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# A series Electric Tow Tractor

with capacities of 2,000 to 6,000kg



HANGCHA Group Co., LTD behält sich das Recht vor, Änderungen bezgl. Farbe, Spezifikationen, Ausstattung und sonsstige Details, dierer Bröschüre ohne Vorankündigung vorzunehemn. Fahrzeugfarben können von den Farben in dieser Brochure abweichen.



The World of Hangcha







HC provides Li-lon battery (LiFePO4) with 6 years or 12000 hours warranty.



# INNOVATIVE SOLUTIONS NEW POWER NOW

- / We use square lithium iron phosphate batteries and modules used in large quantities by commercial vehicles in mature economies.
- / The module uses an aluminum alloy frame which is sturdy, lightweight and with excellent heat dissipation.
- / Safe and effective: Charging efficiency as high as 98%, thermal runaway temperature 600  $\,{}^\circ\!C$  or above.
- / Adapted to low temperatures: Comes standard with an electrical heating feature , ensuring normal operation in low temperatures.
- / Quick charging: 2 hours full charge, economic use of each break.
- / Long-working: 4000 charging cycles, capacity retention greater than 75%.
- / Maintenance-free: Battery does not require manual maintenance.
- / Green and clean: Pollution-free, zero emissions.



Lead-acid batteries 8-10 hours 100%

## Rapid charging and opportunity charging ensure continuous availability of vehicles.

Li-lon powered forklifts are always available. They allow for fast full charging or boost charging (100 % charge in 2 hours). They are maintenance free and do not require a battery change when used for multi-shift operations.

#### **Li-Ion Battery Pack specification**

| Туре           |      | QDD20-AC2-I* | QDD20-AC2S-I* | QDD40-AC2-I* | QDD40-AC2S-I* | QDD60-AC2-I* | QDD60-AC2S-I* |
|----------------|------|--------------|---------------|--------------|---------------|--------------|---------------|
| Li-lon battery | V/Ah | 48/228       | 48/228        | 48/228       | 48/228        | 48/228       | 48/228        |

Note: \* CE model



# **A series Electric Tow Tractor**

As for A series of tractors, the advanced AC drive control technology is adopted for the complete tractor. The tractor has excellent performance, can be operated comfortably, is safe and reliable, has low maintenance cost and is the high-efficiency tool for resolving material transport among different zones for the workshops, flow lines and large factories.



#### Appearance

- / The professional appearance industrial design is adopted. The complete tractor has smooth lines, presents the dynamics. The ergonomics is fully considered to meet the latest appearance design fashion.
- / The steel plate stamping and injection moulding technology is used extensively, the tractor is firm and durable and can meet the environmental protection requirements.

#### **High performance**

- / For the stand-up driving tractor, the electronic power steering is taken as the standard configuration to
- achieve easier and more flexible operation and control.
- / The AC traction motor features excellent acceleration performance, outstanding climbing ability, low heat emission, and is brushless, and maintenance-free.
- / The advanced AC control system realizes accurate and stable control, and higher efficiency.
- / The CANBUS bus structure makes communication of the entire machine faster and more reliable.

### Comfortability

- / LED headlight is taken as the standard configuration; the headlight has good appearance and offers bright light.
- / Multifunctional instrument is taken as the standard configuration, has such many functions as speed selection and so on, and can clearly display different information of the tractor.
- / The suspension structure is adopted for the front axle and rear axle to greatly enhance the operator's comfortability during tractor traveling.
- / USB charging port and mobile phone placement slot are taken as the standard configuration for conveniently charging the mobile phone and providing convenience for the operator.
- / The advancing and retreating buttons are provided at the tail of the tractor body, so that the tractor can be operated to move forward and backward while manipulating the traction device and it does not need to frequently go aboard and get off during operation.



Reliable LED lighting



Battery side roll out is taken as the standard configuration in order to easily and fast replace the battery



Modern outline design with LCD nstrument and USB charging port



Electrical Park Brake (EPB) system



The locking device of the battery is provided with the safety protection function. Only if the locking device is rotated in place, the tractor can travel



#### Reliability

- / The three-support-point and low-gravity-center design is adopted. The high-strength steel plate framed structure is adopted for the chassis. The tractor has long service life.
- / All of wires and cables are provided with reliable protection, and the electrical system reliability is greatly improved.
- / Such important components as switches, connector clips, instruments and so on are imported from foreign countries, and have excellent performance and reliable quality.

#### Maintenance

- / The brushless, maintenance-free AC motor reduces operation cost significantly.
- / The meter integrating battery indicator, timer, and fault self-diagnosis is convenient for maintenance.
- / The front bottom plate and rear cover plate can be easily dismantled, and such parts and components as braking pump, electric control device, motor and so on can be conveniently maintained.

### Safety

Options

/ Semi-closed cabin

/ Reflecting mirror

/ Big capacity battery

/ Alarm lamp

/ Solid tyre

/ Fully-enclosed driver's cabin

- / Turning slow down function is taken as the standard configuration to guarantee stable and safe turning of the tractor.
- / The Electrical Park Brake (EPB) is taken as standard configuration to achieve greater convenience and safety.
- / The safety pedal is taken as standard configuration. The other operations can be made only if the pedal is trampled. In this way, safety is enhanced.

/ Suspension seat (for seating driving type tractor)

### **Standard specification**

#### / AC traction motor

- / Automatic deceleration at turns
- / Key switch
- / USB charging port
- / LED headlight
- / LED tail light
- / Battery side roll out
- / Creep speed function

- / Emergency power-off switch / Electrical Park Brake (EPB) system
- / Traction device
- / Electrostatic conductive belt
- / Horn
- / Inching switch

Electronic power steering system (for stand-up driving type tractor)



#### A series Electric Tow Tractor specification

|                        | 1.1  | Manufacturer  |          | HANGCHA GROUP CO.,LTD.  |                           |                         |                           |                         |                           |  |
|------------------------|------|---|----------|-------------------------|---------------------------|-------------------------|---------------------------|-------------------------|---------------------------|--|
| Distinguishing<br>mark | 1.2  | 2 Manufacturer's type designation                               |          | QDD20-AC2*<br>QDD20-AD2 | QDD20-AC2S*<br>QDD20-AD2S | QDD40-AC2*<br>QDD40-AD2 | QDD40-AC2S*<br>QDD40-AD2S | QDD60-AC2*<br>QDD60-AD2 | QDD60-AC2S*<br>QDD60-AD2S |  |
| rish<br>F              | 1.3  | Drive: electric (battery or mains), diesel, petrol, fuel gas    |          | Electric                | Electric                  | Electric                | Electric                  | Electric                | Electric                  |  |
| ngu                    | 1.4  | Operator type: hand, pedestrian, standing, seated, order-picker |          | Seated                  | Standing                  | Seated                  | Standing                  | Seated                  | Standing                  |  |
| isti                   | 1.5  | Rated capacity/rated load                                       | Q(t)     | 2                       | 2                         | 4                       | 4                         | 6                       | 6                         |  |
|                        | 1.7  | Rated drawbar pull  |          | 500                     | 500                       | 1000                    | 1000                      | 1500                    | 1500                      |  |
|                        | 1.9  | Wheelbase   | y(mm)    | 1145                    | 1145                      | 1305                    | 1305                      | 1305                    | 1305                      |  |
| Weights                | 2.1  | Service Weight (Including battery)                              | kg       | 880                     | 880                       | 1080                    | 1080                      | 1150                    | 1150                      |  |
| Wheels,Tyres           | 3.1  | Tyres: solid rubber, superelastic, pneumatic, polyurethane      |          | Pneumatic               | Pneumatic                 | Pneumatic               | Pneumatic                 | Pneumatic               | Pneumatic                 |  |
|                        | 3.2  | Tyre size, front  |          | 3.50-5-6PR              | 3.50-5-6PR                | 3.50-5-6PR              | 3.50-5-6PR                | 3.50-5-6PR              | 3.50-5-6PR                |  |
|                        | 3.3  | Tyre size, rear   |          | 4.00-8-6PR              | 4.00-8-6PR                | 4.00-8-6PR              | 4.00-8-6PR                | 4.00-8-6PR              | 4.00-8-6PR                |  |
|                        | 3.5  | Wheels, number front / rear (x = driven wheels)                 |          | 1/2x                    | 1/2x                      | 2/2x                    | 2/2x                      | 2/2x                    | 2/2x                      |  |
|                        | 3.6  | Tread, front  | b10 (mm) | 0                       | 0                         | 250                     | 250                       | 250                     | 250                       |  |
|                        | 3.7  | Tread, rear   | b11 (mm) | 770                     | 770                       | 770                     | 770                       | 770                     | 770                       |  |
| Dimensions             | 4.12 | Coupling height   | h10 (mm) | 365/267                 | 365/267                   | 365/267                 | 365/267                   | 365/267                 | 365/267                   |  |
|                        | 4.17 | Overhang  | ls(mm)   | 245                     | 245                       | 245                     | 245                       | 245                     | 245                       |  |
|                        | 4.19 | Overall length  | l1 (mm)  | 1684                    | 1684                      | 1844                    | 1844                      | 1844                    | 1844                      |  |
|                        | 4.21 | Overall width   | b1(mm)   | 900                     | 900                       | 900                     | 900                       | 900                     | 900                       |  |
|                        | 4.32 | Ground clearance, centre of wheelbase                           | m2 (mm)  | 100                     | 100                       | 100                     | 100                       | 100                     | 100                       |  |
|                        | 4.35 | Turning radius  | Wa (mm)  | 1600                    | 1600                      | 1763                    | 1763                      | 1763                    | 1763                      |  |
| Performance            | 5.1  | Travel speed, laden/unladen                                     | km/h     | 6/13                    | 6/13                      | 6/13                    | 6/13                      | 6/13                    | 6/13                      |  |
|                        | 5.6  | Max. Drawbar pull   | N        | 2000                    | 2000                      | 4000                    | 4000                      | 4500                    | 4500                      |  |
|                        | 5.7  | Gradeability, laden/unladen                                     | %        | 5/25                    | 5/25                      | 5/25                    | 5/25                      | 5/25                    | 5/25                      |  |
| Electric<br>engine     | 6.1  | Drive motor rating S2 60 min                                    | kW       | 1.95                    | 1.95                      | 4.28                    | 4.28                      | 4.28                    | 4.28                      |  |
|                        | 6.2  | Type of drive motor   |          | AC                      | AC                        | AC                      | AC                        | AC                      | AC                        |  |
|                        | 6.4  | Battery voltage, nominal capacity K5,Standard                   | V/Ah     | 48/165                  | 48/165                    | 48/210                  | 48/210                    | 48/275                  | 48/275                    |  |
|                        | 0.4  | Battery voltage, nominal capacity K5,Optional                   | V/Ah     | 48/180~210              | 48/180~210                | 48/220~350              | 48/220~350                | 48/280~350              | 48/280~350                |  |
|                        |      | Controller  |          | CURTIS<br>INMOTION      | CURTIS<br>INMOTION        | CURTIS<br>INMOTION      | CURTIS<br>INMOTION        | CURTIS<br>INMOTION      | CURTIS<br>INMOTION        |  |

/ Safety pedal (for seating driving type tractor)







