

# OIMTEC



## Air Cushion Floating Transport Platform

Premium Service  
Precision Docking  
Intelligent and Efficiency  
Highly Maneuverable

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## Air Cushion Floating Transport Platform



## Product Introduction

Air cushion floating transport platform is a newly developed transport vehicle for heavy loads. By compressing air into the air cushions set up at the bottom of the platform and then keeping the air leaked out of the air cushions, a very thin air layer is formed between the air cushions and the ground, therefore the platform and the cargo are both "floating" on the ground. The friction between the air cushions and the ground is so tiny that the vehicle designed for carry several hundred tons could travel omni-directionally at a very small driving force.

Oimtec successfully developed the air cushion floating transport platform, eliminating the foreign technology lock-in and market monopoly. The platform holds over ten patents, functions of which include self-leveling, precision travel, anti-collision, remote control and multi-platform cooperation. The platform product series covers loading capacity ranging from 3 tons to 1400 tons, successfully applied in engineering domains such as aerospace, aviation, voltage transformer, automobile, nuclear, wind tunnel, locomotive, machine tool, etc.

## Product Highlights



### Huge Capacity

Platform with 6 tons tare weight could load 400 tons cargo and move omni-directionally.



### High Flexibility

O m n i d i r e c t i o n a l movement, solution to the transport problem under space restricted environment.



### Safe

S t a b l e movement, equipment transported do not need to be lifted thus the danger of falling is avoided.



### Low Cost

The initial purchase and the follow-up maintenance cost is low, tracks or steel beams installation on the workshop ground is not necessary.



### Environment Friendly

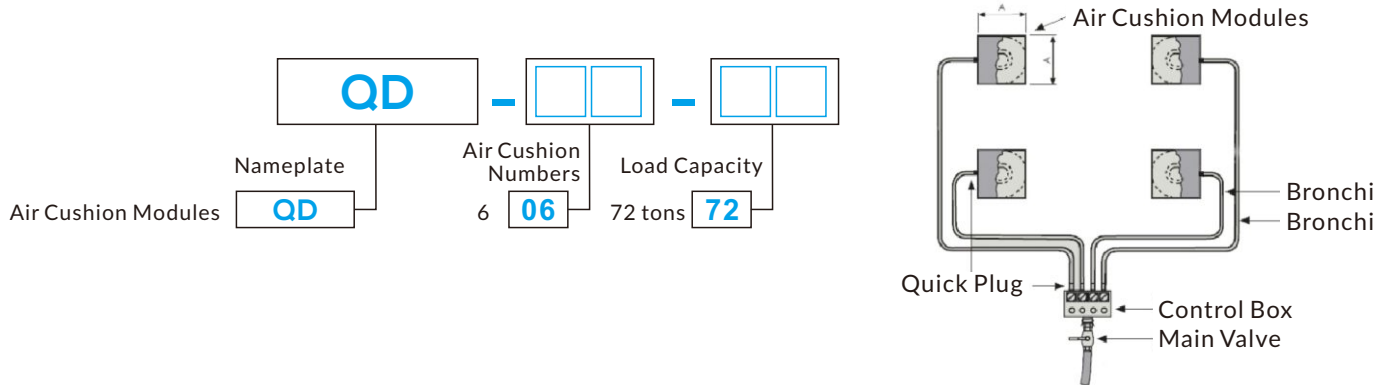
Compressed air as the main source of energy, environment pollutions such as noise, light, gas and dust are eliminated during operation.



## Combined Air Cushion Module

Type	QD4-3	QD4-7	QD4-10	QD4-20	QD4-28	QD4-48	QD4-80	QD4-120	QD4-160
Capacity (t)	3	7	10	20	28	48	80	120	160
Air Pressure (Mpa)	0.3	0.3	0.3	0.41	0.41	0.43	0.4	0.4	0.45
Flow Rate (L/min)	800	120	2200	4600	5200	6000	7000	7500	8000
Air Connection (in)	1						1.5		
Module Width (mm)	210	310	390	460	546	696	920	1100	1250
Module Height (mm)	52			65			71		
Float Height (mm)	10	15	20	20	25	35	50	65	75

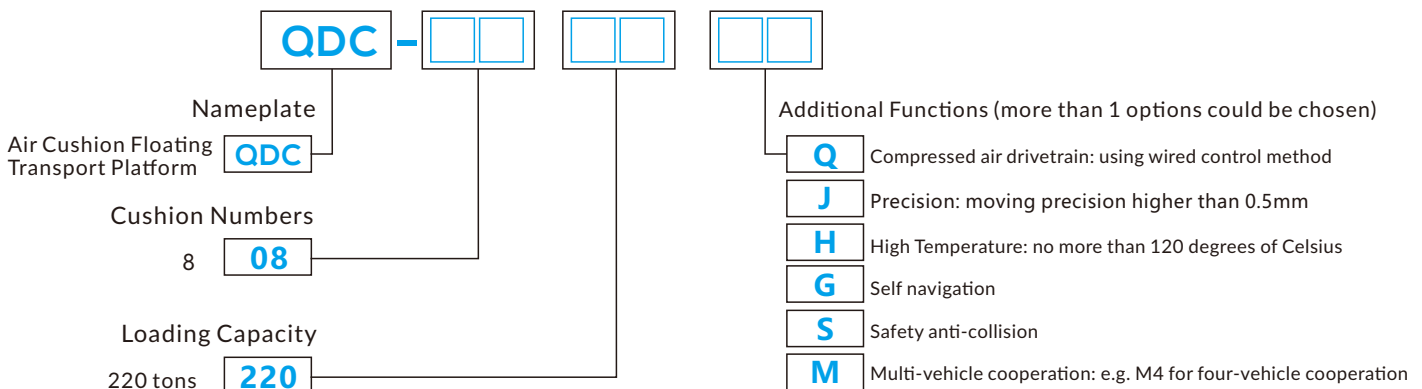
**Note: The number of modules could be customized**



## Standard Air Cushion Floating Transport Platform

Type	QDC-04-40	QDC-08-80	QDC-08-100	QDC-08-150	QDC-08-220	QDC-08-300	QDC-10-380
Dimensions (mm)	3900x2200x375	5260x2480x425	5260x2480x425	5900x2580x425		6500x2600x425	7200x2600x425
Maximum Load Capacity (t)	40	80	100	150	220	300	380
Adaptive Self-levelling Method	Height and pressure measurement						
Frame Lifting Height (mm)	10~20	20~30	30~40	25~35	30~40	35~50	
Operating System	Remote control						
Movement Mode	Straight, lateral, rotate, curved route						
Driving Velocity (m/min)	High 2~10, low 2~6						
Cruise Duration (h)	Single recharge ≥ 40						
Noise (dB)	≤ 65			≤ 70			
System Status and Security	Display screen, signal light, power display, emergency stop, fault self-diagnosis, pressure monitoring						
Supplied Air Pressure (Mpa)	0.6-0.9						
Air Flow Rate	8	18	18	20	21	22	26

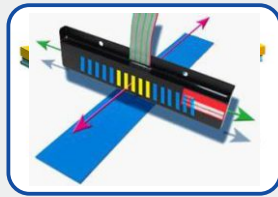
**Apart from the listed parameters, customers could customize their own productions according to the figure below.**



## Function Modules



RFID



Magnetic Stripe Navigation



Non-Contact Safety Anti-collision



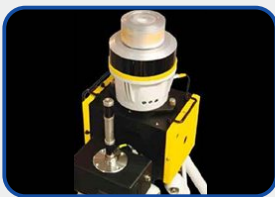
Industrial Remote Control



Contact Safety Edge



Laser Navigation



iGPS Navigation



Lifting Device



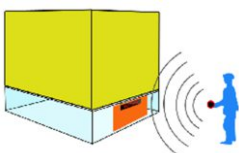
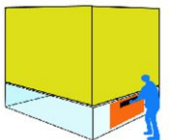
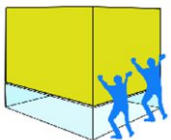
Automated Recharge Module



Colored Stripe Navigation

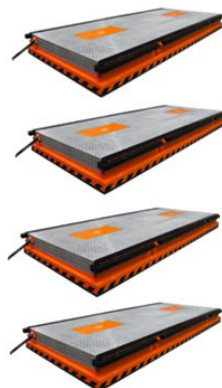
## Multi-vehicle Cooperation

1

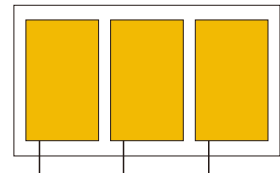


2

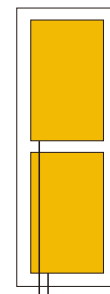
When transporting oversized and overweight cargo, the platforms could be configured to work in series or in parallel.



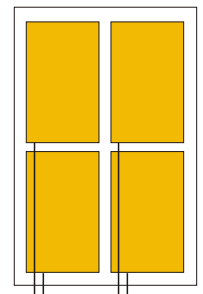
3



In Parallel



In Series



In Series and In Parallel

# System Solutions

## Workshop Transport Solutions

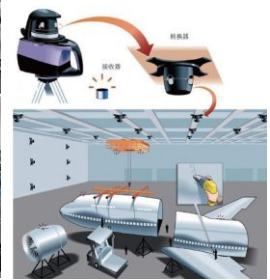
According to customer's workshop transport current conditions, the solutions make fully use of various kinds of transport vehicles (overhead cranes, air cushion floating transport platforms, mobile platforms with Mecanum wheels, track carriages, module transporters, forklifts, etc.), combined with advanced measurement/control technology and navigation positioning technology, offering low-cost, high-efficiency and high precision transporting methods. In the meantime, the solutions also provide ground set-up and power supply construction (electric, compressed air, pipes arrangement) plan in accordance to the workshop layout.



Air Compressor



Air Pipes



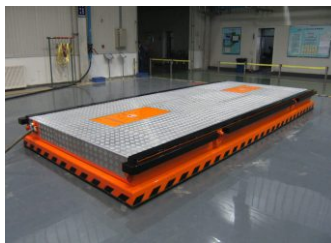
Advanced Measurement /Control Technology



Overhead Crane



Track Carriage



Air Cushion Floating Transport Platform



Mecanum Wheels



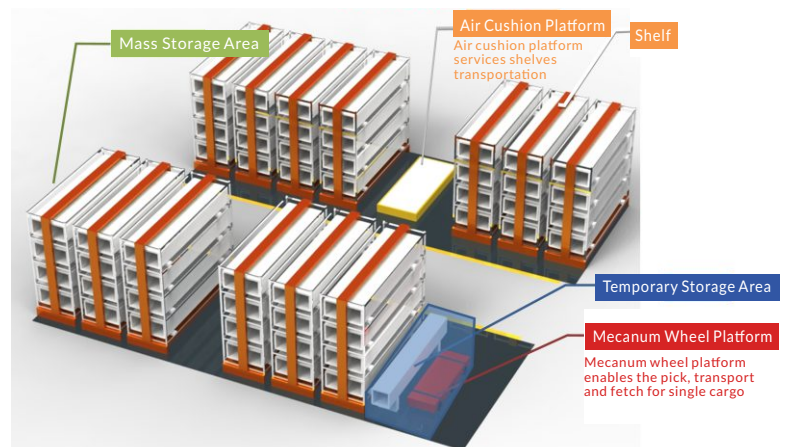
Module Transporter



Forklift

## Warehouse Logistic Solutions

Based on omnidirectional movement equipment (air cushion floating transport platforms and mobile platforms with Mecanum wheels), the warehouse logistic system adopts smart dispatch management technology with proprietary intellectual property rights. It could dispatch several mobile equipment working corporately under complicated environment, allowing automated recognition and self-fetch-and-pick. By using database transfer technology it could combine with customer's existed ERP, MES systems in no time. The system enables automated transport and smart management of logistics for warehouse storing heavy cargo, significantly increasing the operation efficiency.





# Application Domains and Typical Cases

The air cushion floating transport platform is a typical case for the military and civilian markets integration in aerospace engineering. Oimtec shall always adhere to the center of customers, continue to explore new areas and provide superior quality solutions that meet customers' satisfactory.



Product Assembly Work Station Transfer



Oversized Component Transport



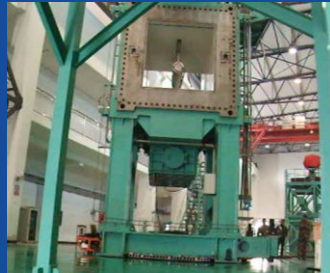
Aircraft Component Transport



Nuclear Waste Transport Autonomously



Mega Voltage Transformer Transport



Wind Tunnel Parts Precision Docking



Machine Tool Work Station Transfer



Oversized and Over Weight Equipment Cooperate Transport



Engine Assembly



Mega Voltage Transformer Light as a Swallow



"Shenzhou" Spaceship Walks with a Light Step



High Voltage Surge Generator Moves Freely

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