



ZHEJIANG HANGCHA IMP. & EXP. CO., LTD.

Factory site: 666 Xiangfu Road,  
Hangzhou, Zhejiang, China (311305)

Tel: +86-571-88926735 88926755  
Fax: +86-571-88926789 88132890

sales@hcforklift.com  
www.hcforklift.com



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HANGCHA trucks conform  
to the European Safety  
Requirements.

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# XH SERIES HIGH-VOLTAGE LITHIUM BATTERY REACHSTACKER

with capacity of 45,000kg



The World of Hangcha





# XH SERIES HIGH-VOLTAGE LITHIUM BATTERY REACHSTACKER

The RS4531CH-XHJG electric reach stacker is a newly developed product based on Hangcha's new lithium battery platform of XH series and years of experience in R&D of internal combustion reach stacker. With the new technologies of three-phase drive motor, separate pump control, kinetic energy recovery, etc., the electric reach stacker can make quick operation response at low operation energy consumption. With intelligent and efficient performance, the vehicle is energy-saving, safe and reliable.

VOLTAGE

**618 V**

100% CHARGE FOR

**1 Hour**

WATER RESISTANCE

**IPX4**

SPEED MODELS

**3**

PROTECTION RATE

**IP67**

## Exterior

/ With the inherited exterior design of internal combustion reach stackers—pitch-down streamlined design and a smooth, vivid and sturdy profile, the vehicle has smooth coloring, a simple and elegant logo, as well as largely-curved front and rear windows, a large glass ceiling and all-glass side doors to enable a broad view.

THE *Plus*  
FOR YOUR  
BUSINESS





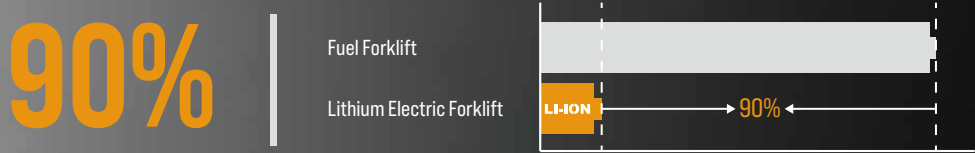


# FASTER & MORE EFFICIENCY.

Compared with low-voltage lithium battery forklifts, high-voltage lithium battery technology can save about 40% of the overall cost during the service cycle.



Compared with fuel forklifts, high-voltage lithium battery technology can save about 90% of the overall cost during the service cycle.



Under normal charging and discharging conditions, the lithium battery of Hangcha products has a capacity retention rate of more than 75% and a life span of up to 10 years after 4000 cycles of charging and discharging.

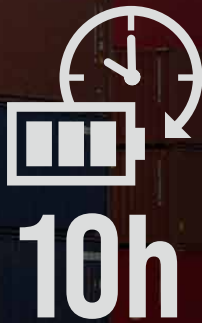
Through disruptive battery and fast charging technology, the charging time is greatly shortened.

Fast charging makes it possible for the whole vehicle to work continuously, shortening the waiting time and greatly improving efficiency.

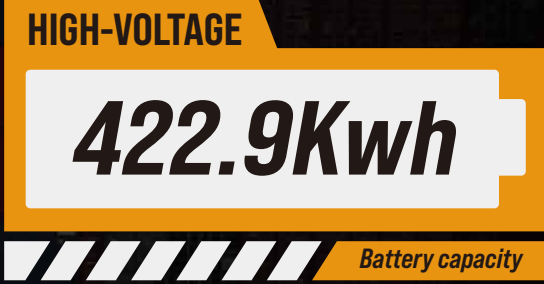
Get the battery fully charge:



Hangcha High Voltage Electric Forklift



Electric Forklift







## Maintainability

/ An easy-to-remove hood; all the maintenance points are in easily accessible positions to facilitate repair and maintenance of electrical elements.

## Intelligence

- / High-definition LCD instruments have simple graphical interfaces to display data clearly. The interfaces can be switched to be shown in Chinese and English.
- / A vehicle central control system, which has bus architecture, and interconnected motor, battery and heat management control system.
- / Fault diagnosis and alarm functions facilitate maintenance.
- / Display: boom length, actual load, maximum load, boom height, jaw angle, outreach, load percentage bar, alarm code, etc.



## Advancement

- / A high-torque permanent magnet synchronous motor provides strong power for the vehicle with performance indicators benchmarked against that of internal combustion forklifts.
- / A 618V high-voltage platform with low system loss and a standard chilled water tank for heavy-duty truck to achieve good heat dissipation.
- / The vehicle has independently developed VCU program along with PDU+MCU+BMS+DC/DC to form a reliable and efficient drive system with flexible function configuration.
- / With motor, electric control and battery adopting liquid-cooling heat dissipation to achieve better heat dissipation, the forklift can absolutely carry out long-time and high-intensity operations.

Electric motor	Type	Unit	Permanent Magnet Synchronous Motor
	Output Power (Peak)	kW	380
	Output Torque (Peak)	N·m	4600

Intelligent Control System			
Bus meter control module	Motor control module	Spreader Control Module	Hydraulic Control Module
Lithium battery control module	Thermal Management Control Module	Remote management system	

*Functions such as single-joystick operation, spreader's vertical lifting, combined operations, throttle following, etc. make operations more efficient.*





Safety

- / The cover of the vehicle is designed to be sealed so that the protection level of the vehicle reaches level IPX4.
- / The electrical system has high-voltage interlocking, insulation protection and monitoring, and potential balancing functions to offer vehicle-grade safety.
- / Both the battery and junction box have MSD maintenance switches to enable one-click power-down and safer maintenance.
- / Key structural parts in reference to internal combustion forklifts have been verified highly reliable by the market for many years.
- / The 6-probe visual reversing radar and wide-view cab offer a wide view without a blind corner.
- / Safety technologies such as seat sensing, dynamic antitipping protection, longitudinal dual anti-tipping protection, spreader twist-lock dual protection, startup anti-stalling protection, fault protection, etc. are used to ensure safe operations at all times.



All the motor, electronic controls and high-voltage components reach the dust and water resistance level of IP67, a high protection level adequate to withstand harsh operating environments and ensure safety and reliability.



The high-voltage lithium battery is equipped with an automatic fire extinguisher for the standard configuration. The vehicle is equipped with a pipe network automatic fire extinguisher for the standard configuration.



Ultra-long battery life

- / Standard large-capacity lithium battery meets long battery life requirements.
- / Both the drive and operating systems are efficient vehicle-grade permanent magnet synchronization systems with low energy consumption.
- / 618V high-voltage platform, less vehicle current and minimal system heat loss
- / Braking energy and potential energy recovery effectively prolongs operating time.
- / A double-gun quick charging port offers a full charge in no more than 2 hours.

Battery	Type	Unit	Lithium iron phosphate
	Total Electricity	kWh	423
	Rated Capacity	Ah	684
	Voltage	V	618





# ELME new-generation container spreader



- / For the new-generation ELME817 series telescopic container spreader, the design of the telescopic beam, turntable, etc. are optimized, so that the structural strength is increased, the weight of the spreader is 16% less than that of the spreader of the last generation and the service life is prolonged by 30%.
- / The arrangement of the oil cylinder is changed to be more conducive to maintenance.
- / Design of the hydraulic system is optimized, so that the spreader system has less pressure loss and is more energy-saving and efficient.
- / With electro-hydraulic proportional control, the speed is adjustable and the rotation angle of the spreader can be smoothly and finely controlled.
- / The latest Neuron programmable controller is used so that more optional features can be developed. Fault code information is provided according to the J1939 protocol so that fault query is quick and simple.
- / The twist-lock interlock device (mechanical and electro-hydraulic) and the real-time indication of the action indicator are provided to avoid:
  - the container is lifted when less than 4 corners are locked;
  - the twist-lock is opened when the container is lifted.
- / The lift interrupter can prevent the container from being lifted when the twist-lock is partly twisted. The lift operations can be performed only when the twist-lock is locked or unlocked.

## Efficient hydraulic system

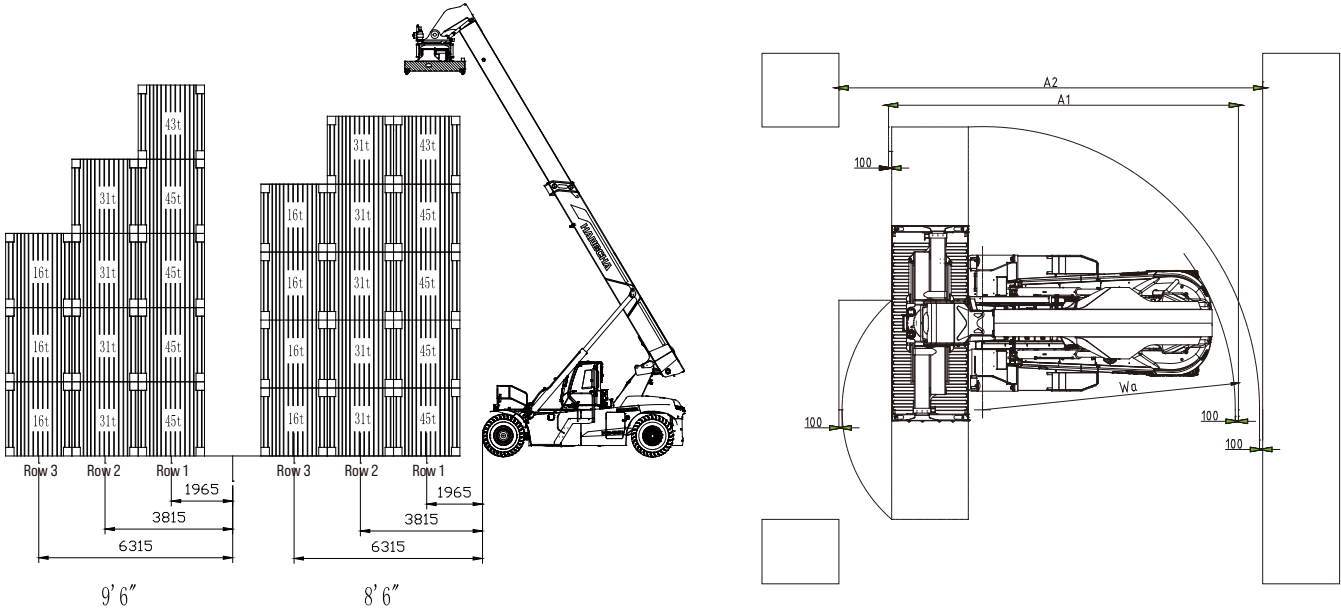
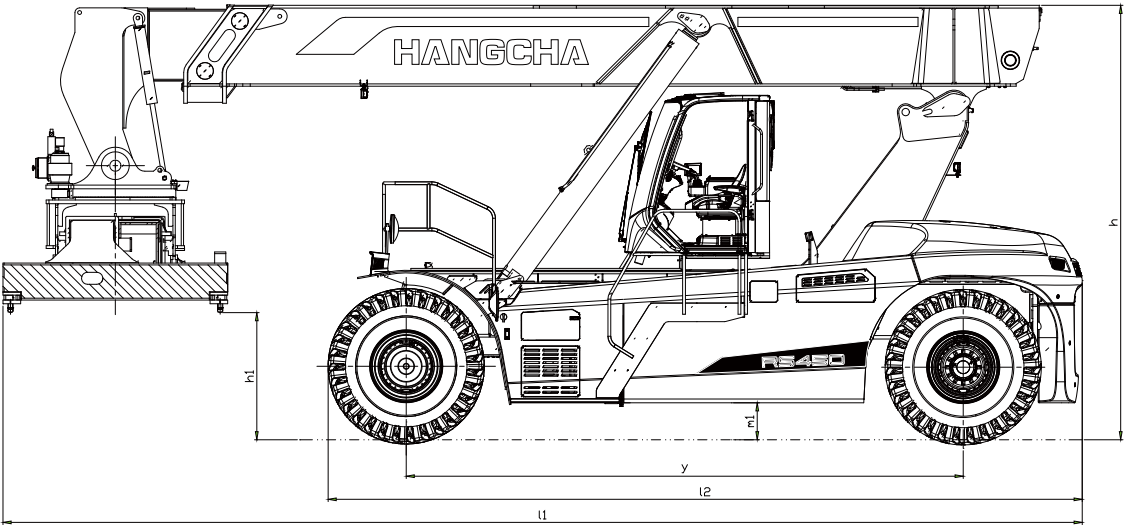
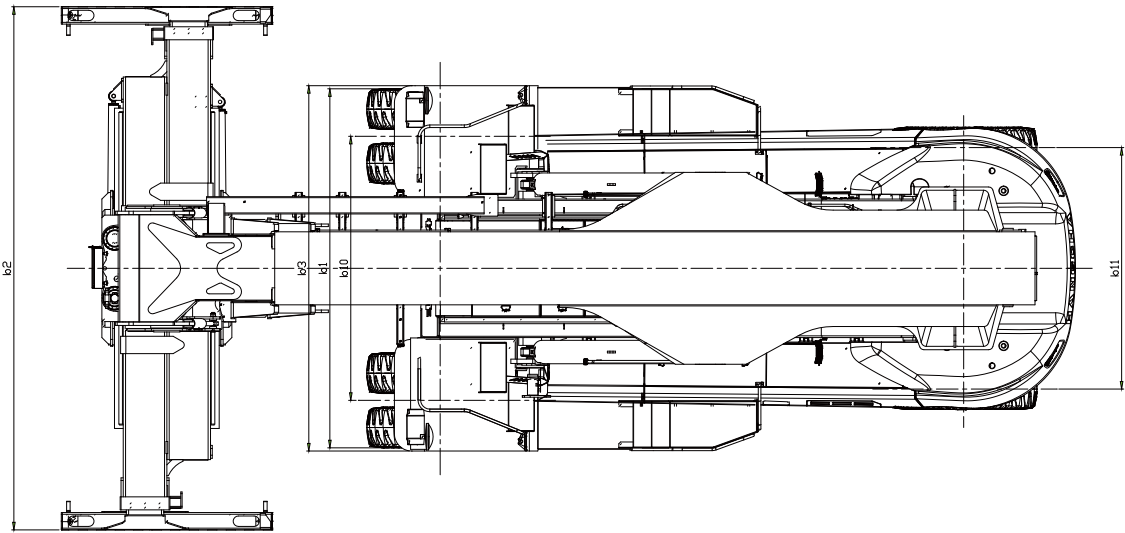
- / American PARKER's combined hydraulic valves, PARKER's variable hydraulic pump and the load sensing hydraulic system.
- / Flexible and precise electric proportional control.
- / Light load high-speed lifting increases work efficiency. Independent temperature control and the large-size hydraulic oil cooler meet the work in the environment of up to 50 degrees.
- / Perfect high and low pressure oil filters improve the reliability of the hydraulic system.
- / Multiple hydraulic test points are set to simplify repair and maintenance work.





XH Series High-voltage Lithium Battery Reachstacker Specification

Distinguishing mark	1.1	Manufacturer		HANGCHA GROUP CO.,LTD.
	1.2	Model designation		RS4531CH-XHJ6
	1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas		Electric
	1.4	Operator type: hand, pedestrian, standing, seated, order-picker		Rider seated
	1.5	Rated capacity/rated load(L1,L2,L3)	Q (kg)	45000/31000/16000
	1.6	Load centre,from front face of types, row 1	c (mm)	1965
		Load centre,from front face of types, row 2	c (mm)	3815
		Load centre,from front face of types, row 3	c (mm)	6315
		Stacking capacity,in container row 1-2-3 of 8'6"/9'6"		5/5-5/4-4/3
	1.8	Lost load centre,to front face of tyres	x (mm)	840
Weight	1.9	Wheelbase	y (mm)	6000
	2.1	Service Weight	kg	72600
	2.2	Axle load,front at load centre L1,unloaded-loaded	kg	33600/99600
		Axle load,front at load centre L2,unloaded-loaded	kg	34200/93600
	2.3	Axle load,rear at load centre L1,unloaded-loaded	kg	39000/18000
Wheels & tyres		Axle load,rear at load centre L2,unloaded-loaded	kg	38400/10000
	3.1	Tyres: solid rubber, superelastic, pneumatic, polyurethane		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)		4x/2
Dimensions	3.6	Tread, front	b10 (mm)	3050
	3.7	Tread, rear	b11 (mm)	2790
	4.1	Telescopic boom lift angle,Raised/lowered	α/β(°)	60/0
	4.2	Height telescopic boom lowered	h1 (mm)	4700
	4.4	Lift (L1,L2,L3)	h2 (mm)	15120/-/-
		Seat height relating to SIP	h3 (mm)	2615
	4.19	Overall length with boom	l1 (mm)	11625
	4.20	Overall length	l2 (mm)	8123
	4.21	Truck width over drive axle	b1 (mm)	4220
		Spreader sideshift	mm	+/-800(1600)
		Spreader rotation	deg	+105/-195
	4.31	Ground clearance minimum	m1 (mm)	400
	4.33	Stacking aisle 20' container	Ast (mm)	11350
	4.34	Stacking aisle 40' container	Ast (mm)	13650
	4.35	Turning radius	Wa (mm)	8100
Performance data	5.1	Travel speed, laden/unladen	km/h	20/22
	5.2	Lift speed, laden/unladen	m/s	0.250/0.420
	5.3	Lowering speed, laden/unladen	m/s	0.360/0.360
	5.6	Drawbar pull, laden/unladen	N	230000
	5.8	Gradeability, laden/unladen	%	20
	5.10	Service brake		Wet disc
Electric-engine	6.1	Drive motor rating S9	kW	214+380
	6.2	Lift motor rating at S9	kW	180+260
	6.4	Battery voltage, nominal capacity K5	V/Ah	618.2/684
Other		Hydraulic Tank - capacity (drain & refill)	liter	600
	8.4	Sound pressure level at the driver`s seat	dB (A)	78
	8.5	Towing coupling,type DIN 15170	mm	φ50



## Fully-suspended all-round vision cab

- / The large-stroke bodily-movable fully-suspended cab can be repaired and maintained easily, can easily switch to the manual movement mode, and easily move.
- / With the vehicle frame damper connected and the tight sound and heat insulation design, most vibration and noise are shielded.
- / The largely-curved front and rear windows, all-glass left and right doors and large glass ceiling enable a broad view.
- / An inclinable telescopic steering column and fully-suspended adjustable seat with a high backrest and safety belt, with seat sensing and driving position sensing functions
- / A high-power cooling and heating air conditioner, two ventilation modes - internal and external circulation, sunshades, speed-adjustable wipers and defrosting function make driving more comfortable.



## Appearance and performance

- / The pitch-down streamlined design of the vehicle presents a vivid and sturdy profile.
- / The optimized counterweight contour greatly reduces the turning radius of the vehicle, broadens the side rear and front rear views, and makes driving simple and safe.
- / The left and right stair handrails, mudguard handrails, together with the anti-skid pedals and anti-skid paper, fully protect the safety of personnel.



## Stylish and comfortable

- / **Fashionable and high-end modeling elements**  
The pitch-down streamlined design presents a vivid and sturdy profile. Smooth coloring and the simple and elegant logo highlight fashionable and high-end design elements.
- / **Ergonomic control platform**  
The ergonomically-designed control platform equipped with reasonably-arranged comfortable-feel buttons enables comfortable and accurate operations, plus the adjustable steering wheel and the suspended seat with an adjustable backrest, making the operator more comfortable.
- / **Quiet, fully-suspended all-round vision cab**  
In the cab, noises are less than 78dB and there are a cooling and heating air conditioner, sunshades, a reading light, a radio and other equipment to provide a comfortable operating environment.



## Standard Specification

- / CATL high-voltage lithium battery
- / Automatic fire extinguishing system for lithium battery
- / Energy recovery
- / Double-gun charging
- / High-voltage interlocking
- / Start-up self-check
- / Insulation monitoring
- / Stepless speed adjustment of double walking motors
- / Vehicle temperature control system
- / Large-stroke movable cab
- / Speed-adjustable wiper
- / High-power cooling and heating air conditioner
- / Dynamic anti-tipping protection
- / Spreader twist-lock double protection
- / Spreader sway prevention
- / Throttle following
- / Joint action
- / Vertical lift
- / Light load high-speed lifting
- / Emergency function
- / Electrical safety protection
- / Automatic fire extinguishing system for vehicle
- / Fault diagnosis system
- / 6-probe visual reverse radar (3m)
- / Maintenance reminding system
- / Concentratedly-controlled lighting system
- / Main power switch
- / Vehicle LED lights

## Options

- / User-specified color
- / Solid tire
- / Tire pressure monitoring
- / Gapped lightning arrester
- / Fire extinguisher (2kg / 4kg)
- / Front view system (optional with a memory)
- / Lock camera
- / Video surveillance system (2 cameras)
- / Video surveillance system (4 cameras)
- / Four-channel driving record system
- / Vehicle intercom
- / Eccentric load weighing system
- / Remote management system

