CONTAINER REACH STACKER

www.truckcrane.com.cn

Fully Electric Control & Injection Diesel Engine

- The fully electric control and electric injection system can thoroughly atomize the fuel oil, save oil, and maximumly optimize the engine's performance;
- Turbocharger can improve the overall performance and the engine's efficiency.
- Central water cooling system adopts VOLVE engine, and air intercooling system adopts COMMINS engine, which improve the heat radiation and prolong the service life of key parts.

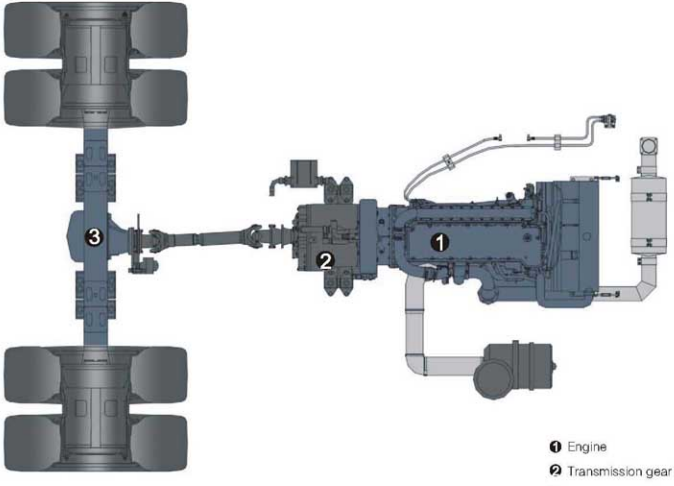
- Strong Power: Sufficient to provide the working power to the system;
- Less Oil Consumption: High combustion efficiency of fuel oil reaches the EU Standard (STAGE IIIA);
- Low Noise: Keep the optimal balance between equipment lubrication and non-qualitative operation;
- Low Maintenance Cost: The original fittings are offered to facilitate the maintenance of engine.

Fixed Shaft Dynamic Shift Transmission

- Auto/manual shift modes facilitate the shift;
- lectrohydraulic control system brings easy operation;
- Electric control anti- reversion device for forward and backward
- Stable transmission and low noise due to bevel gear;
- Inner pipelines with long service life are free of maintenance.

Heavy-loaded Driving Axle and Brake

- Of the welded axle body, the driving axle can bear impact load under any bad working conditions, which is safe and reliable with long service life;
- The service brake adopts fully closed multi-disc wet brake, free of pollutants and maintenance; the parking brake adopts central caliper disc brake, bringing safe and reliable brake.
- Relatively independent lubrication system enjoys sound maintainability.



❶ Engine
❷ Transmission gear box
❸ Driving axle

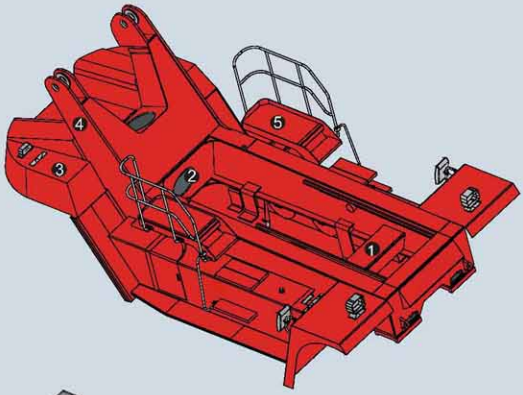
Boom & Carriage Systems

Scientifically designed boom and carriage systems bring superior reliability and stability.

Carriage System

❶ Whole Box Carriage

- Made of high quality steel plates, and with great strength and sound rigidity;
- Welded by gas coverage welding; 100% nondestructive flaw detection for each welding seam that can bear severe test.
- Integral processing of carriage body with high processing precision;
- Properly designed structure and easy disassembly of parts facilitate the system maintenance;
- Reasonably layout and low gravity center brings sound stability under any working conditions.

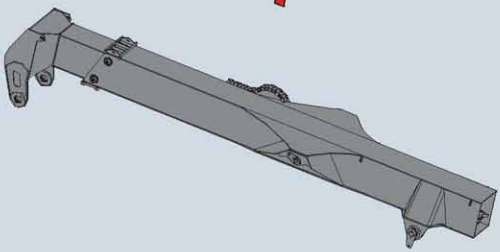


❷ Through Hole Type Supporting Plate

Improve the air circulation of engine, and prolong the service life.

❸ Patented Mobile Counterweight (Optional)

Under the precondition of keeping the overall weight of crane, improve the hoisting ability and security.

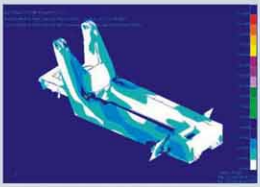


❹ Patented Embedded Exhaust Conduit

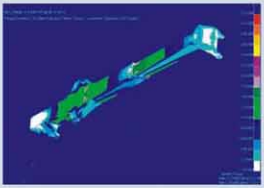
Nice appearance, long service life, and free of maintenance.

❺ Side Support and Traveling Table

Firm and anti-slip pedal, comfortable, nice and durable armrest, and convenient access to cab.



Finite Element Analysis and Calculation on Carriage



Finite Element Analysis and Calculation on Boom

Boom System

- Made of imported high quality steel plates and domestic high strength steel plates, the boom enjoys high strength and sound rigidity.
- Wing-type boom has strong anti-torsion ability, sound stability, and convenient inspection and maintenance.
- The cylinder and the piston rod of pitch oil cylinder and contraction oil cylinder are made of high quality alloy steel, and the piston rod in a hollow structure enjoys sound anti-bend and strong bearing capacity.
- The MC nylon slide blocks with high strength and sound wear resistance are installed at the head of basic boom and at the end of telescopic boom, which can support, guide direction, and reduce friction, impact and vibration when the boom is contracting.
- Convenient lubrication of MC nylon slide block and cylinder's spherical bearing, long service life, and low maintenance cost.

Hydraulic System

The design of hydraulic system reflects the high reliability of system's motions, the stability of system control, the flexibility of operation, the energy saving and loss reduction, and the high efficiency. The advanced control system and the reliable hydraulic elements ensure the successful operation of reach stacker, and bring endless benefits to the clients.

Strong Lifting Capacity

Double pumps (the power source) and their precise cooperation easily lift up the heavy loan.

Easy and Flexible Steering

With the flow amplifier, the driver can turn the steering wheel with less force, and achieve flexible motion.

Independent Brake System

Brake power from independent gear pump, safer, more reliable, and longer service life.

Load Sensing Electro-proportional Control System

Real time control by pump can achieve stepless speed governing on each motion, bringing sound operation performance and high working efficiency.

Differential Motion Function under Light Load

Rapid differential motion function under light load greatly improves the working efficiency.

Parker Hydraulic Elements

Favorable sealing performance and long service life.

Dual Core Dynamic Mobile Technique Presents You Absolutely Excellent Behavior

Thanks to our independent hi-tech & high-quality advantages, we provide you unique experience. The integral reach stacker embodies two patented unique dynamic mobile techniques. The particularly designed power house can not only facilitate the maintenance of chassis's parts, but also provide optimal operation visibility,meet the somatology's requirement on comfort, and hence bring unique enjoyment of driving. In coordination with the unique dynamic mobile counterweight system amplitude hoisting capacity, it can more efficiently keep the optimized stable state of integral reach stacker, and hence brings stronger and more effective operation capacity.

Electric Control System

- Real time control, short circulation time of program, and rapid operating speed;
- High protection grade, and sound resistance to impact and vibration;
- Perfect malfunction detection and alarm system;
- Accurate moment protection, and equipped with secondary ROPS;
- Vertical lifting and falling control on containers.
- Comprehensive real time display of all parameters about equipment operation;
- Real time monitoring, and malfunction display;
- Display and inquiry of input and output data;
- Setting through coded interface.

By the simple CAN bus circuits, the control system of reach stacker can integrate the sensor of length and angle, the engine controller, etc. The controller can obtain all information about the overall crane in real time, optimizing the circuit layout and improving the reliability of control system. CAN bus circuits, consisting of simple and reliable circuits, can achieve rapid network communication and sound anti-jamming performance.

☐ Controller

☐ Display

Spreader

Double Choices, favorable security performance, and long service life.

The expensive imported spreader is no longer your only choice. Spreader can serve you just as the imported one, but is much cheaper.

Security directly reflects the spreader's quality. The intensified security protection function from many aspects and angles brings relieved use.

Long service life contributes to less worry about maintenance.

☐ Imported Spreader

Cab

With easy operation — the most excellent cab helps maximize productivity.

Exceptional All-directional Visibility

Exceptional visibility helps improve operator's confidence and productivity.

Steering Gear and Damping Suspended Seat

Adjustable seat to any position helps maximize the relief of operator's tiredness.

Buttons and Switches with Special Functions

Properly arranged, rapid and easy operation.

HD Electronic Monitor

A high-efficient and reliable tool that displays the system diagnosis result can clearly show the hoisting weight, pitch angle, hoisting height, main system pressure, engine status, oil level, malfunction, and other information, and thus further improve the productivity.

Radio

New experience can alleviate the operator's tiredness.

Concentrated Operating Grip

Humanized design brings easy operation.

☐ Cab

☐ Seat

☐ Console

Monitor (Optional)

Monitoring of the spreader's locking pin at any time, and more accurate and rapid alignment.

Screen-wiper

The screen wipers in the front, at the back, and on the overhead window of crane bring clear visibility.

Patented Dynamic Mobile Cab

The adjustable cab position facilitates the change of operation visibility and brings more convenient maintenance.

Air Conditioners

With such functions as anti-fogging, defrosting and ventilation, the operation can be conducted in all weather.

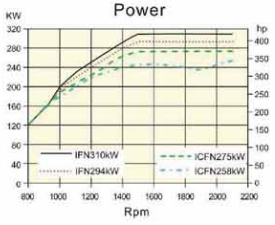
☐ Mechanical ROPS Protection Mechanism

Engine

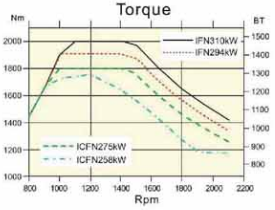
Four-stroke, six-cylinder turbocharged, and fully electric control & injection diesel engine.

CUMMINS QSM11 Engine

- Control mode: ECC fully electric control system of CAN bus circuits;
- Rated power at 2100r/min (2100 rpm): 250Kw (334hp)
- Rated torque at 2100r/min (2100 rpm): 1136 Nm (236 lbf.in)
- Average fuel consumption: 227g/Kwh (0.4 lbs)
- Exhaust gas: Accord with the EU Standard (Stage III A)
- Overall performance: Accord with the standards of ISO3046, BS5514 and DIN6271.



Curve of Diesel Engine Power and Speed of rotation



Curve of Diesel Engine Torque and Speed of rotation

Characteristic Parameters	
Output:	10.8L (2U.S.gal)
Dead weight:	984Kg (2171lbs)
Cylinder diameter:	125mm (5")
Stroke:	147mm (6")

Transmission gear box

CLARK15.5 HR36432 (U.S.A) fixed axle dynamic shift transmission has four forward and backward gears.

Reduction Ratio of Transmission		
Forward gear	1st gear	5.814
	2nd gear	2.422
	3rd gear	1.379
	4th gear	0.784
Backward gear	1st gear	5.814
	2nd gear	2.422
	3rd gear	1.379
	4th gear	0.784

Characteristics

- Dynamic shift
- Auto/manual shift
- Electrohydraulic control system
- Anti-reversion device for forward and backward
- Bevel gear transmission system;
- Fully inner pipelines

Driving Axle

Kessler heavy-loaned driving axle, dual reduction differential structure.

Characteristics

- Static load bearing: 150t/330900lbs (max. allowable axle load);
- Dynamic load bearing: 107t (236042lbs);
- Welded axle body
- Multi-disc wet brake for service brake, with the max. brake torque of 100000Nm/side (20731lbf.in/side);
- Central caliper disc brake for parking brake, with the max. brake torque of 7200Nm (1490lbf.in);
- Relatively independent lubrication system;
- Favorable maintainability.

Characteristics Parameters			
Max. pulling force:	360KN (1897lbf)	Traveling speed (F/R)	1st Gear 3.6 km/h (2.2mph)
Max. traveling speed (no load/full load)	25/21 km/h (15.3/13mph)		2nd Gear 8.6 km/h (5.3mph)
Gradeability (no load/full load)	39/32%		3rd Gear 14.8 km/h (9.1mph)
			4th Gear 25 km/h (15.4mph)

Boom

Passing the proof stress test for national special equipment.

Precise Design

The advanced finite element analysis, modal analysis, and dynamics simulation analysis and calculation, as well as the accurate data as design basis ensure reasonable structure of out rigger system and excellent performance.

High Quality Materials

The material also reflects the principle of reliability. The high strength steel plate bears the yield strength over 785Mpa, more powerful strength and rigidity, and better reliability.

Superior Workmanship

The manufacturing process is so excellent that each steel plate and welding seam received 100% nondestructive flaw detection and severe test.

Characteristics Parameters	
Max. hoisting height: 15100mm (49'6")	
Obliquity	0–60°
Stroke	7070mm (23'2")
Max. hoisting speed (no load/full load)	
420/250 mm/s (1'5"/10"/s)	
Max. falling speed (no load/full load)	
360/360 mm/s (1'2"/1'2"/s)	

Cab

Accordant with the ergonomics design

Features

- Conforming to the national industry standard for noise pollution test. The noise in the cab is less than 72 dB when the door and window is closed.
- Accordant with the standard for falling body protection device; roof-supporting technique and sound safety performance.
- Comfortable indoor temperature within 15~25℃.

Spreader

Many motion modes and strong security protection

Optional Spreaders

- Sweden ELME 817 spreader;
- SDJ450 heavy container spreader.

Strong Safety Protection

- Interlock function of the turning lock's motion;
- Mechanical anti-hook off mechanism of lockpin;
- Swing reduction function

Strict Compliance with the Following Manufacturing Standards during the Manufacturing Process

- Germany DIN15018, design class H2–B4;
- France FEM, class U7–Q2–A7;
- Sweden IKH4.30.01 (Issue No. 3)

Characteristics Parameters	
Rotary angle	+105° /–195°
Side shift distance	± 800mm (2'7")
Max. bearing	45000 kg (99270lbs)
Applicable scope	20'~40' International Standard Containers

Hydraulic System

Open electro-proportional control system, fully closed and pilot control.

Top Grade Configuration

- Pump: Parker P2 series variable plunger pump;
- Main valve: Parker M400LS electroportional steering valve;
- Flow amplifier: Danfoss flow amplifier;
- Steering gear: EATON load sensing steering gear;
- Rubber hoses, adaptors and sealing elements: Of Parker brand
- Cylinder: Domestic high quality cylinders

Features

- Open type fully closed system;
- Load sensing electroportional control system;
- Flow amplifier attached;
- Independent brake system;
- Differential motion function under light load;
- Integral high-precision filtration of return oil.

Characteristics Parameters

- Working pressure: 250 bar (3625psi);
- Total output: 240ml/r (0.05U.S. Gal).

Steering System

Fully hydraulic servo power assisted steering

Steering Mode

Servo power assisted steering

Characteristics Parameters	
Min. turning semidiameter	8000mm (26'3")
Axle load	370KN (1950lbf)
Wheel track	2750mm (9'1")
Steering angle	+70.5° /-58°
Tyre	18.00-25-40PR

Optional Devices

As clients' likes

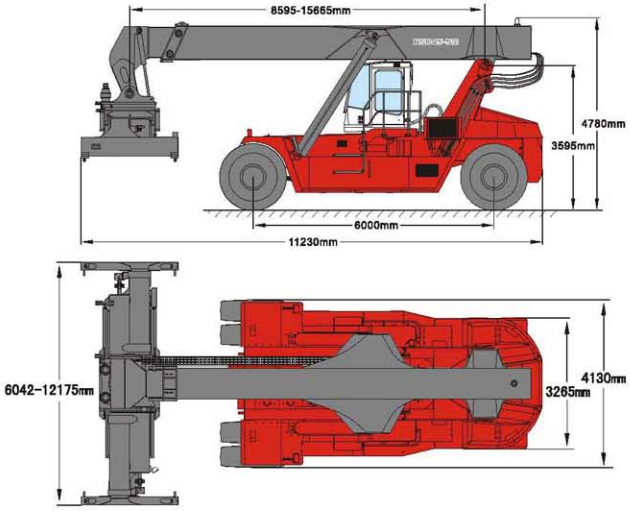
- Patented dynamic mobile cab
- multifunctional camera system of spreader
- Original mobile counterweight
- Radar system for astern running

Capacity Parameters

Item	Capacity (Unit: L/U.S gal)
Fuel tank volume	470/89
Hydraulic oil	900/171
Cooling water for engine	50/10
Transmission/torque converter	60/11
Driving axle	49/9
Deceleration device beside wheel	2 x 11/2 x 2
Engine oil	35/7
Brake cooling oil	150/29

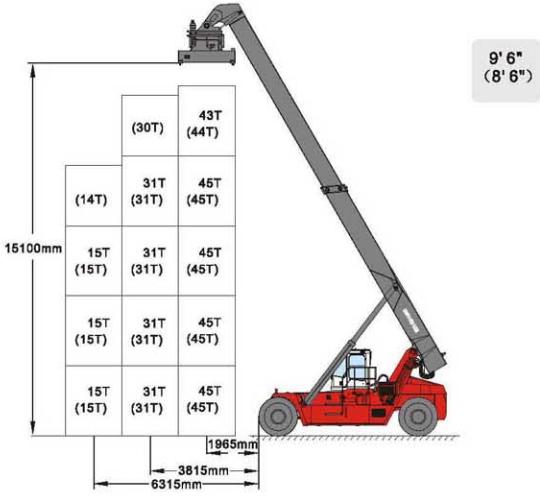
Overall Dimension

Basic Sizes



Powerful Load-lifting Capability

Strong hoisting capacity, high stowage, and powerful container-cross operation.



Construction Cases

Through ceaseless progress, struggling research, and independent innovation, we successfully developed RSC 45-5 series reach stacker, which opened a new strategic growth chain in the fields of port machinery.

Entitled with many patents, RSC45-5 series reach stacker has high reliability, top grade configuration, advanced electrohydraulic control system, and perfect security protection system. Moreover, the driving and operation system conforms to the design concept of ergonomics, and the overall performance reaches the international advanced level.

perfect R&D, marketing, and service systems greatly guarantee the favorable share reach stacker in domestic and overseas markets. Our products have been sold to Germany, Brazil, Russia, Bengal, etc., and widely used in large and medium-sized ports, docks, and stack yards at home and abroad, such as Tianjing, Guangzhou, Dalian, and Fuzhou, creating great values for clients and receiving unanimous good reputation.

All users reach stacker can enjoy the commitment of overall services supplied

Low Maintenance Cost

- The quality assurance period lasts for one year or 2000 hours, during which we will provide free service except for the cost of wearing parts, and hence brings the lowest maintenance cost.
- Life-long free service: Beyond the quality assurance period, all services are free except for the proper charge for parts, and thus minimize the users' maintenance cost.

Convenient Purchase, Low Price

Service network system and parts warehouses around the world ensure the timeliest and rapid supply of parts at the most preferential price, and hence minimize your shutdown time.

Complete and Free Training System

The training of maintainers and operators with high quality for clients avoids the economic loss due to improper operation.

Flexible Payment

Different terms of payment are accepted which is flexible and can meet your demand on cash circulation.