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ISO9001:2015



ISO14001:2015

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# XC Series 3-Wheel Electric Forklift With Lithium-ion Technology

with capacity of 3,200 to 4,000lbs



**Making Material Handling Easier**  
SINCE 1956



## XC Series 3-Wheel Electric Lithium-ion Pneumatic Forklift

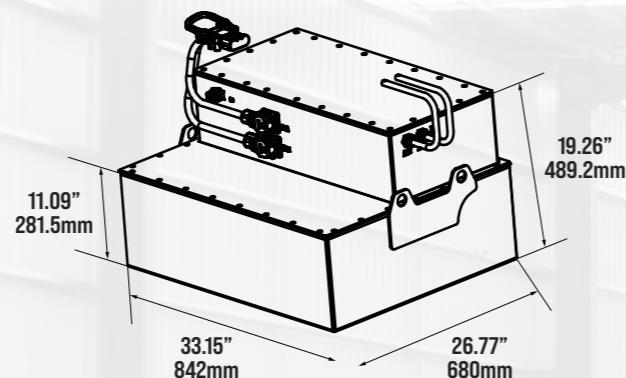
The XC Series 3-Wheel Electric Lithium-ion Pneumatic Forklifts are a series of new 80V dedicated lithium-ion 3-wheel forklifts from Hangcha Group. These forklifts are offered with load capacities ranging from 3,200-4,000lbs. Being a dedicated model, they feature a larger operator space, lower center of gravity, and a more ergonomic design. Combined with the maneuverability of its 3-wheel design, the XC Series 3-Wheel Electric Lithium-ion Pneumatic Forklifts provides operators with a comfortable and highly efficient material handling solution.



# LITHIUM-ION POWER

## CATL Lithium Iron Phosphate Battery Packs

- / Integrated Battery Management System (BMS) continually monitors energy management and ensures reliable operation.
- / HANGCHA provides these Lithium Iron Phosphate (LiFePO<sub>4</sub>) battery packs with up to a 10 year or 20,000 hour warranty.
- / See warranty certificate for specific warranty information on the Lithium Iron Phosphate battery packs.



XC Series 3-Wheel Electric Lithium-ion Forklift Lithium-ion Battery Capacity		
Load Capacity (lb)	Standard Battery Capacity (V/Ah) (kW·h)	Optional Battery Capacity (V/Ah) (kW·h)
3,200-3,600lbs	80V/202Ah 16.16kW·h	80V/271Ah 21.68kW·h
4,000lbs	80V/271Ah 21.68kW·h	80V/375Ah 30.00kW·h

XC Series 3-Wheel Electric Lithium-ion Forklift Lithium-ion Battery Running Times		
Load Capacity (lb)	Standard Battery Running Time (hour)	Optional Battery Running Time (hour)
3,200-3,600lbs	6 hours	8 hours
4,000lbs	6.5 hours	9 hours

\*Run time will be dependent on customer application and use.



### Easy Access Charging Port

The newly designed forklift features an easy access charging port on the right side of the forklift to provide operators with a convenient way to charge the forklift.



### Maintenance-Free Battery Pack

The forklift features a Lithium Iron Phosphate (LiFePO<sub>4</sub>) battery pack that doesn't require any regular maintenance performed on the battery pack.



### <2 Hour Charging Time

The XC Series 3-Wheel Electric Lithium-ion Forklift is able to charge in less than 2 hours when combined with Hangcha's three-phase, single gun charger.



## RELIABILITY

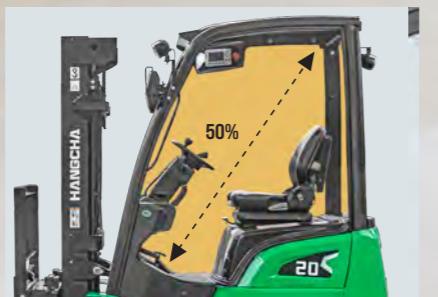
- / The Lithium Iron Phosphate (LiFePO<sub>4</sub>) Battery Pack has been tested over 273 different ways to ensure the battery pack's safety and reliability.
- / The BMS monitors the XC Series 3-Wheel Electric Lithium-ion Forklift's lithium-ion battery pack to ensure that the system is working correctly.
- / The integrated controller ensures smooth and accurate control of the forklift. It provides excellent speed regulation, electronic control of the motors, regenerative braking, reverse braking, and anti-sliding on ramp functions. The controller increases the safety and reliability of the forklift.
- / A high-powered AC hydraulic motor is used. The motor is highly efficient and features built-in speed and temperature sensors to improve the reliability and lifespan of the motor.

# COMFORTABLE OPERATION

In developing the XC Series 3-Wheel Electric Lithium-ion Forklift, ergonomic design, comfort, and ease of operation were carefully considered. This is because comfortable operating environments contribute to increased productivity among operators.

## Ergonomic Design

- / Thanks to the newly designed chassis, the new XC Series 3-Wheel Electric Lithium-ion Forklift features a 50% larger operator compartment when compared to the A Series 3-Wheel Electric Forklift.
- / The dedicated lithium-ion forklift features a lower center of gravity. This gives the XC Series 3-Wheel Electric Lithium-ion Forklift better stability when turning.
- / The adjustable steering wheel and seat position allow for operators to find their ideal operating position.
- / The brake pedal has been enlarged. Combined with the regenerative braking function, these features effectively reduce operator fatigue.



50% Larger Operating Compartment



Adjustable Steering Column

# MANUVERABILITY

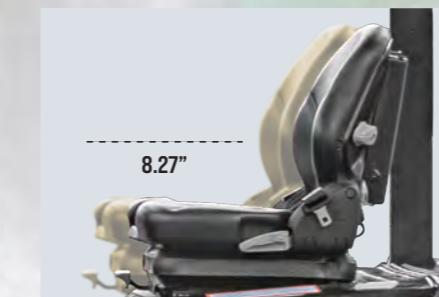
The XC Series 3-Wheel Electric Lithium-ion Forklift provides great maneuverability. The forklift features dual front drive motors and rear wheels that are designed to turn 90 degrees. This allows the forklift to turn 360 degrees, in either direction, within its own footprint. Combined with the forklift's lithium-ion technology, this forklift provides operators with an efficient material handling solution.



Dual Front AC Drive Motors



Rear Wheel that Turns 90 Degrees



Adjustable Seat Position



Great Visibility

## EASY TO MAINTAIN

The XC series is designed to facilitate easy inspections and servicing. Easy maintenance reduces the amount of downtime and decreases the cost of ownership.

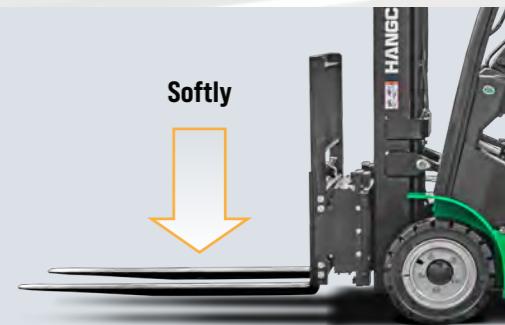
- / The hood, with lockable gas struts, opens at a large angle to provide easy access to important components when maintaining the forklift.
- / The battery door is designed to provide easy access for the inspection and removal of the battery pack.
- / The brake fluid reservoir is accessible from a compartment in the dashboard to easily check the brake fluid.
- / All major components, including the electrical components and motors, are sealed from dust and water to ensure reliable operation indoors and outdoors.



## SAFETY

A wide range of technology is applied to ensure absolute safety for both the operator and those in the vicinity.

- / The Operator Presence Sensing System (OPS) incorporates a lifting, tilting, and traveling stop function. When the operator leaves the seat, the system automatically locks the lifting/tilting functions and disables the forklift from traveling to ensure safety.
- / To prevent operational accidents, the forklift's controller automatically reduces the forklift's speed when turning.
- / There is a locking mechanism found on the engine hood, damper, and parking brake for the operator's safety.
- / An optional rear reverse grip with a horn button enhances operational safety while traveling in reverse.



When the forks are 3.9" to 2.4" from the ground, the **Soft Landing System** decreases the speed that the forks are descending in order to prevent damage to the forklift, materials, and the operational environment. The optional **Lift Buffering System** does the same thing when lifting goods past a certain point

## Standard Configuration

- / CATL Lithium-ion Battery Pack
- / Operator Presence Sensing System (OPS)
- / Dual Front AC Drive Motors
- / High Power AC Hydraulic Motor
- / Low Noise Gear Pump
- / Multi-Function Instrument Cluster

- / Stamped Hood with Gas Shocks
- / Stamped Iron Side Plates
- / Stamped Stainless Steel Boarding Step
- / Parking Handbrake
- / Easy-Access Charging Port
- / Integrated Fuse Box

- / DC-DC Converter
- / SPE Power Selection
- / Dual Hydraulic Multiway Valves
- / Emergency Cut-Off Switch
- / Automatic Deceleration Turning
- / Tow Pin
- / Toolbox & Clipboard

- / Large Integral Rubber Pedal Pad
- / Load Sensing Steering System
- / Limited Free-Lift 2 Stage Mast
- / Soft Landing System
- / LED Combination Headlights & Taillights

## Options

- / Pin Code or Card Access
- / Solid Pneumatic Tire
- / Non-Marking Solid Tires
- / Left & Right Rearview Mirrors
- / Backup Camera
- / Charger
- / Full Cabin

- / Front/Rear Blue Lights
- / Rear Working Lights
- / Freezer Package
- / Rear Reverse Grip with Horn Button
- / Integrated Fingertip Control System

- / Lift Buffering System
- / Full-Free Lift 2 Stage Mast
- / Full-Free Lift 3 Stage Mast
- / Multi-Way Valves
- / Grammer MSG531 Full Suspension Seat

- / Widened/Heightened Load Backrest
- / Widened Fork Carriage
- / Integral Side Shifter
- / Various Fork Lengths
- / Various Optional Attachments

# XC Series 3-Wheel Electric Forklift With Lithium-ion Technology

## 3,200-4,000lb Mast Specification

Distinguishing Marks	1.1 Manufacturer (abbreviation)			HANGCHA GROUP CO.,LTD.			
				FBT16Li	FBT18Li	FBT20Li	
	HCFA Model			CPDS16-XCD8G-SI	CPDS18-XCD8G-SI	CPDS20-XCD8G-SI	
	1.2 Manufacturer Designation			Electric	Electric	Electric	
	1.3 Drive: Electric (Battery or Mains), Diesel, Petrol, Fuel Gas			Seated	Seated	Seated	
	1.4 Operator Type: hand, pedestrian, standing, seated, order-picker						
	1.5 Load Capacity/Rated Load	Q	lb (kg)	3200(1450)	3600(1630)	4000(1815)	
	1.6 Load Centre Distance	c	in (mm)	24(600)	24(600)	24(600)	
	1.8 Load Distance, centre of drive axle to fork	x	in (mm)	14.2(360)	14.2(360)	14.4(365)	
	1.9 Wheelbase	y	in (mm)	50(1270)	50(1270)	55.1(1400)	
Weight	2.1 Service Weight		lb (kg)	6482(2940)	6812(3090)	7055(3200)	
	2.2 Axle Loading, laden front/rear		lb (kg)	8841/1168(4010/530)	9513/1268(4315/575)	10097/1367(4580/620)	
	2.3 Axle Loading, unladen front/rear		lb (kg)	2954/3527(1340/1600)	2943/3869(1335/1755)	3009/4045(1365/1835)	
Tires & Chassis	3.1 Tires: solid rubber, superelastic, pneumatic, polyurethane			Solid	Solid	Solid	
	3.2 Tire Size, front			18x7 - 8	18x7 - 8	200/50-10	
	3.3 Tire Size, rear			15x4.5 - 8	15x4.5 - 8	15x4.5 - 8	
Dimensions	3.5 Wheels, number front rear [x = driven wheels]			2x/2	2x/2	2x/2	
	3.6 Tread, front	b10	in (mm)	36(914)	36(914)	36.7(932)	
	3.7 Tread, rear	b11	in (mm)	7(178)	7(178)	7(178)	
Performance Data	4.1 Tilt of Mast/Fork Carriage Forward/Backward	Grad	(°)	7/6	7/6	7/6	
	4.2 Height, mast lowered	h1	in (mm)	77.9(1978)	77.9(1978)	77.9(1978)	
	4.3 Free Lift	h2	in (mm)	5.5(140)	5.5(140)	5.5(140)	
Battery/Electric Motors	4.4 Lift	h3	in (mm)	118.1(3000)	118.1(3000)	118.1(3000)	
	4.5 Height, mast extended	h4	in (mm)	155.3(3945)	155.3(3945)	155.3(3945)	
	4.7 Height of Overhead Guard STD.	h6	in (mm)	80.3(2040)	80.3(2040)	80.3(2040)	
Additional Data	4.9 Seat Height/Stand Height	h7	in (mm)	39.4(1000)	39.4(1000)	39.4(1000)	
	4.12 Coupling Height	h10	in (mm)	20.5(520)	20.5(520)	20.5(520)	
	4.19 Overall Length	l1	in (mm)	108.7(2760)	108.7(2760)	119.7(3040)	
Performance Data	4.20 Length to Face of Forks	l2	in (mm)	72.4(1840)	72.4(1840)	77.6(1970)	
	4.21 Overall Width	b1	in (mm)	42.8(1086)	42.8(1086)	44.1(1120)	
	4.22 Fork Dimensions	s/e/l	in (mm)	1.4/3.9/36.2(35/100/920)	1.4/3.9/36.2(35/100/920)	1.6/4.8/42.1(40/122/1070)	
Dimensions	4.23 Fork Carriage DIN 15 173 --- ISO 2328, class/type A,B			ISO2328 2A	ISO2328 2A	ISO2328 2A	
	4.24 Fork-Carriage Width	b3	in (mm)	39.4(1000)	39.4(1000)	39.4(1000)	
	4.25 Distance between Fork-Arms	b5	in (mm)	7.9/39.4(200/1000)	9.4/39.4(240/1000)	9.4/39.4(240/1000)	
Performance Data	4.31 Ground Clearance, laden, below mast	m1	in (mm)	3.9(100)	3.9(100)	3.9(100)	
	4.32 Ground Clearance, centre of wheelbase	m2	in (mm)	4.3(110)	4.3(110)	4.3(110)	
	4.33 Aisle Width for Pallets 39" x 47" Crossways	Ast	in (mm)	128(3252)	128(3252)	133.1(3382)	
Dimensions	4.34 Aisle Width for Pallets 31.5" x 47" Lengthwise	Ast	in (mm)	132.9(3375)	132.9(3375)	134.1(3405)	
	4.35 Turning Radius	Wa	in (mm)	57.9(1470)	57.9(1470)	63(1600)	
Performance Data	5.1 Travel Speed, laden/unladen		mph (km/h)	9.9/9.9(16/16)	9.9/9.9(16/16)	9.3/9.3(15/15)	
	5.2 Lift Speed, laden/unladen		fpm (m/s)	88.5/118.1(0.450/0.600)	84.6/108.3(0.430/0.550)	78.7/108.3(0.400/0.550)	
	5.3 Lowering Speed, laden/unladen		fpm (m/s)	90.6/86.6(0.460/0.440)	90.6/82.7(0.460/0.420)	92.5/82.7(0.470/0.420)	
Battery/Electric Motors	5.5 Drawbar Pull, laden/unladen		N	742/877(3300/3900)	719/854(3200/3800)	686/832(3050/3700)	
	5.6 Max. Drawbar Pull, laden/unladen		lbf (N)	2608/2585(11600/11500)	2585/2563(11500/11400)	2518/2473(11200/11000)	
	5.7 Gradeability, laden/unladen		%	16/18	15/17	13/15	
Additional Data	5.8 Max. Gradeability, laden/unladen		%	20/20	18/20	15/18	
	5.9 Acceleration Time, laden/unladen [0-10m]		s	4.7/4.3	4.8/4.4	4.9/4.5	
	5.10 Service Brake			Hydraulic	Hydraulic	Hydraulic	
Battery/Electric Motors	5.11 Parking Brake			Mechanical	Mechanical	Mechanical	
	6.1 Drive Motor Rating S2 60 min		kW	5x2 AC	5x2 AC	5x2 AC	
	6.2 Lift Motor Rating at S3 15%		kW	15 AC	15 AC	15 AC	
Dimensions	6.3 Battery Acc. to DIN 43 531/35/36 A,B,C, no			DIN43531 A	DIN43531 A	DIN43531 A	
	6.4 Battery Voltage, nominal capacity K5		V/Ah	80/202	80/202	80/271	
	6.5 Battery Weight		lb (kg)	485(220)	485(220)	661(300)	
Performance Data	6.7 Energy Consumption Acc. to VDI Cycle		kW·h/h	6.2(4.6)	6.7(5.0)	7.4(5.5)	
	6.8 Min. Battery Weight		lb (kg)	441(200)	441(200)	617(280)	
	6.9 Max. Battery Weight		lb (kg)	661(300)	661(300)	772(350)	
Additional Data	8.1 Type of Drive Control			MOSFET/AC	MOSFET/AC	MOSFET/AC	
	Manufacturer			Inmotion	Inmotion	Inmotion	
	Type			[ACS48S23P+ACS48S-35P] +ACS48S+35P	[ACS48S23P+ACS48S-35P] +ACS48S+35P	[ACS48S23P+ACS48S-35P] +ACS48S+35P	
Dimensions	8.2 Operating Pressure for Attachments		psi (bar)	2176(150)	2176(150)	2176(150)	
	8.3 Oil Volume for Attachments		l/min	35	35	35	
	8.4 Sound Level at the Driver's Ear According to EN / DIN 12 053		dB (A)	73	73	74	
Battery/Electric Motors	8.5 Tow Coupling, type DIN			Φ 24 Pin	Φ 24 Pin	Φ 24 Pin	
	9.1 Hydraulic Tank - Capacity (drain & refill)		liter	33	33	43	

Type	Model	Lifting Height	Lowered Overall Height	Overall Height		Free Lifting Height		Tilt Range		Load Capacity		
				With Backrest	Without Backrest	With Backrest	Without Backrest	F	R	Load Center at 24in		
				in	in	in	in	deg	deg	lbs	lbs	lbs
M250		98.4	68.4	135.6	120.5	5.5	5.5	7	6	3200	3600	4000
M270		106.3	72.4	143.5	128.3	5.5	5.5	7	6	3200	3600	4000
M300		118.1	78.3	155.3	140.2	5.5	5.5	7	6	3200	3600	4000
M330		130	84.2	167.1	152.0	5.5	5.5	7	6	3200	3600	4000
M350		138	88.1	175.0	159.8	5.5	5.5	7	6	3200	3600	4000
M360		141.7	92.0	178.9	163.8	5.5	5.5	7	6	3200	3600	4000
M400		157.5	101.9	194.7	179.5	5.5	5.5	7	6	3200	3600	4000
M430		170	107.8	206.5	191.3	5.5	5.5	7	6	2998</		