ELECTRIC HEAVY DUTY FORKLIFT SERIES

HNF120-EL

SOCMA POWER
LIFT YOUR BUSINESS

FUJIAN SOUTHCHINA HEAVY MACHINERY MANUFACTURE CO., LTD
http://www.socmachinery.com

HNF120-EL PURE ELECTRIC HEAVY-DUTY FORKLIFT

INNOVATION

- Not merely substituting diesel engines with electric motors, but also a complete optimization of the hydraulic system.
- Independently developed variable-speed load-sensitive control system with hydraulic parameter closed-loop feedback, torque prediction, and direct torque control, global power matching, on-demand oil supply, reducing throttle and overflow losses.
- Coordinated control of multiple motors with reasonable load matching, optimized energy management for efficient operation; time-sharing work, automatic idle shutdown to reduce energy consumption of motor and pump idling.
- 540V high-voltage solution to reduce current; high-efficiency permanent magnet synchronous motor, intelligent gate drive variable-speed control, extremely low heat generation, saving 20% of electricity compared to asynchronous motors.
- Regenerative power generation for various negative load operations, based on energy recovery from power lithium batteries, improving the overall energy utilization rate of the machine.

KEY FEATURES

Economical:

- Low operating costs: Electricity costs are approximately 20-30% of traditional construction machinery fuel consumption. (Depends on local electricity costs)
- Low maintenance costs: Few consumables, low failure rate, and simple maintenance; no need for regular diesel engine maintenance, such as oil changes and filter replacements, reducing maintenance costs by over 50% compared to traditional diesel construction machinery.

Safe, efficient, and long-life battery system, with a normal service life of 8-10 years, addressing user concerns.

- Uses lithium iron phosphate batteries with good thermal stability, resolving risks of spontaneous combustion or explosion due to thermal runaway, fundamentally improving safety over ternary lithium batteries.
- Lithium iron phosphate batteries can be deeply charged and discharged over 4,000 times, with a service life about 2.5 times that of ternary lithium batteries and 5-10 times that of lead-acid batteries.
- Advanced Battery Management System (BMS) for round-the-clock real-time safety monitoring of overcharging, over-discharging, overcurrent, insulation resistance, and battery operating temperature, ensuring the safety, efficiency, and longevity of each battery pack.

RELIABLE HIGH PERFORMANCE:

- Electric vehicle-grade motors and controllers, whole vehicle component status monitoring, electrical system with IP67 protection level, high-quality, mature hydraulic components, and flame-retardant material wiring, reliable and durable for harsh working environments.
- Intelligent electronic fan, high-efficiency liquid cooling system to prevent overheating shutdowns.
- The battery comes with a heating film for normal operation in environments ranging from -30 to +55°C (-22°F to 131°F).
- Fully electric control of the working device with multi-mode switching for safer handling of precision equipment; independent motor drive for travel, electronic throttle system, and automatic multi-gear transmission to accommodate various working conditions.

STRONG ENDURANCE:

- Independently developed integrated drive solution and management control system, distributed multi-motor hydraulic system, operating in high-efficiency ranges, with regenerative power generation from kinetic energy during travel braking and potential energy from cargo descent, significantly reducing power consumption and enhancing endurance under the same conditions.
- 141 kWh high-capacity lithium battery, with 1.5 to 2 hours of charging for 8 hours of continuous work.

COMFORTABLE AND ENVIRONMENTALLY FRIENDLY:

- Zero emissions and pollution: No exhaust emissions during operation.
- Low noise: Much quieter during operation compared to high-power diesel engines in construction machinery.
- Low vibration: Significantly less vibration than diesel engines, greatly improving the driving experience.
- Easy to operate: Intelligent, fully electric control system reduces physical labor.

Item	Unit	HNF120-EL
Power Source		Electricity
Rated load	(kg)	12000
Load center	(mm)	600
Wheelbase	(mm)	3000
Deadweight	(kg)	18000
Tire specifications: front		"10.00-20-16PR"
Tire specifications: rear		10.25-20-14PR
Number of wheels front/rear		4x/2
Wheel track: Front	(mm)	1650
Wheel track: Rear	(mm)	1970
Mast front/rear tilt angle	(°)	6\12
Min. Mast height (lowered)	(mm)	3100
Standard lifting height	(mm)	3000
Maximum height during operation	(mm)	4600
Overhead guard height (cab height)	(mm)	3000
Total length (including fork)	(mm)	6000
Distance from the vertical front surface of the fork to the rear end of the vehicle	(mm)	4800
Overall width	(mm)	2250
Fork size	(mm)	1200×180×80
Fork carriage width	(mm)	2200
Minimum ground clearance under mast (fully loaded)	(mm)	210
Minimum ground clearance at wheelbase center (fully loaded)	(mm)	300
Minimum turning radius	(mm)	4600
Travelling speed (full load/no load)	km/h	20/22
Maximum lifting speed (full load/no load)	mm/s	310/340
Maximum lowering speed (full load/no load)	mm/s	315/260
Gradeability (full load)	%	20%
Service brake		caliper disc brake
Parking brake		Caliper disc spring brake
Battery Type		Lithium Iron Phosphate
Battery cooling method		Air cooling
Rated Energy Storage Capacity	kWh	141
Rated capacity	Ah	202
Nominal Voltage	V	541
Full charge and discharge cycles	Sec-	2800
Charging time	ond-rate	1-1.5
Power consumption	h	16-20
Motor Type	kWh/h	Permanent magnet synchronous motor
Motor rated power		60
Transmission Type	kW	Automatic
Motor Type		Permanent magnet synchronous motor
Motor rated power		74
System pressure	kW	20
Steering Type	MPa	Full hydraulic steering
Steering pressure		14
Steering method	MPa	Horizontal cylinder steering

Note: The above data are subject to change without prior notice

Address: Fujian Quanzhou Taiwanese Investment Area
International Sales Tel: 0086-592-5650603
Domestic Sales Tel: 0086-595-27393198
Email: overseas@socmachinery.com
Website: http://www.socmachinery.com
@ SOCMA Material Handling
@ SOCMA GROUP