

LI-ION
TECHNOLOGY

INNOVATIVE LITHIUM-ION



A Series Electric Lithium-ion Tow Tractor

with capacities of 4,500 to 13,500lbs

The World of Hangcha
SINCE 1956



LET THE LITHIUM POWER UNLEASH



HANGCHA PROVIDES UP TO A
5 YEAR OR 10000 HOUR GUARANTEE
ON THE LITHIUM-ION BATTERY PACKS.

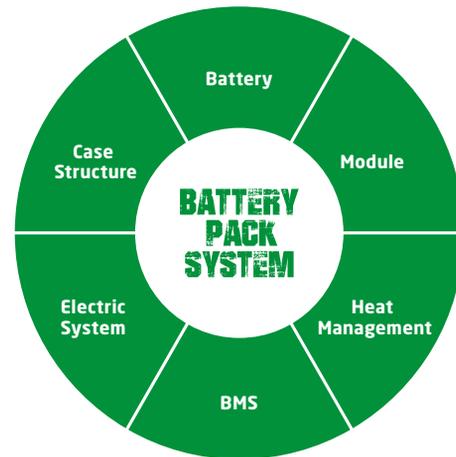


5 YEAR
WARRANTY

INNOVATIVE SOLUTIONS NEW POWER NOW

Lithium-ion technology (Lithium Iron-Phosphate), was developed jointly by HANGCHA and CATL for use in material handling equipment applications. These innovative and reliable battery cells and modules are manufactured to the highest standard by CATL exclusively for HANGCHA's forklift line.

- / **Battery Technology:** We use square lithium iron phosphate batteries. These are the same type of batteries used in new electric vehicles.
- / **Design:** The module uses a sturdy and lightweight aluminum alloy frame. It is also designed to provide excellent heat dissipation.
- / **Safe and Effective:** Charging efficiency as high as 98% and the thermal runaway temperature is at 600 °C and above.
- / **Adapted to Low Temperatures:** Comes standard with an electrical heating feature, ensuring normal operation in low temperatures.
- / **Quick Charging:** Fully charges in 2 hours.
- / **Efficient:** Can use opportunity charging to allow for continuous use in multi-shift operations.
- / **Long-Lasting:** 4000 charging cycles with a capacity retention greater than 80%.
- / **Maintenance-Free:** Lithium-ion batteries do not require manual maintenance such as watering.
- / **Green and clean:** The batteries are pollution-free, release zero emissions, and are recyclable.



CATL Lithium Iron Phosphate Battery Pack

Integrated Battery Management System (BMS) continually monitors energy management and ensures reliable operation. HANGCHA provides these Lithium Iron Phosphate (LiFePO4) battery packs with up to a 5 year or 10,000 hour warranty. See warranty certificate for specific warranty information on the Lithium Iron Phosphate battery packs.

RAPID CHARGING

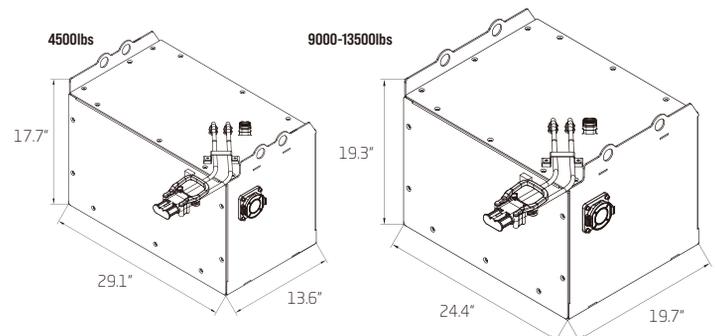
Li-Ion
2 hours
100%

Lead-acid batteries
8-10 hours **100%**

Rapid and opportunity charging ensure continuous availability of material handling equipment

The chargers allow for fast full charging or boost charging (100 % charge in 2 hours). The lithium-ion batteries are maintenance free and do not require a battery change when used in multi-shift operations. Instead, the batteries can be charged during user breaks and shift changes which allows the forklift to continuously run during multi-shift operations.

Battery Capacity	Standard
Battery Capacity (V/Ah) (kW-h)	48V/202Ah 9.70W-h



Titan Charger (48V/100Ah)



A Series Electric Lithium-ion Tow Tractor

The compact A Series Electric Lithium-ion Tow Tractor features Hangcha's advanced AC drive control technology. This combined with our new Lithium Iron Phosphate Battery Packs provides the tractor with excellent performance, safe and reliable operation, and low maintenance costs. The lithium-ion powered tow tractor is a highly efficient tool perfect for keeping materials flowing among different zones in workshops, flow lines, airports, and large manufacturing facilities.

**Simple
Solid
Smart**



Appearance

- / The A Series Electric Lithium-ion Tow Tractor has a smooth vivid profile and was designed to be ergonomic. The exterior of this forklift is powder coated in a durable, easy to see, green finish that designates it as a lithium-ion powered tow tractor.
- / This tow tractor uses stamped steel plates and injection molded parts. This creates a robust and durable product that is able to successfully take on the wear and tear of its operational environment.

High Performance

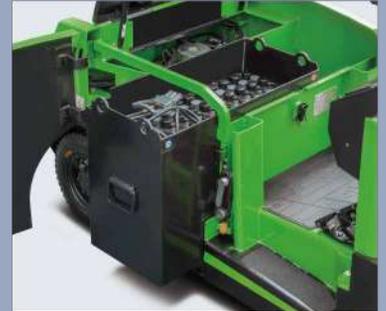
- / The tow tractor features electric power steering as a part of its standard configuration. This makes maneuvering and load handling extremely easy.
- / The brushless AC travel motor features excellent acceleration, outstanding climbing ability, low heat emission, and is maintenance-free.
- / The latest CURTIS AC control system is highly efficient thanks to its accurate and stable control.
- / The CANBUS structure makes communication between all of the machine's functions faster and more reliable.

Comfort

- / The LED headlights provide excellent illumination. This allows the operator to better see their operational environment when it is dark.
- / The multi-functional instrument display allows the operator to easily display different information and change many of the tow tractor's functions.
- / The front and rear axle suspension structure provides a comfortable operating experience when traveling in the tow tractor.
- / The standard USB charging port and mobile phone slot provide a convenient place for the operator to charge and store their phone.
- / The inching buttons are located on the back rear quarter panel of the tow tractor's body. This allows the operator to move the tractor forward and backward and engage the towing mechanism without needed to get in and out of the tractor.



Reliable LED lighting



The Tow Tractor features a battery side roll out in order to replace the battery fast and easy.



Modern Outline Design with a LCD Instrument Display and USB Charging Port



Electrical Park Brake System



The tow tractor has a safety feature where it can only travel if the battery locking pin is correctly rotated.



Reliability

- / The three-support points, low center of gravity, and the high-strength steel framed design feature a large residual load capacity, durability, and a long service life.
- / All wires and cables are protected to significantly increase the reliability of the tow tractor's electrical system.
- / Important components, such as the switches, connector clips, and instruments, are all parts from industry known suppliers to ensure reliability, performance, and ease of service.

Maintenance

- / The brushless AC drive motor is maintenance-free. This significantly reduces the operating costs of the tow truck.
- / The integrated battery indicator, hour meter, and self-diagnostic instrument are all easy to use.
- / The maintenance hatch opens to allow for easy access to all of the truck's components.

Safety

- / The tractor slows down when cornering as a part of the standard configuration to improve stability and safety.
- / The Electrical Park Brake provides a safe and convenient addition to the standard configuration of the truck.
- / With the pedal sensing system, the tow tractor can be driven only if the operator has their foot on the pedal. If the operator takes their foot off the pedal, then the tractor comes to a stop to prevent an accident.





Standard Specification

- / AC Traction Motor
- / Automatic Deceleration when Turning
- / Key Switch
- / USB Charging Port
- / LED Headlights
- / LED Taillights
- / Battery Side Extraction
- / Creep Speed Function
- / Safety Pedal
- / Emergency Cut Off Switch
- / Electronic Parking Brake System
- / Traction Device
- / Horn
- / Inching Switch

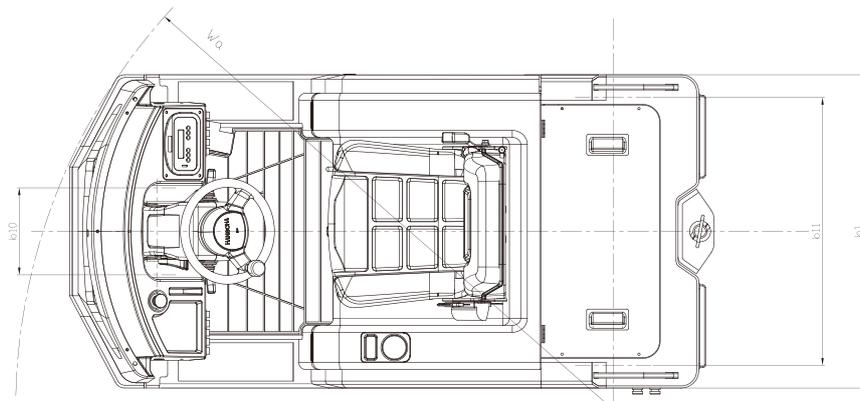
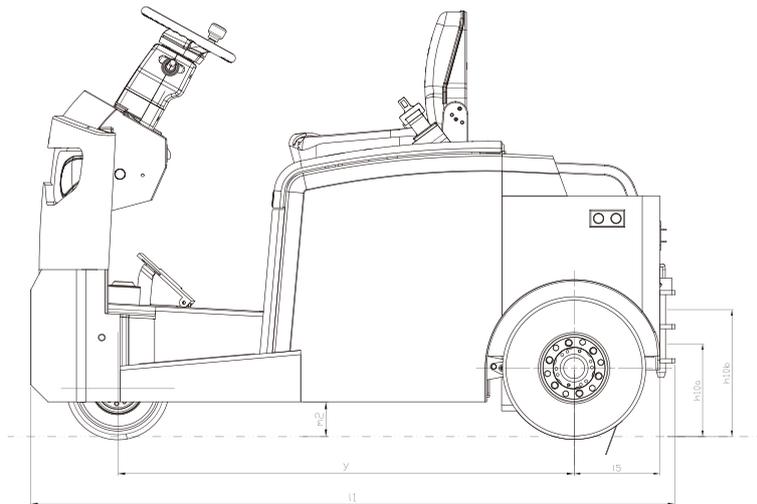
Options

- / Fully-Enclosed Cabin
- / Semi-Closed Cabin
- / Suspension Seat
- / Left and Right Mirrors
- / Solid Pneumatic Tires
- / Strobe Light



A Series Electric Lithium-ion Tow Tractor Specification

Distinguishing Marks	1.1	Manufacturer	HANGCHA GROUP CO.,LTD.			
			HCFA Model	BT20Li	BT40Li	BT60Li
1.2	Manufacturer's Type Designation		QDD20-AC1-I	QDD40-AC1-I	QDD60-AC1-I	
1.3	Drive: electric (battery or mains), diesel, petrol, fuel gas		Electric	Electric	Electric	
1.4	Operator Type: hand, pedestrian, standing, seated, order-picker		Seated	Seated	Seated	
1.5	Rated Capacity/Rated Load	Q(lb/t)	4400/2	8800/4	13200/6	
1.7	Rated Drawbar Pull	F(lbf/N)	112.5/500	225/1000	337.5/1500	
1.9	Wheelbase	y(in/mm)	45.1/1145	51.4/1305	51.4/1305	
Weight	2.1	Service Weight (Including battery)	1938/880	2379/1080	2533/1150	
Wheels & Tires	3.1	Tires: solid rubber, superelastic, pneumatic, polyurethane	Pneumatic	Pneumatic	Pneumatic	
	3.2	Tire Size, front	3.50-5-6PR	3.50-5-6PR	3.50-5-6PR	
	3.3	Tire size, rear	4.00-8-6PR	4.00-8-6PR	4.00-8-6PR	
	3.5	Wheels, number front / rear (x = driven wheels)	1/2x	2/2x	2/2x	
	3.6	Tread, front	b10 (in/mm)	0	9.8/250	9.8/250
	3.7	Tread, rear	b11 (in/mm)	30.3/770	30.3/770	30.3/770
	Dimensions	4.1.2	Coupling Height	h10 (in/mm)	14.4/365.10.5/267	14.4/365.10.5/267
4.1.7		Overhang	l5(in/mm)	9.6/245	9.6/245	
4.1.9		Overall Length	l1 (in/mm)	66.3/1684	72.6/1844	72.6/1844
4.2.1		Overall Width	b1(in/mm)	35.4/900	35.4/900	35.4/900
4.3.2		Ground Clearance, centre of wheelbase	m2 (in/mm)	3.9/100	3.9/100	3.9/100
4.3.5		Turning Radius	Wa (in/mm)	63/1600	69.4/1763	69.4/1763
Performance	5.1	Travel Speed, laden/unladen	m/ph km/h	3.7/8.1 6/13	3.7/8.1 6/13	3.7/8.1 6/13
	5.6	Max. Drawbar Pull	lbf/N	450/2000	900/4000	1012.5/4500
	5.7	Gradeability, laden/unladen	%	5/25	5/25	5/25
Electric Motor	6.1	Drive Motor Rating at S2 60 min	hp/kW	2.61/1.95	5.74/4.28	5.74/4.28
	6.4	Battery Voltage	V/Ah	48/202	48/202	48/202
		Controller Module		CURTIS	CURTIS	CURTIS





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HANGCHA FORKLIFT CANADA INC.

Company address:

6-980 Rue Valois, Vaudreuil-Dorion,
QC, J7V 8P2, Canada

Toll Free: 877-319-HCFC (4232)

Landline: 450-319-HCFC

info@hcforkliftcanada.com

www.hcforkliftcanada.com



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