER LIFT is a gantry-style jacking and lifting system designed to reduce costs and shorten construction timelines. It delivers exceptional performance for loading, unloading, and installation of heavy equipment in construction, bridgework, and plant projects. The SUPER LIFT 1400 has a maximum capacity of 351 tons and a maximum extension height of 8,455mm, while the SUPER LIFT 1400L offers the same 351-ton capacity with an extended reach of 11,680mm, meeting a wide range of lifting needs. Additionally, both SUPER LIFT models maintain 5% horizontal resistance at maximum output for each stroke.

*A separate pump unit is required for every two units. Centralized control with a TABLE LIFT is also possible

Features

Increased Lifting Capacity Compared to Previous SUPER LIFT Models

With a 1,740mm stroke and a 351-ton capacity, it ranks among the largest in Japan. Additionally, its horizontal load resistance has been significantly improved by 5% compared to previous models, ensuring greater stability for handling large and heavy loads such as transformers and bridges.

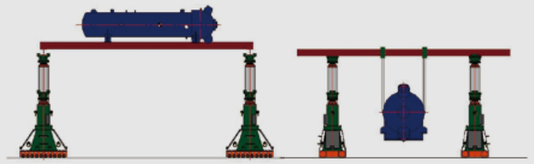


Precise Control with Remote Operation

The system allows for lifting and lowering in slow-speed mode and enables stroke adjustments with millimeter precision. The load on each jack can be monitored at a glance, enhancing operational accuracy and reliability.

Flexible Gantry Configurations to Suit Any Load

By adjusting the length and arrangement of the support columns and lifting beams, the system can accommodate and lift loads of various shapes and sizes.



Use as stage　　Use as a lifting device

■ SUPER LIFT 1400 Capacity Chart

Body Height	Lifting load	
	1-Gate Type	2-Gate Type
3rd Stage (8,455mm)	220ton	440ton
2nd Stage (6,625mm)	406ton	812ton
1st Stage (4,795mm)	702ton	1,404ton

■ SUPER LIFT 1400L Capacity Chart

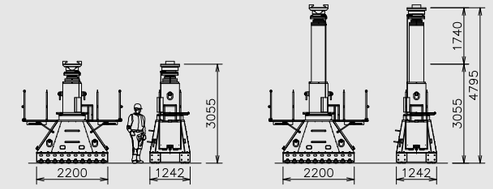
Body Height	Lifting load	
	1-Gate Type	2-Gate Type
3rd Stage (11,680mm)	262ton	524ton
2nd Stage (9,040mm)	500ton	1,000ton
1st Stage (6,410mm)	702ton	1,404ton

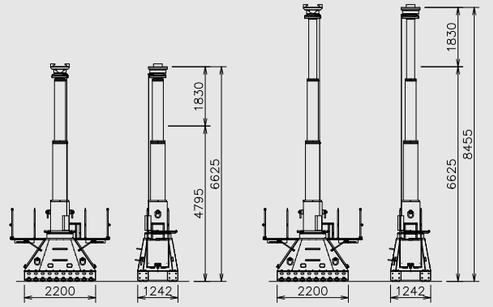
External shape / Dimensions

Unit：mm　　⚖：Net Weight

■ SUPER LIFT 1400

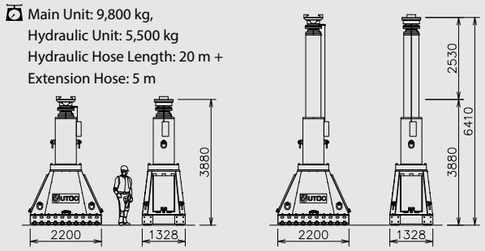
⚖ Main Unit: 7,570 kg, Hydraulic Unit: 4,300 kg
Hydraulic Hose Length: 20 m + Extension Hose: 5 m

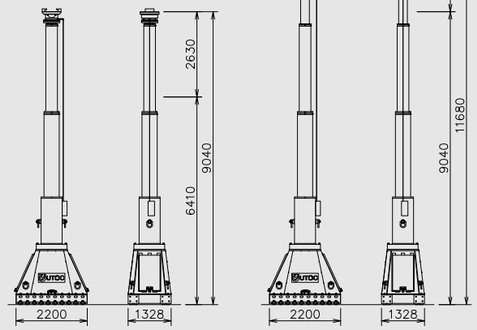




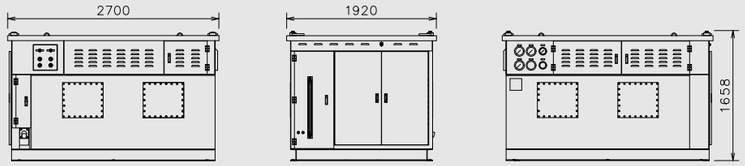
■ SUPER LIFT 1400L

⚖ Main Unit: 9,800 kg,
Hydraulic Unit: 5,500 kg
Hydraulic Hose Length: 20 m +
Extension Hose: 5 m





■ Pump Unit



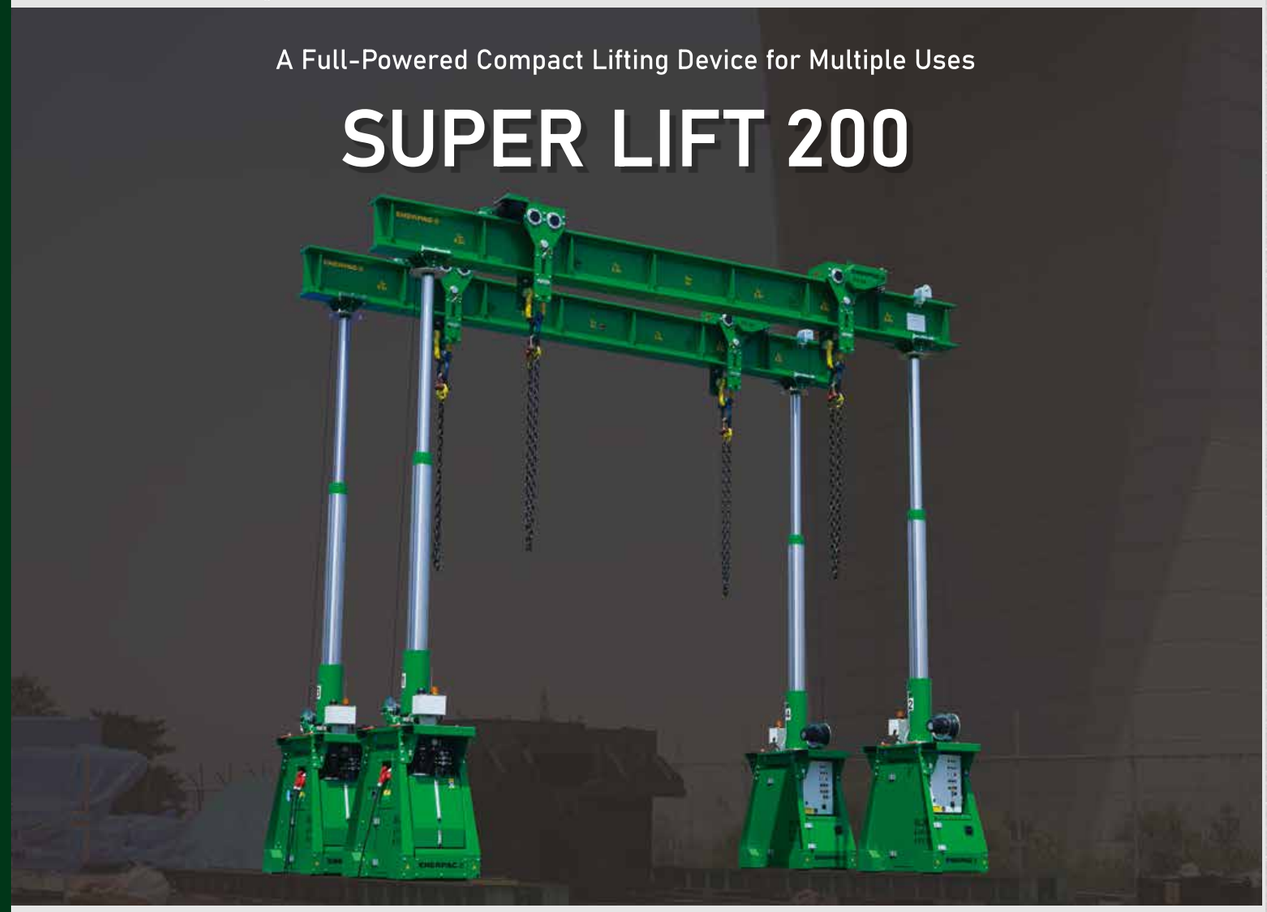
Main Construction Examples

Nuclear facility equipment dismantling

SUPER LIFT: 8 units in total / Main girder weight: 1,074 tons Length: 233 m (June 2016)

A Full-Powered Compact Lifting Device for Multiple Uses

SUPER LIFT 200



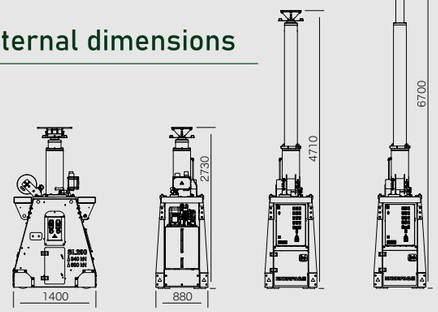
"SUPER LIFT 200" is a hydraulic lifting device with a maximum lifting capacity of 200 tons, consisting of four units and two gates.

Features

Compact design that can be used at any site

The hydraulic pump and oil tank are built into the main unit, and the compact design operates simply by plugging in the power cable. It can be transported and installed using a forklift, making it suitable for construction in narrow spaces where mobile cranes cannot be used.
A wireless controller is used, allowing one-man operation.

External dimensions



Main construction examples

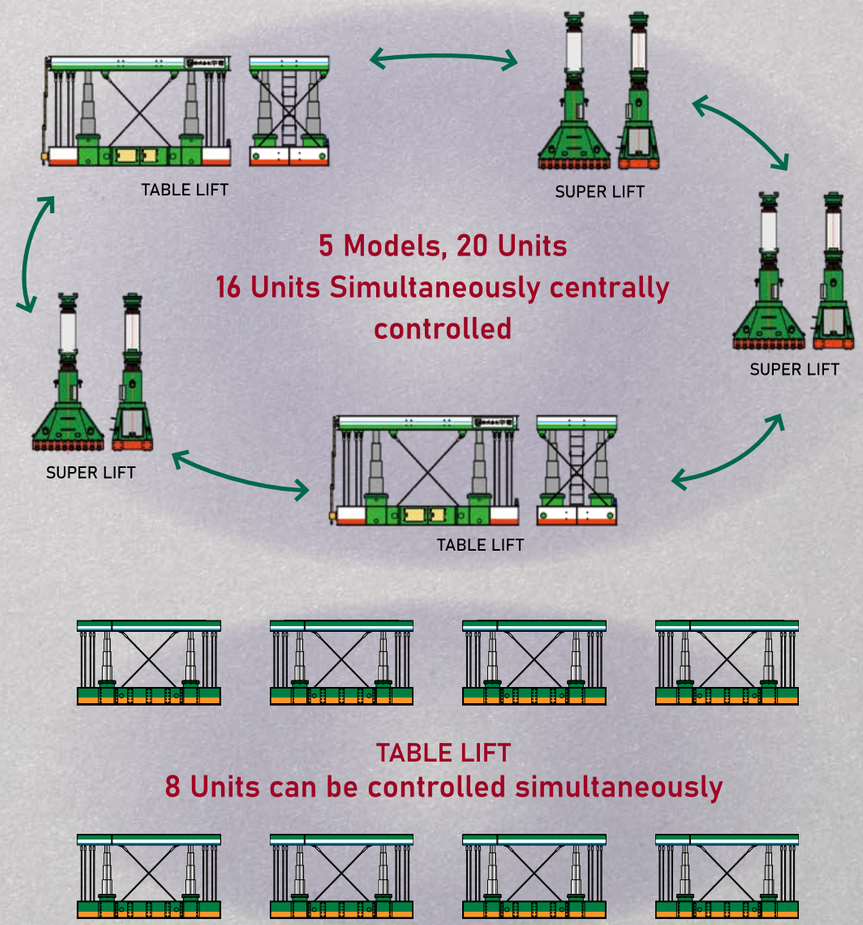
Bridge widening work under expressway

Large press equipment parts loading and unloading work

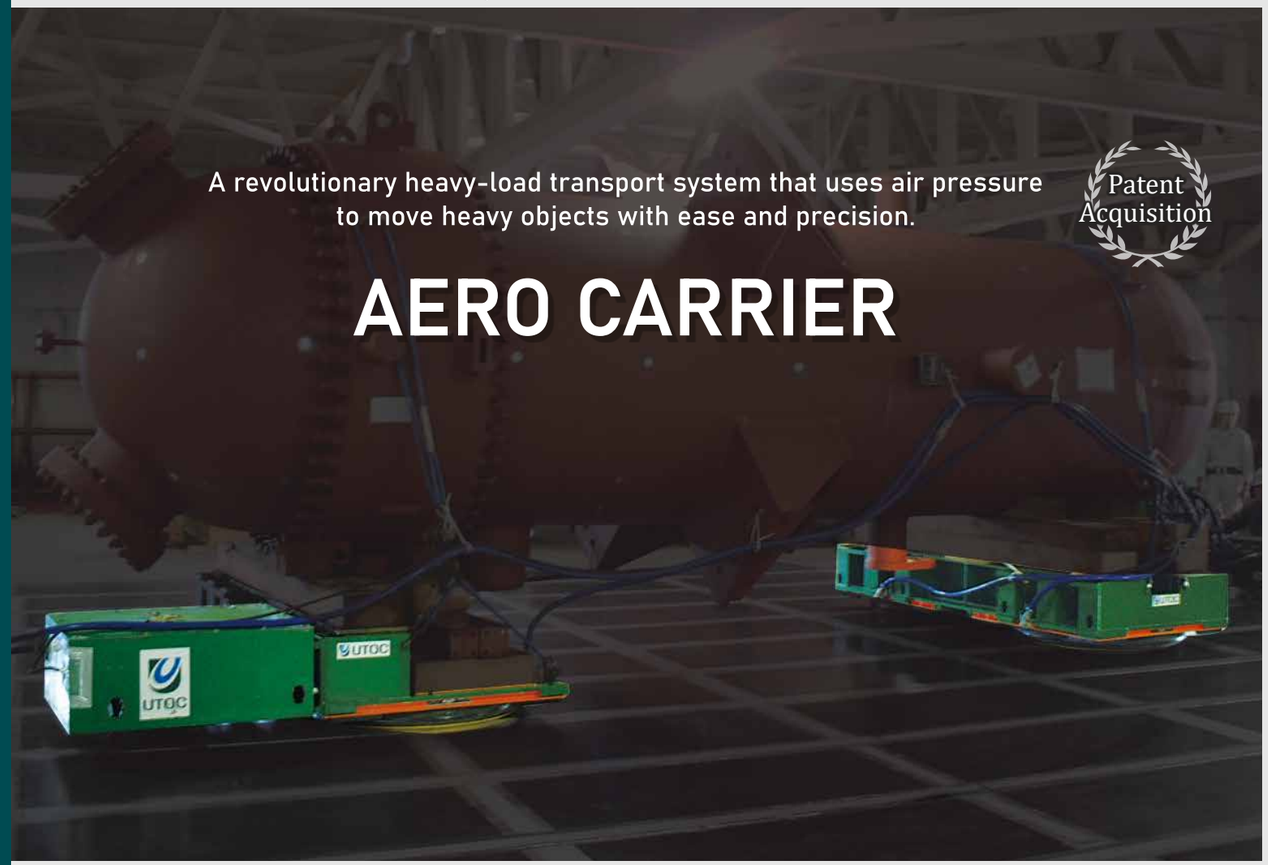
Suggestions 02

Because of simultaneous use of different types of loading equipment, the multi control system copes with the wide range of constructions.

Our company owns a total of 20 lifting equipment across five models, including 4 units each of TABLE LIFT and SUPER LIFT. All equipment are from the same manufacturer and utilizes a unified control system.
Due to this, a single controller centrally controls up to 16 devices simultaneously; even when different models are used together. And by implementing an automation variation control system, we ensure perfect synchronization, eliminating any operational speed differences between various models.
Additionally, we have 8 units of TABLE LIFT each equipped with an independent control system. This configuration enables industrialized control of up to 8 TABLE LIFT units simultaneously.



With the expertise and adaptability we have developed across various project sites, we are committed to meeting our customers' needs—no matter how challenging the request. If you're wondering, "Is this type of construction possible?", don't hesitate to consult UTOC first. We're here to help!



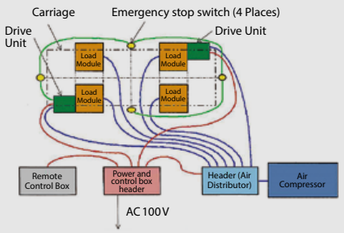
The "AERO CARRIER" is an innovative transport system that replaces traditional wheels with air pressure, allowing heavy loads to be evenly distributed and maneuver freely, even in tight spaces.
With its low friction coefficient, the system requires minimal force to operate, significantly reducing labor requirements. Additionally, since the load is evenly distributed, floor protection needs are minimal, and surfaces remain undamaged-offering multiple advantages for various applications.

Patent Publication: 2004-75022 / Invention Name: Levitation Transport System

Features

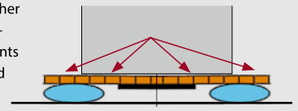
Composed of Load Module and a Drive Unit

The system consists of a Load Module, which uses air pressure to lift heavy Loads, and a drive unit, which enables precise remote-controlled movement for seamless maneuverability.



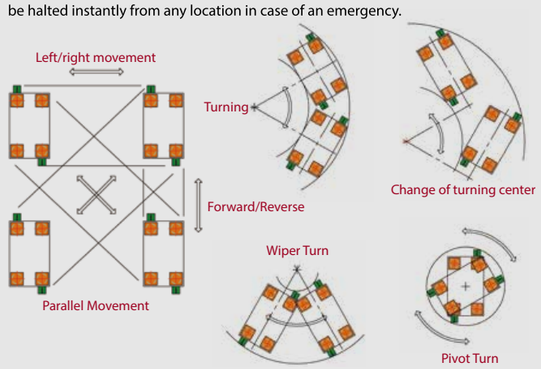
Even Load Distribution Prevents Floor Damage

Since the system lifts the load off the ground, smooth floors require no additional protection, and other surfaces need only minimal reinforcement. Additionally, it prevents floor damage, ensuring safer and cleaner operations.



Moves Freely and smoothly in any location

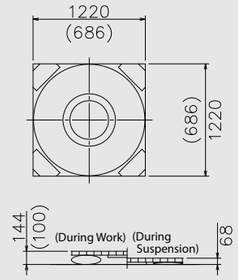
It provides precise and flexible movement, just like traditional wheels. With an extremely low body height—less than half that of self-propelled transporters—it is ideal for operations in height-restricted areas.
For enhanced safety, it is equipped with an emergency stop switch, allowing it to be halted instantly from any location in case of an emergency.



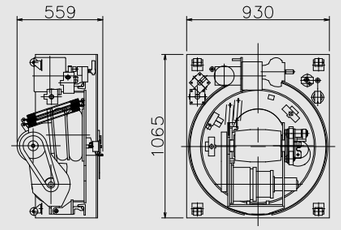
Vehicle Specifications

Unit : mm ⚖ : Net Weight

■ Load Module



■ Drive Unit



■ Road Module Capacity Table

Model	K27UHD	K48UHD
Loading Capacity	10.90 tons	36.32 tons
Diameter	686mm	1,220mm
Height at Rest	62mm	68mm
Height in Operation	100mm	144mm
Lifting Height	38mm	76mm
Weight	25kg	81kg
Air Consumption	3Nm³/min	4Nm³/min
Slope Climbing Ability	1.5% (for 145 tons loaded)	


Load Module


Remote Controller


Control Device


Emergency Stop Button

Main Construction Examples


Nuclear Power Plant Large Equipment Replacement: Approx 40 tons


Replacement of feedwater heater for thermal power plant: Approx. 50 tons


Material Movement within the warehouse

By utilizing an air-lifting system, self-loading and unloading are possible.
Additionally, the low height during air-lifted movement helps keep the cargo's center of gravity lower, enhancing overall safety and stability during transportation.

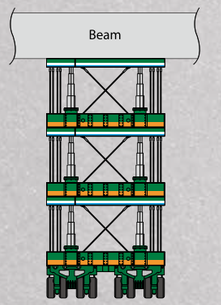
Suggestions 03

We have successfully lifted and lowered heavy objects weighing over 200 tons in three layers at heights exceeding 10 meters.

By combining our SUPER LIFT with a TABLE LIFT, we can position heavy loads at elevated locations with precision. Depending on the model, our shared control system enables simultaneous centralized control, ensuring smoother, more accurate operation and Installation.

Pattern example 1 SUPER CARRIER & TABLE LIFT

● Example of 3-layer horizontal placement



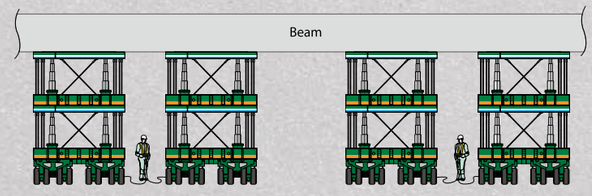
With a 300-ton lifting capacity, the TABLE LIFT now enables high-altitude installations of over 200 tons using a three-layer stacking method.
By utilizing a centralized remote-control system, simultaneous lifting and lowering can be adjusted with millimeter precision, ensuring highly accurate installation and placement.
Additionally, Individual TABLE LIFTs can be operated independently, allowing for greater flexibility. Even when using up to eight units, the system can accommodate more complex and specialized requirements.

The centralized remote-control system allows for millimeter-precise performance compared to the TABLE LIFT.
It also offers enhanced performance compared to TABLE LIFT.

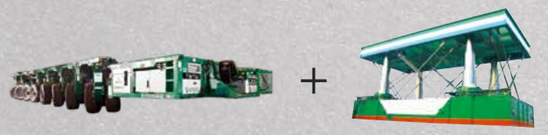
*Please contact us separately if you wish to run the table in a 3-layered stacked state.

● Example of 2-layer horizontal placement.

Since the centralized remote-control system is wired, it cannot simultaneously control eight units if they are positioned too far apart.
For TABLE LIFTs located at a distance, a separate remote control is used.



Pattern example 2 SUPER CARRIER & TABLE LIFT



For Projects requiring the horizontal and vertical movement of ultra-heavy loads in a short time, the combination of the SUPER CARRIER and TABLE LIFT is the ideal solution.
By mounting a TABLE LIFT on a SUPER CARRIER, transportation becomes possible over any distance, while the TABLE LIFT on the carrier allows for lifting loads to elevated positions.
For example, in large bridge block installations, the SUPER CARRIER can move beneath a pre-assembled bridge section, and the TABLE LIFT can then raise and position it, this method significantly reduces cost while improving efficiency.

Pattern example 3 SUPER CARRIER & TABLE LIFT & SUPER LIFT

When the SUPER LIFT alone does not provide sufficient lifting height, we recommend placing a TABLE LIFT beneath it to enhance lifting capabilities. Despite being different types of equipment, they can be operated seamlessly with a single controller.
By using a combined TABLE LIFT system to lift heavy loads and transporting them with the SUPER CARRIER, this setup enables efficient and precise operations.
By fully utilizing our specialized vehicles and equipment, we ensure fast safe execution of lifting and transportation tasks.

Main construction examples (bridge construction and removal work)

3*9-axle side by trains + 8 TABLE LIFTs, girder weight 760 tons (November 2019)

4-axle single-car train + 2 TABLE LIFTs (May 2016)

8 SUPER LIFTs, main girder weight 1,074 tons (June 2016)

Front 8-axle side by + rear 9-axle side by + 4 TABLE LIFTs beam weight approx. 41 tons (June 2017)

10-axle triple by + 4 TABLE LIFTs, beam weight approx. 670 tons (May 2018)

9-axle side by +2 TABLE LIFTs, beam weight approx. 85 tons (February 2017)

4 TABLE LIFTs * 2 beams, weight 475 tons, length approx. 100 m (April 2013)

SPECIFICATION LIST

CARRIER *Multi-axle trailer*

Vehicle Type			SUPER CARRIER			P04	SUPER CARRIER WIDE P06
Power Pack	Model Name		PFV210	PP280	PFV490		PFV210
	Number of vehicles owned		12	8	3		2
	Engine Output	(HP)	210	280	490		210
	Unloaded Weight	(kg)	4,800	4,800	6,800		4,800
	Length	(mm)	2,820	3,020	3,970		2,820
	Width	(mm)	2,400				2,400
	Height	(mm)	858				858
	Unloaded Weight [Service Weight]	(kg)	4,800	4,800	6,800		4,800
	Fuel Tank Capacity	(L)	220	204	445		220
	Hydraulic Oil Tank Capacity	(L)	657	590	953		657
	Maximum Number of Connected Axles		15	18	30		38
	Maximum Number of Driven Axles		6	7	12		6
Carriage body	Model		3 Axle Car	4 Axle Car	5 Axle Car	6 Axle Car	4 Axle Car
	Model Name		PST/ESE385	PST/ESE385	PST/ESE385	PST/ESE385	PST/SLE
	Number of Units		10	18	8	2	2
	Unloaded weight	(kg)	15,600	20,600	25,300	30,100	17,300
	Cargo Bed Length	(mm)	4,800	6,400	8,000	9,600	6,000
	Cargo Bed Width	(mm)	2,430				2,990
	Cargo Bed Height	(mm)	1,515				1,220
	Suspension Stroke	(mm)	± 350				± 300
	Number of driven axles		1	2	2	2	2
	Towing Capacity	(ton)	16				13.5
	Number of Tires		12	16	20	24	32
	Maximum Payload Capacity	(ton)	164.4	219.4	274.7	329.9	162.7
	Tire size		385/55R22.5 160JTL				215/75 R17.5TL 135/133J

CARRIER *Air-Lift transport System*

Vehicle Type			AERO CARRIER P14	
			K27UHD	K48UHD
Load Module	Load Capacity	(ton)	10.90	36.32
	Internal Pressure at maximum Load	(Mpa)	0.65	0.65
	Diameter	(mm)	686	1,220
	Height at rest	(mm)	62	68
	Height in operation	(mm)	100	144
	Lifting Height	(mm)	38	76
	Unloaded weight	(kg)	25	81
	Maximum supported load capacity	(ton)	98.10	290.56
	Air consumption	(Nm^3 / min / sheets)	3	4
Drive Unit	Number of units		4 (2 body / 1 unit)	
	Length	(mm)	1,065	
	Width	(mm)	930	
	Height	(mm)	474	
	Lifting Heigh	(mm)	85	
	Unloaded Weight	(kg)	600	
	Wheel Load	(kg)	3,000	
	Drive Motor	(Output)	Geared vane Air motor (1.6kW)	
	Maximum Travel speed	(m / min)	6	
	Climbing Ability	(%)	1.5 (When loaded with 145 tons)	
	Operating Air Pressure	(Mpa)	0.65	
	Air Consumption	(Nm^3/ min / units)	3	

LIFT *Hydraulic Gantry System*

Narrow — Long

Equipment Name			TABLE LIFT 300 (TL300) P08	TABLE LIFT 250N (TL250N) P08	TABLE LIFT 250 (TL250) P08	SUPER LIFT 1400L (SL1400L) P10	SUPER LIFT (SL1400) P10	SUPER LIFT 200 (SL 200) P12
Lift Body	Number of units		8	4	4	8 Unit / 4gates	4 Unit / 2gates	8 Unit / 4gates
	Length	(mm)	5,900	5,640	6,000	2,200	2,200	1,400
	Width	(mm)	2,800	2,480	2,900	1,328	1,242	880
	Height	(mm)	1,300	1,300	1,300	3,880	3,055	2,730
	Stage Height 1st stage	(mm)				11,680	8,455	–
	Stage Height 2nd stage	(mm)				9,040	6,625	6,700
	Stage Height 3rd stage	(mm)				6,410	4,795	4,715
	Unloaded weight	(kg)	30,000	25,000	30,000	9,800	7,570	2,200
	Horizontal Load Capacity	(%)	20	20	20	5	5	–
	Stroke	(mm)	2,100	2,100	2,200	7,800	5,400	3,969
	Lifting Height (mm)* Rated Output (ton)		1,300 ~ 3,400 / 300	1,300 ~ 3,400 / 250	1,300 ~ 3,500 / 250	11,680 ~ 9,040 / 131 9,040 ~ 6,410 / 250 6,410 ~ 3,880 / 351	8,455 ~ 6,625 / 110 6,625 ~ 4,795 / 203 4,795 ~ 3,055 / 351	– 6,700 ~ 4,716 / 34 4,716 ~ 2,731 / 50
	Lifting Load Capacity Gantry type					1 gates / 2 gates	1 gates / 2 gates	1 gates / 2 gates
	Lifting Load Capacity 3rd stage	(ton)				262 / 524	220 / 440	– / –
	Lifting Load Capacity 2nd stage	(ton)				500 / 1,000	406 / 812	68 / 136
	Lifting Load Capacity 1st stage	(ton)				702 / 1,404	702 / 1,404	100 / 200
	Synchronization		○	○	○	○	○	○ *Upto 4 units/2 gates
Hydraulic pump unit	Length	(mm)	2,400	2,400	2,700	2,700	2,500	–
	Width	(mm)	2,350	2,200	1,400	1,920	1,500	–
	Height	(mm)	1,290	1,290	1,240	1,658	1,640	–
	Unloaded weight	(kg)	4,900	4,400	4,200	5,800	4,300	–
	Number of units Used		1 unit / body per unit	1 unit / body per unit	1 unit / body per unit	1 unit / 2 bodies	1 unit / 2 bodies	–
	Generator used		3 phase 200V 1 unit only 100kVA 2 unit parallel 150kVA	3 phase 200V 1 unit only 100kVA 2 unit parallel 150kVA	3 phase 200V 1 unit only 100kVA 2 unit parallel 150kVA	3 phase 200V 1 gate (2 units) 100kVA	3 phase 200V 1 gate (2 units) 100kVA	3 phase 400V 60kVA