



REACH STACKER

CRS4532

Load capacity:
45,000KG



Overview

Maximal® reach stackers are specifically designed for efficient stacking and handling of containers in ports, docks, rail and road transfer stations, and storage yards.

■ More than just handling container

Furthermore, our reach stacker offers compatibility with a variety of products and attachments, including wind turbine tower crane, roundwood crane, bulk spreader, and multimodal transport combination attachment, to meet the needs of different working scenarios.

We also provide customized special spreader solutions to meet the personalized needs of our customers.



■ Designed on a proven platform and built in our own factory

Maximal's reach stacker line is crafted by our global engineering team, bringing together world-class expertise. By testing and producing these products in our own factory, we can swiftly adapt to our customers' needs and deliver the product on time and on demand.



Efficiency

Proven by the market, our reliable technology not only enhances ease of use but also significantly reduces energy consumption and improves energy use efficiency.

■ Great maneuverability and fast response

- **Fast lifting speed.** The container lifting speed is fast, significantly enhancing efficiency.
- **Dynamic rapid response system.** The joystick enables precise micro-motion control, allowing the vehicle to move in accordance with the driver's manual commands.
- **One-click vertical lifting of container.** It can achieve fast, efficient, and safe vertical movement of containers.

■ Energy saving achieved via design optimization

- **Steering structure pivot design.** Our design improves the accuracy and responsiveness of the steering system, reduces tire wear during turning, and thereby extends the service life of the tires.
- **Compound linkage of boom.** It is designed with a compact structure and light boom weight, reducing the energy consumption.

■ Energy saving brought by hydraulic system and engine

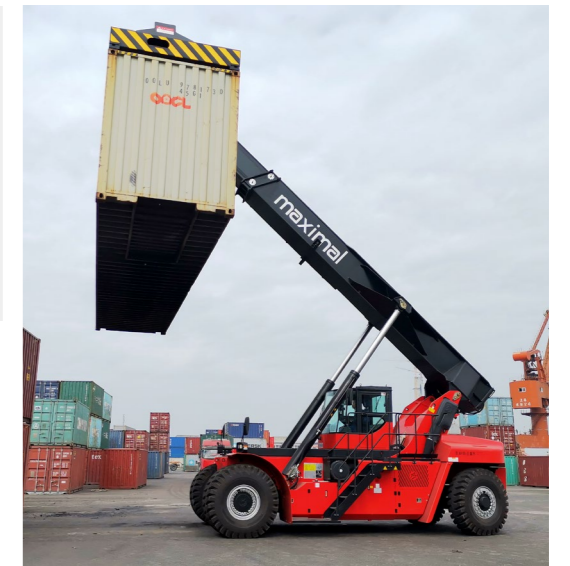


- **On-demand hydraulic system.** Precisely adjust the hydraulic oil flow rate according to the working conditions to achieve accurate control of the boom movements, improving the system's energy efficiency and work efficiency.
- **Adaptive dynamic power engine.** By dynamically adjusting the engine RPM through the accelerator pedal and the weight of the container, the engine performance is enhanced, and the overall fuel consumption under various mission modes is reduced. It could enhance the vehicle performance and reduce the overall fuel consumption.

Stability

It provides excellent strength and durability under various operating conditions, enhancing the stability of the vehicle. By reducing the need for maintenance, it further strengthens the reliability of operation and substantially boosts overall work efficiency.

- **Imported Cummins, Volvo, Scania engines.**
- **Automatic electric transmission DANA TE30.**



The combination of high-quality components from imported manufacturers enables our vehicle to achieve excellent quality and performance. The optimized match of engine and transmission makes the ultimate integration of the vehicle's power and performance. It not only provides efficient power output but also reduces energy consumption, enhancing the stability and reliability of the vehicle.

- **High quality welding standards.**
- **Reliable pipeline design.**
- **Rearward placement of the center of gravity.**
- **Imported high-pressure resistant hoses.**
- **High temperature resistant oil pipes for transmission.**
- **Waterproof and shock-resistant electrical connectors.**
- **Full CAN bus design.** This design simplifies wiring, maintenance, and fault diagnosis. a solution that is efficient, reliable, and flexible.
- **FEA and DFMEA scientific simulation methods.** The use of these two simulation methods can significantly enhance the performance of the vehicle.
- **Light weight of the spreader.** The use of lightweight spreader will reduce energy consumption, enhance the stability of the vehicle, and increase the load capacity.

Special Equipment

In today's world where operational safety is paramount to customers, we understand the importance of protecting personnel and assets. Our special equipment offerings enable customers to customize their vehicles to meet the precise and unique requirements of their applications and their operational safety programs. These special equipment offerings serve as your solid backing, promoting safe and worry-free operation. Below is an overview of the advanced special equipment systems offered on our vehicles



■ Protecting your drivers

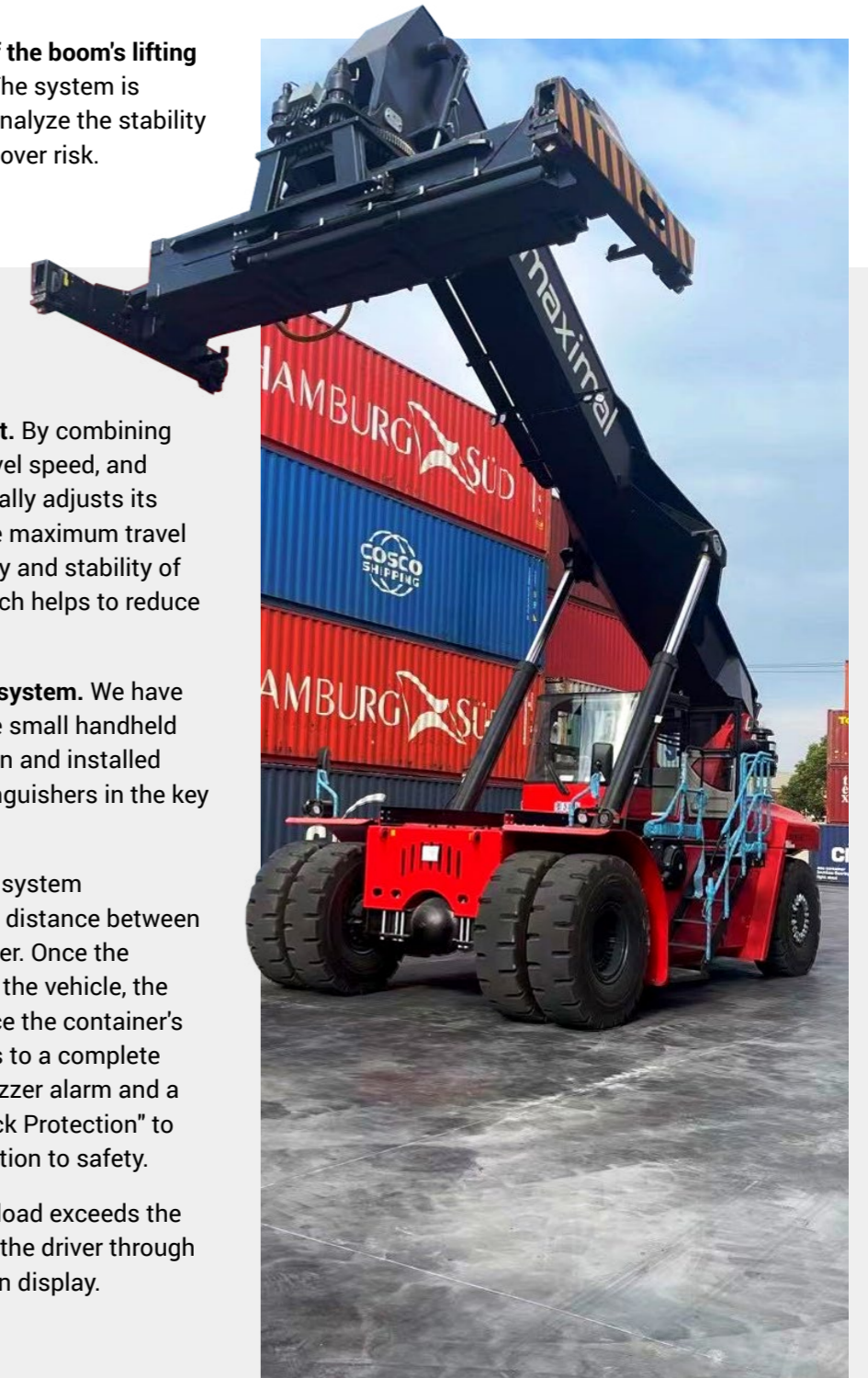
- **Reverse warning system.** With the aid of the precise detection from the reversing radar, the clear view provided by the rearview camera, and the immediate alarm from the buzzer, we offer you a reverse warning system.
- **Double brake pedals.** This double brake pedals is designed to minimize driver leg fatigue, allowing the driver to easily switch between the accelerator and brake pedals by gently moving the foot without moving the leg.
- **Steps with anti-slip protection.** At all entering and exiting points, we have designed anti-slip surfaces that provide driver with additional grip, reducing the risk of slipping or falling on the vehicle.
- **Enable switch of the joystick.** The enable switch serves as a feature to prevent accidental activation of the vehicle.

■ Protecting your vehicles

Dynamic torque protection system. This function can detect the length and angle of the boom, the hydraulic pressure of the derricking cylinder, and provide real-time analysis of the stability of entire vehicle.

- **The automatic limitation of the boom's lifting and telescopic functions.** The system is designed to continuously analyze the stability of the vehicle to reduce tip over risk.

- **Maximum travel speed limit.** By combining the current gear signal, travel speed, and load, the vehicle automatically adjusts its gear position and limits the maximum travel speed, enhancing the safety and stability of the vehicle's operation, which helps to reduce risks.
- **Multiple fire extinguishing system.** We have placed an easily accessible small handheld fire extinguisher in the cabin and installed aerosol automatic fire extinguishers in the key areas of the vehicle.
- **Load back protection.** This system automatically monitors the distance between the vehicle and the container. Once the container gets too close to the vehicle, the system will gradually reduce the container's retreat speed until it comes to a complete stop, accompanied by a buzzer alarm and a display message "Load Back Protection" to alert the driver to pay attention to safety.
- **Overload protection.** If the load exceeds the specified limits, it will alert the driver through a buzzer alarm and a screen display.



Ergonomics

Designed with ergonomics in mind, Maximal reach stacker improves the comfort and reduces the fatigue of the driver as well as enhances work efficiency.

Improved comfort

- **Spacious panoramic cabin.** It can offer an expansive view, a comfortable space, and convenient operation.
- **Suspension seat.** Suspension seats can shock absorb, reduce physical fatigue, and improve driving comfort.
- **Industrial high-power heating and cooling air conditioner.** This design can rapidly achieve the set temperature, with excellent cooling effect and short cooling time.
- **Italian COBO three-stage adjustable steering column.** It allows the driver to adjust the height, depth, and tilt angle of the steering column according to personal preferences, to achieve a more comfortable and natural driving posture.
- **Suspension accelerator pedal.** This design optimizes the foot operation space, simplifies the structure, and makes foot operation more lightweight.
- **Fully enclosed cab with tight foam noise insulation design.**
- **Sickle type inlet noise reduction blade.**

Even under harsh working conditions, the noise level in the cab can typically be maintained below 85dB, reducing distraction and providing a comfortable and working environment.



Enhanced safety

- **Wipers on the front, top and rear windshield of the cabin.** Help maintain clear vision in adverse weather conditions.
- **Wide-angle mirrors on both sides.** This design can expand the field of view and the driver's awareness of the surrounding environment.
- **LED working lights.** The design of LED light can improve visibility, and is energy-efficient and durable.
- **Two side doors.** To allow for a quick exit by the driver.

Extended service time

- **Imported 7-inch color HD LCD display.** The display can show fault codes, which reduces the time required for troubleshooting, and operational information. The system offers multiple menus of operational information, allowing driver and after-sales service to gain in-depth insight into the vehicle's performance, allowing the vehicle to be more easily maintained in good running condition.
- **Imported joystick with ceramic button.** This type of joystick is reliable and durable, capable of achieving precise control.
- **Top sun visor.** to effectively block sunlight and reduce the workload on the air conditioning system thus lowering the vehicle's overall energy consumption.
- **Multi-fan distributed radiator design to protect engine from overheating during work.**
- **Independent transmission radiator.**



Serviceability

- **Simple filter replacement method.**
- **Easy access for maintenance and repair.**
- **Error code information.** The monitoring system continuously monitors the operating status of the vehicle in real time, and reports any fault information through the display, so that the driver can quickly view and take appropriate measures.
- **Independent brake system.** The hydraulic braking system on this vehicle operates independently of the main hydraulic system, enabling the two systems to be maintained independently.
- **Boom emergency descent and emergency retract.** If proper vehicle operation is interrupted, the LMIS – Load Moment Indicator System is activated, the driver can start the emergency descent or emergency recovery button to slowly lower or recover the container.

Low maintenance costs and convenient service improves working efficiency and reduces total ownership cost.



More options

Maximal knows that different working conditions have various needs for vehicles, therefore we offer more options and customized services to provide you with the most suitable solutions.



Bulk spreader. Our vehicle is equipped with an bulk spreader that can perform operations up to a 55-degree tilt, significantly enhancing the speed and efficiency of handling bulk materials inside containers, making the workflow more relaxed and expeditious.



Work data printing system. The operator's ID number, container number, weight information, and lifting time can be directly printed on paper documents, keeping the accuracy and traceability of the information, which facilitates recording and filing.



Driving Recorder. Our vehicles are equipped with a three-camera system, including front, rear, and cab cameras, capable of monitoring the working status of the vehicle and the operators in real time. Where permitted by your local rules, these cameras can continuously record the operation process and also allow for convenient retrieval of video materials when needed, promoting transparency and safety.



360° panoramic camera. Provides comprehensive surveillance coverage reducing dead angles.



High-position boom camera. The camera is designed to look down from a high position, providing a wide monitoring perspective, monitoring and visual control of containers, improving work efficiency and supporting safety.



2Kg large handheld fire extinguisher.



Circular active dry powder fire extinguisher. Upon detecting a fire source, it can automatically activate and respond quickly, reducing the delay of manual operation and improving the efficiency of extinguishing the fire



Automatic lubrication system. The system enables the key components to be lubricated appropriately and in time, effectively avoiding lapses that may be caused by manual lubrication. This not only extends the service life of the vehicle, but also reduces personnel exposure, simplifies maintenance, and improves overall operational efficiency.



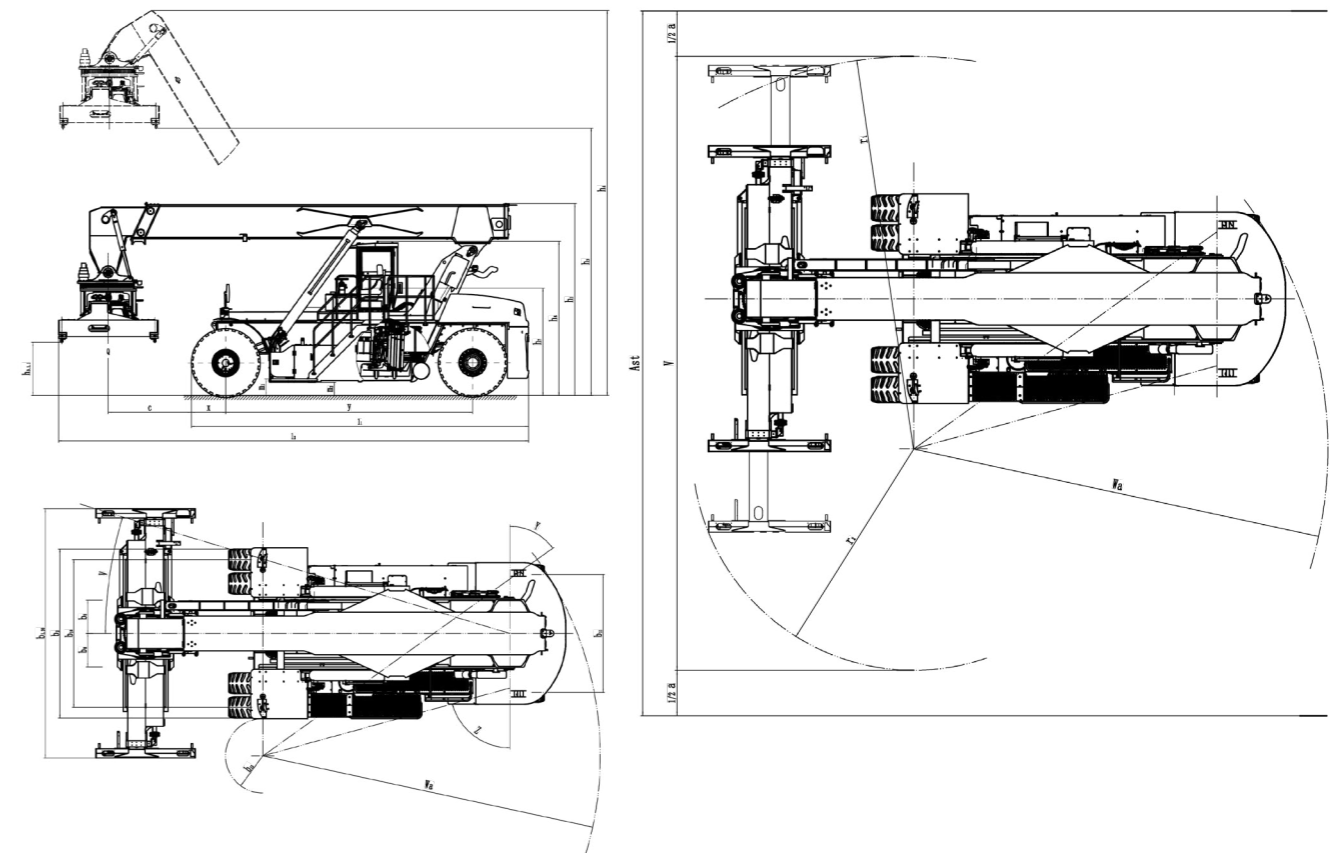
Fleet management system. This system is a tool used for monitoring and managing vehicles operations; it optimizes the use, maintenance, and monitoring of vehicles through integrated software and hardware solutions.

CRS4532 SPECIFICATIONS

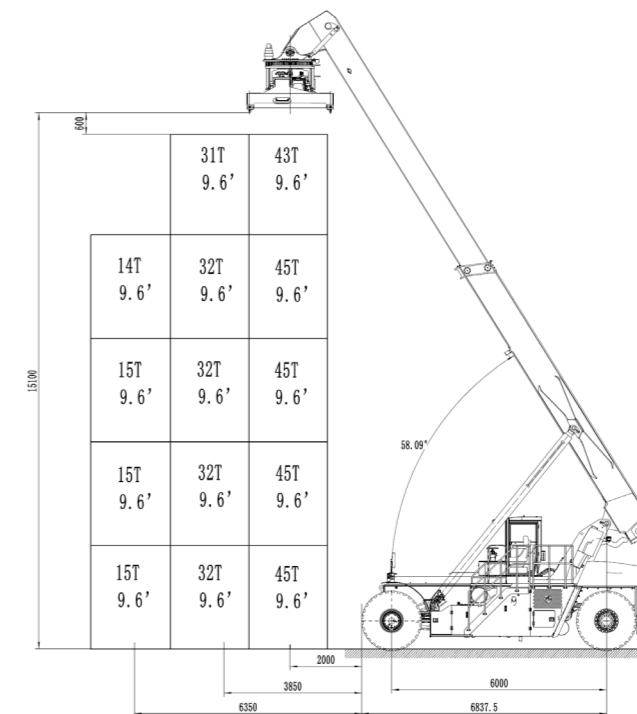
Distinguishing mark	1.1	Manufacturer	HYM		
	1.2	Model designation	CRS4532		
	1.3	Powertrain / drivetrain	Diesel		
	1.3.1	Engine model	SCANIA / DC09		
	1.3.2	Spreader type	HYM / 918		
	1.4	Operator type	Seated		
	1.5.1	Load capacity at load centre distance c1	Q1(kg)	45000	
	1.5.2	Load capacity at load centre distance c2	Q2(kg)	32000	
	1.5.3	Load capacity at load centre distance c3	Q3(kg)	15000	
	1.6.1	Load centre distance c1 (1)	c1(mm)	2000	
1.6.2	Load centre distance c2 (1)	c2(mm)	3850		
1.6.3	Load centre distance c3 (1)	c3(mm)	6350		
1.8	Load distance	x(mm)	835		
1.9	Wheelbase	y(mm)	6000		
1.10	Stacking height at first row (number x container height)		5x9'6"		
Weight	2.1	Service weight	kg	72000	
	2.2.1	Axle loading with load, front / rear at c1	kg	101000	16000
	2.3.1	Axle loading without load, front / rear at c1	kg	37000	35000
Tyres / chassis	3.1	Tyre type	Pneumatic		
	3.2	Tyre size, front	18.00-25 40PR		
	3.3	Tyre size, rear	18.00-25 40PR		
	3.5	Wheels, number front/rear (x = driven wheels)	X4/2		
	3.6	Tread, front,	b10(mm)	3030	
	3.7	Tread, rear	b11(mm)	2828	
	Dimensions	4.1	Boom angle minimum / maximum	degrees	0/58
4.2		Height of boom lowered	h1(mm)	4700	
4.4.1		Lift height at load centre c1 (2)	h3.1(mm)	15100	
4.4.2		Lift height at load centre c2 (2)	h3.2(mm)	14800	
4.4.3		Lift height at load centre c3 (2)	h3.3(mm)	11600	
4.5		Height, boom extended	h4(mm)	17850	
4.7		Height of overhead guard (cabin)	h6(mm)	3165	
4.8		Seat height to SIP (3)	h7(mm)	2773	
4.15		Height under twistlock - lowered (2)	h13(mm)	1400	
4.20		Overall length including boom retracted	l2(mm)	11400	
4.21.2		Overall width across all of truck	b2(mm)	4150	
4.21.3		Overall width across spreader 20'	b1.20(mm)	6053	
4.21.4		Overall width across spreader 40'	b1.40(mm)	12185	
4.28		Reach distance	l4(mm)	7070	
4.31		Ground clearance, lowest point	m1(mm)	300	
4.32		Ground clearance, centre or wheelbase	m2(mm)	300	
4.34.3	Aisle width: 20' container	AST20(mm)	11300		
4.34.4	Aisle width: 40' container	AST40(mm)	13600		
4.35	Outside turning radius	Wa(mm)	8000		
4.36	Internal turning radius	b13(mm)	1200		
Performance data	5.1	Travel speed with / without load	km/h	21	25
	5.2	Lifting speed with / without load	m/s	0.25	0.42
	5.3	Lowering speed with / without load	m/s	0.30	0.36
	5.4.1	Telescoping speed 20' - 40'	sec	16	
	5.5	Drawbar pull - 1 mph (1.6 km/h) with / without load	kN	261	261
	5.7	Gradeability - 1 mph (1.6 km/h) with / without load (5)	%	25	30

DIMENSION DIAGRAM -CRS4532

TRUCK DIMENSION DIAGRAM



LOAD CAPACITY DIAGRAM



DRIVE TRAIN

Engine	Engine manufacturer / model		Cummins QSM11-335	VOLVO/TAD1151VE	SCANIA DC13 076A	SCANIA DC09-313
	Emission standards		Tier 3/Stage III A	GB III	GB III	EUV/Korean Tier5
	Engine power output according to ISO 1585	kW	250	265	257	276
	Engine power output - peak	kW	272	265	257	276
	Rated speed	rpm	2100	2100	2100	2100
	Engine torque @rpm (1/min)	N-m	1674@1400	1785@1316	1636@1500	1876N.m@1400RPM
	Number of cylinders / displacement	unit/cm3	6/10.8L	6/10.84L	6/12.7L	5 /9.3
	Turbocharger		Wastegate air cooled	Wastegate air cooled	Wastegate air cooled	Variable geometry
	Alternator output	Amps	160	150	100	150
	Battery voltage, rated capacity	V/Ah	24/195	24/195	24/195	24/195
Driver	Drive control / transmission		Hydrodynamic Transmission			
	Transmission manufacturer / type		DANA / TE-30			
	Transmission speeds forward / backward		5 / 3			
	Coupling		Torque Converter			
	Wheel drive / drive axle manufacturer / type		AxleTech / PRC7545			
	Service brake		Oil immersed (wet) disc			
Spreader	Parking brake		Spring applied, dry disc on drive axle			
	Spreader manufacturer / type		HYM918		Elme817	
	Pile slope, mechanical without PPS	degrees	3		3	
	Pile slope, total with PPS	degrees	6		6	
	Size of containers	ft	ISO 20'-40'		ISO 20'-40'	
	Side shift	b8 (mm)	+800/-800		+800/-800	
	Rotation angle, without override	degrees	n/a		n/a	
Others	Rotation angle, with override	degrees	+105/-195		+185/-95	
	Hydraulic tank capacity	l	700			
	Fuel tank capacity	l	700			
	Steering design		Hydrostatic			
Sound pressure level at driver's seat	Lpaz (dB, A)	85				



Maximal CRS4532 CONFIGURATION

PERFORMANCE	STD	OPT
Cummins QSM11-335	●	
VOLVO/TAD1151VE	●	
SCANIA DC13 076A	●	
DANA Automatic transmission (front 5/ rear 3)	●	
Axletech PRC drive axle with wet disc brake	●	
Throttle load intelligent adaptive system	●	
Hydraulic system with on-demand oil supply	●	
Hydraulic system with temperature protection	●	
Precise weighing system (accuracy error 0.5%)		●
APPEARANCE		
Built-in wide Angle mirror	●	
External wide Angle mirror	●	
Spreader lock indicator light	●	
LED working light	●	
LED brake lights/taillights/reverse lights/ turning lights	●	
Pneumatic driving wheels: 18.00-25-40PR	●	
Pneumatic steering wheels: 18.00-25-40PR	●	
Maximal red painting	●	
ERGONOMICS		
Manual sliding cab	●	
Hydraulic sliding cab		●
Cab with suspension mounting	●	
Emergency window breaker hammer	●	
Front, top, and rear windshield wipers	●	
7 inch color HD LCD display	●	
Joystick with ceramic button	●	
Three-stage adjustable steering column	●	
Industrial heating and cooling air conditioner	●	
Top sun visor	●	
Suspension seat with armrests & seat belt	●	
Automatic fire extinguishing system	●	
Reverse warning system	●	
Fleet management system		●
Automatic lubrication system		●
SPREADER		
CANBus spreader (HYM 918)	●	
CANBus spreader (ELME 817)		●



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