EP EQUIPMENT PRO

EFL1803-HV-12

HIGH CAPACITY ELECTRIC COUNTERBALANCED FORKLIFT 18T

18000 kg 8000 mm

Undeniable Power For Challenging tasks

The EFL1603/1803-HV is designed for handling exceptionally heavy and bulky loads in industries such as construction, concrete, and aircraft servicing. With optimized dimensions, these trucks offer improved maneuverability and operational flexibility.

SPECIFICATION	REF	UNIT	VALUE
Manufacturer			EP
Model designation			EFL1803-HV-12
Battery voltage/nominal capacity		V/Ah	618.24/228
Rated capacity	Q	kg	18000
Load centre distance	c	mm	1200
Service weight		kg	26800
Height, mast lowered	h_1	mm	3700
Lift	h_3	mm	4000
Height, mast extended	h_4	mm	5660
Overall length	l_1	mm	7950
Overall width	b_1/b_2	mm	2530
Length to face of forks	l_2	mm	5550
Fork dimensions	s/e/l	mm	110×250×2400
Turning radius	Wa	mm	5175
Drive			Electric
Operator type			Seated

Features

High Performance: High speed and high gradeability

High-voltage Li-ion batteries enable more power delivery to motors, improving acceleration and travel speeds for high-capacity trucks. PMSMs complement this with rapid response times, swiftly reaching required speeds and torques. This combination of PMSM and high voltage can provide stable and strong power output, which further gives high-capacity trucks excellent climbing capabilities ensuring that the forklift can cope with various applications with ease.

The high-voltage model offers a 1.5-2 times performance improvement over the low-voltage model. Taking the 10-ton model as an example:
100% improvement in travel speed for high voltage models in laden and unladen conditions.
The high-voltage model demonstrates a 45% faster lifting speed.
100% improvement in gradeability when unladen, 45% improvement when laden for high voltage models.

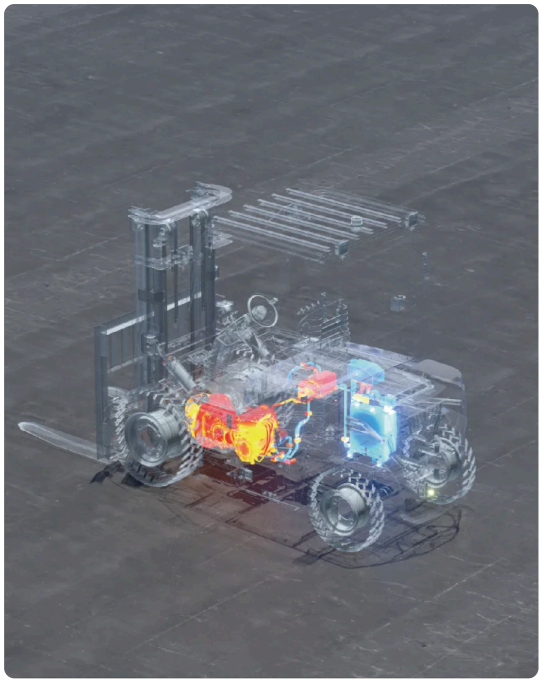
Energy Efficiency: extended runtime and fast charging

High-voltage Li-ion batteries have high energy density and can store more electrical energy within a compact volume. Notably, these high-voltage Li-ion batteries boast an impressive cycle life of up to 4000 cycles, ensuring long-term durability and minimizing the need for battery replacements.

The PMSMs incorporate advanced control technology to optimize motor efficiency. Unlike traditional AC motors, PMSMs have higher energy conversion efficiency and reduce energy waste.

Equipped with fast charging capabilities, the high-voltage models are compatible with vehicle-grade charging stations and support 1C charging rating, allowing them to be fully charged in as fast as 1-1.2 hours. This minimizes downtime and maximizes productivity, making it ideal for multi-shift operations.

Safety Assured: Battery, motor protection, monitoring and mast buffering



The central controlling module- VCU (Vehicle Control Unit) extends the safety of the high-voltage forklifts. VCU provides precise control and real-time monitoring of critical parameters to ensure the truck operates within safe limits.

It also features turn speed control, which adjusts the forklift's speed based on the turning angle, ensuring stability during turns. An over-speed alarm alerts the operator if the forklift exceeds the safe speed limit.*

The high-capacity forklift mast is equipped with a hydraulic buffering system that ensures smooth lifting and lowering of loads. The mast width and the mast-to-chassis connection have been widened, providing a wider field of vision and better stability at height, allowing operators to handle loads with greater confidence and precision.

Smart and reliable strategy for thermal management

The high-capacity trucks utilize three distinct cooling systems to ensure optimal performance and reliability. Specifically, two water cooling systems are employed for the motor and the battery, while an oil cooling system is dedicated to the hydraulics system. The upgraded 2-in-1 water cooling unit simplifies pipeline layout, improving system efficiency and reducing potential leakage points while maintaining excellent cooling performance.

The water cooling systems provide superior cooling performance, preventing the truck from overheating even under the most demanding conditions or in the heat of summer.

Additionally, water cooling systems typically operate with less noise compared to air cooling systems that rely on high-speed fans.

The oil cooling system, on the other hand, is used for the hydraulics system. This system ensures that the hydraulic components remain within optimal temperature ranges, thereby maintaining their efficiency and preventing overheating.

Low maintenance: Longer battery life span and reliable components

Operating at a higher voltage allows the battery to be designed with fewer individual cells. The integrated battery pack design further streamlines the structure, improving reliability while reducing maintenance complexity and potential failure points.

The integrated hydraulic motor design further simplifies the system, improving reliability while reducing maintenance. Key components including the motor, controller and in-house developed battery are all IP67 rated and equipped with water-cooling, ensuring stable performance under demanding conditions.

ZERO EMISSIONS

Sustainability : Zero emissions for cleaner environment

As fully electric trucks powered by lithium-ion batteries, these forklifts produce zero emissions during operation, eliminating exposure to toxic fumes like carbon monoxide and nitrogen oxides. Unlike lead-acid batteries which can leak corrosive acid, lithium-ion batteries do not risk hazardous spills. The high-capacity li-ion trucks contribute to a cleaner and safer indoor working environment without compromising handling capabilities.

Strong adaptability adaptable to harsh outdoor weather conditions

Experience uninterrupted productivity through rain, puddles, and damp conditions with the overall IPX4 rating. Plus an exceptional IP67 rating for high-voltage components. Engineered to withstand harsh temperature, high-capacity trucks offer an ambient temperature range of -20 ℃ ~40 ℃ allowing them to perform no matter climate.

Battery heating when charging comes as a standard function for high capacity models, which is activated when the surrounding temperature is below zero to always offer an optimal temperature range for efficient and safe charging even in cold weather conditions.

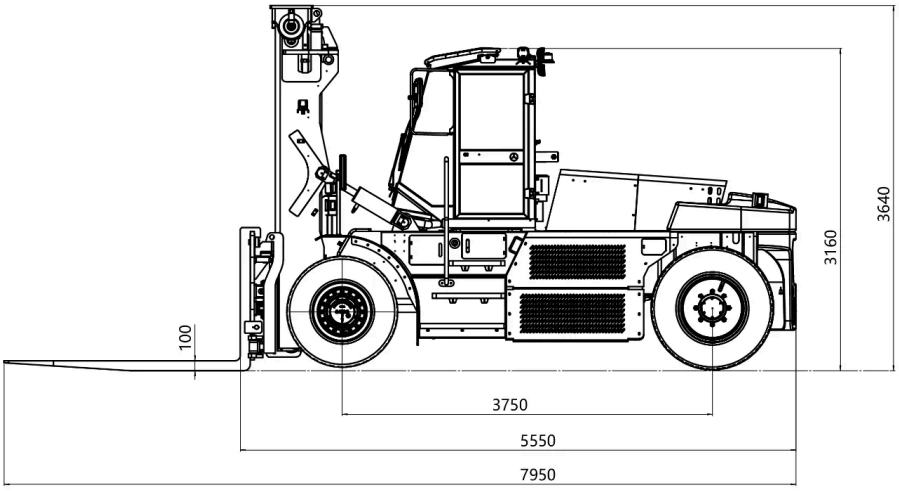
VDI Chart

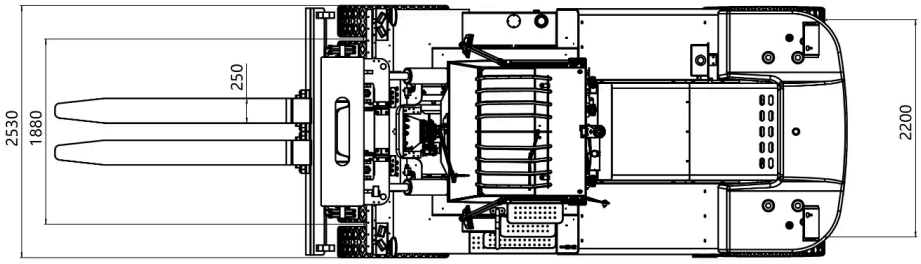
	SPECIFICATION	REF	UNIT	VALUE
1.1	Manufacturer			EP
1.2	Model designation			EFL1803-HV-12
1.3	Drive			Electric
1.4	Operator type			Seated
1.5	Rated capacity	Q	kg	18000
1.6	Load centre distance	c	mm	1200
1.8	Load distance, centre of drive axle to fork	x	mm	1040
1.9	Wheelbase	y	mm	3750
2.1	Service weight		kg	26800
2.2	Axle loading, laden front/rear		kg	41470/3330
2.3	Axle loading, unladen front/rear		kg	12500/14300
3.1	Tyres			Pneumatic
3.2	Tyre size, front		mm	12.00-24-24PR
3.3	Tyre size, rear		mm	12.00-24-24PR
3.5	Wheels, number front/rear (x=drive wheels)			4×/2
3.6	Tread width, front	b_{10}	mm	1880
3.7	Tread width, rear	b_{11}	mm	2200
4.1	Tilt of mast/fork carriage forward/backward	α/β	°	6/12
4.2	Height, mast lowered	h_1	mm	3700
4.3	Free lift	h_2	mm	110
4.4	Lift	h_3	mm	4000
4.5	Height, mast extended	h_4	mm	5660
4.7	Height of overhead guard (cabin)	h6	mm	3220
4.8	Seat height relating to SIP/stand height	h7	mm	2050
4.12	Coupling height	h10	mm	430
4.19	Overall length	l_1	mm	7950
4.20	Length to face of forks	l_2	mm	5550
4.21	Overall width	b_1/b_2	mm	2530
4.22	Fork dimensions	s/e/l	mm	110×250×2400
4.23	Fork carriage ISO 2328, class/type A, B			-
4.24	Fork carriage width		mm	2500
4.31	Ground clearance, laden, below mast		mm	165

	SPECIFICATION	REF	UNIT	VALUE
4.32	Ground clearance, centre of wheelbase	m_2	mm	265
4.34.1	Aisle width for pallets 1000×1200 crossways	Ast	mm	8725
4.34.2	Aisle width for pallets 800 × 1200 lengthways	Ast	mm	8725
4.35	Turning radius	Wa	mm	5175
5.1	Travel speed, laden/unladen		km/h	20/28
5.2	Lift speed, laden/unladen		m/s	0.4/0.45
5.3	Lowering speed, laden/unladen		m/s	0.5/0.4
5.5	Drawbar pull, laden/unladen			92000/92000
5.6	Max. drawbar pull, laden/unladen		N	95000/95000
5.8	Max. gradeability, laden/unladen		%	20/30
5.10	Service brake			Mechanical/Hydraulic
5.11	Parking brake			Mechanical/Hydraulic
6.1	Drive motor rating S2 60 min		kW	90
6.2	Lift motor rating at S3 15%		kW	60
6.4	Battery voltage/nominal capacity		V/Ah	618.24/228
6.5	Battery weight		kg	932
6.6	Energy consumption according to DIN EN 16796		kWh/h	20.9 [1)]
6.7	Turnover output according to VDI 2198			/
6.8	Turnover efficiency according to VDI 2198			/
8.1	Type of drive unit			PMSM
10.1	Operating pressure for attachments		bar	180
10.2	Oil volume for attachments		ℓ/min	80
10.5	Steering design			Hydraulic
10.7	Sound pressure level at the driver's seat		dB(A)	< 75
15.1	Charger output current		A	115

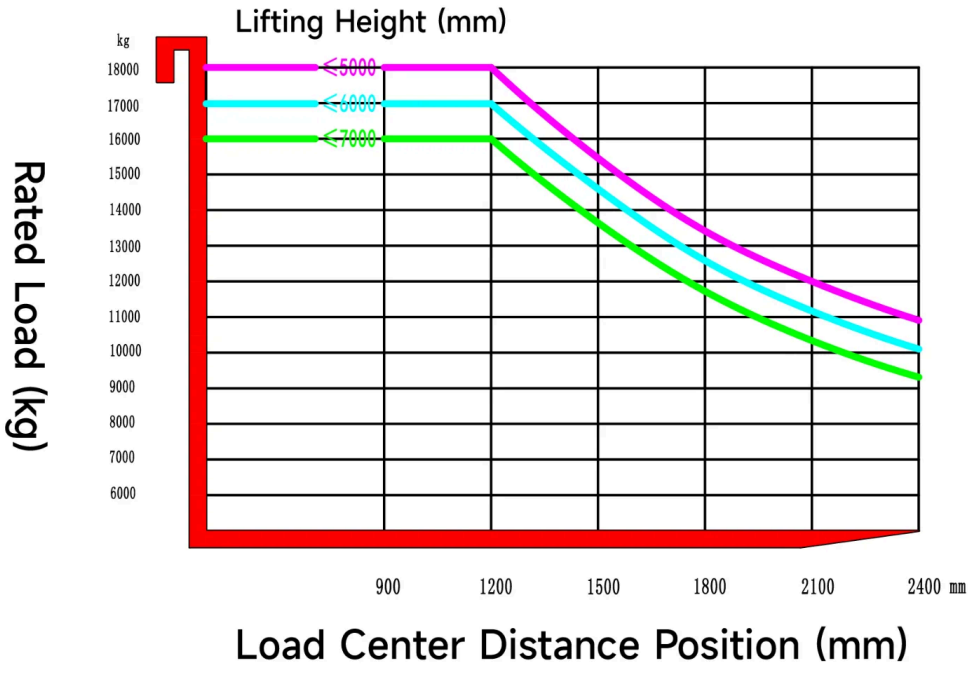
Subject to modification of specifications and designs without prior notice as part of continuous product improvement. Images and technical data shown may include optional features and are provided for reference only. All dimensions are subject to standard manufacturing tolerances.

VDI Drawing





Load Curve Diagram



Mast Options

MAST TYPE	LIFT HEIGHT (H3, MM)	MAST LOWERED HEIGHT (H1, MM)	MAST EXTENDED HEIGHT, NO BACKREST (H4, MM)	MAST EXTENDED HEIGHT, WITH BACKREST (H4, MM)	FREE LIFT HEIGHT, NO BACKREST (H2, MM)	FREE LIFT HEIGHT, WITH BACKREST (H2, MM)	FORWARD TILT (A, DEG)	BACKWARD TILT (B, MM)	LOAD DISTANCE (X, MM)	WEIGHT, MAST (KG)
2-Standard Mast	3500	3440	5140	/	110	/	6	12	1040	6675
2-Standard Mast	4000	3700	5660	/	110	/	6	12	1040	6840
2-Standard Mast	4200	3750	5800	/	110	/	6	12	1040	6950
2-Standard Mast	4500	3900	6100	/	110	/	6	12	1040	7090
2-Standard Mast	5000	4150	6600	/	110	/	6	12	1040	7340
2-Free Mast	/	/	/	/	/	/	/	/	/	/
3-Free Mast	4000	2963	5720	/	1293	/	6	12	1110	8147
3-Free Mast	4500	3130	6220	/	1460	/	6	12	1110	8344
3-Free Mast	4710	3200	6430	/	1530	/	6	12	1110	8427
3-Free Mast	5000	3297	6720	/	1627	/	6	12	1110	8545
3-Free Mast	5500	3463	7220	/	1793	/	3	6	1110	8741
3-Free Mast	6000	3630	7720	/	1960	/	3	6	1110	8938
3-Free Mast	6500	3797	8220	/	2127	/	3	6	1110	9140
3-Free Mast	7000	3963	8720	/	2293	/	3	6	1110	9340
3-Free Mast	7500	4130	9220	/	2460	/	3	6	1110	9537
3-Free Mast	8000	4297	9720	/	2627	/	3	6	1110	9734

Options

ITEM	OPTIONS (optional items marked in yellow)
Fork dimension	250*110*2400 | Can be customized
Fork carriage width option	2500mm | Yes and can be customized
Front wheel material	Pneumatic | Normal solid | Non-marking solid
Rear wheel material	Pneumatic | Normal solid | Non-marking solid

ITEM	OPTIONS (optional items marked in yellow)
Battery capacity	618V228AH | 580V304AH
Charger	618V-32A | 618V-64A | 618V-97A | 618V-130A | 618V-190A
Seat type	MSG85-722 | MSG95G-722
Attachments	Sideshift and fork positioner – hook-on type forks (compound hook forks) | Sideshift and fork positioner – roller-type forks | Sideshift and fork positioner with through-shaft forks
Traction pin	Yes and not customized
Front lamp	LED
Rear lamp	LED
Warning lamp	LED | rotating warning light | rotating warning light with buzzer
Steering lamp	LED
Blue lamp	No | Rear | Front and rear
Area warning lamp	No | Both sides
Rearview mirror	One in front | Two on sides and one in front
Buzzer	Buzzer
Fire extinguisher	Yes and not customized
OPS system	Yes and not customized
USB interface	USB TYPE A/C
Electronic scale	No | Yes and not customized
Telematics	Yes and not customized
Overhead guard	standard
Turn speed control	No | Yes and not customized
Heating system during lithium battery charging	Yes and not customized
Operator identification device	No
Hydraulic system operating mode	Fingertip
Adjustable overspeed alarm	No | Yes and not customized
Cigarette lighter socket	No | Yes and not customized
Fog light	No | Yes and not customized
Mast working light	LED*2 | LED*4
Reversing radar	reversing radar + backup camera
Surround View System+Human recognition system	No | Yes and not customized